

# Amazon WAFV2



# Amazon WAFV2: API Reference

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# Welcome

## Amazon WAFV2

### Note

This is the latest version of the **Amazon WAF** API, released in November, 2019. The names of the entities that you use to access this API, like endpoints and namespaces, all have the versioning information added, like "V2" or "v2", to distinguish from the prior version. We recommend migrating your resources to this version, because it has a number of significant improvements.

If you used Amazon WAF prior to this release, you can't use this Amazon WAFV2 API to access any Amazon WAF resources that you created before. Amazon WAF Classic support will end on September 30, 2025.

For information about Amazon WAF, including how to migrate your Amazon WAF Classic resources to this version, see the [Amazon WAF Developer Guide](#).

Amazon WAF is a web application firewall that lets you monitor the HTTP and HTTPS requests that are forwarded to a protected resource. Protected resource types include Amazon CloudFront distribution, Amazon API Gateway REST API, Application Load Balancer, Amazon AppSync GraphQL API, Amazon Cognito user pool, Amazon App Runner service, Amazon Amplify application, and Amazon Verified Access instance. Amazon WAF also lets you control access to your content, to protect the Amazon resource that Amazon WAF is monitoring. Based on conditions that you specify, such as the IP addresses that requests originate from or the values of query strings, the protected resource responds to requests with either the requested content, an HTTP 403 status code (Forbidden), or with a custom response.

This API guide is for developers who need detailed information about Amazon WAF API actions, data types, and errors. For detailed information about Amazon WAF features and guidance for configuring and using Amazon WAF, see the [Amazon WAF Developer Guide](#).

You can make calls using the endpoints listed in [Amazon WAF endpoints and quotas](#).

- For regional resources, you can use any of the endpoints in the list. A regional application can be an Application Load Balancer (ALB), an Amazon API Gateway REST API, an Amazon AppSync

GraphQL API, an Amazon Cognito user pool, an Amazon App Runner service, or an Amazon Verified Access instance.

- For Amazon CloudFront and Amazon Amplify, you must use the API endpoint listed for US East (N. Virginia): us-east-1.

Alternatively, you can use one of the Amazon SDKs to access an API that's tailored to the programming language or platform that you're using. For more information, see [Amazon SDKs](#).

## Amazon WAF Classic

### Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

This is the *Amazon WAF Classic API Reference* for using Amazon WAF Classic with Amazon CloudFront. The Amazon WAF Classic actions and data types listed in the reference are available for protecting CloudFront distributions. You can use these actions and data types via the endpoint *waf.amazonaws.com*. This guide is for developers who need detailed information about the Amazon WAF Classic API actions, data types, and errors. For detailed information about Amazon WAF Classic features and an overview of how to use the Amazon WAF Classic API, see the [Amazon WAF Classic](#) in the developer guide.

## Amazon WAF Classic Regional

### Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF** , use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

This is the *Amazon WAF Classic Regional API Reference* for using Amazon WAF Classic with the Amazon resources, Elastic Load Balancing Application Load Balancers and Amazon API Gateway APIs. The Amazon WAF Classic actions and data types listed in the reference are available for protecting these resource types. You can use these actions and data types by means of the endpoints listed in [Amazon WAF Classic endpoints and quotas](#). This guide is for developers who need detailed information about the Amazon WAF Classic API actions, data types, and errors. For detailed information about Amazon WAF Classic features and an overview of how to use the Amazon WAF Classic API, see the [Amazon WAF Classic](#) in the developer guide.

# Actions

The following actions are supported by Amazon WAFV2:

- [AssociateWebACL](#)
- [CheckCapacity](#)
- [CreateAPIKey](#)
- [CreateIPSet](#)
- [CreateRegexPatternSet](#)
- [CreateRuleGroup](#)
- [CreateWebACL](#)
- [DeleteAPIKey](#)
- [DeleteFirewallManagerRuleGroups](#)
- [DeleteIPSet](#)
- [DeleteLoggingConfiguration](#)
- [DeletePermissionPolicy](#)
- [DeleteRegexPatternSet](#)
- [DeleteRuleGroup](#)
- [DeleteWebACL](#)
- [DescribeAllManagedProducts](#)
- [DescribeManagedProductsByVendor](#)
- [DescribeManagedRuleGroup](#)
- [DisassociateWebACL](#)
- [GenerateMobileSdkReleaseUrl](#)
- [GetDecryptedAPIKey](#)
- [GetIPSet](#)
- [GetLoggingConfiguration](#)
- [GetManagedRuleSet](#)
- [GetMobileSdkRelease](#)
- [GetPermissionPolicy](#)
- [GetRateBasedStatementManagedKeys](#)

- [GetRegexPatternSet](#)
- [GetRuleGroup](#)
- [GetSampledRequests](#)
- [GetWebACL](#)
- [GetWebACLForResource](#)
- [ListAPIKeys](#)
- [ListAvailableManagedRuleGroups](#)
- [ListAvailableManagedRuleGroupVersions](#)
- [ListIPSets](#)
- [ListLoggingConfigurations](#)
- [ListManagedRuleSets](#)
- [ListMobileSdkReleases](#)
- [ListRegexPatternSets](#)
- [ListResourcesForWebACL](#)
- [ListRuleGroups](#)
- [ListTagsForResource](#)
- [ListWebACLs](#)
- [PutLoggingConfiguration](#)
- [PutManagedRuleSetVersions](#)
- [PutPermissionPolicy](#)
- [TagResource](#)
- [UntagResource](#)
- [UpdateIPSet](#)
- [UpdateManagedRuleSetVersionExpiryDate](#)
- [UpdateRegexPatternSet](#)
- [UpdateRuleGroup](#)
- [UpdateWebACL](#)

The following actions are supported by Amazon WAF Classic:

- [CreateByteMatchSet](#)

- [CreateGeoMatchSet](#)
- [CreateIPSet](#)
- [CreateRateBasedRule](#)
- [CreateRegexMatchSet](#)
- [CreateRegexPatternSet](#)
- [CreateRule](#)
- [CreateRuleGroup](#)
- [CreateSizeConstraintSet](#)
- [CreateSqlInjectionMatchSet](#)
- [CreateWebACL](#)
- [CreateWebACLMigrationStack](#)
- [CreateXssMatchSet](#)
- [DeleteByteMatchSet](#)
- [DeleteGeoMatchSet](#)
- [DeleteIPSet](#)
- [DeleteLoggingConfiguration](#)
- [DeletePermissionPolicy](#)
- [DeleteRateBasedRule](#)
- [DeleteRegexMatchSet](#)
- [DeleteRegexPatternSet](#)
- [DeleteRule](#)
- [DeleteRuleGroup](#)
- [DeleteSizeConstraintSet](#)
- [DeleteSqlInjectionMatchSet](#)
- [DeleteWebACL](#)
- [DeleteXssMatchSet](#)
- [GetByteMatchSet](#)
- [GetChangeToken](#)
- [GetChangeTokenStatus](#)
- [GetGeoMatchSet](#)

- [GetIPSet](#)
- [GetLoggingConfiguration](#)
- [GetPermissionPolicy](#)
- [GetRateBasedRule](#)
- [GetRateBasedRuleManagedKeys](#)
- [GetRegexMatchSet](#)
- [GetRegexPatternSet](#)
- [GetRule](#)
- [GetRuleGroup](#)
- [GetSampledRequests](#)
- [GetSizeConstraintSet](#)
- [GetSqlInjectionMatchSet](#)
- [GetWebACL](#)
- [GetXssMatchSet](#)
- [ListActivatedRulesInRuleGroup](#)
- [ListByteMatchSets](#)
- [ListGeoMatchSets](#)
- [ListIPSets](#)
- [ListLoggingConfigurations](#)
- [ListRateBasedRules](#)
- [ListRegexMatchSets](#)
- [ListRegexPatternSets](#)
- [ListRuleGroups](#)
- [ListRules](#)
- [ListSizeConstraintSets](#)
- [ListSqlInjectionMatchSets](#)
- [ListSubscribedRuleGroups](#)
- [ListTagsForResource](#)
- [ListWebACLs](#)
- [ListXssMatchSets](#)

- [PutLoggingConfiguration](#)
- [PutPermissionPolicy](#)
- [TagResource](#)
- [UntagResource](#)
- [UpdateByteMatchSet](#)
- [UpdateGeoMatchSet](#)
- [UpdateIPSet](#)
- [UpdateRateBasedRule](#)
- [UpdateRegexMatchSet](#)
- [UpdateRegexPatternSet](#)
- [UpdateRule](#)
- [UpdateRuleGroup](#)
- [UpdateSizeConstraintSet](#)
- [UpdateSqlInjectionMatchSet](#)
- [UpdateWebACL](#)
- [UpdateXssMatchSet](#)

The following actions are supported by Amazon WAF Classic Regional:

- [AssociateWebACL](#)
- [CreateByteMatchSet](#)
- [CreateGeoMatchSet](#)
- [CreateIPSet](#)
- [CreateRateBasedRule](#)
- [CreateRegexMatchSet](#)
- [CreateRegexPatternSet](#)
- [CreateRule](#)
- [CreateRuleGroup](#)
- [CreateSizeConstraintSet](#)
- [CreateSqlInjectionMatchSet](#)
- [CreateWebACL](#)

- [CreateWebACLMigrationStack](#)
- [CreateXssMatchSet](#)
- [DeleteByteMatchSet](#)
- [DeleteGeoMatchSet](#)
- [DeleteIPSet](#)
- [DeleteLoggingConfiguration](#)
- [DeletePermissionPolicy](#)
- [DeleteRateBasedRule](#)
- [DeleteRegexMatchSet](#)
- [DeleteRegexPatternSet](#)
- [DeleteRule](#)
- [DeleteRuleGroup](#)
- [DeleteSizeConstraintSet](#)
- [DeleteSqlInjectionMatchSet](#)
- [DeleteWebACL](#)
- [DeleteXssMatchSet](#)
- [DisassociateWebACL](#)
- [GetByteMatchSet](#)
- [GetChangeToken](#)
- [GetChangeTokenStatus](#)
- [GetGeoMatchSet](#)
- [GetIPSet](#)
- [GetLoggingConfiguration](#)
- [GetPermissionPolicy](#)
- [GetRateBasedRule](#)
- [GetRateBasedRuleManagedKeys](#)
- [GetRegexMatchSet](#)
- [GetRegexPatternSet](#)
- [GetRule](#)
- [GetRuleGroup](#)

- [GetSampledRequests](#)
- [GetSizeConstraintSet](#)
- [GetSqlInjectionMatchSet](#)
- [GetWebACL](#)
- [GetWebACLForResource](#)
- [GetXssMatchSet](#)
- [ListActivatedRulesInRuleGroup](#)
- [ListByteMatchSets](#)
- [ListGeoMatchSets](#)
- [ListIPSets](#)
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- [ListRateBasedRules](#)
- [ListRegexMatchSets](#)
- [ListRegexPatternSets](#)
- [ListResourcesForWebACL](#)
- [ListRuleGroups](#)
- [ListRules](#)
- [ListSizeConstraintSets](#)
- [ListSqlInjectionMatchSets](#)
- [ListSubscribedRuleGroups](#)
- [ListTagsForResource](#)
- [ListWebACLs](#)
- [ListXssMatchSets](#)
- [PutLoggingConfiguration](#)
- [PutPermissionPolicy](#)
- [TagResource](#)
- [UntagResource](#)
- [UpdateByteMatchSet](#)
- [UpdateGeoMatchSet](#)
- [UpdateIPSet](#)

- [UpdateRateBasedRule](#)
- [UpdateRegexMatchSet](#)
- [UpdateRegexPatternSet](#)
- [UpdateRule](#)
- [UpdateRuleGroup](#)
- [UpdateSizeConstraintSet](#)
- [UpdateSqlInjectionMatchSet](#)
- [UpdateWebACL](#)
- [UpdateXssMatchSet](#)

## Amazon WAFV2

The following actions are supported by Amazon WAFV2:

- [AssociateWebACL](#)
- [CheckCapacity](#)
- [CreateAPIKey](#)
- [CreateIPSet](#)
- [CreateRegexPatternSet](#)
- [CreateRuleGroup](#)
- [CreateWebACL](#)
- [DeleteAPIKey](#)
- [DeleteFirewallManagerRuleGroups](#)
- [DeleteIPSet](#)
- [DeleteLoggingConfiguration](#)
- [DeletePermissionPolicy](#)
- [DeleteRegexPatternSet](#)
- [DeleteRuleGroup](#)
- [DeleteWebACL](#)
- [DescribeAllManagedProducts](#)
- [DescribeManagedProductsByVendor](#)

- [DescribeManagedRuleGroup](#)
- [DisassociateWebACL](#)
- [GenerateMobileSdkReleaseUrl](#)
- [GetDecryptedAPIKey](#)
- [GetIPSet](#)
- [GetLoggingConfiguration](#)
- [GetManagedRuleSet](#)
- [GetMobileSdkRelease](#)
- [GetPermissionPolicy](#)
- [GetRateBasedStatementManagedKeys](#)
- [GetRegexPatternSet](#)
- [GetRuleGroup](#)
- [GetSampledRequests](#)
- [GetWebACL](#)
- [GetWebACLForResource](#)
- [ListAPIKeys](#)
- [ListAvailableManagedRuleGroups](#)
- [ListAvailableManagedRuleGroupVersions](#)
- [ListIPSets](#)
- [ListLoggingConfigurations](#)
- [ListManagedRuleSets](#)
- [ListMobileSdkReleases](#)
- [ListRegexPatternSets](#)
- [ListResourcesForWebACL](#)
- [ListRuleGroups](#)
- [ListTagsForResource](#)
- [ListWebACLs](#)
- [PutLoggingConfiguration](#)
- [PutManagedRuleSetVersions](#)
- [PutPermissionPolicy](#)

- [TagResource](#)
- [UntagResource](#)
- [UpdateIPSet](#)
- [UpdateManagedRuleSetVersionExpiryDate](#)
- [UpdateRegexPatternSet](#)
- [UpdateRuleGroup](#)
- [UpdateWebACL](#)

# AssociateWebACL

Service: Amazon WAFV2

Associates a web ACL with a resource, to protect the resource.

Use this for all resource types except for Amazon CloudFront distributions. For Amazon CloudFront, call `UpdateDistribution` for the distribution and provide the Amazon Resource Name (ARN) of the web ACL in the web ACL ID. For information, see [UpdateDistribution](#) in the *Amazon CloudFront Developer Guide*.

## Required permissions for customer-managed IAM policies

This call requires permissions that are specific to the protected resource type. For details, see [Permissions for AssociateWebACL](#) in the *Amazon WAF Developer Guide*.

## Temporary inconsistencies during updates

When you create or change a web ACL or other Amazon WAF resources, the changes take a small amount of time to propagate to all areas where the resources are stored. The propagation time can be from a few seconds to a number of minutes.

The following are examples of the temporary inconsistencies that you might notice during change propagation:

- After you create a web ACL, if you try to associate it with a resource, you might get an exception indicating that the web ACL is unavailable.
- After you add a rule group to a web ACL, the new rule group rules might be in effect in one area where the web ACL is used and not in another.
- After you change a rule action setting, you might see the old action in some places and the new action in others.
- After you add an IP address to an IP set that is in use in a blocking rule, the new address might be blocked in one area while still allowed in another.

## Request Syntax

```
{
  "ResourceArn": "string",
  "WebACLArn": "string"
}
```

```
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ResourceArn

The Amazon Resource Name (ARN) of the resource to associate with the web ACL.

The ARN must be in one of the following formats:

- For an Application Load Balancer:  
`arn:partition:elasticloadbalancing:region:account-id:loadbalancer/app/load-balancer-name/load-balancer-id`
- For an Amazon API Gateway REST API: `arn:partition:apigateway:region::/restapis/api-id/stages/stage-name`
- For an Amazon AppSync GraphQL API: `arn:partition:appsync:region:account-id:apis/GraphQLApiId`
- For an Amazon Cognito user pool: `arn:partition:cognito-idp:region:account-id:userpool/user-pool-id`
- For an Amazon App Runner service: `arn:partition:apprunner:region:account-id:service/apprunner-service-name/apprunner-service-id`
- For an Amazon Verified Access instance: `arn:partition:ec2:region:account-id:verified-access-instance/instance-id`
- For an Amazon Amplify application: `arn:partition:amplify:region:account-id:apps/app-id`

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: Yes

### WebACLArn

The Amazon Resource Name (ARN) of the web ACL that you want to associate with the resource.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFFeatureNotIncludedInPricingPlanException

The operation failed because the specified Amazon WAF feature isn't supported by the CloudFront pricing plan associated with the web ACL.

#### DisallowedFeatures

The names of the disallowed Amazon WAF features.

HTTP Status Code: 400

### WAFInternalErrorException

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### WAFInvalidOperationException

The operation isn't valid.

HTTP Status Code: 400

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.

- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

**Field**

The settings where the invalid parameter was found.

**Parameter**

The invalid parameter that resulted in the exception.

**Reason**

Additional information about the exception.

HTTP Status Code: 400

**WAFLimitsExceededException**

Amazon WAF couldn't perform the operation because you exceeded your resource limit. For example, the maximum number of WebACL objects that you can create for an Amazon account. For more information, see [Amazon WAF quotas](#) in the *Amazon WAF Developer Guide*.

**SourceType**

Source type for the exception.

HTTP Status Code: 400

**WAFNonexistentItemException**

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

**WAFUnavailableEntityException**

Amazon WAF couldn't retrieve a resource that you specified for this operation. If you've just created a resource that you're using in this operation, you might just need to wait a few

minutes. It can take from a few seconds to a number of minutes for changes to propagate. Verify the resource specifications in your request parameters and then retry the operation.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CheckCapacity

Service: Amazon WAFV2

Returns the web ACL capacity unit (WCU) requirements for a specified scope and set of rules. You can use this to check the capacity requirements for the rules you want to use in a [RuleGroup](#) or [WebACL](#).

Amazon WAF uses WCUs to calculate and control the operating resources that are used to run your rules, rule groups, and web ACLs. Amazon WAF calculates capacity differently for each rule type, to reflect the relative cost of each rule. Simple rules that cost little to run use fewer WCUs than more complex rules that use more processing power. Rule group capacity is fixed at creation, which helps users plan their web ACL WCU usage when they use a rule group. For more information, see [Amazon WAF web ACL capacity units \(WCU\)](#) in the *Amazon WAF Developer Guide*.

## Request Syntax

```
{
  "Rules": [
    {
      "Action": {
        "Allow": {
          "CustomRequestHandling": {
            "InsertHeaders": [
              {
                "Name": "string",
                "Value": "string"
              }
            ]
          }
        },
        "Block": {
          "CustomResponse": {
            "CustomResponseBodyKey": "string",
            "ResponseCode": number,
            "ResponseHeaders": [
              {
                "Name": "string",
                "Value": "string"
              }
            ]
          }
        }
      }
    }
  ],
}
```

```
"Captcha": {
  "CustomRequestHandling": {
    "InsertHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  }
},
"Challenge": {
  "CustomRequestHandling": {
    "InsertHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  }
},
"Count": {
  "CustomRequestHandling": {
    "InsertHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  }
},
"CaptchaConfig": {
  "ImmunityTimeProperty": {
    "ImmunityTime": number
  }
},
"ChallengeConfig": {
  "ImmunityTimeProperty": {
    "ImmunityTime": number
  }
},
"Name": "string",
"OverrideAction": {
  "Count": {
```

```

    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    },
    "None": {
    },
  ],
  "Priority": number,
  "RuleLabels": [
    {
      "Name": "string"
    }
  ],
  "Statement": {
    "AndStatement": {
      "Statements": [
        "Statement"
      ]
    },
    "AsnMatchStatement": {
      "AsnList": [ number ],
      "ForwardedIPConfig": {
        "FallbackBehavior": "string",
        "HeaderName": "string"
      }
    },
    "ByteMatchStatement": {
      "FieldToMatch": {
        "AllQueryArguments": {
        },
        "Body": {
          "OversizeHandling": "string"
        },
      },
      "Cookies": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedCookies": [ "string" ],
          "IncludedCookies": [ "string" ]
        }
      }
    }
  }
}

```

```
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "HeaderOrder": {
    "OversizeHandling": "string"
  },
  "Headers": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedHeaders": [ "string" ],
      "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
```

```
        "FallbackBehavior": "string"
    },
    "UriPath": {
    }
},
"PositionalConstraint": "string",
"SearchString": blob,
"TextTransformations": [
    {
        "Priority": number,
        "Type": "string"
    }
]
},
"GeoMatchStatement": {
    "CountryCodes": [ "string" ],
    "ForwardedIPConfig": {
        "FallbackBehavior": "string",
        "HeaderName": "string"
    }
},
"IPSetReferenceStatement": {
    "ARN": "string",
    "IPSetForwardedIPConfig": {
        "FallbackBehavior": "string",
        "HeaderName": "string",
        "Position": "string"
    }
},
"LabelMatchStatement": {
    "Key": "string",
    "Scope": "string"
},
"ManagedRuleGroupStatement": {
    "ExcludedRules": [
        {
            "Name": "string"
        }
    ],
    "ManagedRuleGroupConfigs": [
        {
            "AWSManagedRulesACFPRuleSet": {
                "CreationPath": "string",
                "EnableRegexInPath": boolean,
```

```
"RegistrationPagePath": "string",
"RequestInspection": {
  "AddressFields": [
    {
      "Identifier": "string"
    }
  ],
  "EmailField": {
    "Identifier": "string"
  },
  "PasswordField": {
    "Identifier": "string"
  },
  "PayloadType": "string",
  "PhoneNumberFields": [
    {
      "Identifier": "string"
    }
  ],
  "UsernameField": {
    "Identifier": "string"
  }
},
"ResponseInspection": {
  "BodyContains": {
    "FailureStrings": [ "string" ],
    "SuccessStrings": [ "string" ]
  },
  "Header": {
    "FailureValues": [ "string" ],
    "Name": "string",
    "SuccessValues": [ "string" ]
  },
  "Json": {
    "FailureValues": [ "string" ],
    "Identifier": "string",
    "SuccessValues": [ "string" ]
  },
  "StatusCode": {
    "FailureCodes": [ number ],
    "SuccessCodes": [ number ]
  }
}
},
```

```

"AWManagedRulesAntiDDoSRuleSet": {
  "ClientSideActionConfig": {
    "Challenge": {
      "ExemptUriRegularExpressions": [
        {
          "RegexString": "string"
        }
      ],
      "Sensitivity": "string",
      "UsageOfAction": "string"
    }
  },
  "SensitivityToBlock": "string"
},
"AWManagedRulesATPRuleSet": {
  "EnableRegexInPath": boolean,
  "LoginPath": "string",
  "RequestInspection": {
    "PasswordField": {
      "Identifier": "string"
    }
  },
  "PayloadType": "string",
  "UsernameField": {
    "Identifier": "string"
  }
},
"ResponseInspection": {
  "BodyContains": {
    "FailureStrings": [ "string" ],
    "SuccessStrings": [ "string" ]
  },
  "Header": {
    "FailureValues": [ "string" ],
    "Name": "string",
    "SuccessValues": [ "string" ]
  },
  "Json": {
    "FailureValues": [ "string" ],
    "Identifier": "string",
    "SuccessValues": [ "string" ]
  },
  "StatusCode": {
    "FailureCodes": [ number ],
    "SuccessCodes": [ number ]
  }
}

```

```

    }
  }
},
"AWSTManagedRulesBotControlRuleSet": {
  "EnableMachineLearning": boolean,
  "InspectionLevel": "string"
},
"LoginPath": "string",
"PasswordField": {
  "Identifier": "string"
},
"PayloadType": "string",
"UsernameField": {
  "Identifier": "string"
}
}
],
"Name": "string",
"RuleActionOverrides": [
  {
    "ActionToUse": {
      "Allow": {
        "CustomRequestHandling": {
          "InsertHeaders": [
            {
              "Name": "string",
              "Value": "string"
            }
          ]
        }
      }
    },
    "Block": {
      "CustomResponse": {
        "CustomResponseBodyKey": "string",
        "ResponseCode": number,
        "ResponseHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      }
    }
  },
  "Captcha": {

```

```
        "CustomRequestHandling": {
            "InsertHeaders": [
                {
                    "Name": "string",
                    "Value": "string"
                }
            ]
        },
        "Challenge": {
            "CustomRequestHandling": {
                "InsertHeaders": [
                    {
                        "Name": "string",
                        "Value": "string"
                    }
                ]
            }
        },
        "Count": {
            "CustomRequestHandling": {
                "InsertHeaders": [
                    {
                        "Name": "string",
                        "Value": "string"
                    }
                ]
            }
        },
        "Name": "string"
    }
],
"ScopeDownStatement": "Statement",
"VendorName": "string",
"Version": "string"
},
"NotStatement": {
    "Statement": "Statement"
},
"OrStatement": {
    "Statements": [
        "Statement"
    ]
}
```

```
},
  "RateBasedStatement": {
    "AggregateKeyType": "string",
    "CustomKeys": [
      {
        "ASN": {
        },
        "Cookie": {
          "Name": "string",
          "TextTransformations": [
            {
              "Priority": number,
              "Type": "string"
            }
          ]
        },
        "ForwardedIP": {
        },
        "Header": {
          "Name": "string",
          "TextTransformations": [
            {
              "Priority": number,
              "Type": "string"
            }
          ]
        },
        "HTTPMethod": {
        },
        "IP": {
        },
        "JA3Fingerprint": {
          "FallbackBehavior": "string"
        },
        "JA4Fingerprint": {
          "FallbackBehavior": "string"
        },
        "LabelNamespace": {
          "Namespace": "string"
        },
        "QueryArgument": {
          "Name": "string",
          "TextTransformations": [
            {

```



```
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "HeaderOrder": {
    "OversizeHandling": "string"
  },
  "Headers": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedHeaders": [ "string" ],
      "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
```

```

        "FallbackBehavior": "string"
    },
    "UriPath": {
    }
},
"RegexString": "string",
"TextTransformations": [
    {
        "Priority": number,
        "Type": "string"
    }
]
},
"RegexPatternSetReferenceStatement": {
    "ARN": "string",
    "FieldToMatch": {
        "AllQueryArguments": {
        },
        "Body": {
            "OversizeHandling": "string"
        },
        "Cookies": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedCookies": [ "string" ],
                "IncludedCookies": [ "string" ]
            },
            "MatchScope": "string",
            "OversizeHandling": "string"
        },
        "HeaderOrder": {
            "OversizeHandling": "string"
        },
        "Headers": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedHeaders": [ "string" ],
                "IncludedHeaders": [ "string" ]
            },
            "MatchScope": "string",
            "OversizeHandling": "string"
        },
    }
},

```

```
    "JA3Fingerprint": {
      "FallbackBehavior": "string"
    },
    "JA4Fingerprint": {
      "FallbackBehavior": "string"
    },
    "JsonBody": {
      "InvalidFallbackBehavior": "string",
      "MatchPattern": {
        "All": {
        },
        "IncludedPaths": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "Method": {
    },
    "QueryString": {
    },
    "SingleHeader": {
      "Name": "string"
    },
    "SingleQueryArgument": {
      "Name": "string"
    },
    "UriFragment": {
      "FallbackBehavior": "string"
    },
    "UriPath": {
    }
  },
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"RuleGroupReferenceStatement": {
  "ARN": "string",
  "ExcludedRules": [
    {
      "Name": "string"
    }
  ]
}
```

```
    }
  ],
  "RuleActionOverrides": [
    {
      "ActionToUse": {
        "Allow": {
          "CustomRequestHandling": {
            "InsertHeaders": [
              {
                "Name": "string",
                "Value": "string"
              }
            ]
          }
        },
        "Block": {
          "CustomResponse": {
            "CustomResponseBodyKey": "string",
            "ResponseCode": number,
            "ResponseHeaders": [
              {
                "Name": "string",
                "Value": "string"
              }
            ]
          }
        },
        "Captcha": {
          "CustomRequestHandling": {
            "InsertHeaders": [
              {
                "Name": "string",
                "Value": "string"
              }
            ]
          }
        },
        "Challenge": {
          "CustomRequestHandling": {
            "InsertHeaders": [
              {
                "Name": "string",
                "Value": "string"
              }
            ]
          }
        }
      }
    }
  ]
}
```

```

    ]
  },
  "Count": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "Name": "string"
}
]
},
"SizeConstraintStatement": {
  "ComparisonOperator": "string",
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    },
    "Cookies": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedCookies": [ "string" ],
        "IncludedCookies": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "HeaderOrder": {
      "OversizeHandling": "string"
    },
    "Headers": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedHeaders": [ "string" ],

```

```
    "IncludedHeaders": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"JA3Fingerprint": {
  "FallbackBehavior": "string"
},
"JA4Fingerprint": {
  "FallbackBehavior": "string"
},
"JsonBody": {
  "InvalidFallbackBehavior": "string",
  "MatchPattern": {
    "All": {
    },
    "IncludedPaths": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"Method": {
},
"QueryString": {
},
"SingleHeader": {
  "Name": "string"
},
"SingleQueryArgument": {
  "Name": "string"
},
"UriFragment": {
  "FallbackBehavior": "string"
},
"UriPath": {
}
},
"Size": number,
"TextTransformations": [
  {
    "Priority": number,
    "Type": "string"
  }
]
]
```

```
},
  "SqliMatchStatement": {
    "FieldToMatch": {
      "AllQueryArguments": {
      },
      "Body": {
        "OversizeHandling": "string"
      },
      "Cookies": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedCookies": [ "string" ],
          "IncludedCookies": [ "string" ]
        },
        "MatchScope": "string",
        "OversizeHandling": "string"
      },
      "HeaderOrder": {
        "OversizeHandling": "string"
      },
      "Headers": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedHeaders": [ "string" ],
          "IncludedHeaders": [ "string" ]
        },
        "MatchScope": "string",
        "OversizeHandling": "string"
      },
      "JA3Fingerprint": {
        "FallbackBehavior": "string"
      },
      "JA4Fingerprint": {
        "FallbackBehavior": "string"
      },
      "JsonBody": {
        "InvalidFallbackBehavior": "string",
        "MatchPattern": {
          "All": {
          },
          "IncludedPaths": [ "string" ]
        }
      }
    }
  },
```

```

        "MatchScope": "string",
        "OversizeHandling": "string"
    },
    "Method": {
    },
    "QueryString": {
    },
    "SingleHeader": {
        "Name": "string"
    },
    "SingleQueryArgument": {
        "Name": "string"
    },
    "UriFragment": {
        "FallbackBehavior": "string"
    },
    "UriPath": {
    }
},
"SensitivityLevel": "string",
"TextTransformations": [
    {
        "Priority": number,
        "Type": "string"
    }
]
},
"XssMatchStatement": {
    "FieldToMatch": {
        "AllQueryArguments": {
        },
        "Body": {
            "OversizeHandling": "string"
        },
        "Cookies": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedCookies": [ "string" ],
                "IncludedCookies": [ "string" ]
            },
            "MatchScope": "string",
            "OversizeHandling": "string"
        },
    }
},

```

```
"HeaderOrder": {
  "OversizeHandling": "string"
},
"Headers": {
  "MatchPattern": {
    "All": {
    },
    "ExcludedHeaders": [ "string" ],
    "IncludedHeaders": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"JA3Fingerprint": {
  "FallbackBehavior": "string"
},
"JA4Fingerprint": {
  "FallbackBehavior": "string"
},
"JsonBody": {
  "InvalidFallbackBehavior": "string",
  "MatchPattern": {
    "All": {
    },
    "IncludedPaths": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"Method": {
},
"QueryString": {
},
"SingleHeader": {
  "Name": "string"
},
"SingleQueryArgument": {
  "Name": "string"
},
"UriFragment": {
  "FallbackBehavior": "string"
},
"UriPath": {
}
```

```

    },
    "TextTransformations": [
      {
        "Priority": number,
        "Type": "string"
      }
    ]
  },
  "VisibilityConfig": {
    "CloudWatchMetricsEnabled": boolean,
    "MetricName": "string",
    "SampledRequestsEnabled": boolean
  }
},
"Scope": "string"
}

```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Rules

An array of [Rule](#) that you're configuring to use in a rule group or web ACL.

Type: Array of [Rule](#) objects

Required: Yes

### Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint us-east-1.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

## Response Syntax

```
{  
  "Capacity": number  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Capacity

The capacity required by the rules and scope.

Type: Long

Valid Range: Minimum value of 0.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFExpiredManagedRuleGroupVersionException**

The operation failed because the specified version for the managed rule group has expired. You can retrieve the available versions for the managed rule group by calling [ListAvailableManagedRuleGroupVersions](#).

HTTP Status Code: 400

### **WAFInternalErrorException**

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidOperationException**

The operation isn't valid.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

#### **Field**

The settings where the invalid parameter was found.

#### **Parameter**

The invalid parameter that resulted in the exception.

#### **Reason**

Additional information about the exception.

HTTP Status Code: 400

### **WAFInvalidResourceException**

Amazon WAF couldn't perform the operation because the resource that you requested isn't valid. Check the resource, and try again.

HTTP Status Code: 400

### **WAFLimitsExceededException**

Amazon WAF couldn't perform the operation because you exceeded your resource limit. For example, the maximum number of WebACL objects that you can create for an Amazon account. For more information, see [Amazon WAF quotas](#) in the *Amazon WAF Developer Guide*.

## SourceType

Source type for the exception.

HTTP Status Code: 400

## WAFNonexistentItemException

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

## WAFSubscriptionNotFoundException

You tried to use a managed rule group that's available by subscription, but you aren't subscribed to it yet.

HTTP Status Code: 400

## WAFUnavailableEntityException

Amazon WAF couldn't retrieve a resource that you specified for this operation. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate. Verify the resource specifications in your request parameters and then retry the operation.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)

- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateAPIKey

Service: Amazon WAFV2

Creates an API key that contains a set of token domains.

API keys are required for the integration of the CAPTCHA API in your JavaScript client applications. The API lets you customize the placement and characteristics of the CAPTCHA puzzle for your end users. For more information about the CAPTCHA JavaScript integration, see [Amazon WAF client application integration](#) in the *Amazon WAF Developer Guide*.

You can use a single key for up to 5 domains. After you generate a key, you can copy it for use in your JavaScript integration.

## Request Syntax

```
{
  "Scope": "string",
  "TokenDomains": [ "string" ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint `us-east-1`.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

## TokenDomains

The client application domains that you want to use this API key for.

Example JSON: "TokenDomains": ["abc.com", "store.abc.com"]

Public suffixes aren't allowed. For example, you can't use gov.au or co.uk as token domains.

Type: Array of strings

Array Members: Minimum number of 1 item.

Length Constraints: Minimum length of 1. Maximum length of 253.

Pattern: ^[\w\.\-/\]+\$

Required: Yes

## Response Syntax

```
{  
  "APIKey": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### APIKey

The generated, encrypted API key. You can copy this for use in your JavaScript CAPTCHA integration.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Pattern: .\*S.\*

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### WAFInvalidOperationException

The operation isn't valid.

HTTP Status Code: 400

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

### Field

The settings where the invalid parameter was found.

### Parameter

The invalid parameter that resulted in the exception.

### Reason

Additional information about the exception.

HTTP Status Code: 400

## WAFLimitsExceededException

Amazon WAF couldn't perform the operation because you exceeded your resource limit. For example, the maximum number of WebACL objects that you can create for an Amazon account. For more information, see [Amazon WAF quotas](#) in the *Amazon WAF Developer Guide*.

### SourceType

Source type for the exception.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateIPSet

Service: Amazon WAFV2

Creates an [IPSet](#), which you use to identify web requests that originate from specific IP addresses or ranges of IP addresses. For example, if you're receiving a lot of requests from a ranges of IP addresses, you can configure Amazon WAF to block them using an IPSet that lists those IP addresses.

## Request Syntax

```
{
  "Addresses": [ "string" ],
  "Description": "string",
  "IPAddressVersion": "string",
  "Name": "string",
  "Scope": "string",
  "Tags": [
    {
      "Key": "string",
      "Value": "string"
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [Addresses](#)

Contains an array of strings that specifies zero or more IP addresses or blocks of IP addresses that you want Amazon WAF to inspect for in incoming requests. All addresses must be specified using Classless Inter-Domain Routing (CIDR) notation. Amazon WAF supports all IPv4 and IPv6 CIDR ranges except for `/0`.

Example address strings:

- For requests that originated from the IP address 192.0.2.44, specify `192.0.2.44/32`.
- For requests that originated from IP addresses from 192.0.2.0 to 192.0.2.255, specify `192.0.2.0/24`.

- For requests that originated from the IP address 1111:0000:0000:0000:0000:0000:0111, specify 1111:0000:0000:0000:0000:0000:0000:0111/128.
- For requests that originated from IP addresses 1111:0000:0000:0000:0000:0000:0000:0000 to 1111:0000:0000:0000:ffff:ffff:ffff:ffff, specify 1111:0000:0000:0000:0000:0000:0000:0000/64.

For more information about CIDR notation, see the Wikipedia entry [Classless Inter-Domain Routing](#).

Example JSON Addresses specifications:

- Empty array: "Addresses": []
- Array with one address: "Addresses": ["192.0.2.44/32"]
- Array with three addresses: "Addresses": ["192.0.2.44/32", "192.0.2.0/24", "192.0.0.0/16"]
- INVALID specification: "Addresses": ["" ] INVALID

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 50.

Pattern: .\*S.\*

Required: Yes

### Description

A description of the IP set that helps with identification.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: ^[\w+=:#@/\-,\.][\w+=:#@/\-,\.\s]+[\w+=:#@/\-,\.]\$

Required: No

### IPAddressVersion

The version of the IP addresses, either IPV4 or IPV6.

Type: String

Valid Values: IPV4 | IPV6

Required: Yes

### Name

The name of the IP set. You cannot change the name of an IPSet after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\w\ -]+$`

Required: Yes

### Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint `us-east-1`.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

### Tags

An array of key:value pairs to associate with the resource.

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item.

Required: No

## Response Syntax

```
{
  "Summary": {
    "ARN": "string",
    "Description": "string",
    "Id": "string",
    "LockToken": "string",
    "Name": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Summary

High-level information about an [IPSet](#), returned by operations like create and list. This provides information like the ID, that you can use to retrieve and manage an IPSet, and the ARN, that you provide to the [IPSetReferenceStatement](#) to use the address set in a [Rule](#).

Type: [IPSetSummary](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFDuplicateItemException**

Amazon WAF couldn't perform the operation because the resource that you tried to save is a duplicate of an existing one.

HTTP Status Code: 400

### **WAFInternalErrorException**

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidOperationException**

The operation isn't valid.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

#### **Field**

The settings where the invalid parameter was found.

#### **Parameter**

The invalid parameter that resulted in the exception.

#### **Reason**

Additional information about the exception.

HTTP Status Code: 400

### **WAFLimitsExceededException**

Amazon WAF couldn't perform the operation because you exceeded your resource limit. For example, the maximum number of WebACL objects that you can create for an Amazon account. For more information, see [Amazon WAF quotas](#) in the *Amazon WAF Developer Guide*.

#### **SourceType**

Source type for the exception.

HTTP Status Code: 400

## WAFOptimisticLockException

Amazon WAF couldn't save your changes because you tried to update or delete a resource that has changed since you last retrieved it. Get the resource again, make any changes you need to make to the new copy, and retry your operation.

HTTP Status Code: 400

## WAFTagOperationException

An error occurred during the tagging operation. Retry your request.

HTTP Status Code: 400

## WAFTagOperationInternalErrorException

Amazon WAF couldn't perform your tagging operation because of an internal error. Retry your request.

HTTP Status Code: 500

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateRegexPatternSet

Service: Amazon WAFV2

Creates a [RegexPatternSet](#), which you reference in a [RegexPatternSetReferenceStatement](#), to have Amazon WAF inspect a web request component for the specified patterns.

## Request Syntax

```
{
  "Description": "string",
  "Name": "string",
  "RegularExpressionList": [
    {
      "RegexString": "string"
    }
  ],
  "Scope": "string",
  "Tags": [
    {
      "Key": "string",
      "Value": "string"
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Description

A description of the set that helps with identification.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `^[\\w+=: #@/\\- , \\.] [\\w+=: #@/\\- , \\ .s]+ [\\w+=: #@/\\- , \\.]$`

Required: No

## Name

The name of the set. You cannot change the name after you create the set.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: Yes

## RegularExpressionList

Array of regular expression strings.

Type: Array of [Regex](#) objects

Required: Yes

## Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint `us-east-1`.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

## Tags

An array of key:value pairs to associate with the resource.

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item.

Required: No

## Response Syntax

```
{
  "Summary": {
    "ARN": "string",
    "Description": "string",
    "Id": "string",
    "LockToken": "string",
    "Name": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Summary

High-level information about a [RegexPatternSet](#), returned by operations like create and list. This provides information like the ID, that you can use to retrieve and manage a [RegexPatternSet](#), and the ARN, that you provide to the [RegexPatternSetReferenceStatement](#) to use the pattern set in a [Rule](#).

Type: [RegexPatternSetSummary](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFDuplicateItemException**

Amazon WAF couldn't perform the operation because the resource that you tried to save is a duplicate of an existing one.

HTTP Status Code: 400

### **WAFInternalErrorException**

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidOperationException**

The operation isn't valid.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

#### **Field**

The settings where the invalid parameter was found.

#### **Parameter**

The invalid parameter that resulted in the exception.

#### **Reason**

Additional information about the exception.

HTTP Status Code: 400

### **WAFLimitsExceededException**

Amazon WAF couldn't perform the operation because you exceeded your resource limit. For example, the maximum number of WebACL objects that you can create for an Amazon account. For more information, see [Amazon WAF quotas](#) in the *Amazon WAF Developer Guide*.

#### **SourceType**

Source type for the exception.

HTTP Status Code: 400

## WAFOptimisticLockException

Amazon WAF couldn't save your changes because you tried to update or delete a resource that has changed since you last retrieved it. Get the resource again, make any changes you need to make to the new copy, and retry your operation.

HTTP Status Code: 400

## WAFTagOperationException

An error occurred during the tagging operation. Retry your request.

HTTP Status Code: 400

## WAFTagOperationInternalErrorException

Amazon WAF couldn't perform your tagging operation because of an internal error. Retry your request.

HTTP Status Code: 500

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateRuleGroup

Service: Amazon WAFV2

Creates a [RuleGroup](#) per the specifications provided.

A rule group defines a collection of rules to inspect and control web requests that you can use in a [WebACL](#). When you create a rule group, you define an immutable capacity limit. If you update a rule group, you must stay within the capacity. This allows others to reuse the rule group with confidence in its capacity requirements.

## Request Syntax

```
{
  "Capacity": number,
  "CustomResponseBodies": {
    "string" : {
      "Content": "string",
      "ContentType": "string"
    }
  },
  "Description": "string",
  "Name": "string",
  "Rules": [
    {
      "Action": {
        "Allow": {
          "CustomRequestHandling": {
            "InsertHeaders": [
              {
                "Name": "string",
                "Value": "string"
              }
            ]
          }
        },
        "Block": {
          "CustomResponse": {
            "CustomResponseBodyKey": "string",
            "ResponseCode": number,
            "ResponseHeaders": [
              {
                "Name": "string",
                "Value": "string"
              }
            ]
          }
        }
      }
    }
  ]
}
```

```
    }
  ]
}
},
"Captcha": {
  "CustomRequestHandling": {
    "InsertHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  }
},
"Challenge": {
  "CustomRequestHandling": {
    "InsertHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  }
},
"Count": {
  "CustomRequestHandling": {
    "InsertHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  }
},
"CaptchaConfig": {
  "ImmunityTimeProperty": {
    "ImmunityTime": number
  }
},
"ChallengeConfig": {
  "ImmunityTimeProperty": {
    "ImmunityTime": number
  }
}
```

```

},
"Name": "string",
"OverrideAction": {
  "Count": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "None": {
  }
},
"Priority": number,
"RuleLabels": [
  {
    "Name": "string"
  }
],
"Statement": {
  "AndStatement": {
    "Statements": [
      "Statement"
    ]
  },
  "AsnMatchStatement": {
    "AsnList": [ number ],
    "ForwardedIPConfig": {
      "FallbackBehavior": "string",
      "HeaderName": "string"
    }
  },
  "ByteMatchStatement": {
    "FieldToMatch": {
      "AllQueryArguments": {
      },
      "Body": {
        "OversizeHandling": "string"
      },
    },
    "Cookies": {
      "MatchPattern": {

```

```
    "All": {
    },
    "ExcludedCookies": [ "string" ],
    "IncludedCookies": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"HeaderOrder": {
  "OversizeHandling": "string"
},
"Headers": {
  "MatchPattern": {
    "All": {
    },
    "ExcludedHeaders": [ "string" ],
    "IncludedHeaders": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"JA3Fingerprint": {
  "FallbackBehavior": "string"
},
"JA4Fingerprint": {
  "FallbackBehavior": "string"
},
"JsonBody": {
  "InvalidFallbackBehavior": "string",
  "MatchPattern": {
    "All": {
    },
    "IncludedPaths": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"Method": {
},
"QueryString": {
},
"SingleHeader": {
  "Name": "string"
},
},
```

```
    "SingleQueryArgument": {
      "Name": "string"
    },
    "UriFragment": {
      "FallbackBehavior": "string"
    },
    "UriPath": {
    }
  },
  "PositionalConstraint": "string",
  "SearchString": blob,
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"GeoMatchStatement": {
  "CountryCodes": [ "string" ],
  "ForwardedIPConfig": {
    "FallbackBehavior": "string",
    "HeaderName": "string"
  }
},
"IPSetReferenceStatement": {
  "ARN": "string",
  "IPSetForwardedIPConfig": {
    "FallbackBehavior": "string",
    "HeaderName": "string",
    "Position": "string"
  }
},
"LabelMatchStatement": {
  "Key": "string",
  "Scope": "string"
},
"ManagedRuleGroupStatement": {
  "ExcludedRules": [
    {
      "Name": "string"
    }
  ],
  "ManagedRuleGroupConfigs": [
```

```
{
  "AWSManagedRulesACFPRuleSet": {
    "CreationPath": "string",
    "EnableRegexInPath": boolean,
    "RegistrationPagePath": "string",
    "RequestInspection": {
      "AddressFields": [
        {
          "Identifier": "string"
        }
      ],
      "EmailField": {
        "Identifier": "string"
      },
      "PasswordField": {
        "Identifier": "string"
      },
      "PayloadType": "string",
      "PhoneNumberFields": [
        {
          "Identifier": "string"
        }
      ],
      "UsernameField": {
        "Identifier": "string"
      }
    },
    "ResponseInspection": {
      "BodyContains": {
        "FailureStrings": [ "string" ],
        "SuccessStrings": [ "string" ]
      },
      "Header": {
        "FailureValues": [ "string" ],
        "Name": "string",
        "SuccessValues": [ "string" ]
      },
      "Json": {
        "FailureValues": [ "string" ],
        "Identifier": "string",
        "SuccessValues": [ "string" ]
      },
      "StatusCode": {
        "FailureCodes": [ number ],

```



```

        },
        "StatusCode": {
            "FailureCodes": [ number ],
            "SuccessCodes": [ number ]
        }
    },
    "AWSManagedRulesBotControlRuleSet": {
        "EnableMachineLearning": boolean,
        "InspectionLevel": "string"
    },
    "LoginPath": "string",
    "PasswordField": {
        "Identifier": "string"
    },
    "PayloadType": "string",
    "UsernameField": {
        "Identifier": "string"
    }
}
],
"Name": "string",
"RuleActionOverrides": [
    {
        "ActionToUse": {
            "Allow": {
                "CustomRequestHandling": {
                    "InsertHeaders": [
                        {
                            "Name": "string",
                            "Value": "string"
                        }
                    ]
                }
            }
        },
        "Block": {
            "CustomResponse": {
                "CustomResponseBodyKey": "string",
                "ResponseCode": number,
                "ResponseHeaders": [
                    {
                        "Name": "string",
                        "Value": "string"
                    }
                ]
            }
        }
    }
]

```

```

    ]
  },
  "Captcha": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "Challenge": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "Count": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "Name": "string"
}
],
"ScopeDownStatement": "Statement",
"VendorName": "string",
"Version": "string"
},
"NotStatement": {
  "Statement": "Statement"
},

```

```
"OrStatement": {
  "Statements": [
    "Statement"
  ]
},
"RateBasedStatement": {
  "AggregateKeyType": "string",
  "CustomKeys": [
    {
      "ASN": {
      },
      "Cookie": {
        "Name": "string",
        "TextTransformations": [
          {
            "Priority": number,
            "Type": "string"
          }
        ]
      },
      "ForwardedIP": {
      },
      "Header": {
        "Name": "string",
        "TextTransformations": [
          {
            "Priority": number,
            "Type": "string"
          }
        ]
      },
      "HTTPMethod": {
      },
      "IP": {
      },
      "JA3Fingerprint": {
        "FallbackBehavior": "string"
      },
      "JA4Fingerprint": {
        "FallbackBehavior": "string"
      },
      "LabelNamespace": {
        "Namespace": "string"
      }
    }
  ],
}
```

```

    "QueryArgument": {
      "Name": "string",
      "TextTransformations": [
        {
          "Priority": number,
          "Type": "string"
        }
      ]
    },
    "QueryString": {
      "TextTransformations": [
        {
          "Priority": number,
          "Type": "string"
        }
      ]
    },
    "UriPath": {
      "TextTransformations": [
        {
          "Priority": number,
          "Type": "string"
        }
      ]
    }
  ],
  "EvaluationWindowSec": number,
  "ForwardedIPConfig": {
    "FallbackBehavior": "string",
    "HeaderName": "string"
  },
  "Limit": number,
  "ScopeDownStatement": "Statement"
},
"RegexMatchStatement": {
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    },
    "Cookies": {
      "MatchPattern": {

```

```
    "All": {
    },
    "ExcludedCookies": [ "string" ],
    "IncludedCookies": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"HeaderOrder": {
  "OversizeHandling": "string"
},
"Headers": {
  "MatchPattern": {
    "All": {
    },
    "ExcludedHeaders": [ "string" ],
    "IncludedHeaders": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"JA3Fingerprint": {
  "FallbackBehavior": "string"
},
"JA4Fingerprint": {
  "FallbackBehavior": "string"
},
"JsonBody": {
  "InvalidFallbackBehavior": "string",
  "MatchPattern": {
    "All": {
    },
    "IncludedPaths": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"Method": {
},
"QueryString": {
},
"SingleHeader": {
  "Name": "string"
},
},
```

```

    "SingleQueryArgument": {
      "Name": "string"
    },
    "UriFragment": {
      "FallbackBehavior": "string"
    },
    "UriPath": {
    }
  },
  "RegexString": "string",
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"RegexPatternSetReferenceStatement": {
  "ARN": "string",
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    },
    "Cookies": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedCookies": [ "string" ],
        "IncludedCookies": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "HeaderOrder": {
      "OversizeHandling": "string"
    },
    "Headers": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedHeaders": [ "string" ],
        "IncludedHeaders": [ "string" ]
      }
    }
  }
}

```

```

    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
    "FallbackBehavior": "string"
  },
  "UriPath": {
  }
},
"TextTransformations": [
  {
    "Priority": number,
    "Type": "string"
  }
]
},
"RuleGroupReferenceStatement": {

```

```
"ARN": "string",
"ExcludedRules": [
  {
    "Name": "string"
  }
],
"RuleActionOverrides": [
  {
    "ActionToUse": {
      "Allow": {
        "CustomRequestHandling": {
          "InsertHeaders": [
            {
              "Name": "string",
              "Value": "string"
            }
          ]
        }
      },
      "Block": {
        "CustomResponse": {
          "CustomResponseBodyKey": "string",
          "ResponseCode": number,
          "ResponseHeaders": [
            {
              "Name": "string",
              "Value": "string"
            }
          ]
        }
      },
      "Captcha": {
        "CustomRequestHandling": {
          "InsertHeaders": [
            {
              "Name": "string",
              "Value": "string"
            }
          ]
        }
      },
      "Challenge": {
        "CustomRequestHandling": {
          "InsertHeaders": [
```

```

        {
            "Name": "string",
            "Value": "string"
        }
    ]
}
},
"Count": {
    "CustomRequestHandling": {
        "InsertHeaders": [
            {
                "Name": "string",
                "Value": "string"
            }
        ]
    }
}
},
"Name": "string"
}
]
},
"SizeConstraintStatement": {
    "ComparisonOperator": "string",
    "FieldToMatch": {
        "AllQueryArguments": {
        },
        "Body": {
            "OversizeHandling": "string"
        },
        "Cookies": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedCookies": [ "string" ],
                "IncludedCookies": [ "string" ]
            },
            "MatchScope": "string",
            "OversizeHandling": "string"
        },
        "HeaderOrder": {
            "OversizeHandling": "string"
        },
        "Headers": {

```

```

    "MatchPattern": {
      "All": {
      },
      "ExcludedHeaders": [ "string" ],
      "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
    "FallbackBehavior": "string"
  },
  "UriPath": {
  }
},
"Size": number,
"TextTransformations": [
  {

```

```

        "Priority": number,
        "Type": "string"
    }
]
},
"SqliMatchStatement": {
    "FieldToMatch": {
        "AllQueryArguments": {
        },
        "Body": {
            "OversizeHandling": "string"
        },
        "Cookies": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedCookies": [ "string" ],
                "IncludedCookies": [ "string" ]
            },
            "MatchScope": "string",
            "OversizeHandling": "string"
        },
        "HeaderOrder": {
            "OversizeHandling": "string"
        },
        "Headers": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedHeaders": [ "string" ],
                "IncludedHeaders": [ "string" ]
            },
            "MatchScope": "string",
            "OversizeHandling": "string"
        },
        "JA3Fingerprint": {
            "FallbackBehavior": "string"
        },
        "JA4Fingerprint": {
            "FallbackBehavior": "string"
        },
        "JsonBody": {
            "InvalidFallbackBehavior": "string",
            "MatchPattern": {

```

```
        "All": {
          },
          "IncludedPaths": [ "string" ]
        },
        "MatchScope": "string",
        "OversizeHandling": "string"
      },
      "Method": {
      },
      "QueryString": {
      },
      "SingleHeader": {
        "Name": "string"
      },
      "SingleQueryArgument": {
        "Name": "string"
      },
      "UriFragment": {
        "FallbackBehavior": "string"
      },
      "UriPath": {
      }
    },
    "SensitivityLevel": "string",
    "TextTransformations": [
      {
        "Priority": number,
        "Type": "string"
      }
    ]
  },
  "XssMatchStatement": {
    "FieldToMatch": {
      "AllQueryArguments": {
      },
      "Body": {
        "OversizeHandling": "string"
      },
      "Cookies": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedCookies": [ "string" ],
          "IncludedCookies": [ "string" ]
        }
      }
    }
  }
}
```

```
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "HeaderOrder": {
    "OversizeHandling": "string"
  },
  "Headers": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedHeaders": [ "string" ],
      "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
```

```
        "FallbackBehavior": "string"
      },
      "UriPath": {
      }
    },
    "TextTransformations": [
      {
        "Priority": number,
        "Type": "string"
      }
    ]
  },
  "VisibilityConfig": {
    "CloudWatchMetricsEnabled": boolean,
    "MetricName": "string",
    "SampledRequestsEnabled": boolean
  }
},
"Scope": "string",
"Tags": [
  {
    "Key": "string",
    "Value": "string"
  }
],
"VisibilityConfig": {
  "CloudWatchMetricsEnabled": boolean,
  "MetricName": "string",
  "SampledRequestsEnabled": boolean
}
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [Capacity](#)

The web ACL capacity units (WCUs) required for this rule group.

When you create your own rule group, you define this, and you cannot change it after creation. When you add or modify the rules in a rule group, Amazon WAF enforces this limit. You can check the capacity for a set of rules using [CheckCapacity](#).

Amazon WAF uses WCUs to calculate and control the operating resources that are used to run your rules, rule groups, and web ACLs. Amazon WAF calculates capacity differently for each rule type, to reflect the relative cost of each rule. Simple rules that cost little to run use fewer WCUs than more complex rules that use more processing power. Rule group capacity is fixed at creation, which helps users plan their web ACL WCU usage when they use a rule group. For more information, see [Amazon WAF web ACL capacity units \(WCU\)](#) in the *Amazon WAF Developer Guide*.

Type: Long

Valid Range: Minimum value of 1.

Required: Yes

### [CustomResponseBodies](#)

A map of custom response keys and content bodies. When you create a rule with a block action, you can send a custom response to the web request. You define these for the rule group, and then use them in the rules that you define in the rule group.

For information about customizing web requests and responses, see [Customizing web requests and responses in Amazon WAF](#) in the *Amazon WAF Developer Guide*.

For information about the limits on count and size for custom request and response settings, see [Amazon WAF quotas](#) in the *Amazon WAF Developer Guide*.

Type: String to [CustomResponseBody](#) object map

Map Entries: Maximum number of items.

Key Length Constraints: Minimum length of 1. Maximum length of 128.

Key Pattern: `^[\\w\\- ]+$`

Required: No

### [Description](#)

A description of the rule group that helps with identification.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `^[\w+=:#@/\-,\.][\w+=:#@/\-,\.\s]+[\w+=:#@/\-,\.]$`

Required: No

## Name

The name of the rule group. You cannot change the name of a rule group after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: Yes

## Rules

The [Rule](#) statements used to identify the web requests that you want to manage. Each rule includes one top-level statement that Amazon WAF uses to identify matching web requests, and parameters that govern how Amazon WAF handles them.

Type: Array of [Rule](#) objects

Required: No

## Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint us-east-1.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

## Tags

An array of key:value pairs to associate with the resource.

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item.

Required: No

## VisibilityConfig

Defines and enables Amazon CloudWatch metrics and web request sample collection.

Type: [VisibilityConfig](#) object

Required: Yes

## Response Syntax

```
{
  "Summary": {
    "ARN": "string",
    "Description": "string",
    "Id": "string",
    "LockToken": "string",
    "Name": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Summary

High-level information about a [RuleGroup](#), returned by operations like create and list. This provides information like the ID, that you can use to retrieve and manage a `RuleGroup`, and the ARN, that you provide to the [RuleGroupReferenceStatement](#) to use the rule group in a [Rule](#).

Type: [RuleGroupSummary](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFDuplicateItemException

Amazon WAF couldn't perform the operation because the resource that you tried to save is a duplicate of an existing one.

HTTP Status Code: 400

### WAFInternalErrorException

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### WAFInvalidOperationException

The operation isn't valid.

HTTP Status Code: 400

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

#### Field

The settings where the invalid parameter was found.

#### Parameter

The invalid parameter that resulted in the exception.

**Reason**

Additional information about the exception.

HTTP Status Code: 400

**WAFLimitsExceededException**

Amazon WAF couldn't perform the operation because you exceeded your resource limit. For example, the maximum number of WebACL objects that you can create for an Amazon account. For more information, see [Amazon WAF quotas](#) in the *Amazon WAF Developer Guide*.

**SourceType**

Source type for the exception.

HTTP Status Code: 400

**WAFNonexistentItemException**

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

**WAFOptimisticLockException**

Amazon WAF couldn't save your changes because you tried to update or delete a resource that has changed since you last retrieved it. Get the resource again, make any changes you need to make to the new copy, and retry your operation.

HTTP Status Code: 400

**WAFSubscriptionNotFoundException**

You tried to use a managed rule group that's available by subscription, but you aren't subscribed to it yet.

HTTP Status Code: 400

**WAFTagOperationException**

An error occurred during the tagging operation. Retry your request.

HTTP Status Code: 400

## WAFTagOperationInternalErrorException

Amazon WAF couldn't perform your tagging operation because of an internal error. Retry your request.

HTTP Status Code: 500

## WAFUnavailableEntityException

Amazon WAF couldn't retrieve a resource that you specified for this operation. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate. Verify the resource specifications in your request parameters and then retry the operation.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateWebACL

Service: Amazon WAFV2

Creates a [WebACL](#) per the specifications provided.

A web ACL defines a collection of rules to use to inspect and control web requests. Each rule has a statement that defines what to look for in web requests and an action that Amazon WAF applies to requests that match the statement. In the web ACL, you assign a default action to take (allow, block) for any request that does not match any of the rules. The rules in a web ACL can be a combination of the types [Rule](#), [RuleGroup](#), and managed rule group. You can associate a web ACL with one or more Amazon resources to protect. The resource types include Amazon CloudFront distribution, Amazon API Gateway REST API, Application Load Balancer, Amazon AppSync GraphQL API, Amazon Cognito user pool, Amazon App Runner service, Amazon Amplify application, and Amazon Verified Access instance.

## Request Syntax

```
{
  "ApplicationConfig": {
    "Attributes": [
      {
        "Name": "string",
        "Values": [ "string" ]
      }
    ]
  },
  "AssociationConfig": {
    "RequestBody": {
      "string" : {
        "DefaultSizeInspectionLimit": "string"
      }
    }
  },
  "CaptchaConfig": {
    "ImmunityTimeProperty": {
      "ImmunityTime": number
    }
  },
  "ChallengeConfig": {
    "ImmunityTimeProperty": {
      "ImmunityTime": number
    }
  }
}
```

```
},
"CustomResponseBodies": {
  "string" : {
    "Content": "string",
    "ContentType": "string"
  }
},
"DataProtectionConfig": {
  "DataProtections": [
    {
      "Action": "string",
      "ExcludeRateBasedDetails": boolean,
      "ExcludeRuleMatchDetails": boolean,
      "Field": {
        "FieldKeys": [ "string" ],
        "FieldType": "string"
      }
    }
  ]
},
"DefaultAction": {
  "Allow": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "Block": {
    "CustomResponse": {
      "CustomResponseBodyKey": "string",
      "ResponseCode": number,
      "ResponseHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  }
},
},
```

```
"Description": "string",
"Name": "string",
"OnSourceDDoSProtectionConfig": {
  "ALBLowReputationMode": "string"
},
"Rules": [
  {
    "Action": {
      "Allow": {
        "CustomRequestHandling": {
          "InsertHeaders": [
            {
              "Name": "string",
              "Value": "string"
            }
          ]
        }
      },
      "Block": {
        "CustomResponse": {
          "CustomResponseBodyKey": "string",
          "ResponseCode": number,
          "ResponseHeaders": [
            {
              "Name": "string",
              "Value": "string"
            }
          ]
        }
      }
    },
    "Captcha": {
      "CustomRequestHandling": {
        "InsertHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      }
    },
    "Challenge": {
      "CustomRequestHandling": {
        "InsertHeaders": [
          {
```

```
        "Name": "string",
        "Value": "string"
      }
    ]
  },
  "Count": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "CaptchaConfig": {
    "ImmunityTimeProperty": {
      "ImmunityTime": number
    }
  },
  "ChallengeConfig": {
    "ImmunityTimeProperty": {
      "ImmunityTime": number
    }
  },
  "Name": "string",
  "OverrideAction": {
    "Count": {
      "CustomRequestHandling": {
        "InsertHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      }
    },
    "None": {
    }
  },
  "Priority": number,
  "RuleLabels": [
```

```
{
  "Name": "string"
},
],
"Statement": {
  "AndStatement": {
    "Statements": [
      "Statement"
    ]
  },
  "AsnMatchStatement": {
    "AsnList": [ number ],
    "ForwardedIPConfig": {
      "FallbackBehavior": "string",
      "HeaderName": "string"
    }
  },
  "ByteMatchStatement": {
    "FieldToMatch": {
      "AllQueryArguments": {
      },
      "Body": {
        "OversizeHandling": "string"
      },
      "Cookies": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedCookies": [ "string" ],
          "IncludedCookies": [ "string" ]
        },
        "MatchScope": "string",
        "OversizeHandling": "string"
      },
      "HeaderOrder": {
        "OversizeHandling": "string"
      },
      "Headers": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedHeaders": [ "string" ],
          "IncludedHeaders": [ "string" ]
        }
      }
    }
  },
  "HeaderMatchStatement": {
    "FieldToMatch": {
      "AllRequestHeaders": {
      },
      "Body": {
        "OversizeHandling": "string"
      },
      "Cookies": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedCookies": [ "string" ],
          "IncludedCookies": [ "string" ]
        },
        "MatchScope": "string",
        "OversizeHandling": "string"
      },
      "HeaderOrder": {
        "OversizeHandling": "string"
      },
      "Headers": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedHeaders": [ "string" ],
          "IncludedHeaders": [ "string" ]
        }
      }
    }
  },
  "IPMatchStatement": {
    "IPSet": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedIPs": [ "string" ],
        "IncludedIPs": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    }
  },
  "SizeMatchStatement": {
    "FieldToMatch": {
      "AllRequestHeaders": {
      },
      "Body": {
        "OversizeHandling": "string"
      },
      "Cookies": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedCookies": [ "string" ],
          "IncludedCookies": [ "string" ]
        },
        "MatchScope": "string",
        "OversizeHandling": "string"
      },
      "HeaderOrder": {
        "OversizeHandling": "string"
      },
      "Headers": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedHeaders": [ "string" ],
          "IncludedHeaders": [ "string" ]
        }
      }
    }
  },
  "SQLMatchStatement": {
    "FieldToMatch": {
      "AllRequestHeaders": {
      },
      "Body": {
        "OversizeHandling": "string"
      },
      "Cookies": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedCookies": [ "string" ],
          "IncludedCookies": [ "string" ]
        },
        "MatchScope": "string",
        "OversizeHandling": "string"
      },
      "HeaderOrder": {
        "OversizeHandling": "string"
      },
      "Headers": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedHeaders": [ "string" ],
          "IncludedHeaders": [ "string" ]
        }
      }
    }
  },
  "XSSMatchStatement": {
    "FieldToMatch": {
      "AllRequestHeaders": {
      },
      "Body": {
        "OversizeHandling": "string"
      },
      "Cookies": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedCookies": [ "string" ],
          "IncludedCookies": [ "string" ]
        },
        "MatchScope": "string",
        "OversizeHandling": "string"
      },
      "HeaderOrder": {
        "OversizeHandling": "string"
      },
      "Headers": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedHeaders": [ "string" ],
          "IncludedHeaders": [ "string" ]
        }
      }
    }
  }
}
```

```

        "MatchScope": "string",
        "OversizeHandling": "string"
    },
    "JA3Fingerprint": {
        "FallbackBehavior": "string"
    },
    "JA4Fingerprint": {
        "FallbackBehavior": "string"
    },
    "JsonBody": {
        "InvalidFallbackBehavior": "string",
        "MatchPattern": {
            "All": {
            },
            "IncludedPaths": [ "string" ]
        },
        "MatchScope": "string",
        "OversizeHandling": "string"
    },
    "Method": {
    },
    "QueryString": {
    },
    "SingleHeader": {
        "Name": "string"
    },
    "SingleQueryArgument": {
        "Name": "string"
    },
    "UriFragment": {
        "FallbackBehavior": "string"
    },
    "UriPath": {
    }
},
"PositionalConstraint": "string",
"SearchString": blob,
"TextTransformations": [
    {
        "Priority": number,
        "Type": "string"
    }
]
},

```

```
"GeoMatchStatement": {
  "CountryCodes": [ "string" ],
  "ForwardedIPConfig": {
    "FallbackBehavior": "string",
    "HeaderName": "string"
  }
},
"IPSetReferenceStatement": {
  "ARN": "string",
  "IPSetForwardedIPConfig": {
    "FallbackBehavior": "string",
    "HeaderName": "string",
    "Position": "string"
  }
},
"LabelMatchStatement": {
  "Key": "string",
  "Scope": "string"
},
"ManagedRuleGroupStatement": {
  "ExcludedRules": [
    {
      "Name": "string"
    }
  ],
  "ManagedRuleGroupConfigs": [
    {
      "AWSManagedRulesACFPRuleSet": {
        "CreationPath": "string",
        "EnableRegexInPath": boolean,
        "RegistrationPagePath": "string",
        "RequestInspection": {
          "AddressFields": [
            {
              "Identifier": "string"
            }
          ],
          "EmailField": {
            "Identifier": "string"
          },
          "PasswordField": {
            "Identifier": "string"
          },
          "PayloadType": "string",
```

```

    "PhoneNumberFields": [
      {
        "Identifier": "string"
      }
    ],
    "UsernameField": {
      "Identifier": "string"
    }
  },
  "ResponseInspection": {
    "BodyContains": {
      "FailureStrings": [ "string" ],
      "SuccessStrings": [ "string" ]
    },
    "Header": {
      "FailureValues": [ "string" ],
      "Name": "string",
      "SuccessValues": [ "string" ]
    },
    "Json": {
      "FailureValues": [ "string" ],
      "Identifier": "string",
      "SuccessValues": [ "string" ]
    },
    "StatusCode": {
      "FailureCodes": [ number ],
      "SuccessCodes": [ number ]
    }
  }
},
"AWSTManagedRulesAntiDDoSRuleSet": {
  "ClientSideActionConfig": {
    "Challenge": {
      "ExemptUriRegularExpressions": [
        {
          "RegexString": "string"
        }
      ],
      "Sensitivity": "string",
      "UsageOfAction": "string"
    }
  },
  "SensitivityToBlock": "string"
},

```

```
"AWSManagedRulesATPRuleSet": {
  "EnableRegexInPath": boolean,
  "LoginPath": "string",
  "RequestInspection": {
    "PasswordField": {
      "Identifier": "string"
    },
    "PayloadType": "string",
    "UsernameField": {
      "Identifier": "string"
    }
  },
  "ResponseInspection": {
    "BodyContains": {
      "FailureStrings": [ "string " ],
      "SuccessStrings": [ "string " ]
    },
    "Header": {
      "FailureValues": [ "string " ],
      "Name": "string",
      "SuccessValues": [ "string " ]
    },
    "Json": {
      "FailureValues": [ "string " ],
      "Identifier": "string",
      "SuccessValues": [ "string " ]
    },
    "StatusCode": {
      "FailureCodes": [ number ],
      "SuccessCodes": [ number ]
    }
  }
},
"AWSManagedRulesBotControlRuleSet": {
  "EnableMachineLearning": boolean,
  "InspectionLevel": "string"
},
"LoginPath": "string",
"PasswordField": {
  "Identifier": "string"
},
"PayloadType": "string",
"UsernameField": {
  "Identifier": "string"
}
```

```
    }
  }
],
"Name": "string",
"RuleActionOverrides": [
  {
    "ActionToUse": {
      "Allow": {
        "CustomRequestHandling": {
          "InsertHeaders": [
            {
              "Name": "string",
              "Value": "string"
            }
          ]
        }
      },
      "Block": {
        "CustomResponse": {
          "CustomResponseBodyKey": "string",
          "ResponseCode": number,
          "ResponseHeaders": [
            {
              "Name": "string",
              "Value": "string"
            }
          ]
        }
      },
      "Captcha": {
        "CustomRequestHandling": {
          "InsertHeaders": [
            {
              "Name": "string",
              "Value": "string"
            }
          ]
        }
      },
      "Challenge": {
        "CustomRequestHandling": {
          "InsertHeaders": [
            {
              "Name": "string",
```

```

        "Value": "string"
      }
    ]
  },
  "Count": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "Name": "string"
}
],
"ScopeDownStatement": "Statement",
"VendorName": "string",
"Version": "string"
},
"NotStatement": {
  "Statement": "Statement"
},
"OrStatement": {
  "Statements": [
    "Statement"
  ]
},
"RateBasedStatement": {
  "AggregateKeyType": "string",
  "CustomKeys": [
    {
      "ASN": {
      },
      "Cookie": {
        "Name": "string",
        "TextTransformations": [
          {
            "Priority": number,
            "Type": "string"
          }
        ]
      }
    }
  ]
}

```

```
    ]
  },
  "ForwardedIP": {
  },
  "Header": {
    "Name": "string",
    "TextTransformations": [
      {
        "Priority": number,
        "Type": "string"
      }
    ]
  },
  "HTTPMethod": {
  },
  "IP": {
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "LabelNamespace": {
    "Namespace": "string"
  },
  "QueryArgument": {
    "Name": "string",
    "TextTransformations": [
      {
        "Priority": number,
        "Type": "string"
      }
    ]
  },
  "QueryString": {
    "TextTransformations": [
      {
        "Priority": number,
        "Type": "string"
      }
    ]
  },
  "UriPath": {
```

```

        "TextTransformations": [
            {
                "Priority": number,
                "Type": "string"
            }
        ]
    }
},
"EvaluationWindowSec": number,
"ForwardedIPConfig": {
    "FallbackBehavior": "string",
    "HeaderName": "string"
},
"Limit": number,
"ScopeDownStatement": "Statement"
},
"RegexMatchStatement": {
    "FieldToMatch": {
        "AllQueryArguments": {
        },
        "Body": {
            "OversizeHandling": "string"
        },
        "Cookies": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedCookies": [ "string" ],
                "IncludedCookies": [ "string" ]
            },
            "MatchScope": "string",
            "OversizeHandling": "string"
        },
        "HeaderOrder": {
            "OversizeHandling": "string"
        },
        "Headers": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedHeaders": [ "string" ],
                "IncludedHeaders": [ "string" ]
            }
        }
    }
},

```

```
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
    "FallbackBehavior": "string"
  },
  "UriPath": {
  }
},
"RegexString": "string",
"TextTransformations": [
  {
    "Priority": number,
    "Type": "string"
  }
]
},
"RegexPatternSetReferenceStatement": {
```

```
"ARN": "string",
"FieldToMatch": {
  "AllQueryArguments": {
  },
  "Body": {
    "OversizeHandling": "string"
  },
  "Cookies": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedCookies": [ "string" ],
      "IncludedCookies": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "HeaderOrder": {
    "OversizeHandling": "string"
  },
  "Headers": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedHeaders": [ "string" ],
      "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
```

```
        "OversizeHandling": "string"
    },
    "Method": {
    },
    "QueryString": {
    },
    "SingleHeader": {
        "Name": "string"
    },
    "SingleQueryArgument": {
        "Name": "string"
    },
    "UriFragment": {
        "FallbackBehavior": "string"
    },
    "UriPath": {
    }
},
"TextTransformations": [
    {
        "Priority": number,
        "Type": "string"
    }
]
},
"RuleGroupReferenceStatement": {
    "ARN": "string",
    "ExcludedRules": [
        {
            "Name": "string"
        }
    ],
    "RuleActionOverrides": [
        {
            "ActionToUse": {
                "Allow": {
                    "CustomRequestHandling": {
                        "InsertHeaders": [
                            {
                                "Name": "string",
                                "Value": "string"
                            }
                        ]
                    }
                }
            }
        }
    ]
}
```

```
    },
    "Block": {
      "CustomResponse": {
        "CustomResponseBodyKey": "string",
        "ResponseCode": number,
        "ResponseHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      }
    },
    "Captcha": {
      "CustomRequestHandling": {
        "InsertHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      }
    },
    "Challenge": {
      "CustomRequestHandling": {
        "InsertHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      }
    },
    "Count": {
      "CustomRequestHandling": {
        "InsertHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      }
    }
  },
},
```

```
        "Name": "string"
      }
    ]
  },
  "SizeConstraintStatement": {
    "ComparisonOperator": "string",
    "FieldToMatch": {
      "AllQueryArguments": {
      },
      "Body": {
        "OversizeHandling": "string"
      },
      "Cookies": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedCookies": [ "string" ],
          "IncludedCookies": [ "string" ]
        },
        "MatchScope": "string",
        "OversizeHandling": "string"
      },
      "HeaderOrder": {
        "OversizeHandling": "string"
      },
      "Headers": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedHeaders": [ "string" ],
          "IncludedHeaders": [ "string" ]
        },
        "MatchScope": "string",
        "OversizeHandling": "string"
      },
      "JA3Fingerprint": {
        "FallbackBehavior": "string"
      },
      "JA4Fingerprint": {
        "FallbackBehavior": "string"
      },
      "JsonBody": {
        "InvalidFallbackBehavior": "string",
        "MatchPattern": {
```

```

        "All": {
        },
        "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
},
"Method": {
},
"QueryString": {
},
"SingleHeader": {
    "Name": "string"
},
"SingleQueryArgument": {
    "Name": "string"
},
"UriFragment": {
    "FallbackBehavior": "string"
},
"UriPath": {
}
},
"Size": number,
"TextTransformations": [
    {
        "Priority": number,
        "Type": "string"
    }
]
},
"SqliMatchStatement": {
    "FieldToMatch": {
        "AllQueryArguments": {
        },
        "Body": {
            "OversizeHandling": "string"
        },
        "Cookies": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedCookies": [ "string" ],
                "IncludedCookies": [ "string" ]
            }
        }
    }
}

```

```
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "HeaderOrder": {
    "OversizeHandling": "string"
  },
  "Headers": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedHeaders": [ "string" ],
      "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
```

```
        "FallbackBehavior": "string"
    },
    "UriPath": {
    }
},
"SensitivityLevel": "string",
"TextTransformations": [
    {
        "Priority": number,
        "Type": "string"
    }
]
},
"XssMatchStatement": {
    "FieldToMatch": {
        "AllQueryArguments": {
        },
        "Body": {
            "OversizeHandling": "string"
        },
        "Cookies": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedCookies": [ "string" ],
                "IncludedCookies": [ "string" ]
            },
            "MatchScope": "string",
            "OversizeHandling": "string"
        },
        "HeaderOrder": {
            "OversizeHandling": "string"
        },
        "Headers": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedHeaders": [ "string" ],
                "IncludedHeaders": [ "string" ]
            },
            "MatchScope": "string",
            "OversizeHandling": "string"
        },
        "JA3Fingerprint": {
```

```
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
    "FallbackBehavior": "string"
  },
  "UriPath": {
  }
},
"TextTransformations": [
  {
    "Priority": number,
    "Type": "string"
  }
]
}
},
"VisibilityConfig": {
  "CloudWatchMetricsEnabled": boolean,
  "MetricName": "string",
  "SampledRequestsEnabled": boolean
}
```

```
    }
  ],
  "Scope": "string",
  "Tags": [
    {
      "Key": "string",
      "Value": "string"
    }
  ],
  "TokenDomains": [ "string" ],
  "VisibilityConfig": {
    "CloudWatchMetricsEnabled": boolean,
    "MetricName": "string",
    "SampledRequestsEnabled": boolean
  }
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ApplicationConfig](#)

Configures the ability for the Amazon WAF console to store and retrieve application attributes during the web ACL creation process. Application attributes help Amazon WAF give recommendations for protection packs.

Type: [ApplicationConfig](#) object

Required: No

### [AssociationConfig](#)

Specifies custom configurations for the associations between the web ACL and protected resources.

Use this to customize the maximum size of the request body that your protected resources forward to Amazon WAF for inspection. You can customize this setting for CloudFront, API Gateway, Amazon Cognito, App Runner, or Verified Access resources. The default setting is 16 KB (16,384 bytes).

**Note**

You are charged additional fees when your protected resources forward body sizes that are larger than the default. For more information, see [Amazon WAF Pricing](#).

For Application Load Balancer and Amazon AppSync, the limit is fixed at 8 KB (8,192 bytes).

Type: [AssociationConfig](#) object

Required: No

**[CaptchaConfig](#)**

Specifies how Amazon WAF should handle CAPTCHA evaluations for rules that don't have their own `CaptchaConfig` settings. If you don't specify this, Amazon WAF uses its default settings for `CaptchaConfig`.

Type: [CaptchaConfig](#) object

Required: No

**[ChallengeConfig](#)**

Specifies how Amazon WAF should handle challenge evaluations for rules that don't have their own `ChallengeConfig` settings. If you don't specify this, Amazon WAF uses its default settings for `ChallengeConfig`.

Type: [ChallengeConfig](#) object

Required: No

**[CustomResponseBodies](#)**

A map of custom response keys and content bodies. When you create a rule with a block action, you can send a custom response to the web request. You define these for the web ACL, and then use them in the rules and default actions that you define in the web ACL.

For information about customizing web requests and responses, see [Customizing web requests and responses in Amazon WAF](#) in the *Amazon WAF Developer Guide*.

For information about the limits on count and size for custom request and response settings, see [Amazon WAF quotas](#) in the *Amazon WAF Developer Guide*.

Type: String to [CustomResponseBody](#) object map

Map Entries: Maximum number of items.

Key Length Constraints: Minimum length of 1. Maximum length of 128.

Key Pattern: `^[\w\ - ]+$`

Required: No

### DataProtectionConfig

Specifies data protection to apply to the web request data for the web ACL. This is a web ACL level data protection option.

The data protection that you configure for the web ACL alters the data that's available for any other data collection activity, including your Amazon WAF logging destinations, web ACL request sampling, and Amazon Security Lake data collection and management. Your other option for data protection is in the logging configuration, which only affects logging.

Type: [DataProtectionConfig](#) object

Required: No

### DefaultAction

The action to perform if none of the Rules contained in the WebACL match.

Type: [DefaultAction](#) object

Required: Yes

### Description

A description of the web ACL that helps with identification.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `^[\w+=: #@/\ - , \. ][\w+=: #@/\ - , \. \s ]+[\w+=: #@/\ - , \. ]$`

Required: No

### Name

The name of the web ACL. You cannot change the name of a web ACL after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: Yes

### OnSourceDDoSProtectionConfig

Specifies the type of DDoS protection to apply to web request data for a web ACL. For most scenarios, it is recommended to use the default protection level, `ACTIVE_UNDER_DDOS`. If a web ACL is associated with multiple Application Load Balancers, the changes you make to DDoS protection in that web ACL will apply to all associated Application Load Balancers.

Type: [OnSourceDDoSProtectionConfig](#) object

Required: No

### Rules

The [Rule](#) statements used to identify the web requests that you want to manage. Each rule includes one top-level statement that Amazon WAF uses to identify matching web requests, and parameters that govern how Amazon WAF handles them.

Type: Array of [Rule](#) objects

Required: No

### Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use `CLOUDFRONT`.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint `us-east-1`.

Type: String

Valid Values: `CLOUDFRONT` | `REGIONAL`

Required: Yes

### Tags

An array of key:value pairs to associate with the resource.

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item.

Required: No

### [TokenDomains](#)

Specifies the domains that Amazon WAF should accept in a web request token. This enables the use of tokens across multiple protected websites. When Amazon WAF provides a token, it uses the domain of the Amazon resource that the web ACL is protecting. If you don't specify a list of token domains, Amazon WAF accepts tokens only for the domain of the protected resource. With a token domain list, Amazon WAF accepts the resource's host domain plus all domains in the token domain list, including their prefixed subdomains.

Example JSON: "TokenDomains": { "mywebsite.com", "myotherwebsite.com" }

Public suffixes aren't allowed. For example, you can't use gov.au or co.uk as token domains.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 253.

Pattern: `^[\\w\\.\\-\\/]+$`

Required: No

### [VisibilityConfig](#)

Defines and enables Amazon CloudWatch metrics and web request sample collection.

Type: [VisibilityConfig](#) object

Required: Yes

## Response Syntax

```
{
  "Summary": {
    "ARN": "string",
    "Description": "string",
    "Id": "string",
    "LockToken": "string",
    "Name": "string"
  }
}
```

```
}  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Summary

High-level information about a [WebACL](#), returned by operations like create and list. This provides information like the ID, that you can use to retrieve and manage a WebACL, and the ARN, that you provide to operations like [AssociateWebACL](#).

Type: [WebACLSummary](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFConfigurationWarningException**

The operation failed because you are inspecting the web request body, headers, or cookies without specifying how to handle oversize components. Rules that inspect the body must either provide an `OversizeHandling` configuration or they must be preceded by a `SizeConstraintStatement` that blocks the body content from being too large. Rules that inspect the headers or cookies must provide an `OversizeHandling` configuration.

Provide the handling configuration and retry your operation.

Alternately, you can suppress this warning by adding the following tag to the resource that you provide to this operation: Tag (key:WAF:OversizeFieldsHandlingConstraintOptOut, value:true).

HTTP Status Code: 400

### **WAFDuplicateItemException**

Amazon WAF couldn't perform the operation because the resource that you tried to save is a duplicate of an existing one.

HTTP Status Code: 400

## WAFExpiredManagedRuleGroupVersionException

The operation failed because the specified version for the managed rule group has expired. You can retrieve the available versions for the managed rule group by calling [ListAvailableManagedRuleGroupVersions](#).

HTTP Status Code: 400

## WAFInternalErrorException

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

## WAFInvalidOperationException

The operation isn't valid.

HTTP Status Code: 400

## WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

### Field

The settings where the invalid parameter was found.

### Parameter

The invalid parameter that resulted in the exception.

### Reason

Additional information about the exception.

HTTP Status Code: 400

## **WAFInvalidResourceException**

Amazon WAF couldn't perform the operation because the resource that you requested isn't valid. Check the resource, and try again.

HTTP Status Code: 400

## **WAFLimitsExceededException**

Amazon WAF couldn't perform the operation because you exceeded your resource limit. For example, the maximum number of WebACL objects that you can create for an Amazon account. For more information, see [Amazon WAF quotas](#) in the *Amazon WAF Developer Guide*.

### **SourceType**

Source type for the exception.

HTTP Status Code: 400

## **WAFNonexistentItemException**

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

## **WAFOptimisticLockException**

Amazon WAF couldn't save your changes because you tried to update or delete a resource that has changed since you last retrieved it. Get the resource again, make any changes you need to make to the new copy, and retry your operation.

HTTP Status Code: 400

## **WAFSubscriptionNotFoundException**

You tried to use a managed rule group that's available by subscription, but you aren't subscribed to it yet.

HTTP Status Code: 400

## **WAFTagOperationException**

An error occurred during the tagging operation. Retry your request.

HTTP Status Code: 400

## WAFTagOperationInternalErrorException

Amazon WAF couldn't perform your tagging operation because of an internal error. Retry your request.

HTTP Status Code: 500

## WAFUnavailableEntityException

Amazon WAF couldn't retrieve a resource that you specified for this operation. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate. Verify the resource specifications in your request parameters and then retry the operation.

HTTP Status Code: 400

## Examples

### Create a web ACL

The following example lists a web ACL JSON with multiple rules, including one that references a managed rule group. The managed rule group reference statement includes additional managed rule group configuration.

```
{
  "Name": "exampleWebACL",
  "Id": "77777777-8888-9999-0000-111111111111",
  "ARN": "arn:aws:wafv2:us-east-1:111111111111:regional/webacl/exampleWebACL/00000000-9999-8888-7777-666666666666",
  "DefaultAction": {
    "Allow": {}
  },
  "Description": "",
  "Rules": [
    {
      "Name": "exampleIPSetRule",
      "Priority": 0,
      "Statement": {
        "IPSetReferenceStatement": {
          "ARN": "arn:aws:wafv2:us-east-1:111111111111:regional/ipset/da/00000000-1111-2222-3333-444444444444"
        }
      },
    },
  ],
}
```

```
"Action": {
  "Block": {}
},
"VisibilityConfig": {
  "SampledRequestsEnabled": true,
  "CloudWatchMetricsEnabled": true,
  "MetricName": "exampleIPSetRule"
}
},
{
  "Name": "exampleGeoMatchRule",
  "Priority": 1,
  "Statement": {
    "GeoMatchStatement": {
      "CountryCodes": [
        "AQ",
        "RE"
      ]
    }
  },
  "Action": {
    "Block": {}
  },
  "VisibilityConfig": {
    "SampledRequestsEnabled": true,
    "CloudWatchMetricsEnabled": true,
    "MetricName": "exampleGeoMatchRule"
  }
},
{
  "Name": "AWS-AWSManagedRulesATPRuleSet",
  "Priority": 2,
  "Statement": {
    "ManagedRuleGroupStatement": {
      "VendorName": "AWS",
      "Name": "AWSManagedRulesATPRuleSet",
      "ManagedRuleGroupConfigs": [
        {
          "LoginPath": "/web/login"
        },
        {
          "PayloadType": "JSON"
        }
      ]
    }
  }
}
```

```
        "UsernameField": {
            "Identifier": "/form/username"
        },
        {
            "PasswordField": {
                "Identifier": "/form/password"
            }
        }
    ],
}
},
"OverrideAction": {
    "None": {}
},
"VisibilityConfig": {
    "SampledRequestsEnabled": true,
    "CloudWatchMetricsEnabled": true,
    "MetricName": "AWS-AWSManagedRulesATPRuleSet"
}
},
],
"VisibilityConfig": {
    "SampledRequestsEnabled": true,
    "CloudWatchMetricsEnabled": true,
    "MetricName": "exampleWebACL"
},
"Capacity": 52,
"ManagedByFirewallManager": false,
"RetrofittedByFirewallManager": false,
"LabelNamespace": "awsaf:111111111111:webacl:exampleWebACL:"
}
```

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)

- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteAPIKey

Service: Amazon WAFV2

Deletes the specified API key.

After you delete a key, it can take up to 24 hours for Amazon WAF to disallow use of the key in all regions.

## Request Syntax

```
{
  "APIKey": "string",
  "Scope": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### APIKey

The encrypted API key that you want to delete.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Pattern: .\*\\S.\*

Required: Yes

### Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint `us-east-1`.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### WAFInvalidOperationException

The operation isn't valid.

HTTP Status Code: 400

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

### Field

The settings where the invalid parameter was found.

## Parameter

The invalid parameter that resulted in the exception.

## Reason

Additional information about the exception.

HTTP Status Code: 400

## WAFNonexistentItemException

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

## WAFOptimisticLockException

Amazon WAF couldn't save your changes because you tried to update or delete a resource that has changed since you last retrieved it. Get the resource again, make any changes you need to make to the new copy, and retry your operation.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)

- [Amazon SDK for Ruby V3](#)

# DeleteFirewallManagerRuleGroups

Service: Amazon WAFV2

Deletes all rule groups that are managed by Amazon Firewall Manager from the specified [WebACL](#).

You can only use this if `ManagedByFirewallManager` and `RetrofittedByFirewallManager` are both false in the web ACL.

## Request Syntax

```
{
  "WebACLArn": "string",
  "WebACLLockToken": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [WebACLArn](#)

The Amazon Resource Name (ARN) of the web ACL.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: Yes

### [WebACLLockToken](#)

A token used for optimistic locking. Amazon WAF returns a token to your `get` and `list` requests, to mark the state of the entity at the time of the request. To make changes to the entity associated with the token, you provide the token to operations like `update` and `delete`. Amazon WAF uses the token to ensure that no changes have been made to the entity since you last retrieved it. If a change has been made, the update fails with a `WFOptimisticLockException`. If this happens, perform another `get`, and use the new token returned by that operation.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: Yes

## Response Syntax

```
{
  "NextWebACLLockToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### NextWebACLLockToken

A token used for optimistic locking. Amazon WAF returns a token to your `get` and `list` requests, to mark the state of the entity at the time of the request. To make changes to the entity associated with the token, you provide the token to operations like `update` and `delete`. Amazon WAF uses the token to ensure that no changes have been made to the entity since you last retrieved it. If a change has been made, the update fails with a `WFOptimisticLockException`. If this happens, perform another `get`, and use the new token returned by that operation.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## WAFInternalErrorException

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

## WAFInvalidOperationException

The operation isn't valid.

HTTP Status Code: 400

## WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

### Field

The settings where the invalid parameter was found.

### Parameter

The invalid parameter that resulted in the exception.

### Reason

Additional information about the exception.

HTTP Status Code: 400

## WAFNonexistentItemException

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

## **WAFOptimisticLockException**

Amazon WAF couldn't save your changes because you tried to update or delete a resource that has changed since you last retrieved it. Get the resource again, make any changes you need to make to the new copy, and retry your operation.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteIPSet

Service: Amazon WAFV2

Deletes the specified [IPSet](#).

## Request Syntax

```
{
  "Id": "string",
  "LockToken": "string",
  "Name": "string",
  "Scope": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Id

A unique identifier for the set. This ID is returned in the responses to create and list commands. You provide it to operations like update and delete.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: Yes

### LockToken

A token used for optimistic locking. Amazon WAF returns a token to your get and list requests, to mark the state of the entity at the time of the request. To make changes to the entity associated with the token, you provide the token to operations like update and delete. Amazon WAF uses the token to ensure that no changes have been made to the entity since you last retrieved it. If a change has been made, the update fails with a `WFOptimisticLockException`. If this happens, perform another get, and use the new token returned by that operation.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: Yes

## Name

The name of the IP set. You cannot change the name of an IPSet after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: Yes

## Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint us-east-1.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## WAFAssociatedItemException

Amazon WAF couldn't perform the operation because your resource is being used by another resource or it's associated with another resource.

HTTP Status Code: 400

## WAFInternalErrorException

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

## WAFInvalidOperationException

The operation isn't valid.

HTTP Status Code: 400

## WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

### Field

The settings where the invalid parameter was found.

### Parameter

The invalid parameter that resulted in the exception.

### Reason

Additional information about the exception.

HTTP Status Code: 400

## WAFNonexistentItemException

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

## WAFOptimisticLockException

Amazon WAF couldn't save your changes because you tried to update or delete a resource that has changed since you last retrieved it. Get the resource again, make any changes you need to make to the new copy, and retry your operation.

HTTP Status Code: 400

## WAFTagOperationException

An error occurred during the tagging operation. Retry your request.

HTTP Status Code: 400

## WAFTagOperationInternalErrorException

Amazon WAF couldn't perform your tagging operation because of an internal error. Retry your request.

HTTP Status Code: 500

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)

- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteLoggingConfiguration

Service: Amazon WAFV2

Deletes the [LoggingConfiguration](#) from the specified web ACL.

## Request Syntax

```
{
  "LogScope": "string",
  "LogType": "string",
  "ResourceArn": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### LogScope

The owner of the logging configuration, which must be set to CUSTOMER for the configurations that you manage.

The log scope SECURITY\_LAKE indicates a configuration that is managed through Amazon Security Lake. You can use Security Lake to collect log and event data from various sources for normalization, analysis, and management. For information, see [Collecting data from Amazon services](#) in the *Amazon Security Lake user guide*.

The log scope CLOUDWATCH\_TELEMETRY\_RULE\_MANAGED indicates a configuration that is managed through Amazon CloudWatch Logs for telemetry data collection and analysis. For information, see [What is Amazon CloudWatch Logs ?](#) in the *Amazon CloudWatch Logs user guide*.

Default: CUSTOMER

Type: String

Valid Values: CUSTOMER | SECURITY\_LAKE | CLOUDWATCH\_TELEMETRY\_RULE\_MANAGED

Required: No

## LogType

Used to distinguish between various logging options. Currently, there is one option.

Default: WAF\_LOGS

Type: String

Valid Values: WAF\_LOGS

Required: No

## ResourceArn

The Amazon Resource Name (ARN) of the web ACL from which you want to delete the [LoggingConfiguration](#).

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: .\*\\S.\*

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### WAFInvalidOperationException

The operation isn't valid.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

#### **Field**

The settings where the invalid parameter was found.

#### **Parameter**

The invalid parameter that resulted in the exception.

#### **Reason**

Additional information about the exception.

HTTP Status Code: 400

### **WAFNonexistentItemException**

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

### **WFOptimisticLockException**

Amazon WAF couldn't save your changes because you tried to update or delete a resource that has changed since you last retrieved it. Get the resource again, make any changes you need to make to the new copy, and retry your operation.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeletePermissionPolicy

Service: Amazon WAFV2

Permanently deletes an IAM policy from the specified rule group.

You must be the owner of the rule group to perform this operation.

## Request Syntax

```
{  
  "ResourceArn": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ResourceArn](#)

The Amazon Resource Name (ARN) of the rule group from which you want to delete the policy.

You must be the owner of the rule group to perform this operation.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## WAFInternalErrorException

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

## WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

### Field

The settings where the invalid parameter was found.

### Parameter

The invalid parameter that resulted in the exception.

### Reason

Additional information about the exception.

HTTP Status Code: 400

## WAFNonexistentItemException

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteRegexPatternSet

Service: Amazon WAFV2

Deletes the specified [RegexPatternSet](#).

## Request Syntax

```
{
  "Id": "string",
  "LockToken": "string",
  "Name": "string",
  "Scope": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Id

A unique identifier for the set. This ID is returned in the responses to create and list commands. You provide it to operations like update and delete.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: Yes

### LockToken

A token used for optimistic locking. Amazon WAF returns a token to your `get` and `list` requests, to mark the state of the entity at the time of the request. To make changes to the entity associated with the token, you provide the token to operations like `update` and `delete`. Amazon WAF uses the token to ensure that no changes have been made to the entity since you last retrieved it. If a change has been made, the update fails with a `WFOptimisticLockException`. If this happens, perform another `get`, and use the new token returned by that operation.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: Yes

## Name

The name of the set. You cannot change the name after you create the set.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: Yes

## Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint us-east-1.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## WAFAssociatedItemException

Amazon WAF couldn't perform the operation because your resource is being used by another resource or it's associated with another resource.

HTTP Status Code: 400

## WAFInternalErrorException

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

## WAFInvalidOperationException

The operation isn't valid.

HTTP Status Code: 400

## WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

### Field

The settings where the invalid parameter was found.

### Parameter

The invalid parameter that resulted in the exception.

### Reason

Additional information about the exception.

HTTP Status Code: 400

## WAFNonexistentItemException

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

## WAFOptimisticLockException

Amazon WAF couldn't save your changes because you tried to update or delete a resource that has changed since you last retrieved it. Get the resource again, make any changes you need to make to the new copy, and retry your operation.

HTTP Status Code: 400

## WAFTagOperationException

An error occurred during the tagging operation. Retry your request.

HTTP Status Code: 400

## WAFTagOperationInternalErrorException

Amazon WAF couldn't perform your tagging operation because of an internal error. Retry your request.

HTTP Status Code: 500

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)

- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteRuleGroup

Service: Amazon WAFV2

Deletes the specified [RuleGroup](#).

## Request Syntax

```
{
  "Id": "string",
  "LockToken": "string",
  "Name": "string",
  "Scope": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Id

A unique identifier for the rule group. This ID is returned in the responses to create and list commands. You provide it to operations like update and delete.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: Yes

### LockToken

A token used for optimistic locking. Amazon WAF returns a token to your get and list requests, to mark the state of the entity at the time of the request. To make changes to the entity associated with the token, you provide the token to operations like update and delete. Amazon WAF uses the token to ensure that no changes have been made to the entity since you last retrieved it. If a change has been made, the update fails with a `WFOptimisticLockException`. If this happens, perform another get, and use the new token returned by that operation.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: Yes

## Name

The name of the rule group. You cannot change the name of a rule group after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: Yes

## Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint us-east-1.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## WAFAssociatedItemException

Amazon WAF couldn't perform the operation because your resource is being used by another resource or it's associated with another resource.

HTTP Status Code: 400

## WAFInternalErrorException

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

## WAFInvalidOperationException

The operation isn't valid.

HTTP Status Code: 400

## WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

### Field

The settings where the invalid parameter was found.

### Parameter

The invalid parameter that resulted in the exception.

### Reason

Additional information about the exception.

HTTP Status Code: 400

## WAFNonexistentItemException

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

## WAFOptimisticLockException

Amazon WAF couldn't save your changes because you tried to update or delete a resource that has changed since you last retrieved it. Get the resource again, make any changes you need to make to the new copy, and retry your operation.

HTTP Status Code: 400

## WAFTagOperationException

An error occurred during the tagging operation. Retry your request.

HTTP Status Code: 400

## WAFTagOperationInternalErrorException

Amazon WAF couldn't perform your tagging operation because of an internal error. Retry your request.

HTTP Status Code: 500

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)

- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteWebACL

Service: Amazon WAFV2

Deletes the specified [WebACL](#).

You can only use this if `ManagedByFirewallManager` is false in the web ACL.

## Note

Before deleting any web ACL, first disassociate it from all resources.

- To retrieve a list of the resources that are associated with a web ACL, use the following calls:
  - For Amazon CloudFront distributions, use the CloudFront call `ListDistributionsByWebACLId`. For information, see [ListDistributionsByWebACLId](#) in the *Amazon CloudFront API Reference*.
  - For all other resources, call [ListResourcesForWebACL](#).
- To disassociate a resource from a web ACL, use the following calls:
  - For Amazon CloudFront distributions, provide an empty web ACL ID in the CloudFront call `UpdateDistribution`. For information, see [UpdateDistribution](#) in the *Amazon CloudFront API Reference*.
  - For all other resources, call [DisassociateWebACL](#).

## Request Syntax

```
{  
  "Id": "string",  
  "LockToken": "string",  
  "Name": "string",  
  "Scope": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

## Id

The unique identifier for the web ACL. This ID is returned in the responses to create and list commands. You provide it to operations like update and delete.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: Yes

## LockToken

A token used for optimistic locking. Amazon WAF returns a token to your get and list requests, to mark the state of the entity at the time of the request. To make changes to the entity associated with the token, you provide the token to operations like update and delete. Amazon WAF uses the token to ensure that no changes have been made to the entity since you last retrieved it. If a change has been made, the update fails with a `WFOptimisticLockException`. If this happens, perform another get, and use the new token returned by that operation.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: Yes

## Name

The name of the web ACL. You cannot change the name of a web ACL after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: Yes

## Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint us-east-1.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFAssociatedItemException

Amazon WAF couldn't perform the operation because your resource is being used by another resource or it's associated with another resource.

HTTP Status Code: 400

### WAFInternalErrorException

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### WAFInvalidOperationException

The operation isn't valid.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

#### **Field**

The settings where the invalid parameter was found.

#### **Parameter**

The invalid parameter that resulted in the exception.

#### **Reason**

Additional information about the exception.

HTTP Status Code: 400

### **WAFNonexistentItemException**

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

### **WFOptimisticLockException**

Amazon WAF couldn't save your changes because you tried to update or delete a resource that has changed since you last retrieved it. Get the resource again, make any changes you need to make to the new copy, and retry your operation.

HTTP Status Code: 400

## WAFTagOperationException

An error occurred during the tagging operation. Retry your request.

HTTP Status Code: 400

## WAFTagOperationInternalErrorException

Amazon WAF couldn't perform your tagging operation because of an internal error. Retry your request.

HTTP Status Code: 500

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DescribeAllManagedProducts

Service: Amazon WAFV2

Provides high-level information for the Amazon Managed Rules rule groups and Amazon Web Services Marketplace managed rule groups.

## Request Syntax

```
{
  "Scope": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint `us-east-1`.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

## Response Syntax

```
{
  "ManagedProducts": [
    {
```

```
    "IsAdvancedManagedRuleSet": boolean,
    "IsVersioningSupported": boolean,
    "ManagedRuleSetName": "string",
    "ProductDescription": "string",
    "ProductId": "string",
    "ProductLink": "string",
    "ProductTitle": "string",
    "SnsTopicArn": "string",
    "VendorName": "string"
  }
]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ManagedProducts

High-level information for the Amazon Managed Rules rule groups and Amazon Web Services Marketplace managed rule groups.

Type: Array of [ManagedProductDescriptor](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidOperationException**

The operation isn't valid.

HTTP Status Code: 400

## WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

### Field

The settings where the invalid parameter was found.

### Parameter

The invalid parameter that resulted in the exception.

### Reason

Additional information about the exception.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)

- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DescribeManagedProductsByVendor

Service: Amazon WAFV2

Provides high-level information for the managed rule groups owned by a specific vendor.

## Request Syntax

```
{  
  "Scope": "string",  
  "VendorName": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint `us-east-1`.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

### VendorName

The name of the managed rule group vendor. You use this, along with the rule group name, to identify a rule group.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

## Response Syntax

```
{
  "ManagedProducts": [
    {
      "IsAdvancedManagedRuleSet": boolean,
      "IsVersioningSupported": boolean,
      "ManagedRuleSetName": "string",
      "ProductDescription": "string",
      "ProductId": "string",
      "ProductLink": "string",
      "ProductTitle": "string",
      "SnsTopicArn": "string",
      "VendorName": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ManagedProducts

High-level information for the managed rule groups owned by the specified vendor.

Type: Array of [ManagedProductDescriptor](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidOperationException**

The operation isn't valid.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

#### **Field**

The settings where the invalid parameter was found.

#### **Parameter**

The invalid parameter that resulted in the exception.

#### **Reason**

Additional information about the exception.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)

- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DescribeManagedRuleGroup

Service: Amazon WAFV2

Provides high-level information for a managed rule group, including descriptions of the rules.

## Request Syntax

```
{
  "Name": "string",
  "Scope": "string",
  "VendorName": "string",
  "VersionName": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Name

The name of the managed rule group. You use this, along with the vendor name, to identify the rule group.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+`

Required: Yes

### Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint `us-east-1`.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

### VendorName

The name of the managed rule group vendor. You use this, along with the rule group name, to identify a rule group.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### VersionName

The version of the rule group. You can only use a version that is not scheduled for expiration. If you don't provide this, Amazon WAF uses the vendor's default version.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `^[\w#:\.\-\/]+$`

Required: No

## Response Syntax

```
{
  "AvailableLabels": [
    {
      "Name": "string"
    }
  ],
  "Capacity": number,
  "ConsumedLabels": [
    {
      "Name": "string"
    }
  ]
}
```

```
],
"LabelNamespace": "string",
"Rules": [
  {
    "Action": {
      "Allow": {
        "CustomRequestHandling": {
          "InsertHeaders": [
            {
              "Name": "string",
              "Value": "string"
            }
          ]
        }
      },
      "Block": {
        "CustomResponse": {
          "CustomResponseBodyKey": "string",
          "ResponseCode": number,
          "ResponseHeaders": [
            {
              "Name": "string",
              "Value": "string"
            }
          ]
        }
      },
      "Captcha": {
        "CustomRequestHandling": {
          "InsertHeaders": [
            {
              "Name": "string",
              "Value": "string"
            }
          ]
        }
      },
      "Challenge": {
        "CustomRequestHandling": {
          "InsertHeaders": [
            {
              "Name": "string",
              "Value": "string"
            }
          ]
        }
      }
    }
  }
]
```

```

    ]
  }
},
"Count": {
  "CustomRequestHandling": {
    "InsertHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  }
},
"Name": "string"
}
],
"SnsTopicArn": "string",
"VersionName": "string"
}

```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### AvailableLabels

The labels that one or more rules in this rule group add to matching web requests. These labels are defined in the `RuleLabels` for a [Rule](#).

Type: Array of [LabelSummary](#) objects

### Capacity

The web ACL capacity units (WCUs) required for this rule group.

Amazon WAF uses WCUs to calculate and control the operating resources that are used to run your rules, rule groups, and web ACLs. Amazon WAF calculates capacity differently for each rule type, to reflect the relative cost of each rule. Simple rules that cost little to run use fewer WCUs than more complex rules that use more processing power. Rule group capacity is fixed at creation, which helps users plan their web ACL WCU usage when they use a rule group. For more

information, see [Amazon WAF web ACL capacity units \(WCU\)](#) in the *Amazon WAF Developer Guide*.

Type: Long

Valid Range: Minimum value of 1.

### ConsumedLabels

The labels that one or more rules in this rule group match against in label match statements. These labels are defined in a `LabelMatchStatement` specification, in the [Statement](#) definition of a rule.

Type: Array of [LabelSummary](#) objects

### LabelNamespace

The label namespace prefix for this rule group. All labels added by rules in this rule group have this prefix.

- The syntax for the label namespace prefix for a managed rule group is the following:

```
aws-waf:managed:<vendor>:<rule group name>
```

- When a rule with a label matches a web request, Amazon WAF adds the fully qualified label to the request. A fully qualified label is made up of the label namespace from the rule group or web ACL where the rule is defined and the label from the rule, separated by a colon:

```
<label namespace>:<label from rule>
```

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Pattern: `^[0-9A-Za-z_\-\:]+$`

### Rules

Type: Array of [RuleSummary](#) objects

### SnsTopicArn

The Amazon resource name (ARN) of the Amazon Simple Notification Service SNS topic that's used to provide notification of changes to the managed rule group. You can subscribe to the

SNS topic to receive notifications when the managed rule group is modified, such as for new versions and for version expiration. For more information, see the [Amazon Simple Notification Service Developer Guide](#).

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

### **VersionName**

The managed rule group's version.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `^[\w#:\.\-/\]+`

## **Errors**

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFExpiredManagedRuleGroupVersionException**

The operation failed because the specified version for the managed rule group has expired. You can retrieve the available versions for the managed rule group by calling [ListAvailableManagedRuleGroupVersions](#).

HTTP Status Code: 400

### **WAFInternalErrorException**

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidOperationException**

The operation isn't valid.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

#### **Field**

The settings where the invalid parameter was found.

#### **Parameter**

The invalid parameter that resulted in the exception.

#### **Reason**

Additional information about the exception.

HTTP Status Code: 400

### **WAFInvalidResourceException**

Amazon WAF couldn't perform the operation because the resource that you requested isn't valid. Check the resource, and try again.

HTTP Status Code: 400

### **WAFNonexistentItemException**

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DisassociateWebACL

Service: Amazon WAFV2

Disassociates the specified resource from its web ACL association, if it has one.

Use this for all resource types except for Amazon CloudFront distributions. For Amazon CloudFront, call `UpdateDistribution` for the distribution and provide an empty web ACL ID. For information, see [UpdateDistribution](#) in the *Amazon CloudFront API Reference*.

## Required permissions for customer-managed IAM policies

This call requires permissions that are specific to the protected resource type. For details, see [Permissions for DisassociateWebACL](#) in the *Amazon WAF Developer Guide*.

## Request Syntax

```
{
  "ResourceArn": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ResourceArn](#)

The Amazon Resource Name (ARN) of the resource to disassociate from the web ACL.

The ARN must be in one of the following formats:

- For an Application Load Balancer:  
`arn:partition:elasticloadbalancing:region:account-id:loadbalancer/app/load-balancer-name/load-balancer-id`
- For an Amazon API Gateway REST API: `arn:partition:apigateway:region::/restapis/api-id/stages/stage-name`
- For an Amazon AppSync GraphQL API: `arn:partition:appsync:region:account-id:apis/GraphQLApiId`
- For an Amazon Cognito user pool: `arn:partition:cognito-idp:region:account-id:userpool/user-pool-id`

- For an Amazon App Runner service: `arn:partition:apprunner:region:account-id:service/apprunner-service-name/apprunner-service-id`
- For an Amazon Verified Access instance: `arn:partition:ec2:region:account-id:verified-access-instance/instance-id`
- For an Amazon Amplify application: `arn:partition:amplify:region:account-id:apps/app-id`

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### WAFInvalidOperationException

The operation isn't valid.

HTTP Status Code: 400

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.

- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

**Field**

The settings where the invalid parameter was found.

**Parameter**

The invalid parameter that resulted in the exception.

**Reason**

Additional information about the exception.

HTTP Status Code: 400

**WAFNonexistentItemException**

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

**See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)

- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GenerateMobileSdkReleaseUrl

Service: Amazon WAFV2

Generates a presigned download URL for the specified release of the mobile SDK.

The mobile SDK is not generally available. Customers who have access to the mobile SDK can use it to establish and manage Amazon WAF tokens for use in HTTP(S) requests from a mobile device to Amazon WAF. For more information, see [Amazon WAF client application integration](#) in the *Amazon WAF Developer Guide*.

## Request Syntax

```
{  
  "Platform": "string",  
  "ReleaseVersion": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Platform

The device platform.

Type: String

Valid Values: IOS | ANDROID

Required: Yes

### ReleaseVersion

The release version. For the latest available version, specify LATEST.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `^[\\w#:\\.\\-\\/]+$`

Required: Yes

## Response Syntax

```
{
  "Url": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Url

The presigned download URL for the specified SDK release.

Type: String

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidOperationException**

The operation isn't valid.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.

- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

**Field**

The settings where the invalid parameter was found.

**Parameter**

The invalid parameter that resulted in the exception.

**Reason**

Additional information about the exception.

HTTP Status Code: 400

**WAFNonexistentItemException**

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

**See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)

- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetDecryptedAPIKey

Service: Amazon WAFV2

Returns your API key in decrypted form. Use this to check the token domains that you have defined for the key.

API keys are required for the integration of the CAPTCHA API in your JavaScript client applications. The API lets you customize the placement and characteristics of the CAPTCHA puzzle for your end users. For more information about the CAPTCHA JavaScript integration, see [Amazon WAF client application integration](#) in the *Amazon WAF Developer Guide*.

## Request Syntax

```
{
  "APIKey": "string",
  "Scope": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### APIKey

The encrypted API key.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Pattern: .\*\\S.\*

Required: Yes

### Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint `us-east-1`.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

## Response Syntax

```
{  
  "CreationTimestamp": number,  
  "TokenDomains": [ "string" ]  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### CreationTimestamp

The date and time that the key was created.

Type: Timestamp

### TokenDomains

The token domains that are defined in this API key.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 253.

Pattern: `^[\\w\\.\\-\\/]+$`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## WAFInternalErrorException

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

## WAFInvalidOperationException

The operation isn't valid.

HTTP Status Code: 400

## WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

### Field

The settings where the invalid parameter was found.

### Parameter

The invalid parameter that resulted in the exception.

### Reason

Additional information about the exception.

HTTP Status Code: 400

## WAFInvalidResourceException

Amazon WAF couldn't perform the operation because the resource that you requested isn't valid. Check the resource, and try again.

HTTP Status Code: 400

## WAFNonexistentItemException

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetIPSet

Service: Amazon WAFV2

Retrieves the specified [IPSet](#).

## Request Syntax

```
{
  "Id": "string",
  "Name": "string",
  "Scope": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Id

A unique identifier for the set. This ID is returned in the responses to create and list commands. You provide it to operations like update and delete.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: Yes

### Name

The name of the IP set. You cannot change the name of an IPSet after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: Yes

## Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint `us-east-1`.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

## Response Syntax

```
{
  "IPSet": {
    "Addresses": [ "string" ],
    "ARN": "string",
    "Description": "string",
    "Id": "string",
    "IPAddressVersion": "string",
    "Name": "string"
  },
  "LockToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### IPSet

Type: [IPSet](#) object

## LockToken

A token used for optimistic locking. Amazon WAF returns a token to your `get` and `list` requests, to mark the state of the entity at the time of the request. To make changes to the entity associated with the token, you provide the token to operations like `update` and `delete`. Amazon WAF uses the token to ensure that no changes have been made to the entity since you last retrieved it. If a change has been made, the update fails with a `WFOptimisticLockException`. If this happens, perform another `get`, and use the new token returned by that operation.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidOperationException**

The operation isn't valid.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.

- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

### Field

The settings where the invalid parameter was found.

### Parameter

The invalid parameter that resulted in the exception.

### Reason

Additional information about the exception.

HTTP Status Code: 400

## WAFNonexistentItemException

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)

- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetLoggingConfiguration

Service: Amazon WAFV2

Returns the [LoggingConfiguration](#) for the specified web ACL.

## Request Syntax

```
{
  "LogScope": "string",
  "LogType": "string",
  "ResourceArn": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### LogScope

The owner of the logging configuration, which must be set to CUSTOMER for the configurations that you manage.

The log scope SECURITY\_LAKE indicates a configuration that is managed through Amazon Security Lake. You can use Security Lake to collect log and event data from various sources for normalization, analysis, and management. For information, see [Collecting data from Amazon services](#) in the *Amazon Security Lake user guide*.

The log scope CLOUDWATCH\_TELEMETRY\_RULE\_MANAGED indicates a configuration that is managed through Amazon CloudWatch Logs for telemetry data collection and analysis. For information, see [What is Amazon CloudWatch Logs ?](#) in the *Amazon CloudWatch Logs user guide*.

