

# Amazon Redshift



# Amazon Redshift: API Reference

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# Welcome

## Overview

This is an interface reference for Amazon Redshift. It contains documentation for one of the programming or command line interfaces you can use to manage Amazon Redshift clusters. Note that Amazon Redshift is asynchronous, which means that some interfaces may require techniques, such as polling or asynchronous callback handlers, to determine when a command has been applied. In this reference, the parameter descriptions indicate whether a change is applied immediately, on the next instance reboot, or during the next maintenance window. For a summary of the Amazon Redshift cluster management interfaces, go to [Using the Amazon Redshift Management Interfaces](#).

Amazon Redshift manages all the work of setting up, operating, and scaling a data warehouse: provisioning capacity, monitoring and backing up the cluster, and applying patches and upgrades to the Amazon Redshift engine. You can focus on using your data to acquire new insights for your business and customers.

If you are a first-time user of Amazon Redshift, we recommend that you begin by reading the [Amazon Redshift Getting Started Guide](#).

If you are a database developer, the [Amazon Redshift Database Developer Guide](#) explains how to design, build, query, and maintain the databases that make up your data warehouse.

This document was last published on May 16, 2025.

# Actions

The following actions are supported:

- [AcceptReservedNodeExchange](#)
- [AddPartner](#)
- [AssociateDataShareConsumer](#)
- [AuthorizeClusterSecurityGroupIngress](#)
- [AuthorizeDataShare](#)
- [AuthorizeEndpointAccess](#)
- [AuthorizeSnapshotAccess](#)
- [BatchDeleteClusterSnapshots](#)
- [BatchModifyClusterSnapshots](#)
- [CancelResize](#)
- [CopyClusterSnapshot](#)
- [CreateAuthenticationProfile](#)
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- [CreateHsmConfiguration](#)
- [CreateIntegration](#)
- [CreateRedshiftIdcApplication](#)
- [CreateScheduledAction](#)
- [CreateSnapshotCopyGrant](#)
- [CreateSnapshotSchedule](#)

- [CreateTags](#)
- [CreateUsageLimit](#)
- [DeauthorizeDataShare](#)
- [DeleteAuthenticationProfile](#)
- [DeleteCluster](#)
- [DeleteClusterParameterGroup](#)
- [DeleteClusterSecurityGroup](#)
- [DeleteClusterSnapshot](#)
- [DeleteClusterSubnetGroup](#)
- [DeleteCustomDomainAssociation](#)
- [DeleteEndpointAccess](#)
- [DeleteEventSubscription](#)
- [DeleteHsmClientCertificate](#)
- [DeleteHsmConfiguration](#)
- [DeleteIntegration](#)
- [DeletePartner](#)
- [DeleteRedshiftIldcApplication](#)
- [DeleteResourcePolicy](#)
- [DeleteScheduledAction](#)
- [DeleteSnapshotCopyGrant](#)
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- [ModifyClusterParameterGroup](#)
- [ModifyClusterSnapshot](#)
- [ModifyClusterSnapshotSchedule](#)
- [ModifyClusterSubnetGroup](#)
- [ModifyCustomDomainAssociation](#)
- [ModifyEndpointAccess](#)
- [ModifyEventSubscription](#)

- [ModifyIntegration](#)
- [ModifyRedshiftIdcApplication](#)
- [ModifyScheduledAction](#)
- [ModifySnapshotCopyRetentionPeriod](#)
- [ModifySnapshotSchedule](#)
- [ModifyUsageLimit](#)
- [PauseCluster](#)
- [PurchaseReservedNodeOffering](#)
- [PutResourcePolicy](#)
- [RebootCluster](#)
- [RegisterNamespace](#)
- [RejectDataShare](#)
- [ResetClusterParameterGroup](#)
- [ResizeCluster](#)
- [RestoreFromClusterSnapshot](#)
- [RestoreTableFromClusterSnapshot](#)
- [ResumeCluster](#)
- [RevokeClusterSecurityGroupIngress](#)
- [RevokeEndpointAccess](#)
- [RevokeSnapshotAccess](#)
- [RotateEncryptionKey](#)
- [UpdatePartnerStatus](#)

# AcceptReservedNodeExchange

Exchanges a DC1 Reserved Node for a DC2 Reserved Node with no changes to the configuration (term, payment type, or number of nodes) and no additional costs.

## Request Parameters

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

### ReservedNodeId

A string representing the node identifier of the DC1 Reserved Node to be exchanged.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### TargetReservedNodeOfferingId

The unique identifier of the DC2 Reserved Node offering to be used for the exchange. You can obtain the value for the parameter by calling [GetReservedNodeExchangeOfferings](#)

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Response Elements

The following element is returned by the service.

### ExchangedReservedNode

Type: [ReservedNode](#) object

## Errors

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

## **DependentServiceUnavailableFault**

Your request cannot be completed because a dependent internal service is temporarily unavailable. Wait 30 to 60 seconds and try again.

HTTP Status Code: 400

## **InvalidReservedNodeState**

Indicates that the Reserved Node being exchanged is not in an active state.

HTTP Status Code: 400

## **ReservedNodeAlreadyExists**

User already has a reservation with the given identifier.

HTTP Status Code: 404

## **ReservedNodeAlreadyMigrated**

Indicates that the reserved node has already been exchanged.

HTTP Status Code: 400

## **ReservedNodeNotFound**

The specified reserved compute node not found.