Default: CUSTOMER

Type: String

Valid Values: CUSTOMER | SECURITY\_LAKE | CLOUDWATCH\_TELEMETRY\_RULE\_MANAGED

Required: No

## LogType

Used to distinguish between various logging options. Currently, there is one option.

Default: WAF\_LOGS

Type: String

Valid Values: WAF\_LOGS

Required: No

## ResourceArn

The Amazon Resource Name (ARN) of the web ACL for which you want to get the [LoggingConfiguration](#).

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: .\*\\S.\*

Required: Yes

## Response Syntax

```
{
  "LoggingConfiguration": {
    "LogDestinationConfigs": [ "string" ],
    "LoggingFilter": {
      "DefaultBehavior": "string",
      "Filters": [
        {
          "Behavior": "string",
          "Conditions": [
            {
              "ActionCondition": {
                "Action": "string"
              },
              "LabelNameCondition": {
                "LabelName": "string"
              }
            }
          ]
        }
      ]
    }
  }
}
```

```
    ],
    "Requirement": "string"
  }
]
},
"LogScope": "string",
"LogType": "string",
"ManagedByFirewallManager": boolean,
"RedactedFields": [
  {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    },
    "Cookies": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedCookies": [ "string" ],
        "IncludedCookies": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "HeaderOrder": {
      "OversizeHandling": "string"
    },
    "Headers": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedHeaders": [ "string" ],
        "IncludedHeaders": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "JA3Fingerprint": {
      "FallbackBehavior": "string"
    },
    "JA4Fingerprint": {
      "FallbackBehavior": "string"
    }
  },

```

```

    "JsonBody": {
      "InvalidFallbackBehavior": "string",
      "MatchPattern": {
        "All": {
        },
        "IncludedPaths": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "Method": {
    },
    "QueryString": {
    },
    "SingleHeader": {
      "Name": "string"
    },
    "SingleQueryArgument": {
      "Name": "string"
    },
    "UriFragment": {
      "FallbackBehavior": "string"
    },
    "UriPath": {
    }
  }
],
"ResourceArn": "string"
}
}

```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### LoggingConfiguration

The [LoggingConfiguration](#) for the specified web ACL.

Type: [LoggingConfiguration](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### WAFInvalidOperationException

The operation isn't valid.

HTTP Status Code: 400

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

### Field

The settings where the invalid parameter was found.

### Parameter

The invalid parameter that resulted in the exception.

### Reason

Additional information about the exception.

HTTP Status Code: 400

## WAFNonexistentItemException

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetManagedRuleSet

Service: Amazon WAFV2

Retrieves the specified managed rule set.

## Note

This is intended for use only by vendors of managed rule sets. Vendors are Amazon and Amazon Web Services Marketplace sellers.

Vendors, you can use the managed rule set APIs to provide controlled rollout of your versioned managed rule group offerings for your customers. The APIs are `ListManagedRuleSets`, `GetManagedRuleSet`, `PutManagedRuleSetVersions`, and `UpdateManagedRuleSetVersionExpiryDate`.

## Request Syntax

```
{
  "Id": "string",
  "Name": "string",
  "Scope": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Id

A unique identifier for the managed rule set. The ID is returned in the responses to commands like `list`. You provide it to operations like `get` and `update`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: Yes

## Name

The name of the managed rule set. You use this, along with the rule set ID, to identify the rule set.

This name is assigned to the corresponding managed rule group, which your customers can access and use.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: Yes

## Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint `us-east-1`.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

## Response Syntax

```
{
  "LockToken": "string",
  "ManagedRuleSet": {
    "ARN": "string",
    "Description": "string",
    "Id": "string",
    "LabelNamespace": "string",
```

```

    "Name": "string",
    "PublishedVersions": {
      "string" : {
        "AssociatedRuleGroupArn": "string",
        "Capacity": number,
        "ExpiryTimestamp": number,
        "ForecastedLifetime": number,
        "LastUpdateTimestamp": number,
        "PublishTimestamp": number
      }
    },
    "RecommendedVersion": "string"
  }
}

```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### LockToken

A token used for optimistic locking. Amazon WAF returns a token to your `get` and `list` requests, to mark the state of the entity at the time of the request. To make changes to the entity associated with the token, you provide the token to operations like `update` and `delete`. Amazon WAF uses the token to ensure that no changes have been made to the entity since you last retrieved it. If a change has been made, the update fails with a `WAFOptimisticLockException`. If this happens, perform another `get`, and use the new token returned by that operation.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

### ManagedRuleSet

The managed rule set that you requested.

Type: [ManagedRuleSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### WAFInvalidOperationException

The operation isn't valid.

HTTP Status Code: 400

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

#### Field

The settings where the invalid parameter was found.

#### Parameter

The invalid parameter that resulted in the exception.

#### Reason

Additional information about the exception.

HTTP Status Code: 400

## WAFNonexistentItemException

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetMobileSdkRelease

Service: Amazon WAFV2

Retrieves information for the specified mobile SDK release, including release notes and tags.

The mobile SDK is not generally available. Customers who have access to the mobile SDK can use it to establish and manage Amazon WAF tokens for use in HTTP(S) requests from a mobile device to Amazon WAF. For more information, see [Amazon WAF client application integration](#) in the *Amazon WAF Developer Guide*.

## Request Syntax

```
{
  "Platform": "string",
  "ReleaseVersion": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Platform

The device platform.

Type: String

Valid Values: IOS | ANDROID

Required: Yes

### ReleaseVersion

The release version. For the latest available version, specify LATEST.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `^[\\w#:\\.\\-\\/]+$`

Required: Yes

## Response Syntax

```
{
  "MobileSdkRelease": {
    "ReleaseNotes": "string",
    "ReleaseVersion": "string",
    "Tags": [
      {
        "Key": "string",
        "Value": "string"
      }
    ],
    "Timestamp": number
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### MobileSdkRelease

Information for a specified SDK release, including release notes and tags.

Type: [MobileSdkRelease](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidOperationException**

The operation isn't valid.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

#### **Field**

The settings where the invalid parameter was found.

#### **Parameter**

The invalid parameter that resulted in the exception.

#### **Reason**

Additional information about the exception.

HTTP Status Code: 400

### **WAFNonexistentItemException**

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

### **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)

- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetPermissionPolicy

Service: Amazon WAFV2

Returns the IAM policy that is attached to the specified rule group.

You must be the owner of the rule group to perform this operation.

## Request Syntax

```
{  
  "ResourceArn": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ResourceArn

The Amazon Resource Name (ARN) of the rule group for which you want to get the policy.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{  
  "Policy": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## **Policy**

The IAM policy that is attached to the specified rule group.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 395000.

Pattern: `.*\S.*`

## **Errors**

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

### **Field**

The settings where the invalid parameter was found.

### **Parameter**

The invalid parameter that resulted in the exception.

## Reason

Additional information about the exception.

HTTP Status Code: 400

## WAFNonexistentItemException

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetRateBasedStatementManagedKeys

Service: Amazon WAFV2

Retrieves the IP addresses that are currently blocked by a rate-based rule instance. This is only available for rate-based rules that aggregate solely on the IP address or on the forwarded IP address.

The maximum number of addresses that can be blocked for a single rate-based rule instance is 10,000. If more than 10,000 addresses exceed the rate limit, those with the highest rates are blocked.

For a rate-based rule that you've defined inside a rule group, provide the name of the rule group reference statement in your request, in addition to the rate-based rule name and the web ACL name.

Amazon WAF monitors web requests and manages keys independently for each unique combination of web ACL, optional rule group, and rate-based rule. For example, if you define a rate-based rule inside a rule group, and then use the rule group in a web ACL, Amazon WAF monitors web requests and manages keys for that web ACL, rule group reference statement, and rate-based rule instance. If you use the same rule group in a second web ACL, Amazon WAF monitors web requests and manages keys for this second usage completely independent of your first.

## Request Syntax

```
{
  "RuleGroupRuleName": "string",
  "RuleName": "string",
  "Scope": "string",
  "WebACLId": "string",
  "WebACLName": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

## RuleGroupName

The name of the rule group reference statement in your web ACL. This is required only when you have the rate-based rule nested inside a rule group.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: No

## RuleName

The name of the rate-based rule to get the keys for. If you have the rule defined inside a rule group that you're using in your web ACL, also provide the name of the rule group reference statement in the request parameter `RuleGroupName`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: Yes

## Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use `CLOUDFRONT`.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint `us-east-1`.

Type: String

Valid Values: `CLOUDFRONT` | `REGIONAL`

Required: Yes

## WebACLId

The unique identifier for the web ACL. This ID is returned in the responses to create and list commands. You provide it to operations like update and delete.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: Yes

## WebACLName

The name of the web ACL. You cannot change the name of a web ACL after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: Yes

## Response Syntax

```
{
  "ManagedKeysIPV4": {
    "Addresses": [ "string" ],
    "IPAddressVersion": "string"
  },
  "ManagedKeysIPV6": {
    "Addresses": [ "string" ],
    "IPAddressVersion": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ManagedKeysIPV4

The keys that are of Internet Protocol version 4 (IPv4).

Type: [RateBasedStatementManagedKeysIPSet](#) object

### ManagedKeysIPV6

The keys that are of Internet Protocol version 6 (IPv6).

Type: [RateBasedStatementManagedKeysIPSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidOperationException**

The operation isn't valid.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

**Field**

The settings where the invalid parameter was found.

**Parameter**

The invalid parameter that resulted in the exception.

**Reason**

Additional information about the exception.

HTTP Status Code: 400

**WAFNonexistentItemException**

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

**WAFUnsupportedAggregateKeyTypeException**

The rule that you've named doesn't aggregate solely on the IP address or solely on the forwarded IP address. This call is only available for rate-based rules with an `AggregateKeyType` setting of `IP` or `FORWARDED_IP`.

HTTP Status Code: 400

**See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)

- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetRegexPatternSet

Service: Amazon WAFV2

Retrieves the specified [RegexPatternSet](#).

## Request Syntax

```
{
  "Id": "string",
  "Name": "string",
  "Scope": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Id

A unique identifier for the set. This ID is returned in the responses to create and list commands. You provide it to operations like update and delete.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: Yes

### Name

The name of the set. You cannot change the name after you create the set.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: Yes

## Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint `us-east-1`.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

## Response Syntax

```
{
  "LockToken": "string",
  "RegexPatternSet": {
    "ARN": "string",
    "Description": "string",
    "Id": "string",
    "Name": "string",
    "RegularExpressionList": [
      {
        "RegexString": "string"
      }
    ]
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## LockToken

A token used for optimistic locking. Amazon WAF returns a token to your `get` and `list` requests, to mark the state of the entity at the time of the request. To make changes to the entity associated with the token, you provide the token to operations like `update` and `delete`. Amazon WAF uses the token to ensure that no changes have been made to the entity since you last retrieved it. If a change has been made, the update fails with a `WAFOptimisticLockException`. If this happens, perform another `get`, and use the new token returned by that operation.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

## RegexPatternSet

Type: [RegexPatternSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidOperationException**

The operation isn't valid.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.

- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

**Field**

The settings where the invalid parameter was found.

**Parameter**

The invalid parameter that resulted in the exception.

**Reason**

Additional information about the exception.

HTTP Status Code: 400

**WAFNonexistentItemException**

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

**See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)

- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetRuleGroup

Service: Amazon WAFV2

Retrieves the specified [RuleGroup](#).

## Request Syntax

```
{
  "ARN": "string",
  "Id": "string",
  "Name": "string",
  "Scope": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ARN

The Amazon Resource Name (ARN) of the entity.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: No

### Id

A unique identifier for the rule group. This ID is returned in the responses to create and list commands. You provide it to operations like update and delete.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: No

## Name

The name of the rule group. You cannot change the name of a rule group after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: No

## Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint us-east-1.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: No

## Response Syntax

```
{
  "LockToken": "string",
  "RuleGroup": {
    "ARN": "string",
    "AvailableLabels": [
      {
        "Name": "string"
      }
    ],
    "Capacity": number,
    "ConsumedLabels": [
      {
        "Name": "string"
      }
    ]
  }
}
```

```
    }
  ],
  "CustomResponseBodies": {
    "string": {
      "Content": "string",
      "ContentType": "string"
    }
  },
  "Description": "string",
  "Id": "string",
  "LabelNamespace": "string",
  "Name": "string",
  "Rules": [
    {
      "Action": {
        "Allow": {
          "CustomRequestHandling": {
            "InsertHeaders": [
              {
                "Name": "string",
                "Value": "string"
              }
            ]
          }
        },
        "Block": {
          "CustomResponse": {
            "CustomResponseBodyKey": "string",
            "ResponseCode": number,
            "ResponseHeaders": [
              {
                "Name": "string",
                "Value": "string"
              }
            ]
          }
        }
      },
      "Captcha": {
        "CustomRequestHandling": {
          "InsertHeaders": [
            {
              "Name": "string",
              "Value": "string"
            }
          ]
        }
      }
    }
  ]
}
```

```

    ]
  }
},
"Challenge": {
  "CustomRequestHandling": {
    "InsertHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  }
},
"Count": {
  "CustomRequestHandling": {
    "InsertHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  }
}
},
"CaptchaConfig": {
  "ImmunityTimeProperty": {
    "ImmunityTime": number
  }
},
"ChallengeConfig": {
  "ImmunityTimeProperty": {
    "ImmunityTime": number
  }
},
"Name": "string",
"OverrideAction": {
  "Count": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  }
}
]

```

```

    }
  },
  "None": {
  }
},
"Priority": number,
"RuleLabels": [
  {
    "Name": "string"
  }
],
"Statement": {
  "AndStatement": {
    "Statements": [
      "Statement"
    ]
  },
  "AsnMatchStatement": {
    "AsnList": [ number ],
    "ForwardedIPConfig": {
      "FallbackBehavior": "string",
      "HeaderName": "string"
    }
  },
  "ByteMatchStatement": {
    "FieldToMatch": {
      "AllQueryArguments": {
      },
      "Body": {
        "OversizeHandling": "string"
      },
      "Cookies": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedCookies": [ "string" ],
          "IncludedCookies": [ "string" ]
        },
        "MatchScope": "string",
        "OversizeHandling": "string"
      },
      "HeaderOrder": {
        "OversizeHandling": "string"
      }
    }
  },

```

```
"Headers": {
  "MatchPattern": {
    "All": {
    },
    "ExcludedHeaders": [ "string" ],
    "IncludedHeaders": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"JA3Fingerprint": {
  "FallbackBehavior": "string"
},
"JA4Fingerprint": {
  "FallbackBehavior": "string"
},
"JsonBody": {
  "InvalidFallbackBehavior": "string",
  "MatchPattern": {
    "All": {
    },
    "IncludedPaths": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"Method": {
},
"QueryString": {
},
"SingleHeader": {
  "Name": "string"
},
"SingleQueryArgument": {
  "Name": "string"
},
"UriFragment": {
  "FallbackBehavior": "string"
},
"UriPath": {
}
},
"PositionalConstraint": "string",
"SearchString": blob,
```

```

    "TextTransformations": [
      {
        "Priority": number,
        "Type": "string"
      }
    ],
  },
  "GeoMatchStatement": {
    "CountryCodes": [ "string" ],
    "ForwardedIPConfig": {
      "FallbackBehavior": "string",
      "HeaderName": "string"
    }
  },
  "IPSetReferenceStatement": {
    "ARN": "string",
    "IPSetForwardedIPConfig": {
      "FallbackBehavior": "string",
      "HeaderName": "string",
      "Position": "string"
    }
  },
  "LabelMatchStatement": {
    "Key": "string",
    "Scope": "string"
  },
  "ManagedRuleGroupStatement": {
    "ExcludedRules": [
      {
        "Name": "string"
      }
    ],
    "ManagedRuleGroupConfigs": [
      {
        "AWSManagedRulesACFPRuleSet": {
          "CreationPath": "string",
          "EnableRegexInPath": boolean,
          "RegistrationPagePath": "string",
          "RequestInspection": {
            "AddressFields": [
              {
                "Identifier": "string"
              }
            ]
          }
        }
      }
    ],
  },

```

```

    "EmailField": {
      "Identifier": "string"
    },
    "PasswordField": {
      "Identifier": "string"
    },
    "PayloadType": "string",
    "PhoneNumberFields": [
      {
        "Identifier": "string"
      }
    ],
    "UsernameField": {
      "Identifier": "string"
    }
  },
  "ResponseInspection": {
    "BodyContains": {
      "FailureStrings": [ "string" ],
      "SuccessStrings": [ "string" ]
    },
    "Header": {
      "FailureValues": [ "string" ],
      "Name": "string",
      "SuccessValues": [ "string" ]
    },
    "Json": {
      "FailureValues": [ "string" ],
      "Identifier": "string",
      "SuccessValues": [ "string" ]
    },
    "StatusCode": {
      "FailureCodes": [ number ],
      "SuccessCodes": [ number ]
    }
  }
},
"AWSTManagedRulesAntiDDoSRuleSet": {
  "ClientSideActionConfig": {
    "Challenge": {
      "ExemptUriRegularExpressions": [
        {
          "RegexString": "string"
        }
      ]
    }
  }
}

```

```

        ],
        "Sensitivity": "string",
        "UsageOfAction": "string"
    }
},
"SensitivityToBlock": "string"
},
"AWSManagedRulesATPRuleSet": {
    "EnableRegexInPath": boolean,
    "LoginPath": "string",
    "RequestInspection": {
        "PasswordField": {
            "Identifier": "string"
        },
        "PayloadType": "string",
        "UsernameField": {
            "Identifier": "string"
        }
    },
    "ResponseInspection": {
        "BodyContains": {
            "FailureStrings": [ "string" ],
            "SuccessStrings": [ "string" ]
        },
        "Header": {
            "FailureValues": [ "string" ],
            "Name": "string",
            "SuccessValues": [ "string" ]
        },
        "Json": {
            "FailureValues": [ "string" ],
            "Identifier": "string",
            "SuccessValues": [ "string" ]
        },
        "StatusCode": {
            "FailureCodes": [ number ],
            "SuccessCodes": [ number ]
        }
    }
},
"AWSManagedRulesBotControlRuleSet": {
    "EnableMachineLearning": boolean,
    "InspectionLevel": "string"
},

```

```

        "LoginPath": "string",
        "PasswordField": {
            "Identifier": "string"
        },
        "PayloadType": "string",
        "UsernameField": {
            "Identifier": "string"
        }
    }
],
"Name": "string",
"RuleActionOverrides": [
    {
        "ActionToUse": {
            "Allow": {
                "CustomRequestHandling": {
                    "InsertHeaders": [
                        {
                            "Name": "string",
                            "Value": "string"
                        }
                    ]
                }
            },
            "Block": {
                "CustomResponse": {
                    "CustomResponseBodyKey": "string",
                    "ResponseCode": number,
                    "ResponseHeaders": [
                        {
                            "Name": "string",
                            "Value": "string"
                        }
                    ]
                }
            }
        },
        "Captcha": {
            "CustomRequestHandling": {
                "InsertHeaders": [
                    {
                        "Name": "string",
                        "Value": "string"
                    }
                ]
            }
        }
    ]
]

```

```

    }
  },
  "Challenge": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "Count": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "Name": "string"
}
],
"ScopeDownStatement": "Statement",
"VendorName": "string",
"Version": "string"
},
"NotStatement": {
  "Statement": "Statement"
},
"OrStatement": {
  "Statements": [
    "Statement"
  ]
},
"RateBasedStatement": {
  "AggregateKeyType": "string",
  "CustomKeys": [
    {
      "ASN": {

```

```
"Cookie": {
  "Name": "string",
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"ForwardedIP": {
},
"Header": {
  "Name": "string",
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"HTTPMethod": {
},
"IP": {
},
"JA3Fingerprint": {
  "FallbackBehavior": "string"
},
"JA4Fingerprint": {
  "FallbackBehavior": "string"
},
"LabelNamespace": {
  "Namespace": "string"
},
"QueryArgument": {
  "Name": "string",
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"QueryString": {
  "TextTransformations": [
```

```

        {
            "Priority": number,
            "Type": "string"
        }
    ]
},
"UriPath": {
    "TextTransformations": [
        {
            "Priority": number,
            "Type": "string"
        }
    ]
}
},
],
"EvaluationWindowSec": number,
"ForwardedIPConfig": {
    "FallbackBehavior": "string",
    "HeaderName": "string"
},
"Limit": number,
"ScopeDownStatement": "Statement"
},
"RegexMatchStatement": {
    "FieldToMatch": {
        "AllQueryArguments": {
        },
        "Body": {
            "OversizeHandling": "string"
        },
        "Cookies": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedCookies": [ "string" ],
                "IncludedCookies": [ "string" ]
            },
            "MatchScope": "string",
            "OversizeHandling": "string"
        },
        "HeaderOrder": {
            "OversizeHandling": "string"
        }
    },

```

```
"Headers": {
  "MatchPattern": {
    "All": {
    },
    "ExcludedHeaders": [ "string" ],
    "IncludedHeaders": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"JA3Fingerprint": {
  "FallbackBehavior": "string"
},
"JA4Fingerprint": {
  "FallbackBehavior": "string"
},
"JsonBody": {
  "InvalidFallbackBehavior": "string",
  "MatchPattern": {
    "All": {
    },
    "IncludedPaths": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"Method": {
},
"QueryString": {
},
"SingleHeader": {
  "Name": "string"
},
"SingleQueryArgument": {
  "Name": "string"
},
"UriFragment": {
  "FallbackBehavior": "string"
},
"UriPath": {
}
},
"RegexString": "string",
"TextTransformations": [
```

```

        {
            "Priority": number,
            "Type": "string"
        }
    ]
},
"RegexPatternSetReferenceStatement": {
    "ARN": "string",
    "FieldToMatch": {
        "AllQueryArguments": {
        },
        "Body": {
            "OversizeHandling": "string"
        },
        "Cookies": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedCookies": [ "string" ],
                "IncludedCookies": [ "string" ]
            },
            "MatchScope": "string",
            "OversizeHandling": "string"
        },
        "HeaderOrder": {
            "OversizeHandling": "string"
        },
        "Headers": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedHeaders": [ "string" ],
                "IncludedHeaders": [ "string" ]
            },
            "MatchScope": "string",
            "OversizeHandling": "string"
        },
        "JA3Fingerprint": {
            "FallbackBehavior": "string"
        },
        "JA4Fingerprint": {
            "FallbackBehavior": "string"
        },
        "JsonBody": {

```

```

    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
    "FallbackBehavior": "string"
  },
  "UriPath": {
  }
},
"TextTransformations": [
  {
    "Priority": number,
    "Type": "string"
  }
]
},
"RuleGroupReferenceStatement": {
  "ARN": "string",
  "ExcludedRules": [
    {
      "Name": "string"
    }
  ],
  "RuleActionOverrides": [
    {
      "ActionToUse": {
        "Allow": {
          "CustomRequestHandling": {

```

```
    "InsertHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  },
  "Block": {
    "CustomResponse": {
      "CustomResponseBodyKey": "string",
      "ResponseCode": number,
      "ResponseHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "Captcha": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "Challenge": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "Count": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
```

```

        "Name": "string",
        "Value": "string"
    }
  ]
}
},
  "Name": "string"
}
]
},
"SizeConstraintStatement": {
  "ComparisonOperator": "string",
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    },
    "Cookies": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedCookies": [ "string" ],
        "IncludedCookies": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "HeaderOrder": {
      "OversizeHandling": "string"
    },
    "Headers": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedHeaders": [ "string" ],
        "IncludedHeaders": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "JA3Fingerprint": {
      "FallbackBehavior": "string"
    }
  }
}

```

```

    },
    "JA4Fingerprint": {
      "FallbackBehavior": "string"
    },
    "JsonBody": {
      "InvalidFallbackBehavior": "string",
      "MatchPattern": {
        "All": {
        },
        "IncludedPaths": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "Method": {
    },
    "QueryString": {
    },
    "SingleHeader": {
      "Name": "string"
    },
    "SingleQueryArgument": {
      "Name": "string"
    },
    "UriFragment": {
      "FallbackBehavior": "string"
    },
    "UriPath": {
    }
  },
  "Size": number,
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"SqliMatchStatement": {
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    }
  }
}

```

```
},
  "Cookies": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedCookies": [ "string" ],
      "IncludedCookies": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "HeaderOrder": {
    "OversizeHandling": "string"
  },
  "Headers": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedHeaders": [ "string" ],
      "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
}
```

```

    "SingleHeader": {
      "Name": "string"
    },
    "SingleQueryArgument": {
      "Name": "string"
    },
    "UriFragment": {
      "FallbackBehavior": "string"
    },
    "UriPath": {
    }
  },
  "SensitivityLevel": "string",
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"XssMatchStatement": {
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    },
    "Cookies": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedCookies": [ "string" ],
        "IncludedCookies": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "HeaderOrder": {
      "OversizeHandling": "string"
    },
    "Headers": {
      "MatchPattern": {
        "All": {
        },

```

```

        "ExcludedHeaders": [ "string" ],
        "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
},
"JA3Fingerprint": {
    "FallbackBehavior": "string"
},
"JA4Fingerprint": {
    "FallbackBehavior": "string"
},
"JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
        "All": {
        },
        "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
},
"Method": {
},
"QueryString": {
},
"SingleHeader": {
    "Name": "string"
},
"SingleQueryArgument": {
    "Name": "string"
},
"UriFragment": {
    "FallbackBehavior": "string"
},
"UriPath": {
}
},
"TextTransformations": [
{
    "Priority": number,
    "Type": "string"
}
]

```

```

    }
  },
  "VisibilityConfig": {
    "CloudWatchMetricsEnabled": boolean,
    "MetricName": "string",
    "SampledRequestsEnabled": boolean
  }
}
],
"VisibilityConfig": {
  "CloudWatchMetricsEnabled": boolean,
  "MetricName": "string",
  "SampledRequestsEnabled": boolean
}
}
}

```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### LockToken

A token used for optimistic locking. Amazon WAF returns a token to your `get` and `list` requests, to mark the state of the entity at the time of the request. To make changes to the entity associated with the token, you provide the token to operations like `update` and `delete`. Amazon WAF uses the token to ensure that no changes have been made to the entity since you last retrieved it. If a change has been made, the update fails with a `WAFOptimisticLockException`. If this happens, perform another `get`, and use the new token returned by that operation.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

### RuleGroup

Type: [RuleGroup](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### WAFInvalidOperationException

The operation isn't valid.

HTTP Status Code: 400

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

#### Field

The settings where the invalid parameter was found.

#### Parameter

The invalid parameter that resulted in the exception.

#### Reason

Additional information about the exception.

HTTP Status Code: 400

## WAFNonexistentItemException

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetSampledRequests

Service: Amazon WAFV2

Gets detailed information about a specified number of requests--a sample--that Amazon WAF randomly selects from among the first 5,000 requests that your Amazon resource received during a time range that you choose. You can specify a sample size of up to 500 requests, and you can specify any time range in the previous three hours.

GetSampledRequests returns a time range, which is usually the time range that you specified. However, if your resource (such as a CloudFront distribution) received 5,000 requests before the specified time range elapsed, GetSampledRequests returns an updated time range. This new time range indicates the actual period during which Amazon WAF selected the requests in the sample.

## Request Syntax

```
{
  "MaxItems": number,
  "RuleMetricName": "string",
  "Scope": "string",
  "TimeWindow": {
    "EndTime": number,
    "StartTime": number
  },
  "WebAclArn": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [MaxItems](#)

The number of requests that you want Amazon WAF to return from among the first 5,000 requests that your Amazon resource received during the time range. If your resource received fewer requests than the value of MaxItems, GetSampledRequests returns information about all of them.

Type: Long

Valid Range: Minimum value of 1. Maximum value of 500.

Required: Yes

### RuleMetricName

The metric name assigned to the Rule or RuleGroup dimension for which you want a sample of requests.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 255.

Pattern: `^[\w#:\.\-\/]+$`

Required: Yes

### Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint `us-east-1`.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

### TimeWindow

The start date and time and the end date and time of the range for which you want `GetSampledRequests` to return a sample of requests. You must specify the times in Coordinated Universal Time (UTC) format. UTC format includes the special designator, Z. For example, "2016-09-27T14:50Z". You can specify any time range in the previous three hours. If you specify a start time that's earlier than three hours ago, Amazon WAF sets it to three hours ago.

Type: [TimeWindow](#) object

Required: Yes

## WebAclArn

The Amazon resource name (ARN) of the WebACL for which you want a sample of requests.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "PopulationSize": number,
  "SampledRequests": [
    {
      "Action": "string",
      "CaptchaResponse": {
        "FailureReason": "string",
        "ResponseCode": number,
        "SolveTimestamp": number
      },
      "ChallengeResponse": {
        "FailureReason": "string",
        "ResponseCode": number,
        "SolveTimestamp": number
      },
      "Labels": [
        {
          "Name": "string"
        }
      ],
      "OverriddenAction": "string",
      "Request": {
        "ClientIP": "string",
        "Country": "string",
        "Headers": [
          {
            "Name": "string",
```

```

        "Value": "string"
      }
    ],
    "HTTPVersion": "string",
    "Method": "string",
    "URI": "string"
  },
  "RequestHeadersInserted": [
    {
      "Name": "string",
      "Value": "string"
    }
  ],
  "ResponseCodeSent": number,
  "RuleNameWithinRuleGroup": "string",
  "Timestamp": number,
  "Weight": number
}
],
"TimeWindow": {
  "EndTime": number,
  "StartTime": number
}
}
}

```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### PopulationSize

The total number of requests from which `GetSampledRequests` got a sample of `MaxItems` requests. If `PopulationSize` is less than `MaxItems`, the sample includes every request that your Amazon resource received during the specified time range.

Type: Long

### SampledRequests

A complex type that contains detailed information about each of the requests in the sample.

Type: Array of [SampledHTTPRequest](#) objects

## TimeWindow

Usually, `TimeWindow` is the time range that you specified in the `GetSampledRequests` request. However, if your Amazon resource received more than 5,000 requests during the time range that you specified in the request, `GetSampledRequests` returns the time range for the first 5,000 requests. Times are in Coordinated Universal Time (UTC) format.

Type: [TimeWindow](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

#### **Field**

The settings where the invalid parameter was found.

#### **Parameter**

The invalid parameter that resulted in the exception.

#### **Reason**

Additional information about the exception.

HTTP Status Code: 400

### **WAFNonexistentItemException**

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

### **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetWebACL

Service: Amazon WAFV2

Retrieves the specified [WebACL](#).

## Request Syntax

```
{
  "ARN": "string",
  "Id": "string",
  "Name": "string",
  "Scope": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ARN

The Amazon Resource Name (ARN) of the web ACL that you want to retrieve.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: No

### Id

The unique identifier for the web ACL. This ID is returned in the responses to create and list commands. You provide it to operations like update and delete.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: No

## Name

The name of the web ACL. You cannot change the name of a web ACL after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: No

## Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint us-east-1.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: No

## Response Syntax

```
{
  "ApplicationIntegrationURL": "string",
  "LockToken": "string",
  "WebACL": {
    "ApplicationConfig": {
      "Attributes": [
        {
          "Name": "string",
          "Values": [ "string" ]
        }
      ]
    }
  },
  "ARN": "string",
```

```
"AssociationConfig": {
  "RequestBody": {
    "string" : {
      "DefaultSizeInspectionLimit": "string"
    }
  }
},
"Capacity": number,
"CaptchaConfig": {
  "ImmunityTimeProperty": {
    "ImmunityTime": number
  }
},
"ChallengeConfig": {
  "ImmunityTimeProperty": {
    "ImmunityTime": number
  }
},
"CustomResponseBodies": {
  "string" : {
    "Content": "string",
    "ContentType": "string"
  }
},
"DataProtectionConfig": {
  "DataProtections": [
    {
      "Action": "string",
      "ExcludeRateBasedDetails": boolean,
      "ExcludeRuleMatchDetails": boolean,
      "Field": {
        "FieldKeys": [ "string" ],
        "FieldType": "string"
      }
    }
  ]
},
"DefaultAction": {
  "Allow": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  }
}
```



```

    }
  ],
  "EmailField": {
    "Identifier": "string"
  },
  "PasswordField": {
    "Identifier": "string"
  },
  "PayloadType": "string",
  "PhoneNumberFields": [
    {
      "Identifier": "string"
    }
  ],
  "UsernameField": {
    "Identifier": "string"
  }
},
"ResponseInspection": {
  "BodyContains": {
    "FailureStrings": [ "string" ],
    "SuccessStrings": [ "string" ]
  },
  "Header": {
    "FailureValues": [ "string" ],
    "Name": "string",
    "SuccessValues": [ "string" ]
  },
  "Json": {
    "FailureValues": [ "string" ],
    "Identifier": "string",
    "SuccessValues": [ "string" ]
  },
  "StatusCode": {
    "FailureCodes": [ number ],
    "SuccessCodes": [ number ]
  }
}
},
"AWSManagedRulesAntiDDoSRuleSet": {
  "ClientSideActionConfig": {
    "Challenge": {
      "ExemptUriRegularExpressions": [

```

```

        "RegexString": "string"
      }
    ],
    "Sensitivity": "string",
    "UsageOfAction": "string"
  }
},
"SensitivityToBlock": "string"
},
"AWSMangedRulesATPRuleSet": {
  "EnableRegexInPath": boolean,
  "LoginPath": "string",
  "RequestInspection": {
    "PasswordField": {
      "Identifier": "string"
    },
    "PayloadType": "string",
    "UsernameField": {
      "Identifier": "string"
    }
  },
  "ResponseInspection": {
    "BodyContains": {
      "FailureStrings": [ "string" ],
      "SuccessStrings": [ "string" ]
    },
    "Header": {
      "FailureValues": [ "string" ],
      "Name": "string",
      "SuccessValues": [ "string" ]
    },
    "Json": {
      "FailureValues": [ "string" ],
      "Identifier": "string",
      "SuccessValues": [ "string" ]
    },
    "StatusCode": {
      "FailureCodes": [ number ],
      "SuccessCodes": [ number ]
    }
  }
},
"AWSMangedRulesBotControlRuleSet": {
  "EnableMachineLearning": boolean,

```

```
        "InspectionLevel": "string"
    },
    "LoginPath": "string",
    "PasswordField": {
        "Identifier": "string"
    },
    "PayloadType": "string",
    "UsernameField": {
        "Identifier": "string"
    }
}
],
"Name": "string",
"RuleActionOverrides": [
    {
        "ActionToUse": {
            "Allow": {
                "CustomRequestHandling": {
                    "InsertHeaders": [
                        {
                            "Name": "string",
                            "Value": "string"
                        }
                    ]
                }
            }
        },
        "Block": {
            "CustomResponse": {
                "CustomResponseBodyKey": "string",
                "ResponseCode": number,
                "ResponseHeaders": [
                    {
                        "Name": "string",
                        "Value": "string"
                    }
                ]
            }
        }
    },
    "Captcha": {
        "CustomRequestHandling": {
            "InsertHeaders": [
                {
                    "Name": "string",
                    "Value": "string"
                }
            ]
        }
    }
]
```

```

    }
  ]
}
},
"Challenge": {
  "CustomRequestHandling": {
    "InsertHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  }
},
"Count": {
  "CustomRequestHandling": {
    "InsertHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  }
},
"Name": "string"
}
],
"ScopeDownStatement": {
  "AndStatement": {
    "Statements": [
      "Statement"
    ]
  }
},
"AsnMatchStatement": {
  "AsnList": [ number ],
  "ForwardedIPConfig": {
    "FallbackBehavior": "string",
    "HeaderName": "string"
  }
},
"ByteMatchStatement": {
  "FieldToMatch": {
    "AllQueryArguments": {

```

```
  },
  "Body": {
    "OversizeHandling": "string"
  },
  "Cookies": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedCookies": [ "string" ],
      "IncludedCookies": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "HeaderOrder": {
    "OversizeHandling": "string"
  },
  "Headers": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedHeaders": [ "string" ],
      "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
```

```

    },
    "QueryString": {
    },
    "SingleHeader": {
        "Name": "string"
    },
    "SingleQueryArgument": {
        "Name": "string"
    },
    "UriFragment": {
        "FallbackBehavior": "string"
    },
    "UriPath": {
    }
},
"PositionalConstraint": "string",
"SearchString": blob,
"TextTransformations": [
    {
        "Priority": number,
        "Type": "string"
    }
]
},
"GeoMatchStatement": {
    "CountryCodes": [ "string" ],
    "ForwardedIPConfig": {
        "FallbackBehavior": "string",
        "HeaderName": "string"
    }
},
"IPSetReferenceStatement": {
    "ARN": "string",
    "IPSetForwardedIPConfig": {
        "FallbackBehavior": "string",
        "HeaderName": "string",
        "Position": "string"
    }
},
"LabelMatchStatement": {
    "Key": "string",
    "Scope": "string"
},
"ManagedRuleGroupStatement": "ManagedRuleGroupStatement",

```

```
"NotStatement": {
  "Statement": "Statement"
},
"OrStatement": {
  "Statements": [
    "Statement"
  ]
},
"RateBasedStatement": {
  "AggregateKeyType": "string",
  "CustomKeys": [
    {
      "ASN": {
      },
      "Cookie": {
        "Name": "string",
        "TextTransformations": [
          {
            "Priority": number,
            "Type": "string"
          }
        ]
      },
      "ForwardedIP": {
      },
      "Header": {
        "Name": "string",
        "TextTransformations": [
          {
            "Priority": number,
            "Type": "string"
          }
        ]
      },
      "HTTPMethod": {
      },
      "IP": {
      },
      "JA3Fingerprint": {
        "FallbackBehavior": "string"
      },
      "JA4Fingerprint": {
        "FallbackBehavior": "string"
      }
    }
  ]
},
```

```

    "LabelNamespace": {
      "Namespace": "string"
    },
    "QueryArgument": {
      "Name": "string",
      "TextTransformations": [
        {
          "Priority": number,
          "Type": "string"
        }
      ]
    },
    "QueryString": {
      "TextTransformations": [
        {
          "Priority": number,
          "Type": "string"
        }
      ]
    },
    "UriPath": {
      "TextTransformations": [
        {
          "Priority": number,
          "Type": "string"
        }
      ]
    }
  },
  "EvaluationWindowSec": number,
  "ForwardedIPConfig": {
    "FallbackBehavior": "string",
    "HeaderName": "string"
  },
  "Limit": number,
  "ScopeDownStatement": "Statement"
},
"RegexMatchStatement": {
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    }
  }
}

```

```
},
  "Cookies": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedCookies": [ "string" ],
      "IncludedCookies": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "HeaderOrder": {
    "OversizeHandling": "string"
  },
  "Headers": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedHeaders": [ "string" ],
      "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
```

```

    "SingleHeader": {
      "Name": "string"
    },
    "SingleQueryArgument": {
      "Name": "string"
    },
    "UriFragment": {
      "FallbackBehavior": "string"
    },
    "UriPath": {
    }
  },
  "RegexString": "string",
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"RegexPatternSetReferenceStatement": {
  "ARN": "string",
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    },
    "Cookies": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedCookies": [ "string" ],
        "IncludedCookies": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "HeaderOrder": {
      "OversizeHandling": "string"
    },
    "Headers": {
      "MatchPattern": {
        "All": {

```

```
    },
    "ExcludedHeaders": [ "string" ],
    "IncludedHeaders": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"JA3Fingerprint": {
  "FallbackBehavior": "string"
},
"JA4Fingerprint": {
  "FallbackBehavior": "string"
},
"JsonBody": {
  "InvalidFallbackBehavior": "string",
  "MatchPattern": {
    "All": {
    },
    "IncludedPaths": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"Method": {
},
"QueryString": {
},
"SingleHeader": {
  "Name": "string"
},
"SingleQueryArgument": {
  "Name": "string"
},
"UriFragment": {
  "FallbackBehavior": "string"
},
"UriPath": {
}
},
"TextTransformations": [
{
  "Priority": number,
  "Type": "string"
}
]
```

```

    ]
  },
  "RuleGroupReferenceStatement": {
    "ARN": "string",
    "ExcludedRules": [
      {
        "Name": "string"
      }
    ],
    "RuleActionOverrides": [
      {
        "ActionToUse": {
          "Allow": {
            "CustomRequestHandling": {
              "InsertHeaders": [
                {
                  "Name": "string",
                  "Value": "string"
                }
              ]
            }
          },
          "Block": {
            "CustomResponse": {
              "CustomResponseBodyKey": "string",
              "ResponseCode": number,
              "ResponseHeaders": [
                {
                  "Name": "string",
                  "Value": "string"
                }
              ]
            }
          }
        },
        "Captcha": {
          "CustomRequestHandling": {
            "InsertHeaders": [
              {
                "Name": "string",
                "Value": "string"
              }
            ]
          }
        }
      }
    ],
  },

```

```

    "Challenge": {
      "CustomRequestHandling": {
        "InsertHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      },
      "Count": {
        "CustomRequestHandling": {
          "InsertHeaders": [
            {
              "Name": "string",
              "Value": "string"
            }
          ]
        }
      },
      "Name": "string"
    }
  ],
},
"SizeConstraintStatement": {
  "ComparisonOperator": "string",
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    },
    "Cookies": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedCookies": [ "string" ],
        "IncludedCookies": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "HeaderOrder": {

```

```
    "OversizeHandling": "string"
  },
  "Headers": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedHeaders": [ "string" ],
      "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
    "FallbackBehavior": "string"
  },
  "UriPath": {
  }
},
```

```
    "Size": number,
    "TextTransformations": [
      {
        "Priority": number,
        "Type": "string"
      }
    ]
  },
  "SqliMatchStatement": {
    "FieldToMatch": {
      "AllQueryArguments": {
      },
      "Body": {
        "OversizeHandling": "string"
      },
      "Cookies": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedCookies": [ "string" ],
          "IncludedCookies": [ "string" ]
        },
        "MatchScope": "string",
        "OversizeHandling": "string"
      },
      "HeaderOrder": {
        "OversizeHandling": "string"
      },
      "Headers": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedHeaders": [ "string" ],
          "IncludedHeaders": [ "string" ]
        },
        "MatchScope": "string",
        "OversizeHandling": "string"
      },
      "JA3Fingerprint": {
        "FallbackBehavior": "string"
      },
      "JA4Fingerprint": {
        "FallbackBehavior": "string"
      }
    },
  },
}
```

```
    "JsonBody": {
      "InvalidFallbackBehavior": "string",
      "MatchPattern": {
        "All": {
        },
        "IncludedPaths": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "Method": {
    },
    "QueryString": {
    },
    "SingleHeader": {
      "Name": "string"
    },
    "SingleQueryArgument": {
      "Name": "string"
    },
    "UriFragment": {
      "FallbackBehavior": "string"
    },
    "UriPath": {
    }
  },
  "SensitivityLevel": "string",
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"XssMatchStatement": {
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    },
    "Cookies": {
      "MatchPattern": {
        "All": {

```

```
    },
    "ExcludedCookies": [ "string" ],
    "IncludedCookies": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"HeaderOrder": {
  "OversizeHandling": "string"
},
"Headers": {
  "MatchPattern": {
    "All": {
    },
    "ExcludedHeaders": [ "string" ],
    "IncludedHeaders": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"JA3Fingerprint": {
  "FallbackBehavior": "string"
},
"JA4Fingerprint": {
  "FallbackBehavior": "string"
},
"JsonBody": {
  "InvalidFallbackBehavior": "string",
  "MatchPattern": {
    "All": {
    },
    "IncludedPaths": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"Method": {
},
"QueryString": {
},
"SingleHeader": {
  "Name": "string"
},
"SingleQueryArgument": {
```

```

        "Name": "string"
    },
    "UriFragment": {
        "FallbackBehavior": "string"
    },
    "UriPath": {
    }
},
"TextTransformations": [
{
    "Priority": number,
    "Type": "string"
}
]
}
},
"VendorName": "string",
"Version": "string"
},
"RuleGroupReferenceStatement": {
    "ARN": "string",
    "ExcludedRules": [
        {
            "Name": "string"
        }
    ],
    "RuleActionOverrides": [
        {
            "ActionToUse": {
                "Allow": {
                    "CustomRequestHandling": {
                        "InsertHeaders": [
                            {
                                "Name": "string",
                                "Value": "string"
                            }
                        ]
                    }
                }
            },
            "Block": {
                "CustomResponse": {
                    "CustomResponseBodyKey": "string",
                    "ResponseCode": number,
                    "ResponseHeaders": [

```

```
        {
            "Name": "string",
            "Value": "string"
        }
    ]
}
},
"Captcha": {
    "CustomRequestHandling": {
        "InsertHeaders": [
            {
                "Name": "string",
                "Value": "string"
            }
        ]
    }
},
"Challenge": {
    "CustomRequestHandling": {
        "InsertHeaders": [
            {
                "Name": "string",
                "Value": "string"
            }
        ]
    }
},
"Count": {
    "CustomRequestHandling": {
        "InsertHeaders": [
            {
                "Name": "string",
                "Value": "string"
            }
        ]
    }
},
    "Name": "string"
}
]
}
},
    "Name": "string",
```

```

    "OverrideAction": {
      "Count": {
        "CustomRequestHandling": {
          "InsertHeaders": [
            {
              "Name": "string",
              "Value": "string"
            }
          ]
        }
      },
      "None": {
      }
    },
    "Priority": number,
    "VisibilityConfig": {
      "CloudWatchMetricsEnabled": boolean,
      "MetricName": "string",
      "SampledRequestsEnabled": boolean
    }
  }
],
"PreProcessFirewallManagerRuleGroups": [
  {
    "FirewallManagerStatement": {
      "ManagedRuleGroupStatement": {
        "ExcludedRules": [
          {
            "Name": "string"
          }
        ],
        "ManagedRuleGroupConfigs": [
          {
            "AWSManagedRulesACFPRuleSet": {
              "CreationPath": "string",
              "EnableRegexInPath": boolean,
              "RegistrationPagePath": "string",
              "RequestInspection": {
                "AddressFields": [
                  {
                    "Identifier": "string"
                  }
                ],
                "EmailField": {

```

```

        "Identifier": "string"
    },
    "PasswordField": {
        "Identifier": "string"
    },
    "PayloadType": "string",
    "PhoneNumberFields": [
        {
            "Identifier": "string"
        }
    ],
    "UsernameField": {
        "Identifier": "string"
    }
},
"ResponseInspection": {
    "BodyContains": {
        "FailureStrings": [ "string" ],
        "SuccessStrings": [ "string" ]
    },
    "Header": {
        "FailureValues": [ "string" ],
        "Name": "string",
        "SuccessValues": [ "string" ]
    },
    "Json": {
        "FailureValues": [ "string" ],
        "Identifier": "string",
        "SuccessValues": [ "string" ]
    },
    "StatusCode": {
        "FailureCodes": [ number ],
        "SuccessCodes": [ number ]
    }
}
},
"AWSMangedRulesAntiDDoSRuleSet": {
    "ClientSideActionConfig": {
        "Challenge": {
            "ExemptUriRegularExpressions": [
                {
                    "RegexString": "string"
                }
            ]
        }
    }
},

```

```

        "Sensitivity": "string",
        "UsageOfAction": "string"
    }
},
"SensitivityToBlock": "string"
},
"AWSMangedRulesATPRuleSet": {
    "EnableRegexInPath": boolean,
    "LoginPath": "string",
    "RequestInspection": {
        "PasswordField": {
            "Identifier": "string"
        },
        "PayloadType": "string",
        "UsernameField": {
            "Identifier": "string"
        }
    },
    "ResponseInspection": {
        "BodyContains": {
            "FailureStrings": [ "string" ],
            "SuccessStrings": [ "string" ]
        },
        "Header": {
            "FailureValues": [ "string" ],
            "Name": "string",
            "SuccessValues": [ "string" ]
        },
        "Json": {
            "FailureValues": [ "string" ],
            "Identifier": "string",
            "SuccessValues": [ "string" ]
        },
        "StatusCode": {
            "FailureCodes": [ number ],
            "SuccessCodes": [ number ]
        }
    },
    }
},
"AWSMangedRulesBotControlRuleSet": {
    "EnableMachineLearning": boolean,
    "InspectionLevel": "string"
},
"LoginPath": "string",

```

```
    "PasswordField": {
      "Identifier": "string"
    },
    "PayloadType": "string",
    "UsernameField": {
      "Identifier": "string"
    }
  }
],
"Name": "string",
"RuleActionOverrides": [
  {
    "ActionToUse": {
      "Allow": {
        "CustomRequestHandling": {
          "InsertHeaders": [
            {
              "Name": "string",
              "Value": "string"
            }
          ]
        }
      },
      "Block": {
        "CustomResponse": {
          "CustomResponseBodyKey": "string",
          "ResponseCode": number,
          "ResponseHeaders": [
            {
              "Name": "string",
              "Value": "string"
            }
          ]
        }
      },
      "Captcha": {
        "CustomRequestHandling": {
          "InsertHeaders": [
            {
              "Name": "string",
              "Value": "string"
            }
          ]
        }
      }
    }
  }
]
```

```

    },
    "Challenge": {
      "CustomRequestHandling": {
        "InsertHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      }
    },
    "Count": {
      "CustomRequestHandling": {
        "InsertHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      }
    },
    "Name": "string"
  }
],
"ScopeDownStatement": {
  "AndStatement": {
    "Statements": [
      "Statement"
    ]
  },
  "AsnMatchStatement": {
    "AsnList": [ number ],
    "ForwardedIPConfig": {
      "FallbackBehavior": "string",
      "HeaderName": "string"
    }
  },
  "ByteMatchStatement": {
    "FieldToMatch": {
      "AllQueryArguments": {
      },
      "Body": {
        "OversizeHandling": "string"
      }
    }
  }
}

```

```
},
  "Cookies": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedCookies": [ "string" ],
      "IncludedCookies": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "HeaderOrder": {
    "OversizeHandling": "string"
  },
  "Headers": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedHeaders": [ "string" ],
      "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
}
```

```
    "SingleHeader": {
      "Name": "string"
    },
    "SingleQueryArgument": {
      "Name": "string"
    },
    "UriFragment": {
      "FallbackBehavior": "string"
    },
    "UriPath": {
    }
  },
  "PositionalConstraint": "string",
  "SearchString": blob,
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"GeoMatchStatement": {
  "CountryCodes": [ "string" ],
  "ForwardedIPConfig": {
    "FallbackBehavior": "string",
    "HeaderName": "string"
  }
},
"IPSetReferenceStatement": {
  "ARN": "string",
  "IPSetForwardedIPConfig": {
    "FallbackBehavior": "string",
    "HeaderName": "string",
    "Position": "string"
  }
},
"LabelMatchStatement": {
  "Key": "string",
  "Scope": "string"
},
"ManagedRuleGroupStatement": "ManagedRuleGroupStatement",
"NotStatement": {
  "Statement": "Statement"
},
}
```

```
"OrStatement": {
  "Statements": [
    "Statement"
  ]
},
"RateBasedStatement": {
  "AggregateKeyType": "string",
  "CustomKeys": [
    {
      "ASN": {
      },
      "Cookie": {
        "Name": "string",
        "TextTransformations": [
          {
            "Priority": number,
            "Type": "string"
          }
        ]
      },
      "ForwardedIP": {
      },
      "Header": {
        "Name": "string",
        "TextTransformations": [
          {
            "Priority": number,
            "Type": "string"
          }
        ]
      },
      "HTTPMethod": {
      },
      "IP": {
      },
      "JA3Fingerprint": {
        "FallbackBehavior": "string"
      },
      "JA4Fingerprint": {
        "FallbackBehavior": "string"
      },
      "LabelNamespace": {
        "Namespace": "string"
      }
    }
  ],
}
```

```

    "QueryArgument": {
      "Name": "string",
      "TextTransformations": [
        {
          "Priority": number,
          "Type": "string"
        }
      ]
    },
    "QueryString": {
      "TextTransformations": [
        {
          "Priority": number,
          "Type": "string"
        }
      ]
    },
    "UriPath": {
      "TextTransformations": [
        {
          "Priority": number,
          "Type": "string"
        }
      ]
    }
  },
  "EvaluationWindowSec": number,
  "ForwardedIPConfig": {
    "FallbackBehavior": "string",
    "HeaderName": "string"
  },
  "Limit": number,
  "ScopeDownStatement": "Statement"
},
"RegexMatchStatement": {
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    },
    "Cookies": {
      "MatchPattern": {

```

```
    "All": {
    },
    "ExcludedCookies": [ "string" ],
    "IncludedCookies": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"HeaderOrder": {
  "OversizeHandling": "string"
},
"Headers": {
  "MatchPattern": {
    "All": {
    },
    "ExcludedHeaders": [ "string" ],
    "IncludedHeaders": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"JA3Fingerprint": {
  "FallbackBehavior": "string"
},
"JA4Fingerprint": {
  "FallbackBehavior": "string"
},
"JsonBody": {
  "InvalidFallbackBehavior": "string",
  "MatchPattern": {
    "All": {
    },
    "IncludedPaths": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"Method": {
},
"QueryString": {
},
"SingleHeader": {
  "Name": "string"
},
},
```

```

    "SingleQueryArgument": {
      "Name": "string"
    },
    "UriFragment": {
      "FallbackBehavior": "string"
    },
    "UriPath": {
    }
  },
  "RegexString": "string",
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"RegexPatternSetReferenceStatement": {
  "ARN": "string",
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    },
    "Cookies": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedCookies": [ "string" ],
        "IncludedCookies": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "HeaderOrder": {
      "OversizeHandling": "string"
    },
    "Headers": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedHeaders": [ "string" ],
        "IncludedHeaders": [ "string" ]
      }
    }
  }
}

```

```

    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
    "FallbackBehavior": "string"
  },
  "UriPath": {
  }
},
"TextTransformations": [
  {
    "Priority": number,
    "Type": "string"
  }
]
},
"RuleGroupReferenceStatement": {

```

```
"ARN": "string",
"ExcludedRules": [
  {
    "Name": "string"
  }
],
"RuleActionOverrides": [
  {
    "ActionToUse": {
      "Allow": {
        "CustomRequestHandling": {
          "InsertHeaders": [
            {
              "Name": "string",
              "Value": "string"
            }
          ]
        }
      },
      "Block": {
        "CustomResponse": {
          "CustomResponseBodyKey": "string",
          "ResponseCode": number,
          "ResponseHeaders": [
            {
              "Name": "string",
              "Value": "string"
            }
          ]
        }
      },
      "Captcha": {
        "CustomRequestHandling": {
          "InsertHeaders": [
            {
              "Name": "string",
              "Value": "string"
            }
          ]
        }
      },
      "Challenge": {
        "CustomRequestHandling": {
          "InsertHeaders": [
```

```

        {
            "Name": "string",
            "Value": "string"
        }
    ]
}
},
"Count": {
    "CustomRequestHandling": {
        "InsertHeaders": [
            {
                "Name": "string",
                "Value": "string"
            }
        ]
    }
}
},
"Name": "string"
}
]
},
"SizeConstraintStatement": {
    "ComparisonOperator": "string",
    "FieldToMatch": {
        "AllQueryArguments": {
        },
        "Body": {
            "OversizeHandling": "string"
        },
        "Cookies": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedCookies": [ "string" ],
                "IncludedCookies": [ "string" ]
            },
            "MatchScope": "string",
            "OversizeHandling": "string"
        },
        "HeaderOrder": {
            "OversizeHandling": "string"
        },
        "Headers": {

```

```
    "MatchPattern": {
      "All": {
      },
      "ExcludedHeaders": [ "string" ],
      "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
    "FallbackBehavior": "string"
  },
  "UriPath": {
  }
},
"Size": number,
"TextTransformations": [
  {
```

```

        "Priority": number,
        "Type": "string"
    }
]
},
"SqliMatchStatement": {
    "FieldToMatch": {
        "AllQueryArguments": {
        },
        "Body": {
            "OversizeHandling": "string"
        },
        "Cookies": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedCookies": [ "string" ],
                "IncludedCookies": [ "string" ]
            },
            "MatchScope": "string",
            "OversizeHandling": "string"
        },
        "HeaderOrder": {
            "OversizeHandling": "string"
        },
        "Headers": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedHeaders": [ "string" ],
                "IncludedHeaders": [ "string" ]
            },
            "MatchScope": "string",
            "OversizeHandling": "string"
        },
        "JA3Fingerprint": {
            "FallbackBehavior": "string"
        },
        "JA4Fingerprint": {
            "FallbackBehavior": "string"
        },
        "JsonBody": {
            "InvalidFallbackBehavior": "string",
            "MatchPattern": {

```

```

        "All": {
        },
        "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
},
"Method": {
},
"QueryString": {
},
"SingleHeader": {
    "Name": "string"
},
"SingleQueryArgument": {
    "Name": "string"
},
"UriFragment": {
    "FallbackBehavior": "string"
},
"UriPath": {
}
},
"SensitivityLevel": "string",
"TextTransformations": [
{
    "Priority": number,
    "Type": "string"
}
]
},
"XssMatchStatement": {
    "FieldToMatch": {
        "AllQueryArguments": {
        },
        "Body": {
            "OversizeHandling": "string"
        },
        "Cookies": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedCookies": [ "string" ],
                "IncludedCookies": [ "string" ]
            }
        }
    }
}
}

```

```
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "HeaderOrder": {
    "OversizeHandling": "string"
  },
  "Headers": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedHeaders": [ "string" ],
      "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
```



```
    }
  ]
}
},
"Captcha": {
  "CustomRequestHandling": {
    "InsertHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  }
},
"Challenge": {
  "CustomRequestHandling": {
    "InsertHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  }
},
"Count": {
  "CustomRequestHandling": {
    "InsertHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  }
},
"Name": "string"
}
]
}
},
"Name": "string",
"OverrideAction": {
  "Count": {
    "CustomRequestHandling": {
```

```

        "InsertHeaders": [
            {
                "Name": "string",
                "Value": "string"
            }
        ]
    },
    "None": {
    }
},
"Priority": number,
"VisibilityConfig": {
    "CloudWatchMetricsEnabled": boolean,
    "MetricName": "string",
    "SampledRequestsEnabled": boolean
}
}
],
"RetrofittedByFirewallManager": boolean,
"Rules": [
    {
        "Action": {
            "Allow": {
                "CustomRequestHandling": {
                    "InsertHeaders": [
                        {
                            "Name": "string",
                            "Value": "string"
                        }
                    ]
                }
            },
            "Block": {
                "CustomResponse": {
                    "CustomResponseBodyKey": "string",
                    "ResponseCode": number,
                    "ResponseHeaders": [
                        {
                            "Name": "string",
                            "Value": "string"
                        }
                    ]
                }
            }
        }
    }
]
}

```

```
    },
    "Captcha": {
      "CustomRequestHandling": {
        "InsertHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      }
    },
    "Challenge": {
      "CustomRequestHandling": {
        "InsertHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      }
    },
    "Count": {
      "CustomRequestHandling": {
        "InsertHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      }
    }
  },
  "CaptchaConfig": {
    "ImmunityTimeProperty": {
      "ImmunityTime": number
    }
  },
  "ChallengeConfig": {
    "ImmunityTimeProperty": {
      "ImmunityTime": number
    }
  },
  "Name": "string",
  "OverrideAction": {
```

```

    "Count": {
      "CustomRequestHandling": {
        "InsertHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      }
    },
    "None": {
    }
  },
  "Priority": number,
  "RuleLabels": [
    {
      "Name": "string"
    }
  ],
  "Statement": {
    "AndStatement": {
      "Statements": [
        "Statement"
      ]
    },
    "AsnMatchStatement": {
      "AsnList": [ number ],
      "ForwardedIPConfig": {
        "FallbackBehavior": "string",
        "HeaderName": "string"
      }
    },
    "ByteMatchStatement": {
      "FieldToMatch": {
        "AllQueryArguments": {
        },
        "Body": {
          "OversizeHandling": "string"
        },
        "Cookies": {
          "MatchPattern": {
            "All": {
            },
            "ExcludedCookies": [ "string" ],

```

```
        "IncludedCookies": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
},
"HeaderOrder": {
    "OversizeHandling": "string"
},
"Headers": {
    "MatchPattern": {
        "All": {
        },
        "ExcludedHeaders": [ "string" ],
        "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
},
"JA3Fingerprint": {
    "FallbackBehavior": "string"
},
"JA4Fingerprint": {
    "FallbackBehavior": "string"
},
"JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
        "All": {
        },
        "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
},
"Method": {
},
"QueryString": {
},
"SingleHeader": {
    "Name": "string"
},
"SingleQueryArgument": {
    "Name": "string"
},
}
```

```
    "UriFragment": {
      "FallbackBehavior": "string"
    },
    "UriPath": {
    }
  },
  "PositionalConstraint": "string",
  "SearchString": blob,
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"GeoMatchStatement": {
  "CountryCodes": [ "string" ],
  "ForwardedIPConfig": {
    "FallbackBehavior": "string",
    "HeaderName": "string"
  }
},
"IPSetReferenceStatement": {
  "ARN": "string",
  "IPSetForwardedIPConfig": {
    "FallbackBehavior": "string",
    "HeaderName": "string",
    "Position": "string"
  }
},
"LabelMatchStatement": {
  "Key": "string",
  "Scope": "string"
},
"ManagedRuleGroupStatement": {
  "ExcludedRules": [
    {
      "Name": "string"
    }
  ],
  "ManagedRuleGroupConfigs": [
    {
      "AWSManagedRulesACFPRuleSet": {
        "CreationPath": "string",
```

```
"EnableRegexInPath": boolean,
"RegistrationPagePath": "string",
"RequestInspection": {
  "AddressFields": [
    {
      "Identifier": "string"
    }
  ],
  "EmailField": {
    "Identifier": "string"
  },
  "PasswordField": {
    "Identifier": "string"
  },
  "PayloadType": "string",
  "PhoneNumberFields": [
    {
      "Identifier": "string"
    }
  ],
  "UsernameField": {
    "Identifier": "string"
  }
},
"ResponseInspection": {
  "BodyContains": {
    "FailureStrings": [ "string " ],
    "SuccessStrings": [ "string " ]
  },
  "Header": {
    "FailureValues": [ "string " ],
    "Name": "string",
    "SuccessValues": [ "string " ]
  },
  "Json": {
    "FailureValues": [ "string " ],
    "Identifier": "string",
    "SuccessValues": [ "string " ]
  },
  "StatusCode": {
    "FailureCodes": [ number ],
    "SuccessCodes": [ number ]
  }
}
```

```

    },
    "AWSManagedRulesAntiDDoSRuleSet": {
      "ClientSideActionConfig": {
        "Challenge": {
          "ExemptUriRegularExpressions": [
            {
              "RegexString": "string"
            }
          ],
          "Sensitivity": "string",
          "UsageOfAction": "string"
        }
      },
      "SensitivityToBlock": "string"
    },
    "AWSManagedRulesATPRuleSet": {
      "EnableRegexInPath": boolean,
      "LoginPath": "string",
      "RequestInspection": {
        "PasswordField": {
          "Identifier": "string"
        },
        "PayloadType": "string",
        "UsernameField": {
          "Identifier": "string"
        }
      },
      "ResponseInspection": {
        "BodyContains": {
          "FailureStrings": [ "string" ],
          "SuccessStrings": [ "string" ]
        },
        "Header": {
          "FailureValues": [ "string" ],
          "Name": "string",
          "SuccessValues": [ "string" ]
        },
        "Json": {
          "FailureValues": [ "string" ],
          "Identifier": "string",
          "SuccessValues": [ "string" ]
        },
        "StatusCode": {
          "FailureCodes": [ number ],

```

```

        "SuccessCodes": [ number ]
      }
    },
    "AWSManagedRulesBotControlRuleSet": {
      "EnableMachineLearning": boolean,
      "InspectionLevel": "string"
    },
    "LoginPath": "string",
    "PasswordField": {
      "Identifier": "string"
    },
    "PayloadType": "string",
    "UsernameField": {
      "Identifier": "string"
    }
  }
],
"Name": "string",
"RuleActionOverrides": [
  {
    "ActionToUse": {
      "Allow": {
        "CustomRequestHandling": {
          "InsertHeaders": [
            {
              "Name": "string",
              "Value": "string"
            }
          ]
        }
      },
      "Block": {
        "CustomResponse": {
          "CustomResponseBodyKey": "string",
          "ResponseCode": number,
          "ResponseHeaders": [
            {
              "Name": "string",
              "Value": "string"
            }
          ]
        }
      }
    }
  }
],

```

```

    "Captcha": {
      "CustomRequestHandling": {
        "InsertHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      }
    },
    "Challenge": {
      "CustomRequestHandling": {
        "InsertHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      }
    },
    "Count": {
      "CustomRequestHandling": {
        "InsertHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      }
    }
  },
  "Name": "string"
}
],
"ScopeDownStatement": "Statement",
"VendorName": "string",
"Version": "string"
},
"NotStatement": {
  "Statement": "Statement"
},
"OrStatement": {
  "Statements": [
    "Statement"
  ]
}

```

```

    ]
  },
  "RateBasedStatement": {
    "AggregateKeyType": "string",
    "CustomKeys": [
      {
        "ASN": {
        },
        "Cookie": {
          "Name": "string",
          "TextTransformations": [
            {
              "Priority": number,
              "Type": "string"
            }
          ]
        },
        "ForwardedIP": {
        },
        "Header": {
          "Name": "string",
          "TextTransformations": [
            {
              "Priority": number,
              "Type": "string"
            }
          ]
        },
        "HTTPMethod": {
        },
        "IP": {
        },
        "JA3Fingerprint": {
          "FallbackBehavior": "string"
        },
        "JA4Fingerprint": {
          "FallbackBehavior": "string"
        },
        "LabelNamespace": {
          "Namespace": "string"
        },
        "QueryArgument": {
          "Name": "string",
          "TextTransformations": [

```



```
        "IncludedCookies": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
},
"HeaderOrder": {
    "OversizeHandling": "string"
},
"Headers": {
    "MatchPattern": {
        "All": {
        },
        "ExcludedHeaders": [ "string" ],
        "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
},
"JA3Fingerprint": {
    "FallbackBehavior": "string"
},
"JA4Fingerprint": {
    "FallbackBehavior": "string"
},
"JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
        "All": {
        },
        "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
},
"Method": {
},
"QueryString": {
},
"SingleHeader": {
    "Name": "string"
},
"SingleQueryArgument": {
    "Name": "string"
},
},
```

```

    "UriFragment": {
      "FallbackBehavior": "string"
    },
    "UriPath": {
    },
  },
  "RegexString": "string",
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ],
},
"RegexPatternSetReferenceStatement": {
  "ARN": "string",
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    },
    "Cookies": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedCookies": [ "string" ],
        "IncludedCookies": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "HeaderOrder": {
      "OversizeHandling": "string"
    },
    "Headers": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedHeaders": [ "string" ],
        "IncludedHeaders": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    }
  }
}

```

```
    },
    "JA3Fingerprint": {
      "FallbackBehavior": "string"
    },
    "JA4Fingerprint": {
      "FallbackBehavior": "string"
    },
    "JsonBody": {
      "InvalidFallbackBehavior": "string",
      "MatchPattern": {
        "All": {
        },
        "IncludedPaths": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "Method": {
    },
    "QueryString": {
    },
    "SingleHeader": {
      "Name": "string"
    },
    "SingleQueryArgument": {
      "Name": "string"
    },
    "UriFragment": {
      "FallbackBehavior": "string"
    },
    "UriPath": {
    }
  },
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"RuleGroupReferenceStatement": {
  "ARN": "string",
  "ExcludedRules": [
    {
```

```

        "Name": "string"
    }
],
"RuleActionOverrides": [
    {
        "ActionToUse": {
            "Allow": {
                "CustomRequestHandling": {
                    "InsertHeaders": [
                        {
                            "Name": "string",
                            "Value": "string"
                        }
                    ]
                }
            },
            "Block": {
                "CustomResponse": {
                    "CustomResponseBodyKey": "string",
                    "ResponseCode": number,
                    "ResponseHeaders": [
                        {
                            "Name": "string",
                            "Value": "string"
                        }
                    ]
                }
            },
            "Captcha": {
                "CustomRequestHandling": {
                    "InsertHeaders": [
                        {
                            "Name": "string",
                            "Value": "string"
                        }
                    ]
                }
            },
            "Challenge": {
                "CustomRequestHandling": {
                    "InsertHeaders": [
                        {
                            "Name": "string",
                            "Value": "string"
                        }
                    ]
                }
            }
        }
    }
]

```

```

    }
  ]
}
},
"Count": {
  "CustomRequestHandling": {
    "InsertHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  }
},
"Name": "string"
}
]
},
"SizeConstraintStatement": {
  "ComparisonOperator": "string",
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    },
    "Cookies": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedCookies": [ "string" ],
        "IncludedCookies": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "HeaderOrder": {
      "OversizeHandling": "string"
    },
    "Headers": {
      "MatchPattern": {
        "All": {
        },

```

```
        "ExcludedHeaders": [ "string" ],
        "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
},
"JA3Fingerprint": {
    "FallbackBehavior": "string"
},
"JA4Fingerprint": {
    "FallbackBehavior": "string"
},
"JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
        "All": {
        },
        "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
},
"Method": {
},
"QueryString": {
},
"SingleHeader": {
    "Name": "string"
},
"SingleQueryArgument": {
    "Name": "string"
},
"UriFragment": {
    "FallbackBehavior": "string"
},
"UriPath": {
}
},
"Size": number,
"TextTransformations": [
{
    "Priority": number,
    "Type": "string"
}
]
```

```
    ]
  },
  "SqliMatchStatement": {
    "FieldToMatch": {
      "AllQueryArguments": {
      },
      "Body": {
        "OversizeHandling": "string"
      },
      "Cookies": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedCookies": [ "string" ],
          "IncludedCookies": [ "string" ]
        },
        "MatchScope": "string",
        "OversizeHandling": "string"
      },
      "HeaderOrder": {
        "OversizeHandling": "string"
      },
      "Headers": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedHeaders": [ "string" ],
          "IncludedHeaders": [ "string" ]
        },
        "MatchScope": "string",
        "OversizeHandling": "string"
      },
      "JA3Fingerprint": {
        "FallbackBehavior": "string"
      },
      "JA4Fingerprint": {
        "FallbackBehavior": "string"
      },
      "JsonBody": {
        "InvalidFallbackBehavior": "string",
        "MatchPattern": {
          "All": {
          },
          "IncludedPaths": [ "string" ]
        }
      }
    }
  }
}
```

```
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
    "FallbackBehavior": "string"
  },
  "UriPath": {
  }
},
"SensitivityLevel": "string",
"TextTransformations": [
  {
    "Priority": number,
    "Type": "string"
  }
]
},
"XssMatchStatement": {
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    },
    "Cookies": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedCookies": [ "string" ],
        "IncludedCookies": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    }
  }
}
```

```
},
  "HeaderOrder": {
    "OversizeHandling": "string"
  },
  "Headers": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedHeaders": [ "string" ],
      "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
    "FallbackBehavior": "string"
  },
  "UriPath": {
```

```

    }
  },
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"VisibilityConfig": {
  "CloudWatchMetricsEnabled": boolean,
  "MetricName": "string",
  "SampledRequestsEnabled": boolean
}
],
"TokenDomains": [ "string" ],
"VisibilityConfig": {
  "CloudWatchMetricsEnabled": boolean,
  "MetricName": "string",
  "SampledRequestsEnabled": boolean
}
}
}

```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [ApplicationIntegrationURL](#)

The URL to use in SDK integrations with Amazon managed rule groups. For example, you can use the integration SDKs with the account takeover prevention managed rule group `AWSManagedRulesATPRuleSet` and the account creation fraud prevention managed rule group `AWSManagedRulesACFPRuleSet`. This is only populated if you are using a rule group in your web ACL that integrates with your applications in this way. For more information, see [Amazon WAF client application integration](#) in the *Amazon WAF Developer Guide*.

Type: String

## LockToken

A token used for optimistic locking. Amazon WAF returns a token to your `get` and `list` requests, to mark the state of the entity at the time of the request. To make changes to the entity associated with the token, you provide the token to operations like `update` and `delete`. Amazon WAF uses the token to ensure that no changes have been made to the entity since you last retrieved it. If a change has been made, the update fails with a `WAFOptimisticLockException`. If this happens, perform another `get`, and use the new token returned by that operation.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

## WebACL

The web ACL specification. You can modify the settings in this web ACL and use it to update this web ACL or create a new one.

Type: [WebACL](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidOperationException**

The operation isn't valid.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

**Field**

The settings where the invalid parameter was found.

**Parameter**

The invalid parameter that resulted in the exception.

**Reason**

Additional information about the exception.

HTTP Status Code: 400

**WAFNonexistentItemException**

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

**See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)

- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetWebACLForResource

Service: Amazon WAFV2

Retrieves the [WebACL](#) for the specified resource.

This call uses `GetWebACL`, to verify that your account has permission to access the retrieved web ACL. If you get an error that indicates that your account isn't authorized to perform `wafv2:GetWebACL` on the resource, that error won't be included in your Amazon CloudTrail event history.

For Amazon CloudFront, don't use this call. Instead, call the CloudFront action `GetDistributionConfig`. For information, see [GetDistributionConfig](#) in the *Amazon CloudFront API Reference*.

## Required permissions for customer-managed IAM policies

This call requires permissions that are specific to the protected resource type. For details, see [Permissions for GetWebACLForResource](#) in the *Amazon WAF Developer Guide*.

## Request Syntax

```
{
  "ResourceArn": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ResourceArn](#)

The Amazon Resource Name (ARN) of the resource whose web ACL you want to retrieve.

The ARN must be in one of the following formats:

- For an Application Load Balancer:  
`arn:partition:elasticloadbalancing:region:account-id:loadbalancer/app/load-balancer-name/load-balancer-id`
- For an Amazon API Gateway REST API: `arn:partition:apigateway:region::/restapis/api-id/stages/stage-name`

- For an Amazon AppSync GraphQL API: `arn:partition:appsync:region:account-id:apis/GraphQLApiId`
- For an Amazon Cognito user pool: `arn:partition:cognito-idp:region:account-id:userpool/user-pool-id`
- For an Amazon App Runner service: `arn:partition:apprunner:region:account-id:service/apprunner-service-name/apprunner-service-id`
- For an Amazon Verified Access instance: `arn:partition:ec2:region:account-id:verified-access-instance/instance-id`
- For an Amazon Amplify application: `arn:partition:amplify:region:account-id:apps/app-id`

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "WebACL": {
    "ApplicationConfig": {
      "Attributes": [
        {
          "Name": "string",
          "Values": [ "string" ]
        }
      ]
    },
    "ARN": "string",
    "AssociationConfig": {
      "RequestBody": {
        "string" : {
          "DefaultSizeInspectionLimit": "string"
        }
      }
    },
    "Capacity": number,
```

```
"CaptchaConfig": {
  "ImmunityTimeProperty": {
    "ImmunityTime": number
  }
},
"ChallengeConfig": {
  "ImmunityTimeProperty": {
    "ImmunityTime": number
  }
},
"CustomResponseBodies": {
  "string" : {
    "Content": "string",
    "ContentType": "string"
  }
},
"DataProtectionConfig": {
  "DataProtections": [
    {
      "Action": "string",
      "ExcludeRateBasedDetails": boolean,
      "ExcludeRuleMatchDetails": boolean,
      "Field": {
        "FieldKeys": [ "string " ],
        "FieldType": "string"
      }
    }
  ]
},
"DefaultAction": {
  "Allow": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "Block": {
    "CustomResponse": {
      "CustomResponseBodyKey": "string",
      "ResponseCode": number,

```

```

    "ResponseHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  }
},
"Description": "string",
"Id": "string",
"LabelNamespace": "string",
"ManagedByFirewallManager": boolean,
"Name": "string",
"OnSourceDDoSProtectionConfig": {
  "ALBLowReputationMode": "string"
},
"PostProcessFirewallManagerRuleGroups": [
  {
    "FirewallManagerStatement": {
      "ManagedRuleGroupStatement": {
        "ExcludedRules": [
          {
            "Name": "string"
          }
        ],
        "ManagedRuleGroupConfigs": [
          {
            "AWSManagedRulesACFPRuleSet": {
              "CreationPath": "string",
              "EnableRegexInPath": boolean,
              "RegistrationPagePath": "string",
              "RequestInspection": {
                "AddressFields": [
                  {
                    "Identifier": "string"
                  }
                ],
                "EmailField": {
                  "Identifier": "string"
                },
                "PasswordField": {
                  "Identifier": "string"
                }
              }
            }
          }
        ]
      }
    }
  }
]

```

```

    "PayloadType": "string",
    "PhoneNumberFields": [
      {
        "Identifier": "string"
      }
    ],
    "UsernameField": {
      "Identifier": "string"
    }
  },
  "ResponseInspection": {
    "BodyContains": {
      "FailureStrings": [ "string" ],
      "SuccessStrings": [ "string" ]
    },
    "Header": {
      "FailureValues": [ "string" ],
      "Name": "string",
      "SuccessValues": [ "string" ]
    },
    "Json": {
      "FailureValues": [ "string" ],
      "Identifier": "string",
      "SuccessValues": [ "string" ]
    },
    "StatusCode": {
      "FailureCodes": [ number ],
      "SuccessCodes": [ number ]
    }
  }
},
"AWSTManagedRulesAntiDDoSRuleSet": {
  "ClientSideActionConfig": {
    "Challenge": {
      "ExemptUriRegularExpressions": [
        {
          "RegexString": "string"
        }
      ],
      "Sensitivity": "string",
      "UsageOfAction": "string"
    }
  },
  "SensitivityToBlock": "string"
}

```

```

    },
    "AWSManagedRulesATPRuleSet": {
      "EnableRegexInPath": boolean,
      "LoginPath": "string",
      "RequestInspection": {
        "PasswordField": {
          "Identifier": "string"
        },
        "PayloadType": "string",
        "UsernameField": {
          "Identifier": "string"
        }
      },
    },
    "ResponseInspection": {
      "BodyContains": {
        "FailureStrings": [ "string " ],
        "SuccessStrings": [ "string " ]
      },
      "Header": {
        "FailureValues": [ "string " ],
        "Name": "string",
        "SuccessValues": [ "string " ]
      },
      "Json": {
        "FailureValues": [ "string " ],
        "Identifier": "string",
        "SuccessValues": [ "string " ]
      },
      "StatusCode": {
        "FailureCodes": [ number ],
        "SuccessCodes": [ number ]
      }
    },
  },
  "AWSManagedRulesBotControlRuleSet": {
    "EnableMachineLearning": boolean,
    "InspectionLevel": "string"
  },
  "LoginPath": "string",
  "PasswordField": {
    "Identifier": "string"
  },
  "PayloadType": "string",
  "UsernameField": {

```

```
        "Identifier": "string"
    }
}
],
"Name": "string",
"RuleActionOverrides": [
    {
        "ActionToUse": {
            "Allow": {
                "CustomRequestHandling": {
                    "InsertHeaders": [
                        {
                            "Name": "string",
                            "Value": "string"
                        }
                    ]
                }
            },
            "Block": {
                "CustomResponse": {
                    "CustomResponseBodyKey": "string",
                    "ResponseCode": number,
                    "ResponseHeaders": [
                        {
                            "Name": "string",
                            "Value": "string"
                        }
                    ]
                }
            },
            "Captcha": {
                "CustomRequestHandling": {
                    "InsertHeaders": [
                        {
                            "Name": "string",
                            "Value": "string"
                        }
                    ]
                }
            },
            "Challenge": {
                "CustomRequestHandling": {
                    "InsertHeaders": [
                        {
```

```

        "Name": "string",
        "Value": "string"
      }
    ]
  },
  "Count": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "Name": "string"
}
],
"ScopeDownStatement": {
  "AndStatement": {
    "Statements": [
      "Statement"
    ]
  },
  "AsnMatchStatement": {
    "AsnList": [ number ],
    "ForwardedIPConfig": {
      "FallbackBehavior": "string",
      "HeaderName": "string"
    }
  },
  "ByteMatchStatement": {
    "FieldToMatch": {
      "AllQueryArguments": {
      },
      "Body": {
        "OversizeHandling": "string"
      },
      "Cookies": {
        "MatchPattern": {
          "All": {
          },

```

```
        "ExcludedCookies": [ "string" ],
        "IncludedCookies": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
},
"HeaderOrder": {
    "OversizeHandling": "string"
},
"Headers": {
    "MatchPattern": {
        "All": {
        },
        "ExcludedHeaders": [ "string" ],
        "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
},
"JA3Fingerprint": {
    "FallbackBehavior": "string"
},
"JA4Fingerprint": {
    "FallbackBehavior": "string"
},
"JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
        "All": {
        },
        "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
},
"Method": {
},
"QueryString": {
},
"SingleHeader": {
    "Name": "string"
},
"SingleQueryArgument": {
    "Name": "string"
```

```
    },
    "UriFragment": {
      "FallbackBehavior": "string"
    },
    "UriPath": {
    }
  },
  "PositionalConstraint": "string",
  "SearchString": blob,
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"GeoMatchStatement": {
  "CountryCodes": [ "string" ],
  "ForwardedIPConfig": {
    "FallbackBehavior": "string",
    "HeaderName": "string"
  }
},
"IPSetReferenceStatement": {
  "ARN": "string",
  "IPSetForwardedIPConfig": {
    "FallbackBehavior": "string",
    "HeaderName": "string",
    "Position": "string"
  }
},
"LabelMatchStatement": {
  "Key": "string",
  "Scope": "string"
},
"ManagedRuleGroupStatement": "ManagedRuleGroupStatement",
"NotStatement": {
  "Statement": "Statement"
},
"OrStatement": {
  "Statements": [
    "Statement"
  ]
},
},
```

```
"RateBasedStatement": {
  "AggregateKeyType": "string",
  "CustomKeys": [
    {
      "ASN": {
      },
      "Cookie": {
        "Name": "string",
        "TextTransformations": [
          {
            "Priority": number,
            "Type": "string"
          }
        ]
      },
      "ForwardedIP": {
      },
      "Header": {
        "Name": "string",
        "TextTransformations": [
          {
            "Priority": number,
            "Type": "string"
          }
        ]
      },
      "HTTPMethod": {
      },
      "IP": {
      },
      "JA3Fingerprint": {
        "FallbackBehavior": "string"
      },
      "JA4Fingerprint": {
        "FallbackBehavior": "string"
      },
      "LabelNamespace": {
        "Namespace": "string"
      },
      "QueryArgument": {
        "Name": "string",
        "TextTransformations": [
          {
            "Priority": number,
```

```

        "Type": "string"
      }
    ]
  },
  "QueryString": {
    "TextTransformations": [
      {
        "Priority": number,
        "Type": "string"
      }
    ]
  },
  "UriPath": {
    "TextTransformations": [
      {
        "Priority": number,
        "Type": "string"
      }
    ]
  }
},
"EvaluationWindowSec": number,
"ForwardedIPConfig": {
  "FallbackBehavior": "string",
  "HeaderName": "string"
},
"Limit": number,
"ScopeDownStatement": "Statement"
},
"RegexMatchStatement": {
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    },
    "Cookies": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedCookies": [ "string" ],
        "IncludedCookies": [ "string" ]
      }
    }
  }
},

```

```
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "HeaderOrder": {
    "OversizeHandling": "string"
  },
  "Headers": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedHeaders": [ "string" ],
      "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
    "FallbackBehavior": "string"
  }
}
```

```

    },
    "UriPath": {
    }
  },
  "RegexString": "string",
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"RegexPatternSetReferenceStatement": {
  "ARN": "string",
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    },
    "Cookies": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedCookies": [ "string" ],
        "IncludedCookies": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "HeaderOrder": {
      "OversizeHandling": "string"
    },
    "Headers": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedHeaders": [ "string" ],
        "IncludedHeaders": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "JA3Fingerprint": {

```

```
        "FallbackBehavior": "string"
    },
    "JA4Fingerprint": {
        "FallbackBehavior": "string"
    },
    "JsonBody": {
        "InvalidFallbackBehavior": "string",
        "MatchPattern": {
            "All": {
            },
            "IncludedPaths": [ "string" ]
        },
        "MatchScope": "string",
        "OversizeHandling": "string"
    },
    "Method": {
    },
    "QueryString": {
    },
    "SingleHeader": {
        "Name": "string"
    },
    "SingleQueryArgument": {
        "Name": "string"
    },
    "UriFragment": {
        "FallbackBehavior": "string"
    },
    "UriPath": {
    }
},
"TextTransformations": [
{
    "Priority": number,
    "Type": "string"
}
]
},
"RuleGroupReferenceStatement": {
    "ARN": "string",
    "ExcludedRules": [
    {
        "Name": "string"
    }
]
```

```
],
  "RuleActionOverrides": [
    {
      "ActionToUse": {
        "Allow": {
          "CustomRequestHandling": {
            "InsertHeaders": [
              {
                "Name": "string",
                "Value": "string"
              }
            ]
          }
        },
        "Block": {
          "CustomResponse": {
            "CustomResponseBodyKey": "string",
            "ResponseCode": number,
            "ResponseHeaders": [
              {
                "Name": "string",
                "Value": "string"
              }
            ]
          }
        },
        "Captcha": {
          "CustomRequestHandling": {
            "InsertHeaders": [
              {
                "Name": "string",
                "Value": "string"
              }
            ]
          }
        },
        "Challenge": {
          "CustomRequestHandling": {
            "InsertHeaders": [
              {
                "Name": "string",
                "Value": "string"
              }
            ]
          }
        }
      }
    }
  ]
}
```

```

    }
  },
  "Count": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "Name": "string"
}
]
},
"SizeConstraintStatement": {
  "ComparisonOperator": "string",
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    },
    "Cookies": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedCookies": [ "string" ],
        "IncludedCookies": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "HeaderOrder": {
      "OversizeHandling": "string"
    },
    "Headers": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedHeaders": [ "string" ],
        "IncludedHeaders": [ "string" ]
      }
    }
  }
}

```

```

    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
    "FallbackBehavior": "string"
  },
  "UriPath": {
  }
},
"Size": number,
"TextTransformations": [
  {
    "Priority": number,
    "Type": "string"
  }
]
},

```

```
"SqliMatchStatement": {
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    },
    "Cookies": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedCookies": [ "string" ],
        "IncludedCookies": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "HeaderOrder": {
      "OversizeHandling": "string"
    },
    "Headers": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedHeaders": [ "string" ],
        "IncludedHeaders": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "JA3Fingerprint": {
      "FallbackBehavior": "string"
    },
    "JA4Fingerprint": {
      "FallbackBehavior": "string"
    },
    "JsonBody": {
      "InvalidFallbackBehavior": "string",
      "MatchPattern": {
        "All": {
        },
        "IncludedPaths": [ "string" ]
      },
      "MatchScope": "string",
```

```

        "OversizeHandling": "string"
    },
    "Method": {
    },
    "QueryString": {
    },
    "SingleHeader": {
        "Name": "string"
    },
    "SingleQueryArgument": {
        "Name": "string"
    },
    "UriFragment": {
        "FallbackBehavior": "string"
    },
    "UriPath": {
    }
},
"SensitivityLevel": "string",
"TextTransformations": [
    {
        "Priority": number,
        "Type": "string"
    }
]
},
"XssMatchStatement": {
    "FieldToMatch": {
        "AllQueryArguments": {
        },
        "Body": {
            "OversizeHandling": "string"
        },
        "Cookies": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedCookies": [ "string" ],
                "IncludedCookies": [ "string" ]
            },
            "MatchScope": "string",
            "OversizeHandling": "string"
        },
        "HeaderOrder": {

```

```
    "OversizeHandling": "string"
  },
  "Headers": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedHeaders": [ "string" ],
      "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
    "FallbackBehavior": "string"
  },
  "UriPath": {
  }
},
```

```

        "TextTransformations": [
            {
                "Priority": number,
                "Type": "string"
            }
        ]
    },
    "VendorName": "string",
    "Version": "string"
},
"RuleGroupReferenceStatement": {
    "ARN": "string",
    "ExcludedRules": [
        {
            "Name": "string"
        }
    ],
    "RuleActionOverrides": [
        {
            "ActionToUse": {
                "Allow": {
                    "CustomRequestHandling": {
                        "InsertHeaders": [
                            {
                                "Name": "string",
                                "Value": "string"
                            }
                        ]
                    }
                }
            },
            "Block": {
                "CustomResponse": {
                    "CustomResponseBodyKey": "string",
                    "ResponseCode": number,
                    "ResponseHeaders": [
                        {
                            "Name": "string",
                            "Value": "string"
                        }
                    ]
                }
            }
        }
    ],
    "Captcha": {

```

```
        "CustomRequestHandling": {
            "InsertHeaders": [
                {
                    "Name": "string",
                    "Value": "string"
                }
            ]
        },
        "Challenge": {
            "CustomRequestHandling": {
                "InsertHeaders": [
                    {
                        "Name": "string",
                        "Value": "string"
                    }
                ]
            }
        },
        "Count": {
            "CustomRequestHandling": {
                "InsertHeaders": [
                    {
                        "Name": "string",
                        "Value": "string"
                    }
                ]
            }
        },
        "Name": "string"
    }
]
}
},
"Name": "string",
"OverrideAction": {
    "Count": {
        "CustomRequestHandling": {
            "InsertHeaders": [
                {
                    "Name": "string",
                    "Value": "string"
                }
            ]
        }
    }
}
```

```

        ]
      }
    },
    "None": {
    }
  },
  "Priority": number,
  "VisibilityConfig": {
    "CloudWatchMetricsEnabled": boolean,
    "MetricName": "string",
    "SampledRequestsEnabled": boolean
  }
}
],
"PreProcessFirewallManagerRuleGroups": [
{
  "FirewallManagerStatement": {
    "ManagedRuleGroupStatement": {
      "ExcludedRules": [
        {
          "Name": "string"
        }
      ],
      "ManagedRuleGroupConfigs": [
        {
          "AWSManagedRulesACFPRuleSet": {
            "CreationPath": "string",
            "EnableRegexInPath": boolean,
            "RegistrationPagePath": "string",
            "RequestInspection": {
              "AddressFields": [
                {
                  "Identifier": "string"
                }
              ],
              "EmailField": {
                "Identifier": "string"
              },
              "PasswordField": {
                "Identifier": "string"
              },
              "PayloadType": "string",
              "PhoneNumberFields": [
                {

```

```

        "Identifier": "string"
    }
],
"UsernameField": {
    "Identifier": "string"
}
},
"ResponseInspection": {
    "BodyContains": {
        "FailureStrings": [ "string" ],
        "SuccessStrings": [ "string" ]
    },
    "Header": {
        "FailureValues": [ "string" ],
        "Name": "string",
        "SuccessValues": [ "string" ]
    },
    "Json": {
        "FailureValues": [ "string" ],
        "Identifier": "string",
        "SuccessValues": [ "string" ]
    },
    "StatusCode": {
        "FailureCodes": [ number ],
        "SuccessCodes": [ number ]
    }
}
},
"AWSMangedRulesAntiDDoSRuleSet": {
    "ClientSideActionConfig": {
        "Challenge": {
            "ExemptUriRegularExpressions": [
                {
                    "RegexString": "string"
                }
            ],
            "Sensitivity": "string",
            "UsageOfAction": "string"
        }
    },
    "SensitivityToBlock": "string"
},
"AWSMangedRulesATPRuleSet": {
    "EnableRegexInPath": boolean,

```

```
    "LoginPath": "string",
    "RequestInspection": {
      "PasswordField": {
        "Identifier": "string"
      },
      "PayloadType": "string",
      "UsernameField": {
        "Identifier": "string"
      }
    },
    "ResponseInspection": {
      "BodyContains": {
        "FailureStrings": [ "string" ],
        "SuccessStrings": [ "string" ]
      },
      "Header": {
        "FailureValues": [ "string" ],
        "Name": "string",
        "SuccessValues": [ "string" ]
      },
      "Json": {
        "FailureValues": [ "string" ],
        "Identifier": "string",
        "SuccessValues": [ "string" ]
      },
      "StatusCode": {
        "FailureCodes": [ number ],
        "SuccessCodes": [ number ]
      }
    }
  },
  "AWSManagedRulesBotControlRuleSet": {
    "EnableMachineLearning": boolean,
    "InspectionLevel": "string"
  },
  "LoginPath": "string",
  "PasswordField": {
    "Identifier": "string"
  },
  "PayloadType": "string",
  "UsernameField": {
    "Identifier": "string"
  }
}
```

```
],
  "Name": "string",
  "RuleActionOverrides": [
    {
      "ActionToUse": {
        "Allow": {
          "CustomRequestHandling": {
            "InsertHeaders": [
              {
                "Name": "string",
                "Value": "string"
              }
            ]
          }
        },
        "Block": {
          "CustomResponse": {
            "CustomResponseBodyKey": "string",
            "ResponseCode": number,
            "ResponseHeaders": [
              {
                "Name": "string",
                "Value": "string"
              }
            ]
          }
        },
        "Captcha": {
          "CustomRequestHandling": {
            "InsertHeaders": [
              {
                "Name": "string",
                "Value": "string"
              }
            ]
          }
        },
        "Challenge": {
          "CustomRequestHandling": {
            "InsertHeaders": [
              {
                "Name": "string",
                "Value": "string"
              }
            ]
          }
        }
      }
    }
  ]
}
```

```

        ]
      }
    },
    "Count": {
      "CustomRequestHandling": {
        "InsertHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      }
    }
  },
  "Name": "string"
}
],
"ScopeDownStatement": {
  "AndStatement": {
    "Statements": [
      "Statement"
    ]
  },
  "AsnMatchStatement": {
    "AsnList": [ number ],
    "ForwardedIPConfig": {
      "FallbackBehavior": "string",
      "HeaderName": "string"
    }
  },
  "ByteMatchStatement": {
    "FieldToMatch": {
      "AllQueryArguments": {
      },
      "Body": {
        "OversizeHandling": "string"
      }
    },
    "Cookies": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedCookies": [ "string" ],
        "IncludedCookies": [ "string" ]
      }
    }
  },

```

```
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "HeaderOrder": {
    "OversizeHandling": "string"
  },
  "Headers": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedHeaders": [ "string" ],
      "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
    "FallbackBehavior": "string"
  }
```

```

    },
    "UriPath": {
    }
  },
  "PositionalConstraint": "string",
  "SearchString": blob,
  "TextTransformations": [
  {
    "Priority": number,
    "Type": "string"
  }
  ]
},
"GeoMatchStatement": {
  "CountryCodes": [ "string" ],
  "ForwardedIPConfig": {
    "FallbackBehavior": "string",
    "HeaderName": "string"
  }
},
"IPSetReferenceStatement": {
  "ARN": "string",
  "IPSetForwardedIPConfig": {
    "FallbackBehavior": "string",
    "HeaderName": "string",
    "Position": "string"
  }
},
"LabelMatchStatement": {
  "Key": "string",
  "Scope": "string"
},
"ManagedRuleGroupStatement": "ManagedRuleGroupStatement",
"NotStatement": {
  "Statement": "Statement"
},
"OrStatement": {
  "Statements": [
    "Statement"
  ]
},
"RateBasedStatement": {
  "AggregateKeyType": "string",
  "CustomKeys": [

```

```
{
  "ASN": {
  },
  "Cookie": {
    "Name": "string",
    "TextTransformations": [
      {
        "Priority": number,
        "Type": "string"
      }
    ]
  },
  "ForwardedIP": {
  },
  "Header": {
    "Name": "string",
    "TextTransformations": [
      {
        "Priority": number,
        "Type": "string"
      }
    ]
  },
  "HTTPMethod": {
  },
  "IP": {
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "LabelNamespace": {
    "Namespace": "string"
  },
  "QueryArgument": {
    "Name": "string",
    "TextTransformations": [
      {
        "Priority": number,
        "Type": "string"
      }
    ]
  }
}
```

```

    },
    "QueryString": {
      "TextTransformations": [
        {
          "Priority": number,
          "Type": "string"
        }
      ]
    },
    "UriPath": {
      "TextTransformations": [
        {
          "Priority": number,
          "Type": "string"
        }
      ]
    }
  }
},
"EvaluationWindowSec": number,
"ForwardedIPConfig": {
  "FallbackBehavior": "string",
  "HeaderName": "string"
},
"Limit": number,
"ScopeDownStatement": "Statement"
},
"RegexMatchStatement": {
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    }
  },
  "Cookies": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedCookies": [ "string" ],
      "IncludedCookies": [ "string" ]
    }
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},

```

```
"HeaderOrder": {
  "OversizeHandling": "string"
},
"Headers": {
  "MatchPattern": {
    "All": {
    },
    "ExcludedHeaders": [ "string" ],
    "IncludedHeaders": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"JA3Fingerprint": {
  "FallbackBehavior": "string"
},
"JA4Fingerprint": {
  "FallbackBehavior": "string"
},
"JsonBody": {
  "InvalidFallbackBehavior": "string",
  "MatchPattern": {
    "All": {
    },
    "IncludedPaths": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"Method": {
},
"QueryString": {
},
"SingleHeader": {
  "Name": "string"
},
"SingleQueryArgument": {
  "Name": "string"
},
"UriFragment": {
  "FallbackBehavior": "string"
},
"UriPath": {
}
```

```

    },
    "RegexString": "string",
    "TextTransformations": [
      {
        "Priority": number,
        "Type": "string"
      }
    ]
  },
  "RegexPatternSetReferenceStatement": {
    "ARN": "string",
    "FieldToMatch": {
      "AllQueryArguments": {
      },
      "Body": {
        "OversizeHandling": "string"
      },
      "Cookies": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedCookies": [ "string" ],
          "IncludedCookies": [ "string" ]
        },
        "MatchScope": "string",
        "OversizeHandling": "string"
      },
      "HeaderOrder": {
        "OversizeHandling": "string"
      },
      "Headers": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedHeaders": [ "string" ],
          "IncludedHeaders": [ "string" ]
        },
        "MatchScope": "string",
        "OversizeHandling": "string"
      },
      "JA3Fingerprint": {
        "FallbackBehavior": "string"
      },
      "JA4Fingerprint": {

```

```

        "FallbackBehavior": "string"
    },
    "JsonBody": {
        "InvalidFallbackBehavior": "string",
        "MatchPattern": {
            "All": {
            },
            "IncludedPaths": [ "string" ]
        },
        "MatchScope": "string",
        "OversizeHandling": "string"
    },
    "Method": {
    },
    "QueryString": {
    },
    "SingleHeader": {
        "Name": "string"
    },
    "SingleQueryArgument": {
        "Name": "string"
    },
    "UriFragment": {
        "FallbackBehavior": "string"
    },
    "UriPath": {
    }
},
"TextTransformations": [
{
    "Priority": number,
    "Type": "string"
}
]
},
"RuleGroupReferenceStatement": {
    "ARN": "string",
    "ExcludedRules": [
        {
            "Name": "string"
        }
    ],
    "RuleActionOverrides": [
        {

```

```
"ActionToUse": {
  "Allow": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "Block": {
    "CustomResponse": {
      "CustomResponseBodyKey": "string",
      "ResponseCode": number,
      "ResponseHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "Captcha": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "Challenge": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "Count": {
```

```

        "CustomRequestHandling": {
            "InsertHeaders": [
                {
                    "Name": "string",
                    "Value": "string"
                }
            ]
        }
    },
    "Name": "string"
}
]
},
"SizeConstraintStatement": {
    "ComparisonOperator": "string",
    "FieldToMatch": {
        "AllQueryArguments": {
        },
        "Body": {
            "OversizeHandling": "string"
        },
        "Cookies": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedCookies": [ "string" ],
                "IncludedCookies": [ "string" ]
            },
            "MatchScope": "string",
            "OversizeHandling": "string"
        },
        "HeaderOrder": {
            "OversizeHandling": "string"
        },
        "Headers": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedHeaders": [ "string" ],
                "IncludedHeaders": [ "string" ]
            },
            "MatchScope": "string",
            "OversizeHandling": "string"
        }
    }
}

```

```

    },
    "JA3Fingerprint": {
      "FallbackBehavior": "string"
    },
    "JA4Fingerprint": {
      "FallbackBehavior": "string"
    },
    "JsonBody": {
      "InvalidFallbackBehavior": "string",
      "MatchPattern": {
        "All": {
        },
        "IncludedPaths": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "Method": {
    },
    "QueryString": {
    },
    "SingleHeader": {
      "Name": "string"
    },
    "SingleQueryArgument": {
      "Name": "string"
    },
    "UriFragment": {
      "FallbackBehavior": "string"
    },
    "UriPath": {
    }
  },
  "Size": number,
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"SqliMatchStatement": {
  "FieldToMatch": {
    "AllQueryArguments": {

```

```
},
  "Body": {
    "OversizeHandling": "string"
  },
  "Cookies": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedCookies": [ "string" ],
      "IncludedCookies": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "HeaderOrder": {
    "OversizeHandling": "string"
  },
  "Headers": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedHeaders": [ "string" ],
      "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
```

```
    },
    "QueryString": {
    },
    "SingleHeader": {
      "Name": "string"
    },
    "SingleQueryArgument": {
      "Name": "string"
    },
    "UriFragment": {
      "FallbackBehavior": "string"
    },
    "UriPath": {
    }
  },
  "SensitivityLevel": "string",
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"XssMatchStatement": {
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    },
    "Cookies": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedCookies": [ "string" ],
        "IncludedCookies": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "HeaderOrder": {
      "OversizeHandling": "string"
    },
    "Headers": {
```

```
    "MatchPattern": {
      "All": {
      },
      "ExcludedHeaders": [ "string" ],
      "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
    "FallbackBehavior": "string"
  },
  "UriPath": {
  }
},
"TextTransformations": [
  {
    "Priority": number,
```

```

        "Type": "string"
      }
    ]
  },
  "VendorName": "string",
  "Version": "string"
},
"RuleGroupReferenceStatement": {
  "ARN": "string",
  "ExcludedRules": [
    {
      "Name": "string"
    }
  ],
  "RuleActionOverrides": [
    {
      "ActionToUse": {
        "Allow": {
          "CustomRequestHandling": {
            "InsertHeaders": [
              {
                "Name": "string",
                "Value": "string"
              }
            ]
          }
        },
        "Block": {
          "CustomResponse": {
            "CustomResponseBodyKey": "string",
            "ResponseCode": number,
            "ResponseHeaders": [
              {
                "Name": "string",
                "Value": "string"
              }
            ]
          }
        }
      },
      "Captcha": {
        "CustomRequestHandling": {
          "InsertHeaders": [
            {

```

```
        "Name": "string",
        "Value": "string"
      }
    ]
  },
  "Challenge": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "Count": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "Name": "string"
}
]
}
},
"Name": "string",
"OverrideAction": {
  "Count": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  }
},
```

```

    "None": {
    }
  },
  "Priority": number,
  "VisibilityConfig": {
    "CloudWatchMetricsEnabled": boolean,
    "MetricName": "string",
    "SampledRequestsEnabled": boolean
  }
}
],
"RetrofittedByFirewallManager": boolean,
"Rules": [
{
  "Action": {
    "Allow": {
      "CustomRequestHandling": {
        "InsertHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      }
    },
    "Block": {
      "CustomResponse": {
        "CustomResponseBodyKey": "string",
        "ResponseCode": number,
        "ResponseHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      }
    }
  },
  "Captcha": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  }
}
]

```

```

    ]
  }
},
"Challenge": {
  "CustomRequestHandling": {
    "InsertHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  }
},
"Count": {
  "CustomRequestHandling": {
    "InsertHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  }
}
},
"CaptchaConfig": {
  "ImmunityTimeProperty": {
    "ImmunityTime": number
  }
},
"ChallengeConfig": {
  "ImmunityTimeProperty": {
    "ImmunityTime": number
  }
},
"Name": "string",
"OverrideAction": {
  "Count": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  }
}
]

```

```

    }
  },
  "None": {
  }
},
"Priority": number,
"RuleLabels": [
  {
    "Name": "string"
  }
],
"Statement": {
  "AndStatement": {
    "Statements": [
      "Statement"
    ]
  },
  "AsnMatchStatement": {
    "AsnList": [ number ],
    "ForwardedIPConfig": {
      "FallbackBehavior": "string",
      "HeaderName": "string"
    }
  },
  "ByteMatchStatement": {
    "FieldToMatch": {
      "AllQueryArguments": {
      },
      "Body": {
        "OversizeHandling": "string"
      },
      "Cookies": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedCookies": [ "string" ],
          "IncludedCookies": [ "string" ]
        },
        "MatchScope": "string",
        "OversizeHandling": "string"
      },
      "HeaderOrder": {
        "OversizeHandling": "string"
      }
    }
  },

```

```
"Headers": {
  "MatchPattern": {
    "All": {
    },
    "ExcludedHeaders": [ "string" ],
    "IncludedHeaders": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"JA3Fingerprint": {
  "FallbackBehavior": "string"
},
"JA4Fingerprint": {
  "FallbackBehavior": "string"
},
"JsonBody": {
  "InvalidFallbackBehavior": "string",
  "MatchPattern": {
    "All": {
    },
    "IncludedPaths": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"Method": {
},
"QueryString": {
},
"SingleHeader": {
  "Name": "string"
},
"SingleQueryArgument": {
  "Name": "string"
},
"UriFragment": {
  "FallbackBehavior": "string"
},
"UriPath": {
}
},
"PositionalConstraint": "string",
"SearchString": blob,
```

```
    "TextTransformations": [
      {
        "Priority": number,
        "Type": "string"
      }
    ],
  },
  "GeoMatchStatement": {
    "CountryCodes": [ "string " ],
    "ForwardedIPConfig": {
      "FallbackBehavior": "string",
      "HeaderName": "string"
    }
  },
  "IPSetReferenceStatement": {
    "ARN": "string",
    "IPSetForwardedIPConfig": {
      "FallbackBehavior": "string",
      "HeaderName": "string",
      "Position": "string"
    }
  },
  "LabelMatchStatement": {
    "Key": "string",
    "Scope": "string"
  },
  "ManagedRuleGroupStatement": {
    "ExcludedRules": [
      {
        "Name": "string"
      }
    ],
    "ManagedRuleGroupConfigs": [
      {
        "AWSManagedRulesACFPRuleSet": {
          "CreationPath": "string",
          "EnableRegexInPath": boolean,
          "RegistrationPagePath": "string",
          "RequestInspection": {
            "AddressFields": [
              {
                "Identifier": "string"
              }
            ]
          }
        }
      }
    ],
  },
}
```

```

    "EmailField": {
      "Identifier": "string"
    },
    "PasswordField": {
      "Identifier": "string"
    },
    "PayloadType": "string",
    "PhoneNumberFields": [
      {
        "Identifier": "string"
      }
    ],
    "UsernameField": {
      "Identifier": "string"
    }
  },
  "ResponseInspection": {
    "BodyContains": {
      "FailureStrings": [ "string" ],
      "SuccessStrings": [ "string" ]
    },
    "Header": {
      "FailureValues": [ "string" ],
      "Name": "string",
      "SuccessValues": [ "string" ]
    },
    "Json": {
      "FailureValues": [ "string" ],
      "Identifier": "string",
      "SuccessValues": [ "string" ]
    },
    "StatusCode": {
      "FailureCodes": [ number ],
      "SuccessCodes": [ number ]
    }
  }
},
"AWSTManagedRulesAntiDDoSRuleSet": {
  "ClientSideActionConfig": {
    "Challenge": {
      "ExemptUriRegularExpressions": [
        {
          "RegexString": "string"
        }
      ]
    }
  }
}

```

```

        ],
        "Sensitivity": "string",
        "UsageOfAction": "string"
    }
},
"SensitivityToBlock": "string"
},
"AWSTManagedRulesATPRuleSet": {
    "EnableRegexInPath": boolean,
    "LoginPath": "string",
    "RequestInspection": {
        "PasswordField": {
            "Identifier": "string"
        },
        "PayloadType": "string",
        "UsernameField": {
            "Identifier": "string"
        }
    },
    "ResponseInspection": {
        "BodyContains": {
            "FailureStrings": [ "string" ],
            "SuccessStrings": [ "string" ]
        },
        "Header": {
            "FailureValues": [ "string" ],
            "Name": "string",
            "SuccessValues": [ "string" ]
        },
        "Json": {
            "FailureValues": [ "string" ],
            "Identifier": "string",
            "SuccessValues": [ "string" ]
        },
        "StatusCode": {
            "FailureCodes": [ number ],
            "SuccessCodes": [ number ]
        }
    }
},
"AWSTManagedRulesBotControlRuleSet": {
    "EnableMachineLearning": boolean,
    "InspectionLevel": "string"
},

```

```
    "LoginPath": "string",
    "PasswordField": {
      "Identifier": "string"
    },
    "PayloadType": "string",
    "UsernameField": {
      "Identifier": "string"
    }
  }
],
"Name": "string",
"RuleActionOverrides": [
  {
    "ActionToUse": {
      "Allow": {
        "CustomRequestHandling": {
          "InsertHeaders": [
            {
              "Name": "string",
              "Value": "string"
            }
          ]
        }
      },
      "Block": {
        "CustomResponse": {
          "CustomResponseBodyKey": "string",
          "ResponseCode": number,
          "ResponseHeaders": [
            {
              "Name": "string",
              "Value": "string"
            }
          ]
        }
      }
    },
    "Captcha": {
      "CustomRequestHandling": {
        "InsertHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      }
    }
  ]
]
```

```

    }
  },
  "Challenge": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "Count": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "Name": "string"
}
],
"ScopeDownStatement": "Statement",
"VendorName": "string",
"Version": "string"
},
"NotStatement": {
  "Statement": "Statement"
},
"OrStatement": {
  "Statements": [
    "Statement"
  ]
},
"RateBasedStatement": {
  "AggregateKeyType": "string",
  "CustomKeys": [
    {
      "ASN": {

```

```
"Cookie": {
  "Name": "string",
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"ForwardedIP": {
},
"Header": {
  "Name": "string",
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"HTTPMethod": {
},
"IP": {
},
"JA3Fingerprint": {
  "FallbackBehavior": "string"
},
"JA4Fingerprint": {
  "FallbackBehavior": "string"
},
"LabelNamespace": {
  "Namespace": "string"
},
"QueryArgument": {
  "Name": "string",
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"QueryString": {
  "TextTransformations": [
```

```

        {
            "Priority": number,
            "Type": "string"
        }
    ]
},
"UriPath": {
    "TextTransformations": [
        {
            "Priority": number,
            "Type": "string"
        }
    ]
}
},
],
"EvaluationWindowSec": number,
"ForwardedIPConfig": {
    "FallbackBehavior": "string",
    "HeaderName": "string"
},
"Limit": number,
"ScopeDownStatement": "Statement"
},
"RegexMatchStatement": {
    "FieldToMatch": {
        "AllQueryArguments": {
        },
        "Body": {
            "OversizeHandling": "string"
        },
        "Cookies": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedCookies": [ "string" ],
                "IncludedCookies": [ "string" ]
            },
            "MatchScope": "string",
            "OversizeHandling": "string"
        },
        "HeaderOrder": {
            "OversizeHandling": "string"
        }
    },

```

```
"Headers": {
  "MatchPattern": {
    "All": {
    },
    "ExcludedHeaders": [ "string" ],
    "IncludedHeaders": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"JA3Fingerprint": {
  "FallbackBehavior": "string"
},
"JA4Fingerprint": {
  "FallbackBehavior": "string"
},
"JsonBody": {
  "InvalidFallbackBehavior": "string",
  "MatchPattern": {
    "All": {
    },
    "IncludedPaths": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"Method": {
},
"QueryString": {
},
"SingleHeader": {
  "Name": "string"
},
"SingleQueryArgument": {
  "Name": "string"
},
"UriFragment": {
  "FallbackBehavior": "string"
},
"UriPath": {
}
},
"RegexString": "string",
"TextTransformations": [
```

```

        {
            "Priority": number,
            "Type": "string"
        }
    ]
},
"RegexPatternSetReferenceStatement": {
    "ARN": "string",
    "FieldToMatch": {
        "AllQueryArguments": {
        },
        "Body": {
            "OversizeHandling": "string"
        },
        "Cookies": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedCookies": [ "string" ],
                "IncludedCookies": [ "string" ]
            },
            "MatchScope": "string",
            "OversizeHandling": "string"
        },
        "HeaderOrder": {
            "OversizeHandling": "string"
        },
        "Headers": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedHeaders": [ "string" ],
                "IncludedHeaders": [ "string" ]
            },
            "MatchScope": "string",
            "OversizeHandling": "string"
        },
        "JA3Fingerprint": {
            "FallbackBehavior": "string"
        },
        "JA4Fingerprint": {
            "FallbackBehavior": "string"
        },
        "JsonBody": {

```

```

    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
    "FallbackBehavior": "string"
  },
  "UriPath": {
  }
},
"TextTransformations": [
  {
    "Priority": number,
    "Type": "string"
  }
]
},
"RuleGroupReferenceStatement": {
  "ARN": "string",
  "ExcludedRules": [
    {
      "Name": "string"
    }
  ],
  "RuleActionOverrides": [
    {
      "ActionToUse": {
        "Allow": {
          "CustomRequestHandling": {

```

```
    "InsertHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  },
  "Block": {
    "CustomResponse": {
      "CustomResponseBodyKey": "string",
      "ResponseCode": number,
      "ResponseHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "Captcha": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "Challenge": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "Count": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
```

```

        "Name": "string",
        "Value": "string"
      }
    ]
  },
  "Name": "string"
}
]
},
"SizeConstraintStatement": {
  "ComparisonOperator": "string",
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    },
    "Cookies": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedCookies": [ "string" ],
        "IncludedCookies": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "HeaderOrder": {
      "OversizeHandling": "string"
    },
    "Headers": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedHeaders": [ "string" ],
        "IncludedHeaders": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "JA3Fingerprint": {
      "FallbackBehavior": "string"
    }
  }
}

```

```

    },
    "JA4Fingerprint": {
      "FallbackBehavior": "string"
    },
    "JsonBody": {
      "InvalidFallbackBehavior": "string",
      "MatchPattern": {
        "All": {
        },
        "IncludedPaths": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "Method": {
    },
    "QueryString": {
    },
    "SingleHeader": {
      "Name": "string"
    },
    "SingleQueryArgument": {
      "Name": "string"
    },
    "UriFragment": {
      "FallbackBehavior": "string"
    },
    "UriPath": {
    }
  },
  "Size": number,
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"SqliMatchStatement": {
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    }
  }
}

```

```
},
  "Cookies": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedCookies": [ "string" ],
      "IncludedCookies": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "HeaderOrder": {
    "OversizeHandling": "string"
  },
  "Headers": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedHeaders": [ "string" ],
      "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
```

```
    "SingleHeader": {
      "Name": "string"
    },
    "SingleQueryArgument": {
      "Name": "string"
    },
    "UriFragment": {
      "FallbackBehavior": "string"
    },
    "UriPath": {
    }
  },
  "SensitivityLevel": "string",
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"XssMatchStatement": {
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    },
    "Cookies": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedCookies": [ "string" ],
        "IncludedCookies": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "HeaderOrder": {
      "OversizeHandling": "string"
    },
    "Headers": {
      "MatchPattern": {
        "All": {
        },

```

```
        "ExcludedHeaders": [ "string" ],
        "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
},
"JA3Fingerprint": {
    "FallbackBehavior": "string"
},
"JA4Fingerprint": {
    "FallbackBehavior": "string"
},
"JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
        "All": {
        },
        "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
},
"Method": {
},
"QueryString": {
},
"SingleHeader": {
    "Name": "string"
},
"SingleQueryArgument": {
    "Name": "string"
},
"UriFragment": {
    "FallbackBehavior": "string"
},
"UriPath": {
}
},
"TextTransformations": [
    {
        "Priority": number,
        "Type": "string"
    }
]
```

```
    }
  },
  "VisibilityConfig": {
    "CloudWatchMetricsEnabled": boolean,
    "MetricName": "string",
    "SampledRequestsEnabled": boolean
  }
}
],
"TokenDomains": [ "string" ],
"VisibilityConfig": {
  "CloudWatchMetricsEnabled": boolean,
  "MetricName": "string",
  "SampledRequestsEnabled": boolean
}
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [WebACL](#)

The web ACL that is associated with the resource. If there is no associated resource, Amazon WAF returns a null web ACL.

Type: [WebACL](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

## WAFInvalidOperationException

The operation isn't valid.

HTTP Status Code: 400

## WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

### Field

The settings where the invalid parameter was found.

### Parameter

The invalid parameter that resulted in the exception.

### Reason

Additional information about the exception.

HTTP Status Code: 400

## WAFNonexistentItemException

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

## WAFUnavailableEntityException

Amazon WAF couldn't retrieve a resource that you specified for this operation. If you've just created a resource that you're using in this operation, you might just need to wait a few

minutes. It can take from a few seconds to a number of minutes for changes to propagate. Verify the resource specifications in your request parameters and then retry the operation.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListAPIKeys

Service: Amazon WAFV2

Retrieves a list of the API keys that you've defined for the specified scope.

API keys are required for the integration of the CAPTCHA API in your JavaScript client applications. The API lets you customize the placement and characteristics of the CAPTCHA puzzle for your end users. For more information about the CAPTCHA JavaScript integration, see [Amazon WAF client application integration](#) in the *Amazon WAF Developer Guide*.

## Request Syntax

```
{
  "Limit": number,
  "NextMarker": "string",
  "Scope": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

The maximum number of objects that you want Amazon WAF to return for this request. If more objects are available, in the response, Amazon WAF provides a `NextMarker` value that you can use in a subsequent call to get the next batch of objects.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

### NextMarker

When you request a list of objects with a `Limit` setting, if the number of objects that are still available for retrieval exceeds the limit, Amazon WAF returns a `NextMarker` value in the response. To retrieve the next batch of objects, provide the marker from the prior call in your next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `.*\S.*`

Required: No

### Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint `us-east-1`.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

## Response Syntax

```
{
  "APIKeySummaries": [
    {
      "APIKey": "string",
      "CreationTimestamp": number,
      "TokenDomains": [ "string" ],
      "Version": number
    }
  ],
  "ApplicationIntegrationURL": "string",
  "NextMarker": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### APIKeySummaries

The array of key summaries. If you specified a `Limit` in your request, this might not be the full list.

Type: Array of [APIKeySummary](#) objects

### ApplicationIntegrationURL

The CAPTCHA application integration URL, for use in your JavaScript implementation.

Type: String

### NextMarker

When you request a list of objects with a `Limit` setting, if the number of objects that are still available for retrieval exceeds the limit, Amazon WAF returns a `NextMarker` value in the response. To retrieve the next batch of objects, provide the marker from the prior call in your next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidOperationException**

The operation isn't valid.

HTTP Status Code: 400

## WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

### Field

The settings where the invalid parameter was found.

### Parameter

The invalid parameter that resulted in the exception.

### Reason

Additional information about the exception.

HTTP Status Code: 400

## WAFInvalidResourceException

Amazon WAF couldn't perform the operation because the resource that you requested isn't valid. Check the resource, and try again.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)

- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListAvailableManagedRuleGroups

Service: Amazon WAFV2

Retrieves an array of managed rule groups that are available for you to use. This list includes all Amazon Managed Rules rule groups and all of the Amazon Web Services Marketplace managed rule groups that you're subscribed to.

## Request Syntax

```
{
  "Limit": number,
  "NextMarker": "string",
  "Scope": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

The maximum number of objects that you want Amazon WAF to return for this request. If more objects are available, in the response, Amazon WAF provides a `NextMarker` value that you can use in a subsequent call to get the next batch of objects.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

### NextMarker

When you request a list of objects with a `Limit` setting, if the number of objects that are still available for retrieval exceeds the limit, Amazon WAF returns a `NextMarker` value in the response. To retrieve the next batch of objects, provide the marker from the prior call in your next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `.*\S.*`

Required: No

## Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint `us-east-1`.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

## Response Syntax

```
{
  "ManagedRuleGroups": [
    {
      "Description": "string",
      "Name": "string",
      "VendorName": "string",
      "VersioningSupported": boolean
    }
  ],
  "NextMarker": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ManagedRuleGroups

Array of managed rule groups that you can use. If you specified a `Limit` in your request, this might not be the full list.

Type: Array of [ManagedRuleGroupSummary](#) objects

## NextMarker

When you request a list of objects with a `Limit` setting, if the number of objects that are still available for retrieval exceeds the limit, Amazon WAF returns a `NextMarker` value in the response. To retrieve the next batch of objects, provide the marker from the prior call in your next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidOperationException**

The operation isn't valid.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.

- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

**Field**

The settings where the invalid parameter was found.

**Parameter**

The invalid parameter that resulted in the exception.

**Reason**

Additional information about the exception.

HTTP Status Code: 400

**See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListAvailableManagedRuleGroupVersions

Service: Amazon WAFV2

Returns a list of the available versions for the specified managed rule group.

## Request Syntax

```
{
  "Limit": number,
  "Name": "string",
  "NextMarker": "string",
  "Scope": "string",
  "VendorName": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

The maximum number of objects that you want Amazon WAF to return for this request. If more objects are available, in the response, Amazon WAF provides a `NextMarker` value that you can use in a subsequent call to get the next batch of objects.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

### Name

The name of the managed rule group. You use this, along with the vendor name, to identify the rule group.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: Yes

### NextMarker

When you request a list of objects with a `Limit` setting, if the number of objects that are still available for retrieval exceeds the limit, Amazon WAF returns a `NextMarker` value in the response. To retrieve the next batch of objects, provide the marker from the prior call in your next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `.*\S.*`

Required: No

### Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use `CLOUDFRONT`.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint `us-east-1`.

Type: String

Valid Values: `CLOUDFRONT` | `REGIONAL`

Required: Yes

### VendorName

The name of the managed rule group vendor. You use this, along with the rule group name, to identify a rule group.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "CurrentDefaultVersion": "string",
  "NextMarker": "string",
  "Versions": [
    {
      "LastUpdateTimestamp": number,
      "Name": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### CurrentDefaultVersion

The name of the version that's currently set as the default.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `^[\\w#:\\.\\-\\/]+$`

### NextMarker

When you request a list of objects with a `Limit` setting, if the number of objects that are still available for retrieval exceeds the limit, Amazon WAF returns a `NextMarker` value in the response. To retrieve the next batch of objects, provide the marker from the prior call in your next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `.*\\S.*`

## Versions

The versions that are currently available for the specified managed rule group. If you specified a `Limit` in your request, this might not be the full list.

Type: Array of [ManagedRuleGroupVersion](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### WAFInvalidOperationException

The operation isn't valid.

HTTP Status Code: 400

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

### Field

The settings where the invalid parameter was found.

### Parameter

The invalid parameter that resulted in the exception.

## Reason

Additional information about the exception.

HTTP Status Code: 400

## WAFNonexistentItemException

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListIPSets

Service: Amazon WAFV2

Retrieves an array of [IPSetSummary](#) objects for the IP sets that you manage.

## Request Syntax

```
{
  "Limit": number,
  "NextMarker": "string",
  "Scope": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

The maximum number of objects that you want Amazon WAF to return for this request. If more objects are available, in the response, Amazon WAF provides a `NextMarker` value that you can use in a subsequent call to get the next batch of objects.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

### NextMarker

When you request a list of objects with a `Limit` setting, if the number of objects that are still available for retrieval exceeds the limit, Amazon WAF returns a `NextMarker` value in the response. To retrieve the next batch of objects, provide the marker from the prior call in your next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `.*\S.*`

Required: No

## Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint `us-east-1`.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

## Response Syntax

```
{
  "IPSets": [
    {
      "ARN": "string",
      "Description": "string",
      "Id": "string",
      "LockToken": "string",
      "Name": "string"
    }
  ],
  "NextMarker": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### IPSets

Array of IPSets. If you specified a `Limit` in your request, this might not be the full list.

Type: Array of [IPSetSummary](#) objects

### [NextMarker](#)

When you request a list of objects with a `Limit` setting, if the number of objects that are still available for retrieval exceeds the limit, Amazon WAF returns a `NextMarker` value in the response. To retrieve the next batch of objects, provide the marker from the prior call in your next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidOperationException**

The operation isn't valid.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).

- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

**Field**

The settings where the invalid parameter was found.

**Parameter**

The invalid parameter that resulted in the exception.

**Reason**

Additional information about the exception.

HTTP Status Code: 400

**See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListLoggingConfigurations

Service: Amazon WAFV2

Retrieves an array of your [LoggingConfiguration](#) objects.

## Request Syntax

```
{
  "Limit": number,
  "LogScope": "string",
  "NextMarker": "string",
  "Scope": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

The maximum number of objects that you want Amazon WAF to return for this request. If more objects are available, in the response, Amazon WAF provides a `NextMarker` value that you can use in a subsequent call to get the next batch of objects.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

### LogScope

The owner of the logging configuration, which must be set to `CUSTOMER` for the configurations that you manage.

The log scope `SECURITY_LAKE` indicates a configuration that is managed through Amazon Security Lake. You can use Security Lake to collect log and event data from various sources for normalization, analysis, and management. For information, see [Collecting data from Amazon services](#) in the *Amazon Security Lake user guide*.

The log scope `CLOUDWATCH_TELEMETRY_RULE_MANAGED` indicates a configuration that is managed through Amazon CloudWatch Logs for telemetry data collection and analysis. For information, see [What is Amazon CloudWatch Logs ?](#) in the *Amazon CloudWatch Logs user guide*.

Default: `CUSTOMER`

Type: String

Valid Values: `CUSTOMER` | `SECURITY_LAKE` | `CLOUDWATCH_TELEMETRY_RULE_MANAGED`

Required: No

### NextMarker

When you request a list of objects with a `Limit` setting, if the number of objects that are still available for retrieval exceeds the limit, Amazon WAF returns a `NextMarker` value in the response. To retrieve the next batch of objects, provide the marker from the prior call in your next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `.*\S.*`

Required: No

### Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use `CLOUDFRONT`.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint `us-east-1`.

Type: String

Valid Values: `CLOUDFRONT` | `REGIONAL`

Required: Yes

## Response Syntax

```
{
  "LoggingConfigurations": [
    {
      "LogDestinationConfigs": [ "string" ],
      "LoggingFilter": {
        "DefaultBehavior": "string",
        "Filters": [
          {
            "Behavior": "string",
            "Conditions": [
              {
                "ActionCondition": {
                  "Action": "string"
                },
                "LabelNameCondition": {
                  "LabelName": "string"
                }
              ]
            ],
            "Requirement": "string"
          }
        ]
      },
      "LogScope": "string",
      "LogType": "string",
      "ManagedByFirewallManager": boolean,
      "RedactedFields": [
        {
          "AllQueryArguments": {
          },
          "Body": {
            "OversizeHandling": "string"
          },
          "Cookies": {
            "MatchPattern": {
              "All": {
              },
              "ExcludedCookies": [ "string" ],
              "IncludedCookies": [ "string" ]
            },
            "MatchScope": "string",
          }
        ]
      }
    }
  ]
}
```

```
    "OversizeHandling": "string"
  },
  "HeaderOrder": {
    "OversizeHandling": "string"
  },
  "Headers": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedHeaders": [ "string" ],
      "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
    "FallbackBehavior": "string"
  },
}
```

```
        "UriPath": {
          }
        },
        "ResourceArn": "string"
      }
    ],
    "NextMarker": "string"
  }
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### LoggingConfigurations

Array of logging configurations. If you specified a `Limit` in your request, this might not be the full list.

Type: Array of [LoggingConfiguration](#) objects

### NextMarker

When you request a list of objects with a `Limit` setting, if the number of objects that are still available for retrieval exceeds the limit, Amazon WAF returns a `NextMarker` value in the response. To retrieve the next batch of objects, provide the marker from the prior call in your next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## WAFInternalErrorException

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

## WAFInvalidOperationException

The operation isn't valid.

HTTP Status Code: 400

## WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

### Field

The settings where the invalid parameter was found.

### Parameter

The invalid parameter that resulted in the exception.

### Reason

Additional information about the exception.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListManagedRuleSets

Service: Amazon WAFV2

Retrieves the managed rule sets that you own.

## Note

This is intended for use only by vendors of managed rule sets. Vendors are Amazon and Amazon Web Services Marketplace sellers.

Vendors, you can use the managed rule set APIs to provide controlled rollout of your versioned managed rule group offerings for your customers. The APIs are `ListManagedRuleSets`, `GetManagedRuleSet`, `PutManagedRuleSetVersions`, and `UpdateManagedRuleSetVersionExpiryDate`.

## Request Syntax

```
{  
  "Limit": number,  
  "NextMarker": "string",  
  "Scope": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

The maximum number of objects that you want Amazon WAF to return for this request. If more objects are available, in the response, Amazon WAF provides a `NextMarker` value that you can use in a subsequent call to get the next batch of objects.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

## NextMarker

When you request a list of objects with a `Limit` setting, if the number of objects that are still available for retrieval exceeds the limit, Amazon WAF returns a `NextMarker` value in the response. To retrieve the next batch of objects, provide the marker from the prior call in your next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `.*\S.*`

Required: No

## Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use `CLOUDFRONT`.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint `us-east-1`.

Type: String

Valid Values: `CLOUDFRONT` | `REGIONAL`

Required: Yes

## Response Syntax

```
{
  "ManagedRuleSets": [
    {
      "ARN": "string",
      "Description": "string",
      "Id": "string",
      "LabelNamespace": "string",
      "LockToken": "string",
      "Name": "string"
    }
  ]
}
```

```
    }  
  ],  
  "NextMarker": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ManagedRuleSets

Your managed rule sets. If you specified a `Limit` in your request, this might not be the full list.

Type: Array of [ManagedRuleSetSummary](#) objects

### NextMarker

When you request a list of objects with a `Limit` setting, if the number of objects that are still available for retrieval exceeds the limit, Amazon WAF returns a `NextMarker` value in the response. To retrieve the next batch of objects, provide the marker from the prior call in your next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidOperationException**

The operation isn't valid.

HTTP Status Code: 400

## **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

### **Field**

The settings where the invalid parameter was found.

### **Parameter**

The invalid parameter that resulted in the exception.

### **Reason**

Additional information about the exception.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)

- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListMobileSdkReleases

Service: Amazon WAFV2

Retrieves a list of the available releases for the mobile SDK and the specified device platform.

The mobile SDK is not generally available. Customers who have access to the mobile SDK can use it to establish and manage Amazon WAF tokens for use in HTTP(S) requests from a mobile device to Amazon WAF. For more information, see [Amazon WAF client application integration](#) in the *Amazon WAF Developer Guide*.

## Request Syntax

```
{  
  "Limit": number,  
  "NextMarker": "string",  
  "Platform": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

The maximum number of objects that you want Amazon WAF to return for this request. If more objects are available, in the response, Amazon WAF provides a `NextMarker` value that you can use in a subsequent call to get the next batch of objects.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

### NextMarker

When you request a list of objects with a `Limit` setting, if the number of objects that are still available for retrieval exceeds the limit, Amazon WAF returns a `NextMarker` value in the response. To retrieve the next batch of objects, provide the marker from the prior call in your next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `.*\S.*`

Required: No

### Platform

The device platform to retrieve the list for.

Type: String

Valid Values: IOS | ANDROID

Required: Yes

## Response Syntax

```
{
  "NextMarker": "string",
  "ReleaseSummaries": [
    {
      "ReleaseVersion": "string",
      "Timestamp": number
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### NextMarker

When you request a list of objects with a `Limit` setting, if the number of objects that are still available for retrieval exceeds the limit, Amazon WAF returns a `NextMarker` value in the response. To retrieve the next batch of objects, provide the marker from the prior call in your next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `.*\S.*`

### [ReleaseSummaries](#)

The high level information for the available SDK releases. If you specified a `Limit` in your request, this might not be the full list.

Type: Array of [ReleaseSummary](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidOperationException**

The operation isn't valid.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

**Field**

The settings where the invalid parameter was found.

**Parameter**

The invalid parameter that resulted in the exception.

**Reason**

Additional information about the exception.

HTTP Status Code: 400

**See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListRegexPatternSets

Service: Amazon WAFV2

Retrieves an array of [RegexPatternSetSummary](#) objects for the regex pattern sets that you manage.

## Request Syntax

```
{
  "Limit": number,
  "NextMarker": "string",
  "Scope": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

The maximum number of objects that you want Amazon WAF to return for this request. If more objects are available, in the response, Amazon WAF provides a `NextMarker` value that you can use in a subsequent call to get the next batch of objects.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

### NextMarker

When you request a list of objects with a `Limit` setting, if the number of objects that are still available for retrieval exceeds the limit, Amazon WAF returns a `NextMarker` value in the response. To retrieve the next batch of objects, provide the marker from the prior call in your next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `.*\S.*`

Required: No

## Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint `us-east-1`.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

## Response Syntax

```
{
  "NextMarker": "string",
  "RegexPatternSets": [
    {
      "ARN": "string",
      "Description": "string",
      "Id": "string",
      "LockToken": "string",
      "Name": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## NextMarker

When you request a list of objects with a `Limit` setting, if the number of objects that are still available for retrieval exceeds the limit, Amazon WAF returns a `NextMarker` value in the response. To retrieve the next batch of objects, provide the marker from the prior call in your next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `.*\S.*`

## RegexPatternSets

Array of regex pattern sets. If you specified a `Limit` in your request, this might not be the full list.

Type: Array of [RegexPatternSetSummary](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidOperationException**

The operation isn't valid.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.

- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

**Field**

The settings where the invalid parameter was found.

**Parameter**

The invalid parameter that resulted in the exception.

**Reason**

Additional information about the exception.

HTTP Status Code: 400

**See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListResourcesForWebACL

Service: Amazon WAFV2

Retrieves an array of the Amazon Resource Names (ARNs) for the resources that are associated with the specified web ACL.

For Amazon CloudFront, don't use this call. Instead, use the CloudFront call `ListDistributionsByWebACLId`. For information, see [ListDistributionsByWebACLId](#) in the *Amazon CloudFront API Reference*.

## Required permissions for customer-managed IAM policies

This call requires permissions that are specific to the protected resource type. For details, see [Permissions for ListResourcesForWebACL](#) in the *Amazon WAF Developer Guide*.

## Request Syntax

```
{
  "ResourceType": "string",
  "WebACLArn": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ResourceType

Retrieves the web ACLs that are used by the specified resource type.

For Amazon CloudFront, don't use this call. Instead, use the CloudFront call `ListDistributionsByWebACLId`. For information, see [ListDistributionsByWebACLId](#) in the *Amazon CloudFront API Reference*.

#### Note

If you don't provide a resource type, the call uses the resource type `APPLICATION_LOAD_BALANCER`.

Default: APPLICATION\_LOAD\_BALANCER

Type: String

Valid Values: APPLICATION\_LOAD\_BALANCER | API\_GATEWAY | APPSYNC | COGNITO\_USER\_POOL | APP\_RUNNER\_SERVICE | VERIFIED\_ACCESS\_INSTANCE | AMPLIFY

Required: No

### WebACLArn

The Amazon Resource Name (ARN) of the web ACL.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: .\*\\S.\*

Required: Yes

## Response Syntax

```
{  
  "ResourceArns": [ "string" ]  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ResourceArns

The array of Amazon Resource Names (ARNs) of the associated resources.

Type: Array of strings

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### WAFInvalidOperationException

The operation isn't valid.

HTTP Status Code: 400

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

### Field

The settings where the invalid parameter was found.

### Parameter

The invalid parameter that resulted in the exception.

### Reason

Additional information about the exception.

HTTP Status Code: 400

### **WAFNonexistentItemException**

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

### **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListRuleGroups

Service: Amazon WAFV2

Retrieves an array of [RuleGroupSummary](#) objects for the rule groups that you manage.

## Request Syntax

```
{
  "Limit": number,
  "NextMarker": "string",
  "Scope": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

The maximum number of objects that you want Amazon WAF to return for this request. If more objects are available, in the response, Amazon WAF provides a `NextMarker` value that you can use in a subsequent call to get the next batch of objects.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

### NextMarker

When you request a list of objects with a `Limit` setting, if the number of objects that are still available for retrieval exceeds the limit, Amazon WAF returns a `NextMarker` value in the response. To retrieve the next batch of objects, provide the marker from the prior call in your next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `.*\S.*`

Required: No

## Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint `us-east-1`.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

## Response Syntax

```
{
  "NextMarker": "string",
  "RuleGroups": [
    {
      "ARN": "string",
      "Description": "string",
      "Id": "string",
      "LockToken": "string",
      "Name": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## NextMarker

When you request a list of objects with a `Limit` setting, if the number of objects that are still available for retrieval exceeds the limit, Amazon WAF returns a `NextMarker` value in the response. To retrieve the next batch of objects, provide the marker from the prior call in your next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `.*\S.*`

## RuleGroups

Array of rule groups. If you specified a `Limit` in your request, this might not be the full list.

Type: Array of [RuleGroupSummary](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidOperationException**

The operation isn't valid.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.

- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

**Field**

The settings where the invalid parameter was found.

**Parameter**

The invalid parameter that resulted in the exception.

**Reason**

Additional information about the exception.

HTTP Status Code: 400

**See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListTagsForResource

Service: Amazon WAFV2

Retrieves the [TagInfoForResource](#) for the specified resource. Tags are key:value pairs that you can use to categorize and manage your resources, for purposes like billing. For example, you might set the tag key to "customer" and the value to the customer name or ID. You can specify one or more tags to add to each Amazon resource, up to 50 tags for a resource.

You can tag the Amazon resources that you manage through Amazon WAF: web ACLs, rule groups, IP sets, and regex pattern sets. You can't manage or view tags through the Amazon WAF console.

## Request Syntax

```
{
  "Limit": number,
  "NextMarker": "string",
  "ResourceARN": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

The maximum number of objects that you want Amazon WAF to return for this request. If more objects are available, in the response, Amazon WAF provides a `NextMarker` value that you can use in a subsequent call to get the next batch of objects.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

### NextMarker

When you request a list of objects with a `Limit` setting, if the number of objects that are still available for retrieval exceeds the limit, Amazon WAF returns a `NextMarker` value in the

response. To retrieve the next batch of objects, provide the marker from the prior call in your next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `.*\S.*`

Required: No

### ResourceARN

The Amazon Resource Name (ARN) of the resource.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "NextMarker": "string",
  "TagInfoForResource": {
    "ResourceARN": "string",
    "TagList": [
      {
        "Key": "string",
        "Value": "string"
      }
    ]
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## NextMarker

When you request a list of objects with a `Limit` setting, if the number of objects that are still available for retrieval exceeds the limit, Amazon WAF returns a `NextMarker` value in the response. To retrieve the next batch of objects, provide the marker from the prior call in your next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `.*\S.*`

## TagInfoForResource

The collection of tagging definitions for the resource. If you specified a `Limit` in your request, this might not be the full list.

Type: [TagInfoForResource](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidOperationException**

The operation isn't valid.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.

- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

**Field**

The settings where the invalid parameter was found.

**Parameter**

The invalid parameter that resulted in the exception.

**Reason**

Additional information about the exception.

HTTP Status Code: 400

**WAFNonexistentItemException**

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

**WAFTagOperationException**

An error occurred during the tagging operation. Retry your request.

HTTP Status Code: 400

**WAFTagOperationInternalErrorException**

Amazon WAF couldn't perform your tagging operation because of an internal error. Retry your request.

HTTP Status Code: 500

**See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListWebACLs

Service: Amazon WAFV2

Retrieves an array of [WebACLSummary](#) objects for the web ACLs that you manage.

## Request Syntax

```
{
  "Limit": number,
  "NextMarker": "string",
  "Scope": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

The maximum number of objects that you want Amazon WAF to return for this request. If more objects are available, in the response, Amazon WAF provides a `NextMarker` value that you can use in a subsequent call to get the next batch of objects.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

### NextMarker

When you request a list of objects with a `Limit` setting, if the number of objects that are still available for retrieval exceeds the limit, Amazon WAF returns a `NextMarker` value in the response. To retrieve the next batch of objects, provide the marker from the prior call in your next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `.*\S.*`

Required: No

## Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint `us-east-1`.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

## Response Syntax

```
{
  "NextMarker": "string",
  "WebACLs": [
    {
      "ARN": "string",
      "Description": "string",
      "Id": "string",
      "LockToken": "string",
      "Name": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## NextMarker

When you request a list of objects with a `Limit` setting, if the number of objects that are still available for retrieval exceeds the limit, Amazon WAF returns a `NextMarker` value in the response. To retrieve the next batch of objects, provide the marker from the prior call in your next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `.*\S.*`

## WebACLs

Array of web ACLs. If you specified a `Limit` in your request, this might not be the full list.

Type: Array of [WebACLSummary](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidOperationException**

The operation isn't valid.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.

- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

**Field**

The settings where the invalid parameter was found.

**Parameter**

The invalid parameter that resulted in the exception.

**Reason**

Additional information about the exception.

HTTP Status Code: 400

**See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# PutLoggingConfiguration

Service: Amazon WAFV2

Enables the specified [LoggingConfiguration](#), to start logging from a web ACL, according to the configuration provided.

If you configure data protection for the web ACL, the protection applies to the data that Amazon WAF sends to the logs.

## Note

This operation completely replaces any mutable specifications that you already have for a logging configuration with the ones that you provide to this call.

To modify an existing logging configuration, do the following:

1. Retrieve it by calling [GetLoggingConfiguration](#)
2. Update its settings as needed
3. Provide the complete logging configuration specification to this call

## Note

You can define one logging destination per web ACL.

You can access information about the traffic that Amazon WAF inspects using the following steps:

1. Create your logging destination. You can use an Amazon CloudWatch Logs log group, an Amazon Simple Storage Service (Amazon S3) bucket, or an Amazon Kinesis Data Firehose.

The name that you give the destination must start with `aws-waf-logs-`. Depending on the type of destination, you might need to configure additional settings or permissions.

For configuration requirements and pricing information for each destination type, see [Logging web ACL traffic](#) in the *Amazon WAF Developer Guide*.

2. Associate your logging destination to your web ACL using a `PutLoggingConfiguration` request.

When you successfully enable logging using a `PutLoggingConfiguration` request, Amazon WAF creates an additional role or policy that is required to write logs to the logging destination. For an Amazon CloudWatch Logs log group, Amazon WAF creates a resource policy on the log group. For an Amazon S3 bucket, Amazon WAF creates a bucket policy. For an Amazon Kinesis Data Firehose, Amazon WAF creates a service-linked role.

For additional information about web ACL logging, see [Logging web ACL traffic information](#) in the *Amazon WAF Developer Guide*.

## Request Syntax

```
{
  "LoggingConfiguration": {
    "LogDestinationConfigs": [ "string" ],
    "LoggingFilter": {
      "DefaultBehavior": "string",
      "Filters": [
        {
          "Behavior": "string",
          "Conditions": [
            {
              "ActionCondition": {
                "Action": "string"
              },
              "LabelNameCondition": {
                "LabelName": "string"
              }
            }
          ],
          "Requirement": "string"
        }
      ]
    },
    "LogScope": "string",
    "LogType": "string",
    "ManagedByFirewallManager": boolean,
    "RedactedFields": [
      {
        "AllQueryArguments": {
        },
        "Body": {
          "OversizeHandling": "string"
        }
      ]
    ]
  }
}
```

```
"Cookies": {
  "MatchPattern": {
    "All": {
    },
    "ExcludedCookies": [ "string" ],
    "IncludedCookies": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"HeaderOrder": {
  "OversizeHandling": "string"
},
"Headers": {
  "MatchPattern": {
    "All": {
    },
    "ExcludedHeaders": [ "string" ],
    "IncludedHeaders": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"JA3Fingerprint": {
  "FallbackBehavior": "string"
},
"JA4Fingerprint": {
  "FallbackBehavior": "string"
},
"JsonBody": {
  "InvalidFallbackBehavior": "string",
  "MatchPattern": {
    "All": {
    },
    "IncludedPaths": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"Method": {
},
"QueryString": {
},
"SingleHeader": {
```

```

        "Name": "string"
    },
    "SingleQueryArgument": {
        "Name": "string"
    },
    "UriFragment": {
        "FallbackBehavior": "string"
    },
    "UriPath": {
    }
}
],
"ResourceArn": "string"
}
}

```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [LoggingConfiguration](#)

Type: [LoggingConfiguration](#) object

Required: Yes

## Response Syntax

```

{
  "LoggingConfiguration": {
    "LogDestinationConfigs": [ "string" ],
    "LoggingFilter": {
      "DefaultBehavior": "string",
      "Filters": [
        {
          "Behavior": "string",
          "Conditions": [
            {
              "ActionCondition": {
                "Action": "string"
              }
            }
          ]
        }
      ]
    }
  }
}

```

```

        },
        "LabelNameCondition": {
            "LabelName": "string"
        }
    },
    ],
    "Requirement": "string"
}
]
},
"LogScope": "string",
"LogType": "string",
"ManagedByFirewallManager": boolean,
"RedactedFields": [
    {
        "AllQueryArguments": {
        },
        "Body": {
            "OversizeHandling": "string"
        },
        "Cookies": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedCookies": [ "string" ],
                "IncludedCookies": [ "string" ]
            },
            "MatchScope": "string",
            "OversizeHandling": "string"
        },
        "HeaderOrder": {
            "OversizeHandling": "string"
        },
        "Headers": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedHeaders": [ "string" ],
                "IncludedHeaders": [ "string" ]
            },
            "MatchScope": "string",
            "OversizeHandling": "string"
        },
        "JA3Fingerprint": {
    
```

```

    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
    "FallbackBehavior": "string"
  },
  "UriPath": {
  }
}
],
"ResourceArn": "string"
}
}

```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### LoggingConfiguration

Type: [LoggingConfiguration](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFFeatureNotIncludedInPricingPlanException**

The operation failed because the specified Amazon WAF feature isn't supported by the CloudFront pricing plan associated with the web ACL.

#### **DisallowedFeatures**

The names of the disallowed Amazon WAF features.

HTTP Status Code: 400

### **WAFInternalErrorException**

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidOperationException**

The operation isn't valid.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

**Field**

The settings where the invalid parameter was found.

**Parameter**

The invalid parameter that resulted in the exception.

**Reason**

Additional information about the exception.

HTTP Status Code: 400

**WAFLimitsExceededException**

Amazon WAF couldn't perform the operation because you exceeded your resource limit. For example, the maximum number of WebACL objects that you can create for an Amazon account. For more information, see [Amazon WAF quotas](#) in the *Amazon WAF Developer Guide*.

**SourceType**

Source type for the exception.

HTTP Status Code: 400

**WAFLogDestinationPermissionIssueException**

The operation failed because you don't have the permissions that your logging configuration requires. For information, see [Logging web ACL traffic information](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

**WAFNonexistentItemException**

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

**WAFOptimisticLockException**

Amazon WAF couldn't save your changes because you tried to update or delete a resource that has changed since you last retrieved it. Get the resource again, make any changes you need to make to the new copy, and retry your operation.

HTTP Status Code: 400

### **WAFServiceLinkedRoleErrorException**

Amazon WAF is not able to access the service linked role. This can be caused by a previous `PutLoggingConfiguration` request, which can lock the service linked role for about 20 seconds. Please try your request again. The service linked role can also be locked by a previous `DeleteServiceLinkedRole` request, which can lock the role for 15 minutes or more. If you recently made a call to `DeleteServiceLinkedRole`, wait at least 15 minutes and try the request again. If you receive this same exception again, you will have to wait additional time until the role is unlocked.

HTTP Status Code: 400

### **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# PutManagedRuleSetVersions

Service: Amazon WAFV2

Defines the versions of your managed rule set that you are offering to the customers. Customers see your offerings as managed rule groups with versioning.

## Note

This is intended for use only by vendors of managed rule sets. Vendors are Amazon and Amazon Web Services Marketplace sellers.

Vendors, you can use the managed rule set APIs to provide controlled rollout of your versioned managed rule group offerings for your customers. The APIs are `ListManagedRuleSets`, `GetManagedRuleSet`, `PutManagedRuleSetVersions`, and `UpdateManagedRuleSetVersionExpiryDate`.

Customers retrieve their managed rule group list by calling [ListAvailableManagedRuleGroups](#). The name that you provide here for your managed rule set is the name the customer sees for the corresponding managed rule group. Customers can retrieve the available versions for a managed rule group by calling [ListAvailableManagedRuleGroupVersions](#). You provide a rule group specification for each version. For each managed rule set, you must specify a version that you recommend using.

To initiate the expiration of a managed rule group version, use [UpdateManagedRuleSetVersionExpiryDate](#).

## Request Syntax

```
{
  "Id": "string",
  "LockToken": "string",
  "Name": "string",
  "RecommendedVersion": "string",
  "Scope": "string",
  "VersionsToPublish": {
    "string" : {
      "AssociatedRuleGroupArn": "string",
      "ForecastedLifetime": number
    }
  }
}
```

```
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Id

A unique identifier for the managed rule set. The ID is returned in the responses to commands like `list`. You provide it to operations like `get` and `update`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: Yes

### LockToken

A token used for optimistic locking. Amazon WAF returns a token to your `get` and `list` requests, to mark the state of the entity at the time of the request. To make changes to the entity associated with the token, you provide the token to operations like `update` and `delete`. Amazon WAF uses the token to ensure that no changes have been made to the entity since you last retrieved it. If a change has been made, the update fails with a `WFOptimisticLockException`. If this happens, perform another `get`, and use the new token returned by that operation.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: Yes

### Name

The name of the managed rule set. You use this, along with the rule set ID, to identify the rule set.

This name is assigned to the corresponding managed rule group, which your customers can access and use.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: Yes

### RecommendedVersion

The version of the named managed rule group that you'd like your customers to choose, from among your version offerings.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `^[\\w#:\\.\\-\\/]+$`

Required: No

### Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint `us-east-1`.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

### VersionsToPublish

The versions of the named managed rule group that you want to offer to your customers.

Type: String to [VersionToPublish](#) object map

Key Length Constraints: Minimum length of 1. Maximum length of 64.

Key Pattern: `^[\w#:\.\-/\]+$`

Required: No

## Response Syntax

```
{
  "NextLockToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [NextLockToken](#)

A token used for optimistic locking. Amazon WAF returns a token to your `get` and `list` requests, to mark the state of the entity at the time of the request. To make changes to the entity associated with the token, you provide the token to operations like `update` and `delete`. Amazon WAF uses the token to ensure that no changes have been made to the entity since you last retrieved it. If a change has been made, the update fails with a `WFOptimisticLockException`. If this happens, perform another `get`, and use the new token returned by that operation.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## WAFInternalErrorException

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

## WAFInvalidOperationException

The operation isn't valid.

HTTP Status Code: 400

## WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

### Field

The settings where the invalid parameter was found.

### Parameter

The invalid parameter that resulted in the exception.

### Reason

Additional information about the exception.

HTTP Status Code: 400

## WAFNonexistentItemException

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

## **WAFOptimisticLockException**

Amazon WAF couldn't save your changes because you tried to update or delete a resource that has changed since you last retrieved it. Get the resource again, make any changes you need to make to the new copy, and retry your operation.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# PutPermissionPolicy

Service: Amazon WAFV2

Use this to share a rule group with other accounts.

This action attaches an IAM policy to the specified resource. You must be the owner of the rule group to perform this operation.

This action is subject to the following restrictions:

- You can attach only one policy with each PutPermissionPolicy request.
- The ARN in the request must be a valid Amazon WAF [RuleGroup](#) ARN and the rule group must exist in the same Region.
- The user making the request must be the owner of the rule group.

If a rule group has been shared with your account, you can access it through the call GetRuleGroup, and you can reference it in CreateWebACL and UpdateWebACL. Rule groups that are shared with you don't appear in your Amazon WAF console rule groups listing.

## Request Syntax

```
{  
  "Policy": "string",  
  "ResourceArn": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [Policy](#)

The policy to attach to the specified rule group.

The policy specifications must conform to the following:

- The policy must be composed using IAM Policy version 2012-10-17.
- The policy must include specifications for Effect, Action, and Principal.

- Effect must specify Allow.
- Action must specify `wafv2:CreateWebACL`, `wafv2:UpdateWebACL`, and `wafv2:PutFirewallManagerRuleGroups` and may optionally specify `wafv2:GetRuleGroup`. Amazon WAF rejects any extra actions or wildcard actions in the policy.
- The policy must not include a Resource parameter.

For more information, see [IAM Policies](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 395000.

Pattern: `.*\S.*`

Required: Yes

### [ResourceArn](#)

The Amazon Resource Name (ARN) of the [RuleGroup](#) to which you want to attach the policy.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

#### **Field**

The settings where the invalid parameter was found.

#### **Parameter**

The invalid parameter that resulted in the exception.

#### **Reason**

Additional information about the exception.

HTTP Status Code: 400

### **WAFInvalidPermissionPolicyException**

The operation failed because the specified policy isn't in the proper format.

The policy specifications must conform to the following:

- The policy must be composed using IAM Policy version 2012-10-17.
- The policy must include specifications for `Effect`, `Action`, and `Principal`.
- `Effect` must specify `Allow`.
- `Action` must specify `wafv2:CreateWebACL`, `wafv2:UpdateWebACL`, and `wafv2:PutFirewallManagerRuleGroups` and may optionally specify `wafv2:GetRuleGroup`. Amazon WAF rejects any extra actions or wildcard actions in the policy.
- The policy must not include a `Resource` parameter.

For more information, see [IAM Policies](#).

HTTP Status Code: 400

### WAFNonexistentItemException

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

## Examples

### Share a rule group with another account

This example illustrates one usage of PutPermissionPolicy.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Principal": {
        "AWS": "arn:aws:iam::111111111111:user/UserName"
      },
      "Action": [
        "wafv2:CreateWebACL",
        "wafv2:UpdateWebACL",
        "wafv2:PutFirewallManagerRuleGroups",
        "wafv2:GetRuleGroup"
      ]
    }
  ]
}
```

### Example put permission policy call for the CLI:

This example illustrates one usage of PutPermissionPolicy.

```
aws wafv2 put-permission-policy --resource-arn arn:aws:wafv2:us-
east-1:989717579876:regional/rulegroup/rule_group_with_rules/exampleRuleGroupArn --
```

```
policy '{"Version":"2012-10-17", "Statement":[{"Effect":"Allow","Principal":{"AWS":"arn:aws:iam::111111111111:user/ExampleUserName"},"Action":["wafv2:UpdateWebACL","wafv2:CreateWebACL","wafv2:PutFirewallManagerRuleGroups"]}]}'
```

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# TagResource

Service: Amazon WAFV2

Associates tags with the specified Amazon resource. Tags are key:value pairs that you can use to categorize and manage your resources, for purposes like billing. For example, you might set the tag key to "customer" and the value to the customer name or ID. You can specify one or more tags to add to each Amazon resource, up to 50 tags for a resource.

You can tag the Amazon resources that you manage through Amazon WAF: web ACLs, rule groups, IP sets, and regex pattern sets. You can't manage or view tags through the Amazon WAF console.

## Request Syntax

```
{
  "ResourceARN": "string",
  "Tags": [
    {
      "Key": "string",
      "Value": "string"
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ResourceARN

The Amazon Resource Name (ARN) of the resource.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: Yes

## Tags

An array of key:value pairs to associate with the resource.

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### WAFInvalidOperationException

The operation isn't valid.

HTTP Status Code: 400

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

**Field**

The settings where the invalid parameter was found.

**Parameter**

The invalid parameter that resulted in the exception.

**Reason**

Additional information about the exception.

HTTP Status Code: 400

**WAFLimitsExceededException**

Amazon WAF couldn't perform the operation because you exceeded your resource limit. For example, the maximum number of WebACL objects that you can create for an Amazon account. For more information, see [Amazon WAF quotas](#) in the *Amazon WAF Developer Guide*.

**SourceType**

Source type for the exception.

HTTP Status Code: 400

**WAFNonexistentItemException**

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

**WAFTagOperationException**

An error occurred during the tagging operation. Retry your request.

HTTP Status Code: 400

**WAFTagOperationInternalErrorException**

Amazon WAF couldn't perform your tagging operation because of an internal error. Retry your request.

HTTP Status Code: 500

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UntagResource

Service: Amazon WAFV2

Disassociates tags from an Amazon resource. Tags are key:value pairs that you can associate with Amazon resources. For example, the tag key might be "customer" and the tag value might be "companyA." You can specify one or more tags to add to each container. You can add up to 50 tags to each Amazon resource.

## Request Syntax

```
{
  "ResourceARN": "string",
  "TagKeys": [ "string" ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ResourceARN](#)

The Amazon Resource Name (ARN) of the resource.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: Yes

### [TagKeys](#)

An array of keys identifying the tags to disassociate from the resource.

Type: Array of strings

Array Members: Minimum number of 1 item.

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^([\p{L}\p{Z}\p{N}_.:/+\\-@]*)$`

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### WAFInvalidOperationException

The operation isn't valid.

HTTP Status Code: 400

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

### Field

The settings where the invalid parameter was found.

### Parameter

The invalid parameter that resulted in the exception.

## Reason

Additional information about the exception.

HTTP Status Code: 400

### **WAFNonexistentItemException**

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

### **WAFTagOperationException**

An error occurred during the tagging operation. Retry your request.

HTTP Status Code: 400

### **WAFTagOperationInternalErrorException**

Amazon WAF couldn't perform your tagging operation because of an internal error. Retry your request.

HTTP Status Code: 500

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)

- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UpdateIPSet

Service: Amazon WAFV2

Updates the specified [IPSet](#).

## Note

This operation completely replaces the mutable specifications that you already have for the IP set with the ones that you provide to this call.

To modify an IP set, do the following:

1. Retrieve it by calling [GetIPSet](#)
2. Update its settings as needed
3. Provide the complete IP set specification to this call

## Temporary inconsistencies during updates

When you create or change a web ACL or other Amazon WAF resources, the changes take a small amount of time to propagate to all areas where the resources are stored. The propagation time can be from a few seconds to a number of minutes.

The following are examples of the temporary inconsistencies that you might notice during change propagation:

- After you create a web ACL, if you try to associate it with a resource, you might get an exception indicating that the web ACL is unavailable.
- After you add a rule group to a web ACL, the new rule group rules might be in effect in one area where the web ACL is used and not in another.
- After you change a rule action setting, you might see the old action in some places and the new action in others.
- After you add an IP address to an IP set that is in use in a blocking rule, the new address might be blocked in one area while still allowed in another.

## Request Syntax

```
{
```

```
"Addresses": [ "string" ],
"Description": "string",
"Id": "string",
"LockToken": "string",
"Name": "string",
"Scope": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [Addresses](#)

Contains an array of strings that specifies zero or more IP addresses or blocks of IP addresses that you want Amazon WAF to inspect for in incoming requests. All addresses must be specified using Classless Inter-Domain Routing (CIDR) notation. Amazon WAF supports all IPv4 and IPv6 CIDR ranges except for /0.

Example address strings:

- For requests that originated from the IP address 192.0.2.44, specify `192.0.2.44/32`.
- For requests that originated from IP addresses from 192.0.2.0 to 192.0.2.255, specify `192.0.2.0/24`.
- For requests that originated from the IP address `1111:0000:0000:0000:0000:0000:0000:0111`, specify `1111:0000:0000:0000:0000:0000:0000:0111/128`.
- For requests that originated from IP addresses `1111:0000:0000:0000:0000:0000:0000:0000` to `1111:0000:0000:0000:ffff:ffff:ffff:ffff`, specify `1111:0000:0000:0000:0000:0000:0000:0000/64`.

For more information about CIDR notation, see the Wikipedia entry [Classless Inter-Domain Routing](#).

Example JSON Addresses specifications:

- Empty array: `"Addresses": []`
- Array with one address: `"Addresses": ["192.0.2.44/32"]`

- Array with three addresses: "Addresses": ["192.0.2.44/32", "192.0.2.0/24", "192.0.0.0/16"]
- INVALID specification: "Addresses": [""] INVALID

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 50.

Pattern: .\*\.S.\*

Required: Yes

### Description

A description of the IP set that helps with identification.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: ^[\w+=:#@/\-,\.\s]+[\w+=:#@/\-,\.\s]\$

Required: No

### Id

A unique identifier for the set. This ID is returned in the responses to create and list commands. You provide it to operations like update and delete.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: ^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}\$

Required: Yes

### LockToken

A token used for optimistic locking. Amazon WAF returns a token to your get and list requests, to mark the state of the entity at the time of the request. To make changes to the entity associated with the token, you provide the token to operations like update and delete. Amazon WAF uses the token to ensure that no changes have been made to the entity since you last retrieved it. If a change has been made, the update fails with a

WAFOptimisticLockException. If this happens, perform another get, and use the new token returned by that operation.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: Yes

## Name

The name of the IP set. You cannot change the name of an IPSet after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: Yes

## Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint us-east-1.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

## Response Syntax

```
{
```

```
"NextLockToken": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### NextLockToken

A token used for optimistic locking. Amazon WAF returns this token to your update requests. You use NextLockToken in the same manner as you use LockToken.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFDuplicateItemException**

Amazon WAF couldn't perform the operation because the resource that you tried to save is a duplicate of an existing one.

HTTP Status Code: 400

### **WAFInternalErrorException**

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidOperationException**

The operation isn't valid.

HTTP Status Code: 400

## WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

### Field

The settings where the invalid parameter was found.

### Parameter

The invalid parameter that resulted in the exception.

### Reason

Additional information about the exception.

HTTP Status Code: 400

## WAFLimitsExceededException

Amazon WAF couldn't perform the operation because you exceeded your resource limit. For example, the maximum number of WebACL objects that you can create for an Amazon account. For more information, see [Amazon WAF quotas](#) in the *Amazon WAF Developer Guide*.

### SourceType

Source type for the exception.

HTTP Status Code: 400

## WAFNonexistentItemException

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

## **WAFOptimisticLockException**

Amazon WAF couldn't save your changes because you tried to update or delete a resource that has changed since you last retrieved it. Get the resource again, make any changes you need to make to the new copy, and retry your operation.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UpdateManagedRuleSetVersionExpiryDate

Service: Amazon WAFV2

Updates the expiration information for your managed rule set. Use this to initiate the expiration of a managed rule group version. After you initiate expiration for a version, Amazon WAF excludes it from the response to [ListAvailableManagedRuleGroupVersions](#) for the managed rule group.

## Note

This is intended for use only by vendors of managed rule sets. Vendors are Amazon and Amazon Web Services Marketplace sellers.

Vendors, you can use the managed rule set APIs to provide controlled rollout of your versioned managed rule group offerings for your customers. The APIs are `ListManagedRuleSets`, `GetManagedRuleSet`, `PutManagedRuleSetVersions`, and `UpdateManagedRuleSetVersionExpiryDate`.

## Request Syntax

```
{
  "ExpiryTimestamp": number,
  "Id": "string",
  "LockToken": "string",
  "Name": "string",
  "Scope": "string",
  "VersionToExpire": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ExpiryTimestamp](#)

The time that you want the version to expire.

Times are in Coordinated Universal Time (UTC) format. UTC format includes the special designator, Z. For example, "2016-09-27T14:50Z".

Type: Timestamp

Required: Yes

## Id

A unique identifier for the managed rule set. The ID is returned in the responses to commands like `list`. You provide it to operations like `get` and `update`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: Yes

## LockToken

A token used for optimistic locking. Amazon WAF returns a token to your `get` and `list` requests, to mark the state of the entity at the time of the request. To make changes to the entity associated with the token, you provide the token to operations like `update` and `delete`. Amazon WAF uses the token to ensure that no changes have been made to the entity since you last retrieved it. If a change has been made, the update fails with a `WFOptimisticLockException`. If this happens, perform another `get`, and use the new token returned by that operation.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: Yes

## Name

The name of the managed rule set. You use this, along with the rule set ID, to identify the rule set.

This name is assigned to the corresponding managed rule group, which your customers can access and use.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\w\-\-]+$`

Required: Yes

### Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint `us-east-1`.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

### VersionToExpire

The version that you want to remove from your list of offerings for the named managed rule group.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `^[\w#:\.\-\/]+$`

Required: Yes

## Response Syntax

```
{
  "ExpiringVersion": "string",
  "ExpiryTimestamp": number,
  "NextLockToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ExpiringVersion

The version that is set to expire.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `^\w#:\.\-/+`

### ExpiryTimestamp

The time that the version will expire.

Times are in Coordinated Universal Time (UTC) format. UTC format includes the special designator, Z. For example, "2016-09-27T14:50Z".

Type: Timestamp

### NextLockToken

A token used for optimistic locking. Amazon WAF returns a token to your `get` and `list` requests, to mark the state of the entity at the time of the request. To make changes to the entity associated with the token, you provide the token to operations like `update` and `delete`. Amazon WAF uses the token to ensure that no changes have been made to the entity since you last retrieved it. If a change has been made, the update fails with a `WAFOptimisticLockException`. If this happens, perform another `get`, and use the new token returned by that operation.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## WAFInternalErrorException

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

## WAFInvalidOperationException

The operation isn't valid.

HTTP Status Code: 400

## WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

### Field

The settings where the invalid parameter was found.

### Parameter

The invalid parameter that resulted in the exception.

### Reason

Additional information about the exception.

HTTP Status Code: 400

## WAFNonexistentItemException

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

## **WAFOptimisticLockException**

Amazon WAF couldn't save your changes because you tried to update or delete a resource that has changed since you last retrieved it. Get the resource again, make any changes you need to make to the new copy, and retry your operation.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UpdateRegexPatternSet

Service: Amazon WAFV2

Updates the specified [RegexPatternSet](#).

## Note

This operation completely replaces the mutable specifications that you already have for the regex pattern set with the ones that you provide to this call.

To modify a regex pattern set, do the following:

1. Retrieve it by calling [GetRegexPatternSet](#)
2. Update its settings as needed
3. Provide the complete regex pattern set specification to this call

## Temporary inconsistencies during updates

When you create or change a web ACL or other Amazon WAF resources, the changes take a small amount of time to propagate to all areas where the resources are stored. The propagation time can be from a few seconds to a number of minutes.

The following are examples of the temporary inconsistencies that you might notice during change propagation:

- After you create a web ACL, if you try to associate it with a resource, you might get an exception indicating that the web ACL is unavailable.
- After you add a rule group to a web ACL, the new rule group rules might be in effect in one area where the web ACL is used and not in another.
- After you change a rule action setting, you might see the old action in some places and the new action in others.
- After you add an IP address to an IP set that is in use in a blocking rule, the new address might be blocked in one area while still allowed in another.

## Request Syntax

```
{  
  "Description": "string",
```

```
"Id": "string",
"LockToken": "string",
"Name": "string",
"RegularExpressionList": [
  {
    "RegexString": "string"
  }
],
"Scope": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Description

A description of the set that helps with identification.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `^[\w+=:#@/\-,\.][\w+=:#@/\-,\.\s]+[\w+=:#@/\-,\.]$`

Required: No

### Id

A unique identifier for the set. This ID is returned in the responses to create and list commands. You provide it to operations like update and delete.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: Yes

### LockToken

A token used for optimistic locking. Amazon WAF returns a token to your get and list requests, to mark the state of the entity at the time of the request. To make changes to

the entity associated with the token, you provide the token to operations like `update` and `delete`. Amazon WAF uses the token to ensure that no changes have been made to the entity since you last retrieved it. If a change has been made, the update fails with a `WAFOptimisticLockException`. If this happens, perform another `get`, and use the new token returned by that operation.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: Yes

### Name

The name of the set. You cannot change the name after you create the set.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: Yes

### RegularExpressionList

Type: Array of [Regex](#) objects

Required: Yes

### Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use `CLOUDFRONT`.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint `us-east-1`.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

## Response Syntax

```
{  
  "NextLockToken": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [NextLockToken](#)

A token used for optimistic locking. Amazon WAF returns this token to your update requests. You use NextLockToken in the same manner as you use LockToken.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFDuplicateItemException**

Amazon WAF couldn't perform the operation because the resource that you tried to save is a duplicate of an existing one.

HTTP Status Code: 400

### **WAFInternalErrorException**

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidOperationException**

The operation isn't valid.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

#### **Field**

The settings where the invalid parameter was found.

#### **Parameter**

The invalid parameter that resulted in the exception.

#### **Reason**

Additional information about the exception.

HTTP Status Code: 400

### **WAFLimitsExceededException**

Amazon WAF couldn't perform the operation because you exceeded your resource limit. For example, the maximum number of WebACL objects that you can create for an Amazon account. For more information, see [Amazon WAF quotas](#) in the *Amazon WAF Developer Guide*.

#### **SourceType**

Source type for the exception.

HTTP Status Code: 400

## WAFNonexistentItemException

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

## WAFOptimisticLockException

Amazon WAF couldn't save your changes because you tried to update or delete a resource that has changed since you last retrieved it. Get the resource again, make any changes you need to make to the new copy, and retry your operation.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UpdateRuleGroup

Service: Amazon WAFV2

Updates the specified [RuleGroup](#).

## Note

This operation completely replaces the mutable specifications that you already have for the rule group with the ones that you provide to this call.

To modify a rule group, do the following:

1. Retrieve it by calling [GetRuleGroup](#)
2. Update its settings as needed
3. Provide the complete rule group specification to this call

A rule group defines a collection of rules to inspect and control web requests that you can use in a [WebACL](#). When you create a rule group, you define an immutable capacity limit. If you update a rule group, you must stay within the capacity. This allows others to reuse the rule group with confidence in its capacity requirements.

## Temporary inconsistencies during updates

When you create or change a web ACL or other Amazon WAF resources, the changes take a small amount of time to propagate to all areas where the resources are stored. The propagation time can be from a few seconds to a number of minutes.

The following are examples of the temporary inconsistencies that you might notice during change propagation:

- After you create a web ACL, if you try to associate it with a resource, you might get an exception indicating that the web ACL is unavailable.
- After you add a rule group to a web ACL, the new rule group rules might be in effect in one area where the web ACL is used and not in another.
- After you change a rule action setting, you might see the old action in some places and the new action in others.
- After you add an IP address to an IP set that is in use in a blocking rule, the new address might be blocked in one area while still allowed in another.

## Request Syntax

```
{
  "CustomResponseBodies": {
    "string" : {
      "Content": "string",
      "ContentType": "string"
    }
  },
  "Description": "string",
  "Id": "string",
  "LockToken": "string",
  "Name": "string",
  "Rules": [
    {
      "Action": {
        "Allow": {
          "CustomRequestHandling": {
            "InsertHeaders": [
              {
                "Name": "string",
                "Value": "string"
              }
            ]
          }
        },
        "Block": {
          "CustomResponse": {
            "CustomResponseBodyKey": "string",
            "ResponseCode": number,
            "ResponseHeaders": [
              {
                "Name": "string",
                "Value": "string"
              }
            ]
          }
        }
      },
      "Captcha": {
        "CustomRequestHandling": {
          "InsertHeaders": [
            {
              "Name": "string",
```

```

        "Value": "string"
      }
    ]
  }
},
"Challenge": {
  "CustomRequestHandling": {
    "InsertHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  }
},
"Count": {
  "CustomRequestHandling": {
    "InsertHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  }
},
"CaptchaConfig": {
  "ImmunityTimeProperty": {
    "ImmunityTime": number
  }
},
"ChallengeConfig": {
  "ImmunityTimeProperty": {
    "ImmunityTime": number
  }
},
"Name": "string",
"OverrideAction": {
  "Count": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  }
}

```

```

    }
  ]
}
},
"None": {
}
},
"Priority": number,
"RuleLabels": [
{
  "Name": "string"
}
],
"Statement": {
  "AndStatement": {
    "Statements": [
      "Statement"
    ]
  },
  "AsnMatchStatement": {
    "AsnList": [ number ],
    "ForwardedIPConfig": {
      "FallbackBehavior": "string",
      "HeaderName": "string"
    }
  },
  "ByteMatchStatement": {
    "FieldToMatch": {
      "AllQueryArguments": {
      },
      "Body": {
        "OversizeHandling": "string"
      },
      "Cookies": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedCookies": [ "string" ],
          "IncludedCookies": [ "string" ]
        },
        "MatchScope": "string",
        "OversizeHandling": "string"
      },
      "HeaderOrder": {

```

```
    "OversizeHandling": "string"
  },
  "Headers": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedHeaders": [ "string" ],
      "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
    "FallbackBehavior": "string"
  },
  "UriPath": {
  }
},
```

```

    "PositionalConstraint": "string",
    "SearchString": blob,
    "TextTransformations": [
      {
        "Priority": number,
        "Type": "string"
      }
    ]
  },
  "GeoMatchStatement": {
    "CountryCodes": [ "string" ],
    "ForwardedIPConfig": {
      "FallbackBehavior": "string",
      "HeaderName": "string"
    }
  },
  "IPSetReferenceStatement": {
    "ARN": "string",
    "IPSetForwardedIPConfig": {
      "FallbackBehavior": "string",
      "HeaderName": "string",
      "Position": "string"
    }
  },
  "LabelMatchStatement": {
    "Key": "string",
    "Scope": "string"
  },
  "ManagedRuleGroupStatement": {
    "ExcludedRules": [
      {
        "Name": "string"
      }
    ],
    "ManagedRuleGroupConfigs": [
      {
        "AWSManagedRulesACFPRuleSet": {
          "CreationPath": "string",
          "EnableRegexInPath": boolean,
          "RegistrationPagePath": "string",
          "RequestInspection": {
            "AddressFields": [
              {
                "Identifier": "string"
              }
            ]
          }
        }
      }
    ]
  }
}

```

```

    }
  ],
  "EmailField": {
    "Identifier": "string"
  },
  "PasswordField": {
    "Identifier": "string"
  },
  "PayloadType": "string",
  "PhoneNumberFields": [
    {
      "Identifier": "string"
    }
  ],
  "UsernameField": {
    "Identifier": "string"
  }
},
"ResponseInspection": {
  "BodyContains": {
    "FailureStrings": [ "string" ],
    "SuccessStrings": [ "string" ]
  },
  "Header": {
    "FailureValues": [ "string" ],
    "Name": "string",
    "SuccessValues": [ "string" ]
  },
  "Json": {
    "FailureValues": [ "string" ],
    "Identifier": "string",
    "SuccessValues": [ "string" ]
  },
  "StatusCode": {
    "FailureCodes": [ number ],
    "SuccessCodes": [ number ]
  }
}
},
"AWSManagedRulesAntiDDoSRuleSet": {
  "ClientSideActionConfig": {
    "Challenge": {
      "ExemptUriRegularExpressions": [

```

```

        "RegexString": "string"
      }
    ],
    "Sensitivity": "string",
    "UsageOfAction": "string"
  }
},
"SensitivityToBlock": "string"
},
"AWSManagedRulesATPRuleSet": {
  "EnableRegexInPath": boolean,
  "LoginPath": "string",
  "RequestInspection": {
    "PasswordField": {
      "Identifier": "string"
    },
    "PayloadType": "string",
    "UsernameField": {
      "Identifier": "string"
    }
  },
  "ResponseInspection": {
    "BodyContains": {
      "FailureStrings": [ "string" ],
      "SuccessStrings": [ "string" ]
    },
    "Header": {
      "FailureValues": [ "string" ],
      "Name": "string",
      "SuccessValues": [ "string" ]
    },
    "Json": {
      "FailureValues": [ "string" ],
      "Identifier": "string",
      "SuccessValues": [ "string" ]
    },
    "StatusCode": {
      "FailureCodes": [ number ],
      "SuccessCodes": [ number ]
    }
  }
},
"AWSManagedRulesBotControlRuleSet": {
  "EnableMachineLearning": boolean,

```

```
    "InspectionLevel": "string"
  },
  "LoginPath": "string",
  "PasswordField": {
    "Identifier": "string"
  },
  "PayloadType": "string",
  "UsernameField": {
    "Identifier": "string"
  }
}
],
"Name": "string",
"RuleActionOverrides": [
  {
    "ActionToUse": {
      "Allow": {
        "CustomRequestHandling": {
          "InsertHeaders": [
            {
              "Name": "string",
              "Value": "string"
            }
          ]
        }
      }
    },
    "Block": {
      "CustomResponse": {
        "CustomResponseBodyKey": "string",
        "ResponseCode": number,
        "ResponseHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      }
    }
  },
  "Captcha": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  }
]
```

```

    }
  ]
}
},
"Challenge": {
  "CustomRequestHandling": {
    "InsertHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  }
},
"Count": {
  "CustomRequestHandling": {
    "InsertHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  }
},
"Name": "string"
}
],
"ScopeDownStatement": "Statement",
"VendorName": "string",
"Version": "string"
},
"NotStatement": {
  "Statement": "Statement"
},
"OrStatement": {
  "Statements": [
    "Statement"
  ]
},
"RateBasedStatement": {
  "AggregateKeyType": "string",
  "CustomKeys": [
    {

```

```
"ASN": {
},
"Cookie": {
  "Name": "string",
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"ForwardedIP": {
},
"Header": {
  "Name": "string",
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"HTTPMethod": {
},
"IP": {
},
"JA3Fingerprint": {
  "FallbackBehavior": "string"
},
"JA4Fingerprint": {
  "FallbackBehavior": "string"
},
"LabelNamespace": {
  "Namespace": "string"
},
"QueryArgument": {
  "Name": "string",
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
},
```

```
    "QueryString": {
      "TextTransformations": [
        {
          "Priority": number,
          "Type": "string"
        }
      ]
    },
    "UriPath": {
      "TextTransformations": [
        {
          "Priority": number,
          "Type": "string"
        }
      ]
    }
  },
  "EvaluationWindowSec": number,
  "ForwardedIPConfig": {
    "FallbackBehavior": "string",
    "HeaderName": "string"
  },
  "Limit": number,
  "ScopeDownStatement": "Statement"
},
"RegexMatchStatement": {
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    },
    "Cookies": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedCookies": [ "string" ],
        "IncludedCookies": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "HeaderOrder": {
```

```
    "OversizeHandling": "string"
  },
  "Headers": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedHeaders": [ "string" ],
      "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
    "FallbackBehavior": "string"
  },
  "UriPath": {
  }
},
```

```

    "RegexString": "string",
    "TextTransformations": [
      {
        "Priority": number,
        "Type": "string"
      }
    ]
  },
  "RegexPatternSetReferenceStatement": {
    "ARN": "string",
    "FieldToMatch": {
      "AllQueryArguments": {
      },
      "Body": {
        "OversizeHandling": "string"
      },
      "Cookies": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedCookies": [ "string" ],
          "IncludedCookies": [ "string" ]
        },
        "MatchScope": "string",
        "OversizeHandling": "string"
      },
      "HeaderOrder": {
        "OversizeHandling": "string"
      },
      "Headers": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedHeaders": [ "string" ],
          "IncludedHeaders": [ "string" ]
        },
        "MatchScope": "string",
        "OversizeHandling": "string"
      },
      "JA3Fingerprint": {
        "FallbackBehavior": "string"
      },
      "JA4Fingerprint": {
        "FallbackBehavior": "string"
      }
    }
  }
}

```

```
    },
    "JsonBody": {
      "InvalidFallbackBehavior": "string",
      "MatchPattern": {
        "All": {
        },
        "IncludedPaths": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "Method": {
    },
    "QueryString": {
    },
    "SingleHeader": {
      "Name": "string"
    },
    "SingleQueryArgument": {
      "Name": "string"
    },
    "UriFragment": {
      "FallbackBehavior": "string"
    },
    "UriPath": {
    }
  },
  "TextTransformations": [
  {
    "Priority": number,
    "Type": "string"
  }
  ]
},
"RuleGroupReferenceStatement": {
  "ARN": "string",
  "ExcludedRules": [
  {
    "Name": "string"
  }
  ],
  "RuleActionOverrides": [
  {
    "ActionToUse": {
```

```
"Allow": {
  "CustomRequestHandling": {
    "InsertHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  }
},
"Block": {
  "CustomResponse": {
    "CustomResponseBodyKey": "string",
    "ResponseCode": number,
    "ResponseHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  }
},
"Captcha": {
  "CustomRequestHandling": {
    "InsertHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  }
},
"Challenge": {
  "CustomRequestHandling": {
    "InsertHeaders": [
      {
        "Name": "string",
        "Value": "string"
      }
    ]
  }
},
"Count": {
  "CustomRequestHandling": {
```

```

        "InsertHeaders": [
            {
                "Name": "string",
                "Value": "string"
            }
        ]
    },
    "Name": "string"
}
]
},
"SizeConstraintStatement": {
    "ComparisonOperator": "string",
    "FieldToMatch": {
        "AllQueryArguments": {
        },
        "Body": {
            "OversizeHandling": "string"
        },
        "Cookies": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedCookies": [ "string" ],
                "IncludedCookies": [ "string" ]
            },
            "MatchScope": "string",
            "OversizeHandling": "string"
        },
        "HeaderOrder": {
            "OversizeHandling": "string"
        },
        "Headers": {
            "MatchPattern": {
                "All": {
                },
                "ExcludedHeaders": [ "string" ],
                "IncludedHeaders": [ "string" ]
            },
            "MatchScope": "string",
            "OversizeHandling": "string"
        }
    }
},

```

```
    "JA3Fingerprint": {
      "FallbackBehavior": "string"
    },
    "JA4Fingerprint": {
      "FallbackBehavior": "string"
    },
    "JsonBody": {
      "InvalidFallbackBehavior": "string",
      "MatchPattern": {
        "All": {
        },
        "IncludedPaths": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "Method": {
    },
    "QueryString": {
    },
    "SingleHeader": {
      "Name": "string"
    },
    "SingleQueryArgument": {
      "Name": "string"
    },
    "UriFragment": {
      "FallbackBehavior": "string"
    },
    "UriPath": {
    }
  },
  "Size": number,
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"SqliMatchStatement": {
  "FieldToMatch": {
    "AllQueryArguments": {
    },
```

```
"Body": {
  "OversizeHandling": "string"
},
"Cookies": {
  "MatchPattern": {
    "All": {
    },
    "ExcludedCookies": [ "string" ],
    "IncludedCookies": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"HeaderOrder": {
  "OversizeHandling": "string"
},
"Headers": {
  "MatchPattern": {
    "All": {
    },
    "ExcludedHeaders": [ "string" ],
    "IncludedHeaders": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"JA3Fingerprint": {
  "FallbackBehavior": "string"
},
"JA4Fingerprint": {
  "FallbackBehavior": "string"
},
"JsonBody": {
  "InvalidFallbackBehavior": "string",
  "MatchPattern": {
    "All": {
    },
    "IncludedPaths": [ "string" ]
  },
  "MatchScope": "string",
  "OversizeHandling": "string"
},
"Method": {
}
```

```
    "QueryString": {
    },
    "SingleHeader": {
      "Name": "string"
    },
    "SingleQueryArgument": {
      "Name": "string"
    },
    "UriFragment": {
      "FallbackBehavior": "string"
    },
    "UriPath": {
    }
  },
  "SensitivityLevel": "string",
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"XssMatchStatement": {
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    },
    "Cookies": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedCookies": [ "string" ],
        "IncludedCookies": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "HeaderOrder": {
      "OversizeHandling": "string"
    },
    "Headers": {
      "MatchPattern": {
```

```
    "All": {
      },
      "ExcludedHeaders": [ "string" ],
      "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
    "FallbackBehavior": "string"
  },
  "UriPath": {
  }
},
"TextTransformations": [
  {
    "Priority": number,
    "Type": "string"
  }
]
```

```

    }
  ]
}
},
"VisibilityConfig": {
  "CloudWatchMetricsEnabled": boolean,
  "MetricName": "string",
  "SampledRequestsEnabled": boolean
}
}
],
"Scope": "string",
"VisibilityConfig": {
  "CloudWatchMetricsEnabled": boolean,
  "MetricName": "string",
  "SampledRequestsEnabled": boolean
}
}
}

```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [CustomResponseBodies](#)

A map of custom response keys and content bodies. When you create a rule with a block action, you can send a custom response to the web request. You define these for the rule group, and then use them in the rules that you define in the rule group.

For information about customizing web requests and responses, see [Customizing web requests and responses in Amazon WAF](#) in the *Amazon WAF Developer Guide*.

For information about the limits on count and size for custom request and response settings, see [Amazon WAF quotas](#) in the *Amazon WAF Developer Guide*.

Type: String to [CustomResponseBody](#) object map

Map Entries: Maximum number of items.

Key Length Constraints: Minimum length of 1. Maximum length of 128.

Key Pattern: `^[\\w\\-]+`\$

Required: No

### Description

A description of the rule group that helps with identification.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `^[\\w+=:#@/\\- , \\.] [\\w+=:#@/\\- , \\ . \\s]+ [\\w+=:#@/\\- , \\.]$`

Required: No

### Id

A unique identifier for the rule group. This ID is returned in the responses to create and list commands. You provide it to operations like update and delete.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: Yes

### LockToken

A token used for optimistic locking. Amazon WAF returns a token to your get and list requests, to mark the state of the entity at the time of the request. To make changes to the entity associated with the token, you provide the token to operations like update and delete. Amazon WAF uses the token to ensure that no changes have been made to the entity since you last retrieved it. If a change has been made, the update fails with a `WAFOptimisticLockException`. If this happens, perform another get, and use the new token returned by that operation.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: Yes

### Name

The name of the rule group. You cannot change the name of a rule group after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\w\ -]+$`

Required: Yes

### Rules

The [Rule](#) statements used to identify the web requests that you want to manage. Each rule includes one top-level statement that Amazon WAF uses to identify matching web requests, and parameters that govern how Amazon WAF handles them.

Type: Array of [Rule](#) objects

Required: No

### Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint `us-east-1`.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

### VisibilityConfig

Defines and enables Amazon CloudWatch metrics and web request sample collection.

Type: [VisibilityConfig](#) object

Required: Yes

## Response Syntax

```
{  
  "NextLockToken": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [NextLockToken](#)

A token used for optimistic locking. Amazon WAF returns this token to your update requests. You use NextLockToken in the same manner as you use LockToken.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFConfigurationWarningException**

The operation failed because you are inspecting the web request body, headers, or cookies without specifying how to handle oversize components. Rules that inspect the body must either provide an `OversizeHandling` configuration or they must be preceded by a `SizeConstraintStatement` that blocks the body content from being too large. Rules that inspect the headers or cookies must provide an `OversizeHandling` configuration.

Provide the handling configuration and retry your operation.

Alternately, you can suppress this warning by adding the following tag to the resource that you provide to this operation: Tag (key:WAF:OversizeFieldsHandlingConstraintOptOut, value:true).

HTTP Status Code: 400

### **WAFDuplicateItemException**

Amazon WAF couldn't perform the operation because the resource that you tried to save is a duplicate of an existing one.

HTTP Status Code: 400

### **WAFInternalErrorException**

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

### **WAFInvalidOperationException**

The operation isn't valid.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

#### **Field**

The settings where the invalid parameter was found.

#### **Parameter**

The invalid parameter that resulted in the exception.

**Reason**

Additional information about the exception.

HTTP Status Code: 400

**WAFLimitsExceededException**

Amazon WAF couldn't perform the operation because you exceeded your resource limit. For example, the maximum number of WebACL objects that you can create for an Amazon account. For more information, see [Amazon WAF quotas](#) in the *Amazon WAF Developer Guide*.

**SourceType**

Source type for the exception.

HTTP Status Code: 400

**WAFNonexistentItemException**

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

**WAFOptimisticLockException**

Amazon WAF couldn't save your changes because you tried to update or delete a resource that has changed since you last retrieved it. Get the resource again, make any changes you need to make to the new copy, and retry your operation.

HTTP Status Code: 400

**WAFSubscriptionNotFoundException**

You tried to use a managed rule group that's available by subscription, but you aren't subscribed to it yet.

HTTP Status Code: 400

**WAFUnavailableEntityException**

Amazon WAF couldn't retrieve a resource that you specified for this operation. If you've just created a resource that you're using in this operation, you might just need to wait a few

minutes. It can take from a few seconds to a number of minutes for changes to propagate. Verify the resource specifications in your request parameters and then retry the operation.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UpdateWebACL

Service: Amazon WAFV2

Updates the specified [WebACL](#). While updating a web ACL, Amazon WAF provides continuous coverage to the resources that you have associated with the web ACL.

## Note

This operation completely replaces the mutable specifications that you already have for the web ACL with the ones that you provide to this call.

To modify a web ACL, do the following:

1. Retrieve it by calling [GetWebACL](#)
2. Update its settings as needed
3. Provide the complete web ACL specification to this call

A web ACL defines a collection of rules to use to inspect and control web requests. Each rule has a statement that defines what to look for in web requests and an action that Amazon WAF applies to requests that match the statement. In the web ACL, you assign a default action to take (allow, block) for any request that does not match any of the rules. The rules in a web ACL can be a combination of the types [Rule](#), [RuleGroup](#), and managed rule group. You can associate a web ACL with one or more Amazon resources to protect. The resource types include Amazon CloudFront distribution, Amazon API Gateway REST API, Application Load Balancer, Amazon AppSync GraphQL API, Amazon Cognito user pool, Amazon App Runner service, Amazon Amplify application, and Amazon Verified Access instance.

## Temporary inconsistencies during updates

When you create or change a web ACL or other Amazon WAF resources, the changes take a small amount of time to propagate to all areas where the resources are stored. The propagation time can be from a few seconds to a number of minutes.

The following are examples of the temporary inconsistencies that you might notice during change propagation:

- After you create a web ACL, if you try to associate it with a resource, you might get an exception indicating that the web ACL is unavailable.

- After you add a rule group to a web ACL, the new rule group rules might be in effect in one area where the web ACL is used and not in another.
- After you change a rule action setting, you might see the old action in some places and the new action in others.
- After you add an IP address to an IP set that is in use in a blocking rule, the new address might be blocked in one area while still allowed in another.

## Request Syntax

```
{
  "ApplicationConfig": {
    "Attributes": [
      {
        "Name": "string",
        "Values": [ "string" ]
      }
    ]
  },
  "AssociationConfig": {
    "RequestBody": {
      "string" : {
        "DefaultSizeInspectionLimit": "string"
      }
    }
  },
  "CaptchaConfig": {
    "ImmunityTimeProperty": {
      "ImmunityTime": number
    }
  },
  "ChallengeConfig": {
    "ImmunityTimeProperty": {
      "ImmunityTime": number
    }
  },
  "CustomResponseBodies": {
    "string" : {
      "Content": "string",
      "ContentType": "string"
    }
  },
}
```

```
"DataProtectionConfig": {
  "DataProtections": [
    {
      "Action": "string",
      "ExcludeRateBasedDetails": boolean,
      "ExcludeRuleMatchDetails": boolean,
      "Field": {
        "FieldKeys": [ "string" ],
        "FieldType": "string"
      }
    }
  ]
},
"DefaultAction": {
  "Allow": {
    "CustomRequestHandling": {
      "InsertHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  },
  "Block": {
    "CustomResponse": {
      "CustomResponseBodyKey": "string",
      "ResponseCode": number,
      "ResponseHeaders": [
        {
          "Name": "string",
          "Value": "string"
        }
      ]
    }
  }
},
"Description": "string",
"Id": "string",
"LockToken": "string",
"Name": "string",
"OnSourceDDoSProtectionConfig": {
  "ALBLowReputationMode": "string"
},
```

```
"Rules": [  
  {  
    "Action": {  
      "Allow": {  
        "CustomRequestHandling": {  
          "InsertHeaders": [  
            {  
              "Name": "string",  
              "Value": "string"  
            }  
          ]  
        },  
      },  
      "Block": {  
        "CustomResponse": {  
          "CustomResponseBodyKey": "string",  
          "ResponseCode": number,  
          "ResponseHeaders": [  
            {  
              "Name": "string",  
              "Value": "string"  
            }  
          ]  
        },  
      },  
      "Captcha": {  
        "CustomRequestHandling": {  
          "InsertHeaders": [  
            {  
              "Name": "string",  
              "Value": "string"  
            }  
          ]  
        },  
      },  
      "Challenge": {  
        "CustomRequestHandling": {  
          "InsertHeaders": [  
            {  
              "Name": "string",  
              "Value": "string"  
            }  
          ]  
        }  
      }  
    }  
  ]  
}
```

```
    },
    "Count": {
      "CustomRequestHandling": {
        "InsertHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      }
    }
  },
  "CaptchaConfig": {
    "ImmunityTimeProperty": {
      "ImmunityTime": number
    }
  },
  "ChallengeConfig": {
    "ImmunityTimeProperty": {
      "ImmunityTime": number
    }
  },
  "Name": "string",
  "OverrideAction": {
    "Count": {
      "CustomRequestHandling": {
        "InsertHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      }
    }
  },
  "None": {
  },
},
"Priority": number,
"RuleLabels": [
  {
    "Name": "string"
  }
],
"Statement": {
```

```

    "AndStatement": {
      "Statements": [
        "Statement"
      ]
    },
    "AsnMatchStatement": {
      "AsnList": [ number ],
      "ForwardedIPConfig": {
        "FallbackBehavior": "string",
        "HeaderName": "string"
      }
    },
    "ByteMatchStatement": {
      "FieldToMatch": {
        "AllQueryArguments": {
        },
        "Body": {
          "OversizeHandling": "string"
        },
        "Cookies": {
          "MatchPattern": {
            "All": {
            },
            "ExcludedCookies": [ "string" ],
            "IncludedCookies": [ "string" ]
          },
          "MatchScope": "string",
          "OversizeHandling": "string"
        },
        "HeaderOrder": {
          "OversizeHandling": "string"
        },
        "Headers": {
          "MatchPattern": {
            "All": {
            },
            "ExcludedHeaders": [ "string" ],
            "IncludedHeaders": [ "string" ]
          },
          "MatchScope": "string",
          "OversizeHandling": "string"
        },
        "JA3Fingerprint": {
          "FallbackBehavior": "string"
        }
      }
    }
  }

```

```

    },
    "JA4Fingerprint": {
      "FallbackBehavior": "string"
    },
    "JsonBody": {
      "InvalidFallbackBehavior": "string",
      "MatchPattern": {
        "All": {
        },
        "IncludedPaths": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "Method": {
    },
    "QueryString": {
    },
    "SingleHeader": {
      "Name": "string"
    },
    "SingleQueryArgument": {
      "Name": "string"
    },
    "UriFragment": {
      "FallbackBehavior": "string"
    },
    "UriPath": {
    }
  },
  "PositionalConstraint": "string",
  "SearchString": blob,
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"GeoMatchStatement": {
  "CountryCodes": [ "string" ],
  "ForwardedIPConfig": {
    "FallbackBehavior": "string",
    "HeaderName": "string"
  }
}

```

```
    }
  },
  "IPSetReferenceStatement": {
    "ARN": "string",
    "IPSetForwardedIPConfig": {
      "FallbackBehavior": "string",
      "HeaderName": "string",
      "Position": "string"
    }
  },
  "LabelMatchStatement": {
    "Key": "string",
    "Scope": "string"
  },
  "ManagedRuleGroupStatement": {
    "ExcludedRules": [
      {
        "Name": "string"
      }
    ],
    "ManagedRuleGroupConfigs": [
      {
        "AWSManagedRulesACFPRuleSet": {
          "CreationPath": "string",
          "EnableRegexInPath": boolean,
          "RegistrationPagePath": "string",
          "RequestInspection": {
            "AddressFields": [
              {
                "Identifier": "string"
              }
            ],
            "EmailField": {
              "Identifier": "string"
            },
            "PasswordField": {
              "Identifier": "string"
            },
            "PayloadType": "string",
            "PhoneNumberFields": [
              {
                "Identifier": "string"
              }
            ]
          }
        }
      }
    ]
  }
}
```

```

    "UsernameField": {
      "Identifier": "string"
    }
  },
  "ResponseInspection": {
    "BodyContains": {
      "FailureStrings": [ "string" ],
      "SuccessStrings": [ "string" ]
    },
    "Header": {
      "FailureValues": [ "string" ],
      "Name": "string",
      "SuccessValues": [ "string" ]
    },
    "Json": {
      "FailureValues": [ "string" ],
      "Identifier": "string",
      "SuccessValues": [ "string" ]
    },
    "StatusCode": {
      "FailureCodes": [ number ],
      "SuccessCodes": [ number ]
    }
  }
},
"AWSManagedRulesAntiDDoSRuleSet": {
  "ClientSideActionConfig": {
    "Challenge": {
      "ExemptUriRegularExpressions": [
        {
          "RegexString": "string"
        }
      ],
      "Sensitivity": "string",
      "UsageOfAction": "string"
    }
  },
  "SensitivityToBlock": "string"
},
"AWSManagedRulesATPRuleSet": {
  "EnableRegexInPath": boolean,
  "LoginPath": "string",
  "RequestInspection": {
    "PasswordField": {

```

```

        "Identifier": "string"
    },
    "PayloadType": "string",
    "UsernameField": {
        "Identifier": "string"
    }
},
"ResponseInspection": {
    "BodyContains": {
        "FailureStrings": [ "string" ],
        "SuccessStrings": [ "string" ]
    },
    "Header": {
        "FailureValues": [ "string" ],
        "Name": "string",
        "SuccessValues": [ "string" ]
    },
    "Json": {
        "FailureValues": [ "string" ],
        "Identifier": "string",
        "SuccessValues": [ "string" ]
    },
    "StatusCode": {
        "FailureCodes": [ number ],
        "SuccessCodes": [ number ]
    }
}
},
"AWSManagedRulesBotControlRuleSet": {
    "EnableMachineLearning": boolean,
    "InspectionLevel": "string"
},
>LoginPath": "string",
>PasswordField": {
    "Identifier": "string"
},
PayloadType": "string",
UsernameField": {
    "Identifier": "string"
}
}
],
Name": "string",
RuleAction0Overrides": [

```

```
{
  "ActionToUse": {
    "Allow": {
      "CustomRequestHandling": {
        "InsertHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      }
    },
    "Block": {
      "CustomResponse": {
        "CustomResponseBodyKey": "string",
        "ResponseCode": number,
        "ResponseHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      }
    },
    "Captcha": {
      "CustomRequestHandling": {
        "InsertHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      }
    },
    "Challenge": {
      "CustomRequestHandling": {
        "InsertHeaders": [
          {
            "Name": "string",
            "Value": "string"
          }
        ]
      }
    }
  },
}
```

```

        "Count": {
            "CustomRequestHandling": {
                "InsertHeaders": [
                    {
                        "Name": "string",
                        "Value": "string"
                    }
                ]
            }
        },
        "Name": "string"
    }
],
"ScopeDownStatement": "Statement",
"VendorName": "string",
"Version": "string"
},
"NotStatement": {
    "Statement": "Statement"
},
"OrStatement": {
    "Statements": [
        "Statement"
    ]
},
"RateBasedStatement": {
    "AggregateKeyType": "string",
    "CustomKeys": [
        {
            "ASN": {
            },
            "Cookie": {
                "Name": "string",
                "TextTransformations": [
                    {
                        "Priority": number,
                        "Type": "string"
                    }
                ]
            }
        ]
    },
    "ForwardedIP": {
    },
    "Header": {

```

```
    "Name": "string",
    "TextTransformations": [
      {
        "Priority": number,
        "Type": "string"
      }
    ]
  },
  "HTTPMethod": {
  },
  "IP": {
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "LabelNamespace": {
    "Namespace": "string"
  },
  "QueryArgument": {
    "Name": "string",
    "TextTransformations": [
      {
        "Priority": number,
        "Type": "string"
      }
    ]
  },
  "QueryString": {
    "TextTransformations": [
      {
        "Priority": number,
        "Type": "string"
      }
    ]
  },
  "UriPath": {
    "TextTransformations": [
      {
        "Priority": number,
        "Type": "string"
      }
    ]
  }
}
```

```

    ]
  }
}
],
"EvaluationWindowSec": number,
"ForwardedIPConfig": {
  "FallbackBehavior": "string",
  "HeaderName": "string"
},
"Limit": number,
"ScopeDownStatement": "Statement"
},
"RegexMatchStatement": {
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    },
    "Cookies": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedCookies": [ "string " ],
        "IncludedCookies": [ "string " ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "HeaderOrder": {
      "OversizeHandling": "string"
    },
    "Headers": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedHeaders": [ "string " ],
        "IncludedHeaders": [ "string " ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "JA3Fingerprint": {
      "FallbackBehavior": "string"
    }
  }
}

```

```

    },
    "JA4Fingerprint": {
      "FallbackBehavior": "string"
    },
    "JsonBody": {
      "InvalidFallbackBehavior": "string",
      "MatchPattern": {
        "All": {
        },
        "IncludedPaths": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "Method": {
    },
    "QueryString": {
    },
    "SingleHeader": {
      "Name": "string"
    },
    "SingleQueryArgument": {
      "Name": "string"
    },
    "UriFragment": {
      "FallbackBehavior": "string"
    },
    "UriPath": {
    }
  },
  "RegexString": "string",
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"RegexPatternSetReferenceStatement": {
  "ARN": "string",
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {

```

```
    "OversizeHandling": "string"
  },
  "Cookies": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedCookies": [ "string" ],
      "IncludedCookies": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "HeaderOrder": {
    "OversizeHandling": "string"
  },
  "Headers": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedHeaders": [ "string" ],
      "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
```

```
    },
    "SingleHeader": {
      "Name": "string"
    },
    "SingleQueryArgument": {
      "Name": "string"
    },
    "UriFragment": {
      "FallbackBehavior": "string"
    },
    "UriPath": {
    }
  },
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"RuleGroupReferenceStatement": {
  "ARN": "string",
  "ExcludedRules": [
    {
      "Name": "string"
    }
  ],
  "RuleActionOverrides": [
    {
      "ActionToUse": {
        "Allow": {
          "CustomRequestHandling": {
            "InsertHeaders": [
              {
                "Name": "string",
                "Value": "string"
              }
            ]
          }
        },
        "Block": {
          "CustomResponse": {
            "CustomResponseBodyKey": "string",
            "ResponseCode": number,

```

```
        "ResponseHeaders": [  
            {  
                "Name": "string",  
                "Value": "string"  
            }  
        ],  
    },  
    "Captcha": {  
        "CustomRequestHandling": {  
            "InsertHeaders": [  
                {  
                    "Name": "string",  
                    "Value": "string"  
                }  
            ]  
        }  
    },  
    "Challenge": {  
        "CustomRequestHandling": {  
            "InsertHeaders": [  
                {  
                    "Name": "string",  
                    "Value": "string"  
                }  
            ]  
        }  
    },  
    "Count": {  
        "CustomRequestHandling": {  
            "InsertHeaders": [  
                {  
                    "Name": "string",  
                    "Value": "string"  
                }  
            ]  
        }  
    },  
    "Name": "string"  
},  
]  
,  
"SizeConstraintStatement": {
```

```
"ComparisonOperator": "string",
"FieldToMatch": {
  "AllQueryArguments": {
  },
  "Body": {
    "OversizeHandling": "string"
  },
  "Cookies": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedCookies": [ "string" ],
      "IncludedCookies": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "HeaderOrder": {
    "OversizeHandling": "string"
  },
  "Headers": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedHeaders": [ "string" ],
      "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
```

```
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
    "FallbackBehavior": "string"
  },
  "UriPath": {
  }
},
"Size": number,
"TextTransformations": [
  {
    "Priority": number,
    "Type": "string"
  }
]
},
"SqliMatchStatement": {
  "FieldToMatch": {
    "AllQueryArguments": {
    },
    "Body": {
      "OversizeHandling": "string"
    },
    "Cookies": {
      "MatchPattern": {
        "All": {
        },
        "ExcludedCookies": [ "string" ],
        "IncludedCookies": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
  },
  "HeaderOrder": {
```

```
    "OversizeHandling": "string"
  },
  "Headers": {
    "MatchPattern": {
      "All": {
      },
      "ExcludedHeaders": [ "string" ],
      "IncludedHeaders": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "JA3Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JA4Fingerprint": {
    "FallbackBehavior": "string"
  },
  "JsonBody": {
    "InvalidFallbackBehavior": "string",
    "MatchPattern": {
      "All": {
      },
      "IncludedPaths": [ "string" ]
    },
    "MatchScope": "string",
    "OversizeHandling": "string"
  },
  "Method": {
  },
  "QueryString": {
  },
  "SingleHeader": {
    "Name": "string"
  },
  "SingleQueryArgument": {
    "Name": "string"
  },
  "UriFragment": {
    "FallbackBehavior": "string"
  },
  "UriPath": {
  }
},
```

```
    "SensitivityLevel": "string",
    "TextTransformations": [
      {
        "Priority": number,
        "Type": "string"
      }
    ]
  },
  "XssMatchStatement": {
    "FieldToMatch": {
      "AllQueryArguments": {
      },
      "Body": {
        "OversizeHandling": "string"
      },
      "Cookies": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedCookies": [ "string" ],
          "IncludedCookies": [ "string" ]
        },
        "MatchScope": "string",
        "OversizeHandling": "string"
      },
      "HeaderOrder": {
        "OversizeHandling": "string"
      },
      "Headers": {
        "MatchPattern": {
          "All": {
          },
          "ExcludedHeaders": [ "string" ],
          "IncludedHeaders": [ "string" ]
        },
        "MatchScope": "string",
        "OversizeHandling": "string"
      },
      "JA3Fingerprint": {
        "FallbackBehavior": "string"
      },
      "JA4Fingerprint": {
        "FallbackBehavior": "string"
      }
    }
  },
```

```

    "JsonBody": {
      "InvalidFallbackBehavior": "string",
      "MatchPattern": {
        "All": {
        },
        "IncludedPaths": [ "string" ]
      },
      "MatchScope": "string",
      "OversizeHandling": "string"
    },
    "Method": {
    },
    "QueryString": {
    },
    "SingleHeader": {
      "Name": "string"
    },
    "SingleQueryArgument": {
      "Name": "string"
    },
    "UriFragment": {
      "FallbackBehavior": "string"
    },
    "UriPath": {
    }
  },
  "TextTransformations": [
    {
      "Priority": number,
      "Type": "string"
    }
  ]
},
"VisibilityConfig": {
  "CloudWatchMetricsEnabled": boolean,
  "MetricName": "string",
  "SampledRequestsEnabled": boolean
}
}
],
"Scope": "string",
"TokenDomains": [ "string" ],
"VisibilityConfig": {

```

```
"CloudWatchMetricsEnabled": boolean,  
"MetricName": "string",  
"SampledRequestsEnabled": boolean  
}  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ApplicationConfig](#)

Configures the ability for the Amazon WAF console to store and retrieve application attributes. Application attributes help Amazon WAF give recommendations for protection packs.

When using UpdateWebACL, ApplicationConfig follows these rules:

- If you omit ApplicationConfig from the request, all existing entries in the web ACL are retained.
- If you include ApplicationConfig, entries must match the existing values exactly. Any attempt to modify existing entries will result in an error.

Type: [ApplicationConfig](#) object

Required: No

### [AssociationConfig](#)

Specifies custom configurations for the associations between the web ACL and protected resources.

Use this to customize the maximum size of the request body that your protected resources forward to Amazon WAF for inspection. You can customize this setting for CloudFront, API Gateway, Amazon Cognito, App Runner, or Verified Access resources. The default setting is 16 KB (16,384 bytes).

#### Note

You are charged additional fees when your protected resources forward body sizes that are larger than the default. For more information, see [Amazon WAF Pricing](#).

For Application Load Balancer and Amazon AppSync, the limit is fixed at 8 KB (8,192 bytes).

Type: [AssociationConfig](#) object

Required: No

### [CaptchaConfig](#)

Specifies how Amazon WAF should handle CAPTCHA evaluations for rules that don't have their own CaptchaConfig settings. If you don't specify this, Amazon WAF uses its default settings for CaptchaConfig.

Type: [CaptchaConfig](#) object

Required: No

### [ChallengeConfig](#)

Specifies how Amazon WAF should handle challenge evaluations for rules that don't have their own ChallengeConfig settings. If you don't specify this, Amazon WAF uses its default settings for ChallengeConfig.

Type: [ChallengeConfig](#) object

Required: No

### [CustomResponseBodies](#)

A map of custom response keys and content bodies. When you create a rule with a block action, you can send a custom response to the web request. You define these for the web ACL, and then use them in the rules and default actions that you define in the web ACL.

For information about customizing web requests and responses, see [Customizing web requests and responses in Amazon WAF](#) in the *Amazon WAF Developer Guide*.

For information about the limits on count and size for custom request and response settings, see [Amazon WAF quotas](#) in the *Amazon WAF Developer Guide*.

Type: String to [CustomResponseBody](#) object map

Map Entries: Maximum number of items.

Key Length Constraints: Minimum length of 1. Maximum length of 128.

Key Pattern: `^\[\w\-\ ]+\$`

Required: No

### DataProtectionConfig

Specifies data protection to apply to the web request data for the web ACL. This is a web ACL level data protection option.

The data protection that you configure for the web ACL alters the data that's available for any other data collection activity, including your Amazon WAF logging destinations, web ACL request sampling, and Amazon Security Lake data collection and management. Your other option for data protection is in the logging configuration, which only affects logging.

Type: [DataProtectionConfig](#) object

Required: No

### DefaultAction

The action to perform if none of the Rules contained in the WebACL match.

Type: [DefaultAction](#) object

Required: Yes

### Description

A description of the web ACL that helps with identification.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `^\[\w+=: #@\^-\, \.][\w+=: #@\^-\, \. \s]+\[\w+=: #@\^-\, \.]\$`

Required: No

### Id

The unique identifier for the web ACL. This ID is returned in the responses to create and list commands. You provide it to operations like update and delete.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: Yes

### LockToken

A token used for optimistic locking. Amazon WAF returns a token to your `get` and `list` requests, to mark the state of the entity at the time of the request. To make changes to the entity associated with the token, you provide the token to operations like `update` and `delete`. Amazon WAF uses the token to ensure that no changes have been made to the entity since you last retrieved it. If a change has been made, the update fails with a `WFOptimisticLockException`. If this happens, perform another `get`, and use the new token returned by that operation.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: Yes

### Name

The name of the web ACL. You cannot change the name of a web ACL after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: Yes

### OnSourceDDoSProtectionConfig

Specifies the type of DDoS protection to apply to web request data for a web ACL. For most scenarios, it is recommended to use the default protection level, `ACTIVE_UNDER_DDOS`. If a web ACL is associated with multiple Application Load Balancers, the changes you make to DDoS protection in that web ACL will apply to all associated Application Load Balancers.

Type: [OnSourceDDoSProtectionConfig](#) object

Required: No

## Rules

The [Rule](#) statements used to identify the web requests that you want to manage. Each rule includes one top-level statement that Amazon WAF uses to identify matching web requests, and parameters that govern how Amazon WAF handles them.

Type: Array of [Rule](#) objects

Required: No

## Scope

Specifies whether this is for a global resource type, such as a Amazon CloudFront distribution. For an Amazon Amplify application, use CLOUDFRONT.

To work with CloudFront, you must also specify the Region US East (N. Virginia) as follows:

- CLI - Specify the Region when you use the CloudFront scope: `--scope=CLOUDFRONT --region=us-east-1`.
- API and SDKs - For all calls, use the Region endpoint us-east-1.

Type: String

Valid Values: CLOUDFRONT | REGIONAL

Required: Yes

## TokenDomains

Specifies the domains that Amazon WAF should accept in a web request token. This enables the use of tokens across multiple protected websites. When Amazon WAF provides a token, it uses the domain of the Amazon resource that the web ACL is protecting. If you don't specify a list of token domains, Amazon WAF accepts tokens only for the domain of the protected resource. With a token domain list, Amazon WAF accepts the resource's host domain plus all domains in the token domain list, including their prefixed subdomains.

Example JSON: `"TokenDomains": { "mywebsite.com", "myotherwebsite.com" }`

Public suffixes aren't allowed. For example, you can't use `gov.au` or `co.uk` as token domains.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 253.

Pattern: `^[\\w\\.\\-\\/]+$`

Required: No

## [VisibilityConfig](#)

Defines and enables Amazon CloudWatch metrics and web request sample collection.

Type: [VisibilityConfig](#) object

Required: Yes

## Response Syntax

```
{  
  "NextLockToken": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [NextLockToken](#)

A token used for optimistic locking. Amazon WAF returns this token to your update requests. You use NextLockToken in the same manner as you use LockToken.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFConfigurationWarningException**

The operation failed because you are inspecting the web request body, headers, or cookies without specifying how to handle oversized components. Rules that inspect the body must

either provide an `OversizeHandling` configuration or they must be preceded by a `SizeConstraintStatement` that blocks the body content from being too large. Rules that inspect the headers or cookies must provide an `OversizeHandling` configuration.

Provide the handling configuration and retry your operation.

Alternately, you can suppress this warning by adding the following tag to the resource that you provide to this operation: Tag (key:`WAF:OversizeFieldsHandlingConstraintOptOut`, value:`true`).

HTTP Status Code: 400

### **WAFDuplicateItemException**

Amazon WAF couldn't perform the operation because the resource that you tried to save is a duplicate of an existing one.

HTTP Status Code: 400

### **WAFExpiredManagedRuleGroupVersionException**

The operation failed because the specified version for the managed rule group has expired. You can retrieve the available versions for the managed rule group by calling [ListAvailableManagedRuleGroupVersions](#).

HTTP Status Code: 400

### **WAFFeatureNotIncludedInPricingPlanException**

The operation failed because the specified Amazon WAF feature isn't supported by the CloudFront pricing plan associated with the web ACL.

#### **DisallowedFeatures**

The names of the disallowed Amazon WAF features.

HTTP Status Code: 400

### **WAFInternalErrorException**

Your request is valid, but Amazon WAF couldn't perform the operation because of a system problem. Retry your request.

HTTP Status Code: 500

## WAFInvalidOperationException

The operation isn't valid.

HTTP Status Code: 400

## WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified a parameter name or value that isn't valid.
- Your nested statement isn't valid. You might have tried to nest a statement that can't be nested.
- You tried to update a WebACL with a `DefaultAction` that isn't among the types available at [DefaultAction](#).
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL can't be associated.

### Field

The settings where the invalid parameter was found.

### Parameter

The invalid parameter that resulted in the exception.

### Reason

Additional information about the exception.

HTTP Status Code: 400

## WAFInvalidResourceException

Amazon WAF couldn't perform the operation because the resource that you requested isn't valid. Check the resource, and try again.

HTTP Status Code: 400

## WAFLimitsExceededException

Amazon WAF couldn't perform the operation because you exceeded your resource limit. For example, the maximum number of WebACL objects that you can create for an Amazon account. For more information, see [Amazon WAF quotas](#) in the *Amazon WAF Developer Guide*.

## SourceType

Source type for the exception.

HTTP Status Code: 400

## WAFNonexistentItemException

Amazon WAF couldn't perform the operation because your resource doesn't exist. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate.

HTTP Status Code: 400

## WAFOptimisticLockException

Amazon WAF couldn't save your changes because you tried to update or delete a resource that has changed since you last retrieved it. Get the resource again, make any changes you need to make to the new copy, and retry your operation.

HTTP Status Code: 400

## WAFSubscriptionNotFoundException

You tried to use a managed rule group that's available by subscription, but you aren't subscribed to it yet.

HTTP Status Code: 400

## WAFUnavailableEntityException

Amazon WAF couldn't retrieve a resource that you specified for this operation. If you've just created a resource that you're using in this operation, you might just need to wait a few minutes. It can take from a few seconds to a number of minutes for changes to propagate. Verify the resource specifications in your request parameters and then retry the operation.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)

- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

## Amazon WAF Classic

The following actions are supported by Amazon WAF Classic:

- [CreateByteMatchSet](#)
- [CreateGeoMatchSet](#)
- [CreateIPSet](#)
- [CreateRateBasedRule](#)
- [CreateRegexMatchSet](#)
- [CreateRegexPatternSet](#)
- [CreateRule](#)
- [CreateRuleGroup](#)
- [CreateSizeConstraintSet](#)
- [CreateSqlInjectionMatchSet](#)
- [CreateWebACL](#)
- [CreateWebACLMigrationStack](#)
- [CreateXssMatchSet](#)
- [DeleteByteMatchSet](#)
- [DeleteGeoMatchSet](#)
- [DeleteIPSet](#)
- [DeleteLoggingConfiguration](#)

- [DeletePermissionPolicy](#)
- [DeleteRateBasedRule](#)
- [DeleteRegexMatchSet](#)
- [DeleteRegexPatternSet](#)
- [DeleteRule](#)
- [DeleteRuleGroup](#)
- [DeleteSizeConstraintSet](#)
- [DeleteSqlInjectionMatchSet](#)
- [DeleteWebACL](#)
- [DeleteXssMatchSet](#)
- [GetByteMatchSet](#)
- [GetChangeToken](#)
- [GetChangeTokenStatus](#)
- [GetGeoMatchSet](#)
- [GetIPSet](#)
- [GetLoggingConfiguration](#)
- [GetPermissionPolicy](#)
- [GetRateBasedRule](#)
- [GetRateBasedRuleManagedKeys](#)
- [GetRegexMatchSet](#)
- [GetRegexPatternSet](#)
- [GetRule](#)
- [GetRuleGroup](#)
- [GetSampledRequests](#)
- [GetSizeConstraintSet](#)
- [GetSqlInjectionMatchSet](#)
- [GetWebACL](#)
- [GetXssMatchSet](#)
- [ListActivatedRulesInRuleGroup](#)
- [ListByteMatchSets](#)

- [ListGeoMatchSets](#)
- [ListIPSets](#)
- [ListLoggingConfigurations](#)
- [ListRateBasedRules](#)
- [ListRegexMatchSets](#)
- [ListRegexPatternSets](#)
- [ListRuleGroups](#)
- [ListRules](#)
- [ListSizeConstraintSets](#)
- [ListSqlInjectionMatchSets](#)
- [ListSubscribedRuleGroups](#)
- [ListTagsForResource](#)
- [ListWebACLs](#)
- [ListXssMatchSets](#)
- [PutLoggingConfiguration](#)
- [PutPermissionPolicy](#)
- [TagResource](#)
- [UntagResource](#)
- [UpdateByteMatchSet](#)
- [UpdateGeoMatchSet](#)
- [UpdateIPSet](#)
- [UpdateRateBasedRule](#)
- [UpdateRegexMatchSet](#)
- [UpdateRegexPatternSet](#)
- [UpdateRule](#)
- [UpdateRuleGroup](#)
- [UpdateSizeConstraintSet](#)
- [UpdateSqlInjectionMatchSet](#)
- [UpdateWebACL](#)
- [UpdateXssMatchSet](#)



# CreateByteMatchSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Creates a ByteMatchSet. You then use [UpdateByteMatchSet](#) to identify the part of a web request that you want Amazon WAF to inspect, such as the values of the User-Agent header or the query string. For example, you can create a ByteMatchSet that matches any requests with User-Agent headers that contain the string BadBot. You can then configure Amazon WAF to reject those requests.

To create and configure a ByteMatchSet, perform the following steps:

1. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of a CreateByteMatchSet request.
2. Submit a CreateByteMatchSet request.
3. Use GetChangeToken to get the change token that you provide in the ChangeToken parameter of an UpdateByteMatchSet request.
4. Submit an [UpdateByteMatchSet](#) request to specify the part of the request that you want Amazon WAF to inspect (for example, the header or the URI path) and the value that you want Amazon WAF to watch for.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{  
  "ChangeToken": "string",
```

```
"Name": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Name

A friendly name or description of the [ByteMatchSet](#). You can't change Name after you create a ByteMatchSet.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{  
  "ByteMatchSet": {  
    "ByteMatchSetId": "string",  
    "ByteMatchTuples": [  
      {  
        "FieldToMatch": {  
          "Data": "string",
```

```
        "Type": "string"
      },
      "PositionalConstraint": "string",
      "TargetString": blob,
      "TextTransformation": "string"
    }
  ],
  "Name": "string"
},
"ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ByteMatchSet

A [ByteMatchSet](#) that contains no [ByteMatchTuple](#) objects.

Type: [ByteMatchSet](#) object

### ChangeToken

The [ChangeToken](#) that you used to submit the [CreateByteMatchSet](#) request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFDisallowedNameException**

The name specified is invalid.

HTTP Status Code: 400

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

## **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateGeoMatchSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Creates an [GeoMatchSet](#), which you use to specify which web requests you want to allow or block based on the country that the requests originate from. For example, if you're receiving a lot of requests from one or more countries and you want to block the requests, you can create an GeoMatchSet that contains those countries and then configure Amazon WAF to block the requests.

To create and configure a GeoMatchSet, perform the following steps:

1. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of a CreateGeoMatchSet request.
2. Submit a CreateGeoMatchSet request.
3. Use GetChangeToken to get the change token that you provide in the ChangeToken parameter of an [UpdateGeoMatchSet](#) request.
4. Submit an UpdateGeoMatchSet request to specify the countries that you want Amazon WAF to watch for.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{  
  "ChangeToken": "string",  
  "Name": "string"
```

```
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Name

A friendly name or description of the [GeoMatchSet](#). You can't change Name after you create the GeoMatchSet.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string",
  "GeoMatchSet": {
    "GeoMatchConstraints": [
      {
        "Type": "string",
        "Value": "string"
      }
    ]
  }
}
```

```
    ],  
    "GeoMatchSetId": "string",  
    "Name": "string"  
  }  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The ChangeToken that you used to submit the CreateGeoMatchSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

### GeoMatchSet

The [GeoMatchSet](#) returned in the CreateGeoMatchSet response. The GeoMatchSet contains no GeoMatchConstraints.

Type: [GeoMatchSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFDisallowedNameException**

The name specified is invalid.

HTTP Status Code: 400

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateIPSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Creates an [IPSet](#), which you use to specify which web requests that you want to allow or block based on the IP addresses that the requests originate from. For example, if you're receiving a lot of requests from one or more individual IP addresses or one or more ranges of IP addresses and you want to block the requests, you can create an IPSet that contains those IP addresses and then configure Amazon WAF to block the requests.

To create and configure an IPSet, perform the following steps:

1. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of a CreateIPSet request.
2. Submit a CreateIPSet request.
3. Use GetChangeToken to get the change token that you provide in the ChangeToken parameter of an [UpdateIPSet](#) request.
4. Submit an UpdateIPSet request to specify the IP addresses that you want Amazon WAF to watch for.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{  
  "ChangeToken": "string",  
  "Name": "string"
```

```
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### [Name](#)

A friendly name or description of the [IPSet](#). You can't change Name after you create the IPSet.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string",
  "IPSet": {
    "IPSetDescriptors": [
      {
        "Type": "string",
        "Value": "string"
      }
    ],
  },
}
```

```
    "IPSetId": "string",  
    "Name": "string"  
  }  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The ChangeToken that you used to submit the CreateIPSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

### IPSet

The [IPSet](#) returned in the CreateIPSet response.

Type: [IPSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFDisallowedNameException**

The name specified is invalid.

HTTP Status Code: 400

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

## WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

## WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateRateBasedRule

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Creates a [RateBasedRule](#). The `RateBasedRule` contains a `RateLimit`, which specifies the maximum number of requests that Amazon WAF allows from a specified IP address in a five-minute period. The `RateBasedRule` also contains the `IPSet` objects, `ByteMatchSet` objects, and other predicates that identify the requests that you want to count or block if these requests exceed the `RateLimit`.

If you add more than one predicate to a `RateBasedRule`, a request not only must exceed the `RateLimit`, but it also must match all the conditions to be counted or blocked. For example, suppose you add the following to a `RateBasedRule`:

- An `IPSet` that matches the IP address `192.0.2.44/32`
- A `ByteMatchSet` that matches `BadBot` in the `User-Agent` header

Further, you specify a `RateLimit` of 1,000.

You then add the `RateBasedRule` to a `WebACL` and specify that you want to block requests that meet the conditions in the rule. For a request to be blocked, it must come from the IP address `192.0.2.44` *and* the `User-Agent` header in the request must contain the value `BadBot`. Further, requests that match these two conditions must be received at a rate of more than 1,000 requests every five minutes. If both conditions are met and the rate is exceeded, Amazon WAF blocks the requests. If the rate drops below 1,000 for a five-minute period, Amazon WAF no longer blocks the requests.

As a second example, suppose you want to limit requests to a particular page on your site. To do this, you could add the following to a `RateBasedRule`:

- A `ByteMatchSet` with `FieldToMatch` of `URI`
- A `PositionalConstraint` of `STARTS_WITH`
- A `TargetString` of `login`

Further, you specify a `RateLimit` of 1,000.

By adding this `RateBasedRule` to a `WebACL`, you could limit requests to your login page without affecting the rest of your site.

To create and configure a `RateBasedRule`, perform the following steps:

1. Create and update the predicates that you want to include in the rule. For more information, see [CreateByteMatchSet](#), [CreateIPSet](#), and [CreateSqlInjectionMatchSet](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the `ChangeToken` parameter of a `CreateRule` request.
3. Submit a `CreateRateBasedRule` request.
4. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an [UpdateRule](#) request.
5. Submit an `UpdateRateBasedRule` request to specify the predicates that you want to include in the rule.
6. Create and update a `WebACL` that contains the `RateBasedRule`. For more information, see [CreateWebACL](#).

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "MetricName": "string",
  "Name": "string",
  "RateKey": "string",
  "RateLimit": number,
  "Tags": [
    {
```

```
    "Key": "string",  
    "Value": "string"  
  }  
]  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ChangeToken

The ChangeToken that you used to submit the CreateRateBasedRule request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### MetricName

A friendly name or description for the metrics for this RateBasedRule. The name can contain only alphanumeric characters (A-Z, a-z, 0-9), with maximum length 128 and minimum length one. It can't contain whitespace or metric names reserved for Amazon WAF, including "All" and "Default\_Action." You can't change the name of the metric after you create the RateBasedRule.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Name

A friendly name or description of the [RateBasedRule](#). You can't change the name of a `RateBasedRule` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## RateKey

The field that Amazon WAF uses to determine if requests are likely arriving from a single source and thus subject to rate monitoring. The only valid value for `RateKey` is `IP`. `IP` indicates that requests that arrive from the same IP address are subject to the `RateLimit` that is specified in the `RateBasedRule`.

Type: String

Valid Values: `IP`

Required: Yes

## RateLimit

The maximum number of requests, which have an identical value in the field that is specified by `RateKey`, allowed in a five-minute period. If the number of requests exceeds the `RateLimit` and the other predicates specified in the rule are also met, Amazon WAF triggers the action that is specified for this rule.

Type: Long

Valid Range: Minimum value of 100. Maximum value of 2000000000.

Required: Yes

## Tags

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item.

Required: No

## Response Syntax

```
{
  "ChangeToken": "string",
  "Rule": {
    "MatchPredicates": [
      {
        "DataId": "string",
        "Negated": boolean,
        "Type": "string"
      }
    ],
    "MetricName": "string",
    "Name": "string",
    "RateKey": "string",
    "RateLimit": number,
    "RuleId": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The `ChangeToken` that you used to submit the `CreateRateBasedRule` request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

### Rule

The [RateBasedRule](#) that is returned in the `CreateRateBasedRule` response.

Type: [RateBasedRule](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFBadRequestException

HTTP Status Code: 400

### WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.

- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

### **WAFTagOperationException**

HTTP Status Code: 400

### **WAFTagOperationInternalErrorException**

HTTP Status Code: 500

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)

- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateRegexMatchSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Creates a [RegexMatchSet](#). You then use [UpdateRegexMatchSet](#) to identify the part of a web request that you want Amazon WAF to inspect, such as the values of the User-Agent header or the query string. For example, you can create a `RegexMatchSet` that contains a `RegexMatchTuple` that looks for any requests with User-Agent headers that match a `RegexPatternSet` with pattern `B[a@]dB[o0]t`. You can then configure Amazon WAF to reject those requests.

To create and configure a `RegexMatchSet`, perform the following steps:

1. Use [GetChangeToken](#) to get the change token that you provide in the `ChangeToken` parameter of a `CreateRegexMatchSet` request.
2. Submit a `CreateRegexMatchSet` request.
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an `UpdateRegexMatchSet` request.
4. Submit an [UpdateRegexMatchSet](#) request to specify the part of the request that you want Amazon WAF to inspect (for example, the header or the URI path) and the value, using a `RegexPatternSet`, that you want Amazon WAF to watch for.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
```

```
"ChangeToken": "string",  
"Name": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Name

A friendly name or description of the [RegexMatchSet](#). You can't change Name after you create a [RegexMatchSet](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{  
  "ChangeToken": "string",  
  "RegexMatchSet": {  
    "Name": "string",  
    "RegexMatchSetId": "string",  
    "RegexMatchTuples": [  

```

```
{
  "FieldToMatch": {
    "Data": "string",
    "Type": "string"
  },
  "RegexPatternSetId": "string",
  "TextTransformation": "string"
}
]
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The ChangeToken that you used to submit the CreateRegexMatchSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

### RegexMatchSet

A [RegexMatchSet](#) that contains no RegexMatchTuple objects.

Type: [RegexMatchSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFDisallowedNameException**

The name specified is invalid.

HTTP Status Code: 400

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)



# CreateRegexPatternSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Creates a `RegexPatternSet`. You then use [UpdateRegexPatternSet](#) to specify the regular expression (regex) pattern that you want Amazon WAF to search for, such as `B[a@]dB[o0]t`. You can then configure Amazon WAF to reject those requests.

To create and configure a `RegexPatternSet`, perform the following steps:

1. Use [GetChangeToken](#) to get the change token that you provide in the `ChangeToken` parameter of a `CreateRegexPatternSet` request.
2. Submit a `CreateRegexPatternSet` request.
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an `UpdateRegexPatternSet` request.
4. Submit an [UpdateRegexPatternSet](#) request to specify the string that you want Amazon WAF to watch for.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "Name": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Name

A friendly name or description of the [RegexPatternSet](#). You can't change Name after you create a `RegexPatternSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string",
  "RegexPatternSet": {
    "Name": "string",
    "RegexPatternSetId": "string",
    "RegexPatternStrings": [ "string" ]
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The ChangeToken that you used to submit the CreateRegexPatternSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

### RegexPatternSet

A [RegexPatternSet](#) that contains no objects.

Type: [RegexPatternSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFDisallowedNameException**

The name specified is invalid.

HTTP Status Code: 400

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

## WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateRule

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Creates a `Rule`, which contains the `IPSet` objects, `ByteMatchSet` objects, and other predicates that identify the requests that you want to block. If you add more than one predicate to a `Rule`, a request must match all of the specifications to be allowed or blocked. For example, suppose that you add the following to a `Rule`:

- An `IPSet` that matches the IP address `192.0.2.44/32`
- A `ByteMatchSet` that matches `BadBot` in the `User-Agent` header

You then add the `Rule` to a `WebACL` and specify that you want to blocks requests that satisfy the `Rule`. For a request to be blocked, it must come from the IP address `192.0.2.44` *and* the `User-Agent` header in the request must contain the value `BadBot`.

To create and configure a `Rule`, perform the following steps:

1. Create and update the predicates that you want to include in the `Rule`. For more information, see [CreateByteMatchSet](#), [CreateIPSet](#), and [CreateSqlInjectionMatchSet](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the `ChangeToken` parameter of a `CreateRule` request.
3. Submit a `CreateRule` request.
4. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an [UpdateRule](#) request.
5. Submit an `UpdateRule` request to specify the predicates that you want to include in the `Rule`.
6. Create and update a `WebACL` that contains the `Rule`. For more information, see [CreateWebACL](#).

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "MetricName": "string",
  "Name": "string",
  "Tags": [
    {
      "Key": "string",
      "Value": "string"
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### [MetricName](#)

A friendly name or description for the metrics for this Rule. The name can contain only alphanumeric characters (A-Z, a-z, 0-9), with maximum length 128 and minimum length one. It can't contain whitespace or metric names reserved for Amazon WAF, including "All" and "Default\_Action." You can't change the name of the metric after you create the Rule.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Name

A friendly name or description of the [Rule](#). You can't change the name of a Rule after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Tags

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item.

Required: No

## Response Syntax

```
{
  "ChangeToken": "string",
  "Rule": {
    "MetricName": "string",
    "Name": "string",
    "Predicates": [
      {
        "DataId": "string",
        "Negated": boolean,
        "Type": "string"
      }
    ],
    "RuleId": "string"
  }
}
```

```
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The `ChangeToken` that you used to submit the `CreateRule` request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

### Rule

The [Rule](#) returned in the `CreateRule` response.

Type: [Rule](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFBadRequestException**

HTTP Status Code: 400

### **WAFDisallowedNameException**

The name specified is invalid.

HTTP Status Code: 400

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

### **WAFTagOperationException**

HTTP Status Code: 400

## WAFTagOperationInternalErrorException

HTTP Status Code: 500

### See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateRuleGroup

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Creates a RuleGroup. A rule group is a collection of predefined rules that you add to a web ACL. You use [UpdateRuleGroup](#) to add rules to the rule group.

Rule groups are subject to the following limits:

- Three rule groups per account. You can request an increase to this limit by contacting customer support.
- One rule group per web ACL.
- Ten rules per rule group.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "MetricName": "string",
  "Name": "string",
  "Tags": [
    {
      "Key": "string",
      "Value": "string"
    }
  ]
}
```

```
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### MetricName

A friendly name or description for the metrics for this RuleGroup. The name can contain only alphanumeric characters (A-Z, a-z, 0-9), with maximum length 128 and minimum length one. It can't contain whitespace or metric names reserved for Amazon WAF, including "All" and "Default\_Action." You can't change the name of the metric after you create the RuleGroup.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Name

A friendly name or description of the [RuleGroup](#). You can't change Name after you create a RuleGroup.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

## Tags

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item.

Required: No

## Response Syntax

```
{
  "ChangeToken": "string",
  "RuleGroup": {
    "MetricName": "string",
    "Name": "string",
    "RuleGroupId": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The ChangeToken that you used to submit the CreateRuleGroup request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

### RuleGroup

An empty [RuleGroup](#).

Type: [RuleGroup](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFBadRequestException

HTTP Status Code: 400

### WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

### WAFTagOperationException

HTTP Status Code: 400

### WAFTagOperationInternalErrorException

HTTP Status Code: 500

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateSizeConstraintSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Creates a `SizeConstraintSet`. You then use [UpdateSizeConstraintSet](#) to identify the part of a web request that you want Amazon WAF to check for length, such as the length of the `User-Agent` header or the length of the query string. For example, you can create a `SizeConstraintSet` that matches any requests that have a query string that is longer than 100 bytes. You can then configure Amazon WAF to reject those requests.

To create and configure a `SizeConstraintSet`, perform the following steps:

1. Use [GetChangeToken](#) to get the change token that you provide in the `ChangeToken` parameter of a `CreateSizeConstraintSet` request.
2. Submit a `CreateSizeConstraintSet` request.
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an `UpdateSizeConstraintSet` request.
4. Submit an [UpdateSizeConstraintSet](#) request to specify the part of the request that you want Amazon WAF to inspect (for example, the header or the URI path) and the value that you want Amazon WAF to watch for.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
```

```
"Name": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### [Name](#)

A friendly name or description of the [SizeConstraintSet](#). You can't change Name after you create a SizeConstraintSet.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{  
  "ChangeToken": "string",  
  "SizeConstraintSet": {  
    "Name": "string",  
    "SizeConstraints": [  
      {  
        "ComparisonOperator": "string",
```

```
    "FieldToMatch": {
      "Data": "string",
      "Type": "string"
    },
    "Size": number,
    "TextTransformation": "string"
  ],
  "SizeConstraintSetId": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The ChangeToken that you used to submit the CreateSizeConstraintSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

### SizeConstraintSet

A [SizeConstraintSet](#) that contains no SizeConstraint objects.

Type: [SizeConstraintSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

## **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateSqlInjectionMatchSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Creates a [SqlInjectionMatchSet](#), which you use to allow, block, or count requests that contain snippets of SQL code in a specified part of web requests. Amazon WAF searches for character sequences that are likely to be malicious strings.

To create and configure a `SqlInjectionMatchSet`, perform the following steps:

1. Use [GetChangeToken](#) to get the change token that you provide in the `ChangeToken` parameter of a `CreateSqlInjectionMatchSet` request.
2. Submit a `CreateSqlInjectionMatchSet` request.
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an [UpdateSqlInjectionMatchSet](#) request.
4. Submit an [UpdateSqlInjectionMatchSet](#) request to specify the parts of web requests in which you want to allow, block, or count malicious SQL code.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "Name": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### [Name](#)

A friendly name or description for the [SqlInjectionMatchSet](#) that you're creating. You can't change Name after you create the [SqlInjectionMatchSet](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string",
  "SqlInjectionMatchSet": {
    "Name": "string",
    "SqlInjectionMatchSetId": "string",
    "SqlInjectionMatchTuples": [
      {
        "FieldToMatch": {
          "Data": "string",
          "Type": "string"
        }
      }
    ]
  }
}
```

```
        "TextTransformation": "string"  
      }  
    ]  
  }  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The ChangeToken that you used to submit the CreateSqlInjectionMatchSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

### SqlInjectionMatchSet

A [SqlInjectionMatchSet](#).

Type: [SqlInjectionMatchSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFDisallowedNameException**

The name specified is invalid.

HTTP Status Code: 400

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateWebACL

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Creates a WebACL, which contains the Rules that identify the Amazon CloudFront web requests that you want to allow, block, or count. Amazon WAF evaluates Rules in order based on the value of Priority for each Rule.

You also specify a default action, either ALLOW or BLOCK. If a web request doesn't match any of the Rules in a WebACL, Amazon WAF responds to the request with the default action.

To create and configure a WebACL, perform the following steps:

1. Create and update the ByteMatchSet objects and other predicates that you want to include in Rules. For more information, see [CreateByteMatchSet](#), [UpdateByteMatchSet](#), [CreateIPSet](#), [UpdateIPSet](#), [CreateSqlInjectionMatchSet](#), and [UpdateSqlInjectionMatchSet](#).
2. Create and update the Rules that you want to include in the WebACL. For more information, see [CreateRule](#) and [UpdateRule](#).
3. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of a CreateWebACL request.
4. Submit a CreateWebACL request.
5. Use GetChangeToken to get the change token that you provide in the ChangeToken parameter of an [UpdateWebACL](#) request.
6. Submit an [UpdateWebACL](#) request to specify the Rules that you want to include in the WebACL, to specify the default action, and to associate the WebACL with an Amazon CloudFront distribution.

For more information about how to use the Amazon WAF API, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "DefaultAction": {
    "Type": "string"
  },
  "MetricName": "string",
  "Name": "string",
  "Tags": [
    {
      "Key": "string",
      "Value": "string"
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### [DefaultAction](#)

The action that you want Amazon WAF to take when a request doesn't match the criteria specified in any of the `Rule` objects that are associated with the `WebACL`.

Type: [WafAction](#) object

Required: Yes

### MetricName

A friendly name or description for the metrics for this WebACL. The name can contain only alphanumeric characters (A-Z, a-z, 0-9), with maximum length 128 and minimum length one. It can't contain whitespace or metric names reserved for Amazon WAF, including "All" and "Default\_Action." You can't change `MetricName` after you create the WebACL.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Name

A friendly name or description of the [WebACL](#). You can't change `Name` after you create the WebACL.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Tags

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item.

Required: No

## Response Syntax

```
{
  "ChangeToken": "string",
  "WebACL": {
    "DefaultAction": {
```

```

    "Type": "string"
  },
  "MetricName": "string",
  "Name": "string",
  "Rules": [
    {
      "Action": {
        "Type": "string"
      },
      "ExcludedRules": [
        {
          "RuleId": "string"
        }
      ],
      "OverrideAction": {
        "Type": "string"
      },
      "Priority": number,
      "RuleId": "string",
      "Type": "string"
    }
  ],
  "WebACLArn": "string",
  "WebACLId": "string"
}
}

```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The ChangeToken that you used to submit the CreateWebACL request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

## [WebACL](#)

The [WebACL](#) returned in the CreateWebACL response.

Type: [WebACL](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFBadRequestException**

HTTP Status Code: 400

### **WAFDisallowedNameException**

The name specified is invalid.

HTTP Status Code: 400

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.

- You tried to create a `WebACL` with a `DefaultAction` Type other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` Type other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` Type other than `HEADER`, `METHOD`, `QUERY_STRING`, `URI`, or `BODY`.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

### **WAFTagOperationException**

HTTP Status Code: 400

### **WAFTagOperationInternalErrorException**

HTTP Status Code: 500

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateWebACLMigrationStack

Service: Amazon WAF Classic

Creates an Amazon CloudFormation Amazon WAFV2 template for the specified web ACL in the specified Amazon S3 bucket. Then, in CloudFormation, you create a stack from the template, to create the web ACL and its resources in Amazon WAFV2. Use this to migrate your Amazon WAF Classic web ACL to the latest version of Amazon WAF.

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is part of a larger migration procedure for web ACLs from Amazon WAF Classic to the latest version of Amazon WAF. For the full procedure, including caveats and manual steps to complete the migration and switch over to the new web ACL, see [Migrating your Amazon WAF Classic resources to Amazon WAF](#) in the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "IgnoreUnsupportedType": boolean,
  "S3BucketName": "string",
  "WebACLId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [IgnoreUnsupportedType](#)

Indicates whether to exclude entities that can't be migrated or to stop the migration. Set this to true to ignore unsupported entities in the web ACL during the migration. Otherwise, if Amazon WAF encounters unsupported entities, it stops the process and throws an exception.

Type: Boolean

Required: Yes

### S3BucketName

The name of the Amazon S3 bucket to store the Amazon CloudFormation template in. The S3 bucket must be configured as follows for the migration:

- If the bucket is encrypted, the encryption must use Amazon S3 (SSE-S3) keys. The migration doesn't support encryption with Amazon Key Management Service (SSE-KMS) keys.
- The bucket name must start with `aws-waf-migration-`. For example, `aws-waf-migration-my-web-acl`.
- The bucket must be in the Region where you are deploying the template. For example, for a web ACL in `us-west-2`, you must use an Amazon S3 bucket in `us-west-2` and you must deploy the template stack to `us-west-2`.
- The bucket policies must permit the migration process to write data. For listings of the bucket policies, see the Examples section.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 63.

Pattern: `^aws-waf-migration-[0-9A-Za-z\.\-_\-]*`

Required: Yes

### WebACLId

The UUID of the WAF Classic web ACL that you want to migrate to WAF v2.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "S3objectUrl": "string"
}
```

```
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### S3ObjectUrl

The URL of the template created in Amazon S3.

Type: String

Length Constraints: Minimum length of 1.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFEntityMigrationException

The operation failed due to a problem with the migration. The failure cause is provided in the exception, in the `MigrationErrorType`:

- `ENTITY_NOT_SUPPORTED` - The web ACL has an unsupported entity but the `IgnoreUnsupportedType` is not set to true.
- `ENTITY_NOT_FOUND` - The web ACL doesn't exist.
- `S3_BUCKET_NO_PERMISSION` - You don't have permission to perform the `PutObject` action to the specified Amazon S3 bucket.
- `S3_BUCKET_NOT_ACCESSIBLE` - The bucket policy doesn't allow Amazon WAF to perform the `PutObject` action in the bucket.
- `S3_BUCKET_NOT_FOUND` - The S3 bucket doesn't exist.
- `S3_BUCKET_INVALID_REGION` - The S3 bucket is not in the same Region as the web ACL.
- `S3_INTERNAL_ERROR` - Amazon WAF failed to create the template in the S3 bucket for another reason.

In addition, the exception includes specific details about the failure in the `MigrationErrorReason`.

HTTP Status Code: 400

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidOperationException**

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultActionType` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafActionType` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatchType` other than `HEADER`, `METHOD`, `QUERY_STRING`, `URI`, or `BODY`.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.

- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## **Examples**

### **Amazon S3 bucket policy for global Amazon CloudFront applications**

This example illustrates one usage of `CreateWebACLMigrationStack`.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Principal": {
        "Service": "apiv2migration.waf.amazonaws.com"
      },
      "Action": "s3:PutObject",
      "Resource": "arn:aws:s3:::<BUCKET_NAME>/AWSWAF/<CUSTOMER_ACCOUNT_ID>/*"
    }
  ]
}
```

### **Amazon S3 bucket policy for Amazon API Gateway API or Application Load Balancer applications**

This example illustrates one usage of `CreateWebACLMigrationStack`.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Principal": {
```

```
        "Service": "apiv2migration.waf-regional.amazonaws.com"
    },
    "Action": "s3:PutObject",
    "Resource": "arn:aws:s3:::<BUCKET_NAME>/AWSWAF/<CUSTOMER_ACCOUNT_ID>/*"
}
]
```

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateXssMatchSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Creates an [XssMatchSet](#), which you use to allow, block, or count requests that contain cross-site scripting attacks in the specified part of web requests. Amazon WAF searches for character sequences that are likely to be malicious strings.

To create and configure an XssMatchSet, perform the following steps:

1. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of a CreateXssMatchSet request.
2. Submit a CreateXssMatchSet request.
3. Use GetChangeToken to get the change token that you provide in the ChangeToken parameter of an [UpdateXssMatchSet](#) request.
4. Submit an [UpdateXssMatchSet](#) request to specify the parts of web requests in which you want to allow, block, or count cross-site scripting attacks.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "Name": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Name

A friendly name or description for the [XssMatchSet](#) that you're creating. You can't change Name after you create the XssMatchSet.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string",
  "XssMatchSet": {
    "Name": "string",
    "XssMatchSetId": "string",
    "XssMatchTuples": [
      {
        "FieldToMatch": {
          "Data": "string",
          "Type": "string"
        }
      }
    ]
  }
}
```

```
    },
    "TextTransformation": "string"
  }
]
}
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The ChangeToken that you used to submit the CreateXssMatchSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

### XssMatchSet

An [XssMatchSet](#).

Type: [XssMatchSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFDisallowedNameException**

The name specified is invalid.

HTTP Status Code: 400

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteByteMatchSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes a [ByteMatchSet](#). You can't delete a ByteMatchSet if it's still used in any Rules or if it still includes any [ByteMatchTuple](#) objects (any filters).

If you just want to remove a ByteMatchSet from a Rule, use [UpdateRule](#).

To permanently delete a ByteMatchSet, perform the following steps:

1. Update the ByteMatchSet to remove filters, if any. For more information, see [UpdateByteMatchSet](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of a DeleteByteMatchSet request.
3. Submit a DeleteByteMatchSet request.

## Request Syntax

```
{
  "ByteMatchSetId": "string",
  "ChangeToken": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

## ByteMatchSetId

The ByteMatchSetId of the [ByteMatchSet](#) that you want to delete. ByteMatchSetId is returned by [CreateByteMatchSet](#) and by [ListByteMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ChangeToken

The ChangeToken that you used to submit the DeleteByteMatchSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a WebACL that still contains one or more Rule objects.
- You tried to delete a Rule that still contains one or more ByteMatchSet objects or other predicates.
- You tried to delete a ByteMatchSet that contains one or more ByteMatchTuple objects.
- You tried to delete an IPSet that references one or more IP addresses.

HTTP Status Code: 400

### WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a ByteMatchSet that is still referenced by a Rule.
- You tried to delete a Rule that is still referenced by a WebACL.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

### **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteGeoMatchSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes a [GeoMatchSet](#). You can't delete a GeoMatchSet if it's still used in any Rules or if it still includes any countries.

If you just want to remove a GeoMatchSet from a Rule, use [UpdateRule](#).

To permanently delete a GeoMatchSet from Amazon WAF, perform the following steps:

1. Update the GeoMatchSet to remove any countries. For more information, see [UpdateGeoMatchSet](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of a DeleteGeoMatchSet request.
3. Submit a DeleteGeoMatchSet request.

## Request Syntax

```
{  
  "ChangeToken": "string",  
  "GeoMatchSetId": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

## ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## GeoMatchSetId

The GeoMatchSetID of the [GeoMatchSet](#) that you want to delete. GeoMatchSetId is returned by [CreateGeoMatchSet](#) and by [ListGeoMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ChangeToken

The ChangeToken that you used to submit the DeleteGeoMatchSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a WebACL that still contains one or more Rule objects.
- You tried to delete a Rule that still contains one or more ByteMatchSet objects or other predicates.
- You tried to delete a ByteMatchSet that contains one or more ByteMatchTuple objects.
- You tried to delete an IPSet that references one or more IP addresses.

HTTP Status Code: 400

### WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a ByteMatchSet that is still referenced by a Rule.

- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteIPSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes an [IPSet](#). You can't delete an IPSet if it's still used in any Rules or if it still includes any IP addresses.

If you just want to remove an IPSet from a Rule, use [UpdateRule](#).

To permanently delete an IPSet from Amazon WAF, perform the following steps:

1. Update the IPSet to remove IP address ranges, if any. For more information, see [UpdateIPSet](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of a DeleteIPSet request.
3. Submit a DeleteIPSet request.

## Request Syntax

```
{
  "ChangeToken": "string",
  "IPSetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

## ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## IPSetId

The IPSetId of the [IPSet](#) that you want to delete. IPSetId is returned by [CreateIPSet](#) and by [ListIPSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ChangeToken

The ChangeToken that you used to submit the DeleteIPSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

### WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.

- You tried to delete a Rule that is still referenced by a WebACL.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

### **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteLoggingConfiguration

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes the [LoggingConfiguration](#) from the specified web ACL.

## Request Syntax

```
{
  "ResourceArn": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ResourceArn](#)

The Amazon Resource Name (ARN) of the web ACL from which you want to delete the [LoggingConfiguration](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)

- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeletePermissionPolicy

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes an IAM policy from the specified RuleGroup.

The user making the request must be the owner of the RuleGroup.

## Request Syntax

```
{  
  "ResourceArn": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ResourceArn

The Amazon Resource Name (ARN) of the RuleGroup from which you want to delete the policy.

The user making the request must be the owner of the RuleGroup.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)

- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteRateBasedRule

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes a [RateBasedRule](#). You can't delete a rule if it's still used in any WebACL objects or if it still includes any predicates, such as ByteMatchSet objects.

If you just want to remove a rule from a WebACL, use [UpdateWebACL](#).

To permanently delete a RateBasedRule from Amazon WAF, perform the following steps:

1. Update the RateBasedRule to remove predicates, if any. For more information, see [UpdateRateBasedRule](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of a DeleteRateBasedRule request.
3. Submit a DeleteRateBasedRule request.

## Request Syntax

```
{
  "ChangeToken": "string",
  "RuleId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

## ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

## RuleId

The RuleId of the [RateBasedRule](#) that you want to delete. RuleId is returned by [CreateRateBasedRule](#) and by [ListRateBasedRules](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ChangeToken

The ChangeToken that you used to submit the DeleteRateBasedRule request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a WebACL that still contains one or more Rule objects.
- You tried to delete a Rule that still contains one or more ByteMatchSet objects or other predicates.
- You tried to delete a ByteMatchSet that contains one or more ByteMatchTuple objects.
- You tried to delete an IPSet that references one or more IP addresses.

HTTP Status Code: 400

### WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a ByteMatchSet that is still referenced by a Rule.
- You tried to delete a Rule that is still referenced by a WebACL.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

### **WAFTagOperationException**

HTTP Status Code: 400

### **WAFTagOperationExceptionInternalErrorException**

HTTP Status Code: 500

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteRegexMatchSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes a [RegexMatchSet](#). You can't delete a `RegexMatchSet` if it's still used in any `Rules` or if it still includes any `RegexMatchTuples` objects (any filters).

If you just want to remove a `RegexMatchSet` from a `Rule`, use [UpdateRule](#).

To permanently delete a `RegexMatchSet`, perform the following steps:

1. Update the `RegexMatchSet` to remove filters, if any. For more information, see [UpdateRegexMatchSet](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteRegexMatchSet` request.
3. Submit a `DeleteRegexMatchSet` request.

## Request Syntax

```
{
  "ChangeToken": "string",
  "RegexMatchSetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

## ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## RegexMatchSetId

The `RegexMatchSetId` of the [RegexMatchSet](#) that you want to delete. `RegexMatchSetId` is returned by [CreateRegexMatchSet](#) and by [ListRegexMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ChangeToken

The `ChangeToken` that you used to submit the `DeleteRegexMatchSet` request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a WebACL that still contains one or more Rule objects.
- You tried to delete a Rule that still contains one or more ByteMatchSet objects or other predicates.
- You tried to delete a ByteMatchSet that contains one or more ByteMatchTuple objects.
- You tried to delete an IPSet that references one or more IP addresses.

HTTP Status Code: 400

### WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a ByteMatchSet that is still referenced by a Rule.
- You tried to delete a Rule that is still referenced by a WebACL.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

### **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteRegexPatternSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes a [RegexPatternSet](#). You can't delete a `RegexPatternSet` if it's still used in any `RegexMatchSet` or if the `RegexPatternSet` is not empty.

## Request Syntax

```
{
  "ChangeToken": "string",
  "RegexPatternSetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## RegexPatternSetId

The `RegexPatternSetId` of the [RegexPatternSet](#) that you want to delete. `RegexPatternSetId` is returned by [CreateRegexPatternSet](#) and by [ListRegexPatternSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The `ChangeToken` that you used to submit the `DeleteRegexPatternSet` request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## **WAFNonEmptyEntityException**

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

## **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## **WAFReferencedItemException**

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

## **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteRule

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes a [Rule](#). You can't delete a Rule if it's still used in any WebACL objects or if it still includes any predicates, such as ByteMatchSet objects.

If you just want to remove a Rule from a WebACL, use [UpdateWebACL](#).

To permanently delete a Rule from Amazon WAF, perform the following steps:

1. Update the Rule to remove predicates, if any. For more information, see [UpdateRule](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of a DeleteRule request.
3. Submit a DeleteRule request.

## Request Syntax

```
{  
  "ChangeToken": "string",  
  "RuleId": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

## ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## RuleId

The RuleId of the [Rule](#) that you want to delete. RuleId is returned by [CreateRule](#) and by [ListRules](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ChangeToken

The ChangeToken that you used to submit the DeleteRule request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFNonEmptyEntityException**

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFReferencedItemException**

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.

- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

### **WAFTagOperationException**

HTTP Status Code: 400

### **WAFTagOperationInternalErrorException**

HTTP Status Code: 500

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteRuleGroup

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes a [RuleGroup](#). You can't delete a RuleGroup if it's still used in any WebACL objects or if it still includes any rules.

If you just want to remove a RuleGroup from a WebACL, use [UpdateWebACL](#).

To permanently delete a RuleGroup from Amazon WAF, perform the following steps:

1. Update the RuleGroup to remove rules, if any. For more information, see [UpdateRuleGroup](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of a DeleteRuleGroup request.
3. Submit a DeleteRuleGroup request.

## Request Syntax

```
{  
  "ChangeToken": "string",  
  "RuleGroupId": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

## ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## RuleGroupId

The RuleGroupId of the [RuleGroup](#) that you want to delete. RuleGroupId is returned by [CreateRuleGroup](#) and by [ListRuleGroups](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ChangeToken

The ChangeToken that you used to submit the DeleteRuleGroup request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

### WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

## WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## WAFTagOperationException

HTTP Status Code: 400

## WAFTagOperationInternalErrorException

HTTP Status Code: 500

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)

- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteSizeConstraintSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes a [SizeConstraintSet](#). You can't delete a `SizeConstraintSet` if it's still used in any `Rules` or if it still includes any [SizeConstraint](#) objects (any filters).

If you just want to remove a `SizeConstraintSet` from a `Rule`, use [UpdateRule](#).

To permanently delete a `SizeConstraintSet`, perform the following steps:

1. Update the `SizeConstraintSet` to remove filters, if any. For more information, see [UpdateSizeConstraintSet](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteSizeConstraintSet` request.
3. Submit a `DeleteSizeConstraintSet` request.

## Request Syntax

```
{  
  "ChangeToken": "string",  
  "SizeConstraintSetId": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

## ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## SizeConstraintSetId

The `SizeConstraintSetId` of the [SizeConstraintSet](#) that you want to delete.

`SizeConstraintSetId` is returned by [CreateSizeConstraintSet](#) and by [ListSizeConstraintSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ChangeToken

The `ChangeToken` that you used to submit the `DeleteSizeConstraintSet` request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a WebACL that still contains one or more Rule objects.
- You tried to delete a Rule that still contains one or more ByteMatchSet objects or other predicates.
- You tried to delete a ByteMatchSet that contains one or more ByteMatchTuple objects.
- You tried to delete an IPSet that references one or more IP addresses.

HTTP Status Code: 400

### WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a ByteMatchSet that is still referenced by a Rule.
- You tried to delete a Rule that is still referenced by a WebACL.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

### **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteSqlInjectionMatchSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes a [SqlInjectionMatchSet](#). You can't delete a `SqlInjectionMatchSet` if it's still used in any `Rules` or if it still contains any [SqlInjectionMatchTuple](#) objects.

If you just want to remove a `SqlInjectionMatchSet` from a `Rule`, use [UpdateRule](#).

To permanently delete a `SqlInjectionMatchSet` from Amazon WAF, perform the following steps:

1. Update the `SqlInjectionMatchSet` to remove filters, if any. For more information, see [UpdateSqlInjectionMatchSet](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteSqlInjectionMatchSet` request.
3. Submit a `DeleteSqlInjectionMatchSet` request.

## Request Syntax

```
{
  "ChangeToken": "string",
  "SqlInjectionMatchSetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

## ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## SqlInjectionMatchSetId

The `SqlInjectionMatchSetId` of the [SqlInjectionMatchSet](#) that you want to delete. `SqlInjectionMatchSetId` is returned by [CreateSqlInjectionMatchSet](#) and by [ListSqlInjectionMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ChangeToken

The `ChangeToken` that you used to submit the `DeleteSqlInjectionMatchSet` request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a WebACL that still contains one or more Rule objects.
- You tried to delete a Rule that still contains one or more ByteMatchSet objects or other predicates.
- You tried to delete a ByteMatchSet that contains one or more ByteMatchTuple objects.
- You tried to delete an IPSet that references one or more IP addresses.

HTTP Status Code: 400

### WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a ByteMatchSet that is still referenced by a Rule.
- You tried to delete a Rule that is still referenced by a WebACL.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

### **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteWebACL

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes a [WebACL](#). You can't delete a WebACL if it still contains any Rules. Deleting a WebACL can't be undone.

To delete a WebACL, perform the following steps:

1. Update the WebACL to remove Rules, if any. For more information, see [UpdateWebACL](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of a DeleteWebACL request.
3. Submit a DeleteWebACL request.

## Request Syntax

```
{
  "ChangeToken": "string",
  "WebACLId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### WebACLId

The WebACLId of the [WebACL](#) that you want to delete. WebACLId is returned by [CreateWebACL](#) and by [ListWebACLs](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The ChangeToken that you used to submit the DeleteWebACL request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFNonEmptyEntityException**

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a WebACL that still contains one or more Rule objects.
- You tried to delete a Rule that still contains one or more ByteMatchSet objects or other predicates.
- You tried to delete a ByteMatchSet that contains one or more ByteMatchTuple objects.
- You tried to delete an IPSet that references one or more IP addresses.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFReferencedItemException**

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a ByteMatchSet that is still referenced by a Rule.
- You tried to delete a Rule that is still referenced by a WebACL.

HTTP Status Code: 400

## WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## WAFTagOperationException

HTTP Status Code: 400

## WAFTagOperationInternalErrorException

HTTP Status Code: 500

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteXssMatchSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes an [XssMatchSet](#). You can't delete an XssMatchSet if it's still used in any Rules or if it still contains any [XssMatchTuple](#) objects.

If you just want to remove an XssMatchSet from a Rule, use [UpdateRule](#).

To permanently delete an XssMatchSet from Amazon WAF, perform the following steps:

1. Update the XssMatchSet to remove filters, if any. For more information, see [UpdateXssMatchSet](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of a DeleteXssMatchSet request.
3. Submit a DeleteXssMatchSet request.

## Request Syntax

```
{  
  "ChangeToken": "string",  
  "XssMatchSetId": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

## ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## XssMatchSetId

The XssMatchSetId of the [XssMatchSet](#) that you want to delete. XssMatchSetId is returned by [CreateXssMatchSet](#) and by [ListXssMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ChangeToken

The ChangeToken that you used to submit the DeleteXssMatchSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

### WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.

- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetByteMatchSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the [ByteMatchSet](#) specified by ByteMatchSetId.

## Request Syntax

```
{
  "ByteMatchSetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ByteMatchSetId

The ByteMatchSetId of the [ByteMatchSet](#) that you want to get. ByteMatchSetId is returned by [CreateByteMatchSet](#) and by [ListByteMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ByteMatchSet": {
    "ByteMatchSetId": "string",
    "ByteMatchTuples": [
      {
        "FieldToMatch": {
          "Data": "string",
          "Type": "string"
        },
        "PositionalConstraint": "string",
        "TargetString": blob,
        "TextTransformation": "string"
      }
    ],
    "Name": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ByteMatchSet

Information about the [ByteMatchSet](#) that you specified in the GetByteMatchSet request. For more information, see the following topics:

- [ByteMatchSet](#): Contains ByteMatchSetId, ByteMatchTuples, and Name
- ByteMatchTuples: Contains an array of [ByteMatchTuple](#) objects. Each ByteMatchTuple object contains [FieldToMatch](#), PositionalConstraint, TargetString, and TextTransformation
- [FieldToMatch](#): Contains Data and Type

Type: [ByteMatchSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetChangeToken

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

When you want to create, update, or delete Amazon WAF objects, get a change token and include the change token in the create, update, or delete request. Change tokens ensure that your application doesn't submit conflicting requests to Amazon WAF.

Each create, update, or delete request must use a unique change token. If your application submits a GetChangeToken request and then submits a second GetChangeToken request before submitting a create, update, or delete request, the second GetChangeToken request returns the same value as the first GetChangeToken request.

When you use a change token in a create, update, or delete request, the status of the change token changes to PENDING, which indicates that Amazon WAF is propagating the change to all Amazon WAF servers. Use GetChangeTokenStatus to determine the status of your change token.

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ChangeToken

The ChangeToken that you used in the request. Use this value in a GetChangeTokenStatus request to get the current status of the request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)



# GetChangeTokenStatus

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the status of a ChangeToken that you got by calling [GetChangeToken](#).

ChangeTokenStatus is one of the following values:

- **PROVISIONED**: You requested the change token by calling `GetChangeToken`, but you haven't used it yet in a call to create, update, or delete an Amazon WAF object.
- **PENDING**: Amazon WAF is propagating the create, update, or delete request to all Amazon WAF servers.
- **INSYNC**: Propagation is complete.

## Request Syntax

```
{  
  "ChangeToken": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The change token for which you want to get the status. This change token was previously returned in the `GetChangeToken` response.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{  
  "ChangeTokenStatus": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [ChangeTokenStatus](#)

The status of the change token.

Type: String

Valid Values: PROVISIONED | PENDING | INSYNC

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetGeoMatchSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the [GeoMatchSet](#) that is specified by GeoMatchSetId.

## Request Syntax

```
{
  "GeoMatchSetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [GeoMatchSetId](#)

The GeoMatchSetId of the [GeoMatchSet](#) that you want to get. GeoMatchSetId is returned by [CreateGeoMatchSet](#) and by [ListGeoMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "GeoMatchSet": {
    "GeoMatchConstraints": [
      {
        "Type": "string",
        "Value": "string"
      }
    ],
    "GeoMatchSetId": "string",
    "Name": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### GeoMatchSet

Information about the [GeoMatchSet](#) that you specified in the GetGeoMatchSet request. This includes the Type, which for a GeoMatchConstraint is always Country, as well as the Value, which is the identifier for a specific country.

Type: [GeoMatchSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetIPSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the [IPSet](#) that is specified by IPSetId.

## Request Syntax

```
{
  "IPSetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [IPSetId](#)

The IPSetId of the [IPSet](#) that you want to get. IPSetId is returned by [CreateIPSet](#) and by [ListIPSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "IPSet": {
    "IPSetDescriptors": [
      {
        "Type": "string",
        "Value": "string"
      }
    ],
    "IPSetId": "string",
    "Name": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### IPSet

Information about the [IPSet](#) that you specified in the GetIPSet request. For more information, see the following topics:

- [IPSet](#): Contains IPSetDescriptors, IPSetId, and Name
- IPSetDescriptors: Contains an array of [IPSetDescriptor](#) objects. Each IPSetDescriptor object contains Type and Value

Type: [IPSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetLoggingConfiguration

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the [LoggingConfiguration](#) for the specified web ACL.

## Request Syntax

```
{
  "ResourceArn": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ResourceArn](#)

The Amazon Resource Name (ARN) of the web ACL for which you want to get the [LoggingConfiguration](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "LoggingConfiguration": {
    "LogDestinationConfigs": [ "string" ],
    "RedactedFields": [
      {
        "Data": "string",
        "Type": "string"
      }
    ],
    "ResourceArn": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### LoggingConfiguration

The [LoggingConfiguration](#) for the specified web ACL.

Type: [LoggingConfiguration](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetPermissionPolicy

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the IAM policy attached to the RuleGroup.

## Request Syntax

```
{  
  "ResourceArn": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ResourceArn](#)

The Amazon Resource Name (ARN) of the RuleGroup for which you want to get the policy.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "Policy": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [Policy](#)

The IAM policy attached to the specified RuleGroup.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 395000.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetRateBasedRule

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the [RateBasedRule](#) that is specified by the RuleId that you included in the GetRateBasedRule request.

## Request Syntax

```
{  
  "RuleId": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [RuleId](#)

The RuleId of the [RateBasedRule](#) that you want to get. RuleId is returned by [CreateRateBasedRule](#) and by [ListRateBasedRules](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "Rule": {
    "MatchPredicates": [
      {
        "DataId": "string",
        "Negated": boolean,
        "Type": "string"
      }
    ],
    "MetricName": "string",
    "Name": "string",
    "RateKey": "string",
    "RateLimit": number,
    "RuleId": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Rule

Information about the [RateBasedRule](#) that you specified in the `GetRateBasedRule` request.

Type: [RateBasedRule](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetRateBasedRuleManagedKeys

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of IP addresses currently being blocked by the [RateBasedRule](#) that is specified by the `RuleId`. The maximum number of managed keys that will be blocked is 10,000. If more than 10,000 addresses exceed the rate limit, the 10,000 addresses with the highest rates will be blocked.

## Request Syntax

```
{
  "NextMarker": "string",
  "RuleId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [NextMarker](#)

A null value and not currently used. Do not include this in your request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

### RuleId

The RuleId of the [RateBasedRule](#) for which you want to get a list of ManagedKeys. RuleId is returned by [CreateRateBasedRule](#) and by [ListRateBasedRules](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ManagedKeys": [ "string" ],
  "NextMarker": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ManagedKeys

An array of IP addresses that currently are blocked by the specified [RateBasedRule](#).

Type: Array of strings

### NextMarker

A null value and not currently used.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetRegexMatchSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the [RegexMatchSet](#) specified by `RegexMatchSetId`.

## Request Syntax

```
{
  "RegexMatchSetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [RegexMatchSetId](#)

The `RegexMatchSetId` of the [RegexMatchSet](#) that you want to get. `RegexMatchSetId` is returned by [CreateRegexMatchSet](#) and by [ListRegexMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "RegexMatchSet": {
    "Name": "string",
    "RegexMatchSetId": "string",
    "RegexMatchTuples": [
      {
        "FieldToMatch": {
          "Data": "string",
          "Type": "string"
        },
        "RegexPatternSetId": "string",
        "TextTransformation": "string"
      }
    ]
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### RegexMatchSet

Information about the [RegexMatchSet](#) that you specified in the GetRegexMatchSet request. For more information, see [RegexMatchTuple](#).

Type: [RegexMatchSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetRegexPatternSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the [RegexPatternSet](#) specified by RegexPatternSetId.

## Request Syntax

```
{
  "RegexPatternSetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [RegexPatternSetId](#)

The RegexPatternSetId of the [RegexPatternSet](#) that you want to get. RegexPatternSetId is returned by [CreateRegexPatternSet](#) and by [ListRegexPatternSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "RegexPatternSet": {
    "Name": "string",
    "RegexPatternSetId": "string",
    "RegexPatternStrings": [ "string" ]
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [RegexPatternSet](#)

Information about the [RegexPatternSet](#) that you specified in the `GetRegexPatternSet` request, including the identifier of the pattern set and the regular expression patterns you want Amazon WAF to search for.

Type: [RegexPatternSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetRule

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the [Rule](#) that is specified by the RuleId that you included in the GetRule request.

## Request Syntax

```
{  
  "RuleId": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [RuleId](#)

The RuleId of the [Rule](#) that you want to get. RuleId is returned by [CreateRule](#) and by [ListRules](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "Rule": {
    "MetricName": "string",
    "Name": "string",
    "Predicates": [
      {
        "DataId": "string",
        "Negated": boolean,
        "Type": "string"
      }
    ],
    "RuleId": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Rule

Information about the [Rule](#) that you specified in the GetRule request. For more information, see the following topics:

- [Rule](#): Contains MetricName, Name, an array of Predicate objects, and RuleId
- [Predicate](#): Each Predicate object contains DataId, Negated, and Type

Type: [Rule](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetRuleGroup

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the [RuleGroup](#) that is specified by the RuleGroupId that you included in the GetRuleGroup request.

To view the rules in a rule group, use [ListActivatedRulesInRuleGroup](#).

## Request Syntax

```
{  
  "RuleGroupId": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [RuleGroupId](#)

The RuleGroupId of the [RuleGroup](#) that you want to get. RuleGroupId is returned by [CreateRuleGroup](#) and by [ListRuleGroups](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "RuleGroup": {
    "MetricName": "string",
    "Name": "string",
    "RuleGroupId": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [RuleGroup](#)

Information about the [RuleGroup](#) that you specified in the GetRuleGroup request.

Type: [RuleGroup](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetSampledRequests

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Gets detailed information about a specified number of requests--a sample--that Amazon WAF randomly selects from among the first 5,000 requests that your Amazon resource received during a time range that you choose. You can specify a sample size of up to 500 requests, and you can specify any time range in the previous three hours.

GetSampledRequests returns a time range, which is usually the time range that you specified. However, if your resource (such as an Amazon CloudFront distribution) received 5,000 requests before the specified time range elapsed, GetSampledRequests returns an updated time range. This new time range indicates the actual period during which Amazon WAF selected the requests in the sample.

## Request Syntax

```
{
  "MaxItems": number,
  "RuleId": "string",
  "TimeWindow": {
    "EndTime": number,
    "StartTime": number
  },
  "WebAclId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### MaxItems

The number of requests that you want Amazon WAF to return from among the first 5,000 requests that your Amazon resource received during the time range. If your resource received fewer requests than the value of `MaxItems`, `GetSampledRequests` returns information about all of them.

Type: Long

Valid Range: Minimum value of 1. Maximum value of 500.

Required: Yes

### RuleId

`RuleId` is one of three values:

- The `RuleId` of the `Rule` or the `RuleGroupId` of the `RuleGroup` for which you want `GetSampledRequests` to return a sample of requests.
- `Default_Action`, which causes `GetSampledRequests` to return a sample of the requests that didn't match any of the rules in the specified `WebACL`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### TimeWindow

The start date and time and the end date and time of the range for which you want `GetSampledRequests` to return a sample of requests. You must specify the times in Coordinated Universal Time (UTC) format. UTC format includes the special designator, Z. For example, "2016-09-27T14:50Z". You can specify any time range in the previous three hours.

Type: [TimeWindow](#) object

Required: Yes

## WebAclId

The WebACLId of the WebACL for which you want GetSampledRequests to return a sample of requests.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

## Response Syntax

```
{
  "PopulationSize": number,
  "SampledRequests": [
    {
      "Action": "string",
      "Request": {
        "ClientIP": "string",
        "Country": "string",
        "Headers": [
          {
            "Name": "string",
            "Value": "string"
          }
        ],
        "HTTPVersion": "string",
        "Method": "string",
        "URI": "string"
      },
      "RuleWithinRuleGroup": "string",
      "Timestamp": number,
      "Weight": number
    }
  ],
  "TimeWindow": {
    "EndTime": number,
    "StartTime": number
  }
}
```

```
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### PopulationSize

The total number of requests from which `GetSampledRequests` got a sample of `MaxItems` requests. If `PopulationSize` is less than `MaxItems`, the sample includes every request that your Amazon resource received during the specified time range.

Type: Long

### SampledRequests

A complex type that contains detailed information about each of the requests in the sample.

Type: Array of [SampledHTTPRequest](#) objects

### TimeWindow

Usually, `TimeWindow` is the time range that you specified in the `GetSampledRequests` request. However, if your Amazon resource received more than 5,000 requests during the time range that you specified in the request, `GetSampledRequests` returns the time range for the first 5,000 requests. Times are in Coordinated Universal Time (UTC) format.

Type: [TimeWindow](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetSizeConstraintSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the [SizeConstraintSet](#) specified by SizeConstraintSetId.

## Request Syntax

```
{
  "SizeConstraintSetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [SizeConstraintSetId](#)

The SizeConstraintSetId of the [SizeConstraintSet](#) that you want to get.

SizeConstraintSetId is returned by [CreateSizeConstraintSet](#) and by [ListSizeConstraintSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "SizeConstraintSet": {
    "Name": "string",
    "SizeConstraints": [
      {
        "ComparisonOperator": "string",
        "FieldToMatch": {
          "Data": "string",
          "Type": "string"
        },
        "Size": number,
        "TextTransformation": "string"
      }
    ],
    "SizeConstraintSetId": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### SizeConstraintSet

Information about the [SizeConstraintSet](#) that you specified in the `GetSizeConstraintSet` request. For more information, see the following topics:

- [SizeConstraintSet](#): Contains `SizeConstraintSetId`, `SizeConstraints`, and `Name`
- `SizeConstraints`: Contains an array of [SizeConstraint](#) objects. Each `SizeConstraint` object contains [FieldToMatch](#), `TextTransformation`, `ComparisonOperator`, and `Size`
- [FieldToMatch](#): Contains `Data` and `Type`

Type: [SizeConstraintSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetSqlInjectionMatchSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the [SqlInjectionMatchSet](#) that is specified by `SqlInjectionMatchSetId`.

## Request Syntax

```
{
  "SqlInjectionMatchSetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [SqlInjectionMatchSetId](#)

The `SqlInjectionMatchSetId` of the [SqlInjectionMatchSet](#) that you want to get. `SqlInjectionMatchSetId` is returned by [CreateSqlInjectionMatchSet](#) and by [ListSqlInjectionMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "SqlInjectionMatchSet": {
    "Name": "string",
    "SqlInjectionMatchSetId": "string",
    "SqlInjectionMatchTuples": [
      {
        "FieldToMatch": {
          "Data": "string",
          "Type": "string"
        },
        "TextTransformation": "string"
      }
    ]
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### SqlInjectionMatchSet

Information about the [SqlInjectionMatchSet](#) that you specified in the `GetSqlInjectionMatchSet` request. For more information, see the following topics:

- [SqlInjectionMatchSet](#): Contains Name, SqlInjectionMatchSetId, and an array of SqlInjectionMatchTuple objects
- [SqlInjectionMatchTuple](#): Each SqlInjectionMatchTuple object contains FieldToMatch and TextTransformation
- [FieldToMatch](#): Contains Data and Type

Type: [SqlInjectionMatchSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetWebACL

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the [WebACL](#) that is specified by WebACLId.

## Request Syntax

```
{
  "WebACLId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [WebACLId](#)

The WebACLId of the [WebACL](#) that you want to get. WebACLId is returned by [CreateWebACL](#) and by [ListWebACLs](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "WebACL": {
    "DefaultAction": {
      "Type": "string"
    },
    "MetricName": "string",
    "Name": "string",
    "Rules": [
      {
        "Action": {
          "Type": "string"
        },
        "ExcludedRules": [
          {
            "RuleId": "string"
          }
        ],
        "OverrideAction": {
          "Type": "string"
        },
        "Priority": number,
        "RuleId": "string",
        "Type": "string"
      }
    ],
    "WebACLArn": "string",
    "WebACLId": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [WebACL](#)

Information about the [WebACL](#) that you specified in the GetWebACL request. For more information, see the following topics:

- [WebACL](#): Contains DefaultAction, MetricName, Name, an array of Rule objects, and WebACLId
- DefaultAction (Data type is [WafAction](#)): Contains Type
- Rules: Contains an array of ActivatedRule objects, which contain Action, Priority, and RuleId
- Action: Contains Type

Type: [WebACL](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)

- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetXssMatchSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the [XssMatchSet](#) that is specified by XssMatchSetId.

## Request Syntax

```
{
  "XssMatchSetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [XssMatchSetId](#)

The XssMatchSetId of the [XssMatchSet](#) that you want to get. XssMatchSetId is returned by [CreateXssMatchSet](#) and by [ListXssMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "XssMatchSet": {
    "Name": "string",
    "XssMatchSetId": "string",
    "XssMatchTuples": [
      {
        "FieldToMatch": {
          "Data": "string",
          "Type": "string"
        },
        "TextTransformation": "string"
      }
    ]
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### XssMatchSet

Information about the [XssMatchSet](#) that you specified in the GetXssMatchSet request. For more information, see the following topics:

- [XssMatchSet](#): Contains Name, XssMatchSetId, and an array of XssMatchTuple objects
- [XssMatchTuple](#): Each XssMatchTuple object contains FieldToMatch and TextTransformation
- [FieldToMatch](#): Contains Data and Type

Type: [XssMatchSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListActivatedRulesInRuleGroup

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [ActivatedRule](#) objects.

## Request Syntax

```
{
  "Limit": number,
  "NextMarker": "string",
  "RuleGroupId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of `ActivatedRules` that you want Amazon WAF to return for this request. If you have more `ActivatedRules` than the number that you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `ActivatedRules`.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

### NextMarker

If you specify a value for `Limit` and you have more `ActivatedRules` than the value of `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of `ActivatedRules`. For the second and subsequent `ListActivatedRulesInRuleGroup` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `ActivatedRules`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

### RuleGroupId

The `RuleGroupId` of the [RuleGroup](#) for which you want to get a list of [ActivatedRule](#) objects.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "ActivatedRules": [
    {
      "Action": {
        "Type": "string"
      },
      "ExcludedRules": [
        {
          "RuleId": "string"
        }
      ],
      "OverrideAction": {
```

```
        "Type": "string"
      },
      "Priority": number,
      "RuleId": "string",
      "Type": "string"
    }
  ],
  "NextMarker": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ActivatedRules

An array of `ActivatedRules` objects.

Type: Array of [ActivatedRule](#) objects

### NextMarker

If you have more `ActivatedRules` than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `ActivatedRules`, submit another `ListActivatedRulesInRuleGroup` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)

- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListByteMatchSets

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [ByteMatchSetSummary](#) objects.

## Request Syntax

```
{  
  "Limit": number,  
  "NextMarker": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of ByteMatchSet objects that you want Amazon WAF to return for this request. If you have more ByteMatchSets objects than the number you specify for Limit, the response includes a NextMarker value that you can use to get another batch of ByteMatchSet objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## NextMarker

If you specify a value for `Limit` and you have more `ByteMatchSets` than the value of `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of `ByteMatchSets`. For the second and subsequent `ListByteMatchSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `ByteMatchSets`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "ByteMatchSets": [
    {
      "ByteMatchSetId": "string",
      "Name": "string"
    }
  ],
  "NextMarker": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ByteMatchSets

An array of [ByteMatchSetSummary](#) objects.

Type: Array of [ByteMatchSetSummary](#) objects

## NextMarker

If you have more `ByteMatchSet` objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `ByteMatchSet` objects, submit another `ListByteMatchSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)

- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListGeoMatchSets

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [GeoMatchSetSummary](#) objects in the response.

## Request Syntax

```
{
  "Limit": number,
  "NextMarker": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of GeoMatchSet objects that you want Amazon WAF to return for this request. If you have more GeoMatchSet objects than the number you specify for Limit, the response includes a NextMarker value that you can use to get another batch of GeoMatchSet objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## NextMarker

If you specify a value for `Limit` and you have more `GeoMatchSets` than the value of `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of `GeoMatchSet` objects. For the second and subsequent `ListGeoMatchSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `GeoMatchSet` objects.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "GeoMatchSets": [
    {
      "GeoMatchSetId": "string",
      "Name": "string"
    }
  ],
  "NextMarker": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### GeoMatchSets

An array of [GeoMatchSetSummary](#) objects.

Type: Array of [GeoMatchSetSummary](#) objects

## NextMarker

If you have more GeoMatchSet objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more GeoMatchSet objects, submit another `ListGeoMatchSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)

- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListIPSets

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [IPSetSummary](#) objects in the response.

## Request Syntax

```
{
  "Limit": number,
  "NextMarker": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of IPSet objects that you want Amazon WAF to return for this request. If you have more IPSet objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of IPSet objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## NextMarker

Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of `IPSets`. For the second and subsequent `ListIPSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `IPSets`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "IPSets": [
    {
      "IPSetId": "string",
      "Name": "string"
    }
  ],
  "NextMarker": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### IPSets

An array of [IPSetSummary](#) objects.

Type: Array of [IPSetSummary](#) objects

### NextMarker

To list more `IPSet` objects, submit another `ListIPSets` request, and in the next request use the `NextMarker` response value as the `NextMarker` value.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)

- [Amazon SDK for Ruby V3](#)

# ListLoggingConfigurations

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [LoggingConfiguration](#) objects.

## Request Syntax

```
{  
  "Limit": number,  
  "NextMarker": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of LoggingConfigurations that you want Amazon WAF to return for this request. If you have more LoggingConfigurations than the number that you specify for Limit, the response includes a NextMarker value that you can use to get another batch of LoggingConfigurations.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## NextMarker

If you specify a value for `Limit` and you have more `LoggingConfigurations` than the value of `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of `LoggingConfigurations`. For the second and subsequent `ListLoggingConfigurations` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `ListLoggingConfigurations`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "LoggingConfigurations": [
    {
      "LogDestinationConfigs": [ "string" ],
      "RedactedFields": [
        {
          "Data": "string",
          "Type": "string"
        }
      ],
      "ResourceArn": "string"
    }
  ],
  "NextMarker": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## [LoggingConfigurations](#)

An array of [LoggingConfiguration](#) objects.

Type: Array of [LoggingConfiguration](#) objects

## [NextMarker](#)

If you have more `LoggingConfigurations` than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `LoggingConfigurations`, submit another `ListLoggingConfigurations` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultActionType` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.

- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListRateBasedRules

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [RuleSummary](#) objects.

## Request Syntax

```
{  
  "Limit": number,  
  "NextMarker": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of Rules that you want Amazon WAF to return for this request. If you have more Rules than the number that you specify for Limit, the response includes a NextMarker value that you can use to get another batch of Rules.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## NextMarker

If you specify a value for `Limit` and you have more `Rules` than the value of `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of `Rules`. For the second and subsequent `ListRateBasedRules` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `Rules`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "NextMarker": "string",
  "Rules": [
    {
      "Name": "string",
      "RuleId": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## NextMarker

If you have more `Rules` than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `Rules`, submit another `ListRateBasedRules` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

## Rules

An array of [RuleSummary](#) objects.

Type: Array of [RuleSummary](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)

- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListRegexMatchSets

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [RegexMatchSetSummary](#) objects.

## Request Syntax

```
{  
  "Limit": number,  
  "NextMarker": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of `RegexMatchSet` objects that you want Amazon WAF to return for this request. If you have more `RegexMatchSet` objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `RegexMatchSet` objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## NextMarker

If you specify a value for `Limit` and you have more `RegexMatchSet` objects than the value of `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of `ByteMatchSets`. For the second and subsequent `ListRegexMatchSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `RegexMatchSet` objects.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "NextMarker": "string",
  "RegexMatchSets": [
    {
      "Name": "string",
      "RegexMatchSetId": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## NextMarker

If you have more `RegexMatchSet` objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `RegexMatchSet` objects, submit another `ListRegexMatchSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: .\*\\S.\*

## RegexMatchSets

An array of [RegexMatchSetSummary](#) objects.

Type: Array of [RegexMatchSetSummary](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)

- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListRegexPatternSets

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [RegexPatternSetSummary](#) objects.

## Request Syntax

```
{  
  "Limit": number,  
  "NextMarker": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of `RegexPatternSet` objects that you want Amazon WAF to return for this request. If you have more `RegexPatternSet` objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `RegexPatternSet` objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## NextMarker

If you specify a value for `Limit` and you have more `RegexPatternSet` objects than the value of `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of `RegexPatternSet` objects. For the second and subsequent `ListRegexPatternSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `RegexPatternSet` objects.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "NextMarker": "string",
  "RegexPatternSets": [
    {
      "Name": "string",
      "RegexPatternSetId": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## NextMarker

If you have more `RegexPatternSet` objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `RegexPatternSet` objects, submit another `ListRegexPatternSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

## RegexPatternSets

An array of [RegexPatternSetSummary](#) objects.

Type: Array of [RegexPatternSetSummary](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)

- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListRuleGroups

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [RuleGroup](#) objects.

## Request Syntax

```
{
  "Limit": number,
  "NextMarker": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of RuleGroups that you want Amazon WAF to return for this request. If you have more RuleGroups than the number that you specify for Limit, the response includes a NextMarker value that you can use to get another batch of RuleGroups.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## NextMarker

If you specify a value for `Limit` and you have more `RuleGroups` than the value of `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of `RuleGroups`. For the second and subsequent `ListRuleGroups` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `RuleGroups`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "NextMarker": "string",
  "RuleGroups": [
    {
      "Name": "string",
      "RuleGroupId": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## NextMarker

If you have more `RuleGroups` than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `RuleGroups`, submit another `ListRuleGroups` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: .\*\\S.\*

## RuleGroups

An array of [RuleGroup](#) objects.

Type: Array of [RuleGroupSummary](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)



# ListRules

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [RuleSummary](#) objects.

## Request Syntax

```
{  
  "Limit": number,  
  "NextMarker": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of Rules that you want Amazon WAF to return for this request. If you have more Rules than the number that you specify for Limit, the response includes a NextMarker value that you can use to get another batch of Rules.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## NextMarker

If you specify a value for `Limit` and you have more `Rules` than the value of `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of `Rules`. For the second and subsequent `ListRules` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `Rules`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "NextMarker": "string",
  "Rules": [
    {
      "Name": "string",
      "RuleId": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## NextMarker

If you have more `Rules` than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `Rules`, submit another `ListRules` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

## Rules

An array of [RuleSummary](#) objects.

Type: Array of [RuleSummary](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)

- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListSizeConstraintSets

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [SizeConstraintSetSummary](#) objects.

## Request Syntax

```
{  
  "Limit": number,  
  "NextMarker": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of `SizeConstraintSet` objects that you want Amazon WAF to return for this request. If you have more `SizeConstraintSets` objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `SizeConstraintSet` objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## NextMarker

If you specify a value for `Limit` and you have more `SizeConstraintSets` than the value of `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of `SizeConstraintSets`. For the second and subsequent `ListSizeConstraintSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `SizeConstraintSets`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "NextMarker": "string",
  "SizeConstraintSets": [
    {
      "Name": "string",
      "SizeConstraintSetId": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## NextMarker

If you have more `SizeConstraintSet` objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `SizeConstraintSet` objects, submit another `ListSizeConstraintSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: .\*\\S.\*

### SizeConstraintSets

An array of [SizeConstraintSetSummary](#) objects.

Type: Array of [SizeConstraintSetSummary](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)

- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListSqlInjectionMatchSets

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [SqlInjectionMatchSet](#) objects.

## Request Syntax

```
{
  "Limit": number,
  "NextMarker": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of [SqlInjectionMatchSet](#) objects that you want Amazon WAF to return for this request. If you have more `SqlInjectionMatchSet` objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `Rules`.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## NextMarker

If you specify a value for `Limit` and you have more [SqlInjectionMatchSet](#) objects than the value of `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of `SqlInjectionMatchSets`. For the second and subsequent `ListSqlInjectionMatchSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `SqlInjectionMatchSets`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "NextMarker": "string",
  "SqlInjectionMatchSets": [
    {
      "Name": "string",
      "SqlInjectionMatchSetId": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## NextMarker

If you have more [SqlInjectionMatchSet](#) objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `SqlInjectionMatchSet` objects, submit another `ListSqlInjectionMatchSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: .\*\\S.\*

## SqlInjectionMatchSets

An array of [SqlInjectionMatchSetSummary](#) objects.

Type: Array of [SqlInjectionMatchSetSummary](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)

- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListSubscribedRuleGroups

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [RuleGroup](#) objects that you are subscribed to.

## Request Syntax

```
{  
  "Limit": number,  
  "NextMarker": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of subscribed rule groups that you want Amazon WAF to return for this request. If you have more objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## NextMarker

If you specify a value for `Limit` and you have more `ByteMatchSet` subscribed rule groups than the value of `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of subscribed rule groups. For the second and subsequent `ListSubscribedRuleGroupsRequest` requests, specify the value of `NextMarker` from the previous response to get information about another batch of subscribed rule groups.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "NextMarker": "string",
  "RuleGroups": [
    {
      "MetricName": "string",
      "Name": "string",
      "RuleGroupId": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## NextMarker

If you have more objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more objects, submit another `ListSubscribedRuleGroups` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: .\*\\S.\*

## RuleGroups

An array of [RuleGroup](#) objects.

Type: Array of [SubscribedRuleGroupSummary](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)

- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListTagsForResource

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Retrieves the tags associated with the specified Amazon resource. Tags are key:value pairs that you can use to categorize and manage your resources, for purposes like billing. For example, you might set the tag key to "customer" and the value to the customer name or ID. You can specify one or more tags to add to each Amazon resource, up to 50 tags for a resource.

Tagging is only available through the API, SDKs, and CLI. You can't manage or view tags through the Amazon WAF Classic console. You can tag the Amazon resources that you manage through Amazon WAF Classic: web ACLs, rule groups, and rules.

## Request Syntax

```
{
  "Limit": number,
  "NextMarker": "string",
  "ResourceARN": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

### NextMarker

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

### ResourceARN

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "NextMarker": "string",
  "TagInfoForResource": {
    "ResourceARN": "string",
    "TagList": [
      {
        "Key": "string",
        "Value": "string"
      }
    ]
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### NextMarker

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

### TagInfoForResource

Type: [TagInfoForResource](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFBadRequestException**

HTTP Status Code: 400

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.

- You tried to create a `RateBasedRule` with a `RateKey` value other than IP.
- You tried to update a `WebACL` with a `WafAction` Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of HEADER but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFTagOperationException**

HTTP Status Code: 400

### **WAFTagOperationInternalErrorException**

HTTP Status Code: 500

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)

- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListWebACLs

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [WebACLSummary](#) objects in the response.

## Request Syntax

```
{
  "Limit": number,
  "NextMarker": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of WebACL objects that you want Amazon WAF to return for this request. If you have more WebACL objects than the number that you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of WebACL objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## NextMarker

If you specify a value for `Limit` and you have more WebACL objects than the number that you specify for `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of WebACL objects. For the second and subsequent `ListWebACLs` requests, specify the value of `NextMarker` from the previous response to get information about another batch of WebACL objects.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "NextMarker": "string",
  "WebACLs": [
    {
      "Name": "string",
      "WebACLId": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## NextMarker

If you have more WebACL objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more WebACL objects, submit another `ListWebACLs` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

## [WebACLs](#)

An array of [WebACLSummary](#) objects.

Type: Array of [WebACLSummary](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)

- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListXssMatchSets

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [XssMatchSet](#) objects.

## Request Syntax

```
{  
  "Limit": number,  
  "NextMarker": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of [XssMatchSet](#) objects that you want Amazon WAF to return for this request. If you have more XssMatchSet objects than the number you specify for Limit, the response includes a NextMarker value that you can use to get another batch of Rules.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## NextMarker

If you specify a value for `Limit` and you have more [XssMatchSet](#) objects than the value of `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of `XssMatchSets`. For the second and subsequent `ListXssMatchSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `XssMatchSets`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "NextMarker": "string",
  "XssMatchSets": [
    {
      "Name": "string",
      "XssMatchSetId": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## NextMarker

If you have more [XssMatchSet](#) objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `XssMatchSet` objects, submit another `ListXssMatchSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: .\*\\S.\*

## XssMatchSets

An array of [XssMatchSetSummary](#) objects.

Type: Array of [XssMatchSetSummary](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)

- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# PutLoggingConfiguration

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Associates a [LoggingConfiguration](#) with a specified web ACL.

You can access information about all traffic that Amazon WAF inspects using the following steps:

1. Create an Amazon Data Firehose.

Create the data firehose with a PUT source and in the region that you are operating. However, if you are capturing logs for Amazon CloudFront, always create the firehose in US East (N. Virginia).

Give the data firehose a name that starts with the prefix `aws-waf-logs-`. For example, `aws-waf-logs-us-east-2-analytics`.

## Note

Do not create the data firehose using a Kinesis stream as your source.

2. Associate that firehose to your web ACL using a PutLoggingConfiguration request.

When you successfully enable logging using a PutLoggingConfiguration request, Amazon WAF will create a service linked role with the necessary permissions to write logs to the Amazon Data Firehose. For more information, see [Logging Web ACL Traffic Information](#) in the *Amazon WAF Developer Guide*.

## Request Syntax

```
{
  "LoggingConfiguration": {
    "LogDestinationConfigs": [ "string" ],
    "RedactedFields": [
      {
        "Data": "string",
        "Type": "string"
      }
    ],
    "ResourceArn": "string"
  }
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [LoggingConfiguration](#)

The Amazon Data Firehose that contains the inspected traffic information, the redacted fields details, and the Amazon Resource Name (ARN) of the web ACL to monitor.

#### Note

When specifying Type in RedactedFields, you must use one of the following values: URI, QUERY\_STRING, HEADER, or METHOD.

Type: [LoggingConfiguration](#) object

Required: Yes

## Response Syntax

```
{
  "LoggingConfiguration": {
```

```
  "LogDestinationConfigs": [ "string" ],
  "RedactedFields": [
    {
      "Data": "string",
      "Type": "string"
    }
  ],
  "ResourceArn": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### LoggingConfiguration

The [LoggingConfiguration](#) that you submitted in the request.

Type: [LoggingConfiguration](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFServiceLinkedRoleErrorException**

Amazon WAF is not able to access the service linked role. This can be caused by a previous `PutLoggingConfiguration` request, which can lock the service linked role for about 20

seconds. Please try your request again. The service linked role can also be locked by a previous `DeleteServiceLinkedRole` request, which can lock the role for 15 minutes or more. If you recently made a `DeleteServiceLinkedRole`, wait at least 15 minutes and try the request again. If you receive this same exception again, you will have to wait additional time until the role is unlocked.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

### **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# PutPermissionPolicy

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Attaches an IAM policy to the specified resource. The only supported use for this action is to share a RuleGroup across accounts.

The PutPermissionPolicy is subject to the following restrictions:

- You can attach only one policy with each PutPermissionPolicy request.
- The policy must include an Effect, Action and Principal.
- Effect must specify Allow.
- The Action in the policy must be waf:UpdateWebACL, waf-regional:UpdateWebACL, waf:GetRuleGroup and waf-regional:GetRuleGroup . Any extra or wildcard actions in the policy will be rejected.
- The policy cannot include a Resource parameter.
- The ARN in the request must be a valid RuleGroup ARN and the RuleGroup must exist in the same region.
- The user making the request must be the owner of the RuleGroup.
- Your policy must be composed using IAM Policy version 2012-10-17.

For more information, see [Policies and permissions in IAM](#).

An example of a valid policy parameter is shown in the Examples section below.

## Request Syntax

```
{
```

```
"Policy": "string",  
"ResourceArn": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Policy

The policy to attach to the specified RuleGroup.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 395000.

Pattern: `.*\S.*`

Required: Yes

### ResourceArn

The Amazon Resource Name (ARN) of the RuleGroup to which you want to attach the policy.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## WAFInvalidPermissionPolicyException

The operation failed because the specified policy is not in the proper format.

The policy is subject to the following restrictions:

- You can attach only one policy with each `PutPermissionPolicy` request.
- The policy must include an `Effect`, `Action` and `Principal`.
- `Effect` must specify `Allow`.
- The `Action` in the policy must be `waf:UpdateWebACL`, `waf-regional:UpdateWebACL`, `waf:GetRuleGroup` and `waf-regional:GetRuleGroup`. Any extra or wildcard actions in the policy will be rejected.
- The policy cannot include a `Resource` parameter.
- The ARN in the request must be a valid WAF RuleGroup ARN and the RuleGroup must exist in the same region.
- The user making the request must be the owner of the RuleGroup.
- Your policy must be composed using IAM Policy version 2012-10-17.

HTTP Status Code: 400

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## Examples

### Example policy parameter - No escape characters

This example illustrates one usage of PutPermissionPolicy.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Principal": {
        "AWS": "arn:aws:iam::111111111111:user/MyUserName"
      },
      "Action": [
        "waf:UpdateWebACL",
        "waf-regional:UpdateWebACL",
        "waf:GetRuleGroup",
        "waf-regional:GetRuleGroup"
      ]
    }
  ]
}
```

### Example policy parameter - ()

This example illustrates one usage of PutPermissionPolicy.

```
{\"Version\": \"2012-10-17\",      \"Statement\": [{\"Effect\": \"Allow\", \"Principal\": {\"AWS\": \"arn:aws:iam::111111111111:user\\MyUserName\"}, \"Action\": [\"waf:UpdateWebACL\", \"waf-regional:UpdateWebACL\", \"waf:GetRuleGroup\", \"waf-regional:GetRuleGroup\"]}]}
```

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)

- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# TagResource

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Associates tags with the specified Amazon resource. Tags are key:value pairs that you can use to categorize and manage your resources, for purposes like billing. For example, you might set the tag key to "customer" and the value to the customer name or ID. You can specify one or more tags to add to each Amazon resource, up to 50 tags for a resource.

Tagging is only available through the API, SDKs, and CLI. You can't manage or view tags through the Amazon WAF Classic console. You can use this action to tag the Amazon resources that you manage through Amazon WAF Classic: web ACLs, rule groups, and rules.

## Request Syntax

```
{
  "ResourceARN": "string",
  "Tags": [
    {
      "Key": "string",
      "Value": "string"
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

## ResourceARN

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: .\*\\S.\*

Required: Yes

## Tags

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFBadRequestException

HTTP Status Code: 400

### WAFInternalServerErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.

- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFTagOperationException**

HTTP Status Code: 400

### **WAFTagOperationInternalErrorException**

HTTP Status Code: 500

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UntagResource

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

## Request Syntax

```
{
  "ResourceARN": "string",
  "TagKeys": [ "string" ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ResourceARN

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: Yes

### TagKeys

Type: Array of strings

Array Members: Minimum number of 1 item.

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFBadRequestException

HTTP Status Code: 400

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.

- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFTagOperationException**

HTTP Status Code: 400

### **WAFTagOperationInternalErrorException**

HTTP Status Code: 500

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)



# UpdateByteMatchSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Inserts or deletes [ByteMatchTuple](#) objects (filters) in a [ByteMatchSet](#). For each ByteMatchTuple object, you specify the following values:

- Whether to insert or delete the object from the array. If you want to change a ByteMatchSetUpdate object, you delete the existing object and add a new one.
- The part of a web request that you want Amazon WAF to inspect, such as a query string or the value of the User-Agent header.
- The bytes (typically a string that corresponds with ASCII characters) that you want Amazon WAF to look for. For more information, including how you specify the values for the Amazon WAF API and the Amazon CLI or Amazon SDKs, see TargetString in the [ByteMatchTuple](#) data type.
- Where to look, such as at the beginning or the end of a query string.
- Whether to perform any conversions on the request, such as converting it to lowercase, before inspecting it for the specified string.

For example, you can add a ByteMatchSetUpdate object that matches web requests in which User-Agent headers contain the string BadBot. You can then configure Amazon WAF to block those requests.

To create and configure a ByteMatchSet, perform the following steps:

1. Create a ByteMatchSet. For more information, see [CreateByteMatchSet](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of an UpdateByteMatchSet request.

3. Submit an `UpdateByteMatchSet` request to specify the part of the request that you want Amazon WAF to inspect (for example, the header or the URI path) and the value that you want Amazon WAF to watch for.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ByteMatchSetId": "string",
  "ChangeToken": "string",
  "Updates": [
    {
      "Action": "string",
      "ByteMatchTuple": {
        "FieldToMatch": {
          "Data": "string",
          "Type": "string"
        },
        "PositionalConstraint": "string",
        "TargetString": blob,
        "TextTransformation": "string"
      }
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ByteMatchSetId

The `ByteMatchSetId` of the [ByteMatchSet](#) that you want to update. `ByteMatchSetId` is returned by [CreateByteMatchSet](#) and by [ListByteMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Updates

An array of [ByteMatchSetUpdate](#) objects that you want to insert into or delete from a [ByteMatchSet](#). For more information, see the applicable data types:

- [ByteMatchSetUpdate](#): Contains Action and [ByteMatchTuple](#)
- [ByteMatchTuple](#): Contains [FieldToMatch](#), [PositionalConstraint](#), [TargetString](#), and [TextTransformation](#)
- [FieldToMatch](#): Contains Data and Type

Type: Array of [ByteMatchSetUpdate](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## **ChangeToken**

The `ChangeToken` that you used to submit the `UpdateByteMatchSet` request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## **Errors**

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFInvalidOperationException**

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFNonexistentContainerException**

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a Rule to or delete a Rule from a WebACL that doesn't exist.
- You tried to add a ByteMatchSet to or delete a ByteMatchSet from a Rule that doesn't exist.
- You tried to add an IP address to or delete an IP address from an IPSet that doesn't exist.

- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UpdateGeoMatchSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Inserts or deletes [GeoMatchConstraint](#) objects in an GeoMatchSet. For each GeoMatchConstraint object, you specify the following values:

- Whether to insert or delete the object from the array. If you want to change an GeoMatchConstraint object, you delete the existing object and add a new one.
- The Type. The only valid value for Type is Country.
- The Value, which is a two character code for the country to add to the GeoMatchConstraint object. Valid codes are listed in [GeoMatchConstraint:Value](#).

To create and configure an GeoMatchSet, perform the following steps:

1. Submit a [CreateGeoMatchSet](#) request.
2. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of an [UpdateGeoMatchSet](#) request.
3. Submit an UpdateGeoMatchSet request to specify the country that you want Amazon WAF to watch for.

When you update an GeoMatchSet, you specify the country that you want to add and/or the country that you want to delete. If you want to change a country, you delete the existing country and add the new one.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "GeoMatchSetId": "string",
  "Updates": [
    {
      "Action": "string",
      "GeoMatchConstraint": {
        "Type": "string",
        "Value": "string"
      }
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### [GeoMatchSetId](#)

The GeoMatchSetId of the [GeoMatchSet](#) that you want to update. GeoMatchSetId is returned by [CreateGeoMatchSet](#) and by [ListGeoMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Updates

An array of [GeoMatchSetUpdate](#) objects that you want to insert into or delete from an [GeoMatchSet](#). For more information, see the applicable data types:

- [GeoMatchSetUpdate](#): Contains `Action` and `GeoMatchConstraint`
- [GeoMatchConstraint](#): Contains `Type` and `Value`

You can have only one `Type` and `Value` per `GeoMatchConstraint`. To add multiple countries, include multiple `GeoMatchSetUpdate` objects in your request.

Type: Array of [GeoMatchSetUpdate](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## Response Syntax

```
{  
  "ChangeToken": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [ChangeToken](#)

The `ChangeToken` that you used to submit the `UpdateGeoMatchSet` request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.

- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFNonexistentContainerException**

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a Rule to or delete a Rule from a WebACL that doesn't exist.
- You tried to add a ByteMatchSet to or delete a ByteMatchSet from a Rule that doesn't exist.
- You tried to add an IP address to or delete an IP address from an IPSet that doesn't exist.
- You tried to add a ByteMatchTuple to or delete a ByteMatchTuple from a ByteMatchSet that doesn't exist.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFReferencedItemException**

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UpdateIPSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Inserts or deletes [IPSetDescriptor](#) objects in an IPSet. For each IPSetDescriptor object, you specify the following values:

- Whether to insert or delete the object from the array. If you want to change an IPSetDescriptor object, you delete the existing object and add a new one.
- The IP address version, IPv4 or IPv6.
- The IP address in CIDR notation, for example, `192.0.2.0/24` (for the range of IP addresses from `192.0.2.0` to `192.0.2.255`) or `192.0.2.44/32` (for the individual IP address `192.0.2.44`).

Amazon WAF supports IPv4 address ranges: `/8` and any range between `/16` through `/32`. Amazon WAF supports IPv6 address ranges: `/24`, `/32`, `/48`, `/56`, `/64`, and `/128`. For more information about CIDR notation, see the Wikipedia entry [Classless Inter-Domain Routing](#).

IPv6 addresses can be represented using any of the following formats:

- `1111:0000:0000:0000:0000:0000:0111/128`
- `1111:0:0:0:0:0:0111/128`
- `1111::0111/128`
- `1111::111/128`

You use an IPSet to specify which web requests you want to allow or block based on the IP addresses that the requests originated from. For example, if you're receiving a lot of requests

from one or a small number of IP addresses and you want to block the requests, you can create an IPSet that specifies those IP addresses, and then configure Amazon WAF to block the requests.

To create and configure an IPSet, perform the following steps:

1. Submit a [CreateIPSet](#) request.
2. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of an [UpdateIPSet](#) request.
3. Submit an UpdateIPSet request to specify the IP addresses that you want Amazon WAF to watch for.

When you update an IPSet, you specify the IP addresses that you want to add and the IP addresses that you want to delete. If you want to change an IP address, delete the existing IP address and add the new one.

You can update a maximum of 1,000 addresses in a single request.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "IPSetId": "string",
  "Updates": [
    {
      "Action": "string",
      "IPSetDescriptor": {
        "Type": "string",
        "Value": "string"
      }
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

### IPSetId

The IPSetId of the [IPSet](#) that you want to update. IPSetId is returned by [CreateIPSet](#) and by [ListIPSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

### Updates

An array of [IPSetUpdate](#) objects that you want to insert into or delete from an [IPSet](#). For more information, see the applicable data types:

- [IPSetUpdate](#): Contains `Action` and `IPSetDescriptor`
- [IPSetDescriptor](#): Contains `Type` and `Value`

You can specify a maximum of 1,000 addresses in a single request, for example, in a single request you can insert 999 addresses and delete 1 address, but you can't insert 999 addresses and delete 2 addresses.

Type: Array of [IPSetUpdate](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## Response Syntax

```
{  
  "ChangeToken": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [ChangeToken](#)

The `ChangeToken` that you used to submit the `UpdateIPSet` request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFInvalidOperationException**

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultActionType` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafActionType` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatchType` other than `HEADER`, `METHOD`, `QUERY_STRING`, `URI`, or `BODY`.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFNonexistentContainerException**

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFReferencedItemException**

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)

- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UpdateRateBasedRule

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Inserts or deletes [Predicate](#) objects in a rule and updates the `RateLimit` in the rule.

Each `Predicate` object identifies a predicate, such as a [ByteMatchSet](#) or an [IPSet](#), that specifies the web requests that you want to block or count. The `RateLimit` specifies the number of requests every five minutes that triggers the rule.

If you add more than one predicate to a `RateBasedRule`, a request must match all the predicates and exceed the `RateLimit` to be counted or blocked. For example, suppose you add the following to a `RateBasedRule`:

- An `IPSet` that matches the IP address `192.0.2.44/32`
- A `ByteMatchSet` that matches `BadBot` in the `User-Agent` header

Further, you specify a `RateLimit` of 1,000.

You then add the `RateBasedRule` to a `WebACL` and specify that you want to block requests that satisfy the rule. For a request to be blocked, it must come from the IP address `192.0.2.44` *and* the `User-Agent` header in the request must contain the value `BadBot`. Further, requests that match these two conditions must be received at a rate of more than 1,000 every five minutes. If the rate drops below this limit, Amazon WAF no longer blocks the requests.

As a second example, suppose you want to limit requests to a particular page on your site. To do this, you could add the following to a `RateBasedRule`:

- A `ByteMatchSet` with `FieldToMatch` of `URI`

- A `PositionalConstraint` of `STARTS_WITH`
- A `TargetString` of `login`

Further, you specify a `RateLimit` of 1,000.

By adding this `RateBasedRule` to a `WebACL`, you could limit requests to your login page without affecting the rest of your site.

## Request Syntax

```
{
  "ChangeToken": "string",
  "RateLimit": number,
  "RuleId": "string",
  "Updates": [
    {
      "Action": "string",
      "Predicate": {
        "DataId": "string",
        "Negated": boolean,
        "Type": "string"
      }
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### RateLimit

The maximum number of requests, which have an identical value in the field specified by the `RateKey`, allowed in a five-minute period. If the number of requests exceeds the `RateLimit` and the other predicates specified in the rule are also met, Amazon WAF triggers the action that is specified for this rule.

Type: Long

Valid Range: Minimum value of 100. Maximum value of 2000000000.

Required: Yes

### RuleId

The `RuleId` of the `RateBasedRule` that you want to update. `RuleId` is returned by `CreateRateBasedRule` and by [ListRateBasedRules](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Updates

An array of `RuleUpdate` objects that you want to insert into or delete from a [RateBasedRule](#).

Type: Array of [RuleUpdate](#) objects

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ChangeToken

The ChangeToken that you used to submit the UpdateRateBasedRule request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a Rule from a WebACL, but the Rule isn't in the specified WebACL.
- You tried to remove an IP address from an IPSet, but the IP address isn't in the specified IPSet.
- You tried to remove a ByteMatchTuple from a ByteMatchSet, but the ByteMatchTuple isn't in the specified WebACL.
- You tried to add a Rule to a WebACL, but the Rule already exists in the specified WebACL.

- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified WebACL.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultActionType` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafActionType` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatchType` other than `HEADER`, `METHOD`, `QUERY_STRING`, `URI`, or `BODY`.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFNonexistentContainerException**

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.

- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFReferencedItemException**

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)

- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UpdateRegexMatchSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Inserts or deletes [RegexMatchTuple](#) objects (filters) in a [RegexMatchSet](#). For each `RegexMatchSetUpdate` object, you specify the following values:

- Whether to insert or delete the object from the array. If you want to change a `RegexMatchSetUpdate` object, you delete the existing object and add a new one.
- The part of a web request that you want Amazon WAF to inspect, such as a query string or the value of the `User-Agent` header.
- The identifier of the pattern (a regular expression) that you want Amazon WAF to look for. For more information, see [RegexPatternSet](#).
- Whether to perform any conversions on the request, such as converting it to lowercase, before inspecting it for the specified string.

For example, you can create a `RegexPatternSet` that matches any requests with `User-Agent` headers that contain the string `B[a@]dB[o0]t`. You can then configure Amazon WAF to reject those requests.

To create and configure a `RegexMatchSet`, perform the following steps:

1. Create a `RegexMatchSet`. For more information, see [CreateRegexMatchSet](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the `ChangeToken` parameter of an `UpdateRegexMatchSet` request.
3. Submit an `UpdateRegexMatchSet` request to specify the part of the request that you want Amazon WAF to inspect (for example, the header or the URI path) and the identifier of the

RegexPatternSet that contain the regular expression patterns you want Amazon WAF to watch for.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "RegexMatchSetId": "string",
  "Updates": [
    {
      "Action": "string",
      "RegexMatchTuple": {
        "FieldToMatch": {
          "Data": "string",
          "Type": "string"
        },
        "RegexPatternSetId": "string",
        "TextTransformation": "string"
      }
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

### RegexMatchSetId

The `RegexMatchSetId` of the [RegexMatchSet](#) that you want to update. `RegexMatchSetId` is returned by [CreateRegexMatchSet](#) and by [ListRegexMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Updates

An array of `RegexMatchSetUpdate` objects that you want to insert into or delete from a [RegexMatchSet](#). For more information, see [RegexMatchTuple](#).

Type: Array of [RegexMatchSetUpdate](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The `ChangeToken` that you used to submit the `UpdateRegexMatchSet` request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFNonexistentContainerException**

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a Rule to or delete a Rule from a WebACL that doesn't exist.
- You tried to add a ByteMatchSet to or delete a ByteMatchSet from a Rule that doesn't exist.
- You tried to add an IP address to or delete an IP address from an IPSet that doesn't exist.
- You tried to add a ByteMatchTuple to or delete a ByteMatchTuple from a ByteMatchSet that doesn't exist.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)

- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UpdateRegexPatternSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Inserts or deletes `RegexPatternString` objects in a [RegexPatternSet](#). For each `RegexPatternString` object, you specify the following values:

- Whether to insert or delete the `RegexPatternString`.
- The regular expression pattern that you want to insert or delete. For more information, see [RegexPatternSet](#).

For example, you can create a `RegexPatternString` such as `B[a@]dB[o0]t`. Amazon WAF will match this `RegexPatternString` to:

- `BadBot`
- `BadB0t`
- `B@dBot`
- `B@dB0t`

To create and configure a `RegexPatternSet`, perform the following steps:

1. Create a `RegexPatternSet`. For more information, see [CreateRegexPatternSet](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the `ChangeToken` parameter of an `UpdateRegexPatternSet` request.
3. Submit an `UpdateRegexPatternSet` request to specify the regular expression pattern that you want Amazon WAF to watch for.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "RegexPatternSetId": "string",
  "Updates": [
    {
      "Action": "string",
      "RegexPatternString": "string"
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

### [RegexPatternSetId](#)

The RegexPatternSetId of the [RegexPatternSet](#) that you want to update.

RegexPatternSetId is returned by [CreateRegexPatternSet](#) and by [ListRegexPatternSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Updates

An array of [RegexPatternSetUpdate](#) objects that you want to insert into or delete from a [RegexPatternSet](#).

Type: Array of [RegexPatternSetUpdate](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [ChangeToken](#)

The [ChangeToken](#) that you used to submit the [UpdateRegexPatternSet](#) request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a Rule from a WebACL, but the Rule isn't in the specified WebACL.
- You tried to remove an IP address from an IPSet, but the IP address isn't in the specified IPSet.
- You tried to remove a ByteMatchTuple from a ByteMatchSet, but the ByteMatchTuple isn't in the specified WebACL.
- You tried to add a Rule to a WebACL, but the Rule already exists in the specified WebACL.
- You tried to add a ByteMatchTuple to a ByteMatchSet, but the ByteMatchTuple already exists in the specified WebACL.

HTTP Status Code: 400

## WAFInvalidRegexPatternException

The regular expression (regex) you specified in `RegexPatternString` is invalid.

HTTP Status Code: 400

## WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

## WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a Rule to or delete a Rule from a WebACL that doesn't exist.
- You tried to add a ByteMatchSet to or delete a ByteMatchSet from a Rule that doesn't exist.
- You tried to add an IP address to or delete an IP address from an IPSet that doesn't exist.
- You tried to add a ByteMatchTuple to or delete a ByteMatchTuple from a ByteMatchSet that doesn't exist.

HTTP Status Code: 400

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)

- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UpdateRule

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Inserts or deletes [Predicate](#) objects in a `Rule`. Each `Predicate` object identifies a predicate, such as a [ByteMatchSet](#) or an [IPSet](#), that specifies the web requests that you want to allow, block, or count. If you add more than one predicate to a `Rule`, a request must match all of the specifications to be allowed, blocked, or counted. For example, suppose that you add the following to a `Rule`:

- A `ByteMatchSet` that matches the value `BadBot` in the `User-Agent` header
- An `IPSet` that matches the IP address `192.0.2.44`

You then add the `Rule` to a `WebACL` and specify that you want to block requests that satisfy the `Rule`. For a request to be blocked, the `User-Agent` header in the request must contain the value `BadBot` *and* the request must originate from the IP address `192.0.2.44`.

To create and configure a `Rule`, perform the following steps:

1. Create and update the predicates that you want to include in the `Rule`.
2. Create the `Rule`. See [CreateRule](#).
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an [UpdateRule](#) request.
4. Submit an `UpdateRule` request to add predicates to the `Rule`.
5. Create and update a `WebACL` that contains the `Rule`. See [CreateWebACL](#).

If you want to replace one `ByteMatchSet` or `IPSet` with another, you delete the existing one and add the new one.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "RuleId": "string",
  "Updates": [
    {
      "Action": "string",
      "Predicate": {
        "DataId": "string",
        "Negated": boolean,
        "Type": "string"
      }
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### RuleId

The RuleId of the Rule that you want to update. RuleId is returned by [CreateRule](#) and by [ListRules](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Updates

An array of `RuleUpdate` objects that you want to insert into or delete from a [Rule](#). For more information, see the applicable data types:

- [RuleUpdate](#): Contains `Action` and `Predicate`
- [Predicate](#): Contains `DataId`, `Negated`, and `Type`
- [FieldToMatch](#): Contains `Data` and `Type`

Type: Array of [RuleUpdate](#) objects

Required: Yes

## Response Syntax

```
{  
  "ChangeToken": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The `ChangeToken` that you used to submit the `UpdateRule` request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.

- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFNonexistentContainerException**

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a Rule to or delete a Rule from a WebACL that doesn't exist.
- You tried to add a ByteMatchSet to or delete a ByteMatchSet from a Rule that doesn't exist.
- You tried to add an IP address to or delete an IP address from an IPSet that doesn't exist.
- You tried to add a ByteMatchTuple to or delete a ByteMatchTuple from a ByteMatchSet that doesn't exist.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFReferencedItemException**

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)



```
{
  "Action": "string",
  "ActivatedRule": {
    "Action": {
      "Type": "string"
    },
    "ExcludedRules": [
      {
        "RuleId": "string"
      }
    ],
    "OverrideAction": {
      "Type": "string"
    },
    "Priority": number,
    "RuleId": "string",
    "Type": "string"
  }
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

### RuleGroupId

The RuleGroupId of the [RuleGroup](#) that you want to update. RuleGroupId is returned by [CreateRuleGroup](#) and by [ListRuleGroups](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Updates

An array of `RuleGroupUpdate` objects that you want to insert into or delete from a [RuleGroup](#).

You can only insert REGULAR rules into a rule group.

`ActivatedRule|OverrideAction` applies only when updating or adding a `RuleGroup` to a WebACL. In this case you do not use `ActivatedRule|Action`. For all other update requests, `ActivatedRule|Action` is used instead of `ActivatedRule|OverrideAction`.

Type: Array of [RuleGroupUpdate](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## Response Syntax

```
{  
  "ChangeToken": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The `ChangeToken` that you used to submit the `UpdateRuleGroup` request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction Type` other than `ALLOW`, `BLOCK`, or `COUNT`.

- You tried to create a `RateBasedRule` with a `RateKey` value other than IP.
- You tried to update a `WebACL` with a `WafAction` Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of HEADER but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFNonexistentContainerException**

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UpdateSizeConstraintSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Inserts or deletes [SizeConstraint](#) objects (filters) in a [SizeConstraintSet](#). For each `SizeConstraint` object, you specify the following values:

- Whether to insert or delete the object from the array. If you want to change a `SizeConstraintSetUpdate` object, you delete the existing object and add a new one.
- The part of a web request that you want Amazon WAF to evaluate, such as the length of a query string or the length of the `User-Agent` header.
- Whether to perform any transformations on the request, such as converting it to lowercase, before checking its length. Note that transformations of the request body are not supported because the Amazon resource forwards only the first 8192 bytes of your request to Amazon WAF.

You can only specify a single type of `TextTransformation`.

- A `ComparisonOperator` used for evaluating the selected part of the request against the specified `Size`, such as equals, greater than, less than, and so on.
- The length, in bytes, that you want Amazon WAF to watch for in selected part of the request. The length is computed after applying the transformation.

For example, you can add a `SizeConstraintSetUpdate` object that matches web requests in which the length of the `User-Agent` header is greater than 100 bytes. You can then configure Amazon WAF to block those requests.

To create and configure a `SizeConstraintSet`, perform the following steps:

1. Create a `SizeConstraintSet`. For more information, see [CreateSizeConstraintSet](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the `ChangeToken` parameter of an `UpdateSizeConstraintSet` request.
3. Submit an `UpdateSizeConstraintSet` request to specify the part of the request that you want Amazon WAF to inspect (for example, the header or the URI path) and the value that you want Amazon WAF to watch for.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "SizeConstraintSetId": "string",
  "Updates": [
    {
      "Action": "string",
      "SizeConstraint": {
        "ComparisonOperator": "string",
        "FieldToMatch": {
          "Data": "string",
          "Type": "string"
        },
        "Size": number,
        "TextTransformation": "string"
      }
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### SizeConstraintSetId

The `SizeConstraintSetId` of the [SizeConstraintSet](#) that you want to update.

`SizeConstraintSetId` is returned by [CreateSizeConstraintSet](#) and by [ListSizeConstraintSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Updates

An array of `SizeConstraintSetUpdate` objects that you want to insert into or delete from a [SizeConstraintSet](#). For more information, see the applicable data types:

- [SizeConstraintSetUpdate](#): Contains `Action` and `SizeConstraint`
- [SizeConstraint](#): Contains `FieldToMatch`, `TextTransformation`, `ComparisonOperator`, and `Size`
- [FieldToMatch](#): Contains `Data` and `Type`

Type: Array of [SizeConstraintSetUpdate](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## Response Syntax

```
{  
  "ChangeToken": "string"  
}
```

```
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The ChangeToken that you used to submit the UpdateSizeConstraintSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFInvalidOperationException**

The operation failed because there was nothing to do. For example:

- You tried to remove a Rule from a WebACL, but the Rule isn't in the specified WebACL.

- You tried to remove an IP address from an IPSet, but the IP address isn't in the specified IPSet.
- You tried to remove a ByteMatchTuple from a ByteMatchSet, but the ByteMatchTuple isn't in the specified WebACL.
- You tried to add a Rule to a WebACL, but the Rule already exists in the specified WebACL.
- You tried to add a ByteMatchTuple to a ByteMatchSet, but the ByteMatchTuple already exists in the specified WebACL.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

## WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

## WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)

- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UpdateSqlInjectionMatchSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Inserts or deletes [SqlInjectionMatchTuple](#) objects (filters) in a [SqlInjectionMatchSet](#). For each [SqlInjectionMatchTuple](#) object, you specify the following values:

- **Action:** Whether to insert the object into or delete the object from the array. To change a [SqlInjectionMatchTuple](#), you delete the existing object and add a new one.
- **FieldToMatch:** The part of web requests that you want Amazon WAF to inspect and, if you want Amazon WAF to inspect a header or custom query parameter, the name of the header or parameter.
- **TextTransformation:** Which text transformation, if any, to perform on the web request before inspecting the request for snippets of malicious SQL code.

You can only specify a single type of [TextTransformation](#).

You use [SqlInjectionMatchSet](#) objects to specify which Amazon CloudFront requests that you want to allow, block, or count. For example, if you're receiving requests that contain snippets of SQL code in the query string and you want to block the requests, you can create a [SqlInjectionMatchSet](#) with the applicable settings, and then configure Amazon WAF to block the requests.

To create and configure a [SqlInjectionMatchSet](#), perform the following steps:

1. Submit a [CreateSqlInjectionMatchSet](#) request.
2. Use [GetChangeToken](#) to get the change token that you provide in the [ChangeToken](#) parameter of an [UpdateIPSet](#) request.

3. Submit an `UpdateSqlInjectionMatchSet` request to specify the parts of web requests that you want Amazon WAF to inspect for snippets of SQL code.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "SqlInjectionMatchSetId": "string",
  "Updates": [
    {
      "Action": "string",
      "SqlInjectionMatchTuple": {
        "FieldToMatch": {
          "Data": "string",
          "Type": "string"
        },
        "TextTransformation": "string"
      }
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## SqlInjectionMatchSetId

The `SqlInjectionMatchSetId` of the `SqlInjectionMatchSet` that you want to update. `SqlInjectionMatchSetId` is returned by [CreateSqlInjectionMatchSet](#) and by [ListSqlInjectionMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Updates

An array of `SqlInjectionMatchSetUpdate` objects that you want to insert into or delete from a [SqlInjectionMatchSet](#). For more information, see the applicable data types:

- [SqlInjectionMatchSetUpdate](#): Contains `Action` and `SqlInjectionMatchTuple`
- [SqlInjectionMatchTuple](#): Contains `FieldToMatch` and `TextTransformation`
- [FieldToMatch](#): Contains `Data` and `Type`

Type: Array of [SqlInjectionMatchSetUpdate](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ChangeToken

The ChangeToken that you used to submit the UpdateSqlInjectionMatchSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a Rule from a WebACL, but the Rule isn't in the specified WebACL.
- You tried to remove an IP address from an IPSet, but the IP address isn't in the specified IPSet.
- You tried to remove a ByteMatchTuple from a ByteMatchSet, but the ByteMatchTuple isn't in the specified WebACL.
- You tried to add a Rule to a WebACL, but the Rule already exists in the specified WebACL.
- You tried to add a ByteMatchTuple to a ByteMatchSet, but the ByteMatchTuple already exists in the specified WebACL.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFNonexistentContainerException**

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a Rule to or delete a Rule from a WebACL that doesn't exist.
- You tried to add a ByteMatchSet to or delete a ByteMatchSet from a Rule that doesn't exist.
- You tried to add an IP address to or delete an IP address from an IPSet that doesn't exist.

- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UpdateWebACL

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Inserts or deletes [ActivatedRule](#) objects in a WebACL. Each `Rule` identifies web requests that you want to allow, block, or count. When you update a WebACL, you specify the following values:

- A default action for the WebACL, either `ALLOW` or `BLOCK`. Amazon WAF performs the default action if a request doesn't match the criteria in any of the `Rules` in a WebACL.
- The `Rules` that you want to add or delete. If you want to replace one `Rule` with another, you delete the existing `Rule` and add the new one.
- For each `Rule`, whether you want Amazon WAF to allow requests, block requests, or count requests that match the conditions in the `Rule`.
- The order in which you want Amazon WAF to evaluate the `Rules` in a WebACL. If you add more than one `Rule` to a WebACL, Amazon WAF evaluates each request against the `Rules` in order based on the value of `Priority`. (The `Rule` that has the lowest value for `Priority` is evaluated first.) When a web request matches all the predicates (such as `ByteMatchSets` and `IPSets`) in a `Rule`, Amazon WAF immediately takes the corresponding action, allow or block, and doesn't evaluate the request against the remaining `Rules` in the WebACL, if any.

To create and configure a WebACL, perform the following steps:

1. Create and update the predicates that you want to include in `Rules`. For more information, see [CreateByteMatchSet](#), [UpdateByteMatchSet](#), [CreateIPSet](#), [UpdateIPSet](#), [CreateSqlInjectionMatchSet](#), and [UpdateSqlInjectionMatchSet](#).
2. Create and update the `Rules` that you want to include in the WebACL. For more information, see [CreateRule](#) and [UpdateRule](#).

3. Create a WebACL. See [CreateWebACL](#).
4. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an [UpdateWebACL](#) request.
5. Submit an `UpdateWebACL` request to specify the `Rules` that you want to include in the WebACL, to specify the default action, and to associate the WebACL with an Amazon CloudFront distribution.

The `ActivatedRule` can be a rule group. If you specify a rule group as your `ActivatedRule`, you can exclude specific rules from that rule group.

If you already have a rule group associated with a web ACL and want to submit an `UpdateWebACL` request to exclude certain rules from that rule group, you must first remove the rule group from the web ACL, re-insert it again, specifying the excluded rules. For details, see [ActivatedRule:ExcludedRules](#).

Be aware that if you try to add a `RATE_BASED` rule to a web ACL without setting the rule type when first creating the rule, the [UpdateWebACL](#) request will fail because the request tries to add a `REGULAR` rule (the default rule type) with the specified ID, which does not exist.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "DefaultAction": {
    "Type": "string"
  },
  "Updates": [
    {
      "Action": "string",
      "ActivatedRule": {
        "Action": {
          "Type": "string"
        },
        "ExcludedRules": [
          {
            "RuleId": "string"
          }
        ]
      }
    }
  ]
}
```

```
    ],
    "OverrideAction": {
      "Type": "string"
    },
    "Priority": number,
    "RuleId": "string",
    "Type": "string"
  }
}
],
"WebACLId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

### [DefaultAction](#)

Type: [WafAction](#) object

Required: No

### [Updates](#)

An array of updates to make to the [WebACL](#).

An array of [WebACLUpdate](#) objects that you want to insert into or delete from a [WebACL](#). For more information, see the applicable data types:

- [WebACLUpdate](#): Contains Action and ActivatedRule

- [ActivatedRule](#): Contains Action, OverrideAction, Priority, RuleId, and Type. ActivatedRule | OverrideAction applies only when updating or adding a RuleGroup to a WebACL. In this case, you do not use ActivatedRule | Action. For all other update requests, ActivatedRule | Action is used instead of ActivatedRule | OverrideAction.
- [WafAction](#): Contains Type

Type: Array of [WebACLUpdate](#) objects

Required: No

### [WebACLId](#)

The WebACLId of the [WebACL](#) that you want to update. WebACLId is returned by [CreateWebACL](#) and by [ListWebACLs](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{  
  "ChangeToken": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [ChangeToken](#)

The ChangeToken that you used to submit the UpdateWebACL request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.

- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFNonexistentContainerException**

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a Rule to or delete a Rule from a WebACL that doesn't exist.
- You tried to add a ByteMatchSet to or delete a ByteMatchSet from a Rule that doesn't exist.
- You tried to add an IP address to or delete an IP address from an IPSet that doesn't exist.
- You tried to add a ByteMatchTuple to or delete a ByteMatchTuple from a ByteMatchSet that doesn't exist.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFReferencedItemException**

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

### **WAFSubscriptionNotFoundException**

The specified subscription does not exist.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UpdateXssMatchSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Inserts or deletes [XssMatchTuple](#) objects (filters) in an [XssMatchSet](#). For each [XssMatchTuple](#) object, you specify the following values:

- **Action**: Whether to insert the object into or delete the object from the array. To change an [XssMatchTuple](#), you delete the existing object and add a new one.
- **FieldToMatch**: The part of web requests that you want Amazon WAF to inspect and, if you want Amazon WAF to inspect a header or custom query parameter, the name of the header or parameter.
- **TextTransformation**: Which text transformation, if any, to perform on the web request before inspecting the request for cross-site scripting attacks.

You can only specify a single type of [TextTransformation](#).

You use [XssMatchSet](#) objects to specify which Amazon CloudFront requests that you want to allow, block, or count. For example, if you're receiving requests that contain cross-site scripting attacks in the request body and you want to block the requests, you can create an [XssMatchSet](#) with the applicable settings, and then configure Amazon WAF to block the requests.

To create and configure an [XssMatchSet](#), perform the following steps:

1. Submit a [CreateXssMatchSet](#) request.
2. Use [GetChangeToken](#) to get the change token that you provide in the [ChangeToken](#) parameter of an [UpdateIPSet](#) request.

3. Submit an `UpdateXssMatchSet` request to specify the parts of web requests that you want Amazon WAF to inspect for cross-site scripting attacks.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "Updates": [
    {
      "Action": "string",
      "XssMatchTuple": {
        "FieldToMatch": {
          "Data": "string",
          "Type": "string"
        },
        "TextTransformation": "string"
      }
    }
  ],
  "XssMatchSetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Updates

An array of `XssMatchSetUpdate` objects that you want to insert into or delete from an [XssMatchSet](#). For more information, see the applicable data types:

- [XssMatchSetUpdate](#): Contains `Action` and `XssMatchTuple`
- [XssMatchTuple](#): Contains `FieldToMatch` and `TextTransformation`
- [FieldToMatch](#): Contains `Data` and `Type`

Type: Array of [XssMatchSetUpdate](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## [XssMatchSetId](#)

The `XssMatchSetId` of the `XssMatchSet` that you want to update. `XssMatchSetId` is returned by [CreateXssMatchSet](#) and by [ListXssMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ChangeToken

The ChangeToken that you used to submit the UpdateXssMatchSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a Rule from a WebACL, but the Rule isn't in the specified WebACL.
- You tried to remove an IP address from an IPSet, but the IP address isn't in the specified IPSet.
- You tried to remove a ByteMatchTuple from a ByteMatchSet, but the ByteMatchTuple isn't in the specified WebACL.
- You tried to add a Rule to a WebACL, but the Rule already exists in the specified WebACL.
- You tried to add a ByteMatchTuple to a ByteMatchSet, but the ByteMatchTuple already exists in the specified WebACL.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFNonexistentContainerException**

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a Rule to or delete a Rule from a WebACL that doesn't exist.
- You tried to add a ByteMatchSet to or delete a ByteMatchSet from a Rule that doesn't exist.
- You tried to add an IP address to or delete an IP address from an IPSet that doesn't exist.

- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

## **Amazon WAF Classic Regional**

The following actions are supported by Amazon WAF Classic Regional:

- [AssociateWebACL](#)
- [CreateByteMatchSet](#)
- [CreateGeoMatchSet](#)
- [CreateIPSet](#)
- [CreateRateBasedRule](#)
- [CreateRegexMatchSet](#)
- [CreateRegexPatternSet](#)
- [CreateRule](#)
- [CreateRuleGroup](#)
- [CreateSizeConstraintSet](#)
- [CreateSqlInjectionMatchSet](#)
- [CreateWebACL](#)
- [CreateWebACLMigrationStack](#)
- [CreateXssMatchSet](#)
- [DeleteByteMatchSet](#)
- [DeleteGeoMatchSet](#)
- [DeleteIPSet](#)
- [DeleteLoggingConfiguration](#)
- [DeletePermissionPolicy](#)
- [DeleteRateBasedRule](#)
- [DeleteRegexMatchSet](#)
- [DeleteRegexPatternSet](#)
- [DeleteRule](#)
- [DeleteRuleGroup](#)
- [DeleteSizeConstraintSet](#)
- [DeleteSqlInjectionMatchSet](#)
- [DeleteWebACL](#)
- [DeleteXssMatchSet](#)
- [DisassociateWebACL](#)
- [GetByteMatchSet](#)

- [GetChangeToken](#)
- [GetChangeTokenStatus](#)
- [GetGeoMatchSet](#)
- [GetIPSet](#)
- [GetLoggingConfiguration](#)
- [GetPermissionPolicy](#)
- [GetRateBasedRule](#)
- [GetRateBasedRuleManagedKeys](#)
- [GetRegexMatchSet](#)
- [GetRegexPatternSet](#)
- [GetRule](#)
- [GetRuleGroup](#)
- [GetSampledRequests](#)
- [GetSizeConstraintSet](#)
- [GetSqlInjectionMatchSet](#)
- [GetWebACL](#)
- [GetWebACLForResource](#)
- [GetXssMatchSet](#)
- [ListActivatedRulesInRuleGroup](#)
- [ListByteMatchSets](#)
- [ListGeoMatchSets](#)
- [ListIPSets](#)
- [ListLoggingConfigurations](#)
- [ListRateBasedRules](#)
- [ListRegexMatchSets](#)
- [ListRegexPatternSets](#)
- [ListResourcesForWebACL](#)
- [ListRuleGroups](#)
- [ListRules](#)
- [ListSizeConstraintSets](#)

- [ListSqlInjectionMatchSets](#)
- [ListSubscribedRuleGroups](#)
- [ListTagsForResource](#)
- [ListWebACLs](#)
- [ListXssMatchSets](#)
- [PutLoggingConfiguration](#)
- [PutPermissionPolicy](#)
- [TagResource](#)
- [UntagResource](#)
- [UpdateByteMatchSet](#)
- [UpdateGeoMatchSet](#)
- [UpdateIPSet](#)
- [UpdateRateBasedRule](#)
- [UpdateRegexMatchSet](#)
- [UpdateRegexPatternSet](#)
- [UpdateRule](#)
- [UpdateRuleGroup](#)
- [UpdateSizeConstraintSet](#)
- [UpdateSqlInjectionMatchSet](#)
- [UpdateWebACL](#)
- [UpdateXssMatchSet](#)

# AssociateWebACL

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Associates a web ACL with a resource, either an application load balancer or Amazon API Gateway stage.

## Request Syntax

```
{
  "ResourceArn": "string",
  "WebACLId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ResourceArn

The ARN (Amazon Resource Name) of the resource to be protected, either an application load balancer or Amazon API Gateway stage.

The ARN should be in one of the following formats:

- For an Application Load Balancer: `arn:aws:elasticloadbalancing:region:account-id:loadbalancer/app/load-balancer-name/load-balancer-id`
- For an Amazon API Gateway stage: `arn:aws:apigateway:region::/restapis/api-id/stages/stage-name`

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: Yes

### WebACLId

A unique identifier (ID) for the web ACL.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFUnavailableEntityException**

The operation failed because the entity referenced is temporarily unavailable. Retry your request.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)

- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateByteMatchSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Creates a ByteMatchSet. You then use [UpdateByteMatchSet](#) to identify the part of a web request that you want Amazon WAF to inspect, such as the values of the User-Agent header or the query string. For example, you can create a ByteMatchSet that matches any requests with User-Agent headers that contain the string BadBot. You can then configure Amazon WAF to reject those requests.

To create and configure a ByteMatchSet, perform the following steps:

1. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of a CreateByteMatchSet request.
2. Submit a CreateByteMatchSet request.
3. Use GetChangeToken to get the change token that you provide in the ChangeToken parameter of an UpdateByteMatchSet request.
4. Submit an [UpdateByteMatchSet](#) request to specify the part of the request that you want Amazon WAF to inspect (for example, the header or the URI path) and the value that you want Amazon WAF to watch for.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{  
  "ChangeToken": "string",
```

```
"Name": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Name

A friendly name or description of the [ByteMatchSet](#). You can't change Name after you create a ByteMatchSet.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{  
  "ByteMatchSet": {  
    "ByteMatchSetId": "string",  
    "ByteMatchTuples": [  
      {  
        "FieldToMatch": {  
          "Data": "string",
```

```
        "Type": "string"
      },
      "PositionalConstraint": "string",
      "TargetString": blob,
      "TextTransformation": "string"
    }
  ],
  "Name": "string"
},
"ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ByteMatchSet

A [ByteMatchSet](#) that contains no [ByteMatchTuple](#) objects.

Type: [ByteMatchSet](#) object

### ChangeToken

The [ChangeToken](#) that you used to submit the [CreateByteMatchSet](#) request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFDisallowedNameException**

The name specified is invalid.

HTTP Status Code: 400

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

## **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateGeoMatchSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Creates an [GeoMatchSet](#), which you use to specify which web requests you want to allow or block based on the country that the requests originate from. For example, if you're receiving a lot of requests from one or more countries and you want to block the requests, you can create an GeoMatchSet that contains those countries and then configure Amazon WAF to block the requests.

To create and configure a GeoMatchSet, perform the following steps:

1. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of a CreateGeoMatchSet request.
2. Submit a CreateGeoMatchSet request.
3. Use GetChangeToken to get the change token that you provide in the ChangeToken parameter of an [UpdateGeoMatchSet](#) request.
4. Submit an UpdateGeoMatchSet request to specify the countries that you want Amazon WAF to watch for.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{  
  "ChangeToken": "string",  
  "Name": "string"
```

```
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Name

A friendly name or description of the [GeoMatchSet](#). You can't change Name after you create the GeoMatchSet.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string",
  "GeoMatchSet": {
    "GeoMatchConstraints": [
      {
        "Type": "string",
        "Value": "string"
      }
    ]
  }
}
```

```
    ],  
    "GeoMatchSetId": "string",  
    "Name": "string"  
  }  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The ChangeToken that you used to submit the CreateGeoMatchSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

### GeoMatchSet

The [GeoMatchSet](#) returned in the CreateGeoMatchSet response. The GeoMatchSet contains no GeoMatchConstraints.

Type: [GeoMatchSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFDisallowedNameException**

The name specified is invalid.

HTTP Status Code: 400

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateIPSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Creates an [IPSet](#), which you use to specify which web requests that you want to allow or block based on the IP addresses that the requests originate from. For example, if you're receiving a lot of requests from one or more individual IP addresses or one or more ranges of IP addresses and you want to block the requests, you can create an IPSet that contains those IP addresses and then configure Amazon WAF to block the requests.

To create and configure an IPSet, perform the following steps:

1. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of a CreateIPSet request.
2. Submit a CreateIPSet request.
3. Use GetChangeToken to get the change token that you provide in the ChangeToken parameter of an [UpdateIPSet](#) request.
4. Submit an UpdateIPSet request to specify the IP addresses that you want Amazon WAF to watch for.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "Name": "string"
}
```

```
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### [Name](#)

A friendly name or description of the [IPSet](#). You can't change Name after you create the IPSet.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string",
  "IPSet": {
    "IPSetDescriptors": [
      {
        "Type": "string",
        "Value": "string"
      }
    ],
  },
}
```

```
    "IPSetId": "string",  
    "Name": "string"  
  }  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The ChangeToken that you used to submit the CreateIPSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

### IPSet

The [IPSet](#) returned in the CreateIPSet response.

Type: [IPSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFDisallowedNameException**

The name specified is invalid.

HTTP Status Code: 400

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

## WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

## WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateRateBasedRule

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Creates a [RateBasedRule](#). The `RateBasedRule` contains a `RateLimit`, which specifies the maximum number of requests that Amazon WAF allows from a specified IP address in a five-minute period. The `RateBasedRule` also contains the `IPSet` objects, `ByteMatchSet` objects, and other predicates that identify the requests that you want to count or block if these requests exceed the `RateLimit`.

If you add more than one predicate to a `RateBasedRule`, a request not only must exceed the `RateLimit`, but it also must match all the conditions to be counted or blocked. For example, suppose you add the following to a `RateBasedRule`:

- An `IPSet` that matches the IP address `192.0.2.44/32`
- A `ByteMatchSet` that matches `BadBot` in the `User-Agent` header

Further, you specify a `RateLimit` of 1,000.

You then add the `RateBasedRule` to a `WebACL` and specify that you want to block requests that meet the conditions in the rule. For a request to be blocked, it must come from the IP address `192.0.2.44` *and* the `User-Agent` header in the request must contain the value `BadBot`. Further, requests that match these two conditions must be received at a rate of more than 1,000 requests every five minutes. If both conditions are met and the rate is exceeded, Amazon WAF blocks the requests. If the rate drops below 1,000 for a five-minute period, Amazon WAF no longer blocks the requests.

As a second example, suppose you want to limit requests to a particular page on your site. To do this, you could add the following to a `RateBasedRule`:

- A `ByteMatchSet` with `FieldToMatch` of `URI`
- A `PositionalConstraint` of `STARTS_WITH`
- A `TargetString` of `login`

Further, you specify a `RateLimit` of 1,000.

By adding this `RateBasedRule` to a `WebACL`, you could limit requests to your login page without affecting the rest of your site.

To create and configure a `RateBasedRule`, perform the following steps:

1. Create and update the predicates that you want to include in the rule. For more information, see [CreateByteMatchSet](#), [CreateIPSet](#), and [CreateSqlInjectionMatchSet](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the `ChangeToken` parameter of a `CreateRule` request.
3. Submit a `CreateRateBasedRule` request.
4. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an [UpdateRule](#) request.
5. Submit an `UpdateRateBasedRule` request to specify the predicates that you want to include in the rule.
6. Create and update a `WebACL` that contains the `RateBasedRule`. For more information, see [CreateWebACL](#).

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "MetricName": "string",
  "Name": "string",
  "RateKey": "string",
  "RateLimit": number,
  "Tags": [
    {
```

```
    "Key": "string",  
    "Value": "string"  
  }  
]  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ChangeToken

The ChangeToken that you used to submit the CreateRateBasedRule request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### MetricName

A friendly name or description for the metrics for this RateBasedRule. The name can contain only alphanumeric characters (A-Z, a-z, 0-9), with maximum length 128 and minimum length one. It can't contain whitespace or metric names reserved for Amazon WAF, including "All" and "Default\_Action." You can't change the name of the metric after you create the RateBasedRule.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Name

A friendly name or description of the [RateBasedRule](#). You can't change the name of a `RateBasedRule` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## RateKey

The field that Amazon WAF uses to determine if requests are likely arriving from a single source and thus subject to rate monitoring. The only valid value for `RateKey` is `IP`. `IP` indicates that requests that arrive from the same IP address are subject to the `RateLimit` that is specified in the `RateBasedRule`.

Type: String

Valid Values: `IP`

Required: Yes

## RateLimit

The maximum number of requests, which have an identical value in the field that is specified by `RateKey`, allowed in a five-minute period. If the number of requests exceeds the `RateLimit` and the other predicates specified in the rule are also met, Amazon WAF triggers the action that is specified for this rule.

Type: Long

Valid Range: Minimum value of 100. Maximum value of 2000000000.

Required: Yes

## Tags

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item.

Required: No

## Response Syntax

```
{
  "ChangeToken": "string",
  "Rule": {
    "MatchPredicates": [
      {
        "DataId": "string",
        "Negated": boolean,
        "Type": "string"
      }
    ],
    "MetricName": "string",
    "Name": "string",
    "RateKey": "string",
    "RateLimit": number,
    "RuleId": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The `ChangeToken` that you used to submit the `CreateRateBasedRule` request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

### Rule

The [RateBasedRule](#) that is returned in the `CreateRateBasedRule` response.

Type: [RateBasedRule](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFBadRequestException

HTTP Status Code: 400

### WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.

- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

### **WAFTagOperationException**

HTTP Status Code: 400

### **WAFTagOperationInternalErrorException**

HTTP Status Code: 500

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)

- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateRegexMatchSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Creates a [RegexMatchSet](#). You then use [UpdateRegexMatchSet](#) to identify the part of a web request that you want Amazon WAF to inspect, such as the values of the User-Agent header or the query string. For example, you can create a `RegexMatchSet` that contains a `RegexMatchTuple` that looks for any requests with User-Agent headers that match a `RegexPatternSet` with pattern `B[a@]dB[o0]t`. You can then configure Amazon WAF to reject those requests.

To create and configure a `RegexMatchSet`, perform the following steps:

1. Use [GetChangeToken](#) to get the change token that you provide in the `ChangeToken` parameter of a `CreateRegexMatchSet` request.
2. Submit a `CreateRegexMatchSet` request.
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an `UpdateRegexMatchSet` request.
4. Submit an [UpdateRegexMatchSet](#) request to specify the part of the request that you want Amazon WAF to inspect (for example, the header or the URI path) and the value, using a `RegexPatternSet`, that you want Amazon WAF to watch for.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
```

```
"ChangeToken": "string",  
"Name": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Name

A friendly name or description of the [RegexMatchSet](#). You can't change Name after you create a [RegexMatchSet](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{  
  "ChangeToken": "string",  
  "RegexMatchSet": {  
    "Name": "string",  
    "RegexMatchSetId": "string",  
    "RegexMatchTuples": [  

```

```
{
  "FieldToMatch": {
    "Data": "string",
    "Type": "string"
  },
  "RegexPatternSetId": "string",
  "TextTransformation": "string"
}
]
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The ChangeToken that you used to submit the CreateRegexMatchSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

### RegexMatchSet

A [RegexMatchSet](#) that contains no RegexMatchTuple objects.

Type: [RegexMatchSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFDisallowedNameException**

The name specified is invalid.

HTTP Status Code: 400

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)



# CreateRegexPatternSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Creates a `RegexPatternSet`. You then use [UpdateRegexPatternSet](#) to specify the regular expression (regex) pattern that you want Amazon WAF to search for, such as `B[a@]dB[o0]t`. You can then configure Amazon WAF to reject those requests.

To create and configure a `RegexPatternSet`, perform the following steps:

1. Use [GetChangeToken](#) to get the change token that you provide in the `ChangeToken` parameter of a `CreateRegexPatternSet` request.
2. Submit a `CreateRegexPatternSet` request.
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an `UpdateRegexPatternSet` request.
4. Submit an [UpdateRegexPatternSet](#) request to specify the string that you want Amazon WAF to watch for.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "Name": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Name

A friendly name or description of the [RegexPatternSet](#). You can't change Name after you create a `RegexPatternSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string",
  "RegexPatternSet": {
    "Name": "string",
    "RegexPatternSetId": "string",
    "RegexPatternStrings": [ "string" ]
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The ChangeToken that you used to submit the CreateRegexPatternSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

### RegexPatternSet

A [RegexPatternSet](#) that contains no objects.

Type: [RegexPatternSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFDisallowedNameException**

The name specified is invalid.

HTTP Status Code: 400

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

## WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateRule

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Creates a `Rule`, which contains the `IPSet` objects, `ByteMatchSet` objects, and other predicates that identify the requests that you want to block. If you add more than one predicate to a `Rule`, a request must match all of the specifications to be allowed or blocked. For example, suppose that you add the following to a `Rule`:

- An `IPSet` that matches the IP address `192.0.2.44/32`
- A `ByteMatchSet` that matches `BadBot` in the `User-Agent` header

You then add the `Rule` to a `WebACL` and specify that you want to blocks requests that satisfy the `Rule`. For a request to be blocked, it must come from the IP address `192.0.2.44` *and* the `User-Agent` header in the request must contain the value `BadBot`.

To create and configure a `Rule`, perform the following steps:

1. Create and update the predicates that you want to include in the `Rule`. For more information, see [CreateByteMatchSet](#), [CreateIPSet](#), and [CreateSqlInjectionMatchSet](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the `ChangeToken` parameter of a `CreateRule` request.
3. Submit a `CreateRule` request.
4. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an [UpdateRule](#) request.
5. Submit an `UpdateRule` request to specify the predicates that you want to include in the `Rule`.
6. Create and update a `WebACL` that contains the `Rule`. For more information, see [CreateWebACL](#).

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "MetricName": "string",
  "Name": "string",
  "Tags": [
    {
      "Key": "string",
      "Value": "string"
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### [MetricName](#)

A friendly name or description for the metrics for this Rule. The name can contain only alphanumeric characters (A-Z, a-z, 0-9), with maximum length 128 and minimum length one. It can't contain whitespace or metric names reserved for Amazon WAF, including "All" and "Default\_Action." You can't change the name of the metric after you create the Rule.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Name

A friendly name or description of the [Rule](#). You can't change the name of a Rule after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Tags

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item.

Required: No

## Response Syntax

```
{
  "ChangeToken": "string",
  "Rule": {
    "MetricName": "string",
    "Name": "string",
    "Predicates": [
      {
        "DataId": "string",
        "Negated": boolean,
        "Type": "string"
      }
    ],
    "RuleId": "string"
  }
}
```

```
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The `ChangeToken` that you used to submit the `CreateRule` request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

### Rule

The [Rule](#) returned in the `CreateRule` response.

Type: [Rule](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFBadRequestException**

HTTP Status Code: 400

### **WAFDisallowedNameException**

The name specified is invalid.

HTTP Status Code: 400

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

### **WAFTagOperationException**

HTTP Status Code: 400

## WAFTagOperationInternalErrorException

HTTP Status Code: 500

### See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateRuleGroup

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Creates a RuleGroup. A rule group is a collection of predefined rules that you add to a web ACL. You use [UpdateRuleGroup](#) to add rules to the rule group.

Rule groups are subject to the following limits:

- Three rule groups per account. You can request an increase to this limit by contacting customer support.
- One rule group per web ACL.
- Ten rules per rule group.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "MetricName": "string",
  "Name": "string",
  "Tags": [
    {
      "Key": "string",
      "Value": "string"
    }
  ]
}
```

```
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### MetricName

A friendly name or description for the metrics for this RuleGroup. The name can contain only alphanumeric characters (A-Z, a-z, 0-9), with maximum length 128 and minimum length one. It can't contain whitespace or metric names reserved for Amazon WAF, including "All" and "Default\_Action." You can't change the name of the metric after you create the RuleGroup.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Name

A friendly name or description of the [RuleGroup](#). You can't change Name after you create a RuleGroup.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Tags

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item.

Required: No

## Response Syntax

```
{
  "ChangeToken": "string",
  "RuleGroup": {
    "MetricName": "string",
    "Name": "string",
    "RuleGroupId": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The ChangeToken that you used to submit the CreateRuleGroup request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

### RuleGroup

An empty [RuleGroup](#).

Type: [RuleGroup](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFBadRequestException

HTTP Status Code: 400

### WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

### WAFTagOperationException

HTTP Status Code: 400

### WAFTagOperationInternalErrorException

HTTP Status Code: 500

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateSizeConstraintSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Creates a `SizeConstraintSet`. You then use [UpdateSizeConstraintSet](#) to identify the part of a web request that you want Amazon WAF to check for length, such as the length of the `User-Agent` header or the length of the query string. For example, you can create a `SizeConstraintSet` that matches any requests that have a query string that is longer than 100 bytes. You can then configure Amazon WAF to reject those requests.

To create and configure a `SizeConstraintSet`, perform the following steps:

1. Use [GetChangeToken](#) to get the change token that you provide in the `ChangeToken` parameter of a `CreateSizeConstraintSet` request.
2. Submit a `CreateSizeConstraintSet` request.
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an `UpdateSizeConstraintSet` request.
4. Submit an [UpdateSizeConstraintSet](#) request to specify the part of the request that you want Amazon WAF to inspect (for example, the header or the URI path) and the value that you want Amazon WAF to watch for.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{  
  "ChangeToken": "string",
```

```
"Name": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### [Name](#)

A friendly name or description of the [SizeConstraintSet](#). You can't change Name after you create a SizeConstraintSet.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{  
  "ChangeToken": "string",  
  "SizeConstraintSet": {  
    "Name": "string",  
    "SizeConstraints": [  
      {  
        "ComparisonOperator": "string",
```

```
    "FieldToMatch": {
      "Data": "string",
      "Type": "string"
    },
    "Size": number,
    "TextTransformation": "string"
  ],
  "SizeConstraintSetId": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The ChangeToken that you used to submit the CreateSizeConstraintSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

### SizeConstraintSet

A [SizeConstraintSet](#) that contains no SizeConstraint objects.

Type: [SizeConstraintSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFDisallowedNameException**

The name specified is invalid.

HTTP Status Code: 400

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

## **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateSqlInjectionMatchSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Creates a [SqlInjectionMatchSet](#), which you use to allow, block, or count requests that contain snippets of SQL code in a specified part of web requests. Amazon WAF searches for character sequences that are likely to be malicious strings.

To create and configure a `SqlInjectionMatchSet`, perform the following steps:

1. Use [GetChangeToken](#) to get the change token that you provide in the `ChangeToken` parameter of a `CreateSqlInjectionMatchSet` request.
2. Submit a `CreateSqlInjectionMatchSet` request.
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an [UpdateSqlInjectionMatchSet](#) request.
4. Submit an [UpdateSqlInjectionMatchSet](#) request to specify the parts of web requests in which you want to allow, block, or count malicious SQL code.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "Name": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### [Name](#)

A friendly name or description for the [SqlInjectionMatchSet](#) that you're creating. You can't change Name after you create the `SqlInjectionMatchSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string",
  "SqlInjectionMatchSet": {
    "Name": "string",
    "SqlInjectionMatchSetId": "string",
    "SqlInjectionMatchTuples": [
      {
        "FieldToMatch": {
          "Data": "string",
          "Type": "string"
        }
      }
    ]
  }
}
```

```
        "TextTransformation": "string"  
    }  
  ]  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The ChangeToken that you used to submit the CreateSqlInjectionMatchSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

### SqlInjectionMatchSet

A [SqlInjectionMatchSet](#).

Type: [SqlInjectionMatchSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFDisallowedNameException**

The name specified is invalid.

HTTP Status Code: 400

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateWebACL

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Creates a WebACL, which contains the Rules that identify the Amazon CloudFront web requests that you want to allow, block, or count. Amazon WAF evaluates Rules in order based on the value of Priority for each Rule.

You also specify a default action, either ALLOW or BLOCK. If a web request doesn't match any of the Rules in a WebACL, Amazon WAF responds to the request with the default action.

To create and configure a WebACL, perform the following steps:

1. Create and update the ByteMatchSet objects and other predicates that you want to include in Rules. For more information, see [CreateByteMatchSet](#), [UpdateByteMatchSet](#), [CreateIPSet](#), [UpdateIPSet](#), [CreateSqlInjectionMatchSet](#), and [UpdateSqlInjectionMatchSet](#).
2. Create and update the Rules that you want to include in the WebACL. For more information, see [CreateRule](#) and [UpdateRule](#).
3. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of a CreateWebACL request.
4. Submit a CreateWebACL request.
5. Use GetChangeToken to get the change token that you provide in the ChangeToken parameter of an [UpdateWebACL](#) request.
6. Submit an [UpdateWebACL](#) request to specify the Rules that you want to include in the WebACL, to specify the default action, and to associate the WebACL with an Amazon CloudFront distribution.

For more information about how to use the Amazon WAF API, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "DefaultAction": {
    "Type": "string"
  },
  "MetricName": "string",
  "Name": "string",
  "Tags": [
    {
      "Key": "string",
      "Value": "string"
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### [DefaultAction](#)

The action that you want Amazon WAF to take when a request doesn't match the criteria specified in any of the `Rule` objects that are associated with the `WebACL`.

Type: [WafAction](#) object

Required: Yes

### MetricName

A friendly name or description for the metrics for this WebACL. The name can contain only alphanumeric characters (A-Z, a-z, 0-9), with maximum length 128 and minimum length one. It can't contain whitespace or metric names reserved for Amazon WAF, including "All" and "Default\_Action." You can't change `MetricName` after you create the WebACL.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Name

A friendly name or description of the [WebACL](#). You can't change `Name` after you create the WebACL.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Tags

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item.

Required: No

## Response Syntax

```
{
  "ChangeToken": "string",
  "WebACL": {
    "DefaultAction": {
```

```
    "Type": "string"
  },
  "MetricName": "string",
  "Name": "string",
  "Rules": [
    {
      "Action": {
        "Type": "string"
      },
      "ExcludedRules": [
        {
          "RuleId": "string"
        }
      ],
      "OverrideAction": {
        "Type": "string"
      },
      "Priority": number,
      "RuleId": "string",
      "Type": "string"
    }
  ],
  "WebACLArn": "string",
  "WebACLId": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The ChangeToken that you used to submit the CreateWebACL request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

## [WebACL](#)

The [WebACL](#) returned in the CreateWebACL response.

Type: [WebACL](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFBadRequestException

HTTP Status Code: 400

### WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.

- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

### **WAFTagOperationException**

HTTP Status Code: 400

### **WAFTagOperationInternalErrorException**

HTTP Status Code: 500

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateWebACLMigrationStack

Service: Amazon WAF Classic Regional

Creates an Amazon CloudFormation Amazon WAFV2 template for the specified web ACL in the specified Amazon S3 bucket. Then, in CloudFormation, you create a stack from the template, to create the web ACL and its resources in Amazon WAFV2. Use this to migrate your Amazon WAF Classic web ACL to the latest version of Amazon WAF.

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is part of a larger migration procedure for web ACLs from Amazon WAF Classic to the latest version of Amazon WAF. For the full procedure, including caveats and manual steps to complete the migration and switch over to the new web ACL, see [Migrating your Amazon WAF Classic resources to Amazon WAF](#) in the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "IgnoreUnsupportedType": boolean,
  "S3BucketName": "string",
  "WebACLId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [IgnoreUnsupportedType](#)

Indicates whether to exclude entities that can't be migrated or to stop the migration. Set this to true to ignore unsupported entities in the web ACL during the migration. Otherwise, if Amazon WAF encounters unsupported entities, it stops the process and throws an exception.

Type: Boolean

Required: Yes

### S3BucketName

The name of the Amazon S3 bucket to store the Amazon CloudFormation template in. The S3 bucket must be configured as follows for the migration:

- If the bucket is encrypted, the encryption must use Amazon S3 (SSE-S3) keys. The migration doesn't support encryption with Amazon Key Management Service (SSE-KMS) keys.
- The bucket name must start with `aws-waf-migration-`. For example, `aws-waf-migration-my-web-acl`.
- The bucket must be in the Region where you are deploying the template. For example, for a web ACL in `us-west-2`, you must use an Amazon S3 bucket in `us-west-2` and you must deploy the template stack to `us-west-2`.
- The bucket policies must permit the migration process to write data. For listings of the bucket policies, see the Examples section.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 63.

Pattern: `^aws-waf-migration-[0-9A-Za-z\.\-_\-]*`

Required: Yes

### WebACLId

The UUID of the WAF Classic web ACL that you want to migrate to WAF v2.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "S3objectUrl": "string"
}
```

```
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### S3ObjectUrl

The URL of the template created in Amazon S3.

Type: String

Length Constraints: Minimum length of 1.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFEntityMigrationException**

The operation failed due to a problem with the migration. The failure cause is provided in the exception, in the `MigrationErrorType`:

- `ENTITY_NOT_SUPPORTED` - The web ACL has an unsupported entity but the `IgnoreUnsupportedType` is not set to true.
- `ENTITY_NOT_FOUND` - The web ACL doesn't exist.
- `S3_BUCKET_NO_PERMISSION` - You don't have permission to perform the `PutObject` action to the specified Amazon S3 bucket.
- `S3_BUCKET_NOT_ACCESSIBLE` - The bucket policy doesn't allow Amazon WAF to perform the `PutObject` action in the bucket.
- `S3_BUCKET_NOT_FOUND` - The S3 bucket doesn't exist.
- `S3_BUCKET_INVALID_REGION` - The S3 bucket is not in the same Region as the web ACL.
- `S3_INTERNAL_ERROR` - Amazon WAF failed to create the template in the S3 bucket for another reason.

In addition, the exception includes specific details about the failure in the `MigrationErrorReason`.

HTTP Status Code: 400

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidOperationException**

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultActionType` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafActionType` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatchType` other than `HEADER`, `METHOD`, `QUERY_STRING`, `URI`, or `BODY`.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.

- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## **Examples**

### **Amazon S3 bucket policy for global Amazon CloudFront applications**

This example illustrates one usage of CreateWebACLMigrationStack.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Principal": {
        "Service": "apiv2migration.waf.amazonaws.com"
      },
      "Action": "s3:PutObject",
      "Resource": "arn:aws:s3:::<BUCKET_NAME>/AWSWAF/<CUSTOMER_ACCOUNT_ID>/*"
    }
  ]
}
```

### **Amazon S3 bucket policy for Amazon API Gateway API or Application Load Balancer applications**

This example illustrates one usage of CreateWebACLMigrationStack.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Principal": {
```

```
        "Service": "apiv2migration.waf-regional.amazonaws.com"
    },
    "Action": "s3:PutObject",
    "Resource": "arn:aws:s3:::<BUCKET_NAME>/AWSWAF/<CUSTOMER_ACCOUNT_ID>/*"
}
]
```

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# CreateXssMatchSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Creates an [XssMatchSet](#), which you use to allow, block, or count requests that contain cross-site scripting attacks in the specified part of web requests. Amazon WAF searches for character sequences that are likely to be malicious strings.

To create and configure an XssMatchSet, perform the following steps:

1. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of a CreateXssMatchSet request.
2. Submit a CreateXssMatchSet request.
3. Use GetChangeToken to get the change token that you provide in the ChangeToken parameter of an [UpdateXssMatchSet](#) request.
4. Submit an [UpdateXssMatchSet](#) request to specify the parts of web requests in which you want to allow, block, or count cross-site scripting attacks.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "Name": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Name

A friendly name or description for the [XssMatchSet](#) that you're creating. You can't change Name after you create the XssMatchSet.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string",
  "XssMatchSet": {
    "Name": "string",
    "XssMatchSetId": "string",
    "XssMatchTuples": [
      {
        "FieldToMatch": {
          "Data": "string",
          "Type": "string"
        }
      }
    ]
  }
}
```

```
    },
    "TextTransformation": "string"
  }
]
}
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The ChangeToken that you used to submit the CreateXssMatchSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

### XssMatchSet

An [XssMatchSet](#).

Type: [XssMatchSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFDisallowedNameException**

The name specified is invalid.

HTTP Status Code: 400

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteByteMatchSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes a [ByteMatchSet](#). You can't delete a ByteMatchSet if it's still used in any Rules or if it still includes any [ByteMatchTuple](#) objects (any filters).

If you just want to remove a ByteMatchSet from a Rule, use [UpdateRule](#).

To permanently delete a ByteMatchSet, perform the following steps:

1. Update the ByteMatchSet to remove filters, if any. For more information, see [UpdateByteMatchSet](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of a DeleteByteMatchSet request.
3. Submit a DeleteByteMatchSet request.

## Request Syntax

```
{
  "ByteMatchSetId": "string",
  "ChangeToken": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

## ByteMatchSetId

The ByteMatchSetId of the [ByteMatchSet](#) that you want to delete. ByteMatchSetId is returned by [CreateByteMatchSet](#) and by [ListByteMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ChangeToken

The ChangeToken that you used to submit the DeleteByteMatchSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a WebACL that still contains one or more Rule objects.
- You tried to delete a Rule that still contains one or more ByteMatchSet objects or other predicates.
- You tried to delete a ByteMatchSet that contains one or more ByteMatchTuple objects.
- You tried to delete an IPSet that references one or more IP addresses.

HTTP Status Code: 400

### WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a ByteMatchSet that is still referenced by a Rule.
- You tried to delete a Rule that is still referenced by a WebACL.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

### **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteGeoMatchSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes a [GeoMatchSet](#). You can't delete a GeoMatchSet if it's still used in any Rules or if it still includes any countries.

If you just want to remove a GeoMatchSet from a Rule, use [UpdateRule](#).

To permanently delete a GeoMatchSet from Amazon WAF, perform the following steps:

1. Update the GeoMatchSet to remove any countries. For more information, see [UpdateGeoMatchSet](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of a DeleteGeoMatchSet request.
3. Submit a DeleteGeoMatchSet request.

## Request Syntax

```
{  
  "ChangeToken": "string",  
  "GeoMatchSetId": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

## ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## GeoMatchSetId

The GeoMatchSetID of the [GeoMatchSet](#) that you want to delete. GeoMatchSetId is returned by [CreateGeoMatchSet](#) and by [ListGeoMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ChangeToken

The ChangeToken that you used to submit the DeleteGeoMatchSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

### WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.

- You tried to delete a Rule that is still referenced by a WebACL.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

### **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteIPSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes an [IPSet](#). You can't delete an IPSet if it's still used in any Rules or if it still includes any IP addresses.

If you just want to remove an IPSet from a Rule, use [UpdateRule](#).

To permanently delete an IPSet from Amazon WAF, perform the following steps:

1. Update the IPSet to remove IP address ranges, if any. For more information, see [UpdateIPSet](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of a DeleteIPSet request.
3. Submit a DeleteIPSet request.

## Request Syntax

```
{
  "ChangeToken": "string",
  "IPSetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

## ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## IPSetId

The IPSetId of the [IPSet](#) that you want to delete. IPSetId is returned by [CreateIPSet](#) and by [ListIPSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ChangeToken

The ChangeToken that you used to submit the DeleteIPSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFNonEmptyEntityException**

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFReferencedItemException**

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.

- You tried to delete a Rule that is still referenced by a WebACL.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteLoggingConfiguration

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes the [LoggingConfiguration](#) from the specified web ACL.

## Request Syntax

```
{
  "ResourceArn": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ResourceArn](#)

The Amazon Resource Name (ARN) of the web ACL from which you want to delete the [LoggingConfiguration](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)

- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeletePermissionPolicy

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes an IAM policy from the specified RuleGroup.

The user making the request must be the owner of the RuleGroup.

## Request Syntax

```
{  
  "ResourceArn": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ResourceArn

The Amazon Resource Name (ARN) of the RuleGroup from which you want to delete the policy.

The user making the request must be the owner of the RuleGroup.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)

- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteRateBasedRule

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes a [RateBasedRule](#). You can't delete a rule if it's still used in any WebACL objects or if it still includes any predicates, such as ByteMatchSet objects.

If you just want to remove a rule from a WebACL, use [UpdateWebACL](#).

To permanently delete a RateBasedRule from Amazon WAF, perform the following steps:

1. Update the RateBasedRule to remove predicates, if any. For more information, see [UpdateRateBasedRule](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of a DeleteRateBasedRule request.
3. Submit a DeleteRateBasedRule request.

## Request Syntax

```
{  
  "ChangeToken": "string",  
  "RuleId": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

## ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## RuleId

The RuleId of the [RateBasedRule](#) that you want to delete. RuleId is returned by [CreateRateBasedRule](#) and by [ListRateBasedRules](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{  
  "ChangeToken": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ChangeToken

The ChangeToken that you used to submit the DeleteRateBasedRule request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a WebACL that still contains one or more Rule objects.
- You tried to delete a Rule that still contains one or more ByteMatchSet objects or other predicates.
- You tried to delete a ByteMatchSet that contains one or more ByteMatchTuple objects.
- You tried to delete an IPSet that references one or more IP addresses.

HTTP Status Code: 400

### WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a ByteMatchSet that is still referenced by a Rule.
- You tried to delete a Rule that is still referenced by a WebACL.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

### **WAFTagOperationException**

HTTP Status Code: 400

### **WAFTagOperationInternalErrorException**

HTTP Status Code: 500

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteRegexMatchSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes a [RegexMatchSet](#). You can't delete a `RegexMatchSet` if it's still used in any `Rules` or if it still includes any `RegexMatchTuple` objects (any filters).

If you just want to remove a `RegexMatchSet` from a `Rule`, use [UpdateRule](#).

To permanently delete a `RegexMatchSet`, perform the following steps:

1. Update the `RegexMatchSet` to remove filters, if any. For more information, see [UpdateRegexMatchSet](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteRegexMatchSet` request.
3. Submit a `DeleteRegexMatchSet` request.

## Request Syntax

```
{
  "ChangeToken": "string",
  "RegexMatchSetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

## ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

## RegexMatchSetId

The RegexMatchSetId of the [RegexMatchSet](#) that you want to delete. RegexMatchSetId is returned by [CreateRegexMatchSet](#) and by [ListRegexMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ChangeToken

The ChangeToken that you used to submit the DeleteRegexMatchSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a WebACL that still contains one or more Rule objects.
- You tried to delete a Rule that still contains one or more ByteMatchSet objects or other predicates.
- You tried to delete a ByteMatchSet that contains one or more ByteMatchTuple objects.
- You tried to delete an IPSet that references one or more IP addresses.

HTTP Status Code: 400

### WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

### **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteRegexPatternSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes a [RegexPatternSet](#). You can't delete a `RegexPatternSet` if it's still used in any `RegexMatchSet` or if the `RegexPatternSet` is not empty.

## Request Syntax

```
{
  "ChangeToken": "string",
  "RegexPatternSetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## RegexPatternSetId

The `RegexPatternSetId` of the [RegexPatternSet](#) that you want to delete. `RegexPatternSetId` is returned by [CreateRegexPatternSet](#) and by [ListRegexPatternSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The `ChangeToken` that you used to submit the `DeleteRegexPatternSet` request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## **WAFNonEmptyEntityException**

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

## **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## **WAFReferencedItemException**

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

## **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteRule

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes a [Rule](#). You can't delete a Rule if it's still used in any WebACL objects or if it still includes any predicates, such as ByteMatchSet objects.

If you just want to remove a Rule from a WebACL, use [UpdateWebACL](#).

To permanently delete a Rule from Amazon WAF, perform the following steps:

1. Update the Rule to remove predicates, if any. For more information, see [UpdateRule](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of a DeleteRule request.
3. Submit a DeleteRule request.

## Request Syntax

```
{
  "ChangeToken": "string",
  "RuleId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

## ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## RuleId

The RuleId of the [Rule](#) that you want to delete. RuleId is returned by [CreateRule](#) and by [ListRules](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ChangeToken

The ChangeToken that you used to submit the DeleteRule request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

### WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.

- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

### **WAFTagOperationException**

HTTP Status Code: 400

### **WAFTagOperationInternalErrorException**

HTTP Status Code: 500

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteRuleGroup

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes a [RuleGroup](#). You can't delete a RuleGroup if it's still used in any WebACL objects or if it still includes any rules.

If you just want to remove a RuleGroup from a WebACL, use [UpdateWebACL](#).

To permanently delete a RuleGroup from Amazon WAF, perform the following steps:

1. Update the RuleGroup to remove rules, if any. For more information, see [UpdateRuleGroup](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of a DeleteRuleGroup request.
3. Submit a DeleteRuleGroup request.

## Request Syntax

```
{  
  "ChangeToken": "string",  
  "RuleGroupId": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

## ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## RuleGroupId

The RuleGroupId of the [RuleGroup](#) that you want to delete. RuleGroupId is returned by [CreateRuleGroup](#) and by [ListRuleGroups](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ChangeToken

The ChangeToken that you used to submit the DeleteRuleGroup request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

### WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

## WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## WAFTagOperationException

HTTP Status Code: 400

## WAFTagOperationInternalErrorException

HTTP Status Code: 500

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)

- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteSizeConstraintSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes a [SizeConstraintSet](#). You can't delete a `SizeConstraintSet` if it's still used in any `Rules` or if it still includes any [SizeConstraint](#) objects (any filters).

If you just want to remove a `SizeConstraintSet` from a `Rule`, use [UpdateRule](#).

To permanently delete a `SizeConstraintSet`, perform the following steps:

1. Update the `SizeConstraintSet` to remove filters, if any. For more information, see [UpdateSizeConstraintSet](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteSizeConstraintSet` request.
3. Submit a `DeleteSizeConstraintSet` request.

## Request Syntax

```
{  
  "ChangeToken": "string",  
  "SizeConstraintSetId": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

## ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## SizeConstraintSetId

The `SizeConstraintSetId` of the [SizeConstraintSet](#) that you want to delete.

`SizeConstraintSetId` is returned by [CreateSizeConstraintSet](#) and by [ListSizeConstraintSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ChangeToken

The `ChangeToken` that you used to submit the `DeleteSizeConstraintSet` request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a WebACL that still contains one or more Rule objects.
- You tried to delete a Rule that still contains one or more ByteMatchSet objects or other predicates.
- You tried to delete a ByteMatchSet that contains one or more ByteMatchTuple objects.
- You tried to delete an IPSet that references one or more IP addresses.

HTTP Status Code: 400

### WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

### **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteSqlInjectionMatchSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes a [SqlInjectionMatchSet](#). You can't delete a `SqlInjectionMatchSet` if it's still used in any `Rules` or if it still contains any [SqlInjectionMatchTuple](#) objects.

If you just want to remove a `SqlInjectionMatchSet` from a `Rule`, use [UpdateRule](#).

To permanently delete a `SqlInjectionMatchSet` from Amazon WAF, perform the following steps:

1. Update the `SqlInjectionMatchSet` to remove filters, if any. For more information, see [UpdateSqlInjectionMatchSet](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteSqlInjectionMatchSet` request.
3. Submit a `DeleteSqlInjectionMatchSet` request.

## Request Syntax

```
{
  "ChangeToken": "string",
  "SqlInjectionMatchSetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

## ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## SqlInjectionMatchSetId

The `SqlInjectionMatchSetId` of the [SqlInjectionMatchSet](#) that you want to delete. `SqlInjectionMatchSetId` is returned by [CreateSqlInjectionMatchSet](#) and by [ListSqlInjectionMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ChangeToken

The `ChangeToken` that you used to submit the `DeleteSqlInjectionMatchSet` request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a WebACL that still contains one or more Rule objects.
- You tried to delete a Rule that still contains one or more ByteMatchSet objects or other predicates.
- You tried to delete a ByteMatchSet that contains one or more ByteMatchTuple objects.
- You tried to delete an IPSet that references one or more IP addresses.

HTTP Status Code: 400

### WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a ByteMatchSet that is still referenced by a Rule.
- You tried to delete a Rule that is still referenced by a WebACL.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

### **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteWebACL

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes a [WebACL](#). You can't delete a WebACL if it still contains any Rules. Deleting a WebACL can't be undone.

To delete a WebACL, perform the following steps:

1. Update the WebACL to remove Rules, if any. For more information, see [UpdateWebACL](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of a DeleteWebACL request.
3. Submit a DeleteWebACL request.

## Request Syntax

```
{
  "ChangeToken": "string",
  "WebACLId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### WebACLId

The WebACLId of the [WebACL](#) that you want to delete. WebACLId is returned by [CreateWebACL](#) and by [ListWebACLs](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The ChangeToken that you used to submit the DeleteWebACL request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFNonEmptyEntityException**

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a WebACL that still contains one or more Rule objects.
- You tried to delete a Rule that still contains one or more ByteMatchSet objects or other predicates.
- You tried to delete a ByteMatchSet that contains one or more ByteMatchTuple objects.
- You tried to delete an IPSet that references one or more IP addresses.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFReferencedItemException**

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a ByteMatchSet that is still referenced by a Rule.
- You tried to delete a Rule that is still referenced by a WebACL.

HTTP Status Code: 400

## WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## WAFTagOperationException

HTTP Status Code: 400

## WAFTagOperationInternalErrorException

HTTP Status Code: 500

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DeleteXssMatchSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Permanently deletes an [XssMatchSet](#). You can't delete an XssMatchSet if it's still used in any Rules or if it still contains any [XssMatchTuple](#) objects.

If you just want to remove an XssMatchSet from a Rule, use [UpdateRule](#).

To permanently delete an XssMatchSet from Amazon WAF, perform the following steps:

1. Update the XssMatchSet to remove filters, if any. For more information, see [UpdateXssMatchSet](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of a DeleteXssMatchSet request.
3. Submit a DeleteXssMatchSet request.

## Request Syntax

```
{
  "ChangeToken": "string",
  "XssMatchSetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

## ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## XssMatchSetId

The XssMatchSetId of the [XssMatchSet](#) that you want to delete. XssMatchSetId is returned by [CreateXssMatchSet](#) and by [ListXssMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ChangeToken

The ChangeToken that you used to submit the DeleteXssMatchSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFNonEmptyEntityException**

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFReferencedItemException**

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.

- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

### **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# DisassociateWebACL

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Removes a web ACL from the specified resource, either an application load balancer or Amazon API Gateway stage.

## Request Syntax

```
{
  "ResourceArn": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ResourceArn](#)

The ARN (Amazon Resource Name) of the resource from which the web ACL is being removed, either an application load balancer or Amazon API Gateway stage.

The ARN should be in one of the following formats:

- For an Application Load Balancer: `arn:aws:elasticloadbalancing:region:account-id:loadbalancer/app/load-balancer-name/load-balancer-id`
- For an Amazon API Gateway stage: `arn:aws:apigateway:region::/restapis/api-id/stages/stage-name`

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.

- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetByteMatchSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the [ByteMatchSet](#) specified by ByteMatchSetId.

## Request Syntax

```
{
  "ByteMatchSetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ByteMatchSetId](#)

The ByteMatchSetId of the [ByteMatchSet](#) that you want to get. ByteMatchSetId is returned by [CreateByteMatchSet](#) and by [ListByteMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ByteMatchSet": {
    "ByteMatchSetId": "string",
    "ByteMatchTuples": [
      {
        "FieldToMatch": {
          "Data": "string",
          "Type": "string"
        },
        "PositionalConstraint": "string",
        "TargetString": blob,
        "TextTransformation": "string"
      }
    ],
    "Name": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ByteMatchSet

Information about the [ByteMatchSet](#) that you specified in the GetByteMatchSet request. For more information, see the following topics:

- [ByteMatchSet](#): Contains ByteMatchSetId, ByteMatchTuples, and Name
- ByteMatchTuples: Contains an array of [ByteMatchTuple](#) objects. Each ByteMatchTuple object contains [FieldToMatch](#), PositionalConstraint, TargetString, and TextTransformation
- [FieldToMatch](#): Contains Data and Type

Type: [ByteMatchSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetChangeToken

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

When you want to create, update, or delete Amazon WAF objects, get a change token and include the change token in the create, update, or delete request. Change tokens ensure that your application doesn't submit conflicting requests to Amazon WAF.

Each create, update, or delete request must use a unique change token. If your application submits a GetChangeToken request and then submits a second GetChangeToken request before submitting a create, update, or delete request, the second GetChangeToken request returns the same value as the first GetChangeToken request.

When you use a change token in a create, update, or delete request, the status of the change token changes to PENDING, which indicates that Amazon WAF is propagating the change to all Amazon WAF servers. Use GetChangeTokenStatus to determine the status of your change token.

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ChangeToken

The ChangeToken that you used in the request. Use this value in a GetChangeTokenStatus request to get the current status of the request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)



# GetChangeTokenStatus

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the status of a ChangeToken that you got by calling [GetChangeToken](#).

ChangeTokenStatus is one of the following values:

- **PROVISIONED**: You requested the change token by calling `GetChangeToken`, but you haven't used it yet in a call to create, update, or delete an Amazon WAF object.
- **PENDING**: Amazon WAF is propagating the create, update, or delete request to all Amazon WAF servers.
- **INSYNC**: Propagation is complete.

## Request Syntax

```
{  
  "ChangeToken": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The change token for which you want to get the status. This change token was previously returned in the `GetChangeToken` response.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{  
  "ChangeTokenStatus": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [ChangeTokenStatus](#)

The status of the change token.

Type: String

Valid Values: PROVISIONED | PENDING | INSYNC

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetGeoMatchSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the [GeoMatchSet](#) that is specified by GeoMatchSetId.

## Request Syntax

```
{
  "GeoMatchSetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [GeoMatchSetId](#)

The GeoMatchSetId of the [GeoMatchSet](#) that you want to get. GeoMatchSetId is returned by [CreateGeoMatchSet](#) and by [ListGeoMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "GeoMatchSet": {
    "GeoMatchConstraints": [
      {
        "Type": "string",
        "Value": "string"
      }
    ],
    "GeoMatchSetId": "string",
    "Name": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### GeoMatchSet

Information about the [GeoMatchSet](#) that you specified in the GetGeoMatchSet request. This includes the Type, which for a GeoMatchConstraint is always Country, as well as the Value, which is the identifier for a specific country.

Type: [GeoMatchSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetIPSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the [IPSet](#) that is specified by IPSetId.

## Request Syntax

```
{
  "IPSetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### IPSetId

The IPSetId of the [IPSet](#) that you want to get. IPSetId is returned by [CreateIPSet](#) and by [ListIPSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "IPSet": {
    "IPSetDescriptors": [
      {
        "Type": "string",
        "Value": "string"
      }
    ],
    "IPSetId": "string",
    "Name": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### IPSet

Information about the [IPSet](#) that you specified in the GetIPSet request. For more information, see the following topics:

- [IPSet](#): Contains IPSetDescriptors, IPSetId, and Name
- IPSetDescriptors: Contains an array of [IPSetDescriptor](#) objects. Each IPSetDescriptor object contains Type and Value

Type: [IPSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetLoggingConfiguration

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the [LoggingConfiguration](#) for the specified web ACL.

## Request Syntax

```
{
  "ResourceArn": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ResourceArn](#)

The Amazon Resource Name (ARN) of the web ACL for which you want to get the [LoggingConfiguration](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "LoggingConfiguration": {
    "LogDestinationConfigs": [ "string" ],
    "RedactedFields": [
      {
        "Data": "string",
        "Type": "string"
      }
    ],
    "ResourceArn": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### LoggingConfiguration

The [LoggingConfiguration](#) for the specified web ACL.

Type: [LoggingConfiguration](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetPermissionPolicy

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the IAM policy attached to the RuleGroup.

## Request Syntax

```
{
  "ResourceArn": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ResourceArn

The Amazon Resource Name (ARN) of the RuleGroup for which you want to get the policy.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "Policy": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [Policy](#)

The IAM policy attached to the specified RuleGroup.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 395000.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetRateBasedRule

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the [RateBasedRule](#) that is specified by the RuleId that you included in the GetRateBasedRule request.

## Request Syntax

```
{  
  "RuleId": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### RuleId

The RuleId of the [RateBasedRule](#) that you want to get. RuleId is returned by [CreateRateBasedRule](#) and by [ListRateBasedRules](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "Rule": {
    "MatchPredicates": [
      {
        "DataId": "string",
        "Negated": boolean,
        "Type": "string"
      }
    ],
    "MetricName": "string",
    "Name": "string",
    "RateKey": "string",
    "RateLimit": number,
    "RuleId": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Rule

Information about the [RateBasedRule](#) that you specified in the `GetRateBasedRule` request.

Type: [RateBasedRule](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetRateBasedRuleManagedKeys

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of IP addresses currently being blocked by the [RateBasedRule](#) that is specified by the `RuleId`. The maximum number of managed keys that will be blocked is 10,000. If more than 10,000 addresses exceed the rate limit, the 10,000 addresses with the highest rates will be blocked.

## Request Syntax

```
{
  "NextMarker": "string",
  "RuleId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [NextMarker](#)

A null value and not currently used. Do not include this in your request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

### RuleId

The `RuleId` of the [RateBasedRule](#) for which you want to get a list of `ManagedKeys`. `RuleId` is returned by [CreateRateBasedRule](#) and by [ListRateBasedRules](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "ManagedKeys": [ "string" ],
  "NextMarker": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ManagedKeys

An array of IP addresses that currently are blocked by the specified [RateBasedRule](#).

Type: Array of strings

### NextMarker

A null value and not currently used.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetRegexMatchSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the [RegexMatchSet](#) specified by `RegexMatchSetId`.

## Request Syntax

```
{
  "RegexMatchSetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [RegexMatchSetId](#)

The `RegexMatchSetId` of the [RegexMatchSet](#) that you want to get. `RegexMatchSetId` is returned by [CreateRegexMatchSet](#) and by [ListRegexMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "RegexMatchSet": {
    "Name": "string",
    "RegexMatchSetId": "string",
    "RegexMatchTuples": [
      {
        "FieldToMatch": {
          "Data": "string",
          "Type": "string"
        },
        "RegexPatternSetId": "string",
        "TextTransformation": "string"
      }
    ]
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### RegexMatchSet

Information about the [RegexMatchSet](#) that you specified in the GetRegexMatchSet request. For more information, see [RegexMatchTuple](#).

Type: [RegexMatchSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetRegexPatternSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the [RegexPatternSet](#) specified by RegexPatternSetId.

## Request Syntax

```
{
  "RegexPatternSetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [RegexPatternSetId](#)

The RegexPatternSetId of the [RegexPatternSet](#) that you want to get. RegexPatternSetId is returned by [CreateRegexPatternSet](#) and by [ListRegexPatternSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "RegexPatternSet": {
    "Name": "string",
    "RegexPatternSetId": "string",
    "RegexPatternStrings": [ "string" ]
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [RegexPatternSet](#)

Information about the [RegexPatternSet](#) that you specified in the `GetRegexPatternSet` request, including the identifier of the pattern set and the regular expression patterns you want Amazon WAF to search for.

Type: [RegexPatternSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetRule

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the [Rule](#) that is specified by the RuleId that you included in the GetRule request.

## Request Syntax

```
{
  "RuleId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### RuleId

The RuleId of the [Rule](#) that you want to get. RuleId is returned by [CreateRule](#) and by [ListRules](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "Rule": {
    "MetricName": "string",
    "Name": "string",
    "Predicates": [
      {
        "DataId": "string",
        "Negated": boolean,
        "Type": "string"
      }
    ],
    "RuleId": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Rule

Information about the [Rule](#) that you specified in the GetRule request. For more information, see the following topics:

- [Rule](#): Contains MetricName, Name, an array of Predicate objects, and RuleId
- [Predicate](#): Each Predicate object contains DataId, Negated, and Type

Type: [Rule](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetRuleGroup

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the [RuleGroup](#) that is specified by the RuleGroupId that you included in the GetRuleGroup request.

To view the rules in a rule group, use [ListActivatedRulesInRuleGroup](#).

## Request Syntax

```
{
  "RuleGroupId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [RuleGroupId](#)

The RuleGroupId of the [RuleGroup](#) that you want to get. RuleGroupId is returned by [CreateRuleGroup](#) and by [ListRuleGroups](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "RuleGroup": {
    "MetricName": "string",
    "Name": "string",
    "RuleGroupId": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [RuleGroup](#)

Information about the [RuleGroup](#) that you specified in the GetRuleGroup request.

Type: [RuleGroup](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetSampledRequests

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Gets detailed information about a specified number of requests--a sample--that Amazon WAF randomly selects from among the first 5,000 requests that your Amazon resource received during a time range that you choose. You can specify a sample size of up to 500 requests, and you can specify any time range in the previous three hours.

`GetSampledRequests` returns a time range, which is usually the time range that you specified. However, if your resource (such as an Amazon CloudFront distribution) received 5,000 requests before the specified time range elapsed, `GetSampledRequests` returns an updated time range. This new time range indicates the actual period during which Amazon WAF selected the requests in the sample.

## Request Syntax

```
{
  "MaxItems": number,
  "RuleId": "string",
  "TimeWindow": {
    "EndTime": number,
    "StartTime": number
  },
  "WebAclId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### MaxItems

The number of requests that you want Amazon WAF to return from among the first 5,000 requests that your Amazon resource received during the time range. If your resource received fewer requests than the value of `MaxItems`, `GetSampledRequests` returns information about all of them.

Type: Long

Valid Range: Minimum value of 1. Maximum value of 500.

Required: Yes

### RuleId

`RuleId` is one of three values:

- The `RuleId` of the `Rule` or the `RuleGroupId` of the `RuleGroup` for which you want `GetSampledRequests` to return a sample of requests.
- `Default_Action`, which causes `GetSampledRequests` to return a sample of the requests that didn't match any of the rules in the specified `WebACL`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### TimeWindow

The start date and time and the end date and time of the range for which you want `GetSampledRequests` to return a sample of requests. You must specify the times in Coordinated Universal Time (UTC) format. UTC format includes the special designator, Z. For example, "2016-09-27T14:50Z". You can specify any time range in the previous three hours.

Type: [TimeWindow](#) object

Required: Yes

## WebAclId

The WebACLId of the WebACL for which you want GetSampledRequests to return a sample of requests.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

## Response Syntax

```
{
  "PopulationSize": number,
  "SampledRequests": [
    {
      "Action": "string",
      "Request": {
        "ClientIP": "string",
        "Country": "string",
        "Headers": [
          {
            "Name": "string",
            "Value": "string"
          }
        ],
        "HTTPVersion": "string",
        "Method": "string",
        "URI": "string"
      },
      "RuleWithinRuleGroup": "string",
      "Timestamp": number,
      "Weight": number
    }
  ],
  "TimeWindow": {
    "EndTime": number,
    "StartTime": number
  }
}
```

```
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### PopulationSize

The total number of requests from which `GetSampledRequests` got a sample of `MaxItems` requests. If `PopulationSize` is less than `MaxItems`, the sample includes every request that your Amazon resource received during the specified time range.

Type: Long

### SampledRequests

A complex type that contains detailed information about each of the requests in the sample.

Type: Array of [SampledHTTPRequest](#) objects

### TimeWindow

Usually, `TimeWindow` is the time range that you specified in the `GetSampledRequests` request. However, if your Amazon resource received more than 5,000 requests during the time range that you specified in the request, `GetSampledRequests` returns the time range for the first 5,000 requests. Times are in Coordinated Universal Time (UTC) format.

Type: [TimeWindow](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetSizeConstraintSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the [SizeConstraintSet](#) specified by SizeConstraintSetId.

## Request Syntax

```
{
  "SizeConstraintSetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [SizeConstraintSetId](#)

The SizeConstraintSetId of the [SizeConstraintSet](#) that you want to get.

SizeConstraintSetId is returned by [CreateSizeConstraintSet](#) and by [ListSizeConstraintSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "SizeConstraintSet": {
    "Name": "string",
    "SizeConstraints": [
      {
        "ComparisonOperator": "string",
        "FieldToMatch": {
          "Data": "string",
          "Type": "string"
        },
        "Size": number,
        "TextTransformation": "string"
      }
    ],
    "SizeConstraintSetId": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### SizeConstraintSet

Information about the [SizeConstraintSet](#) that you specified in the `GetSizeConstraintSet` request. For more information, see the following topics:

- [SizeConstraintSet](#): Contains `SizeConstraintSetId`, `SizeConstraints`, and `Name`
- `SizeConstraints`: Contains an array of [SizeConstraint](#) objects. Each `SizeConstraint` object contains [FieldToMatch](#), `TextTransformation`, `ComparisonOperator`, and `Size`
- [FieldToMatch](#): Contains `Data` and `Type`

Type: [SizeConstraintSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetSqlInjectionMatchSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the [SqlInjectionMatchSet](#) that is specified by `SqlInjectionMatchSetId`.

## Request Syntax

```
{
  "SqlInjectionMatchSetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [SqlInjectionMatchSetId](#)

The `SqlInjectionMatchSetId` of the [SqlInjectionMatchSet](#) that you want to get. `SqlInjectionMatchSetId` is returned by [CreateSqlInjectionMatchSet](#) and by [ListSqlInjectionMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "SqlInjectionMatchSet": {
    "Name": "string",
    "SqlInjectionMatchSetId": "string",
    "SqlInjectionMatchTuples": [
      {
        "FieldToMatch": {
          "Data": "string",
          "Type": "string"
        },
        "TextTransformation": "string"
      }
    ]
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### SqlInjectionMatchSet

Information about the [SqlInjectionMatchSet](#) that you specified in the GetSqlInjectionMatchSet request. For more information, see the following topics:

- [SqlInjectionMatchSet](#): Contains Name, SqlInjectionMatchSetId, and an array of SqlInjectionMatchTuple objects
- [SqlInjectionMatchTuple](#): Each SqlInjectionMatchTuple object contains FieldToMatch and TextTransformation
- [FieldToMatch](#): Contains Data and Type

Type: [SqlInjectionMatchSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetWebACL

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the [WebACL](#) that is specified by WebACLId.

## Request Syntax

```
{
  "WebACLId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [WebACLId](#)

The WebACLId of the [WebACL](#) that you want to get. WebACLId is returned by [CreateWebACL](#) and by [ListWebACLs](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "WebACL": {
    "DefaultAction": {
      "Type": "string"
    },
    "MetricName": "string",
    "Name": "string",
    "Rules": [
      {
        "Action": {
          "Type": "string"
        },
        "ExcludedRules": [
          {
            "RuleId": "string"
          }
        ],
        "OverrideAction": {
          "Type": "string"
        },
        "Priority": number,
        "RuleId": "string",
        "Type": "string"
      }
    ],
    "WebACLArn": "string",
    "WebACLId": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [WebACL](#)

Information about the [WebACL](#) that you specified in the GetWebACL request. For more information, see the following topics:

- [WebACL](#): Contains DefaultAction, MetricName, Name, an array of Rule objects, and WebACLId
- DefaultAction (Data type is [WafAction](#)): Contains Type
- Rules: Contains an array of ActivatedRule objects, which contain Action, Priority, and RuleId
- Action: Contains Type

Type: [WebACL](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)

- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetWebACLForResource

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the web ACL for the specified resource, either an application load balancer or Amazon API Gateway stage.

## Request Syntax

```
{
  "ResourceArn": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ResourceArn](#)

The ARN (Amazon Resource Name) of the resource for which to get the web ACL, either an application load balancer or Amazon API Gateway stage.

The ARN should be in one of the following formats:

- For an Application Load Balancer: `arn:aws:elasticloadbalancing:region:account-id:loadbalancer/app/load-balancer-name/load-balancer-id`
- For an Amazon API Gateway stage: `arn:aws:apigateway:region::/restapis/api-id/stages/stage-name`

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "WebACLSummary": {
    "Name": "string",
    "WebACLId": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [WebACLSummary](#)

Information about the web ACL that you specified in the `GetWebACLForResource` request. If there is no associated resource, a null `WebACLSummary` is returned.

Type: [WebACLSummary](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

## **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## **WAFUnavailableEntityException**

The operation failed because the entity referenced is temporarily unavailable. Retry your request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# GetXssMatchSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns the [XssMatchSet](#) that is specified by XssMatchSetId.

## Request Syntax

```
{
  "XssMatchSetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [XssMatchSetId](#)

The XssMatchSetId of the [XssMatchSet](#) that you want to get. XssMatchSetId is returned by [CreateXssMatchSet](#) and by [ListXssMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "XssMatchSet": {
    "Name": "string",
    "XssMatchSetId": "string",
    "XssMatchTuples": [
      {
        "FieldToMatch": {
          "Data": "string",
          "Type": "string"
        },
        "TextTransformation": "string"
      }
    ]
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### XssMatchSet

Information about the [XssMatchSet](#) that you specified in the GetXssMatchSet request. For more information, see the following topics:

- [XssMatchSet](#): Contains Name, XssMatchSetId, and an array of XssMatchTuple objects
- [XssMatchTuple](#): Each XssMatchTuple object contains FieldToMatch and TextTransformation
- [FieldToMatch](#): Contains Data and Type

Type: [XssMatchSet](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListActivatedRulesInRuleGroup

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [ActivatedRule](#) objects.

## Request Syntax

```
{
  "Limit": number,
  "NextMarker": "string",
  "RuleGroupId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of `ActivatedRules` that you want Amazon WAF to return for this request. If you have more `ActivatedRules` than the number that you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `ActivatedRules`.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

### NextMarker

If you specify a value for `Limit` and you have more `ActivatedRules` than the value of `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of `ActivatedRules`. For the second and subsequent `ListActivatedRulesInRuleGroup` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `ActivatedRules`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

### RuleGroupId

The `RuleGroupId` of the [RuleGroup](#) for which you want to get a list of [ActivatedRule](#) objects.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "ActivatedRules": [
    {
      "Action": {
        "Type": "string"
      },
      "ExcludedRules": [
        {
          "RuleId": "string"
        }
      ],
      "OverrideAction": {
```

```
        "Type": "string"
      },
      "Priority": number,
      "RuleId": "string",
      "Type": "string"
    }
  ],
  "NextMarker": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ActivatedRules

An array of `ActivatedRules` objects.

Type: Array of [ActivatedRule](#) objects

### NextMarker

If you have more `ActivatedRules` than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `ActivatedRules`, submit another `ListActivatedRulesInRuleGroup` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)

- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListByteMatchSets

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [ByteMatchSetSummary](#) objects.

## Request Syntax

```
{
  "Limit": number,
  "NextMarker": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of ByteMatchSet objects that you want Amazon WAF to return for this request. If you have more ByteMatchSets objects than the number you specify for Limit, the response includes a NextMarker value that you can use to get another batch of ByteMatchSet objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## NextMarker

If you specify a value for `Limit` and you have more `ByteMatchSets` than the value of `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of `ByteMatchSets`. For the second and subsequent `ListByteMatchSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `ByteMatchSets`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "ByteMatchSets": [
    {
      "ByteMatchSetId": "string",
      "Name": "string"
    }
  ],
  "NextMarker": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ByteMatchSets

An array of [ByteMatchSetSummary](#) objects.

Type: Array of [ByteMatchSetSummary](#) objects

## NextMarker

If you have more `ByteMatchSet` objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `ByteMatchSet` objects, submit another `ListByteMatchSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)

- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListGeoMatchSets

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [GeoMatchSetSummary](#) objects in the response.

## Request Syntax

```
{  
  "Limit": number,  
  "NextMarker": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of GeoMatchSet objects that you want Amazon WAF to return for this request. If you have more GeoMatchSet objects than the number you specify for Limit, the response includes a NextMarker value that you can use to get another batch of GeoMatchSet objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## NextMarker

If you specify a value for `Limit` and you have more `GeoMatchSets` than the value of `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of `GeoMatchSet` objects. For the second and subsequent `ListGeoMatchSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `GeoMatchSet` objects.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "GeoMatchSets": [
    {
      "GeoMatchSetId": "string",
      "Name": "string"
    }
  ],
  "NextMarker": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### GeoMatchSets

An array of [GeoMatchSetSummary](#) objects.

Type: Array of [GeoMatchSetSummary](#) objects

## NextMarker

If you have more GeoMatchSet objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more GeoMatchSet objects, submit another `ListGeoMatchSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)

- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListIPSets

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [IPSetSummary](#) objects in the response.

## Request Syntax

```
{
  "Limit": number,
  "NextMarker": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of IPSet objects that you want Amazon WAF to return for this request. If you have more IPSet objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of IPSet objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## NextMarker

Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of `IPSets`. For the second and subsequent `ListIPSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `IPSets`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "IPSets": [
    {
      "IPSetId": "string",
      "Name": "string"
    }
  ],
  "NextMarker": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### IPSets

An array of [IPSetSummary](#) objects.

Type: Array of [IPSetSummary](#) objects

### NextMarker

To list more `IPSet` objects, submit another `ListIPSets` request, and in the next request use the `NextMarker` response value as the `NextMarker` value.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: .\*S.\*

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)

- [Amazon SDK for Ruby V3](#)

# ListLoggingConfigurations

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [LoggingConfiguration](#) objects.

## Request Syntax

```
{
  "Limit": number,
  "NextMarker": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of LoggingConfigurations that you want Amazon WAF to return for this request. If you have more LoggingConfigurations than the number that you specify for Limit, the response includes a NextMarker value that you can use to get another batch of LoggingConfigurations.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## NextMarker

If you specify a value for `Limit` and you have more `LoggingConfigurations` than the value of `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of `LoggingConfigurations`. For the second and subsequent `ListLoggingConfigurations` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `ListLoggingConfigurations`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "LoggingConfigurations": [
    {
      "LogDestinationConfigs": [ "string" ],
      "RedactedFields": [
        {
          "Data": "string",
          "Type": "string"
        }
      ],
      "ResourceArn": "string"
    }
  ],
  "NextMarker": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## [LoggingConfigurations](#)

An array of [LoggingConfiguration](#) objects.

Type: Array of [LoggingConfiguration](#) objects

## [NextMarker](#)

If you have more `LoggingConfigurations` than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `LoggingConfigurations`, submit another `ListLoggingConfigurations` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultActionType` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.

- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListRateBasedRules

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [RuleSummary](#) objects.

## Request Syntax

```
{
  "Limit": number,
  "NextMarker": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of Rules that you want Amazon WAF to return for this request. If you have more Rules than the number that you specify for Limit, the response includes a NextMarker value that you can use to get another batch of Rules.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## NextMarker

If you specify a value for `Limit` and you have more `Rules` than the value of `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of `Rules`. For the second and subsequent `ListRateBasedRules` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `Rules`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "NextMarker": "string",
  "Rules": [
    {
      "Name": "string",
      "RuleId": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## NextMarker

If you have more `Rules` than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `Rules`, submit another `ListRateBasedRules` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

## Rules

An array of [RuleSummary](#) objects.

Type: Array of [RuleSummary](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)

- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListRegexMatchSets

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [RegexMatchSetSummary](#) objects.

## Request Syntax

```
{  
  "Limit": number,  
  "NextMarker": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of `RegexMatchSet` objects that you want Amazon WAF to return for this request. If you have more `RegexMatchSet` objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `RegexMatchSet` objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## NextMarker

If you specify a value for `Limit` and you have more `RegexMatchSet` objects than the value of `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of `ByteMatchSets`. For the second and subsequent `ListRegexMatchSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `RegexMatchSet` objects.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "NextMarker": "string",
  "RegexMatchSets": [
    {
      "Name": "string",
      "RegexMatchSetId": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## NextMarker

If you have more `RegexMatchSet` objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `RegexMatchSet` objects, submit another `ListRegexMatchSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

## RegexMatchSets

An array of [RegexMatchSetSummary](#) objects.

Type: Array of [RegexMatchSetSummary](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)

- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListRegexPatternSets

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [RegexPatternSetSummary](#) objects.

## Request Syntax

```
{  
  "Limit": number,  
  "NextMarker": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of `RegexPatternSet` objects that you want Amazon WAF to return for this request. If you have more `RegexPatternSet` objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `RegexPatternSet` objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## [NextMarker](#)

If you specify a value for `Limit` and you have more `RegexPatternSet` objects than the value of `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of `RegexPatternSet` objects. For the second and subsequent `ListRegexPatternSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `RegexPatternSet` objects.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "NextMarker": "string",
  "RegexPatternSets": [
    {
      "Name": "string",
      "RegexPatternSetId": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## [NextMarker](#)

If you have more `RegexPatternSet` objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `RegexPatternSet` objects, submit another `ListRegexPatternSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: .\*\\S.\*

### RegexPatternSets

An array of [RegexPatternSetSummary](#) objects.

Type: Array of [RegexPatternSetSummary](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)

- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListResourcesForWebACL

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of resources associated with the specified web ACL.

## Request Syntax

```
{
  "ResourceType": "string",
  "WebACLId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ResourceType

The type of resource to list.

Type: String

Valid Values: APPLICATION\_LOAD\_BALANCER | API\_GATEWAY

Required: No

### WebACLId

The unique identifier (ID) of the web ACL for which to list the associated resources.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{  
  "ResourceArns": [ "string" ]  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [ResourceArns](#)

An array of ARNs (Amazon Resource Names) of the resources associated with the specified web ACL. An array with zero elements is returned if there are no resources associated with the web ACL.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListRuleGroups

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [RuleGroup](#) objects.

## Request Syntax

```
{  
  "Limit": number,  
  "NextMarker": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of RuleGroups that you want Amazon WAF to return for this request. If you have more RuleGroups than the number that you specify for Limit, the response includes a NextMarker value that you can use to get another batch of RuleGroups.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## NextMarker

If you specify a value for `Limit` and you have more `RuleGroups` than the value of `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of `RuleGroups`. For the second and subsequent `ListRuleGroups` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `RuleGroups`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "NextMarker": "string",
  "RuleGroups": [
    {
      "Name": "string",
      "RuleGroupId": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## NextMarker

If you have more `RuleGroups` than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `RuleGroups`, submit another `ListRuleGroups` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: .\*\\S.\*

## RuleGroups

An array of [RuleGroup](#) objects.

Type: Array of [RuleGroupSummary](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)



# ListRules

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [RuleSummary](#) objects.

## Request Syntax

```
{  
  "Limit": number,  
  "NextMarker": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of Rules that you want Amazon WAF to return for this request. If you have more Rules than the number that you specify for Limit, the response includes a NextMarker value that you can use to get another batch of Rules.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## NextMarker

If you specify a value for `Limit` and you have more `Rules` than the value of `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of `Rules`. For the second and subsequent `ListRules` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `Rules`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "NextMarker": "string",
  "Rules": [
    {
      "Name": "string",
      "RuleId": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## NextMarker

If you have more `Rules` than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `Rules`, submit another `ListRules` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

## Rules

An array of [RuleSummary](#) objects.

Type: Array of [RuleSummary](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)

- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListSizeConstraintSets

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [SizeConstraintSetSummary](#) objects.

## Request Syntax

```
{
  "Limit": number,
  "NextMarker": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of `SizeConstraintSet` objects that you want Amazon WAF to return for this request. If you have more `SizeConstraintSets` objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `SizeConstraintSet` objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## NextMarker

If you specify a value for `Limit` and you have more `SizeConstraintSets` than the value of `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of `SizeConstraintSets`. For the second and subsequent `ListSizeConstraintSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `SizeConstraintSets`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "NextMarker": "string",
  "SizeConstraintSets": [
    {
      "Name": "string",
      "SizeConstraintSetId": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## NextMarker

If you have more `SizeConstraintSet` objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `SizeConstraintSet` objects, submit another `ListSizeConstraintSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

### [SizeConstraintSets](#)

An array of [SizeConstraintSetSummary](#) objects.

Type: Array of [SizeConstraintSetSummary](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)

- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListSqlInjectionMatchSets

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [SqlInjectionMatchSet](#) objects.

## Request Syntax

```
{  
  "Limit": number,  
  "NextMarker": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of [SqlInjectionMatchSet](#) objects that you want Amazon WAF to return for this request. If you have more `SqlInjectionMatchSet` objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `Rules`.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## NextMarker

If you specify a value for `Limit` and you have more [SqlInjectionMatchSet](#) objects than the value of `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of `SqlInjectionMatchSets`. For the second and subsequent `ListSqlInjectionMatchSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `SqlInjectionMatchSets`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "NextMarker": "string",
  "SqlInjectionMatchSets": [
    {
      "Name": "string",
      "SqlInjectionMatchSetId": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## NextMarker

If you have more [SqlInjectionMatchSet](#) objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `SqlInjectionMatchSet` objects, submit another `ListSqlInjectionMatchSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

## [SqlInjectionMatchSets](#)

An array of [SqlInjectionMatchSetSummary](#) objects.

Type: Array of [SqlInjectionMatchSetSummary](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)

- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListSubscribedRuleGroups

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [RuleGroup](#) objects that you are subscribed to.

## Request Syntax

```
{
  "Limit": number,
  "NextMarker": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of subscribed rule groups that you want Amazon WAF to return for this request. If you have more objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## NextMarker

If you specify a value for `Limit` and you have more `ByteMatchSet` subscribed rule groups than the value of `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of subscribed rule groups. For the second and subsequent `ListSubscribedRuleGroupsRequest` requests, specify the value of `NextMarker` from the previous response to get information about another batch of subscribed rule groups.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "NextMarker": "string",
  "RuleGroups": [
    {
      "MetricName": "string",
      "Name": "string",
      "RuleGroupId": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## NextMarker

If you have more objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more objects, submit another `ListSubscribedRuleGroups` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: .\*\\S.\*

## RuleGroups

An array of [RuleGroup](#) objects.

Type: Array of [SubscribedRuleGroupSummary](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)

- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListTagsForResource

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Retrieves the tags associated with the specified Amazon resource. Tags are key:value pairs that you can use to categorize and manage your resources, for purposes like billing. For example, you might set the tag key to "customer" and the value to the customer name or ID. You can specify one or more tags to add to each Amazon resource, up to 50 tags for a resource.

Tagging is only available through the API, SDKs, and CLI. You can't manage or view tags through the Amazon WAF Classic console. You can tag the Amazon resources that you manage through Amazon WAF Classic: web ACLs, rule groups, and rules.

## Request Syntax

```
{
  "Limit": number,
  "NextMarker": "string",
  "ResourceARN": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

### NextMarker

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

### ResourceARN

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{
  "NextMarker": "string",
  "TagInfoForResource": {
    "ResourceARN": "string",
    "TagList": [
      {
        "Key": "string",
        "Value": "string"
      }
    ]
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### NextMarker

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

### TagInfoForResource

Type: [TagInfoForResource](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFBadRequestException**

HTTP Status Code: 400

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.

- You tried to create a `RateBasedRule` with a `RateKey` value other than IP.
- You tried to update a `WebACL` with a `WafAction` Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of HEADER but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFTagOperationException**

HTTP Status Code: 400

### **WAFTagOperationInternalErrorException**

HTTP Status Code: 500

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)

- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListWebACLs

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [WebACLSummary](#) objects in the response.

## Request Syntax

```
{
  "Limit": number,
  "NextMarker": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of WebACL objects that you want Amazon WAF to return for this request. If you have more WebACL objects than the number that you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of WebACL objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## NextMarker

If you specify a value for `Limit` and you have more WebACL objects than the number that you specify for `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of WebACL objects. For the second and subsequent `ListWebACLs` requests, specify the value of `NextMarker` from the previous response to get information about another batch of WebACL objects.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "NextMarker": "string",
  "WebACLs": [
    {
      "Name": "string",
      "WebACLId": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## NextMarker

If you have more WebACL objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more WebACL objects, submit another `ListWebACLs` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

## WebACLs

An array of [WebACLSummary](#) objects.

Type: Array of [WebACLSummary](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)

- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# ListXssMatchSets

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returns an array of [XssMatchSet](#) objects.

## Request Syntax

```
{
  "Limit": number,
  "NextMarker": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Limit

Specifies the number of [XssMatchSet](#) objects that you want Amazon WAF to return for this request. If you have more XssMatchSet objects than the number you specify for Limit, the response includes a NextMarker value that you can use to get another batch of Rules.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

## NextMarker

If you specify a value for `Limit` and you have more [XssMatchSet](#) objects than the value of `Limit`, Amazon WAF returns a `NextMarker` value in the response that allows you to list another group of `XssMatchSets`. For the second and subsequent `ListXssMatchSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `XssMatchSets`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

## Response Syntax

```
{
  "NextMarker": "string",
  "XssMatchSets": [
    {
      "Name": "string",
      "XssMatchSetId": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## NextMarker

If you have more [XssMatchSet](#) objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `XssMatchSet` objects, submit another `ListXssMatchSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

## XssMatchSets

An array of [XssMatchSetSummary](#) objects.

Type: Array of [XssMatchSetSummary](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)

- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# PutLoggingConfiguration

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Associates a [LoggingConfiguration](#) with a specified web ACL.

You can access information about all traffic that Amazon WAF inspects using the following steps:

1. Create an Amazon Data Firehose.

Create the data firehose with a PUT source and in the region that you are operating. However, if you are capturing logs for Amazon CloudFront, always create the firehose in US East (N. Virginia).

Give the data firehose a name that starts with the prefix `aws-waf-logs-`. For example, `aws-waf-logs-us-east-2-analytics`.

## Note

Do not create the data firehose using a Kinesis stream as your source.

2. Associate that firehose to your web ACL using a PutLoggingConfiguration request.

When you successfully enable logging using a PutLoggingConfiguration request, Amazon WAF will create a service linked role with the necessary permissions to write logs to the Amazon Data Firehose. For more information, see [Logging Web ACL Traffic Information](#) in the *Amazon WAF Developer Guide*.

## Request Syntax

```
{
  "LoggingConfiguration": {
    "LogDestinationConfigs": [ "string" ],
    "RedactedFields": [
      {
        "Data": "string",
        "Type": "string"
      }
    ],
    "ResourceArn": "string"
  }
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### LoggingConfiguration

The Amazon Data Firehose that contains the inspected traffic information, the redacted fields details, and the Amazon Resource Name (ARN) of the web ACL to monitor.

#### Note

When specifying Type in RedactedFields, you must use one of the following values: URI, QUERY\_STRING, HEADER, or METHOD.

Type: [LoggingConfiguration](#) object

Required: Yes

## Response Syntax

```
{
  "LoggingConfiguration": {
```

```
  "LogDestinationConfigs": [ "string" ],
  "RedactedFields": [
    {
      "Data": "string",
      "Type": "string"
    }
  ],
  "ResourceArn": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### LoggingConfiguration

The [LoggingConfiguration](#) that you submitted in the request.

Type: [LoggingConfiguration](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFServiceLinkedRoleErrorException**

Amazon WAF is not able to access the service linked role. This can be caused by a previous `PutLoggingConfiguration` request, which can lock the service linked role for about 20

seconds. Please try your request again. The service linked role can also be locked by a previous `DeleteServiceLinkedRole` request, which can lock the role for 15 minutes or more. If you recently made a `DeleteServiceLinkedRole`, wait at least 15 minutes and try the request again. If you receive this same exception again, you will have to wait additional time until the role is unlocked.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

### **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# PutPermissionPolicy

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Attaches an IAM policy to the specified resource. The only supported use for this action is to share a RuleGroup across accounts.

The PutPermissionPolicy is subject to the following restrictions:

- You can attach only one policy with each PutPermissionPolicy request.
- The policy must include an Effect, Action and Principal.
- Effect must specify Allow.
- The Action in the policy must be waf:UpdateWebACL, waf-regional:UpdateWebACL, waf:GetRuleGroup and waf-regional:GetRuleGroup . Any extra or wildcard actions in the policy will be rejected.
- The policy cannot include a Resource parameter.
- The ARN in the request must be a valid RuleGroup ARN and the RuleGroup must exist in the same region.
- The user making the request must be the owner of the RuleGroup.
- Your policy must be composed using IAM Policy version 2012-10-17.

For more information, see [Policies and permissions in IAM](#).

An example of a valid policy parameter is shown in the Examples section below.

## Request Syntax

```
{
```

```
"Policy": "string",  
"ResourceArn": "string"  
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### Policy

The policy to attach to the specified RuleGroup.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 395000.

Pattern: .\*\\S.\*

Required: Yes

### ResourceArn

The Amazon Resource Name (ARN) of the RuleGroup to which you want to attach the policy.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: .\*\\S.\*

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## WAFInvalidPermissionPolicyException

The operation failed because the specified policy is not in the proper format.

The policy is subject to the following restrictions:

- You can attach only one policy with each `PutPermissionPolicy` request.
- The policy must include an `Effect`, `Action` and `Principal`.
- `Effect` must specify `Allow`.
- The `Action` in the policy must be `waf:UpdateWebACL`, `waf-regional:UpdateWebACL`, `waf:GetRuleGroup` and `waf-regional:GetRuleGroup`. Any extra or wildcard actions in the policy will be rejected.
- The policy cannot include a `Resource` parameter.
- The ARN in the request must be a valid WAF RuleGroup ARN and the RuleGroup must exist in the same region.
- The user making the request must be the owner of the RuleGroup.
- Your policy must be composed using IAM Policy version 2012-10-17.

HTTP Status Code: 400

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## Examples

### Example policy parameter - No escape characters

This example illustrates one usage of PutPermissionPolicy.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Principal": {
        "AWS": "arn:aws:iam::111111111111:user/MyUserName"
      },
      "Action": [
        "waf:UpdateWebACL",
        "waf-regional:UpdateWebACL",
        "waf:GetRuleGroup",
        "waf-regional:GetRuleGroup"
      ]
    }
  ]
}
```

### Example policy parameter - ()

This example illustrates one usage of PutPermissionPolicy.

```
{\"Version\": \"2012-10-17\",      \"Statement\": [{\"Effect\": \"Allow\", \"Principal\": {\"AWS\": \"arn:aws:iam::111111111111:user/MyUserName\"}, \"Action\": [\"waf:UpdateWebACL\", \"waf-regional:UpdateWebACL\", \"waf:GetRuleGroup\", \"waf-regional:GetRuleGroup\"]}]}
```

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)

- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# TagResource

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Associates tags with the specified Amazon resource. Tags are key:value pairs that you can use to categorize and manage your resources, for purposes like billing. For example, you might set the tag key to "customer" and the value to the customer name or ID. You can specify one or more tags to add to each Amazon resource, up to 50 tags for a resource.

Tagging is only available through the API, SDKs, and CLI. You can't manage or view tags through the Amazon WAF Classic console. You can use this action to tag the Amazon resources that you manage through Amazon WAF Classic: web ACLs, rule groups, and rules.

## Request Syntax

```
{
  "ResourceARN": "string",
  "Tags": [
    {
      "Key": "string",
      "Value": "string"
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

## ResourceARN

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: Yes

## Tags

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFBadRequestException

HTTP Status Code: 400

### WAFInternalServerErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.

- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFTagOperationException**

HTTP Status Code: 400

### **WAFTagOperationInternalErrorException**

HTTP Status Code: 500

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UntagResource

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

## Request Syntax

```
{
  "ResourceARN": "string",
  "TagKeys": [ "string" ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ResourceARN

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: Yes

### TagKeys

Type: Array of strings

Array Members: Minimum number of 1 item.

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFBadRequestException

HTTP Status Code: 400

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.

- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFTagOperationException**

HTTP Status Code: 400

### **WAFTagOperationInternalErrorException**

HTTP Status Code: 500

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)



# UpdateByteMatchSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Inserts or deletes [ByteMatchTuple](#) objects (filters) in a [ByteMatchSet](#). For each ByteMatchTuple object, you specify the following values:

- Whether to insert or delete the object from the array. If you want to change a ByteMatchSetUpdate object, you delete the existing object and add a new one.
- The part of a web request that you want Amazon WAF to inspect, such as a query string or the value of the User-Agent header.
- The bytes (typically a string that corresponds with ASCII characters) that you want Amazon WAF to look for. For more information, including how you specify the values for the Amazon WAF API and the Amazon CLI or Amazon SDKs, see TargetString in the [ByteMatchTuple](#) data type.
- Where to look, such as at the beginning or the end of a query string.
- Whether to perform any conversions on the request, such as converting it to lowercase, before inspecting it for the specified string.

For example, you can add a ByteMatchSetUpdate object that matches web requests in which User-Agent headers contain the string BadBot. You can then configure Amazon WAF to block those requests.

To create and configure a ByteMatchSet, perform the following steps:

1. Create a ByteMatchSet. For more information, see [CreateByteMatchSet](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of an UpdateByteMatchSet request.

3. Submit an `UpdateByteMatchSet` request to specify the part of the request that you want Amazon WAF to inspect (for example, the header or the URI path) and the value that you want Amazon WAF to watch for.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ByteMatchSetId": "string",
  "ChangeToken": "string",
  "Updates": [
    {
      "Action": "string",
      "ByteMatchTuple": {
        "FieldToMatch": {
          "Data": "string",
          "Type": "string"
        },
        "PositionalConstraint": "string",
        "TargetString": blob,
        "TextTransformation": "string"
      }
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ByteMatchSetId](#)

The `ByteMatchSetId` of the [ByteMatchSet](#) that you want to update. `ByteMatchSetId` is returned by [CreateByteMatchSet](#) and by [ListByteMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Updates

An array of [ByteMatchSetUpdate](#) objects that you want to insert into or delete from a [ByteMatchSet](#). For more information, see the applicable data types:

- [ByteMatchSetUpdate](#): Contains [Action](#) and [ByteMatchTuple](#)
- [ByteMatchTuple](#): Contains [FieldToMatch](#), [PositionalConstraint](#), [TargetString](#), and [TextTransformation](#)
- [FieldToMatch](#): Contains [Data](#) and [Type](#)

Type: Array of [ByteMatchSetUpdate](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## **ChangeToken**

The ChangeToken that you used to submit the UpdateByteMatchSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## **Errors**

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFInvalidOperationException**

The operation failed because there was nothing to do. For example:

- You tried to remove a Rule from a WebACL, but the Rule isn't in the specified WebACL.
- You tried to remove an IP address from an IPSet, but the IP address isn't in the specified IPSet.
- You tried to remove a ByteMatchTuple from a ByteMatchSet, but the ByteMatchTuple isn't in the specified WebACL.
- You tried to add a Rule to a WebACL, but the Rule already exists in the specified WebACL.
- You tried to add a ByteMatchTuple to a ByteMatchSet, but the ByteMatchTuple already exists in the specified WebACL.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFNonexistentContainerException**

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a Rule to or delete a Rule from a WebACL that doesn't exist.
- You tried to add a ByteMatchSet to or delete a ByteMatchSet from a Rule that doesn't exist.
- You tried to add an IP address to or delete an IP address from an IPSet that doesn't exist.

- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UpdateGeoMatchSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Inserts or deletes [GeoMatchConstraint](#) objects in an GeoMatchSet. For each GeoMatchConstraint object, you specify the following values:

- Whether to insert or delete the object from the array. If you want to change an GeoMatchConstraint object, you delete the existing object and add a new one.
- The Type. The only valid value for Type is Country.
- The Value, which is a two character code for the country to add to the GeoMatchConstraint object. Valid codes are listed in [GeoMatchConstraint:Value](#).

To create and configure an GeoMatchSet, perform the following steps:

1. Submit a [CreateGeoMatchSet](#) request.
2. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of an [UpdateGeoMatchSet](#) request.
3. Submit an UpdateGeoMatchSet request to specify the country that you want Amazon WAF to watch for.

When you update an GeoMatchSet, you specify the country that you want to add and/or the country that you want to delete. If you want to change a country, you delete the existing country and add the new one.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "GeoMatchSetId": "string",
  "Updates": [
    {
      "Action": "string",
      "GeoMatchConstraint": {
        "Type": "string",
        "Value": "string"
      }
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

### GeoMatchSetId

The GeoMatchSetId of the [GeoMatchSet](#) that you want to update. GeoMatchSetId is returned by [CreateGeoMatchSet](#) and by [ListGeoMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

## Updates

An array of [GeoMatchSetUpdate](#) objects that you want to insert into or delete from an [GeoMatchSet](#). For more information, see the applicable data types:

- [GeoMatchSetUpdate](#): Contains `Action` and `GeoMatchConstraint`
- [GeoMatchConstraint](#): Contains `Type` and `Value`

You can have only one `Type` and `Value` per `GeoMatchConstraint`. To add multiple countries, include multiple `GeoMatchSetUpdate` objects in your request.

Type: Array of [GeoMatchSetUpdate](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [ChangeToken](#)

The `ChangeToken` that you used to submit the `UpdateGeoMatchSet` request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.

- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFNonexistentContainerException**

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a Rule to or delete a Rule from a WebACL that doesn't exist.
- You tried to add a ByteMatchSet to or delete a ByteMatchSet from a Rule that doesn't exist.
- You tried to add an IP address to or delete an IP address from an IPSet that doesn't exist.
- You tried to add a ByteMatchTuple to or delete a ByteMatchTuple from a ByteMatchSet that doesn't exist.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFReferencedItemException**

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UpdateIPSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Inserts or deletes [IPSetDescriptor](#) objects in an IPSet. For each IPSetDescriptor object, you specify the following values:

- Whether to insert or delete the object from the array. If you want to change an IPSetDescriptor object, you delete the existing object and add a new one.
- The IP address version, IPv4 or IPv6.
- The IP address in CIDR notation, for example, `192.0.2.0/24` (for the range of IP addresses from `192.0.2.0` to `192.0.2.255`) or `192.0.2.44/32` (for the individual IP address `192.0.2.44`).

Amazon WAF supports IPv4 address ranges: `/8` and any range between `/16` through `/32`. Amazon WAF supports IPv6 address ranges: `/24`, `/32`, `/48`, `/56`, `/64`, and `/128`. For more information about CIDR notation, see the Wikipedia entry [Classless Inter-Domain Routing](#).

IPv6 addresses can be represented using any of the following formats:

- `1111:0000:0000:0000:0000:0000:0111/128`
- `1111:0:0:0:0:0:0111/128`
- `1111::0111/128`
- `1111::111/128`

You use an IPSet to specify which web requests you want to allow or block based on the IP addresses that the requests originated from. For example, if you're receiving a lot of requests

from one or a small number of IP addresses and you want to block the requests, you can create an IPSet that specifies those IP addresses, and then configure Amazon WAF to block the requests.

To create and configure an IPSet, perform the following steps:

1. Submit a [CreateIPSet](#) request.
2. Use [GetChangeToken](#) to get the change token that you provide in the ChangeToken parameter of an [UpdateIPSet](#) request.
3. Submit an UpdateIPSet request to specify the IP addresses that you want Amazon WAF to watch for.

When you update an IPSet, you specify the IP addresses that you want to add and the IP addresses that you want to delete. If you want to change an IP address, delete the existing IP address and add the new one.

You can update a maximum of 1,000 addresses in a single request.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "IPSetId": "string",
  "Updates": [
    {
      "Action": "string",
      "IPSetDescriptor": {
        "Type": "string",
        "Value": "string"
      }
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

### IPSetId

The IPSetId of the [IPSet](#) that you want to update. IPSetId is returned by [CreateIPSet](#) and by [ListIPSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

### Updates

An array of IPSetUpdate objects that you want to insert into or delete from an [IPSet](#). For more information, see the applicable data types:

- [IPSetUpdate](#): Contains Action and IPSetDescriptor
- [IPSetDescriptor](#): Contains Type and Value

You can specify a maximum of 1,000 addresses in a single request, for example, in a single request you can insert 999 addresses and delete 1 address, but you can't insert 999 addresses and delete 2 addresses.

Type: Array of [IPSetUpdate](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## Response Syntax

```
{  
  "ChangeToken": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [ChangeToken](#)

The `ChangeToken` that you used to submit the `UpdateIPSet` request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFInvalidOperationException**

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultActionType` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafActionType` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatchType` other than `HEADER`, `METHOD`, `QUERY_STRING`, `URI`, or `BODY`.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFNonexistentContainerException**

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFReferencedItemException**

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)

- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UpdateRateBasedRule

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Inserts or deletes [Predicate](#) objects in a rule and updates the `RateLimit` in the rule.

Each `Predicate` object identifies a predicate, such as a [ByteMatchSet](#) or an [IPSet](#), that specifies the web requests that you want to block or count. The `RateLimit` specifies the number of requests every five minutes that triggers the rule.

If you add more than one predicate to a `RateBasedRule`, a request must match all the predicates and exceed the `RateLimit` to be counted or blocked. For example, suppose you add the following to a `RateBasedRule`:

- An `IPSet` that matches the IP address `192.0.2.44/32`
- A `ByteMatchSet` that matches `BadBot` in the `User-Agent` header

Further, you specify a `RateLimit` of 1,000.

You then add the `RateBasedRule` to a `WebACL` and specify that you want to block requests that satisfy the rule. For a request to be blocked, it must come from the IP address `192.0.2.44` *and* the `User-Agent` header in the request must contain the value `BadBot`. Further, requests that match these two conditions must be received at a rate of more than 1,000 every five minutes. If the rate drops below this limit, Amazon WAF no longer blocks the requests.

As a second example, suppose you want to limit requests to a particular page on your site. To do this, you could add the following to a `RateBasedRule`:

- A `ByteMatchSet` with `FieldToMatch` of `URI`

- A `PositionalConstraint` of `STARTS_WITH`
- A `TargetString` of `login`

Further, you specify a `RateLimit` of 1,000.

By adding this `RateBasedRule` to a `WebACL`, you could limit requests to your login page without affecting the rest of your site.

## Request Syntax

```
{
  "ChangeToken": "string",
  "RateLimit": number,
  "RuleId": "string",
  "Updates": [
    {
      "Action": "string",
      "Predicate": {
        "DataId": "string",
        "Negated": boolean,
        "Type": "string"
      }
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### RateLimit

The maximum number of requests, which have an identical value in the field specified by the `RateKey`, allowed in a five-minute period. If the number of requests exceeds the `RateLimit` and the other predicates specified in the rule are also met, Amazon WAF triggers the action that is specified for this rule.

Type: Long

Valid Range: Minimum value of 100. Maximum value of 2000000000.

Required: Yes

### RuleId

The `RuleId` of the `RateBasedRule` that you want to update. `RuleId` is returned by `CreateRateBasedRule` and by [ListRateBasedRules](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Updates

An array of `RuleUpdate` objects that you want to insert into or delete from a [RateBasedRule](#).

Type: Array of [RuleUpdate](#) objects

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## **ChangeToken**

The ChangeToken that you used to submit the UpdateRateBasedRule request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

## **Errors**

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFInvalidOperationException**

The operation failed because there was nothing to do. For example:

- You tried to remove a Rule from a WebACL, but the Rule isn't in the specified WebACL.
- You tried to remove an IP address from an IPSet, but the IP address isn't in the specified IPSet.
- You tried to remove a ByteMatchTuple from a ByteMatchSet, but the ByteMatchTuple isn't in the specified WebACL.
- You tried to add a Rule to a WebACL, but the Rule already exists in the specified WebACL.

- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified WebACL.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultActionType` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafActionType` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` Type other than `HEADER`, `METHOD`, `QUERY_STRING`, `URI`, or `BODY`.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFNonexistentContainerException**

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.

- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFReferencedItemException**

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)

- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UpdateRegexMatchSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Inserts or deletes [RegexMatchTuple](#) objects (filters) in a [RegexMatchSet](#). For each `RegexMatchSetUpdate` object, you specify the following values:

- Whether to insert or delete the object from the array. If you want to change a `RegexMatchSetUpdate` object, you delete the existing object and add a new one.
- The part of a web request that you want Amazon WAF to inspect, such as a query string or the value of the `User-Agent` header.
- The identifier of the pattern (a regular expression) that you want Amazon WAF to look for. For more information, see [RegexPatternSet](#).
- Whether to perform any conversions on the request, such as converting it to lowercase, before inspecting it for the specified string.

For example, you can create a `RegexPatternSet` that matches any requests with `User-Agent` headers that contain the string `B[a@]dB[o0]t`. You can then configure Amazon WAF to reject those requests.

To create and configure a `RegexMatchSet`, perform the following steps:

1. Create a `RegexMatchSet`. For more information, see [CreateRegexMatchSet](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the `ChangeToken` parameter of an `UpdateRegexMatchSet` request.
3. Submit an `UpdateRegexMatchSet` request to specify the part of the request that you want Amazon WAF to inspect (for example, the header or the URI path) and the identifier of the

RegexPatternSet that contain the regular expression patterns you want Amazon WAF to watch for.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "RegexMatchSetId": "string",
  "Updates": [
    {
      "Action": "string",
      "RegexMatchTuple": {
        "FieldToMatch": {
          "Data": "string",
          "Type": "string"
        },
        "RegexPatternSetId": "string",
        "TextTransformation": "string"
      }
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

### RegexMatchSetId

The `RegexMatchSetId` of the [RegexMatchSet](#) that you want to update. `RegexMatchSetId` is returned by [CreateRegexMatchSet](#) and by [ListRegexMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Updates

An array of `RegexMatchSetUpdate` objects that you want to insert into or delete from a [RegexMatchSet](#). For more information, see [RegexMatchTuple](#).

Type: Array of [RegexMatchSetUpdate](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The `ChangeToken` that you used to submit the `UpdateRegexMatchSet` request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFNonexistentContainerException**

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a Rule to or delete a Rule from a WebACL that doesn't exist.
- You tried to add a ByteMatchSet to or delete a ByteMatchSet from a Rule that doesn't exist.
- You tried to add an IP address to or delete an IP address from an IPSet that doesn't exist.
- You tried to add a ByteMatchTuple to or delete a ByteMatchTuple from a ByteMatchSet that doesn't exist.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)

- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UpdateRegexPatternSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Inserts or deletes `RegexPatternString` objects in a [RegexPatternSet](#). For each `RegexPatternString` object, you specify the following values:

- Whether to insert or delete the `RegexPatternString`.
- The regular expression pattern that you want to insert or delete. For more information, see [RegexPatternSet](#).

For example, you can create a `RegexPatternString` such as `B[a@]dB[o0]t`. Amazon WAF will match this `RegexPatternString` to:

- `BadBot`
- `BadB0t`
- `B@dBot`
- `B@dB0t`

To create and configure a `RegexPatternSet`, perform the following steps:

1. Create a `RegexPatternSet`. For more information, see [CreateRegexPatternSet](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the `ChangeToken` parameter of an `UpdateRegexPatternSet` request.
3. Submit an `UpdateRegexPatternSet` request to specify the regular expression pattern that you want Amazon WAF to watch for.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "RegexPatternSetId": "string",
  "Updates": [
    {
      "Action": "string",
      "RegexPatternString": "string"
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

### [RegexPatternSetId](#)

The RegexPatternSetId of the [RegexPatternSet](#) that you want to update.

RegexPatternSetId is returned by [CreateRegexPatternSet](#) and by [ListRegexPatternSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Updates

An array of `RegexPatternSetUpdate` objects that you want to insert into or delete from a [RegexPatternSet](#).

Type: Array of [RegexPatternSetUpdate](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [ChangeToken](#)

The `ChangeToken` that you used to submit the `UpdateRegexPatternSet` request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

## WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

## WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

## WAFInvalidRegexPatternException

The regular expression (regex) you specified in `RegexPatternString` is invalid.

HTTP Status Code: 400

## WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

## WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a Rule to or delete a Rule from a WebACL that doesn't exist.
- You tried to add a ByteMatchSet to or delete a ByteMatchSet from a Rule that doesn't exist.
- You tried to add an IP address to or delete an IP address from an IPSet that doesn't exist.
- You tried to add a ByteMatchTuple to or delete a ByteMatchTuple from a ByteMatchSet that doesn't exist.

HTTP Status Code: 400

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)

- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UpdateRule

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Inserts or deletes [Predicate](#) objects in a `Rule`. Each `Predicate` object identifies a predicate, such as a [ByteMatchSet](#) or an [IPSet](#), that specifies the web requests that you want to allow, block, or count. If you add more than one predicate to a `Rule`, a request must match all of the specifications to be allowed, blocked, or counted. For example, suppose that you add the following to a `Rule`:

- A `ByteMatchSet` that matches the value `BadBot` in the `User-Agent` header
- An `IPSet` that matches the IP address `192.0.2.44`

You then add the `Rule` to a `WebACL` and specify that you want to block requests that satisfy the `Rule`. For a request to be blocked, the `User-Agent` header in the request must contain the value `BadBot` *and* the request must originate from the IP address `192.0.2.44`.

To create and configure a `Rule`, perform the following steps:

1. Create and update the predicates that you want to include in the `Rule`.
2. Create the `Rule`. See [CreateRule](#).
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an [UpdateRule](#) request.
4. Submit an `UpdateRule` request to add predicates to the `Rule`.
5. Create and update a `WebACL` that contains the `Rule`. See [CreateWebACL](#).

If you want to replace one `ByteMatchSet` or `IPSet` with another, you delete the existing one and add the new one.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "RuleId": "string",
  "Updates": [
    {
      "Action": "string",
      "Predicate": {
        "DataId": "string",
        "Negated": boolean,
        "Type": "string"
      }
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### RuleId

The RuleId of the Rule that you want to update. RuleId is returned by [CreateRule](#) and by [ListRules](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Updates

An array of `RuleUpdate` objects that you want to insert into or delete from a [Rule](#). For more information, see the applicable data types:

- [RuleUpdate](#): Contains `Action` and `Predicate`
- [Predicate](#): Contains `DataId`, `Negated`, and `Type`
- [FieldToMatch](#): Contains `Data` and `Type`

Type: Array of [RuleUpdate](#) objects

Required: Yes

## Response Syntax

```
{  
  "ChangeToken": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The `ChangeToken` that you used to submit the `UpdateRule` request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.

- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFNonexistentContainerException**

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a Rule to or delete a Rule from a WebACL that doesn't exist.
- You tried to add a ByteMatchSet to or delete a ByteMatchSet from a Rule that doesn't exist.
- You tried to add an IP address to or delete an IP address from an IPSet that doesn't exist.
- You tried to add a ByteMatchTuple to or delete a ByteMatchTuple from a ByteMatchSet that doesn't exist.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFReferencedItemException**

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UpdateRuleGroup

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Inserts or deletes [ActivatedRule](#) objects in a RuleGroup.

You can only insert REGULAR rules into a rule group.

You can have a maximum of ten rules per rule group.

To create and configure a RuleGroup, perform the following steps:

1. Create and update the Rules that you want to include in the RuleGroup. See [CreateRule](#).
2. Use GetChangeToken to get the change token that you provide in the ChangeToken parameter of an [UpdateRuleGroup](#) request.
3. Submit an UpdateRuleGroup request to add Rules to the RuleGroup.
4. Create and update a WebACL that contains the RuleGroup. See [CreateWebACL](#).

If you want to replace one Rule with another, you delete the existing one and add the new one.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "RuleGroupId": "string",
  "Updates": [
```

```

{
  "Action": "string",
  "ActivatedRule": {
    "Action": {
      "Type": "string"
    },
    "ExcludedRules": [
      {
        "RuleId": "string"
      }
    ],
    "OverrideAction": {
      "Type": "string"
    },
    "Priority": number,
    "RuleId": "string",
    "Type": "string"
  }
}
]
}

```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

### RuleGroupId

The RuleGroupId of the [RuleGroup](#) that you want to update. RuleGroupId is returned by [CreateRuleGroup](#) and by [ListRuleGroups](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Updates

An array of `RuleGroupUpdate` objects that you want to insert into or delete from a [RuleGroup](#).

You can only insert REGULAR rules into a rule group.

`ActivatedRule|OverrideAction` applies only when updating or adding a `RuleGroup` to a WebACL. In this case you do not use `ActivatedRule|Action`. For all other update requests, `ActivatedRule|Action` is used instead of `ActivatedRule|OverrideAction`.

Type: Array of [RuleGroupUpdate](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## Response Syntax

```
{  
  "ChangeToken": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The `ChangeToken` that you used to submit the `UpdateRuleGroup` request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

### WAFInvalidParameterException

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction Type` other than `ALLOW`, `BLOCK`, or `COUNT`.

- You tried to create a `RateBasedRule` with a `RateKey` value other than IP.
- You tried to update a `WebACL` with a `WafAction` Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of HEADER but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFNonexistentContainerException**

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UpdateSizeConstraintSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Inserts or deletes [SizeConstraint](#) objects (filters) in a [SizeConstraintSet](#). For each `SizeConstraint` object, you specify the following values:

- Whether to insert or delete the object from the array. If you want to change a `SizeConstraintSetUpdate` object, you delete the existing object and add a new one.
- The part of a web request that you want Amazon WAF to evaluate, such as the length of a query string or the length of the `User-Agent` header.
- Whether to perform any transformations on the request, such as converting it to lowercase, before checking its length. Note that transformations of the request body are not supported because the Amazon resource forwards only the first 8192 bytes of your request to Amazon WAF.

You can only specify a single type of `TextTransformation`.

- A `ComparisonOperator` used for evaluating the selected part of the request against the specified `Size`, such as equals, greater than, less than, and so on.
- The length, in bytes, that you want Amazon WAF to watch for in selected part of the request. The length is computed after applying the transformation.

For example, you can add a `SizeConstraintSetUpdate` object that matches web requests in which the length of the `User-Agent` header is greater than 100 bytes. You can then configure Amazon WAF to block those requests.

To create and configure a `SizeConstraintSet`, perform the following steps:

1. Create a `SizeConstraintSet`. For more information, see [CreateSizeConstraintSet](#).
2. Use [GetChangeToken](#) to get the change token that you provide in the `ChangeToken` parameter of an `UpdateSizeConstraintSet` request.
3. Submit an `UpdateSizeConstraintSet` request to specify the part of the request that you want Amazon WAF to inspect (for example, the header or the URI path) and the value that you want Amazon WAF to watch for.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "SizeConstraintSetId": "string",
  "Updates": [
    {
      "Action": "string",
      "SizeConstraint": {
        "ComparisonOperator": "string",
        "FieldToMatch": {
          "Data": "string",
          "Type": "string"
        },
        "Size": number,
        "TextTransformation": "string"
      }
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### SizeConstraintSetId

The `SizeConstraintSetId` of the [SizeConstraintSet](#) that you want to update.

`SizeConstraintSetId` is returned by [CreateSizeConstraintSet](#) and by [ListSizeConstraintSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Updates

An array of `SizeConstraintSetUpdate` objects that you want to insert into or delete from a [SizeConstraintSet](#). For more information, see the applicable data types:

- [SizeConstraintSetUpdate](#): Contains `Action` and `SizeConstraint`
- [SizeConstraint](#): Contains `FieldToMatch`, `TextTransformation`, `ComparisonOperator`, and `Size`
- [FieldToMatch](#): Contains `Data` and `Type`

Type: Array of [SizeConstraintSetUpdate](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## Response Syntax

```
{  
  "ChangeToken": "string"  
}
```

```
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### ChangeToken

The ChangeToken that you used to submit the UpdateSizeConstraintSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFInvalidOperationException**

The operation failed because there was nothing to do. For example:

- You tried to remove a Rule from a WebACL, but the Rule isn't in the specified WebACL.

- You tried to remove an IP address from an IPSet, but the IP address isn't in the specified IPSet.
- You tried to remove a ByteMatchTuple from a ByteMatchSet, but the ByteMatchTuple isn't in the specified WebACL.
- You tried to add a Rule to a WebACL, but the Rule already exists in the specified WebACL.
- You tried to add a ByteMatchTuple to a ByteMatchSet, but the ByteMatchTuple already exists in the specified WebACL.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

## WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

## WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

## WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

## WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)

- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UpdateSqlInjectionMatchSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Inserts or deletes [SqlInjectionMatchTuple](#) objects (filters) in a [SqlInjectionMatchSet](#). For each [SqlInjectionMatchTuple](#) object, you specify the following values:

- **Action:** Whether to insert the object into or delete the object from the array. To change a [SqlInjectionMatchTuple](#), you delete the existing object and add a new one.
- **FieldToMatch:** The part of web requests that you want Amazon WAF to inspect and, if you want Amazon WAF to inspect a header or custom query parameter, the name of the header or parameter.
- **TextTransformation:** Which text transformation, if any, to perform on the web request before inspecting the request for snippets of malicious SQL code.

You can only specify a single type of [TextTransformation](#).

You use [SqlInjectionMatchSet](#) objects to specify which Amazon CloudFront requests that you want to allow, block, or count. For example, if you're receiving requests that contain snippets of SQL code in the query string and you want to block the requests, you can create a [SqlInjectionMatchSet](#) with the applicable settings, and then configure Amazon WAF to block the requests.

To create and configure a [SqlInjectionMatchSet](#), perform the following steps:

1. Submit a [CreateSqlInjectionMatchSet](#) request.
2. Use [GetChangeToken](#) to get the change token that you provide in the [ChangeToken](#) parameter of an [UpdateIPSet](#) request.

3. Submit an `UpdateSqlInjectionMatchSet` request to specify the parts of web requests that you want Amazon WAF to inspect for snippets of SQL code.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "SqlInjectionMatchSetId": "string",
  "Updates": [
    {
      "Action": "string",
      "SqlInjectionMatchTuple": {
        "FieldToMatch": {
          "Data": "string",
          "Type": "string"
        },
        "TextTransformation": "string"
      }
    }
  ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### ChangeToken

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## SqlInjectionMatchSetId

The `SqlInjectionMatchSetId` of the `SqlInjectionMatchSet` that you want to update. `SqlInjectionMatchSetId` is returned by [CreateSqlInjectionMatchSet](#) and by [ListSqlInjectionMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Updates

An array of `SqlInjectionMatchSetUpdate` objects that you want to insert into or delete from a [SqlInjectionMatchSet](#). For more information, see the applicable data types:

- [SqlInjectionMatchSetUpdate](#): Contains `Action` and `SqlInjectionMatchTuple`
- [SqlInjectionMatchTuple](#): Contains `FieldToMatch` and `TextTransformation`
- [FieldToMatch](#): Contains `Data` and `Type`

Type: Array of [SqlInjectionMatchSetUpdate](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## Response Syntax

```
{
  "ChangeToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ChangeToken

The ChangeToken that you used to submit the UpdateSqlInjectionMatchSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a Rule from a WebACL, but the Rule isn't in the specified WebACL.
- You tried to remove an IP address from an IPSet, but the IP address isn't in the specified IPSet.
- You tried to remove a ByteMatchTuple from a ByteMatchSet, but the ByteMatchTuple isn't in the specified WebACL.
- You tried to add a Rule to a WebACL, but the Rule already exists in the specified WebACL.
- You tried to add a ByteMatchTuple to a ByteMatchSet, but the ByteMatchTuple already exists in the specified WebACL.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFNonexistentContainerException**

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a Rule to or delete a Rule from a WebACL that doesn't exist.
- You tried to add a ByteMatchSet to or delete a ByteMatchSet from a Rule that doesn't exist.
- You tried to add an IP address to or delete an IP address from an IPSet that doesn't exist.

- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UpdateWebACL

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Inserts or deletes [ActivatedRule](#) objects in a WebACL. Each `Rule` identifies web requests that you want to allow, block, or count. When you update a WebACL, you specify the following values:

- A default action for the WebACL, either `ALLOW` or `BLOCK`. Amazon WAF performs the default action if a request doesn't match the criteria in any of the `Rules` in a WebACL.
- The `Rules` that you want to add or delete. If you want to replace one `Rule` with another, you delete the existing `Rule` and add the new one.
- For each `Rule`, whether you want Amazon WAF to allow requests, block requests, or count requests that match the conditions in the `Rule`.
- The order in which you want Amazon WAF to evaluate the `Rules` in a WebACL. If you add more than one `Rule` to a WebACL, Amazon WAF evaluates each request against the `Rules` in order based on the value of `Priority`. (The `Rule` that has the lowest value for `Priority` is evaluated first.) When a web request matches all the predicates (such as `ByteMatchSets` and `IPSets`) in a `Rule`, Amazon WAF immediately takes the corresponding action, allow or block, and doesn't evaluate the request against the remaining `Rules` in the WebACL, if any.

To create and configure a WebACL, perform the following steps:

1. Create and update the predicates that you want to include in `Rules`. For more information, see [CreateByteMatchSet](#), [UpdateByteMatchSet](#), [CreateIPSet](#), [UpdateIPSet](#), [CreateSqlInjectionMatchSet](#), and [UpdateSqlInjectionMatchSet](#).
2. Create and update the `Rules` that you want to include in the WebACL. For more information, see [CreateRule](#) and [UpdateRule](#).

3. Create a WebACL. See [CreateWebACL](#).
4. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an [UpdateWebACL](#) request.
5. Submit an `UpdateWebACL` request to specify the `Rules` that you want to include in the WebACL, to specify the default action, and to associate the WebACL with an Amazon CloudFront distribution.

The `ActivatedRule` can be a rule group. If you specify a rule group as your `ActivatedRule`, you can exclude specific rules from that rule group.

If you already have a rule group associated with a web ACL and want to submit an `UpdateWebACL` request to exclude certain rules from that rule group, you must first remove the rule group from the web ACL, re-insert it again, specifying the excluded rules. For details, see [ActivatedRule:ExcludedRules](#).

Be aware that if you try to add a `RATE_BASED` rule to a web ACL without setting the rule type when first creating the rule, the [UpdateWebACL](#) request will fail because the request tries to add a `REGULAR` rule (the default rule type) with the specified ID, which does not exist.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "DefaultAction": {
    "Type": "string"
  },
  "Updates": [
    {
      "Action": "string",
      "ActivatedRule": {
        "Action": {
          "Type": "string"
        },
        "ExcludedRules": [
          {
            "RuleId": "string"
          }
        ]
      }
    }
  ]
}
```

```
    ],
    "OverrideAction": {
      "Type": "string"
    },
    "Priority": number,
    "RuleId": "string",
    "Type": "string"
  }
}
],
"WebACLId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

### [DefaultAction](#)

Type: [WafAction](#) object

Required: No

### [Updates](#)

An array of updates to make to the [WebACL](#).

An array of [WebACLUpdate](#) objects that you want to insert into or delete from a [WebACL](#). For more information, see the applicable data types:

- [WebACLUpdate](#): Contains Action and ActivatedRule

- [ActivatedRule](#): Contains Action, OverrideAction, Priority, RuleId, and Type. ActivatedRule | OverrideAction applies only when updating or adding a RuleGroup to a WebACL. In this case, you do not use ActivatedRule | Action. For all other update requests, ActivatedRule | Action is used instead of ActivatedRule | OverrideAction.
- [WafAction](#): Contains Type

Type: Array of [WebACLUpdate](#) objects

Required: No

## [WebACLId](#)

The WebACLId of the [WebACL](#) that you want to update. WebACLId is returned by [CreateWebACL](#) and by [ListWebACLs](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

## Response Syntax

```
{  
  "ChangeToken": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [ChangeToken](#)

The ChangeToken that you used to submit the UpdateWebACL request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFInvalidOperationException**

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.

- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFNonexistentContainerException**

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a Rule to or delete a Rule from a WebACL that doesn't exist.
- You tried to add a ByteMatchSet to or delete a ByteMatchSet from a Rule that doesn't exist.
- You tried to add an IP address to or delete an IP address from an IPSet that doesn't exist.
- You tried to add a ByteMatchTuple to or delete a ByteMatchTuple from a ByteMatchSet that doesn't exist.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFReferencedItemException**

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

### **WAFSubscriptionNotFoundException**

The specified subscription does not exist.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# UpdateXssMatchSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Inserts or deletes [XssMatchTuple](#) objects (filters) in an [XssMatchSet](#). For each `XssMatchTuple` object, you specify the following values:

- **Action**: Whether to insert the object into or delete the object from the array. To change an `XssMatchTuple`, you delete the existing object and add a new one.
- **FieldToMatch**: The part of web requests that you want Amazon WAF to inspect and, if you want Amazon WAF to inspect a header or custom query parameter, the name of the header or parameter.
- **TextTransformation**: Which text transformation, if any, to perform on the web request before inspecting the request for cross-site scripting attacks.

You can only specify a single type of `TextTransformation`.

You use `XssMatchSet` objects to specify which Amazon CloudFront requests that you want to allow, block, or count. For example, if you're receiving requests that contain cross-site scripting attacks in the request body and you want to block the requests, you can create an `XssMatchSet` with the applicable settings, and then configure Amazon WAF to block the requests.

To create and configure an `XssMatchSet`, perform the following steps:

1. Submit a [CreateXssMatchSet](#) request.
2. Use [GetChangeToken](#) to get the change token that you provide in the `ChangeToken` parameter of an [UpdateIPSet](#) request.

3. Submit an `UpdateXssMatchSet` request to specify the parts of web requests that you want Amazon WAF to inspect for cross-site scripting attacks.

For more information about how to use the Amazon WAF API to allow or block HTTP requests, see the [Amazon WAF Developer Guide](#).

## Request Syntax

```
{
  "ChangeToken": "string",
  "Updates": [
    {
      "Action": "string",
      "XssMatchTuple": {
        "FieldToMatch": {
          "Data": "string",
          "Type": "string"
        },
        "TextTransformation": "string"
      }
    }
  ],
  "XssMatchSetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#).

The request accepts the following data in JSON format.

### [ChangeToken](#)

The value returned by the most recent call to [GetChangeToken](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Updates

An array of `XssMatchSetUpdate` objects that you want to insert into or delete from an [XssMatchSet](#). For more information, see the applicable data types:

- [XssMatchSetUpdate](#): Contains `Action` and `XssMatchTuple`
- [XssMatchTuple](#): Contains `FieldToMatch` and `TextTransformation`
- [FieldToMatch](#): Contains `Data` and `Type`

Type: Array of [XssMatchSetUpdate](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## [XssMatchSetId](#)

The `XssMatchSetId` of the `XssMatchSet` that you want to update. `XssMatchSetId` is returned by [CreateXssMatchSet](#) and by [ListXssMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Response Syntax

```
{  
  "ChangeToken": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## ChangeToken

The ChangeToken that you used to submit the UpdateXssMatchSet request. You can also use this value to query the status of the request. For more information, see [GetChangeTokenStatus](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **WAFInternalErrorException**

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

### **WAFInvalidAccountException**

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

### **WAFInvalidOperationException**

The operation failed because there was nothing to do. For example:

- You tried to remove a Rule from a WebACL, but the Rule isn't in the specified WebACL.
- You tried to remove an IP address from an IPSet, but the IP address isn't in the specified IPSet.
- You tried to remove a ByteMatchTuple from a ByteMatchSet, but the ByteMatchTuple isn't in the specified WebACL.
- You tried to add a Rule to a WebACL, but the Rule already exists in the specified WebACL.
- You tried to add a ByteMatchTuple to a ByteMatchSet, but the ByteMatchTuple already exists in the specified WebACL.

HTTP Status Code: 400

### **WAFInvalidParameterException**

The operation failed because Amazon WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (ByteMatchSet, IPSet, Rule, or WebACL) using an action other than INSERT or DELETE.
- You tried to create a WebACL with a DefaultAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to create a RateBasedRule with a RateKey value other than IP.
- You tried to update a WebACL with a WafAction Type other than ALLOW, BLOCK, or COUNT.
- You tried to update a ByteMatchSet with a FieldToMatch Type other than HEADER, METHOD, QUERY\_STRING, URI, or BODY.
- You tried to update a ByteMatchSet with a Field of HEADER but no value for Data.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

### **WAFLimitsExceededException**

The operation exceeds a resource limit, for example, the maximum number of WebACL objects that you can create for an Amazon Web Services account. For more information, see [Amazon WAF Classic quotas](#) in the *Amazon WAF Developer Guide*.

HTTP Status Code: 400

### **WAFNonexistentContainerException**

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a Rule to or delete a Rule from a WebACL that doesn't exist.
- You tried to add a ByteMatchSet to or delete a ByteMatchSet from a Rule that doesn't exist.
- You tried to add an IP address to or delete an IP address from an IPSet that doesn't exist.

- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

### **WAFNonexistentItemException**

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

### **WAFStaleDataException**

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon Command Line Interface V2](#)
- [Amazon SDK for .NET V4](#)
- [Amazon SDK for C++](#)
- [Amazon SDK for Go v2](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for JavaScript V3](#)
- [Amazon SDK for Kotlin](#)
- [Amazon SDK for PHP V3](#)
- [Amazon SDK for Python](#)
- [Amazon SDK for Ruby V3](#)

# Data Types

The following data types are supported by Amazon WAFV2:

- [ActionCondition](#)
- [AddressField](#)
- [All](#)
- [AllowAction](#)
- [AllQueryArguments](#)
- [AndStatement](#)
- [APIKeySummary](#)
- [ApplicationAttribute](#)
- [ApplicationConfig](#)
- [AsnMatchStatement](#)
- [AssociationConfig](#)
- [AWSManagedRulesACFPRuleSet](#)
- [AWSManagedRulesAntiDDoSRuleSet](#)
- [AWSManagedRulesATPRuleSet](#)
- [AWSManagedRulesBotControlRuleSet](#)
- [BlockAction](#)
- [Body](#)
- [ByteMatchStatement](#)
- [CaptchaAction](#)
- [CaptchaConfig](#)
- [CaptchaResponse](#)
- [ChallengeAction](#)
- [ChallengeConfig](#)
- [ChallengeResponse](#)
- [ClientSideAction](#)
- [ClientSideActionConfig](#)
- [Condition](#)

- [CookieMatchPattern](#)
- [Cookies](#)
- [CountAction](#)
- [CustomHTTPHeader](#)
- [CustomRequestHandling](#)
- [CustomResponse](#)
- [CustomResponseBody](#)
- [DataProtection](#)
- [DataProtectionConfig](#)
- [DefaultAction](#)
- [DisallowedFeature](#)
- [EmailField](#)
- [ExcludedRule](#)
- [FieldToMatch](#)
- [FieldToProtect](#)
- [Filter](#)
- [FirewallManagerRuleGroup](#)
- [FirewallManagerStatement](#)
- [ForwardedIPConfig](#)
- [GeoMatchStatement](#)
- [HeaderMatchPattern](#)
- [HeaderOrder](#)
- [Headers](#)
- [HTTPHeader](#)
- [HTTPRequest](#)
- [ImmunityTimeProperty](#)
- [IPSet](#)
- [IPSetForwardedIPConfig](#)
- [IPSetReferenceStatement](#)
- [IPSetSummary](#)

- [JA3Fingerprint](#)
- [JA4Fingerprint](#)
- [JsonBody](#)
- [JsonMatchPattern](#)
- [Label](#)
- [LabelMatchStatement](#)
- [LabelNameCondition](#)
- [LabelSummary](#)
- [LoggingConfiguration](#)
- [LoggingFilter](#)
- [ManagedProductDescriptor](#)
- [ManagedRuleGroupConfig](#)
- [ManagedRuleGroupStatement](#)
- [ManagedRuleGroupSummary](#)
- [ManagedRuleGroupVersion](#)
- [ManagedRuleSet](#)
- [ManagedRuleSetSummary](#)
- [ManagedRuleSetVersion](#)
- [Method](#)
- [MobileSdkRelease](#)
- [NoneAction](#)
- [NotStatement](#)
- [OnSourceDDoSProtectionConfig](#)
- [OrStatement](#)
- [OverrideAction](#)
- [PasswordField](#)
- [PhoneNumberField](#)
- [QueryString](#)
- [RateBasedStatement](#)
- [RateBasedStatementCustomKey](#)

- [RateBasedStatementManagedKeysIPSet](#)
- [RateLimitAsn](#)
- [RateLimitCookie](#)
- [RateLimitForwardedIP](#)
- [RateLimitHeader](#)
- [RateLimitHTTPMethod](#)
- [RateLimitIP](#)
- [RateLimitJA3Fingerprint](#)
- [RateLimitJA4Fingerprint](#)
- [RateLimitLabelNamespace](#)
- [RateLimitQueryArgument](#)
- [RateLimitQueryString](#)
- [RateLimitUriPath](#)
- [Regex](#)
- [RegexMatchStatement](#)
- [RegexPatternSet](#)
- [RegexPatternSetReferenceStatement](#)
- [RegexPatternSetSummary](#)
- [ReleaseSummary](#)
- [RequestBodyAssociatedResourceTypeConfig](#)
- [RequestInspection](#)
- [RequestInspectionACFP](#)
- [ResponseInspection](#)
- [ResponseInspectionBodyContains](#)
- [ResponseInspectionHeader](#)
- [ResponseInspectionJson](#)
- [ResponseInspectionStatusCode](#)
- [Rule](#)
- [RuleAction](#)
- [RuleActionOverride](#)

- [RuleGroup](#)
- [RuleGroupReferenceStatement](#)
- [RuleGroupSummary](#)
- [RuleSummary](#)
- [SampledHTTPRequest](#)
- [SingleHeader](#)
- [SingleQueryArgument](#)
- [SizeConstraintStatement](#)
- [SqliMatchStatement](#)
- [Statement](#)
- [Tag](#)
- [TagInfoForResource](#)
- [TextTransformation](#)
- [TimeWindow](#)
- [UriFragment](#)
- [UriPath](#)
- [UsernameField](#)
- [VersionToPublish](#)
- [VisibilityConfig](#)
- [WebACL](#)
- [WebACLSummary](#)
- [XssMatchStatement](#)

The following data types are supported by Amazon WAF Classic:

- [ActivatedRule](#)
- [ByteMatchSet](#)
- [ByteMatchSetSummary](#)
- [ByteMatchSetUpdate](#)
- [ByteMatchTuple](#)
- [ExcludedRule](#)

- [FieldToMatch](#)
- [GeoMatchConstraint](#)
- [GeoMatchSet](#)
- [GeoMatchSetSummary](#)
- [GeoMatchSetUpdate](#)
- [HTTPHeader](#)
- [HTTPRequest](#)
- [IPSet](#)
- [IPSetDescriptor](#)
- [IPSetSummary](#)
- [IPSetUpdate](#)
- [LoggingConfiguration](#)
- [Predicate](#)
- [RateBasedRule](#)
- [RegexMatchSet](#)
- [RegexMatchSetSummary](#)
- [RegexMatchSetUpdate](#)
- [RegexMatchTuple](#)
- [RegexPatternSet](#)
- [RegexPatternSetSummary](#)
- [RegexPatternSetUpdate](#)
- [Rule](#)
- [RuleGroup](#)
- [RuleGroupSummary](#)
- [RuleGroupUpdate](#)
- [RuleSummary](#)
- [RuleUpdate](#)
- [SampledHTTPRequest](#)
- [SizeConstraint](#)
- [SizeConstraintSet](#)

- [SizeConstraintSetSummary](#)
- [SizeConstraintSetUpdate](#)
- [SqlInjectionMatchSet](#)
- [SqlInjectionMatchSetSummary](#)
- [SqlInjectionMatchSetUpdate](#)
- [SqlInjectionMatchTuple](#)
- [SubscribedRuleGroupSummary](#)
- [Tag](#)
- [TagInfoForResource](#)
- [TimeWindow](#)
- [WafAction](#)
- [WafOverrideAction](#)
- [WebACL](#)
- [WebACLSummary](#)
- [WebACLUpdate](#)
- [XssMatchSet](#)
- [XssMatchSetSummary](#)
- [XssMatchSetUpdate](#)
- [XssMatchTuple](#)

The following data types are supported by Amazon WAF Classic Regional:

- [ActivatedRule](#)
- [ByteMatchSet](#)
- [ByteMatchSetSummary](#)
- [ByteMatchSetUpdate](#)
- [ByteMatchTuple](#)
- [ExcludedRule](#)
- [FieldToMatch](#)
- [GeoMatchConstraint](#)
- [GeoMatchSet](#)

- [GeoMatchSetSummary](#)
- [GeoMatchSetUpdate](#)
- [HTTPHeader](#)
- [HTTPRequest](#)
- [IPSet](#)
- [IPSetDescriptor](#)
- [IPSetSummary](#)
- [IPSetUpdate](#)
- [LoggingConfiguration](#)
- [Predicate](#)
- [RateBasedRule](#)
- [RegexMatchSet](#)
- [RegexMatchSetSummary](#)
- [RegexMatchSetUpdate](#)
- [RegexMatchTuple](#)
- [RegexPatternSet](#)
- [RegexPatternSetSummary](#)
- [RegexPatternSetUpdate](#)
- [Rule](#)
- [RuleGroup](#)
- [RuleGroupSummary](#)
- [RuleGroupUpdate](#)
- [RuleSummary](#)
- [RuleUpdate](#)
- [SampledHTTPRequest](#)
- [SizeConstraint](#)
- [SizeConstraintSet](#)
- [SizeConstraintSetSummary](#)
- [SizeConstraintSetUpdate](#)
- [SqlInjectionMatchSet](#)

- [SqlInjectionMatchSetSummary](#)
- [SqlInjectionMatchSetUpdate](#)
- [SqlInjectionMatchTuple](#)
- [SubscribedRuleGroupSummary](#)
- [Tag](#)
- [TagInfoForResource](#)
- [TimeWindow](#)
- [WafAction](#)
- [WafOverrideAction](#)
- [WebACL](#)
- [WebACLSummary](#)
- [WebACLUpdate](#)
- [XssMatchSet](#)
- [XssMatchSetSummary](#)
- [XssMatchSetUpdate](#)
- [XssMatchTuple](#)

## Amazon WAFV2

The following data types are supported by Amazon WAFV2:

- [ActionCondition](#)
- [AddressField](#)
- [All](#)
- [AllowAction](#)
- [AllQueryArguments](#)
- [AndStatement](#)
- [APIKeySummary](#)
- [ApplicationAttribute](#)
- [ApplicationConfig](#)
- [AsnMatchStatement](#)

- [AssociationConfig](#)
- [AWSManagedRulesACFPRuleSet](#)
- [AWSManagedRulesAntiDDoSRuleSet](#)
- [AWSManagedRulesATPRuleSet](#)
- [AWSManagedRulesBotControlRuleSet](#)
- [BlockAction](#)
- [Body](#)
- [ByteMatchStatement](#)
- [CaptchaAction](#)
- [CaptchaConfig](#)
- [CaptchaResponse](#)
- [ChallengeAction](#)
- [ChallengeConfig](#)
- [ChallengeResponse](#)
- [ClientSideAction](#)
- [ClientSideActionConfig](#)
- [Condition](#)
- [CookieMatchPattern](#)
- [Cookies](#)
- [CountAction](#)
- [CustomHTTPHeader](#)
- [CustomRequestHandling](#)
- [CustomResponse](#)
- [CustomResponseBody](#)
- [DataProtection](#)
- [DataProtectionConfig](#)
- [DefaultAction](#)
- [DisallowedFeature](#)
- [EmailField](#)
- [ExcludedRule](#)

- [FieldToMatch](#)
- [FieldToProtect](#)
- [Filter](#)
- [FirewallManagerRuleGroup](#)
- [FirewallManagerStatement](#)
- [ForwardedIPConfig](#)
- [GeoMatchStatement](#)
- [HeaderMatchPattern](#)
- [HeaderOrder](#)
- [Headers](#)
- [HTTPHeader](#)
- [HTTPRequest](#)
- [ImmunityTimeProperty](#)
- [IPSet](#)
- [IPSetForwardedIPConfig](#)
- [IPSetReferenceStatement](#)
- [IPSetSummary](#)
- [JA3Fingerprint](#)
- [JA4Fingerprint](#)
- [JsonBody](#)
- [JsonMatchPattern](#)
- [Label](#)
- [LabelMatchStatement](#)
- [LabelNameCondition](#)
- [LabelSummary](#)
- [LoggingConfiguration](#)
- [LoggingFilter](#)
- [ManagedProductDescriptor](#)
- [ManagedRuleGroupConfig](#)
- [ManagedRuleGroupStatement](#)

- [ManagedRuleGroupSummary](#)
- [ManagedRuleGroupVersion](#)
- [ManagedRuleSet](#)
- [ManagedRuleSetSummary](#)
- [ManagedRuleSetVersion](#)
- [Method](#)
- [MobileSdkRelease](#)
- [NoneAction](#)
- [NotStatement](#)
- [OnSourceDDoSProtectionConfig](#)
- [OrStatement](#)
- [OverrideAction](#)
- [PasswordField](#)
- [PhoneNumberField](#)
- [QueryString](#)
- [RateBasedStatement](#)
- [RateBasedStatementCustomKey](#)
- [RateBasedStatementManagedKeysIPSet](#)
- [RateLimitAsn](#)
- [RateLimitCookie](#)
- [RateLimitForwardedIP](#)
- [RateLimitHeader](#)
- [RateLimitHTTPMethod](#)
- [RateLimitIP](#)
- [RateLimitJA3Fingerprint](#)
- [RateLimitJA4Fingerprint](#)
- [RateLimitLabelNamespace](#)
- [RateLimitQueryArgument](#)
- [RateLimitQueryString](#)
- [RateLimitUriPath](#)

- [Regex](#)
- [RegexMatchStatement](#)
- [RegexPatternSet](#)
- [RegexPatternSetReferenceStatement](#)
- [RegexPatternSetSummary](#)
- [ReleaseSummary](#)
- [RequestBodyAssociatedResourceTypeConfig](#)
- [RequestInspection](#)
- [RequestInspectionACFP](#)
- [ResponseInspection](#)
- [ResponseInspectionBodyContains](#)
- [ResponseInspectionHeader](#)
- [ResponseInspectionJson](#)
- [ResponseInspectionStatusCode](#)
- [Rule](#)
- [RuleAction](#)
- [RuleActionOverride](#)
- [RuleGroup](#)
- [RuleGroupReferenceStatement](#)
- [RuleGroupSummary](#)
- [RuleSummary](#)
- [SampledHTTPRequest](#)
- [SingleHeader](#)
- [SingleQueryArgument](#)
- [SizeConstraintStatement](#)
- [SqliMatchStatement](#)
- [Statement](#)
- [Tag](#)
- [TagInfoForResource](#)
- [TextTransformation](#)

- [TimeWindow](#)
- [UriFragment](#)
- [UriPath](#)
- [UsernameField](#)
- [VersionToPublish](#)
- [VisibilityConfig](#)
- [WebACL](#)
- [WebACLSummary](#)
- [XssMatchStatement](#)

# ActionCondition

Service: Amazon WAFV2

A single action condition for a [Condition](#) in a logging filter.

## Contents

### Action

The action setting that a log record must contain in order to meet the condition. This is the action that Amazon WAF applied to the web request.

For rule groups, this is either the configured rule action setting, or if you've applied a rule action override to the rule, it's the override action. The value EXCLUDED\_AS\_COUNT matches on excluded rules and also on rules that have a rule action override of Count.

Type: String

Valid Values: ALLOW | BLOCK | COUNT | CAPTCHA | CHALLENGE | EXCLUDED\_AS\_COUNT

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# AddressField

Service: Amazon WAFV2

The name of a field in the request payload that contains part or all of your customer's primary physical address.

This data type is used in the RequestInspectionACFP data type.

## Contents

### Identifier

The name of a single primary address field.

How you specify the address fields depends on the request inspection payload type.

- For JSON payloads, specify the field identifiers in JSON pointer syntax. For information about the JSON Pointer syntax, see the Internet Engineering Task Force (IETF) documentation [JavaScript Object Notation \(JSON\) Pointer](#).

For example, for the JSON payload { "form": { "primaryaddressline1": "THE\_ADDRESS1", "primaryaddressline2": "THE\_ADDRESS2", "primaryaddressline3": "THE\_ADDRESS3" } }, the address field identifiers are /form/primaryaddressline1, /form/primaryaddressline2, and /form/primaryaddressline3.

- For form encoded payload types, use the HTML form names.

For example, for an HTML form with input elements named primaryaddressline1, primaryaddressline2, and primaryaddressline3, the address fields identifiers are primaryaddressline1, primaryaddressline2, and primaryaddressline3.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 512.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# All

Service: Amazon WAFV2

Inspect all of the elements that Amazon WAF has parsed and extracted from the web request component that you've identified in your [FieldToMatch](#) specifications.

This is used in the [FieldToMatch](#) specification for some web request component types.

JSON specification: "All": {}

## Contents

The members of this exception structure are context-dependent.

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# AllowAction

Service: Amazon WAFV2

Specifies that Amazon WAF should allow the request and optionally defines additional custom handling for the request.

This is used in the context of other settings, for example to specify values for [RuleAction](#) and web ACL [DefaultAction](#).

## Contents

### CustomRequestHandling

Defines custom handling for the web request.

For information about customizing web requests and responses, see [Customizing web requests and responses in Amazon WAF](#) in the *Amazon WAF Developer Guide*.

Type: [CustomRequestHandling](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# AllQueryArguments

Service: Amazon WAFV2

Inspect all query arguments of the web request.

This is used in the [FieldToMatch](#) specification for some web request component types.

JSON specification: "AllQueryArguments": {}

## Contents

The members of this exception structure are context-dependent.

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# AndStatement

Service: Amazon WAFV2

A logical rule statement used to combine other rule statements with AND logic. You provide more than one [Statement](#) within the AndStatement.

## Contents

### Statements

The statements to combine with AND logic. You can use any statements that can be nested.

Type: Array of [Statement](#) objects

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

## APIKeySummary

Service: Amazon WAFV2

Information for a single API key.

API keys are required for the integration of the CAPTCHA API in your JavaScript client applications. The API lets you customize the placement and characteristics of the CAPTCHA puzzle for your end users. For more information about the CAPTCHA JavaScript integration, see [Amazon WAF client application integration](#) in the *Amazon WAF Developer Guide*.

### Contents

#### APIKey

The generated, encrypted API key. You can copy this for use in your JavaScript CAPTCHA integration.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Pattern: `.*\S.*`

Required: No

#### CreationTimestamp

The date and time that the key was created.

Type: Timestamp

Required: No

#### TokenDomains

The token domains that are defined in this API key.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 253.

Pattern: `^[\\w\\.\\-\\/]+$`

Required: No

## Version

Internal value used by Amazon WAF to manage the key.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ApplicationAttribute

Service: Amazon WAFV2

Application details defined during the web ACL creation process. Application attributes help Amazon WAF give recommendations for protection packs.

## Contents

### Name

Specifies the attribute name.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `^[\w\ -]+$`

Required: No

### Values

Specifies the attribute value.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 50 items.

Length Constraints: Minimum length of 1. Maximum length of 64.

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ApplicationConfig

Service: Amazon WAFV2

A list of `ApplicationAttributes` that contains information about the application.

## Contents

### Attributes

Contains the attribute name and a list of values for that attribute.

Type: Array of [ApplicationAttribute](#) objects

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# AsnMatchStatement

Service: Amazon WAFV2

A rule statement that inspects web traffic based on the Autonomous System Number (ASN) associated with the request's IP address.

For additional details, see [ASN match rule statement](#) in the [Amazon WAF Developer Guide](#).

## Contents

### AsnList

Contains one or more Autonomous System Numbers (ASNs). ASNs are unique identifiers assigned to large internet networks managed by organizations such as internet service providers, enterprises, universities, or government agencies.

Type: Array of longs

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

### ForwardedIPConfig

The configuration for inspecting IP addresses to match against an ASN in an HTTP header that you specify, instead of using the IP address that's reported by the web request origin. Commonly, this is the X-Forwarded-For (XFF) header, but you can specify any header name.

Type: [ForwardedIPConfig](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)

- [Amazon SDK for Ruby V3](#)

# AssociationConfig

Service: Amazon WAFV2

Specifies custom configurations for the associations between the web ACL and protected resources.

Use this to customize the maximum size of the request body that your protected resources forward to Amazon WAF for inspection. You can customize this setting for CloudFront, API Gateway, Amazon Cognito, App Runner, or Verified Access resources. The default setting is 16 KB (16,384 bytes).

## Note

You are charged additional fees when your protected resources forward body sizes that are larger than the default. For more information, see [Amazon WAF Pricing](#).

For Application Load Balancer and Amazon AppSync, the limit is fixed at 8 KB (8,192 bytes).

## Contents

### RequestBody

Customizes the maximum size of the request body that your protected CloudFront, API Gateway, Amazon Cognito, App Runner, and Verified Access resources forward to Amazon WAF for inspection. The default size is 16 KB (16,384 bytes). You can change the setting for any of the available resource types.

## Note

You are charged additional fees when your protected resources forward body sizes that are larger than the default. For more information, see [Amazon WAF Pricing](#).

Example JSON: { "API\_GATEWAY": "KB\_48", "APP\_RUNNER\_SERVICE": "KB\_32" }

For Application Load Balancer and Amazon AppSync, the limit is fixed at 8 KB (8,192 bytes).

Type: String to [RequestBodyAssociatedResourceTypeConfig](#) object map

Valid Keys: CLOUDFRONT | API\_GATEWAY | COGNITO\_USER\_POOL | APP\_RUNNER\_SERVICE | VERIFIED\_ACCESS\_INSTANCE

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# AWSManagedRulesACFPRuleSet

Service: Amazon WAFV2

Details for your use of the account creation fraud prevention managed rule group, `AWSManagedRulesACFPRuleSet`. This configuration is used in `ManagedRuleGroupConfig`.

For additional information about this and the other intelligent threat mitigation rule groups, see [Intelligent threat mitigation in Amazon WAF](#) and [Amazon Managed Rules rule groups list](#) in the *Amazon WAF Developer Guide*.

## Contents

### CreationPath

The path of the account creation endpoint for your application. This is the page on your website that accepts the completed registration form for a new user. This page must accept POST requests.

For example, for the URL `https://example.com/web/newaccount`, you would provide the path `/web/newaccount`. Account creation page paths that start with the path that you provide are considered a match. For example `/web/newaccount` matches the account creation paths `/web/newaccount`, `/web/newaccount/`, `/web/newaccountPage`, and `/web/newaccount/thisPage`, but doesn't match the path `/home/web/newaccount` or `/website/newaccount`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `.*\S.*`

Required: Yes

### RegistrationPagePath

The path of the account registration endpoint for your application. This is the page on your website that presents the registration form to new users.

#### Note

This page must accept GET text/html requests.

For example, for the URL `https://example.com/web/registration`, you would provide the path `/web/registration`. Registration page paths that start with the path that you provide are considered a match. For example `/web/registration` matches the registration paths `/web/registration`, `/web/registration/`, `/web/registrationPage`, and `/web/registration/thisPage`, but doesn't match the path `/home/web/registration` or `/website/registration`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `.*\S.*`

Required: Yes

### **RequestInspection**

The criteria for inspecting account creation requests, used by the ACFP rule group to validate and track account creation attempts.

Type: [RequestInspectionACFP](#) object

Required: Yes

### **EnableRegexInPath**

Allow the use of regular expressions in the registration page path and the account creation path.

Type: Boolean

Required: No

### **ResponseInspection**

The criteria for inspecting responses to account creation requests, used by the ACFP rule group to track account creation success rates.

#### **Note**

Response inspection is available only in web ACLs that protect Amazon CloudFront distributions.

The ACFP rule group evaluates the responses that your protected resources send back to client account creation attempts, keeping count of successful and failed attempts from each IP address and client session. Using this information, the rule group labels and mitigates requests from client sessions and IP addresses that have had too many successful account creation attempts in a short amount of time.

Type: [ResponseInspection](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# AWSManagedRulesAntiDDoSRuleSet

Service: Amazon WAFV2

Configures the use of the anti-DDoS managed rule group, `AWSManagedRulesAntiDDoSRuleSet`. This configuration is used in `ManagedRuleGroupConfig`.

The configuration that you provide here determines whether and how the rules in the rule group are used.

For additional information about this and the other intelligent threat mitigation rule groups, see [Intelligent threat mitigation in Amazon WAF](#) and [Amazon Managed Rules rule groups list](#) in the *Amazon WAF Developer Guide*.

## Contents

### ClientSideActionConfig

Configures the request handling that's applied by the managed rule group rules `ChallengeAllDuringEvent` and `ChallengeDDoSRequests` during a distributed denial of service (DDoS) attack.

Type: [ClientSideActionConfig](#) object

Required: Yes

### SensitivityToBlock

The sensitivity that the rule group rule `DDoSRequests` uses when matching against the DDoS suspicion labeling on a request. The managed rule group adds the labeling during DDoS events, before the `DDoSRequests` rule runs.

The higher the sensitivity, the more levels of labeling that the rule matches:

- Low sensitivity is less sensitive, causing the rule to match only on the most likely participants in an attack, which are the requests with the high suspicion label `aws:waf:managed:aws:anti-ddos:high-suspicion-ddos-request`.
- Medium sensitivity causes the rule to match on the medium and high suspicion labels.
- High sensitivity causes the rule to match on all of the suspicion labels: low, medium, and high.

Default: LOW

Type: String

Valid Values: LOW | MEDIUM | HIGH

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# AWSManagedRulesATPRuleSet

Service: Amazon WAFV2

Details for your use of the account takeover prevention managed rule group, `AWSManagedRulesATPRuleSet`. This configuration is used in `ManagedRuleGroupConfig`.

For additional information about this and the other intelligent threat mitigation rule groups, see [Intelligent threat mitigation in Amazon WAF](#) and [Amazon Managed Rules rule groups list](#) in the *Amazon WAF Developer Guide*.

## Contents

### LoginPath

The path of the login endpoint for your application. For example, for the URL `https://example.com/web/login`, you would provide the path `/web/login`. Login paths that start with the path that you provide are considered a match. For example `/web/login` matches the login paths `/web/login`, `/web/login/`, `/web/loginPage`, and `/web/login/thisPage`, but doesn't match the login path `/home/web/login` or `/website/login`.

The rule group inspects only HTTP POST requests to your specified login endpoint.

Type: String

Required: Yes

### EnableRegexInPath

Allow the use of regular expressions in the login page path.

Type: Boolean

Required: No

### RequestInspection

The criteria for inspecting login requests, used by the ATP rule group to validate credentials usage.

Type: [RequestInspection](#) object

Required: No

## ResponseInspection

The criteria for inspecting responses to login requests, used by the ATP rule group to track login failure rates.

### Note

Response inspection is available only in web ACLs that protect Amazon CloudFront distributions.

The ATP rule group evaluates the responses that your protected resources send back to client login attempts, keeping count of successful and failed attempts for each IP address and client session. Using this information, the rule group labels and mitigates requests from client sessions and IP addresses that have had too many failed login attempts in a short amount of time.

Type: [ResponseInspection](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# AWSManagedRulesBotControlRuleSet

Service: Amazon WAFV2

Details for your use of the Bot Control managed rule group, `AWSManagedRulesBotControlRuleSet`. This configuration is used in `ManagedRuleGroupConfig`.

For additional information about this and the other intelligent threat mitigation rule groups, see [Intelligent threat mitigation in Amazon WAF](#) and [Amazon Managed Rules rule groups list](#) in the *Amazon WAF Developer Guide*.

## Contents

### InspectionLevel

The inspection level to use for the Bot Control rule group. The common level is the least expensive. The targeted level includes all common level rules and adds rules with more advanced inspection criteria. For details, see [Amazon WAF Bot Control rule group](#) in the *Amazon WAF Developer Guide*.

Type: String

Valid Values: COMMON | TARGETED

Required: Yes

### EnableMachineLearning

Applies only to the targeted inspection level.

Determines whether to use machine learning (ML) to analyze your web traffic for bot-related activity. Machine learning is required for the Bot Control rules `TGT_ML_CoordinatedActivityLow` and `TGT_ML_CoordinatedActivityMedium`, which inspect for anomalous behavior that might indicate distributed, coordinated bot activity.

For more information about this choice, see the listing for these rules in the table at [Bot Control rules listing](#) in the *Amazon WAF Developer Guide*.

Default: TRUE

Type: Boolean

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# BlockAction

Service: Amazon WAFV2

Specifies that Amazon WAF should block the request and optionally defines additional custom handling for the response to the web request.

This is used in the context of other settings, for example to specify values for [RuleAction](#) and web ACL [DefaultAction](#).

## Contents

### CustomResponse

Defines a custom response for the web request.

For information about customizing web requests and responses, see [Customizing web requests and responses in Amazon WAF](#) in the *Amazon WAF Developer Guide*.

Type: [CustomResponse](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

## Body

Service: Amazon WAFV2

Inspect the body of the web request. The body immediately follows the request headers.

This is used to indicate the web request component to inspect, in the [FieldToMatch](#) specification.

## Contents

### OverSizeHandling

What Amazon WAF should do if the body is larger than Amazon WAF can inspect.

Amazon WAF does not support inspecting the entire contents of the web request body if the body exceeds the limit for the resource type. When a web request body is larger than the limit, the underlying host service only forwards the contents that are within the limit to Amazon WAF for inspection.

- For Application Load Balancer and Amazon AppSync, the limit is fixed at 8 KB (8,192 bytes).
- For CloudFront, API Gateway, Amazon Cognito, App Runner, and Verified Access, the default limit is 16 KB (16,384 bytes), and you can increase the limit for each resource type in the web ACL `AssociationConfig`, for additional processing fees.
- For Amazon Amplify, use the CloudFront limit.

The options for oversize handling are the following:

- `CONTINUE` - Inspect the available body contents normally, according to the rule inspection criteria.
- `MATCH` - Treat the web request as matching the rule statement. Amazon WAF applies the rule action to the request.
- `NO_MATCH` - Treat the web request as not matching the rule statement.

You can combine the `MATCH` or `NO_MATCH` settings for oversize handling with your rule and web ACL action settings, so that you block any request whose body is over the limit.

Default: `CONTINUE`

Type: String

Valid Values: `CONTINUE` | `MATCH` | `NO_MATCH`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ByteMatchStatement

Service: Amazon WAFV2

A rule statement that defines a string match search for Amazon WAF to apply to web requests. The byte match statement provides the bytes to search for, the location in requests that you want Amazon WAF to search, and other settings. The bytes to search for are typically a string that corresponds with ASCII characters. In the Amazon WAF console and the developer guide, this is called a string match statement.

## Contents

### FieldToMatch

The part of the web request that you want Amazon WAF to inspect.

Type: [FieldToMatch](#) object

Required: Yes

### PositionalConstraint

The area within the portion of the web request that you want Amazon WAF to search for `SearchString`. Valid values include the following:

#### CONTAINS

The specified part of the web request must include the value of `SearchString`, but the location doesn't matter.

#### CONTAINS\_WORD

The specified part of the web request must include the value of `SearchString`, and `SearchString` must contain only alphanumeric characters or underscore (A-Z, a-z, 0-9, or `_`). In addition, `SearchString` must be a word, which means that both of the following are true:

- `SearchString` is at the beginning of the specified part of the web request or is preceded by a character other than an alphanumeric character or underscore (`_`). Examples include the value of a header and `;BadBot`.
- `SearchString` is at the end of the specified part of the web request or is followed by a character other than an alphanumeric character or underscore (`_`), for example, `BadBot;` and `-BadBot;`.

## EXACTLY

The value of the specified part of the web request must exactly match the value of `SearchString`.

## STARTS\_WITH

The value of `SearchString` must appear at the beginning of the specified part of the web request.

## ENDS\_WITH

The value of `SearchString` must appear at the end of the specified part of the web request.

Type: String

Valid Values: EXACTLY | STARTS\_WITH | ENDS\_WITH | CONTAINS | CONTAINS\_WORD

Required: Yes

## SearchString

A string value that you want Amazon WAF to search for. Amazon WAF searches only in the part of web requests that you designate for inspection in [FieldToMatch](#). The maximum length of the value is 200 bytes.

Valid values depend on the component that you specify for inspection in `FieldToMatch`:

- **Method:** The HTTP method that you want Amazon WAF to search for. This indicates the type of operation specified in the request.
- **UriPath:** The value that you want Amazon WAF to search for in the URI path, for example, `/images/daily-ad.jpg`.
- **JA3Fingerprint:** Available for use with Amazon CloudFront distributions and Application Load Balancers. Match against the request's JA3 fingerprint. The JA3 fingerprint is a 32-character hash derived from the TLS Client Hello of an incoming request. This fingerprint serves as a unique identifier for the client's TLS configuration. You can use this choice only with a string match `ByteMatchStatement` with the `PositionalConstraint` set to `EXACTLY`.

You can obtain the JA3 fingerprint for client requests from the web ACL logs. If Amazon WAF is able to calculate the fingerprint, it includes it in the logs. For information about the logging fields, see [Log fields](#) in the *Amazon WAF Developer Guide*.

- **HeaderOrder**: The list of header names to match for. Amazon WAF creates a string that contains the ordered list of header names, from the headers in the web request, and then matches against that string.

If `SearchString` includes alphabetic characters A-Z and a-z, note that the value is case sensitive.

### If you're using the Amazon WAF API

Specify a base64-encoded version of the value. The maximum length of the value before you base64-encode it is 200 bytes.

For example, suppose the value of `Type` is `HEADER` and the value of `Data` is `User-Agent`. If you want to search the `User-Agent` header for the value `BadBot`, you base64-encode `BadBot` using MIME base64-encoding and include the resulting value, `QmFkQm90`, in the value of `SearchString`.

### If you're using the Amazon CLI or one of the Amazon SDKs

The value that you want Amazon WAF to search for. The SDK automatically base64 encodes the value.

Type: Base64-encoded binary data object

Required: Yes

## TextTransformations

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass detection. Text transformations are used in rule match statements, to transform the `FieldToMatch` request component before inspecting it, and they're used in rate-based rule statements, to transform request components before using them as custom aggregation keys. If you specify one or more transformations to apply, Amazon WAF performs all transformations on the specified content, starting from the lowest priority setting, and then uses the transformed component contents.

Type: Array of [TextTransformation](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# CaptchaAction

Service: Amazon WAFV2

Specifies that Amazon WAF should run a CAPTCHA check against the request:

- If the request includes a valid, unexpired CAPTCHA token, Amazon WAF applies any custom request handling and labels that you've configured and then allows the web request inspection to proceed to the next rule, similar to a `CountAction`.
- If the request doesn't include a valid, unexpired token, Amazon WAF discontinues the web ACL evaluation of the request and blocks it from going to its intended destination.

Amazon WAF generates a response that it sends back to the client, which includes the following:

- The header `x-amzn-waf-action` with a value of `captcha`.
- The HTTP status code `405 Method Not Allowed`.
- If the request contains an `Accept` header with a value of `text/html`, the response includes a CAPTCHA JavaScript page interstitial.

You can configure the expiration time in the `CaptchaConfig ImmunityTimeProperty` setting at the rule and web ACL level. The rule setting overrides the web ACL setting.

This action option is available for rules. It isn't available for web ACL default actions.

## Contents

### CustomRequestHandling

Defines custom handling for the web request, used when the CAPTCHA inspection determines that the request's token is valid and unexpired.

For information about customizing web requests and responses, see [Customizing web requests and responses in Amazon WAF](#) in the *Amazon WAF Developer Guide*.

Type: [CustomRequestHandling](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# CaptchaConfig

Service: Amazon WAFV2

Specifies how Amazon WAF should handle CAPTCHA evaluations. This is available at the web ACL level and in each rule.

## Contents

### ImmunityTimeProperty

Determines how long a CAPTCHA timestamp in the token remains valid after the client successfully solves a CAPTCHA puzzle.

Type: [ImmunityTimeProperty](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# CaptchaResponse

Service: Amazon WAFV2

The result from the inspection of the web request for a valid CAPTCHA token.

## Contents

### FailureReason

The reason for failure, populated when the evaluation of the token fails.

Type: String

Valid Values: TOKEN\_MISSING | TOKEN\_EXPIRED | TOKEN\_INVALID | TOKEN\_DOMAIN\_MISMATCH

Required: No

### ResponseCode

The HTTP response code indicating the status of the CAPTCHA token in the web request. If the token is missing, invalid, or expired, this code is 405 Method Not Allowed.

Type: Integer

Required: No

### SolveTimestamp

The time that the CAPTCHA was last solved for the supplied token.

Type: Long

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)

- [Amazon SDK for Ruby V3](#)

## ChallengeAction

Service: Amazon WAFV2

Specifies that Amazon WAF should run a Challenge check against the request to verify that the request is coming from a legitimate client session:

- If the request includes a valid, unexpired challenge token, Amazon WAF applies any custom request handling and labels that you've configured and then allows the web request inspection to proceed to the next rule, similar to a CountAction.
- If the request doesn't include a valid, unexpired challenge token, Amazon WAF discontinues the web ACL evaluation of the request and blocks it from going to its intended destination.

Amazon WAF then generates a challenge response that it sends back to the client, which includes the following:

- The header `x-amzn-waf-action` with a value of `challenge`.
- The HTTP status code `202 Request Accepted`.
- If the request contains an `Accept` header with a value of `text/html`, the response includes a JavaScript page interstitial with a challenge script.

Challenges run silent browser interrogations in the background, and don't generally affect the end user experience.

A challenge enforces token acquisition using an interstitial JavaScript challenge that inspects the client session for legitimate behavior. The challenge blocks bots or at least increases the cost of operating sophisticated bots.

After the client session successfully responds to the challenge, it receives a new token from Amazon WAF, which the challenge script uses to resubmit the original request.

You can configure the expiration time in the ChallengeConfig `ImmunityTimeProperty` setting at the rule and web ACL level. The rule setting overrides the web ACL setting.

This action option is available for rules. It isn't available for web ACL default actions.

## Contents

### CustomRequestHandling

Defines custom handling for the web request, used when the challenge inspection determines that the request's token is valid and unexpired.

For information about customizing web requests and responses, see [Customizing web requests and responses in Amazon WAF](#) in the *Amazon WAF Developer Guide*.

Type: [CustomRequestHandling](#) object

Required: No

### See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ChallengeConfig

Service: Amazon WAFV2

Specifies how Amazon WAF should handle Challenge evaluations. This is available at the web ACL level and in each rule.

## Contents

### ImmunityTimeProperty

Determines how long a challenge timestamp in the token remains valid after the client successfully responds to a challenge.

Type: [ImmunityTimeProperty](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ChallengeResponse

Service: Amazon WAFV2

The result from the inspection of the web request for a valid challenge token.

## Contents

### FailureReason

The reason for failure, populated when the evaluation of the token fails.

Type: String

Valid Values: TOKEN\_MISSING | TOKEN\_EXPIRED | TOKEN\_INVALID | TOKEN\_DOMAIN\_MISMATCH

Required: No

### ResponseCode

The HTTP response code indicating the status of the challenge token in the web request. If the token is missing, invalid, or expired, this code is 202 Request Accepted.

Type: Integer

Required: No

### SolveTimestamp

The time that the challenge was last solved for the supplied token.

Type: Long

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)

- [Amazon SDK for Ruby V3](#)

# ClientSideAction

Service: Amazon WAFV2

This is part of the `AWSManagedRulesAntiDDoSRuleSet ClientSideActionConfig` configuration in `ManagedRuleGroupConfig`.

## Contents

### UsageOfAction

Determines whether to use the `AWSManagedRulesAntiDDoSRuleSet` rules `ChallengeAllDuringEvent` and `ChallengeDDoSRequests` in the rule group evaluation and the related label `aws:waf:managed:aws:anti-ddos:challengeable-request`.

- If usage is enabled:
  - The managed rule group adds the label `aws:waf:managed:aws:anti-ddos:challengeable-request` to any web request whose URL does *NOT* match the regular expressions provided in the `ClientSideAction` setting `ExemptUriRegularExpressions`.
  - The two rules are evaluated against web requests for protected resources that are experiencing a DDoS attack. The two rules only apply their action to matching requests that have the label `aws:waf:managed:aws:anti-ddos:challengeable-request`.
- If usage is disabled:
  - The managed rule group doesn't add the label `aws:waf:managed:aws:anti-ddos:challengeable-request` to any web requests.
  - The two rules are not evaluated.
  - None of the other `ClientSideAction` settings have any effect.

#### Note

This setting only enables or disables the use of the two anti-DDoS rules `ChallengeAllDuringEvent` and `ChallengeDDoSRequests` in the anti-DDoS managed rule group.

This setting doesn't alter the action setting in the two rules. To override the actions used by the rules `ChallengeAllDuringEvent` and `ChallengeDDoSRequests`, enable this setting, and then override the rule actions in the usual way, in your managed rule group configuration.

Type: String

Valid Values: ENABLED | DISABLED

Required: Yes

### ExemptUriRegularExpressions

The regular expression to match against the web request URI, used to identify requests that can't handle a silent browser challenge. When the `ClientSideAction` setting `UsageOfAction` is enabled, the managed rule group uses this setting to determine which requests to label with `aws:waf:managed:aws:anti-ddos:challengeable-request`. If `UsageOfAction` is disabled, this setting has no effect and the managed rule group doesn't add the label to any requests.

The anti-DDoS managed rule group doesn't evaluate the rules `ChallengeDDoSRequests` or `ChallengeAllDuringEvent` for web requests whose URIs match this regex. This is true regardless of whether you override the rule action for either of the rules in your web ACL configuration.

Amazon recommends using a regular expression.

This setting is required if `UsageOfAction` is set to `ENABLED`. If required, you can provide between 1 and 5 regex objects in the array of settings.

Amazon recommends starting with the following setting. Review and update it for your application's needs:

```
√api√|\\.(acc|avi|css|gif|jpe?g|js|mp[34]|ogg|otf|pdf|png|tiff?|ttf|webm|webp|woff2?)$
```

Type: Array of [Regex](#) objects

Required: No

### Sensitivity

The sensitivity that the rule group rule `ChallengeDDoSRequests` uses when matching against the DDoS suspicion labeling on a request. The managed rule group adds the labeling during DDoS events, before the `ChallengeDDoSRequests` rule runs.

The higher the sensitivity, the more levels of labeling that the rule matches:

- Low sensitivity is less sensitive, causing the rule to match only on the most likely participants in an attack, which are the requests with the high suspicion label `awswaf:managed:aws:anti-ddos:high-suspicion-ddos-request`.
- Medium sensitivity causes the rule to match on the medium and high suspicion labels.
- High sensitivity causes the rule to match on all of the suspicion labels: low, medium, and high.

Default: HIGH

Type: String

Valid Values: LOW | MEDIUM | HIGH

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ClientSideActionConfig

Service: Amazon WAFV2

This is part of the configuration for the managed rules `AWSManagedRulesAntiDDoSRuleSet` in `ManagedRuleGroupConfig`.

## Contents

### Challenge

Configuration for the use of the `AWSManagedRulesAntiDDoSRuleSet` rules `ChallengeAllDuringEvent` and `ChallengeDDoSRequests`.

#### Note

This setting isn't related to the configuration of the `Challenge` action itself. It only configures the use of the two anti-DDoS rules named here.

You can enable or disable the use of these rules, and you can configure how to use them when they are enabled.

Type: [ClientSideAction](#) object

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

## Condition

Service: Amazon WAFV2

A single match condition for a [Filter](#).

### Contents

#### ActionCondition

A single action condition. This is the action setting that a log record must contain in order to meet the condition.

Type: [ActionCondition](#) object

Required: No

#### LabelNameCondition

A single label name condition. This is the fully qualified label name that a log record must contain in order to meet the condition. Fully qualified labels have a prefix, optional namespaces, and label name. The prefix identifies the rule group or web ACL context of the rule that added the label.

Type: [LabelNameCondition](#) object

Required: No

### See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# CookieMatchPattern

Service: Amazon WAFV2

The filter to use to identify the subset of cookies to inspect in a web request.

You must specify exactly one setting: either `All`, `IncludedCookies`, or `ExcludedCookies`.

Example JSON: `"MatchPattern": { "IncludedCookies": [ "session-id-time", "session-id" ] }`

## Contents

### All

Inspect all cookies.

Type: [All](#) object

Required: No

### ExcludedCookies

Inspect only the cookies whose keys don't match any of the strings specified here.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 199 items.

Length Constraints: Minimum length of 1. Maximum length of 60.

Pattern: `.*\S.*`

Required: No

### IncludedCookies

Inspect only the cookies that have a key that matches one of the strings specified here.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 199 items.

Length Constraints: Minimum length of 1. Maximum length of 60.

Pattern: `.*\S.*`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# Cookies

Service: Amazon WAFV2

Inspect the cookies in the web request. You can specify the parts of the cookies to inspect and you can narrow the set of cookies to inspect by including or excluding specific keys.

This is used to indicate the web request component to inspect, in the [FieldToMatch](#) specification.

```
Example JSON: "Cookies": { "MatchPattern": { "All": {} }, "MatchScope":  
"KEY", "OversizeHandling": "MATCH" }
```

## Contents

### MatchPattern

The filter to use to identify the subset of cookies to inspect in a web request.

You must specify exactly one setting: either `All`, `IncludedCookies`, or `ExcludedCookies`.

```
Example JSON: "MatchPattern": { "IncludedCookies": [ "session-id-time",  
"session-id" ] }
```

Type: [CookieMatchPattern](#) object

Required: Yes

### MatchScope

The parts of the cookies to inspect with the rule inspection criteria. If you specify `ALL`, Amazon WAF inspects both keys and values.

`All` does not require a match to be found in the keys and a match to be found in the values. It requires a match to be found in the keys or the values or both. To require a match in the keys and in the values, use a logical `AND` statement to combine two match rules, one that inspects the keys and another that inspects the values.

Type: String

Valid Values: `ALL` | `KEY` | `VALUE`

Required: Yes

## OversizeHandling

What Amazon WAF should do if the cookies of the request are more numerous or larger than Amazon WAF can inspect. Amazon WAF does not support inspecting the entire contents of request cookies when they exceed 8 KB (8192 bytes) or 200 total cookies. The underlying host service forwards a maximum of 200 cookies and at most 8 KB of cookie contents to Amazon WAF.

The options for oversize handling are the following:

- **CONTINUE** - Inspect the available cookies normally, according to the rule inspection criteria.
- **MATCH** - Treat the web request as matching the rule statement. Amazon WAF applies the rule action to the request.
- **NO\_MATCH** - Treat the web request as not matching the rule statement.

Type: String

Valid Values: CONTINUE | MATCH | NO\_MATCH

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# CountAction

Service: Amazon WAFV2

Specifies that Amazon WAF should count the request. Optionally defines additional custom handling for the request.

This is used in the context of other settings, for example to specify values for [RuleAction](#) and web ACL [DefaultAction](#).

## Contents

### CustomRequestHandling

Defines custom handling for the web request.

For information about customizing web requests and responses, see [Customizing web requests and responses in Amazon WAF](#) in the *Amazon WAF Developer Guide*.

Type: [CustomRequestHandling](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# CustomHTTPHeader

Service: Amazon WAFV2

A custom header for custom request and response handling. This is used in [CustomResponse](#) and [CustomRequestHandling](#).

## Contents

### Name

The name of the custom header.

For custom request header insertion, when Amazon WAF inserts the header into the request, it prefixes this name `x-amzn-waf-`, to avoid confusion with the headers that are already in the request. For example, for the header name `sample`, Amazon WAF inserts the header `x-amzn-waf-sample`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `^[a-zA-Z0-9._$-]+$`

Required: Yes

### Value

The value of the custom header.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 255.

Pattern: `.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# CustomRequestHandling

Service: Amazon WAFV2

Custom request handling behavior that inserts custom headers into a web request. You can add custom request handling for Amazon WAF to use when the rule action doesn't block the request. For example, `CaptchaAction` for requests with valid tokens, and `AllowAction`.

For information about customizing web requests and responses, see [Customizing web requests and responses in Amazon WAF](#) in the *Amazon WAF Developer Guide*.

## Contents

### InsertHeaders

The HTTP headers to insert into the request. Duplicate header names are not allowed.

For information about the limits on count and size for custom request and response settings, see [Amazon WAF quotas](#) in the *Amazon WAF Developer Guide*.

Type: Array of [CustomHTTPHeader](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# CustomResponse

Service: Amazon WAFV2

A custom response to send to the client. You can define a custom response for rule actions and default web ACL actions that are set to [BlockAction](#).

For information about customizing web requests and responses, see [Customizing web requests and responses in Amazon WAF](#) in the *Amazon WAF Developer Guide*.

## Contents

### ResponseCode

The HTTP status code to return to the client.

For a list of status codes that you can use in your custom responses, see [Supported status codes for custom response](#) in the *Amazon WAF Developer Guide*.

Type: Integer

Valid Range: Minimum value of 200. Maximum value of 599.

Required: Yes

### CustomResponseBodyKey

References the response body that you want Amazon WAF to return to the web request client. You can define a custom response for a rule action or a default web ACL action that is set to block. To do this, you first define the response body key and value in the CustomResponseBodies setting for the [WebACL](#) or [RuleGroup](#) where you want to use it. Then, in the rule action or web ACL default action BlockAction setting, you reference the response body using this key.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: No

## ResponseHeaders

The HTTP headers to use in the response. You can specify any header name except for content-type. Duplicate header names are not allowed.

For information about the limits on count and size for custom request and response settings, see [Amazon WAF quotas](#) in the *Amazon WAF Developer Guide*.

Type: Array of [CustomHTTPHeader](#) objects

Array Members: Minimum number of 1 item.

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# CustomResponseBody

Service: Amazon WAFV2

The response body to use in a custom response to a web request. This is referenced by key from [CustomResponse](#) CustomResponseBodyKey.

## Contents

### Content

The payload of the custom response.

You can use JSON escape strings in JSON content. To do this, you must specify JSON content in the ContentType setting.

For information about the limits on count and size for custom request and response settings, see [Amazon WAF quotas](#) in the *Amazon WAF Developer Guide*.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 10240.

Pattern: `[\s\S]*`

Required: Yes

### ContentType

The type of content in the payload that you are defining in the Content string.

Type: String

Valid Values: TEXT\_PLAIN | TEXT\_HTML | APPLICATION\_JSON

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)

- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# DataProtection

Service: Amazon WAFV2

Specifies the protection behavior for a field type. This is part of the data protection configuration for a web ACL.

## Contents

### Action

Specifies how to protect the field. Amazon WAF can apply a one-way hash to the field or hard code a string substitution.

- One-way hash example:  
ade099751dEXAMPLEHASH2ea9f3393f80dd5d3bEXAMPLEHASH966ae0d3cd5a1e
- Substitution example: REDACTED

Type: String

Valid Values: SUBSTITUTION | HASH

Required: Yes

### Field

Specifies the field type and optional keys to apply the protection behavior to.

Type: [FieldToProtect](#) object

Required: Yes

### ExcludeRateBasedDetails

Specifies whether to also exclude any rate-based rule details from the data protection you have enabled for a given field. If you specify this exception, RateBasedDetails will show the value of the field. For additional information, see the log field `rateBasedRuleList` at [Log fields for web ACL traffic](#) in the *Amazon WAF Developer Guide*.

Default: FALSE

Type: Boolean

Required: No

## ExcludeRuleMatchDetails

Specifies whether to also exclude any rule match details from the data protection you have enabled for a given field. Amazon WAF logs these details for non-terminating matching rules and for the terminating matching rule. For additional information, see [Log fields for web ACL traffic](#) in the *Amazon WAF Developer Guide*.

Default: FALSE

Type: Boolean

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# DataProtectionConfig

Service: Amazon WAFV2

Specifies data protection to apply to the web request data for the web ACL. This is a web ACL level data protection option.

The data protection that you configure for the web ACL alters the data that's available for any other data collection activity, including your Amazon WAF logging destinations, web ACL request sampling, and Amazon Security Lake data collection and management. Your other option for data protection is in the logging configuration, which only affects logging.

This is part of the data protection configuration for a web ACL.

## Contents

### DataProtections

An array of data protection configurations for specific web request field types. This is defined for each web ACL. Amazon WAF applies the specified protection to all web requests that the web ACL inspects.

Type: Array of [DataProtection](#) objects

Array Members: Minimum number of 1 item. Maximum number of 26 items.

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# DefaultAction

Service: Amazon WAFV2

In a [WebACL](#), this is the action that you want Amazon WAF to perform when a web request doesn't match any of the rules in the WebACL. The default action must be a terminating action.

## Contents

### Allow

Specifies that Amazon WAF should allow requests by default.

Type: [AllowAction](#) object

Required: No

### Block

Specifies that Amazon WAF should block requests by default.

Type: [BlockAction](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

## DisallowedFeature

Service: Amazon WAFV2

A Amazon WAF feature that is not supported by the CloudFront pricing plan associated with the web ACL.

### Contents

#### Feature

The name of the disallowed Amazon WAF feature.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\w\ -]+$`

Required: No

#### RequiredPricingPlan

The name of the CloudFront pricing plan required to use the Amazon WAF feature.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `^[\w\ -]+$`

Required: No

### See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# EmailField

Service: Amazon WAFV2

The name of the field in the request payload that contains your customer's email.

This data type is used in the RequestInspectionACFP data type.

## Contents

### Identifier

The name of the email field.

How you specify this depends on the request inspection payload type.

- For JSON payloads, specify the field name in JSON pointer syntax. For information about the JSON Pointer syntax, see the Internet Engineering Task Force (IETF) documentation [JavaScript Object Notation \(JSON\) Pointer](#).

For example, for the JSON payload { "form": { "email": "THE\_EMAIL" } }, the email field specification is `/form/email`.

- For form encoded payload types, use the HTML form names.

For example, for an HTML form with the input element named `email1`, the email field specification is `email1`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 512.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)

- [Amazon SDK for Ruby V3](#)

## ExcludedRule

Service: Amazon WAFV2

Specifies a single rule in a rule group whose action you want to override to Count.

### Note

Instead of this option, use `RuleActionOverrides`. It accepts any valid action setting, including Count.

## Contents

### Name

The name of the rule whose action you want to override to Count.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# FieldToMatch

Service: Amazon WAFV2

Specifies a web request component to be used in a rule match statement or in a logging configuration.

- In a rule statement, this is the part of the web request that you want Amazon WAF to inspect. Include the single `FieldToMatch` type that you want to inspect, with additional specifications as needed, according to the type. You specify a single request component in `FieldToMatch` for each rule statement that requires it. To inspect more than one component of the web request, create a separate rule statement for each component.

Example JSON for a `QueryString` field to match:

```
"FieldToMatch": { "QueryString": {} }
```

Example JSON for a `Method` field to match specification:

```
"FieldToMatch": { "Method": { "Name": "DELETE" } }
```

- In a logging configuration, this is used in the `RedactedFields` property to specify a field to redact from the logging records. For this use case, note the following:
  - Even though all `FieldToMatch` settings are available, the only valid settings for field redaction are `UriPath`, `QueryString`, `SingleHeader`, and `Method`.
  - In this documentation, the descriptions of the individual fields talk about specifying the web request component to inspect, but for field redaction, you are specifying the component type to redact from the logs.
  - If you have request sampling enabled, the redacted fields configuration for logging has no impact on sampling. You can only exclude fields from request sampling by disabling sampling in the web ACL visibility configuration or by configuring data protection for the web ACL.

## Contents

### AllQueryArguments

Inspect all query arguments.

Type: [AllQueryArguments](#) object

Required: No

## Body

Inspect the request body as plain text. The request body immediately follows the request headers. This is the part of a request that contains any additional data that you want to send to your web server as the HTTP request body, such as data from a form.

Amazon WAF does not support inspecting the entire contents of the web request body if the body exceeds the limit for the resource type. When a web request body is larger than the limit, the underlying host service only forwards the contents that are within the limit to Amazon WAF for inspection.

- For Application Load Balancer and Amazon AppSync, the limit is fixed at 8 KB (8,192 bytes).
- For CloudFront, API Gateway, Amazon Cognito, App Runner, and Verified Access, the default limit is 16 KB (16,384 bytes), and you can increase the limit for each resource type in the web ACL `AssociationConfig`, for additional processing fees.
- For Amazon Amplify, use the CloudFront limit.

For information about how to handle oversized request bodies, see the `Body` object configuration.

Type: [Body](#) object

Required: No

## Cookies

Inspect the request cookies. You must configure scope and pattern matching filters in the `Cookies` object, to define the set of cookies and the parts of the cookies that Amazon WAF inspects.

Only the first 8 KB (8192 bytes) of a request's cookies and only the first 200 cookies are forwarded to Amazon WAF for inspection by the underlying host service. You must configure how to handle any oversize cookie content in the `Cookies` object. Amazon WAF applies the pattern matching filters to the cookies that it receives from the underlying host service.

Type: [Cookies](#) object

Required: No

## HeaderOrder

Inspect a string containing the list of the request's header names, ordered as they appear in the web request that Amazon WAF receives for inspection. Amazon WAF generates the string

and then uses that as the field to match component in its inspection. Amazon WAF separates the header names in the string using colons and no added spaces, for example `host:user-agent:accept:authorization:referer`.

Type: [HeaderOrder](#) object

Required: No

## Headers

Inspect the request headers. You must configure scope and pattern matching filters in the `Headers` object, to define the set of headers to and the parts of the headers that Amazon WAF inspects.

Only the first 8 KB (8192 bytes) of a request's headers and only the first 200 headers are forwarded to Amazon WAF for inspection by the underlying host service. You must configure how to handle any oversize header content in the `Headers` object. Amazon WAF applies the pattern matching filters to the headers that it receives from the underlying host service.

Type: [Headers](#) object

Required: No

## JA3Fingerprint

Available for use with Amazon CloudFront distributions and Application Load Balancers. Match against the request's JA3 fingerprint. The JA3 fingerprint is a 32-character hash derived from the TLS Client Hello of an incoming request. This fingerprint serves as a unique identifier for the client's TLS configuration. Amazon WAF calculates and logs this fingerprint for each request that has enough TLS Client Hello information for the calculation. Almost all web requests include this information.

### Note

You can use this choice only with a string match `ByteMatchStatement` with the `PositionalConstraint` set to `EXACTLY`.

You can obtain the JA3 fingerprint for client requests from the web ACL logs. If Amazon WAF is able to calculate the fingerprint, it includes it in the logs. For information about the logging fields, see [Log fields](#) in the *Amazon WAF Developer Guide*.

Provide the JA3 fingerprint string from the logs in your string match statement specification, to match with any future requests that have the same TLS configuration.

Type: [JA3Fingerprint](#) object

Required: No

## JA4Fingerprint

Available for use with Amazon CloudFront distributions and Application Load Balancers. Match against the request's JA4 fingerprint. The JA4 fingerprint is a 36-character hash derived from the TLS Client Hello of an incoming request. This fingerprint serves as a unique identifier for the client's TLS configuration. Amazon WAF calculates and logs this fingerprint for each request that has enough TLS Client Hello information for the calculation. Almost all web requests include this information.

### Note

You can use this choice only with a string match `ByteMatchStatement` with the `PositionalConstraint` set to `EXACTLY`.

You can obtain the JA4 fingerprint for client requests from the web ACL logs. If Amazon WAF is able to calculate the fingerprint, it includes it in the logs. For information about the logging fields, see [Log fields](#) in the *Amazon WAF Developer Guide*.

Provide the JA4 fingerprint string from the logs in your string match statement specification, to match with any future requests that have the same TLS configuration.

Type: [JA4Fingerprint](#) object

Required: No

## JsonBody

Inspect the request body as JSON. The request body immediately follows the request headers. This is the part of a request that contains any additional data that you want to send to your web server as the HTTP request body, such as data from a form.

Amazon WAF does not support inspecting the entire contents of the web request body if the body exceeds the limit for the resource type. When a web request body is larger than the limit,

the underlying host service only forwards the contents that are within the limit to Amazon WAF for inspection.

- For Application Load Balancer and Amazon AppSync, the limit is fixed at 8 KB (8,192 bytes).
- For CloudFront, API Gateway, Amazon Cognito, App Runner, and Verified Access, the default limit is 16 KB (16,384 bytes), and you can increase the limit for each resource type in the web ACL `AssociationConfig`, for additional processing fees.
- For Amazon Amplify, use the CloudFront limit.

For information about how to handle oversized request bodies, see the `JsonBody` object configuration.

Type: [JsonBody](#) object

Required: No

## Method

Inspect the HTTP method. The method indicates the type of operation that the request is asking the origin to perform.

Type: [Method](#) object

Required: No

## QueryString

Inspect the query string. This is the part of a URL that appears after a `?` character, if any.

Type: [QueryString](#) object

Required: No

## SingleHeader

Inspect a single header. Provide the name of the header to inspect, for example, `User-Agent` or `Referer`. This setting isn't case sensitive.

Example JSON: `"SingleHeader": { "Name": "haystack" }`

Alternately, you can filter and inspect all headers with the `Headers FieldToMatch` setting.

Type: [SingleHeader](#) object

Required: No

## SingleQueryArgument

Inspect a single query argument. Provide the name of the query argument to inspect, such as *UserName* or *SalesRegion*. The name can be up to 30 characters long and isn't case sensitive.

Example JSON: "SingleQueryArgument": { "Name": "myArgument" }

Type: [SingleQueryArgument](#) object

Required: No

## UriFragment

Inspect fragments of the request URI. You must configure scope and pattern matching filters in the `UriFragment` object, to define the fragment of a URI that Amazon WAF inspects.

Only the first 8 KB (8192 bytes) of a request's URI fragments and only the first 200 URI fragments are forwarded to Amazon WAF for inspection by the underlying host service. You must configure how to handle any oversize URI fragment content in the `UriFragment` object. Amazon WAF applies the pattern matching filters to the cookies that it receives from the underlying host service.

Type: [UriFragment](#) object

Required: No

## UriPath

Inspect the request URI path. This is the part of the web request that identifies a resource, for example, `/images/daily-ad.jpg`.

Type: [UriPath](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)

- [Amazon SDK for Ruby V3](#)

# FieldToProtect

Service: Amazon WAFV2

Specifies a field type and keys to protect in stored web request data. This is part of the data protection configuration for a web ACL.

## Contents

### FieldType

Specifies the web request component type to protect.

Type: String

Valid Values: SINGLE\_HEADER | SINGLE\_COOKIE | SINGLE\_QUERY\_ARGUMENT | QUERY\_STRING | BODY

Required: Yes

### FieldKeys

Specifies the keys to protect for the specified field type. If you don't specify any key, then all keys for the field type are protected.

Type: Array of strings

Array Members: Maximum number of 100 items.

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: .\*\\S.\*

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)

- [Amazon SDK for Ruby V3](#)

## Filter

Service: Amazon WAFV2

A single logging filter, used in [LoggingFilter](#).

### Contents

#### Behavior

How to handle logs that satisfy the filter's conditions and requirement.

Type: String

Valid Values: KEEP | DROP

Required: Yes

#### Conditions

Match conditions for the filter.

Type: Array of [Condition](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

#### Requirement

Logic to apply to the filtering conditions. You can specify that, in order to satisfy the filter, a log must match all conditions or must match at least one condition.

Type: String

Valid Values: MEETS\_ALL | MEETS\_ANY

Required: Yes

### See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# FirewallManagerRuleGroup

Service: Amazon WAFV2

A rule group that's defined for an Amazon Firewall Manager Amazon WAF policy.

## Contents

### FirewallManagerStatement

The processing guidance for an Amazon Firewall Manager rule. This is like a regular rule [Statement](#), but it can only contain a rule group reference.

Type: [FirewallManagerStatement](#) object

Required: Yes

### Name

The name of the rule group. You cannot change the name of a rule group after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: Yes

### OverrideAction

The action to use in the place of the action that results from the rule group evaluation. Set the override action to none to leave the result of the rule group alone. Set it to count to override the result to count only.

You can only use this for rule statements that reference a rule group, like `RuleGroupReferenceStatement` and `ManagedRuleGroupStatement`.

#### Note

This option is usually set to none. It does not affect how the rules in the rule group are evaluated. If you want the rules in the rule group to only count matches, do not use this and instead use the rule action override option, with Count action, in your rule group reference statement settings.

Type: [OverrideAction](#) object

Required: Yes

### Priority

If you define more than one rule group in the first or last Firewall Manager rule groups, Amazon WAF evaluates each request against the rule groups in order, starting from the lowest priority setting. The priorities don't need to be consecutive, but they must all be different.

Type: Integer

Valid Range: Minimum value of 0.

Required: Yes

### VisibilityConfig

Defines and enables Amazon CloudWatch metrics and web request sample collection.

Type: [VisibilityConfig](#) object

Required: Yes

### See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# FirewallManagerStatement

Service: Amazon WAFV2

The processing guidance for an Amazon Firewall Manager rule. This is like a regular rule [Statement](#), but it can only contain a single rule group reference.

## Contents

### ManagedRuleGroupStatement

A statement used by Amazon Firewall Manager to run the rules that are defined in a managed rule group. This is managed by Firewall Manager for an Amazon Firewall Manager Amazon WAF policy.

Type: [ManagedRuleGroupStatement](#) object

Required: No

### RuleGroupReferenceStatement

A statement used by Amazon Firewall Manager to run the rules that are defined in a rule group. This is managed by Firewall Manager for an Amazon Firewall Manager Amazon WAF policy.

Type: [RuleGroupReferenceStatement](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ForwardedIPConfig

Service: Amazon WAFV2

The configuration for inspecting IP addresses in an HTTP header that you specify, instead of using the IP address that's reported by the web request origin. Commonly, this is the X-Forwarded-For (XFF) header, but you can specify any header name.

## Note

If the specified header isn't present in the request, Amazon WAF doesn't apply the rule to the web request at all.

This configuration is used for [GeoMatchStatement](#), [AsnMatchStatement](#), and [RateBasedStatement](#). For [IPSetReferenceStatement](#), use [IPSetForwardedIPConfig](#) instead.

Amazon WAF only evaluates the first IP address found in the specified HTTP header.

## Contents

### FallbackBehavior

The match status to assign to the web request if the request doesn't have a valid IP address in the specified position.

## Note

If the specified header isn't present in the request, Amazon WAF doesn't apply the rule to the web request at all.

You can specify the following fallback behaviors:

- **MATCH** - Treat the web request as matching the rule statement. Amazon WAF applies the rule action to the request.
- **NO\_MATCH** - Treat the web request as not matching the rule statement.

Type: String

Valid Values: MATCH | NO\_MATCH

Required: Yes

## HeaderName

The name of the HTTP header to use for the IP address. For example, to use the X-Forwarded-For (XFF) header, set this to X-Forwarded-For.

### Note

If the specified header isn't present in the request, Amazon WAF doesn't apply the rule to the web request at all.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 255.

Pattern: `^[a-zA-Z0-9-]+$`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# GeoMatchStatement

Service: Amazon WAFV2

A rule statement that labels web requests by country and region and that matches against web requests based on country code. A geo match rule labels every request that it inspects regardless of whether it finds a match.

- To manage requests only by country, you can use this statement by itself and specify the countries that you want to match against in the `CountryCodes` array.
- Otherwise, configure your geo match rule with `Count` action so that it only labels requests. Then, add one or more label match rules to run after the geo match rule and configure them to match against the geographic labels and handle the requests as needed.

Amazon WAF labels requests using the alpha-2 country and region codes from the International Organization for Standardization (ISO) 3166 standard. Amazon WAF determines the codes using either the IP address in the web request origin or, if you specify it, the address in the geo match `ForwardedIPConfig`.

If you use the web request origin, the label formats are `awsaf:clientip:geo:region:<ISO country code>-<ISO region code>` and `awsaf:clientip:geo:country:<ISO country code>`.

If you use a forwarded IP address, the label formats are `awsaf:forwardedip:geo:region:<ISO country code>-<ISO region code>` and `awsaf:forwardedip:geo:country:<ISO country code>`.

For additional details, see [Geographic match rule statement](#) in the [Amazon WAF Developer Guide](#).

## Contents

### CountryCodes

An array of two-character country codes that you want to match against, for example, [ "US", "CN" ], from the alpha-2 country ISO codes of the ISO 3166 international standard.

When you use a geo match statement just for the region and country labels that it adds to requests, you still have to supply a country code for the rule to evaluate. In this case, you configure the rule to only count matching requests, but it will still generate logging and count

metrics for any matches. You can reduce the logging and metrics that the rule produces by specifying a country that's unlikely to be a source of traffic to your site.

Type: Array of strings

Array Members: Minimum number of 1 item.

Valid Values: AF | AX | AL | DZ | AS | AD | AO | AI | AQ | AG | AR | AM | AW  
| AU | AT | AZ | BS | BH | BD | BB | BY | BE | BZ | BJ | BM | BT | BO |  
BQ | BA | BW | BV | BR | IO | BN | BG | BF | BI | KH | CM | CA | CV | KY  
| CF | TD | CL | CN | CX | CC | CO | KM | CG | CD | CK | CR | CI | HR |  
CU | CW | CY | CZ | DK | DJ | DM | DO | EC | EG | SV | GQ | ER | EE | ET  
| FK | FO | FJ | FI | FR | GF | PF | TF | GA | GM | GE | DE | GH | GI |  
GR | GL | GD | GP | GU | GT | GG | GN | GW | GY | HT | HM | VA | HN | HK  
| HU | IS | IN | ID | IR | IQ | IE | IM | IL | IT | JM | JP | JE | JO |  
KZ | KE | KI | KP | KR | KW | KG | LA | LV | LB | LS | LR | LY | LI | LT  
| LU | MO | MK | MG | MW | MY | MV | ML | MT | MH | MQ | MR | MU | YT |  
MX | FM | MD | MC | MN | ME | MS | MA | MZ | MM | NA | NR | NP | NL | NC  
| NZ | NI | NE | NG | NU | NF | MP | NO | OM | PK | PW | PS | PA | PG |  
PY | PE | PH | PN | PL | PT | PR | QA | RE | RO | RU | RW | BL | SH | KN  
| LC | MF | PM | VC | WS | SM | ST | SA | SN | RS | SC | SL | SG | SX |  
SK | SI | SB | SO | ZA | GS | SS | ES | LK | SD | SR | SJ | SZ | SE | CH  
| SY | TW | TJ | TZ | TH | TL | TG | TK | TO | TT | TN | TR | TM | TC |  
TV | UG | UA | AE | GB | US | UM | UY | UZ | VU | VE | VN | VG | VI | WF  
| EH | YE | ZM | ZW | XK

Required: No

## ForwardedIPConfig

The configuration for inspecting IP addresses in an HTTP header that you specify, instead of using the IP address that's reported by the web request origin. Commonly, this is the X-Forwarded-For (XFF) header, but you can specify any header name.

### Note

If the specified header isn't present in the request, Amazon WAF doesn't apply the rule to the web request at all.

Type: [ForwardedIPConfig](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# HeaderMatchPattern

Service: Amazon WAFV2

The filter to use to identify the subset of headers to inspect in a web request.

You must specify exactly one setting: either `All`, `IncludedHeaders`, or `ExcludedHeaders`.

Example JSON: `"MatchPattern": { "ExcludedHeaders": [ "KeyToExclude1", "KeyToExclude2" ] }`

## Contents

### All

Inspect all headers.

Type: [All](#) object

Required: No

### ExcludedHeaders

Inspect only the headers whose keys don't match any of the strings specified here.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 199 items.

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `.*\S.*`

Required: No

### IncludedHeaders

Inspect only the headers that have a key that matches one of the strings specified here.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 199 items.

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `.*\S.*`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# HeaderOrder

Service: Amazon WAFV2

Inspect a string containing the list of the request's header names, ordered as they appear in the web request that Amazon WAF receives for inspection. Amazon WAF generates the string and then uses that as the field to match component in its inspection. Amazon WAF separates the header names in the string using colons and no added spaces, for example `host:user-agent:accept:authorization:referer`.

## Contents

### OverSizeHandling

What Amazon WAF should do if the headers determined by your match scope are more numerous or larger than Amazon WAF can inspect. Amazon WAF does not support inspecting the entire contents of request headers when they exceed 8 KB (8192 bytes) or 200 total headers. The underlying host service forwards a maximum of 200 headers and at most 8 KB of header contents to Amazon WAF.

The options for oversize handling are the following:

- **CONTINUE** - Inspect the available headers normally, according to the rule inspection criteria.
- **MATCH** - Treat the web request as matching the rule statement. Amazon WAF applies the rule action to the request.
- **NO\_MATCH** - Treat the web request as not matching the rule statement.

Type: String

Valid Values: `CONTINUE` | `MATCH` | `NO_MATCH`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)

- [Amazon SDK for Ruby V3](#)

# Headers

Service: Amazon WAFV2

Inspect all headers in the web request. You can specify the parts of the headers to inspect and you can narrow the set of headers to inspect by including or excluding specific keys.

This is used to indicate the web request component to inspect, in the [FieldToMatch](#) specification.

If you want to inspect just the value of a single header, use the `SingleHeader` `FieldToMatch` setting instead.

Example JSON: `"Headers": { "MatchPattern": { "All": {} }, "MatchScope": "KEY", "OversizeHandling": "MATCH" }`

## Contents

### MatchPattern

The filter to use to identify the subset of headers to inspect in a web request.

You must specify exactly one setting: either `All`, `IncludedHeaders`, or `ExcludedHeaders`.

Example JSON: `"MatchPattern": { "ExcludedHeaders": [ "KeyToExclude1", "KeyToExclude2" ] }`

Type: [HeaderMatchPattern](#) object

Required: Yes

### MatchScope

The parts of the headers to match with the rule inspection criteria. If you specify `ALL`, Amazon WAF inspects both keys and values.

`All` does not require a match to be found in the keys and a match to be found in the values. It requires a match to be found in the keys or the values or both. To require a match in the keys and in the values, use a logical `AND` statement to combine two match rules, one that inspects the keys and another that inspects the values.

Type: String

Valid Values: `ALL` | `KEY` | `VALUE`

Required: Yes

## OversizeHandling

What Amazon WAF should do if the headers determined by your match scope are more numerous or larger than Amazon WAF can inspect. Amazon WAF does not support inspecting the entire contents of request headers when they exceed 8 KB (8192 bytes) or 200 total headers. The underlying host service forwards a maximum of 200 headers and at most 8 KB of header contents to Amazon WAF.

The options for oversize handling are the following:

- CONTINUE - Inspect the available headers normally, according to the rule inspection criteria.
- MATCH - Treat the web request as matching the rule statement. Amazon WAF applies the rule action to the request.
- NO\_MATCH - Treat the web request as not matching the rule statement.

Type: String

Valid Values: CONTINUE | MATCH | NO\_MATCH

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# HTTPHeader

Service: Amazon WAFV2

Part of the response from [GetSampledRequests](#). This is a complex type that appears as Headers in the response syntax. HTTPHeader contains the names and values of all of the headers that appear in one of the web requests.

## Contents

### Name

The name of the HTTP header.

Type: String

Required: No

### Value

The value of the HTTP header.

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# HTTPRequest

Service: Amazon WAFV2

Part of the response from [GetSampledRequests](#). This is a complex type that appears as Request in the response syntax. HTTPRequest contains information about one of the web requests.

## Contents

### ClientIP

The IP address that the request originated from. If the web ACL is associated with a CloudFront distribution, this is the value of one of the following fields in CloudFront access logs:

- `c-ip`, if the viewer did not use an HTTP proxy or a load balancer to send the request
- `x-forwarded-for`, if the viewer did use an HTTP proxy or a load balancer to send the request

Type: String

Required: No

### Country

The two-letter country code for the country that the request originated from. For a current list of country codes, see the Wikipedia entry [ISO 3166-1 alpha-2](#).

Type: String

Required: No

### Headers

A complex type that contains the name and value for each header in the sampled web request.

Type: Array of [HTTPHeader](#) objects

Required: No

### HTTPVersion

The HTTP version specified in the sampled web request, for example, HTTP/1.1.

Type: String

Required: No

## Method

The HTTP method specified in the sampled web request.

Type: String

Required: No

## URI

The URI path of the request, which identifies the resource, for example, `/images/daily-ad.jpg`.

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ImmunityTimeProperty

Service: Amazon WAFV2

Used for CAPTCHA and challenge token settings. Determines how long a CAPTCHA or challenge timestamp remains valid after Amazon WAF updates it for a successful CAPTCHA or challenge response.

## Contents

### ImmunityTime

The amount of time, in seconds, that a CAPTCHA or challenge timestamp is considered valid by Amazon WAF. The default setting is 300.

For the Challenge action, the minimum setting is 300.

Type: Long

Valid Range: Minimum value of 60. Maximum value of 259200.

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# IPSet

Service: Amazon WAFV2

Contains zero or more IP addresses or blocks of IP addresses specified in Classless Inter-Domain Routing (CIDR) notation. Amazon WAF supports all IPv4 and IPv6 CIDR ranges except for /0. For information about CIDR notation, see the Wikipedia entry [Classless Inter-Domain Routing](#).

Amazon WAF assigns an ARN to each IPSet that you create. To use an IP set in a rule, you provide the ARN to the [Rule](#) statement [IPSetReferenceStatement](#).

## Contents

### Addresses

Contains an array of strings that specifies zero or more IP addresses or blocks of IP addresses that you want Amazon WAF to inspect for in incoming requests. All addresses must be specified using Classless Inter-Domain Routing (CIDR) notation. Amazon WAF supports all IPv4 and IPv6 CIDR ranges except for /0.

Example address strings:

- For requests that originated from the IP address 192.0.2.44, specify `192.0.2.44/32`.
- For requests that originated from IP addresses from 192.0.2.0 to 192.0.2.255, specify `192.0.2.0/24`.
- For requests that originated from the IP address `1111:0000:0000:0000:0000:0000:0000:0111`, specify `1111:0000:0000:0000:0000:0000:0000:0111/128`.
- For requests that originated from IP addresses `1111:0000:0000:0000:0000:0000:0000:0000` to `1111:0000:0000:0000:ffff:ffff:ffff:ffff`, specify `1111:0000:0000:0000:0000:0000:0000:0000/64`.

For more information about CIDR notation, see the Wikipedia entry [Classless Inter-Domain Routing](#).

Example JSON Addresses specifications:

- Empty array: `"Addresses": []`
- Array with one address: `"Addresses": ["192.0.2.44/32"]`
- Array with three addresses: `"Addresses": ["192.0.2.44/32", "192.0.2.0/24", "192.0.0.0/16"]`

- INVALID specification: "Addresses": ["" ] INVALID

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 50.

Pattern: .\*\\S.\*

Required: Yes

## ARN

The Amazon Resource Name (ARN) of the entity.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: .\*\\S.\*

Required: Yes

## Id

A unique identifier for the set. This ID is returned in the responses to create and list commands. You provide it to operations like update and delete.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: ^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}\$

Required: Yes

## IPAddressVersion

The version of the IP addresses, either IPV4 or IPV6.

Type: String

Valid Values: IPV4 | IPV6

Required: Yes

## Name

The name of the IP set. You cannot change the name of an IPSet after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\w\-\-]+$`

Required: Yes

## Description

A description of the IP set that helps with identification.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `^[\w+=: #@/\- , \.][\w+=: #@/\- , \. \s]+[\w+=: #@/\- , \. ]$`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# IPSetForwardedIPConfig

Service: Amazon WAFV2

The configuration for inspecting IP addresses in an HTTP header that you specify, instead of using the IP address that's reported by the web request origin. Commonly, this is the X-Forwarded-For (XFF) header, but you can specify any header name.

## Note

If the specified header isn't present in the request, Amazon WAF doesn't apply the rule to the web request at all.

This configuration is used only for [IPSetReferenceStatement](#). For [GeoMatchStatement](#) and [RateBasedStatement](#), use [ForwardedIPConfig](#) instead.

## Contents

### FallbackBehavior

The match status to assign to the web request if the request doesn't have a valid IP address in the specified position.

## Note

If the specified header isn't present in the request, Amazon WAF doesn't apply the rule to the web request at all.

You can specify the following fallback behaviors:

- MATCH - Treat the web request as matching the rule statement. Amazon WAF applies the rule action to the request.
- NO\_MATCH - Treat the web request as not matching the rule statement.

Type: String

Valid Values: MATCH | NO\_MATCH

Required: Yes

## HeaderName

The name of the HTTP header to use for the IP address. For example, to use the X-Forwarded-For (XFF) header, set this to X-Forwarded-For.

### Note

If the specified header isn't present in the request, Amazon WAF doesn't apply the rule to the web request at all.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 255.

Pattern: `^[a-zA-Z0-9-]+$`

Required: Yes

## Position

The position in the header to search for the IP address. The header can contain IP addresses of the original client and also of proxies. For example, the header value could be `10.1.1.1, 127.0.0.0, 10.10.10.10` where the first IP address identifies the original client and the rest identify proxies that the request went through.

The options for this setting are the following:

- **FIRST** - Inspect the first IP address in the list of IP addresses in the header. This is usually the client's original IP.
- **LAST** - Inspect the last IP address in the list of IP addresses in the header.
- **ANY** - Inspect all IP addresses in the header for a match. If the header contains more than 10 IP addresses, Amazon WAF inspects the last 10.

Type: String

Valid Values: `FIRST | LAST | ANY`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# IPSetReferenceStatement

Service: Amazon WAFV2

A rule statement used to detect web requests coming from particular IP addresses or address ranges. To use this, create an [IPSet](#) that specifies the addresses you want to detect, then use the ARN of that set in this statement. To create an IP set, see [CreateIPSet](#).

Each IP set rule statement references an IP set. You create and maintain the set independent of your rules. This allows you to use the single set in multiple rules. When you update the referenced set, Amazon WAF automatically updates all rules that reference it.

## Contents

### ARN

The Amazon Resource Name (ARN) of the [IPSet](#) that this statement references.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: Yes

### IPSetForwardedIPConfig

The configuration for inspecting IP addresses in an HTTP header that you specify, instead of using the IP address that's reported by the web request origin. Commonly, this is the X-Forwarded-For (XFF) header, but you can specify any header name.

#### Note

If the specified header isn't present in the request, Amazon WAF doesn't apply the rule to the web request at all.

Type: [IPSetForwardedIPConfig](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# IPSetSummary

Service: Amazon WAFV2

High-level information about an [IPSet](#), returned by operations like create and list. This provides information like the ID, that you can use to retrieve and manage an IPSet, and the ARN, that you provide to the [IPSetReferenceStatement](#) to use the address set in a [Rule](#).

## Contents

### ARN

The Amazon Resource Name (ARN) of the entity.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: No

### Description

A description of the IP set that helps with identification.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `^\[\w+=:#\@/\-,\.\][\w+=:#\@/\-,\.\s]+\[\w+=:#\@/\-,\.\]$`

Required: No

### Id

A unique identifier for the set. This ID is returned in the responses to create and list commands. You provide it to operations like update and delete.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: No

## LockToken

A token used for optimistic locking. Amazon WAF returns a token to your `get` and `list` requests, to mark the state of the entity at the time of the request. To make changes to the entity associated with the token, you provide the token to operations like `update` and `delete`. Amazon WAF uses the token to ensure that no changes have been made to the entity since you last retrieved it. If a change has been made, the update fails with a `WAFOptimisticLockException`. If this happens, perform another `get`, and use the new token returned by that operation.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: No

## Name

The name of the IP set. You cannot change the name of an `IPSet` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# JA3Fingerprint

Service: Amazon WAFV2

Available for use with Amazon CloudFront distributions and Application Load Balancers. Match against the request's JA3 fingerprint. The JA3 fingerprint is a 32-character hash derived from the TLS Client Hello of an incoming request. This fingerprint serves as a unique identifier for the client's TLS configuration. Amazon WAF calculates and logs this fingerprint for each request that has enough TLS Client Hello information for the calculation. Almost all web requests include this information.

## Note

You can use this choice only with a string match `ByteMatchStatement` with the `PositionalConstraint` set to `EXACTLY`.

You can obtain the JA3 fingerprint for client requests from the web ACL logs. If Amazon WAF is able to calculate the fingerprint, it includes it in the logs. For information about the logging fields, see [Log fields](#) in the *Amazon WAF Developer Guide*.

Provide the JA3 fingerprint string from the logs in your string match statement specification, to match with any future requests that have the same TLS configuration.

## Contents

### FallbackBehavior

The match status to assign to the web request if the request doesn't have a JA3 fingerprint.

You can specify the following fallback behaviors:

- `MATCH` - Treat the web request as matching the rule statement. Amazon WAF applies the rule action to the request.
- `NO_MATCH` - Treat the web request as not matching the rule statement.

Type: String

Valid Values: `MATCH` | `NO_MATCH`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# JA4Fingerprint

Service: Amazon WAFV2

Available for use with Amazon CloudFront distributions and Application Load Balancers. Match against the request's JA4 fingerprint. The JA4 fingerprint is a 36-character hash derived from the TLS Client Hello of an incoming request. This fingerprint serves as a unique identifier for the client's TLS configuration. Amazon WAF calculates and logs this fingerprint for each request that has enough TLS Client Hello information for the calculation. Almost all web requests include this information.

## Note

You can use this choice only with a string match `ByteMatchStatement` with the `PositionalConstraint` set to `EXACTLY`.

You can obtain the JA4 fingerprint for client requests from the web ACL logs. If Amazon WAF is able to calculate the fingerprint, it includes it in the logs. For information about the logging fields, see [Log fields](#) in the *Amazon WAF Developer Guide*.

Provide the JA4 fingerprint string from the logs in your string match statement specification, to match with any future requests that have the same TLS configuration.

## Contents

### FallbackBehavior

The match status to assign to the web request if the request doesn't have a JA4 fingerprint.

You can specify the following fallback behaviors:

- `MATCH` - Treat the web request as matching the rule statement. Amazon WAF applies the rule action to the request.
- `NO_MATCH` - Treat the web request as not matching the rule statement.

Type: String

Valid Values: `MATCH` | `NO_MATCH`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# JsonBody

Service: Amazon WAFV2

Inspect the body of the web request as JSON. The body immediately follows the request headers.

This is used to indicate the web request component to inspect, in the [FieldToMatch](#) specification.

Use the specifications in this object to indicate which parts of the JSON body to inspect using the rule's inspection criteria. Amazon WAF inspects only the parts of the JSON that result from the matches that you indicate.

```
Example JSON: "JsonBody": { "MatchPattern": { "All": {} }, "MatchScope":  
"ALL" }
```

For additional information about this request component option, see [JSON body](#) in the *Amazon WAF Developer Guide*.

## Contents

### MatchPattern

The patterns to look for in the JSON body. Amazon WAF inspects the results of these pattern matches against the rule inspection criteria.

Type: [JsonMatchPattern](#) object

Required: Yes

### MatchScope

The parts of the JSON to match against using the `MatchPattern`. If you specify `ALL`, Amazon WAF matches against keys and values.

`All` does not require a match to be found in the keys and a match to be found in the values. It requires a match to be found in the keys or the values or both. To require a match in the keys and in the values, use a logical AND statement to combine two match rules, one that inspects the keys and another that inspects the values.

Type: String

Valid Values: ALL | KEY | VALUE

Required: Yes

### InvalidFallbackBehavior

What Amazon WAF should do if it fails to completely parse the JSON body. The options are the following:

- `EVALUATE_AS_STRING` - Inspect the body as plain text. Amazon WAF applies the text transformations and inspection criteria that you defined for the JSON inspection to the body text string.
- `MATCH` - Treat the web request as matching the rule statement. Amazon WAF applies the rule action to the request.
- `NO_MATCH` - Treat the web request as not matching the rule statement.

If you don't provide this setting, Amazon WAF parses and evaluates the content only up to the first parsing failure that it encounters.

#### Note

Amazon WAF parsing doesn't fully validate the input JSON string, so parsing can succeed even for invalid JSON. When parsing succeeds, Amazon WAF doesn't apply the fallback behavior. For more information, see [JSON body](#) in the *Amazon WAF Developer Guide*.

Type: String

Valid Values: `MATCH` | `NO_MATCH` | `EVALUATE_AS_STRING`

Required: No

### OversizeHandling

What Amazon WAF should do if the body is larger than Amazon WAF can inspect.

Amazon WAF does not support inspecting the entire contents of the web request body if the body exceeds the limit for the resource type. When a web request body is larger than the limit, the underlying host service only forwards the contents that are within the limit to Amazon WAF for inspection.

- For Application Load Balancer and Amazon AppSync, the limit is fixed at 8 KB (8,192 bytes).

- For CloudFront, API Gateway, Amazon Cognito, App Runner, and Verified Access, the default limit is 16 KB (16,384 bytes), and you can increase the limit for each resource type in the web ACL AssociationConfig, for additional processing fees.
- For Amazon Amplify, use the CloudFront limit.

The options for oversize handling are the following:

- CONTINUE - Inspect the available body contents normally, according to the rule inspection criteria.
- MATCH - Treat the web request as matching the rule statement. Amazon WAF applies the rule action to the request.
- NO\_MATCH - Treat the web request as not matching the rule statement.

You can combine the MATCH or NO\_MATCH settings for oversize handling with your rule and web ACL action settings, so that you block any request whose body is over the limit.

Default: CONTINUE

Type: String

Valid Values: CONTINUE | MATCH | NO\_MATCH

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# JsonMatchPattern

Service: Amazon WAFV2

The patterns to look for in the JSON body. Amazon WAF inspects the results of these pattern matches against the rule inspection criteria. This is used with the [FieldToMatch](#) option `JsonBody`.

## Contents

### All

Match all of the elements. See also `MatchScope` in [JsonBody](#).

You must specify either this setting or the `IncludedPaths` setting, but not both.

Type: [All](#) object

Required: No

### IncludedPaths

Match only the specified include paths. See also `MatchScope` in [JsonBody](#).

Provide the include paths using JSON Pointer syntax. For example, `"IncludedPaths": ["/dogs/0/name", "/dogs/1/name"]`. For information about this syntax, see the Internet Engineering Task Force (IETF) documentation [JavaScript Object Notation \(JSON\) Pointer](#).

You must specify either this setting or the `All` setting, but not both.

#### Note

Don't use this option to include all paths. Instead, use the `All` setting.

Type: Array of strings

Array Members: Minimum number of 1 item.

Length Constraints: Minimum length of 1. Maximum length of 512.

Pattern: `([/])|([/](^[~])|(~[01]))+`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# Label

Service: Amazon WAFV2

A single label container. This is used as an element of a label array in multiple contexts, for example, in `RuleLabels` inside a [Rule](#) and in `Labels` inside a [SampledHTTPRequest](#).

## Contents

### Name

The label string.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Pattern: `^[0-9A-Za-z_\-\:]+$`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# LabelMatchStatement

Service: Amazon WAFV2

A rule statement to match against labels that have been added to the web request by rules that have already run in the web ACL.

The label match statement provides the label or namespace string to search for. The label string can represent a part or all of the fully qualified label name that had been added to the web request. Fully qualified labels have a prefix, optional namespaces, and label name. The prefix identifies the rule group or web ACL context of the rule that added the label. If you do not provide the fully qualified name in your label match string, Amazon WAF performs the search for labels that were added in the same context as the label match statement.

## Contents

### Key

The string to match against. The setting you provide for this depends on the match statement's Scope setting:

- If the Scope indicates LABEL, then this specification must include the name and can include any number of preceding namespace specifications and prefix up to providing the fully qualified label name.
- If the Scope indicates NAMESPACE, then this specification can include any number of contiguous namespace strings, and can include the entire label namespace prefix from the rule group or web ACL where the label originates.

Labels are case sensitive and components of a label must be separated by colon, for example NS1: NS2: name.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Pattern: `^[0-9A-Za-z_\-\: ]+$`

Required: Yes

### Scope

Specify whether you want to match using the label name or just the namespace.

Type: String

Valid Values: LABEL | NAMESPACE

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# LabelNameCondition

Service: Amazon WAFV2

A single label name condition for a [Condition](#) in a logging filter.

## Contents

### LabelName

The label name that a log record must contain in order to meet the condition. This must be a fully qualified label name. Fully qualified labels have a prefix, optional namespaces, and label name. The prefix identifies the rule group or web ACL context of the rule that added the label.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Pattern: `^[0-9A-Za-z_\-\:]+$`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# LabelSummary

Service: Amazon WAFV2

List of labels used by one or more of the rules of a [RuleGroup](#). This summary object is used for the following rule group lists:

- `AvailableLabels` - Labels that rules add to matching requests. These labels are defined in the `RuleLabels` for a [Rule](#).
- `ConsumedLabels` - Labels that rules match against. These labels are defined in a `LabelMatchStatement` specification, in the [Statement](#) definition of a rule.

## Contents

### Name

An individual label specification.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Pattern: `^[0-9A-Za-z_\-\:]+$`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# LoggingConfiguration

Service: Amazon WAFV2

Defines an association between logging destinations and a web ACL resource, for logging from Amazon WAF. As part of the association, you can specify parts of the standard logging fields to keep out of the logs and you can specify filters so that you log only a subset of the logging records.

If you configure data protection for the web ACL, the protection applies to the data that Amazon WAF sends to the logs.

## Note

You can define one logging destination per web ACL.

You can access information about the traffic that Amazon WAF inspects using the following steps:

1. Create your logging destination. You can use an Amazon CloudWatch Logs log group, an Amazon Simple Storage Service (Amazon S3) bucket, or an Amazon Kinesis Data Firehose.

The name that you give the destination must start with `aws-waf-logs-`. Depending on the type of destination, you might need to configure additional settings or permissions.

For configuration requirements and pricing information for each destination type, see [Logging web ACL traffic](#) in the *Amazon WAF Developer Guide*.

2. Associate your logging destination to your web ACL using a `PutLoggingConfiguration` request.

When you successfully enable logging using a `PutLoggingConfiguration` request, Amazon WAF creates an additional role or policy that is required to write logs to the logging destination. For an Amazon CloudWatch Logs log group, Amazon WAF creates a resource policy on the log group. For an Amazon S3 bucket, Amazon WAF creates a bucket policy. For an Amazon Kinesis Data Firehose, Amazon WAF creates a service-linked role.

For additional information about web ACL logging, see [Logging web ACL traffic information](#) in the *Amazon WAF Developer Guide*.

## Contents

### LogDestinationConfigs

The logging destination configuration that you want to associate with the web ACL.

 **Note**

You can associate one logging destination to a web ACL.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: Yes

### ResourceArn

The Amazon Resource Name (ARN) of the web ACL that you want to associate with LogDestinationConfigs.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: Yes

### LoggingFilter

Filtering that specifies which web requests are kept in the logs and which are dropped. You can filter on the rule action and on the web request labels that were applied by matching rules during web ACL evaluation.

Type: [LoggingFilter](#) object

Required: No

## LogScope

The owner of the logging configuration, which must be set to CUSTOMER for the configurations that you manage.

The log scope SECURITY\_LAKE indicates a configuration that is managed through Amazon Security Lake. You can use Security Lake to collect log and event data from various sources for normalization, analysis, and management. For information, see [Collecting data from Amazon services](#) in the *Amazon Security Lake user guide*.

The log scope CLOUDWATCH\_TELEMETRY\_RULE\_MANAGED indicates a configuration that is managed through Amazon CloudWatch Logs for telemetry data collection and analysis. For information, see [What is Amazon CloudWatch Logs ?](#) in the *Amazon CloudWatch Logs user guide*.

Default: CUSTOMER

Type: String

Valid Values: CUSTOMER | SECURITY\_LAKE | CLOUDWATCH\_TELEMETRY\_RULE\_MANAGED

Required: No

## LogType

Used to distinguish between various logging options. Currently, there is one option.

Default: WAF\_LOGS

Type: String

Valid Values: WAF\_LOGS

Required: No

## ManagedByFirewallManager

Indicates whether the logging configuration was created by Amazon Firewall Manager, as part of an Amazon WAF policy configuration. If true, only Firewall Manager can modify or delete the configuration.

The logging configuration can be created by Amazon Firewall Manager for use with any web ACL that Firewall Manager is using for an Amazon WAF policy. Web ACLs that Firewall Manager

creates and uses have their `ManagedByFirewallManager` property set to true. Web ACLs that were created by a customer account and then retrofitted by Firewall Manager for use by a policy have their `RetrofittedByFirewallManager` property set to true. For either case, any corresponding logging configuration will indicate `ManagedByFirewallManager`.

Type: Boolean

Required: No

## RedactedFields

The parts of the request that you want to keep out of the logs.

For example, if you redact the `SingleHeader` field, the `HEADER` field in the logs will be `REDACTED` for all rules that use the `SingleHeader FieldToMatch` setting.

If you configure data protection for the web ACL, the protection applies to the data that Amazon WAF sends to the logs.

Redaction applies only to the component that's specified in the rule's `FieldToMatch` setting, so the `SingleHeader` redaction doesn't apply to rules that use the `Headers FieldToMatch`.

### Note

You can specify only the following fields for redaction: `UriPath`, `QueryString`, `SingleHeader`, and `Method`.

### Note

This setting has no impact on request sampling. You can only exclude fields from request sampling by disabling sampling in the web ACL visibility configuration or by configuring data protection for the web ACL.

Type: Array of [FieldToMatch](#) objects

Array Members: Maximum number of 100 items.

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# LoggingFilter

Service: Amazon WAFV2

Filtering that specifies which web requests are kept in the logs and which are dropped, defined for a web ACL's [LoggingConfiguration](#).

You can filter on the rule action and on the web request labels that were applied by matching rules during web ACL evaluation.

## Contents

### DefaultBehavior

Default handling for logs that don't match any of the specified filtering conditions.

Type: String

Valid Values: KEEP | DROP

Required: Yes

### Filters

The filters that you want to apply to the logs.

Type: Array of [Filter](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ManagedProductDescriptor

Service: Amazon WAFV2

The properties of a managed product, such as an Amazon Managed Rules rule group or an Amazon Web Services Marketplace managed rule group.

## Contents

### IsAdvancedManagedRuleSet

Indicates whether the rule group provides an advanced set of protections, such as the the Amazon Managed Rules rule groups that are used for Amazon WAF intelligent threat mitigation.

Type: Boolean

Required: No

### IsVersioningSupported

Indicates whether the rule group is versioned.

Type: Boolean

Required: No

### ManagedRuleSetName

The name of the managed rule group. For example, `AWSManagedRulesAnonymousIpList` or `AWSManagedRulesATPRuleSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: No

### ProductDescription

A short description of the managed rule group.

Type: String

Length Constraints: Minimum length of 1.

Pattern: `.*\S.*`

Required: No

### **ProductId**

A unique identifier for the rule group. This ID is returned in the responses to create and list commands. You provide it to operations like update and delete.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

### **ProductLink**

For Amazon Web Services Marketplace managed rule groups only, the link to the rule group product page.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Pattern: `.*\S.*`

Required: No

### **ProductTitle**

The display name for the managed rule group. For example, `Anonymous IP list` or `Account takeover prevention`.

Type: String

Length Constraints: Minimum length of 1.

Pattern: `.*\S.*`

Required: No

## SnsTopicArn

The Amazon resource name (ARN) of the Amazon Simple Notification Service SNS topic that's used to provide notification of changes to the managed rule group. You can subscribe to the SNS topic to receive notifications when the managed rule group is modified, such as for new versions and for version expiration. For more information, see the [Amazon Simple Notification Service Developer Guide](#).

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: No

## VendorName

The name of the managed rule group vendor. You use this, along with the rule group name, to identify a rule group.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ManagedRuleGroupConfig

Service: Amazon WAFV2

Additional information that's used by a managed rule group. Many managed rule groups don't require this.

The rule groups used for intelligent threat mitigation require additional configuration:

- Use the `AWSManagedRulesACFPRuleSet` configuration object to configure the account creation fraud prevention managed rule group. The configuration includes the registration and sign-up pages of your application and the locations in the account creation request payload of data, such as the user email and phone number fields.
- Use the `AWSManagedRulesAntiDDoSRuleSet` configuration object to configure the anti-DDoS managed rule group. The configuration includes the sensitivity levels to use in the rules that typically block and challenge requests that might be participating in DDoS attacks and the specification to use to indicate whether a request can handle a silent browser challenge.
- Use the `AWSManagedRulesATPRuleSet` configuration object to configure the account takeover prevention managed rule group. The configuration includes the sign-in page of your application and the locations in the login request payload of data such as the username and password.
- Use the `AWSManagedRulesBotControlRuleSet` configuration object to configure the protection level that you want the Bot Control rule group to use.

For example specifications, see the examples section of [CreateWebACL](#).

## Contents

### `AWSManagedRulesACFPRuleSet`

Additional configuration for using the account creation fraud prevention (ACFP) managed rule group, `AWSManagedRulesACFPRuleSet`. Use this to provide account creation request information to the rule group. For web ACLs that protect CloudFront distributions, use this to also provide the information about how your distribution responds to account creation requests.

For information about using the ACFP managed rule group, see [Amazon WAF Fraud Control account creation fraud prevention \(ACFP\) rule group](#) and [Amazon WAF Fraud Control account creation fraud prevention \(ACFP\)](#) in the *Amazon WAF Developer Guide*.

Type: [AWSManagedRulesACFPRuleSet](#) object

Required: No

### **AWSManagedRulesAntiDDoSRuleSet**

Additional configuration for using the anti-DDoS managed rule group, `AWSManagedRulesAntiDDoSRuleSet`. Use this to configure anti-DDoS behavior for the rule group.

For information about using the anti-DDoS managed rule group, see [Amazon WAF Anti-DDoS rule group](#) and [Distributed Denial of Service \(DDoS\) prevention](#) in the *Amazon WAF Developer Guide*.

Type: [AWSManagedRulesAntiDDoSRuleSet](#) object

Required: No

### **AWSManagedRulesATPRuleSet**

Additional configuration for using the account takeover prevention (ATP) managed rule group, `AWSManagedRulesATPRuleSet`. Use this to provide login request information to the rule group. For web ACLs that protect CloudFront distributions, use this to also provide the information about how your distribution responds to login requests.

This configuration replaces the individual configuration fields in `ManagedRuleGroupConfig` and provides additional feature configuration.

For information about using the ATP managed rule group, see [Amazon WAF Fraud Control account takeover prevention \(ATP\) rule group](#) and [Amazon WAF Fraud Control account takeover prevention \(ATP\)](#) in the *Amazon WAF Developer Guide*.

Type: [AWSManagedRulesATPRuleSet](#) object

Required: No

### **AWSManagedRulesBotControlRuleSet**

Additional configuration for using the Bot Control managed rule group. Use this to specify the inspection level that you want to use. For information about using the Bot Control managed rule group, see [Amazon WAF Bot Control rule group](#) and [Amazon WAF Bot Control](#) in the *Amazon WAF Developer Guide*.

Type: [AWSManagedRulesBotControlRuleSet](#) object

Required: No

### LoginPath

*This member has been deprecated.*

#### Note

Instead of this setting, provide your configuration under `AWSManagedRulesATPRuleSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `.*\S.*`

Required: No

### PasswordField

*This member has been deprecated.*

#### Note

Instead of this setting, provide your configuration under the request inspection configuration for `AWSManagedRulesATPRuleSet` or `AWSManagedRulesACFPRuleSet`.

Type: [PasswordField](#) object

Required: No

### PayloadType

*This member has been deprecated.*

**Note**

Instead of this setting, provide your configuration under the request inspection configuration for `AWSManagedRulesATPRuleSet` or `AWSManagedRulesACFPRuleSet`.

Type: String

Valid Values: JSON | FORM\_ENCODED

Required: No

**UsernameField**

*This member has been deprecated.*

**Note**

Instead of this setting, provide your configuration under the request inspection configuration for `AWSManagedRulesATPRuleSet` or `AWSManagedRulesACFPRuleSet`.

Type: [UsernameField](#) object

Required: No

**See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ManagedRuleGroupStatement

Service: Amazon WAFV2

A rule statement used to run the rules that are defined in a managed rule group. To use this, provide the vendor name and the name of the rule group in this statement. You can retrieve the required names by calling [ListAvailableManagedRuleGroups](#).

You cannot nest a `ManagedRuleGroupStatement`, for example for use inside a `NotStatement` or `OrStatement`. You cannot use a managed rule group inside another rule group. You can only reference a managed rule group as a top-level statement within a rule that you define in a web ACL.

## Note

You are charged additional fees when you use the Amazon WAF Bot Control managed rule group `AWSManagedRulesBotControlRuleSet`, the Amazon WAF Fraud Control account takeover prevention (ATP) managed rule group `AWSManagedRulesATPRuleSet`, or the Amazon WAF Fraud Control account creation fraud prevention (ACFP) managed rule group `AWSManagedRulesACFPRuleSet`. For more information, see [Amazon WAF Pricing](#).

## Contents

### Name

The name of the managed rule group. You use this, along with the vendor name, to identify the rule group.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: Yes

### VendorName

The name of the managed rule group vendor. You use this, along with the rule group name, to identify a rule group.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## ExcludedRules

Rules in the referenced rule group whose actions are set to Count.

### Note

Instead of this option, use `RuleActionOverrides`. It accepts any valid action setting, including Count.

Type: Array of [ExcludedRule](#) objects

Array Members: Maximum number of 100 items.

Required: No

## ManagedRuleGroupConfigs

Additional information that's used by a managed rule group. Many managed rule groups don't require this.

The rule groups used for intelligent threat mitigation require additional configuration:

- Use the `AWSManagedRulesACFPRuleSet` configuration object to configure the account creation fraud prevention managed rule group. The configuration includes the registration and sign-up pages of your application and the locations in the account creation request payload of data, such as the user email and phone number fields.
- Use the `AWSManagedRulesAntiDDoSRuleSet` configuration object to configure the anti-DDoS managed rule group. The configuration includes the sensitivity levels to use in the rules that typically block and challenge requests that might be participating in DDoS attacks and the specification to use to indicate whether a request can handle a silent browser challenge.
- Use the `AWSManagedRulesATPRuleSet` configuration object to configure the account takeover prevention managed rule group. The configuration includes the sign-in page of your

application and the locations in the login request payload of data such as the username and password.

- Use the `AWSManagedRulesBotControlRuleSet` configuration object to configure the protection level that you want the Bot Control rule group to use.

Type: Array of [ManagedRuleGroupConfig](#) objects

Required: No

## RuleActionOverrides

Action settings to use in the place of the rule actions that are configured inside the rule group. You specify one override for each rule whose action you want to change.

### Note

Verify the rule names in your overrides carefully. With managed rule groups, Amazon WAF silently ignores any override that uses an invalid rule name. With customer-owned rule groups, invalid rule names in your overrides will cause web ACL updates to fail. An invalid rule name is any name that doesn't exactly match the case-sensitive name of an existing rule in the rule group.

You can use overrides for testing, for example you can override all of rule actions to Count and then monitor the resulting count metrics to understand how the rule group would handle your web traffic. You can also permanently override some or all actions, to modify how the rule group manages your web traffic.

Type: Array of [RuleActionOverride](#) objects

Array Members: Maximum number of 100 items.

Required: No

## ScopeDownStatement

An optional nested statement that narrows the scope of the web requests that are evaluated by the managed rule group. Requests are only evaluated by the rule group if they match the scope-down statement. You can use any nestable [Statement](#) in the scope-down statement, and you can nest statements at any level, the same as you can for a rule statement.

Type: [Statement](#) object

Required: No

## Version

The version of the managed rule group to use. If you specify this, the version setting is fixed until you change it. If you don't specify this, Amazon WAF uses the vendor's default version, and then keeps the version at the vendor's default when the vendor updates the managed rule group settings.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `^[\w#:\.\-\/]+$`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ManagedRuleGroupSummary

Service: Amazon WAFV2

High-level information about a managed rule group, returned by [ListAvailableManagedRuleGroups](#). This provides information like the name and vendor name, that you provide when you add a [ManagedRuleGroupStatement](#) to a web ACL. Managed rule groups include Amazon Managed Rules rule groups and Amazon Web Services Marketplace managed rule groups. To use any Amazon Web Services Marketplace managed rule group, first subscribe to the rule group through Amazon Web Services Marketplace.

## Contents

### Description

The description of the managed rule group, provided by Amazon Managed Rules or the Amazon Web Services Marketplace seller who manages it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `^\[\w+=:#\@/\-,\.\][\w+=:#\@/\-,\.\s]+\[\w+=:#\@/\-,\.\]$`

Required: No

### Name

The name of the managed rule group. You use this, along with the vendor name, to identify the rule group.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^\[\w\-\]+\$`

Required: No

### VendorName

The name of the managed rule group vendor. You use this, along with the rule group name, to identify a rule group.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

### **VersioningSupported**

Indicates whether the managed rule group is versioned. If it is, you can retrieve the versions list by calling [ListAvailableManagedRuleGroupVersions](#).

Type: Boolean

Required: No

### **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ManagedRuleGroupVersion

Service: Amazon WAFV2

Describes a single version of a managed rule group.

## Contents

### LastUpdateTimestamp

The date and time that the managed rule group owner updated the rule group version information.

Type: Timestamp

Required: No

### Name

The version name.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `^[\\w#:\\.\\-\\/]+$`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ManagedRuleSet

Service: Amazon WAFV2

A set of rules that is managed by Amazon and Amazon Web Services Marketplace sellers to provide versioned managed rule groups for customers of Amazon WAF.

## Note

This is intended for use only by vendors of managed rule sets. Vendors are Amazon and Amazon Web Services Marketplace sellers.

Vendors, you can use the managed rule set APIs to provide controlled rollout of your versioned managed rule group offerings for your customers. The APIs are `ListManagedRuleSets`, `GetManagedRuleSet`, `PutManagedRuleSetVersions`, and `UpdateManagedRuleSetVersionExpiryDate`.

## Contents

### ARN

The Amazon Resource Name (ARN) of the entity.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: Yes

### Id

A unique identifier for the managed rule set. The ID is returned in the responses to commands like `list`. You provide it to operations like `get` and `update`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: Yes

## Name

The name of the managed rule set. You use this, along with the rule set ID, to identify the rule set.

This name is assigned to the corresponding managed rule group, which your customers can access and use.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\w\-\ ]+$`

Required: Yes

## Description

A description of the set that helps with identification.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `^[\w+=: #@/\- , \.][\w+=: #@/\- , \. \s]+[\w+=: #@/\- , \.]$`

Required: No

## LabelNamespace

The label namespace prefix for the managed rule groups that are offered to customers from this managed rule set. All labels that are added by rules in the managed rule group have this prefix.

- The syntax for the label namespace prefix for a managed rule group is the following:

```
aws-waf:managed:<vendor>:<rule group name>
```

- When a rule with a label matches a web request, Amazon WAF adds the fully qualified label to the request. A fully qualified label is made up of the label namespace from the rule group or web ACL where the rule is defined and the label from the rule, separated by a colon:

```
<label namespace>:<label from rule>
```

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Pattern: `^[0-9A-Za-z_\-:]+$`

Required: No

## PublishedVersions

The versions of this managed rule set that are available for use by customers.

Type: String to [ManagedRuleSetVersion](#) object map

Key Length Constraints: Minimum length of 1. Maximum length of 64.

Key Pattern: `^[\\w#:\\.\\-\\/]+$`

Required: No

## RecommendedVersion

The version that you would like your customers to use.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `^[\\w#:\\.\\-\\/]+$`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ManagedRuleSetSummary

Service: Amazon WAFV2

High-level information for a managed rule set.

## Note

This is intended for use only by vendors of managed rule sets. Vendors are Amazon and Amazon Web Services Marketplace sellers.

Vendors, you can use the managed rule set APIs to provide controlled rollout of your versioned managed rule group offerings for your customers. The APIs are `ListManagedRuleSets`, `GetManagedRuleSet`, `PutManagedRuleSetVersions`, and `UpdateManagedRuleSetVersionExpiryDate`.

## Contents

### ARN

The Amazon Resource Name (ARN) of the entity.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: No

### Description

A description of the set that helps with identification.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `^\[\w+=:#@/\-,\.\][\w+=:#@/\-,\.\s]+[\w+=:#@/\-,\.\]$`

Required: No

## Id

A unique identifier for the managed rule set. The ID is returned in the responses to commands like `list`. You provide it to operations like `get` and `update`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: No

## LabelNamespace

The label namespace prefix for the managed rule groups that are offered to customers from this managed rule set. All labels that are added by rules in the managed rule group have this prefix.

- The syntax for the label namespace prefix for a managed rule group is the following:

```
aws-waf:managed:<vendor>:<rule group name>
```

- When a rule with a label matches a web request, Amazon WAF adds the fully qualified label to the request. A fully qualified label is made up of the label namespace from the rule group or web ACL where the rule is defined and the label from the rule, separated by a colon:

```
<label namespace>:<label from rule>
```

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Pattern: `^[0-9A-Za-z_\-\:]+$`

Required: No

## LockToken

A token used for optimistic locking. Amazon WAF returns a token to your `get` and `list` requests, to mark the state of the entity at the time of the request. To make changes to the entity associated with the token, you provide the token to operations like `update` and `delete`. Amazon WAF uses the token to ensure that no changes have been made to the entity since you last retrieved it. If a change has been made, the update fails with a

WAFOptimisticLockException. If this happens, perform another get, and use the new token returned by that operation.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: No

## Name

The name of the managed rule set. You use this, along with the rule set ID, to identify the rule set.

This name is assigned to the corresponding managed rule group, which your customers can access and use.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ManagedRuleSetVersion

Service: Amazon WAFV2

Information for a single version of a managed rule set.

## Note

This is intended for use only by vendors of managed rule sets. Vendors are Amazon and Amazon Web Services Marketplace sellers.

Vendors, you can use the managed rule set APIs to provide controlled rollout of your versioned managed rule group offerings for your customers. The APIs are `ListManagedRuleSets`, `GetManagedRuleSet`, `PutManagedRuleSetVersions`, and `UpdateManagedRuleSetVersionExpiryDate`.

## Contents

### AssociatedRuleGroupArn

The Amazon Resource Name (ARN) of the vendor rule group that's used to define the published version of your managed rule group.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: No

### Capacity

The web ACL capacity units (WCUs) required for this rule group.

Amazon WAF uses WCUs to calculate and control the operating resources that are used to run your rules, rule groups, and web ACLs. Amazon WAF calculates capacity differently for each rule type, to reflect the relative cost of each rule. Simple rules that cost little to run use fewer WCUs than more complex rules that use more processing power. Rule group capacity is fixed at creation, which helps users plan their web ACL WCU usage when they use a rule group. For more information, see [Amazon WAF web ACL capacity units \(WCU\)](#) in the *Amazon WAF Developer Guide*.

Type: Long

Valid Range: Minimum value of 1.

Required: No

### **ExpiryTimestamp**

The time that this version is set to expire.

Times are in Coordinated Universal Time (UTC) format. UTC format includes the special designator, Z. For example, "2016-09-27T14:50Z".

Type: Timestamp

Required: No

### **ForecastedLifetime**

The amount of time you expect this version of your managed rule group to last, in days.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

### **LastUpdateTimestamp**

The last time that you updated this version.

Times are in Coordinated Universal Time (UTC) format. UTC format includes the special designator, Z. For example, "2016-09-27T14:50Z".

Type: Timestamp

Required: No

### **PublishTimestamp**

The time that you first published this version.

Times are in Coordinated Universal Time (UTC) format. UTC format includes the special designator, Z. For example, "2016-09-27T14:50Z".

Type: Timestamp

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

## Method

Service: Amazon WAFV2

Inspect the HTTP method of the web request. The method indicates the type of operation that the request is asking the origin to perform.

This is used in the [FieldToMatch](#) specification for some web request component types.

JSON specification: "Method": {}

## Contents

The members of this exception structure are context-dependent.

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# MobileSdkRelease

Service: Amazon WAFV2

Information for a release of the mobile SDK, including release notes and tags.

The mobile SDK is not generally available. Customers who have access to the mobile SDK can use it to establish and manage Amazon WAF tokens for use in HTTP(S) requests from a mobile device to Amazon WAF. For more information, see [Amazon WAF client application integration](#) in the *Amazon WAF Developer Guide*.

## Contents

### ReleaseNotes

Notes describing the release.

Type: String

Required: No

### ReleaseVersion

The release version.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `^[\\w#:\\.\\-\\/]+$`

Required: No

### Tags

Tags that are associated with the release.

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item.

Required: No

### Timestamp

The timestamp of the release.

Type: Timestamp

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

## NoneAction

Service: Amazon WAFV2

Specifies that Amazon WAF should do nothing. This is used for the `OverrideAction` setting on a [Rule](#) when the rule uses a rule group reference statement.

This is used in the context of other settings, for example to specify values for [RuleAction](#) and web ACL [DefaultAction](#).

JSON specification: "None": {}

### Contents

The members of this exception structure are context-dependent.

### See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# NotStatement

Service: Amazon WAFV2

A logical rule statement used to negate the results of another rule statement. You provide one [Statement](#) within the NotStatement.

## Contents

### Statement

The statement to negate. You can use any statement that can be nested.

Type: [Statement](#) object

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# OnSourceDDoSProtectionConfig

Service: Amazon WAFV2

Configures the level of DDoS protection that applies to web ACLs associated with Application Load Balancers.

## Contents

### ALBLowReputationMode

The level of DDoS protection that applies to web ACLs associated with Application Load Balancers. ACTIVE\_UNDER\_DDOS protection is enabled by default whenever a web ACL is associated with an Application Load Balancer. In the event that an Application Load Balancer experiences high-load conditions or suspected DDoS attacks, the ACTIVE\_UNDER\_DDOS protection automatically rate limits traffic from known low reputation sources without disrupting Application Load Balancer availability. ALWAYS\_ON protection provides constant, always-on monitoring of known low reputation sources for suspected DDoS attacks. While this provides a higher level of protection, there may be potential impacts on legitimate traffic.

Type: String

Valid Values: ACTIVE\_UNDER\_DDOS | ALWAYS\_ON

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# OrStatement

Service: Amazon WAFV2

A logical rule statement used to combine other rule statements with OR logic. You provide more than one [Statement](#) within the OrStatement.

## Contents

### Statements

The statements to combine with OR logic. You can use any statements that can be nested.

Type: Array of [Statement](#) objects

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# OverrideAction

Service: Amazon WAFV2

The action to use in the place of the action that results from the rule group evaluation. Set the override action to none to leave the result of the rule group alone. Set it to count to override the result to count only.

You can only use this for rule statements that reference a rule group, like `RuleGroupReferenceStatement` and `ManagedRuleGroupStatement`.

## Note

This option is usually set to none. It does not affect how the rules in the rule group are evaluated. If you want the rules in the rule group to only count matches, do not use this and instead use the rule action override option, with `Count` action, in your rule group reference statement settings.

## Contents

### Count

Override the rule group evaluation result to count only.

## Note

This option is usually set to none. It does not affect how the rules in the rule group are evaluated. If you want the rules in the rule group to only count matches, do not use this and instead use the rule action override option, with `Count` action, in your rule group reference statement settings.

Type: [CountAction](#) object

Required: No

### None

Don't override the rule group evaluation result. This is the most common setting.

Type: [NoneAction](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# PasswordField

Service: Amazon WAFV2

The name of the field in the request payload that contains your customer's password.

This data type is used in the `RequestInspection` and `RequestInspectionACFP` data types.

## Contents

### Identifier

The name of the password field.

How you specify this depends on the request inspection payload type.

- For JSON payloads, specify the field name in JSON pointer syntax. For information about the JSON Pointer syntax, see the Internet Engineering Task Force (IETF) documentation [JavaScript Object Notation \(JSON\) Pointer](#).

For example, for the JSON payload `{ "form": { "password": "THE_PASSWORD" } }`, the password field specification is `/form/password`.

- For form encoded payload types, use the HTML form names.

For example, for an HTML form with the input element named `password1`, the password field specification is `password1`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 512.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)

- [Amazon SDK for Ruby V3](#)

# PhoneNumberField

Service: Amazon WAFV2

The name of a field in the request payload that contains part or all of your customer's primary phone number.

This data type is used in the `RequestInspectionACFP` data type.

## Contents

### Identifier

The name of a single primary phone number field.

How you specify the phone number fields depends on the request inspection payload type.

- For JSON payloads, specify the field identifiers in JSON pointer syntax. For information about the JSON Pointer syntax, see the Internet Engineering Task Force (IETF) documentation [JavaScript Object Notation \(JSON\) Pointer](#).

For example, for the JSON payload `{ "form": { "primaryphonenumber1": "THE_PHONE1", "primaryphonenumber2": "THE_PHONE2", "primaryphonenumber3": "THE_PHONE3" } }`, the phone number field identifiers are `/form/primaryphonenumber1`, `/form/primaryphonenumber2`, and `/form/primaryphonenumber3`.

- For form encoded payload types, use the HTML form names.

For example, for an HTML form with input elements named `primaryphonenumber1`, `primaryphonenumber2`, and `primaryphonenumber3`, the phone number field identifiers are `primaryphonenumber1`, `primaryphonenumber2`, and `primaryphonenumber3`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 512.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# QueryString

Service: Amazon WAFV2

Inspect the query string of the web request. This is the part of a URL that appears after a ? character, if any.

This is used in the [FieldToMatch](#) specification for some web request component types.

JSON specification: "QueryString": {}

## Contents

The members of this exception structure are context-dependent.

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RateBasedStatement

Service: Amazon WAFV2

A rate-based rule counts incoming requests and rate limits requests when they are coming at too fast a rate. The rule categorizes requests according to your aggregation criteria, collects them into aggregation instances, and counts and rate limits the requests for each instance.

## Note

If you change any of these settings in a rule that's currently in use, the change resets the rule's rate limiting counts. This can pause the rule's rate limiting activities for up to a minute.

You can specify individual aggregation keys, like IP address or HTTP method. You can also specify aggregation key combinations, like IP address and HTTP method, or HTTP method, query argument, and cookie.

Each unique set of values for the aggregation keys that you specify is a separate aggregation instance, with the value from each key contributing to the aggregation instance definition.

For example, assume the rule evaluates web requests with the following IP address and HTTP method values:

- IP address 10.1.1.1, HTTP method POST
- IP address 10.1.1.1, HTTP method GET
- IP address 127.0.0.0, HTTP method POST
- IP address 10.1.1.1, HTTP method GET

The rule would create different aggregation instances according to your aggregation criteria, for example:

- If the aggregation criteria is just the IP address, then each individual address is an aggregation instance, and Amazon WAF counts requests separately for each. The aggregation instances and request counts for our example would be the following:
  - IP address 10.1.1.1: count 3
  - IP address 127.0.0.0: count 1

- If the aggregation criteria is HTTP method, then each individual HTTP method is an aggregation instance. The aggregation instances and request counts for our example would be the following:
  - HTTP method POST: count 2
  - HTTP method GET: count 2
- If the aggregation criteria is IP address and HTTP method, then each IP address and each HTTP method would contribute to the combined aggregation instance. The aggregation instances and request counts for our example would be the following:
  - IP address 10.1.1.1, HTTP method POST: count 1
  - IP address 10.1.1.1, HTTP method GET: count 2
  - IP address 127.0.0.0, HTTP method POST: count 1

For any n-tuple of aggregation keys, each unique combination of values for the keys defines a separate aggregation instance, which Amazon WAF counts and rate-limits individually.

You can optionally nest another statement inside the rate-based statement, to narrow the scope of the rule so that it only counts and rate limits requests that match the nested statement. You can use this nested scope-down statement in conjunction with your aggregation key specifications or you can just count and rate limit all requests that match the scope-down statement, without additional aggregation. When you choose to just manage all requests that match a scope-down statement, the aggregation instance is singular for the rule.

You cannot nest a `RateBasedStatement` inside another statement, for example inside a `NotStatement` or `OrStatement`. You can define a `RateBasedStatement` inside a web ACL and inside a rule group.

For additional information about the options, see [Rate limiting web requests using rate-based rules](#) in the *Amazon WAF Developer Guide*.

If you only aggregate on the individual IP address or forwarded IP address, you can retrieve the list of IP addresses that Amazon WAF is currently rate limiting for a rule through the API call `GetRateBasedStatementManagedKeys`. This option is not available for other aggregation configurations.

Amazon WAF tracks and manages web requests separately for each instance of a rate-based rule that you use. For example, if you provide the same rate-based rule settings in two web ACLs, each of the two rule statements represents a separate instance of the rate-based rule and gets its own tracking and management by Amazon WAF. If you define a rate-based rule inside a rule group, and

then use that rule group in multiple places, each use creates a separate instance of the rate-based rule that gets its own tracking and management by Amazon WAF.

## Contents

### AggregateKeyType

Setting that indicates how to aggregate the request counts.

#### Note

Web requests that are missing any of the components specified in the aggregation keys are omitted from the rate-based rule evaluation and handling.

- **CONSTANT** - Count and limit the requests that match the rate-based rule's scope-down statement. With this option, the counted requests aren't further aggregated. The scope-down statement is the only specification used. When the count of all requests that satisfy the scope-down statement goes over the limit, Amazon WAF applies the rule action to all requests that satisfy the scope-down statement.

With this option, you must configure the `ScopeDownStatement` property.

- **CUSTOM\_KEYS** - Aggregate the request counts using one or more web request components as the aggregate keys.

With this option, you must specify the aggregate keys in the `CustomKeys` property.

To aggregate on only the IP address or only the forwarded IP address, don't use custom keys. Instead, set the aggregate key type to `IP` or `FORWARDED_IP`.

- **FORWARDED\_IP** - Aggregate the request counts on the first IP address in an HTTP header.

With this option, you must specify the header to use in the `ForwardedIPConfig` property.

To aggregate on a combination of the forwarded IP address with other aggregate keys, use `CUSTOM_KEYS`.

- **IP** - Aggregate the request counts on the IP address from the web request origin.

To aggregate on a combination of the IP address with other aggregate keys, use `CUSTOM_KEYS`.

Type: String

Valid Values: IP | FORWARDED\_IP | CUSTOM\_KEYS | CONSTANT

Required: Yes

## Limit

The limit on requests during the specified evaluation window for a single aggregation instance for the rate-based rule. If the rate-based statement includes a `ScopeDownStatement`, this limit is applied only to the requests that match the statement.

Examples:

- If you aggregate on just the IP address, this is the limit on requests from any single IP address.
- If you aggregate on the HTTP method and the query argument name "city", then this is the limit on requests for any single method, city pair.

Type: Long

Valid Range: Minimum value of 10. Maximum value of 2000000000.

Required: Yes

## CustomKeys

Specifies the aggregate keys to use in a rate-base rule.

Type: Array of [RateBasedStatementCustomKey](#) objects

Array Members: Maximum number of 5 items.

Required: No

## EvaluationWindowSec

The amount of time, in seconds, that Amazon WAF should include in its request counts, looking back from the current time. For example, for a setting of 120, when Amazon WAF checks the rate, it counts the requests for the 2 minutes immediately preceding the current time. Valid settings are 60, 120, 300, and 600.

This setting doesn't determine how often Amazon WAF checks the rate, but how far back it looks each time it checks. Amazon WAF checks the rate about every 10 seconds.

Default: 300 (5 minutes)

Type: Long

Required: No

### ForwardedIPConfig

The configuration for inspecting IP addresses in an HTTP header that you specify, instead of using the IP address that's reported by the web request origin. Commonly, this is the X-Forwarded-For (XFF) header, but you can specify any header name.

#### Note

If the specified header isn't present in the request, Amazon WAF doesn't apply the rule to the web request at all.

This is required if you specify a forwarded IP in the rule's aggregate key settings.

Type: [ForwardedIPConfig](#) object

Required: No

### ScopeDownStatement

An optional nested statement that narrows the scope of the web requests that are evaluated and managed by the rate-based statement. When you use a scope-down statement, the rate-based rule only tracks and rate limits requests that match the scope-down statement. You can use any nestable [Statement](#) in the scope-down statement, and you can nest statements at any level, the same as you can for a rule statement.

Type: [Statement](#) object

Required: No

### See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)

- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RateBasedStatementCustomKey

Service: Amazon WAFV2

Specifies a single custom aggregate key for a rate-base rule.

## Note

Web requests that are missing any of the components specified in the aggregation keys are omitted from the rate-based rule evaluation and handling.

## Contents

### ASN

Use an Autonomous System Number (ASN) derived from the request's originating or forwarded IP address as an aggregate key. Each distinct ASN contributes to the aggregation instance.

Type: [RateLimitAsn](#) object

Required: No

### Cookie

Use the value of a cookie in the request as an aggregate key. Each distinct value in the cookie contributes to the aggregation instance. If you use a single cookie as your custom key, then each value fully defines an aggregation instance.

Type: [RateLimitCookie](#) object

Required: No

### ForwardedIP

Use the first IP address in an HTTP header as an aggregate key. Each distinct forwarded IP address contributes to the aggregation instance.

When you specify an IP or forwarded IP in the custom key settings, you must also specify at least one other key to use. You can aggregate on only the forwarded IP address by specifying `FORWARDED_IP` in your rate-based statement's `AggregateKeyType`.

With this option, you must specify the header to use in the rate-based rule's `ForwardedIPConfig` property.

Type: [RateLimitForwardedIP](#) object

Required: No

## Header

Use the value of a header in the request as an aggregate key. Each distinct value in the header contributes to the aggregation instance. If you use a single header as your custom key, then each value fully defines an aggregation instance.

Type: [RateLimitHeader](#) object

Required: No

## HTTPMethod

Use the request's HTTP method as an aggregate key. Each distinct HTTP method contributes to the aggregation instance. If you use just the HTTP method as your custom key, then each method fully defines an aggregation instance.

Type: [RateLimitHTTPMethod](#) object

Required: No

## IP

Use the request's originating IP address as an aggregate key. Each distinct IP address contributes to the aggregation instance.

When you specify an IP or forwarded IP in the custom key settings, you must also specify at least one other key to use. You can aggregate on only the IP address by specifying IP in your rate-based statement's `AggregateKeyType`.

Type: [RateLimitIP](#) object

Required: No

## JA3Fingerprint

Use the request's JA3 fingerprint as an aggregate key. If you use a single JA3 fingerprint as your custom key, then each value fully defines an aggregation instance.

Type: [RateLimitJA3Fingerprint](#) object

Required: No

## JA4Fingerprint

Use the request's JA4 fingerprint as an aggregate key. If you use a single JA4 fingerprint as your custom key, then each value fully defines an aggregation instance.

Type: [RateLimitJA4Fingerprint](#) object

Required: No

## LabelNamespace

Use the specified label namespace as an aggregate key. Each distinct fully qualified label name that has the specified label namespace contributes to the aggregation instance. If you use just one label namespace as your custom key, then each label name fully defines an aggregation instance.

This uses only labels that have been added to the request by rules that are evaluated before this rate-based rule in the web ACL.

For information about label namespaces and names, see [Label syntax and naming requirements](#) in the *Amazon WAF Developer Guide*.

Type: [RateLimitLabelNamespace](#) object

Required: No

## QueryArgument

Use the specified query argument as an aggregate key. Each distinct value for the named query argument contributes to the aggregation instance. If you use a single query argument as your custom key, then each value fully defines an aggregation instance.

Type: [RateLimitQueryArgument](#) object

Required: No

## QueryString

Use the request's query string as an aggregate key. Each distinct string contributes to the aggregation instance. If you use just the query string as your custom key, then each string fully defines an aggregation instance.

Type: [RateLimitQueryString](#) object

Required: No

## UriPath

Use the request's URI path as an aggregate key. Each distinct URI path contributes to the aggregation instance. If you use just the URI path as your custom key, then each URI path fully defines an aggregation instance.

Type: [RateLimitUriPath](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RateBasedStatementManagedKeysIPSet

Service: Amazon WAFV2

The set of IP addresses that are currently blocked for a [RateBasedStatement](#). This is only available for rate-based rules that aggregate on just the IP address, with the `AggregateKeyType` set to `IP` or `FORWARDED_IP`.

A rate-based rule applies its rule action to requests from IP addresses that are in the rule's managed keys list and that match the rule's scope-down statement. When a rule has no scope-down statement, it applies the action to all requests from the IP addresses that are in the list. The rule applies its rule action to rate limit the matching requests. The action is usually `Block` but it can be any valid rule action except for `Allow`.

The maximum number of IP addresses that can be rate limited by a single rate-based rule instance is 10,000. If more than 10,000 addresses exceed the rate limit, Amazon WAF limits those with the highest rates.

## Contents

### Addresses

The IP addresses that are currently blocked.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 50.

Pattern: `.*\S.*`

Required: No

### IPAddressVersion

The version of the IP addresses, either `IPV4` or `IPV6`.

Type: String

Valid Values: `IPV4` | `IPV6`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RateLimitAsn

Service: Amazon WAFV2

Specifies an Autonomous System Number (ASN) derived from the request's originating or forwarded IP address as an aggregate key for a rate-based rule. Each distinct ASN contributes to the aggregation instance. If you use a single ASN as your custom key, then each ASN fully defines an aggregation instance.

## Contents

The members of this exception structure are context-dependent.

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RateLimitCookie

Service: Amazon WAFV2

Specifies a cookie as an aggregate key for a rate-based rule. Each distinct value in the cookie contributes to the aggregation instance. If you use a single cookie as your custom key, then each value fully defines an aggregation instance.

## Contents

### Name

The name of the cookie to use.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `.*\S.*`

Required: Yes

### TextTransformations

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass detection. Text transformations are used in rule match statements, to transform the `FieldToMatch` request component before inspecting it, and they're used in rate-based rule statements, to transform request components before using them as custom aggregation keys. If you specify one or more transformations to apply, Amazon WAF performs all transformations on the specified content, starting from the lowest priority setting, and then uses the transformed component contents.

Type: Array of [TextTransformation](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RateLimitForwardedIP

Service: Amazon WAFV2

Specifies the first IP address in an HTTP header as an aggregate key for a rate-based rule. Each distinct forwarded IP address contributes to the aggregation instance.

This setting is used only in the `RateBasedStatementCustomKey` specification of a rate-based rule statement. When you specify an IP or forwarded IP in the custom key settings, you must also specify at least one other key to use. You can aggregate on only the forwarded IP address by specifying `FORWARDED_IP` in your rate-based statement's `AggregateKeyType`.

This data type supports using the forwarded IP address in the web request aggregation for a rate-based rule, in `RateBasedStatementCustomKey`. The JSON specification for using the forwarded IP address doesn't explicitly use this data type.

JSON specification: `"ForwardedIP": {}`

When you use this specification, you must also configure the forwarded IP address in the rate-based statement's `ForwardedIPConfig`.

## Contents

The members of this exception structure are context-dependent.

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RateLimitHeader

Service: Amazon WAFV2

Specifies a header as an aggregate key for a rate-based rule. Each distinct value in the header contributes to the aggregation instance. If you use a single header as your custom key, then each value fully defines an aggregation instance.

## Contents

### Name

The name of the header to use.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `.*\S.*`

Required: Yes

### TextTransformations

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass detection. Text transformations are used in rule match statements, to transform the `FieldToMatch` request component before inspecting it, and they're used in rate-based rule statements, to transform request components before using them as custom aggregation keys. If you specify one or more transformations to apply, Amazon WAF performs all transformations on the specified content, starting from the lowest priority setting, and then uses the transformed component contents.

Type: Array of [TextTransformation](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RateLimitHTTPMethod

Service: Amazon WAFV2

Specifies the request's HTTP method as an aggregate key for a rate-based rule. Each distinct HTTP method contributes to the aggregation instance. If you use just the HTTP method as your custom key, then each method fully defines an aggregation instance.

JSON specification: "RateLimitHTTPMethod": {}

## Contents

The members of this exception structure are context-dependent.

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RateLimitIP

Service: Amazon WAFV2

Specifies the IP address in the web request as an aggregate key for a rate-based rule. Each distinct IP address contributes to the aggregation instance.

This setting is used only in the `RateBasedStatementCustomKey` specification of a rate-based rule statement. To use this in the custom key settings, you must specify at least one other key to use, along with the IP address. To aggregate on only the IP address, in your rate-based statement's `AggregateKeyType`, specify `IP`.

JSON specification: `"RateLimitIP": {}`

## Contents

The members of this exception structure are context-dependent.

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RateLimitJA3Fingerprint

Service: Amazon WAFV2

Use the request's JA3 fingerprint derived from the TLS Client Hello of an incoming request as an aggregate key. If you use a single JA3 fingerprint as your custom key, then each value fully defines an aggregation instance.

## Contents

### FallbackBehavior

The match status to assign to the web request if there is insufficient TSL Client Hello information to compute the JA3 fingerprint.

You can specify the following fallback behaviors:

- **MATCH** - Treat the web request as matching the rule statement. Amazon WAF applies the rule action to the request.
- **NO\_MATCH** - Treat the web request as not matching the rule statement.

Type: String

Valid Values: MATCH | NO\_MATCH

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RateLimitJA4Fingerprint

Service: Amazon WAFV2

Use the request's JA4 fingerprint derived from the TLS Client Hello of an incoming request as an aggregate key. If you use a single JA4 fingerprint as your custom key, then each value fully defines an aggregation instance.

## Contents

### FallbackBehavior

The match status to assign to the web request if there is insufficient TSL Client Hello information to compute the JA4 fingerprint.

You can specify the following fallback behaviors:

- **MATCH** - Treat the web request as matching the rule statement. Amazon WAF applies the rule action to the request.
- **NO\_MATCH** - Treat the web request as not matching the rule statement.

Type: String

Valid Values: MATCH | NO\_MATCH

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RateLimitLabelNamespace

Service: Amazon WAFV2

Specifies a label namespace to use as an aggregate key for a rate-based rule. Each distinct fully qualified label name that has the specified label namespace contributes to the aggregation instance. If you use just one label namespace as your custom key, then each label name fully defines an aggregation instance.

This uses only labels that have been added to the request by rules that are evaluated before this rate-based rule in the web ACL.

For information about label namespaces and names, see [Label syntax and naming requirements](#) in the *Amazon WAF Developer Guide*.

## Contents

### Namespace

The namespace to use for aggregation.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Pattern: `^[0-9A-Za-z_\-\:]+\:$`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RateLimitQueryArgument

Service: Amazon WAFV2

Specifies a query argument in the request as an aggregate key for a rate-based rule. Each distinct value for the named query argument contributes to the aggregation instance. If you use a single query argument as your custom key, then each value fully defines an aggregation instance.

## Contents

### Name

The name of the query argument to use.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `.*\S.*`

Required: Yes

### TextTransformations

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass detection. Text transformations are used in rule match statements, to transform the `FieldToMatch` request component before inspecting it, and they're used in rate-based rule statements, to transform request components before using them as custom aggregation keys. If you specify one or more transformations to apply, Amazon WAF performs all transformations on the specified content, starting from the lowest priority setting, and then uses the transformed component contents.

Type: Array of [TextTransformation](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RateLimitQueryString

Service: Amazon WAFV2

Specifies the request's query string as an aggregate key for a rate-based rule. Each distinct string contributes to the aggregation instance. If you use just the query string as your custom key, then each string fully defines an aggregation instance.

## Contents

### TextTransformations

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass detection. Text transformations are used in rule match statements, to transform the `FieldToMatch` request component before inspecting it, and they're used in rate-based rule statements, to transform request components before using them as custom aggregation keys. If you specify one or more transformations to apply, Amazon WAF performs all transformations on the specified content, starting from the lowest priority setting, and then uses the transformed component contents.

Type: Array of [TextTransformation](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RateLimitUriPath

Service: Amazon WAFV2

Specifies the request's URI path as an aggregate key for a rate-based rule. Each distinct URI path contributes to the aggregation instance. If you use just the URI path as your custom key, then each URI path fully defines an aggregation instance.

## Contents

### TextTransformations

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass detection. Text transformations are used in rule match statements, to transform the `FieldToMatch` request component before inspecting it, and they're used in rate-based rule statements, to transform request components before using them as custom aggregation keys. If you specify one or more transformations to apply, Amazon WAF performs all transformations on the specified content, starting from the lowest priority setting, and then uses the transformed component contents.

Type: Array of [TextTransformation](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# Regex

Service: Amazon WAFV2

A single regular expression. This is used in a [RegexPatternSet](#) and also in the configuration for the Amazon Managed Rules rule group `AWSManagedRulesAntiDDoSRuleSet`.

## Contents

### RegexString

The string representing the regular expression.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 512.

Pattern: .\*

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RegexMatchStatement

Service: Amazon WAFV2

A rule statement used to search web request components for a match against a single regular expression.

## Contents

### FieldToMatch

The part of the web request that you want Amazon WAF to inspect.

Type: [FieldToMatch](#) object

Required: Yes

### RegexString

The string representing the regular expression.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 512.

Pattern: . \*

Required: Yes

### TextTransformations

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass detection. Text transformations are used in rule match statements, to transform the `FieldToMatch` request component before inspecting it, and they're used in rate-based rule statements, to transform request components before using them as custom aggregation keys. If you specify one or more transformations to apply, Amazon WAF performs all transformations on the specified content, starting from the lowest priority setting, and then uses the transformed component contents.

Type: Array of [TextTransformation](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RegexPatternSet

Service: Amazon WAFV2

Contains one or more regular expressions.

Amazon WAF assigns an ARN to each `RegexPatternSet` that you create. To use a set in a rule, you provide the ARN to the [Rule](#) statement [RegexPatternSetReferenceStatement](#).

## Contents

### ARN

The Amazon Resource Name (ARN) of the entity.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: No

### Description

A description of the set that helps with identification.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `^\[\w+=: #@/\- , \. ]\[\w+=: #@/\- , \. \s ]+\[\w+=: #@/\- , \. ]$`

Required: No

### Id

A unique identifier for the set. This ID is returned in the responses to create and list commands. You provide it to operations like update and delete.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: No

### Name

The name of the set. You cannot change the name after you create the set.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\w\ -]+$`

Required: No

### RegularExpressionList

The regular expression patterns in the set.

Type: Array of [Regex](#) objects

Required: No

### See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RegexPatternSetReferenceStatement

Service: Amazon WAFV2

A rule statement used to search web request components for matches with regular expressions. To use this, create a [RegexPatternSet](#) that specifies the expressions that you want to detect, then use the ARN of that set in this statement. A web request matches the pattern set rule statement if the request component matches any of the patterns in the set. To create a regex pattern set, see [CreateRegexPatternSet](#).

Each regex pattern set rule statement references a regex pattern set. You create and maintain the set independent of your rules. This allows you to use the single set in multiple rules. When you update the referenced set, Amazon WAF automatically updates all rules that reference it.

## Contents

### ARN

The Amazon Resource Name (ARN) of the [RegexPatternSet](#) that this statement references.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: Yes

### FieldToMatch

The part of the web request that you want Amazon WAF to inspect.

Type: [FieldToMatch](#) object

Required: Yes

### TextTransformations

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass detection. Text transformations are used in rule match statements, to transform the `FieldToMatch` request component before inspecting it, and they're used in rate-based rule statements, to transform request components before using them as custom aggregation keys. If you specify one or more transformations to apply, Amazon WAF

performs all transformations on the specified content, starting from the lowest priority setting, and then uses the transformed component contents.

Type: Array of [TextTransformation](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RegexPatternSetSummary

Service: Amazon WAFV2

High-level information about a [RegexPatternSet](#), returned by operations like create and list. This provides information like the ID, that you can use to retrieve and manage a `RegexPatternSet`, and the ARN, that you provide to the [RegexPatternSetReferenceStatement](#) to use the pattern set in a [Rule](#).

## Contents

### ARN

The Amazon Resource Name (ARN) of the entity.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: No

### Description

A description of the set that helps with identification.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `^\[\w+=:#{@/\-,\.\}[\w+=:#{@/\-,\.\s}]+\[\w+=:#{@/\-,\.\}]$`

Required: No

### Id

A unique identifier for the set. This ID is returned in the responses to create and list commands. You provide it to operations like update and delete.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: No

## LockToken

A token used for optimistic locking. Amazon WAF returns a token to your `get` and `list` requests, to mark the state of the entity at the time of the request. To make changes to the entity associated with the token, you provide the token to operations like `update` and `delete`. Amazon WAF uses the token to ensure that no changes have been made to the entity since you last retrieved it. If a change has been made, the update fails with a `WAFOptimisticLockException`. If this happens, perform another `get`, and use the new token returned by that operation.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: No

## Name

The name of the data type instance. You cannot change the name after you create the instance.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ReleaseSummary

Service: Amazon WAFV2

High level information for an SDK release.

## Contents

### ReleaseVersion

The release version.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `^[\w#:\.\-\/]+$`

Required: No

### Timestamp

The timestamp of the release.

Type: Timestamp

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RequestBodyAssociatedResourceTypeConfig

Service: Amazon WAFV2

Customizes the maximum size of the request body that your protected CloudFront, API Gateway, Amazon Cognito, App Runner, and Verified Access resources forward to Amazon WAF for inspection. The default size is 16 KB (16,384 bytes). You can change the setting for any of the available resource types.

## Note

You are charged additional fees when your protected resources forward body sizes that are larger than the default. For more information, see [Amazon WAF Pricing](#).

Example JSON: { "API\_GATEWAY": "KB\_48", "APP\_RUNNER\_SERVICE": "KB\_32" }

For Application Load Balancer and Amazon AppSync, the limit is fixed at 8 KB (8,192 bytes).

This is used in the AssociationConfig of the web ACL.

## Contents

### DefaultSizeInspectionLimit

Specifies the maximum size of the web request body component that an associated CloudFront, API Gateway, Amazon Cognito, App Runner, or Verified Access resource should send to Amazon WAF for inspection. This applies to statements in the web ACL that inspect the body or JSON body.

Default: 16 KB (16,384 bytes)

Type: String

Valid Values: KB\_16 | KB\_32 | KB\_48 | KB\_64

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RequestInspection

Service: Amazon WAFV2

The criteria for inspecting login requests, used by the ATP rule group to validate credentials usage.

This is part of the `AWSManagedRulesATPRuleSet` configuration in `ManagedRuleGroupConfig`.

In these settings, you specify how your application accepts login attempts by providing the request payload type and the names of the fields within the request body where the username and password are provided.

## Contents

### PasswordField

The name of the field in the request payload that contains your customer's password.

How you specify this depends on the request inspection payload type.

- For JSON payloads, specify the field name in JSON pointer syntax. For information about the JSON Pointer syntax, see the Internet Engineering Task Force (IETF) documentation [JavaScript Object Notation \(JSON\) Pointer](#).

For example, for the JSON payload `{ "form": { "password": "THE_PASSWORD" } }`, the password field specification is `/form/password`.

- For form encoded payload types, use the HTML form names.

For example, for an HTML form with the input element named `password1`, the password field specification is `password1`.

Type: [PasswordField](#) object

Required: Yes

### PayloadType

The payload type for your login endpoint, either JSON or form encoded.

Type: String

Valid Values: `JSON` | `FORM_ENCODED`

Required: Yes

## UsernameField

The name of the field in the request payload that contains your customer's username.

How you specify this depends on the request inspection payload type.

- For JSON payloads, specify the field name in JSON pointer syntax. For information about the JSON Pointer syntax, see the Internet Engineering Task Force (IETF) documentation [JavaScript Object Notation \(JSON\) Pointer](#).

For example, for the JSON payload { "form": { "username": "THE\_USERNAME" } }, the username field specification is /form/username.

- For form encoded payload types, use the HTML form names.

For example, for an HTML form with the input element named username1, the username field specification is username1

Type: [UsernameField](#) object

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RequestInspectionACFP

Service: Amazon WAFV2

The criteria for inspecting account creation requests, used by the ACFP rule group to validate and track account creation attempts.

This is part of the `AWSManagedRulesACFPRuleSet` configuration in `ManagedRuleGroupConfig`.

In these settings, you specify how your application accepts account creation attempts by providing the request payload type and the names of the fields within the request body where the username, password, email, and primary address and phone number fields are provided.

## Contents

### PayloadType

The payload type for your account creation endpoint, either JSON or form encoded.

Type: String

Valid Values: JSON | FORM\_ENCODED

Required: Yes

### AddressFields

The names of the fields in the request payload that contain your customer's primary physical address.

Order the address fields in the array exactly as they are ordered in the request payload.

How you specify the address fields depends on the request inspection payload type.

- For JSON payloads, specify the field identifiers in JSON pointer syntax. For information about the JSON Pointer syntax, see the Internet Engineering Task Force (IETF) documentation [JavaScript Object Notation \(JSON\) Pointer](#).

For example, for the JSON payload `{ "form": { "primaryaddressline1": "THE_ADDRESS1", "primaryaddressline2": "THE_ADDRESS2", "primaryaddressline3": "THE_ADDRESS3" } }`, the address field identifiers are `/form/primaryaddressline1`, `/form/primaryaddressline2`, and `/form/primaryaddressline3`.

- For form encoded payload types, use the HTML form names.

For example, for an HTML form with input elements named `primaryaddressline1`, `primaryaddressline2`, and `primaryaddressline3`, the address fields identifiers are `primaryaddressline1`, `primaryaddressline2`, and `primaryaddressline3`.

Type: Array of [AddressField](#) objects

Required: No

## EmailField

The name of the field in the request payload that contains your customer's email.

How you specify this depends on the request inspection payload type.

- For JSON payloads, specify the field name in JSON pointer syntax. For information about the JSON Pointer syntax, see the Internet Engineering Task Force (IETF) documentation [JavaScript Object Notation \(JSON\) Pointer](#).

For example, for the JSON payload `{ "form": { "email": "THE_EMAIL" } }`, the email field specification is `/form/email`.

- For form encoded payload types, use the HTML form names.

For example, for an HTML form with the input element named `email1`, the email field specification is `email1`.

Type: [EmailField](#) object

Required: No

## PasswordField

The name of the field in the request payload that contains your customer's password.

How you specify this depends on the request inspection payload type.

- For JSON payloads, specify the field name in JSON pointer syntax. For information about the JSON Pointer syntax, see the Internet Engineering Task Force (IETF) documentation [JavaScript Object Notation \(JSON\) Pointer](#).

For example, for the JSON payload `{ "form": { "password": "THE_PASSWORD" } }`, the password field specification is `/form/password`.

- For form encoded payload types, use the HTML form names.

For example, for an HTML form with the input element named `password1`, the password field specification is `password1`.

Type: [PasswordField](#) object

Required: No

## PhoneNumberFields

The names of the fields in the request payload that contain your customer's primary phone number.

Order the phone number fields in the array exactly as they are ordered in the request payload.

How you specify the phone number fields depends on the request inspection payload type.

- For JSON payloads, specify the field identifiers in JSON pointer syntax. For information about the JSON Pointer syntax, see the Internet Engineering Task Force (IETF) documentation [JavaScript Object Notation \(JSON\) Pointer](#).

For example, for the JSON payload `{ "form": { "primaryphonenumber1": "THE_PHONE1", "primaryphonenumber2": "THE_PHONE2", "primaryphonenumber3": "THE_PHONE3" } }`, the phone number field identifiers are `/form/primaryphonenumber1`, `/form/primaryphonenumber2`, and `/form/primaryphonenumber3`.

- For form encoded payload types, use the HTML form names.

For example, for an HTML form with input elements named `primaryphonenumber1`, `primaryphonenumber2`, and `primaryphonenumber3`, the phone number field identifiers are `primaryphonenumber1`, `primaryphonenumber2`, and `primaryphonenumber3`.

Type: Array of [PhoneNumberField](#) objects

Required: No

## UsernameField

The name of the field in the request payload that contains your customer's username.

How you specify this depends on the request inspection payload type.

- For JSON payloads, specify the field name in JSON pointer syntax. For information about the JSON Pointer syntax, see the Internet Engineering Task Force (IETF) documentation [JavaScript Object Notation \(JSON\) Pointer](#).

For example, for the JSON payload { "form": { "username": "THE\_USERNAME" } }, the username field specification is /form/username.

- For form encoded payload types, use the HTML form names.

For example, for an HTML form with the input element named username1, the username field specification is username1

Type: [UsernameField](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ResponseInspection

Service: Amazon WAFV2

The criteria for inspecting responses to login requests and account creation requests, used by the ATP and ACFP rule groups to track login and account creation success and failure rates.

## Note

Response inspection is available only in web ACLs that protect Amazon CloudFront distributions.

The rule groups evaluates the responses that your protected resources send back to client login and account creation attempts, keeping count of successful and failed attempts from each IP address and client session. Using this information, the rule group labels and mitigates requests from client sessions and IP addresses with too much suspicious activity in a short amount of time.

This is part of the `AWSManagedRulesATPRuleSet` and `AWSManagedRulesACFPRuleSet` configurations in `ManagedRuleGroupConfig`.

Enable response inspection by configuring exactly one component of the response to inspect, for example, `Header` or `StatusCode`. You can't configure more than one component for inspection. If you don't configure any of the response inspection options, response inspection is disabled.

## Contents

### BodyContains

Configures inspection of the response body for success and failure indicators. Amazon WAF can inspect the first 65,536 bytes (64 KB) of the response body.

Type: [ResponseInspectionBodyContains](#) object

Required: No

### Header

Configures inspection of the response header for success and failure indicators.

Type: [ResponseInspectionHeader](#) object

Required: No

## Json

Configures inspection of the response JSON for success and failure indicators. Amazon WAF can inspect the first 65,536 bytes (64 KB) of the response JSON.

Type: [ResponseInspectionJson](#) object

Required: No

## StatusCode

Configures inspection of the response status code for success and failure indicators.

Type: [ResponseInspectionStatusCode](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ResponseInspectionBodyContains

Service: Amazon WAFV2

Configures inspection of the response body. Amazon WAF can inspect the first 65,536 bytes (64 KB) of the response body. This is part of the `ResponseInspection` configuration for `AWSManagedRulesATPRuleSet` and `AWSManagedRulesACFPRuleSet`.

## Note

Response inspection is available only in web ACLs that protect Amazon CloudFront distributions.

## Contents

### FailureStrings

Strings in the body of the response that indicate a failed login or account creation attempt. To be counted as a failure, the string can be anywhere in the body and must be an exact match, including case. Each string must be unique among the success and failure strings.

JSON example: `"FailureStrings": [ "Request failed" ]`

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 5 items.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `.*\S.*`

Required: Yes

### SuccessStrings

Strings in the body of the response that indicate a successful login or account creation attempt. To be counted as a success, the string can be anywhere in the body and must be an exact match, including case. Each string must be unique among the success and failure strings.

JSON examples: `"SuccessStrings": [ "Login successful" ]` and `"SuccessStrings": [ "Account creation successful", "Welcome to our site!" ]`

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 5 items.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ResponseInspectionHeader

Service: Amazon WAFV2

Configures inspection of the response header. This is part of the `ResponseInspection` configuration for `AWSManagedRulesATPRuleSet` and `AWSManagedRulesACFPRuleSet`.

## Note

Response inspection is available only in web ACLs that protect Amazon CloudFront distributions.

## Contents

### FailureValues

Values in the response header with the specified name that indicate a failed login or account creation attempt. To be counted as a failure, the value must be an exact match, including case. Each value must be unique among the success and failure values.

JSON examples: `"FailureValues": [ "LoginFailed", "Failed login" ]` and `"FailureValues": [ "AccountCreationFailed" ]`

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 3 items.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `.*\S.*`

Required: Yes

### Name

The name of the header to match against. The name must be an exact match, including case.

JSON example: `"Name": [ "RequestResult" ]`

Type: String

Length Constraints: Minimum length of 1. Maximum length of 200.

Pattern: `.*\S.*`

Required: Yes

### SuccessValues

Values in the response header with the specified name that indicate a successful login or account creation attempt. To be counted as a success, the value must be an exact match, including case. Each value must be unique among the success and failure values.

JSON examples: `"SuccessValues": [ "LoginPassed", "Successful login" ]` and `"SuccessValues": [ "AccountCreated", "Successful account creation" ]`

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 3 items.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `.*\S.*`

Required: Yes

### See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ResponseInspectionJson

Service: Amazon WAFV2

Configures inspection of the response JSON. Amazon WAF can inspect the first 65,536 bytes (64 KB) of the response JSON. This is part of the `ResponseInspection` configuration for `AWSManagedRulesATPRuleSet` and `AWSManagedRulesACFPRuleSet`.

## Note

Response inspection is available only in web ACLs that protect Amazon CloudFront distributions.

## Contents

### FailureValues

Values for the specified identifier in the response JSON that indicate a failed login or account creation attempt. To be counted as a failure, the value must be an exact match, including case. Each value must be unique among the success and failure values.

JSON example: `"FailureValues": [ "False", "Failed" ]`

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 5 items.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `.*\S.*`

Required: Yes

### Identifier

The identifier for the value to match against in the JSON. The identifier must be an exact match, including case.

JSON examples: `"Identifier": [ "/login/success" ]` and `"Identifier": [ "/sign-up/success" ]`

Type: String

Length Constraints: Minimum length of 1. Maximum length of 512.

Pattern: `.*\S.*`

Required: Yes

## SuccessValues

Values for the specified identifier in the response JSON that indicate a successful login or account creation attempt. To be counted as a success, the value must be an exact match, including case. Each value must be unique among the success and failure values.

JSON example: `"SuccessValues": [ "True", "Succeeded" ]`

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 5 items.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ResponseInspectionStatusCode

Service: Amazon WAFV2

Configures inspection of the response status code. This is part of the `ResponseInspection` configuration for `AWSManagedRulesATPRuleSet` and `AWSManagedRulesACFPRuleSet`.

## Note

Response inspection is available only in web ACLs that protect Amazon CloudFront distributions.

## Contents

### FailureCodes

Status codes in the response that indicate a failed login or account creation attempt. To be counted as a failure, the response status code must match one of these. Each code must be unique among the success and failure status codes.

JSON example: `"FailureCodes": [ 400, 404 ]`

Type: Array of integers

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Valid Range: Minimum value of 0. Maximum value of 999.

Required: Yes

### SuccessCodes

Status codes in the response that indicate a successful login or account creation attempt. To be counted as a success, the response status code must match one of these. Each code must be unique among the success and failure status codes.

JSON example: `"SuccessCodes": [ 200, 201 ]`

Type: Array of integers

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Valid Range: Minimum value of 0. Maximum value of 999.

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# Rule

Service: Amazon WAFV2

A single rule, which you can use in a [WebACL](#) or [RuleGroup](#) to identify web requests that you want to manage in some way. Each rule includes one top-level [Statement](#) that Amazon WAF uses to identify matching web requests, and parameters that govern how Amazon WAF handles them.

## Contents

### Name

The name of the rule.

If you change the name of a Rule after you create it and you want the rule's metric name to reflect the change, update the metric name in the rule's `VisibilityConfig` settings. Amazon WAF doesn't automatically update the metric name when you update the rule name.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: Yes

### Priority

If you define more than one Rule in a WebACL, Amazon WAF evaluates each request against the Rules in order based on the value of `Priority`. Amazon WAF processes rules with lower priority first. The priorities don't need to be consecutive, but they must all be different.

Type: Integer

Valid Range: Minimum value of 0.

Required: Yes

### Statement

The Amazon WAF processing statement for the rule, for example [ByteMatchStatement](#) or [SizeConstraintStatement](#).

Type: [Statement](#) object

Required: Yes

## VisibilityConfig

Defines and enables Amazon CloudWatch metrics and web request sample collection.

If you change the name of a Rule after you create it and you want the rule's metric name to reflect the change, update the metric name as well. Amazon WAF doesn't automatically update the metric name.

Type: [VisibilityConfig](#) object

Required: Yes

## Action

The action that Amazon WAF should take on a web request when it matches the rule statement. Settings at the web ACL level can override the rule action setting.

This is used only for rules whose statements do not reference a rule group. Rule statements that reference a rule group include `RuleGroupReferenceStatement` and `ManagedRuleGroupStatement`.

You must specify either this Action setting or the rule `OverrideAction` setting, but not both:

- If the rule statement does not reference a rule group, use this rule action setting and not the rule override action setting.
- If the rule statement references a rule group, use the override action setting and not this action setting.

Type: [RuleAction](#) object

Required: No

## CaptchaConfig

Specifies how Amazon WAF should handle CAPTCHA evaluations. If you don't specify this, Amazon WAF uses the CAPTCHA configuration that's defined for the web ACL.

Type: [CaptchaConfig](#) object

Required: No

## ChallengeConfig

Specifies how Amazon WAF should handle Challenge evaluations. If you don't specify this, Amazon WAF uses the challenge configuration that's defined for the web ACL.

Type: [ChallengeConfig](#) object

Required: No

## OverrideAction

The action to use in the place of the action that results from the rule group evaluation. Set the override action to none to leave the result of the rule group alone. Set it to count to override the result to count only.

You can only use this for rule statements that reference a rule group, like `RuleGroupReferenceStatement` and `ManagedRuleGroupStatement`.

### Note

This option is usually set to none. It does not affect how the rules in the rule group are evaluated. If you want the rules in the rule group to only count matches, do not use this and instead use the rule action override option, with Count action, in your rule group reference statement settings.

Type: [OverrideAction](#) object

Required: No

## RuleLabels

Labels to apply to web requests that match the rule match statement. Amazon WAF applies fully qualified labels to matching web requests. A fully qualified label is the concatenation of a label namespace and a rule label. The rule's rule group or web ACL defines the label namespace.

### Note

Any rule that isn't a rule group reference statement or managed rule group statement can add labels to matching web requests.

Rules that run after this rule in the web ACL can match against these labels using a `LabelMatchStatement`.

For each label, provide a case-sensitive string containing optional namespaces and a label name, according to the following guidelines:

- Separate each component of the label with a colon.
- Each namespace or name can have up to 128 characters.
- You can specify up to 5 namespaces in a label.
- Don't use the following reserved words in your label specification: `aws`, `waf`, `managed`, `rulegroup`, `webacl`, `regexpatternset`, or `ipset`.

For example, `myLabelName` or `nameSpace1:nameSpace2:myLabelName`.

Type: Array of [Label](#) objects

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RuleAction

Service: Amazon WAFV2

The action that Amazon WAF should take on a web request when it matches a rule's statement. Settings at the web ACL level can override the rule action setting.

## Contents

### Allow

Instructs Amazon WAF to allow the web request.

Type: [AllowAction](#) object

Required: No

### Block

Instructs Amazon WAF to block the web request.

Type: [BlockAction](#) object

Required: No

### Captcha

Instructs Amazon WAF to run a CAPTCHA check against the web request.

Type: [CaptchaAction](#) object

Required: No

### Challenge

Instructs Amazon WAF to run a Challenge check against the web request.

Type: [ChallengeAction](#) object

Required: No

### Count

Instructs Amazon WAF to count the web request and then continue evaluating the request using the remaining rules in the web ACL.

Type: [CountAction](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RuleActionOverride

Service: Amazon WAFV2

Action setting to use in the place of a rule action that is configured inside the rule group. You specify one override for each rule whose action you want to change.

## Note

Verify the rule names in your overrides carefully. With managed rule groups, Amazon WAF silently ignores any override that uses an invalid rule name. With customer-owned rule groups, invalid rule names in your overrides will cause web ACL updates to fail. An invalid rule name is any name that doesn't exactly match the case-sensitive name of an existing rule in the rule group.

You can use overrides for testing, for example you can override all of rule actions to Count and then monitor the resulting count metrics to understand how the rule group would handle your web traffic. You can also permanently override some or all actions, to modify how the rule group manages your web traffic.

## Contents

### ActionToUse

The override action to use, in place of the configured action of the rule in the rule group.

Type: [RuleAction](#) object

Required: Yes

### Name

The name of the rule to override.

## Note

Verify the rule names in your overrides carefully. With managed rule groups, Amazon WAF silently ignores any override that uses an invalid rule name. With customer-owned rule groups, invalid rule names in your overrides will cause web ACL updates to fail. An

invalid rule name is any name that doesn't exactly match the case-sensitive name of an existing rule in the rule group.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RuleGroup

Service: Amazon WAFV2

A rule group defines a collection of rules to inspect and control web requests that you can use in a [WebACL](#). When you create a rule group, you define an immutable capacity limit. If you update a rule group, you must stay within the capacity. This allows others to reuse the rule group with confidence in its capacity requirements.

## Contents

### ARN

The Amazon Resource Name (ARN) of the entity.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: Yes

### Capacity

The web ACL capacity units (WCUs) required for this rule group.

When you create your own rule group, you define this, and you cannot change it after creation. When you add or modify the rules in a rule group, Amazon WAF enforces this limit. You can check the capacity for a set of rules using [CheckCapacity](#).

Amazon WAF uses WCUs to calculate and control the operating resources that are used to run your rules, rule groups, and web ACLs. Amazon WAF calculates capacity differently for each rule type, to reflect the relative cost of each rule. Simple rules that cost little to run use fewer WCUs than more complex rules that use more processing power. Rule group capacity is fixed at creation, which helps users plan their web ACL WCU usage when they use a rule group. For more information, see [Amazon WAF web ACL capacity units \(WCU\)](#) in the *Amazon WAF Developer Guide*.

Type: Long

Valid Range: Minimum value of 1.

Required: Yes

## Id

A unique identifier for the rule group. This ID is returned in the responses to create and list commands. You provide it to operations like update and delete.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: Yes

## Name

The name of the rule group. You cannot change the name of a rule group after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: Yes

## VisibilityConfig

Defines and enables Amazon CloudWatch metrics and web request sample collection.

Type: [VisibilityConfig](#) object

Required: Yes

## AvailableLabels

The labels that one or more rules in this rule group add to matching web requests. These labels are defined in the `RuleLabels` for a [Rule](#).

Type: Array of [LabelSummary](#) objects

Required: No

## ConsumedLabels

The labels that one or more rules in this rule group match against in label match statements. These labels are defined in a `LabelMatchStatement` specification, in the [Statement](#) definition of a rule.

Type: Array of [LabelSummary](#) objects

Required: No

### CustomResponseBodies

A map of custom response keys and content bodies. When you create a rule with a block action, you can send a custom response to the web request. You define these for the rule group, and then use them in the rules that you define in the rule group.

For information about customizing web requests and responses, see [Customizing web requests and responses in Amazon WAF](#) in the *Amazon WAF Developer Guide*.

For information about the limits on count and size for custom request and response settings, see [Amazon WAF quotas](#) in the *Amazon WAF Developer Guide*.

Type: String to [CustomResponseBody](#) object map

Map Entries: Maximum number of items.

Key Length Constraints: Minimum length of 1. Maximum length of 128.

Key Pattern: `^[\\w\\-]+$`

Required: No

### Description

A description of the rule group that helps with identification.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `^[\\w+=: #@/\\- , \\.] [\\w+=: #@/\\- , \\.\s]+ [\\w+=: #@/\\- , \\.]$`

Required: No

### LabelNamespace

The label namespace prefix for this rule group. All labels added by rules in this rule group have this prefix.

- The syntax for the label namespace prefix for your rule groups is the following:

```
awsaf:<account ID>:rulegroup:<rule group name>:
```

- When a rule with a label matches a web request, Amazon WAF adds the fully qualified label to the request. A fully qualified label is made up of the label namespace from the rule group or web ACL where the rule is defined and the label from the rule, separated by a colon:

```
<label namespace>:<label from rule>
```

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Pattern: `^[0-9A-Za-z_\-:]+$`

Required: No

## Rules

The [Rule](#) statements used to identify the web requests that you want to manage. Each rule includes one top-level statement that Amazon WAF uses to identify matching web requests, and parameters that govern how Amazon WAF handles them.

Type: Array of [Rule](#) objects

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RuleGroupReferenceStatement

Service: Amazon WAFV2

A rule statement used to run the rules that are defined in a [RuleGroup](#). To use this, create a rule group with your rules, then provide the ARN of the rule group in this statement.

You cannot nest a `RuleGroupReferenceStatement`, for example for use inside a `NotStatement` or `OrStatement`. You cannot use a rule group reference statement inside another rule group. You can only reference a rule group as a top-level statement within a rule that you define in a web ACL.

## Contents

### ARN

The Amazon Resource Name (ARN) of the entity.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: Yes

### ExcludedRules

Rules in the referenced rule group whose actions are set to Count.

#### Note

Instead of this option, use `RuleActionOverrides`. It accepts any valid action setting, including `Count`.

Type: Array of [ExcludedRule](#) objects

Array Members: Maximum number of 100 items.

Required: No

## RuleActionOverrides

Action settings to use in the place of the rule actions that are configured inside the rule group. You specify one override for each rule whose action you want to change.

### Note

Verify the rule names in your overrides carefully. With managed rule groups, Amazon WAF silently ignores any override that uses an invalid rule name. With customer-owned rule groups, invalid rule names in your overrides will cause web ACL updates to fail. An invalid rule name is any name that doesn't exactly match the case-sensitive name of an existing rule in the rule group.

You can use overrides for testing, for example you can override all of rule actions to Count and then monitor the resulting count metrics to understand how the rule group would handle your web traffic. You can also permanently override some or all actions, to modify how the rule group manages your web traffic.

Type: Array of [RuleActionOverride](#) objects

Array Members: Maximum number of 100 items.

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RuleGroupSummary

Service: Amazon WAFV2

High-level information about a [RuleGroup](#), returned by operations like `create` and `list`. This provides information like the ID, that you can use to retrieve and manage a `RuleGroup`, and the ARN, that you provide to the [RuleGroupReferenceStatement](#) to use the rule group in a [Rule](#).

## Contents

### ARN

The Amazon Resource Name (ARN) of the entity.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: No

### Description

A description of the rule group that helps with identification.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `^\[\w+=:#@/\-,\.\][\w+=:#@/\-,\.\s]+\[\w+=:#@/\-,\.\]$`

Required: No

### Id

A unique identifier for the rule group. This ID is returned in the responses to `create` and `list` commands. You provide it to operations like `update` and `delete`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: No

## LockToken

A token used for optimistic locking. Amazon WAF returns a token to your `get` and `list` requests, to mark the state of the entity at the time of the request. To make changes to the entity associated with the token, you provide the token to operations like `update` and `delete`. Amazon WAF uses the token to ensure that no changes have been made to the entity since you last retrieved it. If a change has been made, the update fails with a `WAFOptimisticLockException`. If this happens, perform another `get`, and use the new token returned by that operation.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: No

## Name

The name of the data type instance. You cannot change the name after you create the instance.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RuleSummary

Service: Amazon WAFV2

High-level information about a [Rule](#), returned by operations like [DescribeManagedRuleGroup](#). This provides information like the ID, that you can use to retrieve and manage a `RuleGroup`, and the ARN, that you provide to the [RuleGroupReferenceStatement](#) to use the rule group in a [Rule](#).

## Contents

### Action

The action that Amazon WAF should take on a web request when it matches a rule's statement. Settings at the web ACL level can override the rule action setting.

Type: [RuleAction](#) object

Required: No

### Name

The name of the rule.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# SampledHTTPRequest

Service: Amazon WAFV2

Represents a single sampled web request. The response from [GetSampledRequests](#) includes a SampledHTTPRequest complex type that appears as SampledRequests in the response syntax. SampledHTTPRequest contains an array of SampledHTTPRequest objects.

## Contents

### Request

A complex type that contains detailed information about the request.

Type: [HTTPRequest](#) object

Required: Yes

### Weight

A value that indicates how one result in the response relates proportionally to other results in the response. For example, a result that has a weight of 2 represents roughly twice as many web requests as a result that has a weight of 1.

Type: Long

Valid Range: Minimum value of 0.

Required: Yes

### Action

The action that Amazon WAF applied to the request.

Type: String

Required: No

### CaptchaResponse

The CAPTCHA response for the request.

Type: [CaptchaResponse](#) object

Required: No

## ChallengeResponse

The Challenge response for the request.

Type: [ChallengeResponse](#) object

Required: No

## Labels

Labels applied to the web request by matching rules. Amazon WAF applies fully qualified labels to matching web requests. A fully qualified label is the concatenation of a label namespace and a rule label. The rule's rule group or web ACL defines the label namespace.

For example,

`awsawf:111122223333:myRuleGroup:testRules:testNS1:testNS2:labelNameA` or  
`awsawf:managed:aws:managed-rule-set:header:encoding:utf8`.

Type: Array of [Label](#) objects

Required: No

## OverriddenAction

Used only for rule group rules that have a rule action override in place in the web ACL. This is the action that the rule group rule is configured for, and not the action that was applied to the request. The action that Amazon WAF applied is the `Action` value.

Type: String

Required: No

## RequestHeadersInserted

Custom request headers inserted by Amazon WAF into the request, according to the custom request configuration for the matching rule action.

Type: Array of [HTTPHeader](#) objects

Required: No

## ResponseCodeSent

The response code that was sent for the request.

Type: Integer

Valid Range: Minimum value of 200. Maximum value of 599.

Required: No

### **RuleNameWithinRuleGroup**

The name of the Rule that the request matched. For managed rule groups, the format for this name is <vendor name>#<managed rule group name>#<rule name>. For your own rule groups, the format for this name is <rule group name>#<rule name>. If the rule is not in a rule group, this field is absent.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: No

### **Timestamp**

The time at which Amazon WAF received the request from your Amazon resource, in Unix time format (in seconds).

Type: Timestamp

Required: No

### **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# SingleHeader

Service: Amazon WAFV2

Inspect one of the headers in the web request, identified by name, for example, `User-Agent` or `Referer`. The name isn't case sensitive.

You can filter and inspect all headers with the `FieldToMatch` setting `Headers`.

This is used to indicate the web request component to inspect, in the [FieldToMatch](#) specification.

Example JSON: `"SingleHeader": { "Name": "haystack" }`

## Contents

### Name

The name of the query header to inspect.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# SingleQueryArgument

Service: Amazon WAFV2

Inspect one query argument in the web request, identified by name, for example *UserName* or *SalesRegion*. The name isn't case sensitive.

This is used to indicate the web request component to inspect, in the [FieldToMatch](#) specification.

Example JSON: "SingleQueryArgument": { "Name": "myArgument" }

## Contents

### Name

The name of the query argument to inspect.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# SizeConstraintStatement

Service: Amazon WAFV2

A rule statement that compares a number of bytes against the size of a request component, using a comparison operator, such as greater than (>) or less than (<). For example, you can use a size constraint statement to look for query strings that are longer than 100 bytes.

If you configure Amazon WAF to inspect the request body, Amazon WAF inspects only the number of bytes in the body up to the limit for the web ACL and protected resource type. If you know that the request body for your web requests should never exceed the inspection limit, you can use a size constraint statement to block requests that have a larger request body size. For more information about the inspection limits, see [Body](#) and [JsonBody](#) settings for the `FieldToMatch` data type.

If you choose `URI` for the value of `Part` of the request to filter on, the slash (/) in the URI counts as one character. For example, the URI `/logo.jpg` is nine characters long.

## Contents

### ComparisonOperator

The operator to use to compare the request part to the size setting.

Type: String

Valid Values: EQ | NE | LE | LT | GE | GT

Required: Yes

### FieldToMatch

The part of the web request that you want Amazon WAF to inspect.

Type: [FieldToMatch](#) object

Required: Yes

### Size

The size, in byte, to compare to the request part, after any transformations.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 21474836480.

Required: Yes

## TextTransformations

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass detection. Text transformations are used in rule match statements, to transform the `FieldToMatch` request component before inspecting it, and they're used in rate-based rule statements, to transform request components before using them as custom aggregation keys. If you specify one or more transformations to apply, Amazon WAF performs all transformations on the specified content, starting from the lowest priority setting, and then uses the transformed component contents.

Type: Array of [TextTransformation](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# SqliMatchStatement

Service: Amazon WAFV2

A rule statement that inspects for malicious SQL code. Attackers insert malicious SQL code into web requests to do things like modify your database or extract data from it.

## Contents

### FieldToMatch

The part of the web request that you want Amazon WAF to inspect.

Type: [FieldToMatch](#) object

Required: Yes

### TextTransformations

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass detection. Text transformations are used in rule match statements, to transform the `FieldToMatch` request component before inspecting it, and they're used in rate-based rule statements, to transform request components before using them as custom aggregation keys. If you specify one or more transformations to apply, Amazon WAF performs all transformations on the specified content, starting from the lowest priority setting, and then uses the transformed component contents.

Type: Array of [TextTransformation](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

### SensitivityLevel

The sensitivity that you want Amazon WAF to use to inspect for SQL injection attacks.

HIGH detects more attacks, but might generate more false positives, especially if your web requests frequently contain unusual strings. For information about identifying and mitigating false positives, see [Testing and tuning](#) in the *Amazon WAF Developer Guide*.

LOW is generally a better choice for resources that already have other protections against SQL injection attacks or that have a low tolerance for false positives.

Default: LOW

Type: String

Valid Values: LOW | HIGH

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

## Statement

Service: Amazon WAFV2

The processing guidance for a [Rule](#), used by Amazon WAF to determine whether a web request matches the rule.

For example specifications, see the examples section of [CreateWebACL](#).

## Contents

### AndStatement

A logical rule statement used to combine other rule statements with AND logic. You provide more than one [Statement](#) within the AndStatement.

Type: [AndStatement](#) object

Required: No

### AsnMatchStatement

A rule statement that inspects web traffic based on the Autonomous System Number (ASN) associated with the request's IP address.

For additional details, see [ASN match rule statement](#) in the [Amazon WAF Developer Guide](#).

Type: [AsnMatchStatement](#) object

Required: No

### ByteMatchStatement

A rule statement that defines a string match search for Amazon WAF to apply to web requests. The byte match statement provides the bytes to search for, the location in requests that you want Amazon WAF to search, and other settings. The bytes to search for are typically a string that corresponds with ASCII characters. In the Amazon WAF console and the developer guide, this is called a string match statement.

Type: [ByteMatchStatement](#) object

Required: No

## GeoMatchStatement

A rule statement that labels web requests by country and region and that matches against web requests based on country code. A geo match rule labels every request that it inspects regardless of whether it finds a match.

- To manage requests only by country, you can use this statement by itself and specify the countries that you want to match against in the `CountryCodes` array.
- Otherwise, configure your geo match rule with `Count` action so that it only labels requests. Then, add one or more label match rules to run after the geo match rule and configure them to match against the geographic labels and handle the requests as needed.

Amazon WAF labels requests using the alpha-2 country and region codes from the International Organization for Standardization (ISO) 3166 standard. Amazon WAF determines the codes using either the IP address in the web request origin or, if you specify it, the address in the geo match `ForwardedIPConfig`.

If you use the web request origin, the label formats are

`awsaf:clientip:geo:region:<ISO country code>-<ISO region code>` and  
`awsaf:clientip:geo:country:<ISO country code>`.

If you use a forwarded IP address, the label formats are

`awsaf:forwardedip:geo:region:<ISO country code>-<ISO region code>` and  
`awsaf:forwardedip:geo:country:<ISO country code>`.

For additional details, see [Geographic match rule statement](#) in the [Amazon WAF Developer Guide](#).

Type: [GeoMatchStatement](#) object

Required: No

## IPSetReferenceStatement

A rule statement used to detect web requests coming from particular IP addresses or address ranges. To use this, create an [IPSet](#) that specifies the addresses you want to detect, then use the ARN of that set in this statement. To create an IP set, see [CreateIPSet](#).

Each IP set rule statement references an IP set. You create and maintain the set independent of your rules. This allows you to use the single set in multiple rules. When you update the referenced set, Amazon WAF automatically updates all rules that reference it.

Type: [IPSetReferenceStatement](#) object

Required: No

## LabelMatchStatement

A rule statement to match against labels that have been added to the web request by rules that have already run in the web ACL.

The label match statement provides the label or namespace string to search for. The label string can represent a part or all of the fully qualified label name that had been added to the web request. Fully qualified labels have a prefix, optional namespaces, and label name. The prefix identifies the rule group or web ACL context of the rule that added the label. If you do not provide the fully qualified name in your label match string, Amazon WAF performs the search for labels that were added in the same context as the label match statement.

Type: [LabelMatchStatement](#) object

Required: No

## ManagedRuleGroupStatement

A rule statement used to run the rules that are defined in a managed rule group. To use this, provide the vendor name and the name of the rule group in this statement. You can retrieve the required names by calling [ListAvailableManagedRuleGroups](#).

You cannot nest a `ManagedRuleGroupStatement`, for example for use inside a `NotStatement` or `OrStatement`. You cannot use a managed rule group inside another rule group. You can only reference a managed rule group as a top-level statement within a rule that you define in a web ACL.

### Note

You are charged additional fees when you use the Amazon WAF Bot Control managed rule group `AWSManagedRulesBotControlRuleSet`, the Amazon WAF Fraud Control account takeover prevention (ATP) managed rule group `AWSManagedRulesATPRuleSet`, or the Amazon WAF Fraud Control account creation fraud prevention (ACFP) managed rule group `AWSManagedRulesACFPRuleSet`. For more information, see [Amazon WAF Pricing](#).

Type: [ManagedRuleGroupStatement](#) object

Required: No

## NotStatement

A logical rule statement used to negate the results of another rule statement. You provide one [Statement](#) within the NotStatement.

Type: [NotStatement](#) object

Required: No

## OrStatement

A logical rule statement used to combine other rule statements with OR logic. You provide more than one [Statement](#) within the OrStatement.

Type: [OrStatement](#) object

Required: No

## RateBasedStatement

A rate-based rule counts incoming requests and rate limits requests when they are coming at too fast a rate. The rule categorizes requests according to your aggregation criteria, collects them into aggregation instances, and counts and rate limits the requests for each instance.

### Note

If you change any of these settings in a rule that's currently in use, the change resets the rule's rate limiting counts. This can pause the rule's rate limiting activities for up to a minute.

You can specify individual aggregation keys, like IP address or HTTP method. You can also specify aggregation key combinations, like IP address and HTTP method, or HTTP method, query argument, and cookie.

Each unique set of values for the aggregation keys that you specify is a separate aggregation instance, with the value from each key contributing to the aggregation instance definition.

For example, assume the rule evaluates web requests with the following IP address and HTTP method values:

- IP address 10.1.1.1, HTTP method POST

- IP address 10.1.1.1, HTTP method GET
- IP address 127.0.0.0, HTTP method POST
- IP address 10.1.1.1, HTTP method GET

The rule would create different aggregation instances according to your aggregation criteria, for example:

- If the aggregation criteria is just the IP address, then each individual address is an aggregation instance, and Amazon WAF counts requests separately for each. The aggregation instances and request counts for our example would be the following:
  - IP address 10.1.1.1: count 3
  - IP address 127.0.0.0: count 1
- If the aggregation criteria is HTTP method, then each individual HTTP method is an aggregation instance. The aggregation instances and request counts for our example would be the following:
  - HTTP method POST: count 2
  - HTTP method GET: count 2
- If the aggregation criteria is IP address and HTTP method, then each IP address and each HTTP method would contribute to the combined aggregation instance. The aggregation instances and request counts for our example would be the following:
  - IP address 10.1.1.1, HTTP method POST: count 1
  - IP address 10.1.1.1, HTTP method GET: count 2
  - IP address 127.0.0.0, HTTP method POST: count 1

For any n-tuple of aggregation keys, each unique combination of values for the keys defines a separate aggregation instance, which Amazon WAF counts and rate-limits individually.

You can optionally nest another statement inside the rate-based statement, to narrow the scope of the rule so that it only counts and rate limits requests that match the nested statement. You can use this nested scope-down statement in conjunction with your aggregation key specifications or you can just count and rate limit all requests that match the scope-down statement, without additional aggregation. When you choose to just manage all requests that match a scope-down statement, the aggregation instance is singular for the rule.

You cannot nest a `RateBasedStatement` inside another statement, for example inside a `NotStatement` or `OrStatement`. You can define a `RateBasedStatement` inside a web ACL and inside a rule group.

For additional information about the options, see [Rate limiting web requests using rate-based rules](#) in the *Amazon WAF Developer Guide*.

If you only aggregate on the individual IP address or forwarded IP address, you can retrieve the list of IP addresses that Amazon WAF is currently rate limiting for a rule through the API call `GetRateBasedStatementManagedKeys`. This option is not available for other aggregation configurations.

Amazon WAF tracks and manages web requests separately for each instance of a rate-based rule that you use. For example, if you provide the same rate-based rule settings in two web ACLs, each of the two rule statements represents a separate instance of the rate-based rule and gets its own tracking and management by Amazon WAF. If you define a rate-based rule inside a rule group, and then use that rule group in multiple places, each use creates a separate instance of the rate-based rule that gets its own tracking and management by Amazon WAF.

Type: [RateBasedStatement](#) object

Required: No

### **RegexMatchStatement**

A rule statement used to search web request components for a match against a single regular expression.

Type: [RegexMatchStatement](#) object

Required: No

### **RegexPatternSetReferenceStatement**

A rule statement used to search web request components for matches with regular expressions. To use this, create a [RegexPatternSet](#) that specifies the expressions that you want to detect, then use the ARN of that set in this statement. A web request matches the pattern set rule statement if the request component matches any of the patterns in the set. To create a regex pattern set, see [CreateRegexPatternSet](#).

Each regex pattern set rule statement references a regex pattern set. You create and maintain the set independent of your rules. This allows you to use the single set in multiple rules. When you update the referenced set, Amazon WAF automatically updates all rules that reference it.

Type: [RegexPatternSetReferenceStatement](#) object

Required: No

## RuleGroupReferenceStatement

A rule statement used to run the rules that are defined in a [RuleGroup](#). To use this, create a rule group with your rules, then provide the ARN of the rule group in this statement.

You cannot nest a `RuleGroupReferenceStatement`, for example for use inside a `NotStatement` or `OrStatement`. You cannot use a rule group reference statement inside another rule group. You can only reference a rule group as a top-level statement within a rule that you define in a web ACL.

Type: [RuleGroupReferenceStatement](#) object

Required: No

## SizeConstraintStatement

A rule statement that compares a number of bytes against the size of a request component, using a comparison operator, such as greater than (>) or less than (<). For example, you can use a size constraint statement to look for query strings that are longer than 100 bytes.

If you configure Amazon WAF to inspect the request body, Amazon WAF inspects only the number of bytes in the body up to the limit for the web ACL and protected resource type. If you know that the request body for your web requests should never exceed the inspection limit, you can use a size constraint statement to block requests that have a larger request body size. For more information about the inspection limits, see `Body` and `JsonBody` settings for the `FieldToMatch` data type.

If you choose `URI` for the value of `Part` of the request to filter on, the slash (/) in the URI counts as one character. For example, the URI `/logo.jpg` is nine characters long.

Type: [SizeConstraintStatement](#) object

Required: No

## SqliMatchStatement

A rule statement that inspects for malicious SQL code. Attackers insert malicious SQL code into web requests to do things like modify your database or extract data from it.

Type: [SqliMatchStatement](#) object

Required: No

## XssMatchStatement

A rule statement that inspects for cross-site scripting (XSS) attacks. In XSS attacks, the attacker uses vulnerabilities in a benign website as a vehicle to inject malicious client-site scripts into other legitimate web browsers.

Type: [XssMatchStatement](#) object

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# Tag

Service: Amazon WAFV2

A tag associated with an Amazon resource. Tags are key:value pairs that you can use to categorize and manage your resources, for purposes like billing or other management. Typically, the tag key represents a category, such as "environment", and the tag value represents a specific value within that category, such as "test," "development," or "production". Or you might set the tag key to "customer" and the value to the customer name or ID. You can specify one or more tags to add to each Amazon resource, up to 50 tags for a resource.

You can tag the Amazon resources that you manage through Amazon WAF: web ACLs, rule groups, IP sets, and regex pattern sets. You can't manage or view tags through the Amazon WAF console.

## Contents

### Key

Part of the key:value pair that defines a tag. You can use a tag key to describe a category of information, such as "customer." Tag keys are case-sensitive.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^([\p{L}\p{Z}\p{N}_ . :/=+\-@]*)$`

Required: Yes

### Value

Part of the key:value pair that defines a tag. You can use a tag value to describe a specific value within a category, such as "companyA" or "companyB." Tag values are case-sensitive.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 256.

Pattern: `^([\p{L}\p{Z}\p{N}_ . :/=+\-@]*)$`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# TagInfoForResource

Service: Amazon WAFV2

The collection of tagging definitions for an Amazon resource. Tags are key:value pairs that you can use to categorize and manage your resources, for purposes like billing or other management. Typically, the tag key represents a category, such as "environment", and the tag value represents a specific value within that category, such as "test," "development," or "production". Or you might set the tag key to "customer" and the value to the customer name or ID. You can specify one or more tags to add to each Amazon resource, up to 50 tags for a resource.

You can tag the Amazon resources that you manage through Amazon WAF: web ACLs, rule groups, IP sets, and regex pattern sets. You can't manage or view tags through the Amazon WAF console.

## Contents

### ResourceARN

The Amazon Resource Name (ARN) of the resource.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: No

### TagList

The array of [Tag](#) objects defined for the resource.

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item.

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# TextTransformation

Service: Amazon WAFV2

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass detection.

## Contents

### Priority

Sets the relative processing order for multiple transformations. Amazon WAF processes all transformations, from lowest priority to highest, before inspecting the transformed content. The priorities don't need to be consecutive, but they must all be different.

Type: Integer

Valid Range: Minimum value of 0.

Required: Yes

### Type

For detailed descriptions of each of the transformation types, see [Text transformations](#) in the *Amazon WAF Developer Guide*.

Type: String

Valid Values: NONE | COMPRESS\_WHITE\_SPACE | HTML\_ENTITY\_DECODE | LOWERCASE | CMD\_LINE | URL\_DECODE | BASE64\_DECODE | HEX\_DECODE | MD5 | REPLACE\_COMMENTS | ESCAPE\_SEQ\_DECODE | SQL\_HEX\_DECODE | CSS\_DECODE | JS\_DECODE | NORMALIZE\_PATH | NORMALIZE\_PATH\_WIN | REMOVE\_NULLS | REPLACE\_NULLS | BASE64\_DECODE\_EXT | URL\_DECODE\_UNI | UTF8\_TO\_UNICODE

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)

- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# TimeWindow

Service: Amazon WAFV2

In a [GetSampledRequests](#) request, the `StartTime` and `EndTime` objects specify the time range for which you want Amazon WAF to return a sample of web requests.

You must specify the times in Coordinated Universal Time (UTC) format. UTC format includes the special designator, Z. For example, "2016-09-27T14:50Z". You can specify any time range in the previous three hours.

In a [GetSampledRequests](#) response, the `StartTime` and `EndTime` objects specify the time range for which Amazon WAF actually returned a sample of web requests. Amazon WAF gets the specified number of requests from among the first 5,000 requests that your Amazon resource receives during the specified time period. If your resource receives more than 5,000 requests during that period, Amazon WAF stops sampling after the 5,000th request. In that case, `EndTime` is the time that Amazon WAF received the 5,000th request.

## Contents

### EndTime

The end of the time range from which you want `GetSampledRequests` to return a sample of the requests that your Amazon resource received. You must specify the times in Coordinated Universal Time (UTC) format. UTC format includes the special designator, Z. For example, "2016-09-27T14:50Z". You can specify any time range in the previous three hours.

Type: Timestamp

Required: Yes

### StartTime

The beginning of the time range from which you want `GetSampledRequests` to return a sample of the requests that your Amazon resource received. You must specify the times in Coordinated Universal Time (UTC) format. UTC format includes the special designator, Z. For example, "2016-09-27T14:50Z". You can specify any time range in the previous three hours.

Type: Timestamp

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# UriFragment

Service: Amazon WAFV2

Inspect fragments of the request URI. You can specify the parts of the URI fragment to inspect and you can narrow the set of URI fragments to inspect by including or excluding specific keys.

This is used to indicate the web request component to inspect, in the [FieldToMatch](#) specification.

```
Example JSON: "UriFragment": { "MatchPattern": { "All": {} }, "MatchScope": "KEY", "OversizeHandling": "MATCH" }
```

## Contents

### FallbackBehavior

What Amazon WAF should do if it fails to completely parse the JSON body. The options are the following:

- `EVALUATE_AS_STRING` - Inspect the body as plain text. Amazon WAF applies the text transformations and inspection criteria that you defined for the JSON inspection to the body text string.
- `MATCH` - Treat the web request as matching the rule statement. Amazon WAF applies the rule action to the request.
- `NO_MATCH` - Treat the web request as not matching the rule statement.

If you don't provide this setting, Amazon WAF parses and evaluates the content only up to the first parsing failure that it encounters.

```
Example JSON: { "UriFragment": { "FallbackBehavior": "MATCH" } }
```

#### Note

Amazon WAF parsing doesn't fully validate the input JSON string, so parsing can succeed even for invalid JSON. When parsing succeeds, Amazon WAF doesn't apply the fallback behavior. For more information, see [JSON body](#) in the *Amazon WAF Developer Guide*.

Type: String

Valid Values: MATCH | NO\_MATCH

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# UriPath

Service: Amazon WAFV2

Inspect the path component of the URI of the web request. This is the part of the web request that identifies a resource. For example, `/images/daily-ad.jpg`.

This is used in the [FieldToMatch](#) specification for some web request component types.

JSON specification: `"UriPath": {}`

## Contents

The members of this exception structure are context-dependent.

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# UsernameField

Service: Amazon WAFV2

The name of the field in the request payload that contains your customer's username.

This data type is used in the `RequestInspection` and `RequestInspectionACFP` data types.

## Contents

### Identifier

The name of the username field.

How you specify this depends on the request inspection payload type.

- For JSON payloads, specify the field name in JSON pointer syntax. For information about the JSON Pointer syntax, see the Internet Engineering Task Force (IETF) documentation [JavaScript Object Notation \(JSON\) Pointer](#).

For example, for the JSON payload `{ "form": { "username": "THE_USERNAME" } }`, the username field specification is `/form/username`.

- For form encoded payload types, use the HTML form names.

For example, for an HTML form with the input element named `username1`, the username field specification is `username1`

Type: String

Length Constraints: Minimum length of 1. Maximum length of 512.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)

- [Amazon SDK for Ruby V3](#)

# VersionToPublish

Service: Amazon WAFV2

A version of the named managed rule group, that the rule group's vendor publishes for use by customers.

## Note

This is intended for use only by vendors of managed rule sets. Vendors are Amazon and Amazon Web Services Marketplace sellers.

Vendors, you can use the managed rule set APIs to provide controlled rollout of your versioned managed rule group offerings for your customers. The APIs are `ListManagedRuleSets`, `GetManagedRuleSet`, `PutManagedRuleSetVersions`, and `UpdateManagedRuleSetVersionExpiryDate`.

## Contents

### AssociatedRuleGroupArn

The Amazon Resource Name (ARN) of the vendor's rule group that's used in the published managed rule group version.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: No

### ForecastedLifetime

The amount of time the vendor expects this version of the managed rule group to last, in days.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# VisibilityConfig

Service: Amazon WAFV2

Defines and enables Amazon CloudWatch metrics and web request sample collection.

## Contents

### CloudWatchMetricsEnabled

Indicates whether the associated resource sends metrics to Amazon CloudWatch. For the list of available metrics, see [Amazon WAF Metrics](#) in the *Amazon WAF Developer Guide*.

For web ACLs, the metrics are for web requests that have the web ACL default action applied. Amazon WAF applies the default action to web requests that pass the inspection of all rules in the web ACL without being either allowed or blocked. For more information, see [The web ACL default action](#) in the *Amazon WAF Developer Guide*.

Type: Boolean

Required: Yes

### MetricName

A name of the Amazon CloudWatch metric dimension. The name can contain only the characters: A-Z, a-z, 0-9, - (hyphen), and \_ (underscore). The name can be from one to 128 characters long. It can't contain whitespace or metric names that are reserved for Amazon WAF, for example All and Default\_Action.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 255.

Pattern: `^[\\w#:\\.\\-\\/]+$`

Required: Yes

### SampledRequestsEnabled

Indicates whether Amazon WAF should store a sampling of the web requests that match the rules. You can view the sampled requests through the Amazon WAF console.

If you configure data protection for the web ACL, the protection applies to the web ACL's sampled web request data.

**Note**

Request sampling doesn't provide a field redaction option, and any field redaction that you specify in your logging configuration doesn't affect sampling. You can only exclude fields from request sampling by disabling sampling in the web ACL visibility configuration or by configuring data protection for the web ACL.

Type: Boolean

Required: Yes

**See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# WebACL

Service: Amazon WAFV2

A web ACL defines a collection of rules to use to inspect and control web requests. Each rule has a statement that defines what to look for in web requests and an action that Amazon WAF applies to requests that match the statement. In the web ACL, you assign a default action to take (allow, block) for any request that does not match any of the rules. The rules in a web ACL can be a combination of the types [Rule](#), [RuleGroup](#), and managed rule group. You can associate a web ACL with one or more Amazon resources to protect. The resource types include Amazon CloudFront distribution, Amazon API Gateway REST API, Application Load Balancer, Amazon AppSync GraphQL API, Amazon Cognito user pool, Amazon App Runner service, Amazon Amplify application, and Amazon Verified Access instance.

## Contents

### ARN

The Amazon Resource Name (ARN) of the web ACL that you want to associate with the resource.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: Yes

### DefaultAction

The action to perform if none of the Rules contained in the WebACL match.

Type: [DefaultAction](#) object

Required: Yes

### Id

A unique identifier for the WebACL. This ID is returned in the responses to create and list commands. You use this ID to do things like get, update, and delete a WebACL.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: Yes

### Name

The name of the web ACL. You cannot change the name of a web ACL after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: Yes

### VisibilityConfig

Defines and enables Amazon CloudWatch metrics and web request sample collection.

Type: [VisibilityConfig](#) object

Required: Yes

### ApplicationConfig

Returns a list of `ApplicationAttributes`.

Type: [ApplicationConfig](#) object

Required: No

### AssociationConfig

Specifies custom configurations for the associations between the web ACL and protected resources.

Use this to customize the maximum size of the request body that your protected resources forward to Amazon WAF for inspection. You can customize this setting for CloudFront, API Gateway, Amazon Cognito, App Runner, or Verified Access resources. The default setting is 16 KB (16,384 bytes).

#### Note

You are charged additional fees when your protected resources forward body sizes that are larger than the default. For more information, see [Amazon WAF Pricing](#).

For Application Load Balancer and Amazon AppSync, the limit is fixed at 8 KB (8,192 bytes).

Type: [AssociationConfig](#) object

Required: No

## Capacity

The web ACL capacity units (WCUs) currently being used by this web ACL.

Amazon WAF uses WCUs to calculate and control the operating resources that are used to run your rules, rule groups, and web ACLs. Amazon WAF calculates capacity differently for each rule type, to reflect the relative cost of each rule. Simple rules that cost little to run use fewer WCUs than more complex rules that use more processing power. Rule group capacity is fixed at creation, which helps users plan their web ACL WCU usage when they use a rule group. For more information, see [Amazon WAF web ACL capacity units \(WCU\)](#) in the *Amazon WAF Developer Guide*.

Type: Long

Valid Range: Minimum value of 0.

Required: No

## CaptchaConfig

Specifies how Amazon WAF should handle CAPTCHA evaluations for rules that don't have their own CaptchaConfig settings. If you don't specify this, Amazon WAF uses its default settings for CaptchaConfig.

Type: [CaptchaConfig](#) object

Required: No

## ChallengeConfig

Specifies how Amazon WAF should handle challenge evaluations for rules that don't have their own ChallengeConfig settings. If you don't specify this, Amazon WAF uses its default settings for ChallengeConfig.

Type: [ChallengeConfig](#) object

Required: No

## CustomResponseBodies

A map of custom response keys and content bodies. When you create a rule with a block action, you can send a custom response to the web request. You define these for the web ACL, and then use them in the rules and default actions that you define in the web ACL.

For information about customizing web requests and responses, see [Customizing web requests and responses in Amazon WAF](#) in the *Amazon WAF Developer Guide*.

For information about the limits on count and size for custom request and response settings, see [Amazon WAF quotas](#) in the *Amazon WAF Developer Guide*.

Type: String to [CustomResponseBody](#) object map

Map Entries: Maximum number of items.

Key Length Constraints: Minimum length of 1. Maximum length of 128.

Key Pattern: `^[\\w\\-]+$`

Required: No

## DataProtectionConfig

Specifies data protection to apply to the web request data for the web ACL. This is a web ACL level data protection option.

The data protection that you configure for the web ACL alters the data that's available for any other data collection activity, including your Amazon WAF logging destinations, web ACL request sampling, and Amazon Security Lake data collection and management. Your other option for data protection is in the logging configuration, which only affects logging.

Type: [DataProtectionConfig](#) object

Required: No

## Description

A description of the web ACL that helps with identification.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `^[\w+=:#@/\-,\.\s][\w+=:#@/\-,\.\s]+[\w+=:#@/\-,\.\s]$`

Required: No

### LabelNamespace

The label namespace prefix for this web ACL. All labels added by rules in this web ACL have this prefix.

- The syntax for the label namespace prefix for a web ACL is the following:

```
awsaf:<account ID>:webacl:<web ACL name>:
```

- When a rule with a label matches a web request, Amazon WAF adds the fully qualified label to the request. A fully qualified label is made up of the label namespace from the rule group or web ACL where the rule is defined and the label from the rule, separated by a colon:

```
<label namespace>:<label from rule>
```

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Pattern: `^[0-9A-Za-z_\-:]+$`

Required: No

### ManagedByFirewallManager

Indicates whether this web ACL was created by Amazon Firewall Manager and is being managed by Firewall Manager. If true, then only Firewall Manager can delete the web ACL or any Firewall Manager rule groups in the web ACL. See also the properties `RetrofittedByFirewallManager`, `PreProcessFirewallManagerRuleGroups`, and `PostProcessFirewallManagerRuleGroups`.

Type: Boolean

Required: No

### OnSourceDDoSProtectionConfig

Configures the level of DDoS protection that applies to web ACLs associated with Application Load Balancers.

Type: [OnSourceDDoSProtectionConfig](#) object

Required: No

### **PostProcessFirewallManagerRuleGroups**

The last set of rules for Amazon WAF to process in the web ACL. This is defined in an Amazon Firewall Manager Amazon WAF policy and contains only rule group references. You can't alter these. Any rules and rule groups that you define for the web ACL are prioritized before these.

In the Firewall Manager Amazon WAF policy, the Firewall Manager administrator can define a set of rule groups to run first in the web ACL and a set of rule groups to run last. Within each set, the administrator prioritizes the rule groups, to determine their relative processing order.

Type: Array of [FirewallManagerRuleGroup](#) objects

Required: No

### **PreProcessFirewallManagerRuleGroups**

The first set of rules for Amazon WAF to process in the web ACL. This is defined in an Amazon Firewall Manager Amazon WAF policy and contains only rule group references. You can't alter these. Any rules and rule groups that you define for the web ACL are prioritized after these.

In the Firewall Manager Amazon WAF policy, the Firewall Manager administrator can define a set of rule groups to run first in the web ACL and a set of rule groups to run last. Within each set, the administrator prioritizes the rule groups, to determine their relative processing order.

Type: Array of [FirewallManagerRuleGroup](#) objects

Required: No

### **RetrofittedByFirewallManager**

Indicates whether this web ACL was created by a customer account and then retrofitted by Amazon Firewall Manager. If true, then the web ACL is currently being managed by a Firewall Manager Amazon WAF policy, and only Firewall Manager can manage any Firewall Manager rule groups in the web ACL. See also the properties `ManagedByFirewallManager`, `PreProcessFirewallManagerRuleGroups`, and `PostProcessFirewallManagerRuleGroups`.

Type: Boolean

Required: No

## Rules

The [Rule](#) statements used to identify the web requests that you want to manage. Each rule includes one top-level statement that Amazon WAF uses to identify matching web requests, and parameters that govern how Amazon WAF handles them.

Type: Array of [Rule](#) objects

Required: No

## TokenDomains

Specifies the domains that Amazon WAF should accept in a web request token. This enables the use of tokens across multiple protected websites. When Amazon WAF provides a token, it uses the domain of the Amazon resource that the web ACL is protecting. If you don't specify a list of token domains, Amazon WAF accepts tokens only for the domain of the protected resource. With a token domain list, Amazon WAF accepts the resource's host domain plus all domains in the token domain list, including their prefixed subdomains.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 253.

Pattern: `^[\w\.\-\/]+$`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# WebACLSummary

Service: Amazon WAFV2

High-level information about a [WebACL](#), returned by operations like `create` and `list`. This provides information like the ID, that you can use to retrieve and manage a WebACL, and the ARN, that you provide to operations like [AssociateWebACL](#).

## Contents

### ARN

The Amazon Resource Name (ARN) of the entity.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `.*\S.*`

Required: No

### Description

A description of the web ACL that helps with identification.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `^\[\w+=:#\@/\-,\.\][\w+=:#\@/\-,\.\s]+\[\w+=:#\@/\-,\.\]$`

Required: No

### Id

The unique identifier for the web ACL. This ID is returned in the responses to `create` and `list` commands. You provide it to operations like `update` and `delete`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: No

## LockToken

A token used for optimistic locking. Amazon WAF returns a token to your `get` and `list` requests, to mark the state of the entity at the time of the request. To make changes to the entity associated with the token, you provide the token to operations like `update` and `delete`. Amazon WAF uses the token to ensure that no changes have been made to the entity since you last retrieved it. If a change has been made, the update fails with a `WAFOptimisticLockException`. If this happens, perform another `get`, and use the new token returned by that operation.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 36.

Pattern: `^[0-9a-f]{8}-(?:[0-9a-f]{4}-){3}[0-9a-f]{12}$`

Required: No

## Name

The name of the web ACL. You cannot change the name of a web ACL after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\w\\-]+$`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# XssMatchStatement

Service: Amazon WAFV2

A rule statement that inspects for cross-site scripting (XSS) attacks. In XSS attacks, the attacker uses vulnerabilities in a benign website as a vehicle to inject malicious client-site scripts into other legitimate web browsers.

## Contents

### FieldToMatch

The part of the web request that you want Amazon WAF to inspect.

Type: [FieldToMatch](#) object

Required: Yes

### TextTransformations

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass detection. Text transformations are used in rule match statements, to transform the `FieldToMatch` request component before inspecting it, and they're used in rate-based rule statements, to transform request components before using them as custom aggregation keys. If you specify one or more transformations to apply, Amazon WAF performs all transformations on the specified content, starting from the lowest priority setting, and then uses the transformed component contents.

Type: Array of [TextTransformation](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)

- [Amazon SDK for Ruby V3](#)

## Amazon WAF Classic

The following data types are supported by Amazon WAF Classic:

- [ActivatedRule](#)
- [ByteMatchSet](#)
- [ByteMatchSetSummary](#)
- [ByteMatchSetUpdate](#)
- [ByteMatchTuple](#)
- [ExcludedRule](#)
- [FieldToMatch](#)
- [GeoMatchConstraint](#)
- [GeoMatchSet](#)
- [GeoMatchSetSummary](#)
- [GeoMatchSetUpdate](#)
- [HTTPHeader](#)
- [HTTPRequest](#)
- [IPSet](#)
- [IPSetDescriptor](#)
- [IPSetSummary](#)
- [IPSetUpdate](#)
- [LoggingConfiguration](#)
- [Predicate](#)
- [RateBasedRule](#)
- [RegexMatchSet](#)
- [RegexMatchSetSummary](#)
- [RegexMatchSetUpdate](#)
- [RegexMatchTuple](#)
- [RegexPatternSet](#)

- [RegexPatternSetSummary](#)
- [RegexPatternSetUpdate](#)
- [Rule](#)
- [RuleGroup](#)
- [RuleGroupSummary](#)
- [RuleGroupUpdate](#)
- [RuleSummary](#)
- [RuleUpdate](#)
- [SampledHTTPRequest](#)
- [SizeConstraint](#)
- [SizeConstraintSet](#)
- [SizeConstraintSetSummary](#)
- [SizeConstraintSetUpdate](#)
- [SqlInjectionMatchSet](#)
- [SqlInjectionMatchSetSummary](#)
- [SqlInjectionMatchSetUpdate](#)
- [SqlInjectionMatchTuple](#)
- [SubscribedRuleGroupSummary](#)
- [Tag](#)
- [TagInfoForResource](#)
- [TimeWindow](#)
- [WafAction](#)
- [WafOverrideAction](#)
- [WebACL](#)
- [WebACLSummary](#)
- [WebACLUpdate](#)
- [XssMatchSet](#)
- [XssMatchSetSummary](#)
- [XssMatchSetUpdate](#)
- [XssMatchTuple](#)



# ActivatedRule

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The `ActivatedRule` object in an [UpdateWebACL](#) request specifies a `Rule` that you want to insert or delete, the priority of the `Rule` in the WebACL, and the action that you want Amazon WAF to take when a web request matches the `Rule` (ALLOW, BLOCK, or COUNT).

To specify whether to insert or delete a `Rule`, use the `Action` parameter in the [WebACLUpdate](#) data type.

## Contents

### Priority

Specifies the order in which the `Rules` in a WebACL are evaluated. Rules with a lower value for `Priority` are evaluated before Rules with a higher value. The value must be a unique integer. If you add multiple `Rules` to a WebACL, the values don't need to be consecutive.

Type: Integer

Required: Yes

### RuleId

The `RuleId` for a `Rule`. You use `RuleId` to get more information about a `Rule` (see [GetRule](#)), update a `Rule` (see [UpdateRule](#)), insert a `Rule` into a WebACL or delete a one from a WebACL (see [UpdateWebACL](#)), or delete a `Rule` from Amazon WAF (see [DeleteRule](#)).

`RuleId` is returned by [CreateRule](#) and by [ListRules](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Action

Specifies the action that Amazon CloudFront or Amazon WAF takes when a web request matches the conditions in the `Rule`. Valid values for `Action` include the following:

- **ALLOW**: CloudFront responds with the requested object.
- **BLOCK**: CloudFront responds with an HTTP 403 (Forbidden) status code.
- **COUNT**: Amazon WAF increments a counter of requests that match the conditions in the rule and then continues to inspect the web request based on the remaining rules in the web ACL.

`ActivatedRule|OverrideAction` applies only when updating or adding a `RuleGroup` to a `WebACL`. In this case, you do not use `ActivatedRule|Action`. For all other update requests, `ActivatedRule|Action` is used instead of `ActivatedRule|OverrideAction`.

Type: [WafAction](#) object

Required: No

## ExcludedRules

An array of rules to exclude from a rule group. This is applicable only when the `ActivatedRule` refers to a `RuleGroup`.

Sometimes it is necessary to troubleshoot rule groups that are blocking traffic unexpectedly (false positives). One troubleshooting technique is to identify the specific rule within the rule group that is blocking the legitimate traffic and then disable (exclude) that particular rule. You can exclude rules from both your own rule groups and Amazon Web Services Marketplace rule groups that have been associated with a web ACL.

Specifying `ExcludedRules` does not remove those rules from the rule group. Rather, it changes the action for the rules to `COUNT`. Therefore, requests that match an `ExcludedRule` are counted but not blocked. The `RuleGroup` owner will receive `COUNT` metrics for each `ExcludedRule`.

If you want to exclude rules from a rule group that is already associated with a web ACL, perform the following steps:

1. Use the Amazon WAF logs to identify the IDs of the rules that you want to exclude. For more information about the logs, see [Logging Web ACL Traffic Information](#).
2. Submit an [UpdateWebACL](#) request that has two actions:
  - The first action deletes the existing rule group from the web ACL. That is, in the [UpdateWebACL](#) request, the first `Updates:Action` should be `DELETE` and `Updates:ActivatedRule:RuleId` should be the rule group that contains the rules that you want to exclude.
  - The second action inserts the same rule group back in, but specifying the rules to exclude. That is, the second `Updates:Action` should be `INSERT`, `Updates:ActivatedRule:RuleId` should be the rule group that you just removed, and `ExcludedRules` should contain the rules that you want to exclude.

Type: Array of [ExcludedRule](#) objects

Required: No

## OverrideAction

Use the `OverrideAction` to test your `RuleGroup`.

Any rule in a `RuleGroup` can potentially block a request. If you set the `OverrideAction` to `None`, the `RuleGroup` will block a request if any individual rule in the `RuleGroup` matches the request and is configured to block that request. However if you first want to test the `RuleGroup`, set the `OverrideAction` to `Count`. The `RuleGroup` will then override any block action specified by individual rules contained within the group. Instead of blocking matching requests, those requests will be counted. You can view a record of counted requests using [GetSampledRequests](#).

`ActivatedRule|OverrideAction` applies only when updating or adding a `RuleGroup` to a `WebACL`. In this case you do not use `ActivatedRule|Action`. For all other update requests, `ActivatedRule|Action` is used instead of `ActivatedRule|OverrideAction`.

Type: [WafOverrideAction](#) object

Required: No

## Type

The rule type, either `REGULAR`, as defined by [Rule](#), `RATE_BASED`, as defined by [RateBasedRule](#), or `GROUP`, as defined by [RuleGroup](#). The default is `REGULAR`. Although this field is optional,

be aware that if you try to add a RATE\_BASED rule to a web ACL without setting the type, the [UpdateWebACL](#) request will fail because the request tries to add a REGULAR rule with the specified ID, which does not exist.

Type: String

Valid Values: REGULAR | RATE\_BASED | GROUP

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ByteMatchSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

In a [GetByteMatchSet](#) request, ByteMatchSet is a complex type that contains the ByteMatchSetId and Name of a ByteMatchSet, and the values that you specified when you updated the ByteMatchSet.

A complex type that contains ByteMatchTuple objects, which specify the parts of web requests that you want Amazon WAF to inspect and the values that you want Amazon WAF to search for. If a ByteMatchSet contains more than one ByteMatchTuple object, a request needs to match the settings in only one ByteMatchTuple to be considered a match.

## Contents

### ByteMatchSetId

The ByteMatchSetId for a ByteMatchSet. You use ByteMatchSetId to get information about a ByteMatchSet (see [GetByteMatchSet](#)), update a ByteMatchSet (see [UpdateByteMatchSet](#)), insert a ByteMatchSet into a Rule or delete one from a Rule (see [UpdateRule](#)), and delete a ByteMatchSet from Amazon WAF (see [DeleteByteMatchSet](#)).

ByteMatchSetId is returned by [CreateByteMatchSet](#) and by [ListByteMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## ByteMatchTuples

Specifies the bytes (typically a string that corresponds with ASCII characters) that you want Amazon WAF to search for in web requests, the location in requests that you want Amazon WAF to search, and other settings.

Type: Array of [ByteMatchTuple](#) objects

Required: Yes

### Name

A friendly name or description of the [ByteMatchSet](#). You can't change Name after you create a ByteMatchSet.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ByteMatchSetSummary

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returned by [ListByteMatchSets](#). Each ByteMatchSetSummary object includes the Name and ByteMatchSetId for one [ByteMatchSet](#).

## Contents

### ByteMatchSetId

The ByteMatchSetId for a ByteMatchSet. You use ByteMatchSetId to get information about a ByteMatchSet, update a ByteMatchSet, remove a ByteMatchSet from a Rule, and delete a ByteMatchSet from Amazon WAF.

ByteMatchSetId is returned by [CreateByteMatchSet](#) and by [ListByteMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

### Name

A friendly name or description of the [ByteMatchSet](#). You can't change Name after you create a ByteMatchSet.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ByteMatchSetUpdate

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

In an [UpdateByteMatchSet](#) request, ByteMatchSetUpdate specifies whether to insert or delete a [ByteMatchTuple](#) and includes the settings for the ByteMatchTuple.

## Contents

### Action

Specifies whether to insert or delete a [ByteMatchTuple](#).

Type: String

Valid Values: INSERT | DELETE

Required: Yes

### ByteMatchTuple

Information about the part of a web request that you want Amazon WAF to inspect and the value that you want Amazon WAF to search for. If you specify DELETE for the value of Action, the ByteMatchTuple values must exactly match the values in the ByteMatchTuple that you want to delete from the ByteMatchSet.

Type: [ByteMatchTuple](#) object

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ByteMatchTuple

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The bytes (typically a string that corresponds with ASCII characters) that you want Amazon WAF to search for in web requests, the location in requests that you want Amazon WAF to search, and other settings.

## Contents

### FieldToMatch

The part of a web request that you want Amazon WAF to search, such as a specified header or a query string. For more information, see [FieldToMatch](#).

Type: [FieldToMatch](#) object

Required: Yes

### PositionalConstraint

Within the portion of a web request that you want to search (for example, in the query string, if any), specify where you want Amazon WAF to search. Valid values include the following:

#### CONTAINS

The specified part of the web request must include the value of `TargetString`, but the location doesn't matter.

#### CONTAINS\_WORD

The specified part of the web request must include the value of `TargetString`, and `TargetString` must contain only alphanumeric characters or underscore (A-Z, a-z, 0-9, or `_`). In addition, `TargetString` must be a word, which means one of the following:

- `TargetString` exactly matches the value of the specified part of the web request, such as the value of a header.
- `TargetString` is at the beginning of the specified part of the web request and is followed by a character other than an alphanumeric character or underscore (`_`), for example, `BadBot;`.
- `TargetString` is at the end of the specified part of the web request and is preceded by a character other than an alphanumeric character or underscore (`_`), for example,  `;BadBot`.
- `TargetString` is in the middle of the specified part of the web request and is preceded and followed by characters other than alphanumeric characters or underscore (`_`), for example, `-BadBot;`.

### **EXACTLY**

The value of the specified part of the web request must exactly match the value of `TargetString`.

### **STARTS\_WITH**

The value of `TargetString` must appear at the beginning of the specified part of the web request.

### **ENDS\_WITH**

The value of `TargetString` must appear at the end of the specified part of the web request.

Type: String

Valid Values: EXACTLY | STARTS\_WITH | ENDS\_WITH | CONTAINS | CONTAINS\_WORD

Required: Yes

## **TargetString**

The value that you want Amazon WAF to search for. Amazon WAF searches for the specified string in the part of web requests that you specified in `FieldToMatch`. The maximum length of the value is 50 bytes.

Valid values depend on the values that you specified for `FieldToMatch`:

- **HEADER:** The value that you want Amazon WAF to search for in the request header that you specified in [FieldToMatch](#), for example, the value of the `User-Agent` or `Referer` header.
- **METHOD:** The HTTP method, which indicates the type of operation specified in the request. Amazon CloudFront supports the following methods: `DELETE`, `GET`, `HEAD`, `OPTIONS`, `PATCH`, `POST`, and `PUT`.
- **QUERY\_STRING:** The value that you want Amazon WAF to search for in the query string, which is the part of a URL that appears after a `?` character.
- **URI:** The path component of the URI. This does not include the query string or fragment components of the URI. For information, see [Uniform Resource Identifier \(URI\): Generic Syntax](#).
- **BODY:** The part of a request that contains any additional data that you want to send to your web server as the HTTP request body, such as data from a form. The request body immediately follows the request headers. Note that only the first 8192 bytes of the request body are forwarded to Amazon WAF for inspection. To allow or block requests based on the length of the body, you can create a size constraint set. For more information, see [CreateSizeConstraintSet](#).
- **SINGLE\_QUERY\_ARG:** The parameter in the query string that you will inspect, such as *UserName* or *SalesRegion*. The maximum length for `SINGLE_QUERY_ARG` is 30 characters.
- **ALL\_QUERY\_ARGS:** Similar to `SINGLE_QUERY_ARG`, but instead of inspecting a single parameter, Amazon WAF inspects all parameters within the query string for the value or regex pattern that you specify in `TargetString`.

If `TargetString` includes alphabetic characters A-Z and a-z, note that the value is case sensitive.

### If you're using the Amazon WAF API

Specify a base64-encoded version of the value. The maximum length of the value before you base64-encode it is 50 bytes.

For example, suppose the value of `Type` is `HEADER` and the value of `Data` is `User-Agent`. If you want to search the `User-Agent` header for the value `BadBot`, you base64-encode `BadBot` using MIME base64-encoding and include the resulting value, `QmFkQm90`, in the value of `TargetString`.

### If you're using the Amazon CLI or one of the Amazon SDKs

The value that you want Amazon WAF to search for. The SDK automatically base64 encodes the value.

Type: Base64-encoded binary data object

Required: Yes

## **TextTransformation**

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass Amazon WAF. If you specify a transformation, Amazon WAF performs the transformation on `FieldToMatch` before inspecting it for a match.

You can only specify a single type of `TextTransformation`.

### **CMD\_LINE**

When you're concerned that attackers are injecting an operating system command line command and using unusual formatting to disguise some or all of the command, use this option to perform the following transformations:

- Delete the following characters: \ " ' ^
- Delete spaces before the following characters: / (
- Replace the following characters with a space: , ;
- Replace multiple spaces with one space
- Convert uppercase letters (A-Z) to lowercase (a-z)

### **COMPRESS\_WHITE\_SPACE**

Use this option to replace the following characters with a space character (decimal 32):

- `\f`, formfeed, decimal 12
- `\t`, tab, decimal 9
- `\n`, newline, decimal 10
- `\r`, carriage return, decimal 13
- `\v`, vertical tab, decimal 11
- non-breaking space, decimal 160

`COMPRESS_WHITE_SPACE` also replaces multiple spaces with one space.

### **HTML\_ENTITY\_DECODE**

Use this option to replace HTML-encoded characters with unencoded characters.

HTML\_ENTITY\_DECODE performs the following operations:

- Replaces (ampersand)quot; with "
- Replaces (ampersand)nbsp; with a non-breaking space, decimal 160
- Replaces (ampersand)lt; with a "less than" symbol
- Replaces (ampersand)gt; with >
- Replaces characters that are represented in hexadecimal format, (ampersand)#xhhhh;, with the corresponding characters
- Replaces characters that are represented in decimal format, (ampersand)#nnnn;, with the corresponding characters

## LOWERCASE

Use this option to convert uppercase letters (A-Z) to lowercase (a-z).

## URL\_DECODE

Use this option to decode a URL-encoded value.

## NONE

Specify NONE if you don't want to perform any text transformations.

Type: String

Valid Values: NONE | COMPRESS\_WHITE\_SPACE | HTML\_ENTITY\_DECODE | LOWERCASE | CMD\_LINE | URL\_DECODE

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)



# ExcludedRule

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The rule to exclude from a rule group. This is applicable only when the `ActivatedRule` refers to a `RuleGroup`. The rule must belong to the `RuleGroup` that is specified by the `ActivatedRule`.

## Contents

### RuleId

The unique identifier for the rule to exclude from the rule group.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# FieldToMatch

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies where in a web request to look for TargetString.

## Contents

### Type

The part of the web request that you want Amazon WAF to search for a specified string. Parts of a request that you can search include the following:

- **HEADER:** A specified request header, for example, the value of the User-Agent or Referer header. If you choose HEADER for the type, specify the name of the header in Data.
- **METHOD:** The HTTP method, which indicated the type of operation that the request is asking the origin to perform. Amazon CloudFront supports the following methods: DELETE, GET, HEAD, OPTIONS, PATCH, POST, and PUT.
- **QUERY\_STRING:** A query string, which is the part of a URL that appears after a ? character, if any.
- **URI:** The path component of the URI. This does not include the query string or fragment components of the URI. For information, see [Uniform Resource Identifier \(URI\): Generic Syntax](#).
- **BODY:** The part of a request that contains any additional data that you want to send to your web server as the HTTP request body, such as data from a form. The request body immediately follows the request headers. Note that only the first 8192 bytes of the request body are forwarded to Amazon WAF for inspection. To allow or block requests based on the length of the body, you can create a size constraint set. For more information, see [CreateSizeConstraintSet](#).

- `SINGLE_QUERY_ARG`: The parameter in the query string that you will inspect, such as `UserName` or `SalesRegion`. The maximum length for `SINGLE_QUERY_ARG` is 30 characters.
- `ALL_QUERY_ARGS`: Similar to `SINGLE_QUERY_ARG`, but rather than inspecting a single parameter, Amazon WAF will inspect all parameters within the query for the value or regex pattern that you specify in `TargetString`.

Type: String

Valid Values: `URI` | `QUERY_STRING` | `HEADER` | `METHOD` | `BODY` | `SINGLE_QUERY_ARG` | `ALL_QUERY_ARGS`

Required: Yes

## Data

When the value of `Type` is `HEADER`, enter the name of the header that you want Amazon WAF to search, for example, `User-Agent` or `Referer`. The name of the header is not case sensitive.

When the value of `Type` is `SINGLE_QUERY_ARG`, enter the name of the parameter that you want Amazon WAF to search, for example, `UserName` or `SalesRegion`. The parameter name is not case sensitive.

If the value of `Type` is any other value, omit `Data`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)



# GeoMatchConstraint

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The country from which web requests originate that you want Amazon WAF to search for.

## Contents

### Type

The type of geographical area you want Amazon WAF to search for. Currently `Country` is the only valid value.

Type: String

Valid Values: `Country`

Required: Yes

### Value

The country that you want Amazon WAF to search for.

Type: String

Valid Values: `AF` | `AX` | `AL` | `DZ` | `AS` | `AD` | `AO` | `AI` | `AQ` | `AG` | `AR` | `AM` | `AW` | `AU` | `AT` | `AZ` | `BS` | `BH` | `BD` | `BB` | `BY` | `BE` | `BZ` | `BJ` | `BM` | `BT` | `BO` | `BQ` | `BA` | `BW` | `BV` | `BR` | `IO` | `BN` | `BG` | `BF` | `BI` | `KH` | `CM` | `CA` | `CV` | `KY` | `CF` | `TD` | `CL` | `CN` | `CX` | `CC` | `CO` | `KM` | `CG` | `CD` | `CK` | `CR` | `CI` | `HR` | `CU` | `CW` | `CY` | `CZ` | `DK` | `DJ` | `DM` | `DO` | `EC` | `EG` | `SV` | `GQ` | `ER` | `EE` | `ET` | `FK` | `FO` | `FJ` | `FI` | `FR` | `GF` | `PF` | `TF` | `GA` | `GM` | `GE` | `DE` | `GH` | `GI` |

GR | GL | GD | GP | GU | GT | GG | GN | GW | GY | HT | HM | VA | HN | HK  
| HU | IS | IN | ID | IR | IQ | IE | IM | IL | IT | JM | JP | JE | JO |  
KZ | KE | KI | KP | KR | KW | KG | LA | LV | LB | LS | LR | LY | LI | LT  
| LU | MO | MK | MG | MW | MY | MV | ML | MT | MH | MQ | MR | MU | YT |  
MX | FM | MD | MC | MN | ME | MS | MA | MZ | MM | NA | NR | NP | NL | NC  
| NZ | NI | NE | NG | NU | NF | MP | NO | OM | PK | PW | PS | PA | PG |  
PY | PE | PH | PN | PL | PT | PR | QA | RE | RO | RU | RW | BL | SH | KN  
| LC | MF | PM | VC | WS | SM | ST | SA | SN | RS | SC | SL | SG | SX |  
SK | SI | SB | SO | ZA | GS | SS | ES | LK | SD | SR | SJ | SZ | SE | CH  
| SY | TW | TJ | TZ | TH | TL | TG | TK | TO | TT | TN | TR | TM | TC |  
TV | UG | UA | AE | GB | US | UM | UY | UZ | VU | VE | VN | VG | VI | WF  
| EH | YE | ZM | ZW

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# GeoMatchSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Contains one or more countries that Amazon WAF will search for.

## Contents

### GeoMatchConstraints

An array of [GeoMatchConstraint](#) objects, which contain the country that you want Amazon WAF to search for.

Type: Array of [GeoMatchConstraint](#) objects

Required: Yes

### GeoMatchSetId

The GeoMatchSetId for an GeoMatchSet. You use GeoMatchSetId to get information about a GeoMatchSet (see [GeoMatchSet](#)), update a GeoMatchSet (see [UpdateGeoMatchSet](#)), insert a GeoMatchSet into a Rule or delete one from a Rule (see [UpdateRule](#)), and delete a GeoMatchSet from Amazon WAF (see [DeleteGeoMatchSet](#)).

GeoMatchSetId is returned by [CreateGeoMatchSet](#) and by [ListGeoMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Name

A friendly name or description of the [GeoMatchSet](#). You can't change the name of an GeoMatchSet after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# GeoMatchSetSummary

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Contains the identifier and the name of the GeoMatchSet.

## Contents

### GeoMatchSetId

The GeoMatchSetId for an [GeoMatchSet](#). You can use GeoMatchSetId in a [GetGeoMatchSet](#) request to get detailed information about an [GeoMatchSet](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Name

A friendly name or description of the [GeoMatchSet](#). You can't change the name of an GeoMatchSet after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# GeoMatchSetUpdate

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies the type of update to perform to an [GeoMatchSet](#) with [UpdateGeoMatchSet](#).

## Contents

### Action

Specifies whether to insert or delete a country with [UpdateGeoMatchSet](#).

Type: String

Valid Values: INSERT | DELETE

Required: Yes

### GeoMatchConstraint

The country from which web requests originate that you want Amazon WAF to search for.

Type: [GeoMatchConstraint](#) object

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)

- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# HTTPHeader

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The response from a [GetSampledRequests](#) request includes an `HTTPHeader` complex type that appears as `Headers` in the response syntax. `HTTPHeader` contains the names and values of all of the headers that appear in one of the web requests that were returned by `GetSampledRequests`.

## Contents

### Name

The name of one of the headers in the sampled web request.

Type: String

Required: No

### Value

The value of one of the headers in the sampled web request.

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)

- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# HTTPRequest

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The response from a [GetSampledRequests](#) request includes an HTTPRequest complex type that appears as Request in the response syntax. HTTPRequest contains information about one of the web requests that were returned by GetSampledRequests.

## Contents

### ClientIP

The IP address that the request originated from. If the WebACL is associated with an Amazon CloudFront distribution, this is the value of one of the following fields in CloudFront access logs:

- `c-ip`, if the viewer did not use an HTTP proxy or a load balancer to send the request
- `x-forwarded-for`, if the viewer did use an HTTP proxy or a load balancer to send the request

Type: String

Required: No

### Country

The two-letter country code for the country that the request originated from. For a current list of country codes, see the Wikipedia entry [ISO 3166-1 alpha-2](#).

Type: String

Required: No

## Headers

A complex type that contains two values for each header in the sampled web request: the name of the header and the value of the header.

Type: Array of [HTTPHeader](#) objects

Required: No

## HTTPVersion

The HTTP version specified in the sampled web request, for example, HTTP/1.1.

Type: String

Required: No

## Method

The HTTP method specified in the sampled web request. Amazon CloudFront supports the following methods: DELETE, GET, HEAD, OPTIONS, PATCH, POST, and PUT.

Type: String

Required: No

## URI

The path component of the URI. This does not include the query string or fragment components of the URI. For information, see [Uniform Resource Identifier \(URI\): Generic Syntax](#).

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)



# IPSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Contains one or more IP addresses or blocks of IP addresses specified in Classless Inter-Domain Routing (CIDR) notation. Amazon WAF supports IPv4 address ranges: /8 and any range between /16 through /32. Amazon WAF supports IPv6 address ranges: /24, /32, /48, /56, /64, and /128.

To specify an individual IP address, you specify the four-part IP address followed by a /32, for example, 192.0.2.0/32. To block a range of IP addresses, you can specify /8 or any range between /16 through /32 (for IPv4) or /24, /32, /48, /56, /64, or /128 (for IPv6). For more information about CIDR notation, see the Wikipedia entry [Classless Inter-Domain Routing](#).

## Contents

### IPSetDescriptors

The IP address type (IPV4 or IPV6) and the IP address range (in CIDR notation) that web requests originate from. If the WebACL is associated with an Amazon CloudFront distribution and the viewer did not use an HTTP proxy or a load balancer to send the request, this is the value of the c-ip field in the CloudFront access logs.

Type: Array of [IPSetDescriptor](#) objects

Required: Yes

## IPSetId

The IPSetId for an IPSet. You use IPSetId to get information about an IPSet (see [GetIPSet](#)), update an IPSet (see [UpdateIPSet](#)), insert an IPSet into a Rule or delete one from a Rule (see [UpdateRule](#)), and delete an IPSet from Amazon WAF (see [DeleteIPSet](#)).

IPSetId is returned by [CreateIPSet](#) and by [ListIPSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Name

A friendly name or description of the [IPSet](#). You can't change the name of an IPSet after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# IPSetDescriptor

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies the IP address type (IPV4 or IPV6) and the IP address range (in CIDR format) that web requests originate from.

## Contents

### Type

Specify IPV4 or IPV6.

Type: String

Valid Values: IPV4 | IPV6

Required: Yes

### Value

Specify an IPv4 address by using CIDR notation. For example:

- To configure Amazon WAF to allow, block, or count requests that originated from the IP address 192.0.2.44, specify 192.0.2.44/32.
- To configure Amazon WAF to allow, block, or count requests that originated from IP addresses from 192.0.2.0 to 192.0.2.255, specify 192.0.2.0/24.

For more information about CIDR notation, see the Wikipedia entry [Classless Inter-Domain Routing](#).

Specify an IPv6 address by using CIDR notation. For example:

- To configure Amazon WAF to allow, block, or count requests that originated from the IP address 1111:0000:0000:0000:0000:0000:0000:0111, specify 1111:0000:0000:0000:0000:0000:0000:0111/128.
- To configure Amazon WAF to allow, block, or count requests that originated from IP addresses 1111:0000:0000:0000:0000:0000:0000:0000 to 1111:0000:0000:0000:ffff:ffff:ffff:ffff, specify 1111:0000:0000:0000:0000:0000:0000:0000/64.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 50.

Pattern: .\*\\S.\*

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# IPSetSummary

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Contains the identifier and the name of the IPSet.

## Contents

### IPSetId

The IPSetId for an [IPSet](#). You can use IPSetId in a [GetIPSet](#) request to get detailed information about an [IPSet](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Name

A friendly name or description of the [IPSet](#). You can't change the name of an IPSet after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# IPSetUpdate

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies the type of update to perform to an [IPSet](#) with [UpdateIPSet](#).

## Contents

### Action

Specifies whether to insert or delete an IP address with [UpdateIPSet](#).

Type: String

Valid Values: INSERT | DELETE

Required: Yes

### IPSetDescriptor

The IP address type (IPV4 or IPV6) and the IP address range (in CIDR notation) that web requests originate from.

Type: [IPSetDescriptor](#) object

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# LoggingConfiguration

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The Amazon Data Firehose, RedactedFields information, and the web ACL Amazon Resource Name (ARN).

## Contents

### LogDestinationConfigs

An array of Amazon Data Firehose ARNs.

Type: Array of strings

Array Members: Fixed number of 1 item.

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: Yes

### ResourceArn

The Amazon Resource Name (ARN) of the web ACL that you want to associate with LogDestinationConfigs.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: Yes

## RedactedFields

The parts of the request that you want redacted from the logs. For example, if you redact the cookie field, the cookie field in the firehose will be xxx.

Type: Array of [FieldToMatch](#) objects

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# Predicate

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies the [ByteMatchSet](#), [IPSet](#), [SqlInjectionMatchSet](#), [XssMatchSet](#), [RegexMatchSet](#), [GeoMatchSet](#), and [SizeConstraintSet](#) objects that you want to add to a `Rule` and, for each object, indicates whether you want to negate the settings, for example, requests that do NOT originate from the IP address 192.0.2.44.

## Contents

### DataId

A unique identifier for a predicate in a `Rule`, such as `ByteMatchSetId` or `IPSetId`. The ID is returned by the corresponding `Create` or `List` command.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Negated

Set `Negated` to `False` if you want Amazon WAF to allow, block, or count requests based on the settings in the specified [ByteMatchSet](#), [IPSet](#), [SqlInjectionMatchSet](#), [XssMatchSet](#), [RegexMatchSet](#), [GeoMatchSet](#), or [SizeConstraintSet](#). For example, if an `IPSet` includes the IP address `192.0.2.44`, Amazon WAF will allow or block requests based on that IP address.

Set `Negated` to `True` if you want Amazon WAF to allow or block a request based on the negation of the settings in the [ByteMatchSet](#), [IPSet](#), [SqlInjectionMatchSet](#), [XssMatchSet](#), [RegexMatchSet](#), [GeoMatchSet](#), or [SizeConstraintSet](#). For example, if an `IPSet` includes the IP address `192.0.2.44`, Amazon WAF will allow, block, or count requests based on all IP addresses *except* `192.0.2.44`.

Type: Boolean

Required: Yes

## Type

The type of predicate in a `Rule`, such as `ByteMatch` or `IPSet`.

Type: String

Valid Values: `IPMatch` | `ByteMatch` | `SqlInjectionMatch` | `GeoMatch` | `SizeConstraint` | `XssMatch` | `RegexMatch`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RateBasedRule

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

A `RateBasedRule` is identical to a regular [Rule](#), with one addition: a `RateBasedRule` counts the number of requests that arrive from a specified IP address every five minutes. For example, based on recent requests that you've seen from an attacker, you might create a `RateBasedRule` that includes the following conditions:

- The requests come from 192.0.2.44.
- They contain the value `BadBot` in the `User-Agent` header.

In the rule, you also define the rate limit as 1,000.

Requests that meet both of these conditions and exceed 1,000 requests every five minutes trigger the rule's action (block or count), which is defined in the web ACL.

## Contents

### MetricName

A friendly name or description for the metrics for a `RateBasedRule`. The name can contain only alphanumeric characters (A-Z, a-z, 0-9), with maximum length 128 and minimum length one. It can't contain whitespace or metric names reserved for Amazon WAF, including "All" and "Default\_Action." You can't change the name of the metric after you create the `RateBasedRule`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

## Name

A friendly name or description for a `RateBasedRule`. You can't change the name of a `RateBasedRule` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

## RateKey

The field that Amazon WAF uses to determine if requests are likely arriving from single source and thus subject to rate monitoring. The only valid value for `RateKey` is `IP`. `IP` indicates that requests arriving from the same IP address are subject to the `RateLimit` that is specified in the `RateBasedRule`.

Type: String

Valid Values: `IP`

Required: Yes

## RateLimit

The maximum number of requests, which have an identical value in the field specified by the `RateKey`, allowed in a five-minute period. If the number of requests exceeds the `RateLimit` and the other predicates specified in the rule are also met, Amazon WAF triggers the action that is specified for this rule.

Type: Long

Valid Range: Minimum value of 100. Maximum value of 2000000000.

Required: Yes

## RuleId

A unique identifier for a `RateBasedRule`. You use `RuleId` to get more information about a `RateBasedRule` (see [GetRateBasedRule](#)), update a `RateBasedRule` (see [UpdateRateBasedRule](#)), insert a `RateBasedRule` into a WebACL or delete one from a WebACL (see [UpdateWebACL](#)), or delete a `RateBasedRule` from Amazon WAF (see [DeleteRateBasedRule](#)).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## MatchPredicates

The `Predicates` object contains one `Predicate` element for each [ByteMatchSet](#), [IPSet](#), or [SqlInjectionMatchSet](#) object that you want to include in a `RateBasedRule`.

Type: Array of [Predicate](#) objects

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RegexMatchSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

In a [GetRegexMatchSet](#) request, `RegexMatchSet` is a complex type that contains the `RegexMatchSetId` and `Name` of a `RegexMatchSet`, and the values that you specified when you updated the `RegexMatchSet`.

The values are contained in a `RegexMatchTuple` object, which specify the parts of web requests that you want Amazon WAF to inspect and the values that you want Amazon WAF to search for. If a `RegexMatchSet` contains more than one `RegexMatchTuple` object, a request needs to match the settings in only one `ByteMatchTuple` to be considered a match.

## Contents

### Name

A friendly name or description of the [RegexMatchSet](#). You can't change `Name` after you create a `RegexMatchSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

### RegexMatchSetId

The `RegexMatchSetId` for a `RegexMatchSet`. You use `RegexMatchSetId` to get information about a `RegexMatchSet` (see [GetRegexMatchSet](#)), update a `RegexMatchSet` (see

[UpdateRegexMatchSet](#)), insert a `RegexMatchSet` into a `Rule` or delete one from a `Rule` (see [UpdateRule](#)), and delete a `RegexMatchSet` from Amazon WAF (see [DeleteRegexMatchSet](#)).

`RegexMatchSetId` is returned by [CreateRegexMatchSet](#) and by [ListRegexMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

## RegexMatchTuples

Contains an array of [RegexMatchTuple](#) objects. Each `RegexMatchTuple` object contains:

- The part of a web request that you want Amazon WAF to inspect, such as a query string or the value of the `User-Agent` header.
- The identifier of the pattern (a regular expression) that you want Amazon WAF to look for. For more information, see [RegexPatternSet](#).
- Whether to perform any conversions on the request, such as converting it to lowercase, before inspecting it for the specified string.

Type: Array of [RegexMatchTuple](#) objects

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RegexMatchSetSummary

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returned by [ListRegexMatchSets](#). Each `RegexMatchSetSummary` object includes the `Name` and `RegexMatchSetId` for one [RegexMatchSet](#).

## Contents

### Name

A friendly name or description of the [RegexMatchSet](#). You can't change `Name` after you create a `RegexMatchSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### RegexMatchSetId

The `RegexMatchSetId` for a `RegexMatchSet`. You use `RegexMatchSetId` to get information about a `RegexMatchSet`, update a `RegexMatchSet`, remove a `RegexMatchSet` from a `Rule`, and delete a `RegexMatchSet` from Amazon WAF.

`RegexMatchSetId` is returned by [CreateRegexMatchSet](#) and by [ListRegexMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RegexMatchSetUpdate

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

In an [UpdateRegexMatchSet](#) request, `RegexMatchSetUpdate` specifies whether to insert or delete a [RegexMatchTuple](#) and includes the settings for the `RegexMatchTuple`.

## Contents

### Action

Specifies whether to insert or delete a [RegexMatchTuple](#).

Type: String

Valid Values: INSERT | DELETE

Required: Yes

### RegexMatchTuple

Information about the part of a web request that you want Amazon WAF to inspect and the identifier of the regular expression (regex) pattern that you want Amazon WAF to search for. If you specify DELETE for the value of `Action`, the `RegexMatchTuple` values must exactly match the values in the `RegexMatchTuple` that you want to delete from the `RegexMatchSet`.

Type: [RegexMatchTuple](#) object

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RegexMatchTuple

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The regular expression pattern that you want Amazon WAF to search for in web requests, the location in requests that you want Amazon WAF to search, and other settings. Each `RegexMatchTuple` object contains:

- The part of a web request that you want Amazon WAF to inspect, such as a query string or the value of the `User-Agent` header.
- The identifier of the pattern (a regular expression) that you want Amazon WAF to look for. For more information, see [RegexPatternSet](#).
- Whether to perform any conversions on the request, such as converting it to lowercase, before inspecting it for the specified string.

## Contents

### FieldToMatch

Specifies where in a web request to look for the `RegexPatternSet`.

Type: [FieldToMatch](#) object

Required: Yes

### RegexPatternSetId

The `RegexPatternSetId` for a `RegexPatternSet`. You use `RegexPatternSetId` to get information about a `RegexPatternSet` (see [GetRegexPatternSet](#)), update a `RegexPatternSet` (see [UpdateRegexPatternSet](#)), insert a `RegexPatternSet` into a

RegexMatchSet or delete one from a RegexMatchSet (see [UpdateRegexMatchSet](#)), and delete an RegexPatternSet from Amazon WAF (see [DeleteRegexPatternSet](#)).

RegexPatternSetId is returned by [CreateRegexPatternSet](#) and by [ListRegexPatternSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

## TextTransformation

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass Amazon WAF. If you specify a transformation, Amazon WAF performs the transformation on RegexPatternSet before inspecting a request for a match.

You can only specify a single type of TextTransformation.

### CMD\_LINE

When you're concerned that attackers are injecting an operating system commandline command and using unusual formatting to disguise some or all of the command, use this option to perform the following transformations:

- Delete the following characters: \ " ' ^
- Delete spaces before the following characters: / (
- Replace the following characters with a space: , ;
- Replace multiple spaces with one space
- Convert uppercase letters (A-Z) to lowercase (a-z)

### COMPRESS\_WHITE\_SPACE

Use this option to replace the following characters with a space character (decimal 32):

- \f, formfeed, decimal 12
- \t, tab, decimal 9
- \n, newline, decimal 10
- \r, carriage return, decimal 13
- \v, vertical tab, decimal 11

- non-breaking space, decimal 160

COMPRESS\_WHITE\_SPACE also replaces multiple spaces with one space.

### HTML\_ENTITY\_DECODE

Use this option to replace HTML-encoded characters with unencoded characters.

HTML\_ENTITY\_DECODE performs the following operations:

- Replaces (ampersand)quot; with "
- Replaces (ampersand)nbsp; with a non-breaking space, decimal 160
- Replaces (ampersand)lt; with a "less than" symbol
- Replaces (ampersand)gt; with >
- Replaces characters that are represented in hexadecimal format, (ampersand)#xhhhh;, with the corresponding characters
- Replaces characters that are represented in decimal format, (ampersand)#nnnn;, with the corresponding characters

### LOWERCASE

Use this option to convert uppercase letters (A-Z) to lowercase (a-z).

### URL\_DECODE

Use this option to decode a URL-encoded value.

### NONE

Specify NONE if you don't want to perform any text transformations.

Type: String

Valid Values: NONE | COMPRESS\_WHITE\_SPACE | HTML\_ENTITY\_DECODE | LOWERCASE | CMD\_LINE | URL\_DECODE

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RegexPatternSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The `RegexPatternSet` specifies the regular expression (regex) pattern that you want Amazon WAF to search for, such as `B[a@]dB[o0]t`. You can then configure Amazon WAF to reject those requests.

## Contents

### RegexPatternSetId

The identifier for the `RegexPatternSet`. You use `RegexPatternSetId` to get information about a `RegexPatternSet`, update a `RegexPatternSet`, remove a `RegexPatternSet` from a `RegexMatchSet`, and delete a `RegexPatternSet` from Amazon WAF.

`RegexMatchSetId` is returned by [CreateRegexPatternSet](#) and by [ListRegexPatternSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### RegexPatternStrings

Specifies the regular expression (regex) patterns that you want Amazon WAF to search for, such as `B[a@]dB[o0]t`.

Type: Array of strings

Array Members: Maximum number of 10 items.

Length Constraints: Minimum length of 1. Maximum length of 512.

Pattern: .\*

Required: Yes

## Name

A friendly name or description of the [RegexPatternSet](#). You can't change Name after you create a `RegexPatternSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RegexPatternSetSummary

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returned by [ListRegexPatternSets](#). Each `RegexPatternSetSummary` object includes the `Name` and `RegexPatternSetId` for one [RegexPatternSet](#).

## Contents

### Name

A friendly name or description of the [RegexPatternSet](#). You can't change `Name` after you create a `RegexPatternSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### RegexPatternSetId

The `RegexPatternSetId` for a `RegexPatternSet`. You use `RegexPatternSetId` to get information about a `RegexPatternSet`, update a `RegexPatternSet`, remove a `RegexPatternSet` from a `RegexMatchSet`, and delete a `RegexPatternSet` from Amazon WAF.

`RegexPatternSetId` is returned by [CreateRegexPatternSet](#) and by [ListRegexPatternSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RegexPatternSetUpdate

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

In an [UpdateRegexPatternSet](#) request, `RegexPatternSetUpdate` specifies whether to insert or delete a `RegexPatternString` and includes the settings for the `RegexPatternString`.

## Contents

### Action

Specifies whether to insert or delete a `RegexPatternString`.

Type: String

Valid Values: INSERT | DELETE

Required: Yes

### RegexPatternString

Specifies the regular expression (regex) pattern that you want Amazon WAF to search for, such as `B[a@]dB[o0]t`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 512.

Pattern: .\*

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# Rule

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

A combination of [ByteMatchSet](#), [IPSet](#), and/or [SqlInjectionMatchSet](#) objects that identify the web requests that you want to allow, block, or count. For example, you might create a `Rule` that includes the following predicates:

- An `IPSet` that causes Amazon WAF to search for web requests that originate from the IP address `192.0.2.44`
- A `ByteMatchSet` that causes Amazon WAF to search for web requests for which the value of the `User-Agent` header is `BadBot`.

To match the settings in this `Rule`, a request must originate from `192.0.2.44` AND include a `User-Agent` header for which the value is `BadBot`.

## Contents

### Predicates

The `Predicates` object contains one `Predicate` element for each [ByteMatchSet](#), [IPSet](#), or [SqlInjectionMatchSet](#) object that you want to include in a `Rule`.

Type: Array of [Predicate](#) objects

Required: Yes

## RuleId

A unique identifier for a Rule. You use RuleId to get more information about a Rule (see [GetRule](#)), update a Rule (see [UpdateRule](#)), insert a Rule into a WebACL or delete a one from a WebACL (see [UpdateWebACL](#)), or delete a Rule from Amazon WAF (see [DeleteRule](#)).

RuleId is returned by [CreateRule](#) and by [ListRules](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## MetricName

A friendly name or description for the metrics for this Rule. The name can contain only alphanumeric characters (A-Z, a-z, 0-9), with maximum length 128 and minimum length one. It can't contain whitespace or metric names reserved for Amazon WAF, including "All" and "Default\_Action." You can't change MetricName after you create the Rule.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

## Name

The friendly name or description for the Rule. You can't change the name of a Rule after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RuleGroup

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

A collection of predefined rules that you can add to a web ACL.

Rule groups are subject to the following limits:

- Three rule groups per account. You can request an increase to this limit by contacting customer support.
- One rule group per web ACL.
- Ten rules per rule group.

## Contents

### RuleGroupId

A unique identifier for a RuleGroup. You use RuleGroupId to get more information about a RuleGroup (see [GetRuleGroup](#)), update a RuleGroup (see [UpdateRuleGroup](#)), insert a RuleGroup into a WebACL or delete a one from a WebACL (see [UpdateWebACL](#)), or delete a RuleGroup from Amazon WAF (see [DeleteRuleGroup](#)).

RuleGroupId is returned by [CreateRuleGroup](#) and by [ListRuleGroups](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### **MetricName**

A friendly name or description for the metrics for this RuleGroup. The name can contain only alphanumeric characters (A-Z, a-z, 0-9), with maximum length 128 and minimum length one. It can't contain whitespace or metric names reserved for Amazon WAF, including "All" and "Default\_Action." You can't change the name of the metric after you create the RuleGroup.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

### **Name**

The friendly name or description for the RuleGroup. You can't change the name of a RuleGroup after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

### **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RuleGroupSummary

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Contains the identifier and the friendly name or description of the RuleGroup.

## Contents

### Name

A friendly name or description of the [RuleGroup](#). You can't change the name of a RuleGroup after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### RuleGroupId

A unique identifier for a RuleGroup. You use RuleGroupId to get more information about a RuleGroup (see [GetRuleGroup](#)), update a RuleGroup (see [UpdateRuleGroup](#)), insert a RuleGroup into a WebACL or delete one from a WebACL (see [UpdateWebACL](#)), or delete a RuleGroup from Amazon WAF (see [DeleteRuleGroup](#)).

RuleGroupId is returned by [CreateRuleGroup](#) and by [ListRuleGroups](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RuleGroupUpdate

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies an `ActivatedRule` and indicates whether you want to add it to a `RuleGroup` or delete it from a `RuleGroup`.

## Contents

### Action

Specify `INSERT` to add an `ActivatedRule` to a `RuleGroup`. Use `DELETE` to remove an `ActivatedRule` from a `RuleGroup`.

Type: String

Valid Values: `INSERT` | `DELETE`

Required: Yes

### ActivatedRule

The `ActivatedRule` object specifies a `Rule` that you want to insert or delete, the priority of the `Rule` in the WebACL, and the action that you want Amazon WAF to take when a web request matches the `Rule` (`ALLOW`, `BLOCK`, or `COUNT`).

Type: [ActivatedRule](#) object

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RuleSummary

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Contains the identifier and the friendly name or description of the Rule.

## Contents

### Name

A friendly name or description of the [Rule](#). You can't change the name of a Rule after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### RuleId

A unique identifier for a Rule. You use RuleId to get more information about a Rule (see [GetRule](#)), update a Rule (see [UpdateRule](#)), insert a Rule into a WebACL or delete one from a WebACL (see [UpdateWebACL](#)), or delete a Rule from Amazon WAF (see [DeleteRule](#)).

RuleId is returned by [CreateRule](#) and by [ListRules](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RuleUpdate

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies a Predicate (such as an IPSet) and indicates whether you want to add it to a Rule or delete it from a Rule.

## Contents

### Action

Specify INSERT to add a Predicate to a Rule. Use DELETE to remove a Predicate from a Rule.

Type: String

Valid Values: INSERT | DELETE

Required: Yes

### Predicate

The ID of the Predicate (such as an IPSet) that you want to add to a Rule.

Type: [Predicate](#) object

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# SampledHTTPRequest

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The response from a [GetSampledRequests](#) request includes a SampledHTTPRequest complex type that appears as SampledRequests in the response syntax. SampledHTTPRequest contains one SampledHTTPRequest object for each web request that is returned by GetSampledRequests.

## Contents

### Request

A complex type that contains detailed information about the request.

Type: [HTTPRequest](#) object

Required: Yes

### Weight

A value that indicates how one result in the response relates proportionally to other results in the response. A result that has a weight of 2 represents roughly twice as many Amazon CloudFront web requests as a result that has a weight of 1.

Type: Long

Valid Range: Minimum value of 0.

Required: Yes

### Action

The action for the Rule that the request matched: ALLOW, BLOCK, or COUNT.

Type: String

Required: No

### **RuleWithinRuleGroup**

This value is returned if the `GetSampledRequests` request specifies the ID of a `RuleGroup` rather than the ID of an individual rule. `RuleWithinRuleGroup` is the rule within the specified `RuleGroup` that matched the request listed in the response.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

### **Timestamp**

The time at which Amazon WAF received the request from your Amazon resource, in Unix time format (in seconds).

Type: Timestamp

Required: No

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# SizeConstraint

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies a constraint on the size of a part of the web request. Amazon WAF uses the `Size`, `ComparisonOperator`, and `FieldToMatch` to build an expression in the form of "Size ComparisonOperator size in bytes of FieldToMatch". If that expression is true, the `SizeConstraint` is considered to match.

## Contents

### ComparisonOperator

The type of comparison you want Amazon WAF to perform. Amazon WAF uses this in combination with the provided `Size` and `FieldToMatch` to build an expression in the form of "Size ComparisonOperator size in bytes of FieldToMatch". If that expression is true, the `SizeConstraint` is considered to match.

**EQ:** Used to test if the `Size` is equal to the size of the `FieldToMatch`

**NE:** Used to test if the `Size` is not equal to the size of the `FieldToMatch`

**LE:** Used to test if the `Size` is less than or equal to the size of the `FieldToMatch`

**LT:** Used to test if the `Size` is strictly less than the size of the `FieldToMatch`

**GE:** Used to test if the `Size` is greater than or equal to the size of the `FieldToMatch`

**GT:** Used to test if the `Size` is strictly greater than the size of the `FieldToMatch`

Type: String

Valid Values: EQ | NE | LE | LT | GE | GT

Required: Yes

### FieldToMatch

Specifies where in a web request to look for the size constraint.

Type: [FieldToMatch](#) object

Required: Yes

### Size

The size in bytes that you want Amazon WAF to compare against the size of the specified `FieldToMatch`. Amazon WAF uses this in combination with `ComparisonOperator` and `FieldToMatch` to build an expression in the form of "Size `ComparisonOperator` size in bytes of `FieldToMatch`". If that expression is true, the `SizeConstraint` is considered to match.

Valid values for size are 0 - 21474836480 bytes (0 - 20 GB).

If you specify URI for the value of `Type`, the / in the URI path that you specify counts as one character. For example, the URI `/logo.jpg` is nine characters long.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 21474836480.

Required: Yes

### TextTransformation

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass Amazon WAF. If you specify a transformation, Amazon WAF performs the transformation on `FieldToMatch` before inspecting it for a match.

You can only specify a single type of `TextTransformation`.

Note that if you choose `BODY` for the value of `Type`, you must choose `NONE` for `TextTransformation` because Amazon CloudFront forwards only the first 8192 bytes for inspection.

### NONE

Specify NONE if you don't want to perform any text transformations.

## **CMD\_LINE**

When you're concerned that attackers are injecting an operating system command line command and using unusual formatting to disguise some or all of the command, use this option to perform the following transformations:

- Delete the following characters: \ " ' ^
- Delete spaces before the following characters: / (
- Replace the following characters with a space: , ;
- Replace multiple spaces with one space
- Convert uppercase letters (A-Z) to lowercase (a-z)

## **COMPRESS\_WHITE\_SPACE**

Use this option to replace the following characters with a space character (decimal 32):

- \f, formfeed, decimal 12
- \t, tab, decimal 9
- \n, newline, decimal 10
- \r, carriage return, decimal 13
- \v, vertical tab, decimal 11
- non-breaking space, decimal 160

COMPRESS\_WHITE\_SPACE also replaces multiple spaces with one space.

## **HTML\_ENTITY\_DECODE**

Use this option to replace HTML-encoded characters with unencoded characters.

HTML\_ENTITY\_DECODE performs the following operations:

- Replaces (ampersand)quot; with "
- Replaces (ampersand)nbsp; with a non-breaking space, decimal 160
- Replaces (ampersand)lt; with a "less than" symbol
- Replaces (ampersand)gt; with >
- Replaces characters that are represented in hexadecimal format, (ampersand)#xhhhh;, with the corresponding characters

- Replaces characters that are represented in decimal format, (ampersand)#nnnn;, with the corresponding characters

## LOWERCASE

Use this option to convert uppercase letters (A-Z) to lowercase (a-z).

## URL\_DECODE

Use this option to decode a URL-encoded value.

Type: String

Valid Values: NONE | COMPRESS\_WHITE\_SPACE | HTML\_ENTITY\_DECODE | LOWERCASE | CMD\_LINE | URL\_DECODE

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# SizeConstraintSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

A complex type that contains `SizeConstraint` objects, which specify the parts of web requests that you want Amazon WAF to inspect the size of. If a `SizeConstraintSet` contains more than one `SizeConstraint` object, a request only needs to match one constraint to be considered a match.

## Contents

### SizeConstraints

Specifies the parts of web requests that you want to inspect the size of.

Type: Array of [SizeConstraint](#) objects

Required: Yes

### SizeConstraintSetId

A unique identifier for a `SizeConstraintSet`. You use `SizeConstraintSetId` to get information about a `SizeConstraintSet` (see [GetSizeConstraintSet](#)), update a `SizeConstraintSet` (see [UpdateSizeConstraintSet](#)), insert a `SizeConstraintSet` into a `Rule` or delete one from a `Rule` (see [UpdateRule](#)), and delete a `SizeConstraintSet` from Amazon WAF (see [DeleteSizeConstraintSet](#)).

`SizeConstraintSetId` is returned by [CreateSizeConstraintSet](#) and by [ListSizeConstraintSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Name

The name, if any, of the `SizeConstraintSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# SizeConstraintSetSummary

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The Id and Name of a SizeConstraintSet.

## Contents

### Name

The name of the SizeConstraintSet, if any.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### SizeConstraintSetId

A unique identifier for a SizeConstraintSet. You use SizeConstraintSetId to get information about a SizeConstraintSet (see [GetSizeConstraintSet](#)), update a SizeConstraintSet (see [UpdateSizeConstraintSet](#)), insert a SizeConstraintSet into a Rule or delete one from a Rule (see [UpdateRule](#)), and delete a SizeConstraintSet from Amazon WAF (see [DeleteSizeConstraintSet](#)).

SizeConstraintSetId is returned by [CreateSizeConstraintSet](#) and by [ListSizeConstraintSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# SizeConstraintSetUpdate

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies the part of a web request that you want to inspect the size of and indicates whether you want to add the specification to a [SizeConstraintSet](#) or delete it from a `SizeConstraintSet`.

## Contents

### Action

Specify `INSERT` to add a [SizeConstraintSetUpdate](#) to a [SizeConstraintSet](#). Use `DELETE` to remove a `SizeConstraintSetUpdate` from a `SizeConstraintSet`.

Type: String

Valid Values: `INSERT` | `DELETE`

Required: Yes

### SizeConstraint

Specifies a constraint on the size of a part of the web request. Amazon WAF uses the `Size`, `ComparisonOperator`, and `FieldToMatch` to build an expression in the form of "`Size ComparisonOperator size in bytes of FieldToMatch`". If that expression is true, the `SizeConstraint` is considered to match.

Type: [SizeConstraint](#) object

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# SqlInjectionMatchSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

A complex type that contains `SqlInjectionMatchTuple` objects, which specify the parts of web requests that you want Amazon WAF to inspect for snippets of malicious SQL code and, if you want Amazon WAF to inspect a header, the name of the header. If a `SqlInjectionMatchSet` contains more than one `SqlInjectionMatchTuple` object, a request needs to include snippets of SQL code in only one of the specified parts of the request to be considered a match.

## Contents

### SqlInjectionMatchSetId

A unique identifier for a `SqlInjectionMatchSet`. You use `SqlInjectionMatchSetId` to get information about a `SqlInjectionMatchSet` (see [GetSqlInjectionMatchSet](#)), update a `SqlInjectionMatchSet` (see [UpdateSqlInjectionMatchSet](#)), insert a `SqlInjectionMatchSet` into a `Rule` or delete one from a `Rule` (see [UpdateRule](#)), and delete a `SqlInjectionMatchSet` from Amazon WAF (see [DeleteSqlInjectionMatchSet](#)).

`SqlInjectionMatchSetId` is returned by [CreateSqlInjectionMatchSet](#) and by [ListSqlInjectionMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## SqlInjectionMatchTuples

Specifies the parts of web requests that you want to inspect for snippets of malicious SQL code.

Type: Array of [SqlInjectionMatchTuple](#) objects

Required: Yes

### Name

The name, if any, of the SqlInjectionMatchSet.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# SqlInjectionMatchSetSummary

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The Id and Name of a SqlInjectionMatchSet.

## Contents

### Name

The name of the SqlInjectionMatchSet, if any, specified by Id.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### SqlInjectionMatchSetId

A unique identifier for a SqlInjectionMatchSet. You use SqlInjectionMatchSetId to get information about a SqlInjectionMatchSet (see [GetSqlInjectionMatchSet](#)), update a SqlInjectionMatchSet (see [UpdateSqlInjectionMatchSet](#)), insert a SqlInjectionMatchSet into a Rule or delete one from a Rule (see [UpdateRule](#)), and delete a SqlInjectionMatchSet from Amazon WAF (see [DeleteSqlInjectionMatchSet](#)).

SqlInjectionMatchSetId is returned by [CreateSqlInjectionMatchSet](#) and by [ListSqlInjectionMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# SqlInjectionMatchSetUpdate

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies the part of a web request that you want to inspect for snippets of malicious SQL code and indicates whether you want to add the specification to a [SqlInjectionMatchSet](#) or delete it from a [SqlInjectionMatchSet](#).

## Contents

### Action

Specify INSERT to add a [SqlInjectionMatchSetUpdate](#) to a [SqlInjectionMatchSet](#). Use DELETE to remove a [SqlInjectionMatchSetUpdate](#) from a [SqlInjectionMatchSet](#).

Type: String

Valid Values: INSERT | DELETE

Required: Yes

### SqlInjectionMatchTuple

Specifies the part of a web request that you want Amazon WAF to inspect for snippets of malicious SQL code and, if you want Amazon WAF to inspect a header, the name of the header.

Type: [SqlInjectionMatchTuple](#) object

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# SqlInjectionMatchTuple

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies the part of a web request that you want Amazon WAF to inspect for snippets of malicious SQL code and, if you want Amazon WAF to inspect a header, the name of the header.

## Contents

### FieldToMatch

Specifies where in a web request to look for snippets of malicious SQL code.

Type: [FieldToMatch](#) object

Required: Yes

### TextTransformation

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass Amazon WAF. If you specify a transformation, Amazon WAF performs the transformation on `FieldToMatch` before inspecting it for a match.

You can only specify a single type of `TextTransformation`.

### CMD\_LINE

When you're concerned that attackers are injecting an operating system command line command and using unusual formatting to disguise some or all of the command, use this option to perform the following transformations:

- Delete the following characters: \ " ' ^

- Delete spaces before the following characters: / (
- Replace the following characters with a space: , ;
- Replace multiple spaces with one space
- Convert uppercase letters (A-Z) to lowercase (a-z)

### **COMPRESS\_WHITE\_SPACE**

Use this option to replace the following characters with a space character (decimal 32):

- \f, formfeed, decimal 12
- \t, tab, decimal 9
- \n, newline, decimal 10
- \r, carriage return, decimal 13
- \v, vertical tab, decimal 11
- non-breaking space, decimal 160

COMPRESS\_WHITE\_SPACE also replaces multiple spaces with one space.

### **HTML\_ENTITY\_DECODE**

Use this option to replace HTML-encoded characters with unencoded characters.

HTML\_ENTITY\_DECODE performs the following operations:

- Replaces (ampersand)quot; with "
- Replaces (ampersand)nbsp; with a non-breaking space, decimal 160
- Replaces (ampersand)lt; with a "less than" symbol
- Replaces (ampersand)gt; with >
- Replaces characters that are represented in hexadecimal format, (ampersand)#xhhhh;, with the corresponding characters
- Replaces characters that are represented in decimal format, (ampersand)#nnnn;, with the corresponding characters

### **LOWERCASE**

Use this option to convert uppercase letters (A-Z) to lowercase (a-z).

### **URL\_DECODE**

Use this option to decode a URL-encoded value.

## NONE

Specify NONE if you don't want to perform any text transformations.

Type: String

Valid Values: NONE | COMPRESS\_WHITE\_SPACE | HTML\_ENTITY\_DECODE | LOWERCASE | CMD\_LINE | URL\_DECODE

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# SubscribedRuleGroupSummary

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

A summary of the rule groups you are subscribed to.

## Contents

### MetricName

A friendly name or description for the metrics for this RuleGroup. The name can contain only alphanumeric characters (A-Z, a-z, 0-9), with maximum length 128 and minimum length one. It can't contain whitespace or metric names reserved for Amazon WAF, including "All" and "Default\_Action." You can't change the name of the metric after you create the RuleGroup.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Name

A friendly name or description of the RuleGroup. You can't change the name of a RuleGroup after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## **RuleGroupId**

A unique identifier for a RuleGroup.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# Tag

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

A tag associated with an Amazon resource. Tags are key:value pairs that you can use to categorize and manage your resources, for purposes like billing. For example, you might set the tag key to "customer" and the value to the customer name or ID. You can specify one or more tags to add to each Amazon resource, up to 50 tags for a resource.

Tagging is only available through the API, SDKs, and CLI. You can't manage or view tags through the Amazon WAF Classic console. You can tag the Amazon resources that you manage through Amazon WAF Classic: web ACLs, rule groups, and rules.

## Contents

### Key

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Value

Type: String

Length Constraints: Minimum length of 0. Maximum length of 256.

Pattern: .\*

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# TagInfoForResource

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Information for a tag associated with an Amazon resource. Tags are key:value pairs that you can use to categorize and manage your resources, for purposes like billing. For example, you might set the tag key to "customer" and the value to the customer name or ID. You can specify one or more tags to add to each Amazon resource, up to 50 tags for a resource.

Tagging is only available through the API, SDKs, and CLI. You can't manage or view tags through the Amazon WAF Classic console. You can tag the Amazon resources that you manage through Amazon WAF Classic: web ACLs, rule groups, and rules.

## Contents

### ResourceARN

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

### TagList

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item.

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# TimeWindow

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

In a [GetSampledRequests](#) request, the `StartTime` and `EndTime` objects specify the time range for which you want Amazon WAF to return a sample of web requests.

You must specify the times in Coordinated Universal Time (UTC) format. UTC format includes the special designator, Z. For example, "2016-09-27T14:50Z".

In a [GetSampledRequests](#) response, the `StartTime` and `EndTime` objects specify the time range for which Amazon WAF actually returned a sample of web requests. Amazon WAF gets the specified number of requests from among the first 5,000 requests that your Amazon resource receives during the specified time period. If your resource receives more than 5,000 requests during that period, Amazon WAF stops sampling after the 5,000th request. In that case, `EndTime` is the time that Amazon WAF received the 5,000th request.

## Contents

### EndTime

The end of the time range from which you want `GetSampledRequests` to return a sample of the requests that your Amazon resource received. You must specify the date and time in Coordinated Universal Time (UTC) format. UTC format includes the special designator, Z. For example, "2016-09-27T14:50Z". You can specify any time range in the previous three hours.

Type: Timestamp

Required: Yes

## StartTime

The beginning of the time range from which you want `GetSampledRequests` to return a sample of the requests that your Amazon resource received. You must specify the date and time in Coordinated Universal Time (UTC) format. UTC format includes the special designator, Z. For example, "2016-09-27T14:50Z". You can specify any time range in the previous three hours.

Type: Timestamp

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# WafAction

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

For the action that is associated with a rule in a WebACL, specifies the action that you want Amazon WAF to perform when a web request matches all of the conditions in a rule. For the default action in a WebACL, specifies the action that you want Amazon WAF to take when a web request doesn't match all of the conditions in any of the rules in a WebACL.

## Contents

### Type

Specifies how you want Amazon WAF to respond to requests that match the settings in a Rule. Valid settings include the following:

- **ALLOW**: Amazon WAF allows requests
- **BLOCK**: Amazon WAF blocks requests
- **COUNT**: Amazon WAF increments a counter of the requests that match all of the conditions in the rule. Amazon WAF then continues to inspect the web request based on the remaining rules in the web ACL. You can't specify **COUNT** for the default action for a WebACL.

Type: String

Valid Values: **BLOCK** | **ALLOW** | **COUNT**

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# WafOverrideAction

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The action to take if any rule within the RuleGroup matches a request.

## Contents

### Type

COUNT overrides the action specified by the individual rule within a RuleGroup . If set to NONE, the rule's action will take place.

Type: String

Valid Values: NONE | COUNT

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# WebACL

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Contains the Rules that identify the requests that you want to allow, block, or count. In a WebACL, you also specify a default action (ALLOW or BLOCK), and the action for each Rule that you add to a WebACL, for example, block requests from specified IP addresses or block requests from specified referrers. You also associate the WebACL with an Amazon CloudFront distribution to identify the requests that you want Amazon WAF to filter. If you add more than one Rule to a WebACL, a request needs to match only one of the specifications to be allowed, blocked, or counted. For more information, see [UpdateWebACL](#).

## Contents

### DefaultAction

The action to perform if none of the Rules contained in the WebACL match. The action is specified by the [WafAction](#) object.

Type: [WafAction](#) object

Required: Yes

### Rules

An array that contains the action for each Rule in a WebACL, the priority of the Rule, and the ID of the Rule.

Type: Array of [ActivatedRule](#) objects

Required: Yes

## WebACLId

A unique identifier for a WebACL. You use WebACLId to get information about a WebACL (see [GetWebACL](#)), update a WebACL (see [UpdateWebACL](#)), and delete a WebACL from Amazon WAF (see [DeleteWebACL](#)).

WebACLId is returned by [CreateWebACL](#) and by [ListWebACLs](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## MetricName

A friendly name or description for the metrics for this WebACL. The name can contain only alphanumeric characters (A-Z, a-z, 0-9), with maximum length 128 and minimum length one. It can't contain whitespace or metric names reserved for Amazon WAF, including "All" and "Default\_Action." You can't change MetricName after you create the WebACL.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

## Name

A friendly name or description of the WebACL. You can't change the name of a WebACL after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

## WebACLArn

The Amazon Resource Name (ARN) of the web ACL.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: .\*\.S.\*

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# WebACLSummary

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Contains the identifier and the name or description of the [WebACL](#).

## Contents

### Name

A friendly name or description of the [WebACL](#). You can't change the name of a WebACL after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### WebACLId

A unique identifier for a WebACL. You use WebACLId to get information about a WebACL (see [GetWebACL](#)), update a WebACL (see [UpdateWebACL](#)), and delete a WebACL from Amazon WAF (see [DeleteWebACL](#)).

WebACLId is returned by [CreateWebACL](#) and by [ListWebACLs](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# WebACLUpdate

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies whether to insert a Rule into or delete a Rule from a WebACL.

## Contents

### Action

Specifies whether to insert a Rule into or delete a Rule from a WebACL.

Type: String

Valid Values: INSERT | DELETE

Required: Yes

### ActivatedRule

The `ActivatedRule` object in an `UpdateWebACL` request specifies a Rule that you want to insert or delete, the priority of the Rule in the WebACL, and the action that you want Amazon WAF to take when a web request matches the Rule (ALLOW, BLOCK, or COUNT).

Type: [ActivatedRule](#) object

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# XssMatchSet

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

A complex type that contains `XssMatchTuple` objects, which specify the parts of web requests that you want Amazon WAF to inspect for cross-site scripting attacks and, if you want Amazon WAF to inspect a header, the name of the header. If a `XssMatchSet` contains more than one `XssMatchTuple` object, a request needs to include cross-site scripting attacks in only one of the specified parts of the request to be considered a match.

## Contents

### XssMatchSetId

A unique identifier for an `XssMatchSet`. You use `XssMatchSetId` to get information about an `XssMatchSet` (see [GetXssMatchSet](#)), update an `XssMatchSet` (see [UpdateXssMatchSet](#)), insert an `XssMatchSet` into a `Rule` or delete one from a `Rule` (see [UpdateRule](#)), and delete an `XssMatchSet` from Amazon WAF (see [DeleteXssMatchSet](#)).

`XssMatchSetId` is returned by [CreateXssMatchSet](#) and by [ListXssMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### XssMatchTuples

Specifies the parts of web requests that you want to inspect for cross-site scripting attacks.

Type: Array of [XssMatchTuple](#) objects

Required: Yes

### Name

The name, if any, of the XssMatchSet.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

### See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# XssMatchSetSummary

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The Id and Name of an XssMatchSet.

## Contents

### Name

The name of the XssMatchSet, if any, specified by Id.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### XssMatchSetId

A unique identifier for an XssMatchSet. You use XssMatchSetId to get information about a XssMatchSet (see [GetXssMatchSet](#)), update an XssMatchSet (see [UpdateXssMatchSet](#)), insert an XssMatchSet into a Rule or delete one from a Rule (see [UpdateRule](#)), and delete an XssMatchSet from Amazon WAF (see [DeleteXssMatchSet](#)).

XssMatchSetId is returned by [CreateXssMatchSet](#) and by [ListXssMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# XssMatchSetUpdate

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies the part of a web request that you want to inspect for cross-site scripting attacks and indicates whether you want to add the specification to an [XssMatchSet](#) or delete it from an XssMatchSet.

## Contents

### Action

Specify INSERT to add an [XssMatchSetUpdate](#) to an [XssMatchSet](#). Use DELETE to remove an XssMatchSetUpdate from an XssMatchSet.

Type: String

Valid Values: INSERT | DELETE

Required: Yes

### XssMatchTuple

Specifies the part of a web request that you want Amazon WAF to inspect for cross-site scripting attacks and, if you want Amazon WAF to inspect a header, the name of the header.

Type: [XssMatchTuple](#) object

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# XssMatchTuple

Service: Amazon WAF Classic

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies the part of a web request that you want Amazon WAF to inspect for cross-site scripting attacks and, if you want Amazon WAF to inspect a header, the name of the header.

## Contents

### FieldToMatch

Specifies where in a web request to look for cross-site scripting attacks.

Type: [FieldToMatch](#) object

Required: Yes

### TextTransformation

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass Amazon WAF. If you specify a transformation, Amazon WAF performs the transformation on `FieldToMatch` before inspecting it for a match.

You can only specify a single type of `TextTransformation`.

### CMD\_LINE

When you're concerned that attackers are injecting an operating system command line command and using unusual formatting to disguise some or all of the command, use this option to perform the following transformations:

- Delete the following characters: \ " ' ^

- Delete spaces before the following characters: / (
- Replace the following characters with a space: , ;
- Replace multiple spaces with one space
- Convert uppercase letters (A-Z) to lowercase (a-z)

### **COMPRESS\_WHITE\_SPACE**

Use this option to replace the following characters with a space character (decimal 32):

- \f, formfeed, decimal 12
- \t, tab, decimal 9
- \n, newline, decimal 10
- \r, carriage return, decimal 13
- \v, vertical tab, decimal 11
- non-breaking space, decimal 160

COMPRESS\_WHITE\_SPACE also replaces multiple spaces with one space.

### **HTML\_ENTITY\_DECODE**

Use this option to replace HTML-encoded characters with unencoded characters.

HTML\_ENTITY\_DECODE performs the following operations:

- Replaces (ampersand)quot; with "
- Replaces (ampersand)nbsp; with a non-breaking space, decimal 160
- Replaces (ampersand)lt; with a "less than" symbol
- Replaces (ampersand)gt; with >
- Replaces characters that are represented in hexadecimal format, (ampersand)#xhhhh;, with the corresponding characters
- Replaces characters that are represented in decimal format, (ampersand)#nnnn;, with the corresponding characters

### **LOWERCASE**

Use this option to convert uppercase letters (A-Z) to lowercase (a-z).

### **URL\_DECODE**

Use this option to decode a URL-encoded value.

## NONE

Specify NONE if you don't want to perform any text transformations.

Type: String

Valid Values: NONE | COMPRESS\_WHITE\_SPACE | HTML\_ENTITY\_DECODE | LOWERCASE | CMD\_LINE | URL\_DECODE

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

## Amazon WAF Classic Regional

The following data types are supported by Amazon WAF Classic Regional:

- [ActivatedRule](#)
- [ByteMatchSet](#)
- [ByteMatchSetSummary](#)
- [ByteMatchSetUpdate](#)
- [ByteMatchTuple](#)
- [ExcludedRule](#)
- [FieldToMatch](#)
- [GeoMatchConstraint](#)
- [GeoMatchSet](#)
- [GeoMatchSetSummary](#)
- [GeoMatchSetUpdate](#)

- [HTTPHeader](#)
- [HTTPRequest](#)
- [IPSet](#)
- [IPSetDescriptor](#)
- [IPSetSummary](#)
- [IPSetUpdate](#)
- [LoggingConfiguration](#)
- [Predicate](#)
- [RateBasedRule](#)
- [RegexMatchSet](#)
- [RegexMatchSetSummary](#)
- [RegexMatchSetUpdate](#)
- [RegexMatchTuple](#)
- [RegexPatternSet](#)
- [RegexPatternSetSummary](#)
- [RegexPatternSetUpdate](#)
- [Rule](#)
- [RuleGroup](#)
- [RuleGroupSummary](#)
- [RuleGroupUpdate](#)
- [RuleSummary](#)
- [RuleUpdate](#)
- [SampledHTTPRequest](#)
- [SizeConstraint](#)
- [SizeConstraintSet](#)
- [SizeConstraintSetSummary](#)
- [SizeConstraintSetUpdate](#)
- [SqlInjectionMatchSet](#)
- [SqlInjectionMatchSetSummary](#)
- [SqlInjectionMatchSetUpdate](#)

- [SqlInjectionMatchTuple](#)
- [SubscribedRuleGroupSummary](#)
- [Tag](#)
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- [WebACL](#)
- [WebACLSummary](#)
- [WebACLUpdate](#)
- [XssMatchSet](#)
- [XssMatchSetSummary](#)
- [XssMatchSetUpdate](#)
- [XssMatchTuple](#)

# ActivatedRule

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The `ActivatedRule` object in an [UpdateWebACL](#) request specifies a `Rule` that you want to insert or delete, the priority of the `Rule` in the WebACL, and the action that you want Amazon WAF to take when a web request matches the `Rule` (ALLOW, BLOCK, or COUNT).

To specify whether to insert or delete a `Rule`, use the `Action` parameter in the [WebACLUpdate](#) data type.

## Contents

### Priority

Specifies the order in which the `Rules` in a WebACL are evaluated. Rules with a lower value for `Priority` are evaluated before Rules with a higher value. The value must be a unique integer. If you add multiple `Rules` to a WebACL, the values don't need to be consecutive.

Type: Integer

Required: Yes

### RuleId

The `RuleId` for a `Rule`. You use `RuleId` to get more information about a `Rule` (see [GetRule](#)), update a `Rule` (see [UpdateRule](#)), insert a `Rule` into a WebACL or delete a one from a WebACL (see [UpdateWebACL](#)), or delete a `Rule` from Amazon WAF (see [DeleteRule](#)).

`RuleId` is returned by [CreateRule](#) and by [ListRules](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Action

Specifies the action that Amazon CloudFront or Amazon WAF takes when a web request matches the conditions in the `Rule`. Valid values for `Action` include the following:

- `ALLOW`: CloudFront responds with the requested object.
- `BLOCK`: CloudFront responds with an HTTP 403 (Forbidden) status code.
- `COUNT`: Amazon WAF increments a counter of requests that match the conditions in the rule and then continues to inspect the web request based on the remaining rules in the web ACL.

`ActivatedRule|OverrideAction` applies only when updating or adding a `RuleGroup` to a `WebACL`. In this case, you do not use `ActivatedRule|Action`. For all other update requests, `ActivatedRule|Action` is used instead of `ActivatedRule|OverrideAction`.

Type: [WafAction](#) object

Required: No

## ExcludedRules

An array of rules to exclude from a rule group. This is applicable only when the `ActivatedRule` refers to a `RuleGroup`.

Sometimes it is necessary to troubleshoot rule groups that are blocking traffic unexpectedly (false positives). One troubleshooting technique is to identify the specific rule within the rule group that is blocking the legitimate traffic and then disable (exclude) that particular rule. You can exclude rules from both your own rule groups and Amazon Web Services Marketplace rule groups that have been associated with a web ACL.

Specifying `ExcludedRules` does not remove those rules from the rule group. Rather, it changes the action for the rules to `COUNT`. Therefore, requests that match an `ExcludedRule` are counted but not blocked. The `RuleGroup` owner will receive `COUNT` metrics for each `ExcludedRule`.

If you want to exclude rules from a rule group that is already associated with a web ACL, perform the following steps:

1. Use the Amazon WAF logs to identify the IDs of the rules that you want to exclude. For more information about the logs, see [Logging Web ACL Traffic Information](#).
2. Submit an [UpdateWebACL](#) request that has two actions:
  - The first action deletes the existing rule group from the web ACL. That is, in the [UpdateWebACL](#) request, the first `Updates:Action` should be `DELETE` and `Updates:ActivatedRule:RuleId` should be the rule group that contains the rules that you want to exclude.
  - The second action inserts the same rule group back in, but specifying the rules to exclude. That is, the second `Updates:Action` should be `INSERT`, `Updates:ActivatedRule:RuleId` should be the rule group that you just removed, and `ExcludedRules` should contain the rules that you want to exclude.

Type: Array of [ExcludedRule](#) objects

Required: No

## OverrideAction

Use the `OverrideAction` to test your `RuleGroup`.

Any rule in a `RuleGroup` can potentially block a request. If you set the `OverrideAction` to `None`, the `RuleGroup` will block a request if any individual rule in the `RuleGroup` matches the request and is configured to block that request. However if you first want to test the `RuleGroup`, set the `OverrideAction` to `Count`. The `RuleGroup` will then override any block action specified by individual rules contained within the group. Instead of blocking matching requests, those requests will be counted. You can view a record of counted requests using [GetSampledRequests](#).

`ActivatedRule|OverrideAction` applies only when updating or adding a `RuleGroup` to a `WebACL`. In this case you do not use `ActivatedRule|Action`. For all other update requests, `ActivatedRule|Action` is used instead of `ActivatedRule|OverrideAction`.

Type: [WafOverrideAction](#) object

Required: No

## Type

The rule type, either `REGULAR`, as defined by [Rule](#), `RATE_BASED`, as defined by [RateBasedRule](#), or `GROUP`, as defined by [RuleGroup](#). The default is `REGULAR`. Although this field is optional,

be aware that if you try to add a RATE\_BASED rule to a web ACL without setting the type, the [UpdateWebACL](#) request will fail because the request tries to add a REGULAR rule with the specified ID, which does not exist.

Type: String

Valid Values: REGULAR | RATE\_BASED | GROUP

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ByteMatchSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

In a [GetByteMatchSet](#) request, ByteMatchSet is a complex type that contains the ByteMatchSetId and Name of a ByteMatchSet, and the values that you specified when you updated the ByteMatchSet.

A complex type that contains ByteMatchTuple objects, which specify the parts of web requests that you want Amazon WAF to inspect and the values that you want Amazon WAF to search for. If a ByteMatchSet contains more than one ByteMatchTuple object, a request needs to match the settings in only one ByteMatchTuple to be considered a match.

## Contents

### ByteMatchSetId

The ByteMatchSetId for a ByteMatchSet. You use ByteMatchSetId to get information about a ByteMatchSet (see [GetByteMatchSet](#)), update a ByteMatchSet (see [UpdateByteMatchSet](#)), insert a ByteMatchSet into a Rule or delete one from a Rule (see [UpdateRule](#)), and delete a ByteMatchSet from Amazon WAF (see [DeleteByteMatchSet](#)).

ByteMatchSetId is returned by [CreateByteMatchSet](#) and by [ListByteMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## ByteMatchTuples

Specifies the bytes (typically a string that corresponds with ASCII characters) that you want Amazon WAF to search for in web requests, the location in requests that you want Amazon WAF to search, and other settings.

Type: Array of [ByteMatchTuple](#) objects

Required: Yes

### Name

A friendly name or description of the [ByteMatchSet](#). You can't change Name after you create a ByteMatchSet.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ByteMatchSetSummary

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returned by [ListByteMatchSets](#). Each ByteMatchSetSummary object includes the Name and ByteMatchSetId for one [ByteMatchSet](#).

## Contents

### ByteMatchSetId

The ByteMatchSetId for a ByteMatchSet. You use ByteMatchSetId to get information about a ByteMatchSet, update a ByteMatchSet, remove a ByteMatchSet from a Rule, and delete a ByteMatchSet from Amazon WAF.

ByteMatchSetId is returned by [CreateByteMatchSet](#) and by [ListByteMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

### Name

A friendly name or description of the [ByteMatchSet](#). You can't change Name after you create a ByteMatchSet.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ByteMatchSetUpdate

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

In an [UpdateByteMatchSet](#) request, ByteMatchSetUpdate specifies whether to insert or delete a [ByteMatchTuple](#) and includes the settings for the ByteMatchTuple.

## Contents

### Action

Specifies whether to insert or delete a [ByteMatchTuple](#).

Type: String

Valid Values: INSERT | DELETE

Required: Yes

### ByteMatchTuple

Information about the part of a web request that you want Amazon WAF to inspect and the value that you want Amazon WAF to search for. If you specify DELETE for the value of Action, the ByteMatchTuple values must exactly match the values in the ByteMatchTuple that you want to delete from the ByteMatchSet.

Type: [ByteMatchTuple](#) object

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# ByteMatchTuple

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The bytes (typically a string that corresponds with ASCII characters) that you want Amazon WAF to search for in web requests, the location in requests that you want Amazon WAF to search, and other settings.

## Contents

### FieldToMatch

The part of a web request that you want Amazon WAF to search, such as a specified header or a query string. For more information, see [FieldToMatch](#).

Type: [FieldToMatch](#) object

Required: Yes

### PositionalConstraint

Within the portion of a web request that you want to search (for example, in the query string, if any), specify where you want Amazon WAF to search. Valid values include the following:

#### CONTAINS

The specified part of the web request must include the value of `TargetString`, but the location doesn't matter.

#### CONTAINS\_WORD

The specified part of the web request must include the value of `TargetString`, and `TargetString` must contain only alphanumeric characters or underscore (A-Z, a-z, 0-9, or `_`). In addition, `TargetString` must be a word, which means one of the following:

- `TargetString` exactly matches the value of the specified part of the web request, such as the value of a header.
- `TargetString` is at the beginning of the specified part of the web request and is followed by a character other than an alphanumeric character or underscore (`_`), for example, `BadBot;`.
- `TargetString` is at the end of the specified part of the web request and is preceded by a character other than an alphanumeric character or underscore (`_`), for example,  `;BadBot`.
- `TargetString` is in the middle of the specified part of the web request and is preceded and followed by characters other than alphanumeric characters or underscore (`_`), for example, `-BadBot;`.

### **EXACTLY**

The value of the specified part of the web request must exactly match the value of `TargetString`.

### **STARTS\_WITH**

The value of `TargetString` must appear at the beginning of the specified part of the web request.

### **ENDS\_WITH**

The value of `TargetString` must appear at the end of the specified part of the web request.

Type: String

Valid Values: EXACTLY | STARTS\_WITH | ENDS\_WITH | CONTAINS | CONTAINS\_WORD

Required: Yes

## **TargetString**

The value that you want Amazon WAF to search for. Amazon WAF searches for the specified string in the part of web requests that you specified in `FieldToMatch`. The maximum length of the value is 50 bytes.

Valid values depend on the values that you specified for `FieldToMatch`:

- **HEADER:** The value that you want Amazon WAF to search for in the request header that you specified in [FieldToMatch](#), for example, the value of the `User-Agent` or `Referer` header.
- **METHOD:** The HTTP method, which indicates the type of operation specified in the request. Amazon CloudFront supports the following methods: `DELETE`, `GET`, `HEAD`, `OPTIONS`, `PATCH`, `POST`, and `PUT`.
- **QUERY\_STRING:** The value that you want Amazon WAF to search for in the query string, which is the part of a URL that appears after a `?` character.
- **URI:** The path component of the URI. This does not include the query string or fragment components of the URI. For information, see [Uniform Resource Identifier \(URI\): Generic Syntax](#).
- **BODY:** The part of a request that contains any additional data that you want to send to your web server as the HTTP request body, such as data from a form. The request body immediately follows the request headers. Note that only the first 8192 bytes of the request body are forwarded to Amazon WAF for inspection. To allow or block requests based on the length of the body, you can create a size constraint set. For more information, see [CreateSizeConstraintSet](#).
- **SINGLE\_QUERY\_ARG:** The parameter in the query string that you will inspect, such as *UserName* or *SalesRegion*. The maximum length for `SINGLE_QUERY_ARG` is 30 characters.
- **ALL\_QUERY\_ARGS:** Similar to `SINGLE_QUERY_ARG`, but instead of inspecting a single parameter, Amazon WAF inspects all parameters within the query string for the value or regex pattern that you specify in `TargetString`.

If `TargetString` includes alphabetic characters A-Z and a-z, note that the value is case sensitive.

### If you're using the Amazon WAF API

Specify a base64-encoded version of the value. The maximum length of the value before you base64-encode it is 50 bytes.

For example, suppose the value of `Type` is `HEADER` and the value of `Data` is `User-Agent`. If you want to search the `User-Agent` header for the value `BadBot`, you base64-encode `BadBot` using MIME base64-encoding and include the resulting value, `QmFkQm90`, in the value of `TargetString`.

### If you're using the Amazon CLI or one of the Amazon SDKs

The value that you want Amazon WAF to search for. The SDK automatically base64 encodes the value.

Type: Base64-encoded binary data object

Required: Yes

## **TextTransformation**

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass Amazon WAF. If you specify a transformation, Amazon WAF performs the transformation on `FieldToMatch` before inspecting it for a match.

You can only specify a single type of `TextTransformation`.

### **CMD\_LINE**

When you're concerned that attackers are injecting an operating system command line command and using unusual formatting to disguise some or all of the command, use this option to perform the following transformations:

- Delete the following characters: \ " ' ^
- Delete spaces before the following characters: / (
- Replace the following characters with a space: , ;
- Replace multiple spaces with one space
- Convert uppercase letters (A-Z) to lowercase (a-z)

### **COMPRESS\_WHITE\_SPACE**

Use this option to replace the following characters with a space character (decimal 32):

- `\f`, formfeed, decimal 12
- `\t`, tab, decimal 9
- `\n`, newline, decimal 10
- `\r`, carriage return, decimal 13
- `\v`, vertical tab, decimal 11
- non-breaking space, decimal 160

`COMPRESS_WHITE_SPACE` also replaces multiple spaces with one space.

### **HTML\_ENTITY\_DECODE**

Use this option to replace HTML-encoded characters with unencoded characters.

HTML\_ENTITY\_DECODE performs the following operations:

- Replaces (ampersand)quot; with "
- Replaces (ampersand)nbsp; with a non-breaking space, decimal 160
- Replaces (ampersand)lt; with a "less than" symbol
- Replaces (ampersand)gt; with >
- Replaces characters that are represented in hexadecimal format, (ampersand)#xhhhh;, with the corresponding characters
- Replaces characters that are represented in decimal format, (ampersand)#nnnn;, with the corresponding characters

## LOWERCASE

Use this option to convert uppercase letters (A-Z) to lowercase (a-z).

## URL\_DECODE

Use this option to decode a URL-encoded value.

## NONE

Specify NONE if you don't want to perform any text transformations.

Type: String

Valid Values: NONE | COMPRESS\_WHITE\_SPACE | HTML\_ENTITY\_DECODE | LOWERCASE | CMD\_LINE | URL\_DECODE

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)



# ExcludedRule

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The rule to exclude from a rule group. This is applicable only when the `ActivatedRule` refers to a `RuleGroup`. The rule must belong to the `RuleGroup` that is specified by the `ActivatedRule`.

## Contents

### RuleId

The unique identifier for the rule to exclude from the rule group.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# FieldToMatch

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies where in a web request to look for TargetString.

## Contents

### Type

The part of the web request that you want Amazon WAF to search for a specified string. Parts of a request that you can search include the following:

- **HEADER:** A specified request header, for example, the value of the User-Agent or Referer header. If you choose HEADER for the type, specify the name of the header in Data.
- **METHOD:** The HTTP method, which indicated the type of operation that the request is asking the origin to perform. Amazon CloudFront supports the following methods: DELETE, GET, HEAD, OPTIONS, PATCH, POST, and PUT.
- **QUERY\_STRING:** A query string, which is the part of a URL that appears after a ? character, if any.
- **URI:** The path component of the URI. This does not include the query string or fragment components of the URI. For information, see [Uniform Resource Identifier \(URI\): Generic Syntax](#).
- **BODY:** The part of a request that contains any additional data that you want to send to your web server as the HTTP request body, such as data from a form. The request body immediately follows the request headers. Note that only the first 8192 bytes of the request body are forwarded to Amazon WAF for inspection. To allow or block requests based on the length of the body, you can create a size constraint set. For more information, see [CreateSizeConstraintSet](#).

- `SINGLE_QUERY_ARG`: The parameter in the query string that you will inspect, such as `UserName` or `SalesRegion`. The maximum length for `SINGLE_QUERY_ARG` is 30 characters.
- `ALL_QUERY_ARGS`: Similar to `SINGLE_QUERY_ARG`, but rather than inspecting a single parameter, Amazon WAF will inspect all parameters within the query for the value or regex pattern that you specify in `TargetString`.

Type: String

Valid Values: `URI` | `QUERY_STRING` | `HEADER` | `METHOD` | `BODY` | `SINGLE_QUERY_ARG` | `ALL_QUERY_ARGS`

Required: Yes

## Data

When the value of `Type` is `HEADER`, enter the name of the header that you want Amazon WAF to search, for example, `User-Agent` or `Referer`. The name of the header is not case sensitive.

When the value of `Type` is `SINGLE_QUERY_ARG`, enter the name of the parameter that you want Amazon WAF to search, for example, `UserName` or `SalesRegion`. The parameter name is not case sensitive.

If the value of `Type` is any other value, omit `Data`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)



# GeoMatchConstraint

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The country from which web requests originate that you want Amazon WAF to search for.

## Contents

### Type

The type of geographical area you want Amazon WAF to search for. Currently `Country` is the only valid value.

Type: String

Valid Values: `Country`

Required: Yes

### Value

The country that you want Amazon WAF to search for.

Type: String

Valid Values: `AF` | `AX` | `AL` | `DZ` | `AS` | `AD` | `AO` | `AI` | `AQ` | `AG` | `AR` | `AM` | `AW` | `AU` | `AT` | `AZ` | `BS` | `BH` | `BD` | `BB` | `BY` | `BE` | `BZ` | `BJ` | `BM` | `BT` | `BO` | `BQ` | `BA` | `BW` | `BV` | `BR` | `IO` | `BN` | `BG` | `BF` | `BI` | `KH` | `CM` | `CA` | `CV` | `KY` | `CF` | `TD` | `CL` | `CN` | `CX` | `CC` | `CO` | `KM` | `CG` | `CD` | `CK` | `CR` | `CI` | `HR` | `CU` | `CW` | `CY` | `CZ` | `DK` | `DJ` | `DM` | `DO` | `EC` | `EG` | `SV` | `GQ` | `ER` | `EE` | `ET` | `FK` | `FO` | `FJ` | `FI` | `FR` | `GF` | `PF` | `TF` | `GA` | `GM` | `GE` | `DE` | `GH` | `GI` |

GR | GL | GD | GP | GU | GT | GG | GN | GW | GY | HT | HM | VA | HN | HK  
| HU | IS | IN | ID | IR | IQ | IE | IM | IL | IT | JM | JP | JE | JO |  
KZ | KE | KI | KP | KR | KW | KG | LA | LV | LB | LS | LR | LY | LI | LT  
| LU | MO | MK | MG | MW | MY | MV | ML | MT | MH | MQ | MR | MU | YT |  
MX | FM | MD | MC | MN | ME | MS | MA | MZ | MM | NA | NR | NP | NL | NC  
| NZ | NI | NE | NG | NU | NF | MP | NO | OM | PK | PW | PS | PA | PG |  
PY | PE | PH | PN | PL | PT | PR | QA | RE | RO | RU | RW | BL | SH | KN  
| LC | MF | PM | VC | WS | SM | ST | SA | SN | RS | SC | SL | SG | SX |  
SK | SI | SB | SO | ZA | GS | SS | ES | LK | SD | SR | SJ | SZ | SE | CH  
| SY | TW | TJ | TZ | TH | TL | TG | TK | TO | TT | TN | TR | TM | TC |  
TV | UG | UA | AE | GB | US | UM | UY | UZ | VU | VE | VN | VG | VI | WF  
| EH | YE | ZM | ZW

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# GeoMatchSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Contains one or more countries that Amazon WAF will search for.

## Contents

### GeoMatchConstraints

An array of [GeoMatchConstraint](#) objects, which contain the country that you want Amazon WAF to search for.

Type: Array of [GeoMatchConstraint](#) objects

Required: Yes

### GeoMatchSetId

The GeoMatchSetId for an GeoMatchSet. You use GeoMatchSetId to get information about a GeoMatchSet (see [GeoMatchSet](#)), update a GeoMatchSet (see [UpdateGeoMatchSet](#)), insert a GeoMatchSet into a Rule or delete one from a Rule (see [UpdateRule](#)), and delete a GeoMatchSet from Amazon WAF (see [DeleteGeoMatchSet](#)).

GeoMatchSetId is returned by [CreateGeoMatchSet](#) and by [ListGeoMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Name

A friendly name or description of the [GeoMatchSet](#). You can't change the name of an GeoMatchSet after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# GeoMatchSetSummary

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Contains the identifier and the name of the GeoMatchSet.

## Contents

### GeoMatchSetId

The GeoMatchSetId for an [GeoMatchSet](#). You can use GeoMatchSetId in a [GetGeoMatchSet](#) request to get detailed information about an [GeoMatchSet](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Name

A friendly name or description of the [GeoMatchSet](#). You can't change the name of an GeoMatchSet after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# GeoMatchSetUpdate

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies the type of update to perform to an [GeoMatchSet](#) with [UpdateGeoMatchSet](#).

## Contents

### Action

Specifies whether to insert or delete a country with [UpdateGeoMatchSet](#).

Type: String

Valid Values: INSERT | DELETE

Required: Yes

### GeoMatchConstraint

The country from which web requests originate that you want Amazon WAF to search for.

Type: [GeoMatchConstraint](#) object

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)

- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# HTTPHeader

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The response from a [GetSampledRequests](#) request includes an `HTTPHeader` complex type that appears as `Headers` in the response syntax. `HTTPHeader` contains the names and values of all of the headers that appear in one of the web requests that were returned by `GetSampledRequests`.

## Contents

### Name

The name of one of the headers in the sampled web request.

Type: String

Required: No

### Value

The value of one of the headers in the sampled web request.

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)

- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# HTTPRequest

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The response from a [GetSampledRequests](#) request includes an HTTPRequest complex type that appears as Request in the response syntax. HTTPRequest contains information about one of the web requests that were returned by GetSampledRequests.

## Contents

### ClientIP

The IP address that the request originated from. If the WebACL is associated with an Amazon CloudFront distribution, this is the value of one of the following fields in CloudFront access logs:

- `c-ip`, if the viewer did not use an HTTP proxy or a load balancer to send the request
- `x-forwarded-for`, if the viewer did use an HTTP proxy or a load balancer to send the request

Type: String

Required: No

### Country

The two-letter country code for the country that the request originated from. For a current list of country codes, see the Wikipedia entry [ISO 3166-1 alpha-2](#).

Type: String

Required: No

## Headers

A complex type that contains two values for each header in the sampled web request: the name of the header and the value of the header.

Type: Array of [HTTPHeader](#) objects

Required: No

## HTTPVersion

The HTTP version specified in the sampled web request, for example, HTTP/1.1.

Type: String

Required: No

## Method

The HTTP method specified in the sampled web request. Amazon CloudFront supports the following methods: DELETE, GET, HEAD, OPTIONS, PATCH, POST, and PUT.

Type: String

Required: No

## URI

The path component of the URI. This does not include the query string or fragment components of the URI. For information, see [Uniform Resource Identifier \(URI\): Generic Syntax](#).

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)



# IPSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Contains one or more IP addresses or blocks of IP addresses specified in Classless Inter-Domain Routing (CIDR) notation. Amazon WAF supports IPv4 address ranges: /8 and any range between /16 through /32. Amazon WAF supports IPv6 address ranges: /24, /32, /48, /56, /64, and /128.

To specify an individual IP address, you specify the four-part IP address followed by a /32, for example, 192.0.2.0/32. To block a range of IP addresses, you can specify /8 or any range between /16 through /32 (for IPv4) or /24, /32, /48, /56, /64, or /128 (for IPv6). For more information about CIDR notation, see the Wikipedia entry [Classless Inter-Domain Routing](#).

## Contents

### IPSetDescriptors

The IP address type (IPV4 or IPV6) and the IP address range (in CIDR notation) that web requests originate from. If the WebACL is associated with an Amazon CloudFront distribution and the viewer did not use an HTTP proxy or a load balancer to send the request, this is the value of the c-ip field in the CloudFront access logs.

Type: Array of [IPSetDescriptor](#) objects

Required: Yes

## IPSetId

The IPSetId for an IPSet. You use IPSetId to get information about an IPSet (see [GetIPSet](#)), update an IPSet (see [UpdateIPSet](#)), insert an IPSet into a Rule or delete one from a Rule (see [UpdateRule](#)), and delete an IPSet from Amazon WAF (see [DeleteIPSet](#)).

IPSetId is returned by [CreateIPSet](#) and by [ListIPSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Name

A friendly name or description of the [IPSet](#). You can't change the name of an IPSet after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# IPSetDescriptor

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies the IP address type (IPV4 or IPV6) and the IP address range (in CIDR format) that web requests originate from.

## Contents

### Type

Specify IPV4 or IPV6.

Type: String

Valid Values: IPV4 | IPV6

Required: Yes

### Value

Specify an IPv4 address by using CIDR notation. For example:

- To configure Amazon WAF to allow, block, or count requests that originated from the IP address 192.0.2.44, specify 192.0.2.44/32.
- To configure Amazon WAF to allow, block, or count requests that originated from IP addresses from 192.0.2.0 to 192.0.2.255, specify 192.0.2.0/24.

For more information about CIDR notation, see the Wikipedia entry [Classless Inter-Domain Routing](#).

Specify an IPv6 address by using CIDR notation. For example:

- To configure Amazon WAF to allow, block, or count requests that originated from the IP address 1111:0000:0000:0000:0000:0000:0000:0111, specify 1111:0000:0000:0000:0000:0000:0000:0111/128.
- To configure Amazon WAF to allow, block, or count requests that originated from IP addresses 1111:0000:0000:0000:0000:0000:0000:0000 to 1111:0000:0000:0000:ffff:ffff:ffff:ffff, specify 1111:0000:0000:0000:0000:0000:0000:0000/64.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 50.

Pattern: .\*\\S.\*

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# IPSetSummary

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Contains the identifier and the name of the IPSet.

## Contents

### IPSetId

The IPSetId for an [IPSet](#). You can use IPSetId in a [GetIPSet](#) request to get detailed information about an [IPSet](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Name

A friendly name or description of the [IPSet](#). You can't change the name of an IPSet after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# IPSetUpdate

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies the type of update to perform to an [IPSet](#) with [UpdateIPSet](#).

## Contents

### Action

Specifies whether to insert or delete an IP address with [UpdateIPSet](#).

Type: String

Valid Values: INSERT | DELETE

Required: Yes

### IPSetDescriptor

The IP address type (IPV4 or IPV6) and the IP address range (in CIDR notation) that web requests originate from.

Type: [IPSetDescriptor](#) object

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# LoggingConfiguration

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The Amazon Data Firehose, RedactedFields information, and the web ACL Amazon Resource Name (ARN).

## Contents

### LogDestinationConfigs

An array of Amazon Data Firehose ARNs.

Type: Array of strings

Array Members: Fixed number of 1 item.

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: Yes

### ResourceArn

The Amazon Resource Name (ARN) of the web ACL that you want to associate with LogDestinationConfigs.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: Yes

## RedactedFields

The parts of the request that you want redacted from the logs. For example, if you redact the cookie field, the cookie field in the firehose will be xxx.

Type: Array of [FieldToMatch](#) objects

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# Predicate

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies the [ByteMatchSet](#), [IPSet](#), [SqlInjectionMatchSet](#), [XssMatchSet](#), [RegexMatchSet](#), [GeoMatchSet](#), and [SizeConstraintSet](#) objects that you want to add to a `Rule` and, for each object, indicates whether you want to negate the settings, for example, requests that do NOT originate from the IP address 192.0.2.44.

## Contents

### DataId

A unique identifier for a predicate in a `Rule`, such as `ByteMatchSetId` or `IPSetId`. The ID is returned by the corresponding `Create` or `List` command.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Negated

Set `Negated` to `False` if you want Amazon WAF to allow, block, or count requests based on the settings in the specified [ByteMatchSet](#), [IPSet](#), [SqlInjectionMatchSet](#), [XssMatchSet](#), [RegexMatchSet](#), [GeoMatchSet](#), or [SizeConstraintSet](#). For example, if an `IPSet` includes the IP address `192.0.2.44`, Amazon WAF will allow or block requests based on that IP address.

Set `Negated` to `True` if you want Amazon WAF to allow or block a request based on the negation of the settings in the [ByteMatchSet](#), [IPSet](#), [SqlInjectionMatchSet](#), [XssMatchSet](#), [RegexMatchSet](#), [GeoMatchSet](#), or [SizeConstraintSet](#). For example, if an `IPSet` includes the IP address `192.0.2.44`, Amazon WAF will allow, block, or count requests based on all IP addresses *except* `192.0.2.44`.

Type: Boolean

Required: Yes

## Type

The type of predicate in a `Rule`, such as `ByteMatch` or `IPSet`.

Type: String

Valid Values: `IPMatch` | `ByteMatch` | `SqlInjectionMatch` | `GeoMatch` | `SizeConstraint` | `XssMatch` | `RegexMatch`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RateBasedRule

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

A `RateBasedRule` is identical to a regular [Rule](#), with one addition: a `RateBasedRule` counts the number of requests that arrive from a specified IP address every five minutes. For example, based on recent requests that you've seen from an attacker, you might create a `RateBasedRule` that includes the following conditions:

- The requests come from 192.0.2.44.
- They contain the value `BadBot` in the `User-Agent` header.

In the rule, you also define the rate limit as 1,000.

Requests that meet both of these conditions and exceed 1,000 requests every five minutes trigger the rule's action (block or count), which is defined in the web ACL.

## Contents

### MetricName

A friendly name or description for the metrics for a `RateBasedRule`. The name can contain only alphanumeric characters (A-Z, a-z, 0-9), with maximum length 128 and minimum length one. It can't contain whitespace or metric names reserved for Amazon WAF, including "All" and "Default\_Action." You can't change the name of the metric after you create the `RateBasedRule`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

## Name

A friendly name or description for a `RateBasedRule`. You can't change the name of a `RateBasedRule` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

## RateKey

The field that Amazon WAF uses to determine if requests are likely arriving from single source and thus subject to rate monitoring. The only valid value for `RateKey` is `IP`. `IP` indicates that requests arriving from the same IP address are subject to the `RateLimit` that is specified in the `RateBasedRule`.

Type: String

Valid Values: `IP`

Required: Yes

## RateLimit

The maximum number of requests, which have an identical value in the field specified by the `RateKey`, allowed in a five-minute period. If the number of requests exceeds the `RateLimit` and the other predicates specified in the rule are also met, Amazon WAF triggers the action that is specified for this rule.

Type: Long

Valid Range: Minimum value of 100. Maximum value of 2000000000.

Required: Yes

## RuleId

A unique identifier for a `RateBasedRule`. You use `RuleId` to get more information about a `RateBasedRule` (see [GetRateBasedRule](#)), update a `RateBasedRule` (see [UpdateRateBasedRule](#)), insert a `RateBasedRule` into a WebACL or delete one from a WebACL (see [UpdateWebACL](#)), or delete a `RateBasedRule` from Amazon WAF (see [DeleteRateBasedRule](#)).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## MatchPredicates

The `Predicates` object contains one `Predicate` element for each [ByteMatchSet](#), [IPSet](#), or [SqlInjectionMatchSet](#) object that you want to include in a `RateBasedRule`.

Type: Array of [Predicate](#) objects

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RegexMatchSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

In a [GetRegexMatchSet](#) request, `RegexMatchSet` is a complex type that contains the `RegexMatchSetId` and `Name` of a `RegexMatchSet`, and the values that you specified when you updated the `RegexMatchSet`.

The values are contained in a `RegexMatchTuple` object, which specify the parts of web requests that you want Amazon WAF to inspect and the values that you want Amazon WAF to search for. If a `RegexMatchSet` contains more than one `RegexMatchTuple` object, a request needs to match the settings in only one `ByteMatchTuple` to be considered a match.

## Contents

### Name

A friendly name or description of the [RegexMatchSet](#). You can't change `Name` after you create a `RegexMatchSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

### RegexMatchSetId

The `RegexMatchSetId` for a `RegexMatchSet`. You use `RegexMatchSetId` to get information about a `RegexMatchSet` (see [GetRegexMatchSet](#)), update a `RegexMatchSet` (see

[UpdateRegexMatchSet](#)), insert a `RegexMatchSet` into a `Rule` or delete one from a `Rule` (see [UpdateRule](#)), and delete a `RegexMatchSet` from Amazon WAF (see [DeleteRegexMatchSet](#)).

`RegexMatchSetId` is returned by [CreateRegexMatchSet](#) and by [ListRegexMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

## RegexMatchTuples

Contains an array of [RegexMatchTuple](#) objects. Each `RegexMatchTuple` object contains:

- The part of a web request that you want Amazon WAF to inspect, such as a query string or the value of the `User-Agent` header.
- The identifier of the pattern (a regular expression) that you want Amazon WAF to look for. For more information, see [RegexPatternSet](#).
- Whether to perform any conversions on the request, such as converting it to lowercase, before inspecting it for the specified string.

Type: Array of [RegexMatchTuple](#) objects

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RegexMatchSetSummary

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returned by [ListRegexMatchSets](#). Each `RegexMatchSetSummary` object includes the `Name` and `RegexMatchSetId` for one [RegexMatchSet](#).

## Contents

### Name

A friendly name or description of the [RegexMatchSet](#). You can't change `Name` after you create a `RegexMatchSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### RegexMatchSetId

The `RegexMatchSetId` for a `RegexMatchSet`. You use `RegexMatchSetId` to get information about a `RegexMatchSet`, update a `RegexMatchSet`, remove a `RegexMatchSet` from a `Rule`, and delete a `RegexMatchSet` from Amazon WAF.

`RegexMatchSetId` is returned by [CreateRegexMatchSet](#) and by [ListRegexMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RegexMatchSetUpdate

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

In an [UpdateRegexMatchSet](#) request, `RegexMatchSetUpdate` specifies whether to insert or delete a [RegexMatchTuple](#) and includes the settings for the `RegexMatchTuple`.

## Contents

### Action

Specifies whether to insert or delete a [RegexMatchTuple](#).

Type: String

Valid Values: INSERT | DELETE

Required: Yes

### RegexMatchTuple

Information about the part of a web request that you want Amazon WAF to inspect and the identifier of the regular expression (regex) pattern that you want Amazon WAF to search for. If you specify DELETE for the value of `Action`, the `RegexMatchTuple` values must exactly match the values in the `RegexMatchTuple` that you want to delete from the `RegexMatchSet`.

Type: [RegexMatchTuple](#) object

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RegexMatchTuple

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The regular expression pattern that you want Amazon WAF to search for in web requests, the location in requests that you want Amazon WAF to search, and other settings. Each `RegexMatchTuple` object contains:

- The part of a web request that you want Amazon WAF to inspect, such as a query string or the value of the `User-Agent` header.
- The identifier of the pattern (a regular expression) that you want Amazon WAF to look for. For more information, see [RegexPatternSet](#).
- Whether to perform any conversions on the request, such as converting it to lowercase, before inspecting it for the specified string.

## Contents

### FieldToMatch

Specifies where in a web request to look for the `RegexPatternSet`.

Type: [FieldToMatch](#) object

Required: Yes

### RegexPatternSetId

The `RegexPatternSetId` for a `RegexPatternSet`. You use `RegexPatternSetId` to get information about a `RegexPatternSet` (see [GetRegexPatternSet](#)), update a `RegexPatternSet` (see [UpdateRegexPatternSet](#)), insert a `RegexPatternSet` into a

RegexMatchSet or delete one from a RegexMatchSet (see [UpdateRegexMatchSet](#)), and delete an RegexPatternSet from Amazon WAF (see [DeleteRegexPatternSet](#)).

RegexPatternSetId is returned by [CreateRegexPatternSet](#) and by [ListRegexPatternSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

## TextTransformation

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass Amazon WAF. If you specify a transformation, Amazon WAF performs the transformation on RegexPatternSet before inspecting a request for a match.

You can only specify a single type of TextTransformation.

### CMD\_LINE

When you're concerned that attackers are injecting an operating system commandline command and using unusual formatting to disguise some or all of the command, use this option to perform the following transformations:

- Delete the following characters: \ " ' ^
- Delete spaces before the following characters: / (
- Replace the following characters with a space: , ;
- Replace multiple spaces with one space
- Convert uppercase letters (A-Z) to lowercase (a-z)

### COMPRESS\_WHITE\_SPACE

Use this option to replace the following characters with a space character (decimal 32):

- \f, formfeed, decimal 12
- \t, tab, decimal 9
- \n, newline, decimal 10
- \r, carriage return, decimal 13
- \v, vertical tab, decimal 11

- non-breaking space, decimal 160

COMPRESS\_WHITE\_SPACE also replaces multiple spaces with one space.

### HTML\_ENTITY\_DECODE

Use this option to replace HTML-encoded characters with unencoded characters.

HTML\_ENTITY\_DECODE performs the following operations:

- Replaces (ampersand)quot; with "
- Replaces (ampersand)nbsp; with a non-breaking space, decimal 160
- Replaces (ampersand)lt; with a "less than" symbol
- Replaces (ampersand)gt; with >
- Replaces characters that are represented in hexadecimal format, (ampersand)#xhhhh;, with the corresponding characters
- Replaces characters that are represented in decimal format, (ampersand)#nnnn;, with the corresponding characters

### LOWERCASE

Use this option to convert uppercase letters (A-Z) to lowercase (a-z).

### URL\_DECODE

Use this option to decode a URL-encoded value.

### NONE

Specify NONE if you don't want to perform any text transformations.

Type: String

Valid Values: NONE | COMPRESS\_WHITE\_SPACE | HTML\_ENTITY\_DECODE | LOWERCASE | CMD\_LINE | URL\_DECODE

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RegexPatternSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The `RegexPatternSet` specifies the regular expression (regex) pattern that you want Amazon WAF to search for, such as `B[a@]dB[o0]t`. You can then configure Amazon WAF to reject those requests.

## Contents

### RegexPatternSetId

The identifier for the `RegexPatternSet`. You use `RegexPatternSetId` to get information about a `RegexPatternSet`, update a `RegexPatternSet`, remove a `RegexPatternSet` from a `RegexMatchSet`, and delete a `RegexPatternSet` from Amazon WAF.

`RegexMatchSetId` is returned by [CreateRegexPatternSet](#) and by [ListRegexPatternSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### RegexPatternStrings

Specifies the regular expression (regex) patterns that you want Amazon WAF to search for, such as `B[a@]dB[o0]t`.

Type: Array of strings

Array Members: Maximum number of 10 items.

Length Constraints: Minimum length of 1. Maximum length of 512.

Pattern: .\*

Required: Yes

## Name

A friendly name or description of the [RegexPatternSet](#). You can't change Name after you create a `RegexPatternSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RegexPatternSetSummary

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Returned by [ListRegexPatternSets](#). Each `RegexPatternSetSummary` object includes the `Name` and `RegexPatternSetId` for one [RegexPatternSet](#).

## Contents

### Name

A friendly name or description of the [RegexPatternSet](#). You can't change `Name` after you create a `RegexPatternSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### RegexPatternSetId

The `RegexPatternSetId` for a `RegexPatternSet`. You use `RegexPatternSetId` to get information about a `RegexPatternSet`, update a `RegexPatternSet`, remove a `RegexPatternSet` from a `RegexMatchSet`, and delete a `RegexPatternSet` from Amazon WAF.

`RegexPatternSetId` is returned by [CreateRegexPatternSet](#) and by [ListRegexPatternSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RegexPatternSetUpdate

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

In an [UpdateRegexPatternSet](#) request, `RegexPatternSetUpdate` specifies whether to insert or delete a `RegexPatternString` and includes the settings for the `RegexPatternString`.

## Contents

### Action

Specifies whether to insert or delete a `RegexPatternString`.

Type: String

Valid Values: INSERT | DELETE

Required: Yes

### RegexPatternString

Specifies the regular expression (regex) pattern that you want Amazon WAF to search for, such as `B[a@]dB[o0]t`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 512.

Pattern: .\*

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# Rule

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

A combination of [ByteMatchSet](#), [IPSet](#), and/or [SqlInjectionMatchSet](#) objects that identify the web requests that you want to allow, block, or count. For example, you might create a Rule that includes the following predicates:

- An IPSet that causes Amazon WAF to search for web requests that originate from the IP address 192.0.2.44
- A ByteMatchSet that causes Amazon WAF to search for web requests for which the value of the User-Agent header is BadBot.

To match the settings in this Rule, a request must originate from 192.0.2.44 AND include a User-Agent header for which the value is BadBot.

## Contents

### Predicates

The Predicates object contains one Predicate element for each [ByteMatchSet](#), [IPSet](#), or [SqlInjectionMatchSet](#) object that you want to include in a Rule.

Type: Array of [Predicate](#) objects

Required: Yes

## RuleId

A unique identifier for a Rule. You use RuleId to get more information about a Rule (see [GetRule](#)), update a Rule (see [UpdateRule](#)), insert a Rule into a WebACL or delete a one from a WebACL (see [UpdateWebACL](#)), or delete a Rule from Amazon WAF (see [DeleteRule](#)).

RuleId is returned by [CreateRule](#) and by [ListRules](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## MetricName

A friendly name or description for the metrics for this Rule. The name can contain only alphanumeric characters (A-Z, a-z, 0-9), with maximum length 128 and minimum length one. It can't contain whitespace or metric names reserved for Amazon WAF, including "All" and "Default\_Action." You can't change MetricName after you create the Rule.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

## Name

The friendly name or description for the Rule. You can't change the name of a Rule after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RuleGroup

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

A collection of predefined rules that you can add to a web ACL.

Rule groups are subject to the following limits:

- Three rule groups per account. You can request an increase to this limit by contacting customer support.
- One rule group per web ACL.
- Ten rules per rule group.

## Contents

### RuleGroupId

A unique identifier for a RuleGroup. You use RuleGroupId to get more information about a RuleGroup (see [GetRuleGroup](#)), update a RuleGroup (see [UpdateRuleGroup](#)), insert a RuleGroup into a WebACL or delete a one from a WebACL (see [UpdateWebACL](#)), or delete a RuleGroup from Amazon WAF (see [DeleteRuleGroup](#)).

RuleGroupId is returned by [CreateRuleGroup](#) and by [ListRuleGroups](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## MetricName

A friendly name or description for the metrics for this RuleGroup. The name can contain only alphanumeric characters (A-Z, a-z, 0-9), with maximum length 128 and minimum length one. It can't contain whitespace or metric names reserved for Amazon WAF, including "All" and "Default\_Action." You can't change the name of the metric after you create the RuleGroup.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

## Name

The friendly name or description for the RuleGroup. You can't change the name of a RuleGroup after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RuleGroupSummary

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Contains the identifier and the friendly name or description of the RuleGroup.

## Contents

### Name

A friendly name or description of the [RuleGroup](#). You can't change the name of a RuleGroup after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### RuleGroupId

A unique identifier for a RuleGroup. You use RuleGroupId to get more information about a RuleGroup (see [GetRuleGroup](#)), update a RuleGroup (see [UpdateRuleGroup](#)), insert a RuleGroup into a WebACL or delete one from a WebACL (see [UpdateWebACL](#)), or delete a RuleGroup from Amazon WAF (see [DeleteRuleGroup](#)).

RuleGroupId is returned by [CreateRuleGroup](#) and by [ListRuleGroups](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RuleGroupUpdate

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies an `ActivatedRule` and indicates whether you want to add it to a `RuleGroup` or delete it from a `RuleGroup`.

## Contents

### Action

Specify `INSERT` to add an `ActivatedRule` to a `RuleGroup`. Use `DELETE` to remove an `ActivatedRule` from a `RuleGroup`.

Type: String

Valid Values: `INSERT` | `DELETE`

Required: Yes

### ActivatedRule

The `ActivatedRule` object specifies a `Rule` that you want to insert or delete, the priority of the `Rule` in the WebACL, and the action that you want Amazon WAF to take when a web request matches the `Rule` (`ALLOW`, `BLOCK`, or `COUNT`).

Type: [ActivatedRule](#) object

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RuleSummary

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Contains the identifier and the friendly name or description of the Rule.

## Contents

### Name

A friendly name or description of the [Rule](#). You can't change the name of a Rule after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### RuleId

A unique identifier for a Rule. You use RuleId to get more information about a Rule (see [GetRule](#)), update a Rule (see [UpdateRule](#)), insert a Rule into a WebACL or delete one from a WebACL (see [UpdateWebACL](#)), or delete a Rule from Amazon WAF (see [DeleteRule](#)).

RuleId is returned by [CreateRule](#) and by [ListRules](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# RuleUpdate

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies a Predicate (such as an IPSet) and indicates whether you want to add it to a Rule or delete it from a Rule.

## Contents

### Action

Specify INSERT to add a Predicate to a Rule. Use DELETE to remove a Predicate from a Rule.

Type: String

Valid Values: INSERT | DELETE

Required: Yes

### Predicate

The ID of the Predicate (such as an IPSet) that you want to add to a Rule.

Type: [Predicate](#) object

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# SampledHTTPRequest

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The response from a [GetSampledRequests](#) request includes a SampledHTTPRequest complex type that appears as SampledRequests in the response syntax. SampledHTTPRequest contains one SampledHTTPRequest object for each web request that is returned by GetSampledRequests.

## Contents

### Request

A complex type that contains detailed information about the request.

Type: [HTTPRequest](#) object

Required: Yes

### Weight

A value that indicates how one result in the response relates proportionally to other results in the response. A result that has a weight of 2 represents roughly twice as many Amazon CloudFront web requests as a result that has a weight of 1.

Type: Long

Valid Range: Minimum value of 0.

Required: Yes

### Action

The action for the Rule that the request matched: ALLOW, BLOCK, or COUNT.

Type: String

Required: No

### **RuleWithinRuleGroup**

This value is returned if the `GetSampledRequests` request specifies the ID of a `RuleGroup` rather than the ID of an individual rule. `RuleWithinRuleGroup` is the rule within the specified `RuleGroup` that matched the request listed in the response.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

### **Timestamp**

The time at which Amazon WAF received the request from your Amazon resource, in Unix time format (in seconds).

Type: Timestamp

Required: No

### **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# SizeConstraint

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies a constraint on the size of a part of the web request. Amazon WAF uses the `Size`, `ComparisonOperator`, and `FieldToMatch` to build an expression in the form of "Size ComparisonOperator size in bytes of FieldToMatch". If that expression is true, the `SizeConstraint` is considered to match.

## Contents

### ComparisonOperator

The type of comparison you want Amazon WAF to perform. Amazon WAF uses this in combination with the provided `Size` and `FieldToMatch` to build an expression in the form of "Size ComparisonOperator size in bytes of FieldToMatch". If that expression is true, the `SizeConstraint` is considered to match.

**EQ:** Used to test if the `Size` is equal to the size of the `FieldToMatch`

**NE:** Used to test if the `Size` is not equal to the size of the `FieldToMatch`

**LE:** Used to test if the `Size` is less than or equal to the size of the `FieldToMatch`

**LT:** Used to test if the `Size` is strictly less than the size of the `FieldToMatch`

**GE:** Used to test if the `Size` is greater than or equal to the size of the `FieldToMatch`

**GT:** Used to test if the `Size` is strictly greater than the size of the `FieldToMatch`

Type: String

Valid Values: EQ | NE | LE | LT | GE | GT

Required: Yes

### FieldToMatch

Specifies where in a web request to look for the size constraint.

Type: [FieldToMatch](#) object

Required: Yes

### Size

The size in bytes that you want Amazon WAF to compare against the size of the specified `FieldToMatch`. Amazon WAF uses this in combination with `ComparisonOperator` and `FieldToMatch` to build an expression in the form of "Size `ComparisonOperator` size in bytes of `FieldToMatch`". If that expression is true, the `SizeConstraint` is considered to match.

Valid values for size are 0 - 21474836480 bytes (0 - 20 GB).

If you specify URI for the value of `Type`, the / in the URI path that you specify counts as one character. For example, the URI `/logo.jpg` is nine characters long.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 21474836480.

Required: Yes

### TextTransformation

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass Amazon WAF. If you specify a transformation, Amazon WAF performs the transformation on `FieldToMatch` before inspecting it for a match.

You can only specify a single type of `TextTransformation`.

Note that if you choose `BODY` for the value of `Type`, you must choose `NONE` for `TextTransformation` because Amazon CloudFront forwards only the first 8192 bytes for inspection.

### NONE

Specify NONE if you don't want to perform any text transformations.

## **CMD\_LINE**

When you're concerned that attackers are injecting an operating system command line command and using unusual formatting to disguise some or all of the command, use this option to perform the following transformations:

- Delete the following characters: \ " ' ^
- Delete spaces before the following characters: / (
- Replace the following characters with a space: , ;
- Replace multiple spaces with one space
- Convert uppercase letters (A-Z) to lowercase (a-z)

## **COMPRESS\_WHITE\_SPACE**

Use this option to replace the following characters with a space character (decimal 32):

- \f, formfeed, decimal 12
- \t, tab, decimal 9
- \n, newline, decimal 10
- \r, carriage return, decimal 13
- \v, vertical tab, decimal 11
- non-breaking space, decimal 160

COMPRESS\_WHITE\_SPACE also replaces multiple spaces with one space.

## **HTML\_ENTITY\_DECODE**

Use this option to replace HTML-encoded characters with unencoded characters.

HTML\_ENTITY\_DECODE performs the following operations:

- Replaces (ampersand)quot; with "
- Replaces (ampersand)nbsp; with a non-breaking space, decimal 160
- Replaces (ampersand)lt; with a "less than" symbol
- Replaces (ampersand)gt; with >
- Replaces characters that are represented in hexadecimal format, (ampersand)#xhhhh;, with the corresponding characters

- Replaces characters that are represented in decimal format, (ampersand)#nnnn;, with the corresponding characters

## **LOWERCASE**

Use this option to convert uppercase letters (A-Z) to lowercase (a-z).

## **URL\_DECODE**

Use this option to decode a URL-encoded value.

Type: String

Valid Values: NONE | COMPRESS\_WHITE\_SPACE | HTML\_ENTITY\_DECODE | LOWERCASE | CMD\_LINE | URL\_DECODE

Required: Yes

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# SizeConstraintSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

A complex type that contains `SizeConstraint` objects, which specify the parts of web requests that you want Amazon WAF to inspect the size of. If a `SizeConstraintSet` contains more than one `SizeConstraint` object, a request only needs to match one constraint to be considered a match.

## Contents

### SizeConstraints

Specifies the parts of web requests that you want to inspect the size of.

Type: Array of [SizeConstraint](#) objects

Required: Yes

### SizeConstraintSetId

A unique identifier for a `SizeConstraintSet`. You use `SizeConstraintSetId` to get information about a `SizeConstraintSet` (see [GetSizeConstraintSet](#)), update a `SizeConstraintSet` (see [UpdateSizeConstraintSet](#)), insert a `SizeConstraintSet` into a `Rule` or delete one from a `Rule` (see [UpdateRule](#)), and delete a `SizeConstraintSet` from Amazon WAF (see [DeleteSizeConstraintSet](#)).

`SizeConstraintSetId` is returned by [CreateSizeConstraintSet](#) and by [ListSizeConstraintSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## Name

The name, if any, of the `SizeConstraintSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# SizeConstraintSetSummary

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The Id and Name of a SizeConstraintSet.

## Contents

### Name

The name of the SizeConstraintSet, if any.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### SizeConstraintSetId

A unique identifier for a SizeConstraintSet. You use SizeConstraintSetId to get information about a SizeConstraintSet (see [GetSizeConstraintSet](#)), update a SizeConstraintSet (see [UpdateSizeConstraintSet](#)), insert a SizeConstraintSet into a Rule or delete one from a Rule (see [UpdateRule](#)), and delete a SizeConstraintSet from Amazon WAF (see [DeleteSizeConstraintSet](#)).

SizeConstraintSetId is returned by [CreateSizeConstraintSet](#) and by [ListSizeConstraintSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# SizeConstraintSetUpdate

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies the part of a web request that you want to inspect the size of and indicates whether you want to add the specification to a [SizeConstraintSet](#) or delete it from a `SizeConstraintSet`.

## Contents

### Action

Specify `INSERT` to add a [SizeConstraintSetUpdate](#) to a [SizeConstraintSet](#). Use `DELETE` to remove a `SizeConstraintSetUpdate` from a `SizeConstraintSet`.

Type: String

Valid Values: `INSERT` | `DELETE`

Required: Yes

### SizeConstraint

Specifies a constraint on the size of a part of the web request. Amazon WAF uses the `Size`, `ComparisonOperator`, and `FieldToMatch` to build an expression in the form of "`Size ComparisonOperator size in bytes of FieldToMatch`". If that expression is true, the `SizeConstraint` is considered to match.

Type: [SizeConstraint](#) object

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# SqlInjectionMatchSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

A complex type that contains `SqlInjectionMatchTuple` objects, which specify the parts of web requests that you want Amazon WAF to inspect for snippets of malicious SQL code and, if you want Amazon WAF to inspect a header, the name of the header. If a `SqlInjectionMatchSet` contains more than one `SqlInjectionMatchTuple` object, a request needs to include snippets of SQL code in only one of the specified parts of the request to be considered a match.

## Contents

### SqlInjectionMatchSetId

A unique identifier for a `SqlInjectionMatchSet`. You use `SqlInjectionMatchSetId` to get information about a `SqlInjectionMatchSet` (see [GetSqlInjectionMatchSet](#)), update a `SqlInjectionMatchSet` (see [UpdateSqlInjectionMatchSet](#)), insert a `SqlInjectionMatchSet` into a `Rule` or delete one from a `Rule` (see [UpdateRule](#)), and delete a `SqlInjectionMatchSet` from Amazon WAF (see [DeleteSqlInjectionMatchSet](#)).

`SqlInjectionMatchSetId` is returned by [CreateSqlInjectionMatchSet](#) and by [ListSqlInjectionMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## SqlInjectionMatchTuples

Specifies the parts of web requests that you want to inspect for snippets of malicious SQL code.

Type: Array of [SqlInjectionMatchTuple](#) objects

Required: Yes

### Name

The name, if any, of the SqlInjectionMatchSet.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# SqlInjectionMatchSetSummary

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The Id and Name of a SqlInjectionMatchSet.

## Contents

### Name

The name of the SqlInjectionMatchSet, if any, specified by Id.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### SqlInjectionMatchSetId

A unique identifier for a SqlInjectionMatchSet. You use SqlInjectionMatchSetId to get information about a SqlInjectionMatchSet (see [GetSqlInjectionMatchSet](#)), update a SqlInjectionMatchSet (see [UpdateSqlInjectionMatchSet](#)), insert a SqlInjectionMatchSet into a Rule or delete one from a Rule (see [UpdateRule](#)), and delete a SqlInjectionMatchSet from Amazon WAF (see [DeleteSqlInjectionMatchSet](#)).

SqlInjectionMatchSetId is returned by [CreateSqlInjectionMatchSet](#) and by [ListSqlInjectionMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# SqlInjectionMatchSetUpdate

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies the part of a web request that you want to inspect for snippets of malicious SQL code and indicates whether you want to add the specification to a [SqlInjectionMatchSet](#) or delete it from a [SqlInjectionMatchSet](#).

## Contents

### Action

Specify INSERT to add a [SqlInjectionMatchSetUpdate](#) to a [SqlInjectionMatchSet](#). Use DELETE to remove a [SqlInjectionMatchSetUpdate](#) from a [SqlInjectionMatchSet](#).

Type: String

Valid Values: INSERT | DELETE

Required: Yes

### SqlInjectionMatchTuple

Specifies the part of a web request that you want Amazon WAF to inspect for snippets of malicious SQL code and, if you want Amazon WAF to inspect a header, the name of the header.

Type: [SqlInjectionMatchTuple](#) object

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# SqlInjectionMatchTuple

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies the part of a web request that you want Amazon WAF to inspect for snippets of malicious SQL code and, if you want Amazon WAF to inspect a header, the name of the header.

## Contents

### FieldToMatch

Specifies where in a web request to look for snippets of malicious SQL code.

Type: [FieldToMatch](#) object

Required: Yes

### TextTransformation

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass Amazon WAF. If you specify a transformation, Amazon WAF performs the transformation on `FieldToMatch` before inspecting it for a match.

You can only specify a single type of `TextTransformation`.

### CMD\_LINE

When you're concerned that attackers are injecting an operating system command line command and using unusual formatting to disguise some or all of the command, use this option to perform the following transformations:

- Delete the following characters: \ " ' ^

- Delete spaces before the following characters: / (
- Replace the following characters with a space: , ;
- Replace multiple spaces with one space
- Convert uppercase letters (A-Z) to lowercase (a-z)

### **COMPRESS\_WHITE\_SPACE**

Use this option to replace the following characters with a space character (decimal 32):

- \f, formfeed, decimal 12
- \t, tab, decimal 9
- \n, newline, decimal 10
- \r, carriage return, decimal 13
- \v, vertical tab, decimal 11
- non-breaking space, decimal 160

COMPRESS\_WHITE\_SPACE also replaces multiple spaces with one space.

### **HTML\_ENTITY\_DECODE**

Use this option to replace HTML-encoded characters with unencoded characters.

HTML\_ENTITY\_DECODE performs the following operations:

- Replaces (ampersand)quot; with "
- Replaces (ampersand)nbsp; with a non-breaking space, decimal 160
- Replaces (ampersand)lt; with a "less than" symbol
- Replaces (ampersand)gt; with >
- Replaces characters that are represented in hexadecimal format, (ampersand)#xhhhh;, with the corresponding characters
- Replaces characters that are represented in decimal format, (ampersand)#nnnn;, with the corresponding characters

### **LOWERCASE**

Use this option to convert uppercase letters (A-Z) to lowercase (a-z).

### **URL\_DECODE**

Use this option to decode a URL-encoded value.

## NONE

Specify NONE if you don't want to perform any text transformations.

Type: String

Valid Values: NONE | COMPRESS\_WHITE\_SPACE | HTML\_ENTITY\_DECODE | LOWERCASE | CMD\_LINE | URL\_DECODE

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# SubscribedRuleGroupSummary

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

A summary of the rule groups you are subscribed to.

## Contents

### MetricName

A friendly name or description for the metrics for this RuleGroup. The name can contain only alphanumeric characters (A-Z, a-z, 0-9), with maximum length 128 and minimum length one. It can't contain whitespace or metric names reserved for Amazon WAF, including "All" and "Default\_Action." You can't change the name of the metric after you create the RuleGroup.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Name

A friendly name or description of the RuleGroup. You can't change the name of a RuleGroup after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## **RuleGroupId**

A unique identifier for a RuleGroup.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## **See Also**

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# Tag

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

A tag associated with an Amazon resource. Tags are key:value pairs that you can use to categorize and manage your resources, for purposes like billing. For example, you might set the tag key to "customer" and the value to the customer name or ID. You can specify one or more tags to add to each Amazon resource, up to 50 tags for a resource.

Tagging is only available through the API, SDKs, and CLI. You can't manage or view tags through the Amazon WAF Classic console. You can tag the Amazon resources that you manage through Amazon WAF Classic: web ACLs, rule groups, and rules.

## Contents

### Key

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### Value

Type: String

Length Constraints: Minimum length of 0. Maximum length of 256.

Pattern: .\*

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# TagInfoForResource

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Information for a tag associated with an Amazon resource. Tags are key:value pairs that you can use to categorize and manage your resources, for purposes like billing. For example, you might set the tag key to "customer" and the value to the customer name or ID. You can specify one or more tags to add to each Amazon resource, up to 50 tags for a resource.

Tagging is only available through the API, SDKs, and CLI. You can't manage or view tags through the Amazon WAF Classic console. You can tag the Amazon resources that you manage through Amazon WAF Classic: web ACLs, rule groups, and rules.

## Contents

### ResourceARN

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: `.*\S.*`

Required: No

### TagList

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item.

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# TimeWindow

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

In a [GetSampledRequests](#) request, the `StartTime` and `EndTime` objects specify the time range for which you want Amazon WAF to return a sample of web requests.

You must specify the times in Coordinated Universal Time (UTC) format. UTC format includes the special designator, Z. For example, "2016-09-27T14:50Z".

In a [GetSampledRequests](#) response, the `StartTime` and `EndTime` objects specify the time range for which Amazon WAF actually returned a sample of web requests. Amazon WAF gets the specified number of requests from among the first 5,000 requests that your Amazon resource receives during the specified time period. If your resource receives more than 5,000 requests during that period, Amazon WAF stops sampling after the 5,000th request. In that case, `EndTime` is the time that Amazon WAF received the 5,000th request.

## Contents

### EndTime

The end of the time range from which you want `GetSampledRequests` to return a sample of the requests that your Amazon resource received. You must specify the date and time in Coordinated Universal Time (UTC) format. UTC format includes the special designator, Z. For example, "2016-09-27T14:50Z". You can specify any time range in the previous three hours.

Type: Timestamp

Required: Yes

## StartTime

The beginning of the time range from which you want `GetSampledRequests` to return a sample of the requests that your Amazon resource received. You must specify the date and time in Coordinated Universal Time (UTC) format. UTC format includes the special designator, Z. For example, "2016-09-27T14:50Z". You can specify any time range in the previous three hours.

Type: Timestamp

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# WafAction

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

For the action that is associated with a rule in a WebACL, specifies the action that you want Amazon WAF to perform when a web request matches all of the conditions in a rule. For the default action in a WebACL, specifies the action that you want Amazon WAF to take when a web request doesn't match all of the conditions in any of the rules in a WebACL.

## Contents

### Type

Specifies how you want Amazon WAF to respond to requests that match the settings in a Rule. Valid settings include the following:

- **ALLOW**: Amazon WAF allows requests
- **BLOCK**: Amazon WAF blocks requests
- **COUNT**: Amazon WAF increments a counter of the requests that match all of the conditions in the rule. Amazon WAF then continues to inspect the web request based on the remaining rules in the web ACL. You can't specify **COUNT** for the default action for a WebACL.

Type: String

Valid Values: **BLOCK** | **ALLOW** | **COUNT**

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# WafOverrideAction

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The action to take if any rule within the RuleGroup matches a request.

## Contents

### Type

COUNT overrides the action specified by the individual rule within a RuleGroup . If set to NONE, the rule's action will take place.

Type: String

Valid Values: NONE | COUNT

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# WebACL

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Contains the Rules that identify the requests that you want to allow, block, or count. In a WebACL, you also specify a default action (ALLOW or BLOCK), and the action for each Rule that you add to a WebACL, for example, block requests from specified IP addresses or block requests from specified referrers. You also associate the WebACL with an Amazon CloudFront distribution to identify the requests that you want Amazon WAF to filter. If you add more than one Rule to a WebACL, a request needs to match only one of the specifications to be allowed, blocked, or counted. For more information, see [UpdateWebACL](#).

## Contents

### DefaultAction

The action to perform if none of the Rules contained in the WebACL match. The action is specified by the [WafAction](#) object.

Type: [WafAction](#) object

Required: Yes

### Rules

An array that contains the action for each Rule in a WebACL, the priority of the Rule, and the ID of the Rule.

Type: Array of [ActivatedRule](#) objects

Required: Yes

## WebACLId

A unique identifier for a WebACL. You use WebACLId to get information about a WebACL (see [GetWebACL](#)), update a WebACL (see [UpdateWebACL](#)), and delete a WebACL from Amazon WAF (see [DeleteWebACL](#)).

WebACLId is returned by [CreateWebACL](#) and by [ListWebACLs](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## MetricName

A friendly name or description for the metrics for this WebACL. The name can contain only alphanumeric characters (A-Z, a-z, 0-9), with maximum length 128 and minimum length one. It can't contain whitespace or metric names reserved for Amazon WAF, including "All" and "Default\_Action." You can't change MetricName after you create the WebACL.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

## Name

A friendly name or description of the WebACL. You can't change the name of a WebACL after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

## WebACLArn

The Amazon Resource Name (ARN) of the web ACL.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Pattern: .\*\.S.\*

Required: No

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# WebACLSummary

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Contains the identifier and the name or description of the [WebACL](#).

## Contents

### Name

A friendly name or description of the [WebACL](#). You can't change the name of a WebACL after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### WebACLId

A unique identifier for a WebACL. You use WebACLId to get information about a WebACL (see [GetWebACL](#)), update a WebACL (see [UpdateWebACL](#)), and delete a WebACL from Amazon WAF (see [DeleteWebACL](#)).

WebACLId is returned by [CreateWebACL](#) and by [ListWebACLs](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# WebACLUpdate

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies whether to insert a Rule into or delete a Rule from a WebACL.

## Contents

### Action

Specifies whether to insert a Rule into or delete a Rule from a WebACL.

Type: String

Valid Values: INSERT | DELETE

Required: Yes

### ActivatedRule

The `ActivatedRule` object in an `UpdateWebACL` request specifies a Rule that you want to insert or delete, the priority of the Rule in the WebACL, and the action that you want Amazon WAF to take when a web request matches the Rule (ALLOW, BLOCK, or COUNT).

Type: [ActivatedRule](#) object

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# XssMatchSet

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

A complex type that contains XssMatchTuple objects, which specify the parts of web requests that you want Amazon WAF to inspect for cross-site scripting attacks and, if you want Amazon WAF to inspect a header, the name of the header. If a XssMatchSet contains more than one XssMatchTuple object, a request needs to include cross-site scripting attacks in only one of the specified parts of the request to be considered a match.

## Contents

### XssMatchSetId

A unique identifier for an XssMatchSet. You use XssMatchSetId to get information about an XssMatchSet (see [GetXssMatchSet](#)), update an XssMatchSet (see [UpdateXssMatchSet](#)), insert an XssMatchSet into a Rule or delete one from a Rule (see [UpdateRule](#)), and delete an XssMatchSet from Amazon WAF (see [DeleteXssMatchSet](#)).

XssMatchSetId is returned by [CreateXssMatchSet](#) and by [ListXssMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: .\*\\S.\*

Required: Yes

### XssMatchTuples

Specifies the parts of web requests that you want to inspect for cross-site scripting attacks.

Type: Array of [XssMatchTuple](#) objects

Required: Yes

### Name

The name, if any, of the XssMatchSet.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: No

### See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# XssMatchSetSummary

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

The Id and Name of an XssMatchSet.

## Contents

### Name

The name of the XssMatchSet, if any, specified by Id.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

### XssMatchSetId

A unique identifier for an XssMatchSet. You use XssMatchSetId to get information about a XssMatchSet (see [GetXssMatchSet](#)), update an XssMatchSet (see [UpdateXssMatchSet](#)), insert an XssMatchSet into a Rule or delete one from a Rule (see [UpdateRule](#)), and delete an XssMatchSet from Amazon WAF (see [DeleteXssMatchSet](#)).

XssMatchSetId is returned by [CreateXssMatchSet](#) and by [ListXssMatchSets](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `.*\S.*`

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# XssMatchSetUpdate

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies the part of a web request that you want to inspect for cross-site scripting attacks and indicates whether you want to add the specification to an [XssMatchSet](#) or delete it from an XssMatchSet.

## Contents

### Action

Specify INSERT to add an [XssMatchSetUpdate](#) to an [XssMatchSet](#). Use DELETE to remove an XssMatchSetUpdate from an XssMatchSet.

Type: String

Valid Values: INSERT | DELETE

Required: Yes

### XssMatchTuple

Specifies the part of a web request that you want Amazon WAF to inspect for cross-site scripting attacks and, if you want Amazon WAF to inspect a header, the name of the header.

Type: [XssMatchTuple](#) object

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# XssMatchTuple

Service: Amazon WAF Classic Regional

## Note

Amazon WAF Classic support will end on September 30, 2025.

This is **Amazon WAF Classic** documentation. For more information, see [Amazon WAF Classic](#) in the developer guide.

**For the latest version of Amazon WAF**, use the Amazon WAFV2 API and see the [Amazon WAF Developer Guide](#). With the latest version, Amazon WAF has a single set of endpoints for regional and global use.

Specifies the part of a web request that you want Amazon WAF to inspect for cross-site scripting attacks and, if you want Amazon WAF to inspect a header, the name of the header.

## Contents

### FieldToMatch

Specifies where in a web request to look for cross-site scripting attacks.

Type: [FieldToMatch](#) object

Required: Yes

### TextTransformation

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass Amazon WAF. If you specify a transformation, Amazon WAF performs the transformation on `FieldToMatch` before inspecting it for a match.

You can only specify a single type of `TextTransformation`.

### CMD\_LINE

When you're concerned that attackers are injecting an operating system command line command and using unusual formatting to disguise some or all of the command, use this option to perform the following transformations:

- Delete the following characters: \ " ' ^

- Delete spaces before the following characters: / (
- Replace the following characters with a space: , ;
- Replace multiple spaces with one space
- Convert uppercase letters (A-Z) to lowercase (a-z)

### **COMPRESS\_WHITE\_SPACE**

Use this option to replace the following characters with a space character (decimal 32):

- \f, formfeed, decimal 12
- \t, tab, decimal 9
- \n, newline, decimal 10
- \r, carriage return, decimal 13
- \v, vertical tab, decimal 11
- non-breaking space, decimal 160

COMPRESS\_WHITE\_SPACE also replaces multiple spaces with one space.

### **HTML\_ENTITY\_DECODE**

Use this option to replace HTML-encoded characters with unencoded characters.

HTML\_ENTITY\_DECODE performs the following operations:

- Replaces (ampersand)quot; with "
- Replaces (ampersand)nbsp; with a non-breaking space, decimal 160
- Replaces (ampersand)lt; with a "less than" symbol
- Replaces (ampersand)gt; with >
- Replaces characters that are represented in hexadecimal format, (ampersand)#xhhhh;, with the corresponding characters
- Replaces characters that are represented in decimal format, (ampersand)#nnnn;, with the corresponding characters

### **LOWERCASE**

Use this option to convert uppercase letters (A-Z) to lowercase (a-z).

### **URL\_DECODE**

Use this option to decode a URL-encoded value.

## NONE

Specify NONE if you don't want to perform any text transformations.

Type: String

Valid Values: NONE | COMPRESS\_WHITE\_SPACE | HTML\_ENTITY\_DECODE | LOWERCASE | CMD\_LINE | URL\_DECODE

Required: Yes

## See Also

For more information about using this API in one of the language-specific Amazon SDKs, see the following:

- [Amazon SDK for C++](#)
- [Amazon SDK for Java V2](#)
- [Amazon SDK for Ruby V3](#)

# Common Parameters

The following list contains the parameters that all actions use for signing Signature Version 4 requests with a query string. Any action-specific parameters are listed in the topic for that action. For more information about Signature Version 4, see [Signing Amazon API requests](#) in the *IAM User Guide*.

## Action

The action to be performed.

Type: string

Required: Yes

## Version

The API version that the request is written for, expressed in the format YYYY-MM-DD.

Type: string

Required: Yes

## X-Amz-Algorithm

The hash algorithm that you used to create the request signature.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Valid Values: AWS4-HMAC-SHA256

Required: Conditional

## X-Amz-Credential

The credential scope value, which is a string that includes your access key, the date, the region you are targeting, the service you are requesting, and a termination string ("aws4\_request"). The value is expressed in the following format: *access\_key/YYYYMMDD/region/service/aws4\_request*.

For more information, see [Create a signed Amazon API request](#) in the *IAM User Guide*.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

### **X-Amz-Date**

The date that is used to create the signature. The format must be ISO 8601 basic format (YYYYMMDD'T'HHMMSS'Z'). For example, the following date time is a valid X-Amz-Date value: 20120325T120000Z.

Condition: X-Amz-Date is optional for all requests; it can be used to override the date used for signing requests. If the Date header is specified in the ISO 8601 basic format, X-Amz-Date is not required. When X-Amz-Date is used, it always overrides the value of the Date header. For more information, see [Elements of an Amazon API request signature](#) in the *IAM User Guide*.

Type: string

Required: Conditional

### **X-Amz-Security-Token**

The temporary security token that was obtained through a call to Amazon Security Token Service (Amazon STS). For a list of services that support temporary security credentials from Amazon STS, see [Amazon Web Services services that work with IAM](#) in the *IAM User Guide*.

Condition: If you're using temporary security credentials from Amazon STS, you must include the security token.

Type: string

Required: Conditional

### **X-Amz-Signature**

Specifies the hex-encoded signature that was calculated from the string to sign and the derived signing key.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

### **X-Amz-SignedHeaders**

Specifies all the HTTP headers that were included as part of the canonical request. For more information about specifying signed headers, see [Create a signed Amazon API request](#) in the *IAM User Guide*.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

# Common Errors

This section lists the errors common to the API actions of all Amazon services. For errors specific to an API action for this service, see the topic for that API action.

## **AccessDeniedException**

You do not have sufficient access to perform this action.

HTTP Status Code: 400

## **IncompleteSignature**

The request signature does not conform to Amazon standards.

HTTP Status Code: 400

## **InternalFailure**

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

## **InvalidAction**

The action or operation requested is invalid. Verify that the action is typed correctly.

HTTP Status Code: 400

## **InvalidClientTokenId**

The X.509 certificate or Amazon access key ID provided does not exist in our records.

HTTP Status Code: 403

## **NotAuthorized**

You do not have permission to perform this action.

HTTP Status Code: 400

## **OptInRequired**

The Amazon access key ID needs a subscription for the service.

HTTP Status Code: 403

**RequestExpired**

The request reached the service more than 15 minutes after the date stamp on the request or more than 15 minutes after the request expiration date (such as for pre-signed URLs), or the date stamp on the request is more than 15 minutes in the future.

HTTP Status Code: 400

**ServiceUnavailable**

The request has failed due to a temporary failure of the server.

HTTP Status Code: 503

**ThrottlingException**

The request was denied due to request throttling.

HTTP Status Code: 400

**ValidationError**

The input fails to satisfy the constraints specified by an Amazon service.

HTTP Status Code: 400