HTTP Status Code: 404

## **ReservedNodeOfferingNotFound**

Specified offering does not exist.

HTTP Status Code: 404

## **UnsupportedOperation**

The requested operation isn't supported.

HTTP Status Code: 400

# **Examples**

## **Example**

This example illustrates one usage of `AcceptReservedNodeExchange`.

## Sample Request

```
https://redshift.us-east-2.amazonaws.com/
  ?Action=AcceptReservedNodeExchange
&ReservedNodeId=12345678-12ab-12a1-1a2a-12ab-12a12aEXAMPLE
&TargetReservedNodeOfferingId=12345678-12ab-12a1-1a2a-12ab-12a12bEXAMPLE
&SignatureMethod=HmacSHA256&SignatureVersion=4
&Version=2012-12-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<AcceptReservedNodeExchangeResponse xmlns="http://redshift.amazonaws.com/
doc/2012-12-01/">
  <AcceptReservedNodeExchangeResult>
    <ExchangedReservedNode>
      <ReservedNodeId>12345678-12ab-12a1-1a2a-12ab-12a12aEXAMPLE</ReservedNodeId>
      <OfferingType>All Upfront</OfferingType>
      <ReservedNodeOfferingType>Regular</ReservedNodeOfferingType>
      <RecurringCharges>
        <RecurringCharge>
          <RecurringChargeAmount>0.0</RecurringChargeAmount>
          <RecurringChargeFrequency>Hourly</RecurringChargeFrequency>
        </RecurringCharge>
      </RecurringCharges>
      <NodeType>dc2.large</NodeType>
      <FixedPrice>0.0</FixedPrice>
      <Duration>31536000</Duration>
      <UsagePrice>0.0</UsagePrice>
      <ReservedNodeOfferingId>12345678-12ab-12a1-1a2a-12ab-12a12bEXAMPLE</
ReservedNodeOfferingId>
      <StartTime>2019-12-26T22:27:56Z</StartTime>
      <NodeCount>1</NodeCount>
      <State>exchanging</State>
      <CurrencyCode>USD</CurrencyCode>
    </ExchangedReservedNode>
  </AcceptReservedNodeExchangeResult>
  <ResponseMetadata>
    <RequestId>0b899aa4-2830-11ea-8a28-2fd1719d0e86</RequestId>
```

```
</ResponseMetadata>  
</AcceptReservedNodeExchangeResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# AddPartner

Adds a partner integration to a cluster. This operation authorizes a partner to push status updates for the specified database. To complete the integration, you also set up the integration on the partner website.

## Request Parameters

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

### AccountId

The Amazon Web Services account ID that owns the cluster.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `^[0-9]+$`

Required: Yes

### ClusterIdentifier

The cluster identifier of the cluster that receives data from the partner.

Type: String

Length Constraints: Maximum length of 63.

Pattern: `^[a-zA-Z0-9\-\_]+$`

Required: Yes

### DatabaseName

The name of the database that receives data from the partner.

Type: String

Length Constraints: Maximum length of 127.

Pattern: `^[\\p{L}_][\\p{L}\\p{N}@$_#_]+$`

Required: Yes

## PartnerName

The name of the partner that is authorized to send data.

Type: String

Length Constraints: Maximum length of 255.

Pattern: `^[a-zA-Z0-9\-\_]+$`

Required: Yes

## Response Elements

The following elements are returned by the service.

### DatabaseName

The name of the database that receives data from the partner.

Type: String

Length Constraints: Maximum length of 127.

Pattern: `^[\\p{L}_][\\p{L}\\p{N}@$#_]+$`

### PartnerName

The name of the partner that is authorized to send data.

Type: String

Length Constraints: Maximum length of 255.

Pattern: `^[a-zA-Z0-9\-\_]+$`

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.



HTTP Status Code: 404

### **PartnerNotFound**

The name of the partner was not found.

HTTP Status Code: 404

### **UnauthorizedPartnerIntegration**

The partner integration is not authorized.

HTTP Status Code: 401

### **UnsupportedOperation**

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# AssociateDataShareConsumer

From a datashare consumer account, associates a datashare with the account (AssociateEntireAccount) or the specified namespace (ConsumerArn). If you make this association, the consumer can consume the datashare.

## Request Parameters

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

### DataShareArn

The Amazon Resource Name (ARN) of the datashare that the consumer is to use.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### AllowWrites

If set to true, allows write operations for a datashare.

Type: Boolean

Required: No

### AssociateEntireAccount

A value that specifies whether the datashare is associated with the entire account.

Type: Boolean

Required: No

### ConsumerArn

The Amazon Resource Name (ARN) of the consumer namespace associated with the datashare.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## ConsumerRegion

From a datashare consumer account, associates a datashare with all existing and future namespaces in the specified Amazon Region.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## Response Elements

The following elements are returned by the service.

### AllowPubliclyAccessibleConsumers

A value that specifies whether the datashare can be shared to a publicly accessible cluster.

Type: Boolean

### DataShareArn

The Amazon Resource Name (ARN) of the datashare that the consumer is to use.

Type: String

Length Constraints: Maximum length of 2147483647.

### DataShareAssociations.member.N

A value that specifies when the datashare has an association between producer and data consumers.

Type: Array of [DataShareAssociation](#) objects

### DataShareType

The type of the datashare created by RegisterNamespace.

Type: String

Valid Values: INTERNAL

## ManagedBy

The identifier of a datashare to show its managing entity.

Type: String

Length Constraints: Maximum length of 2147483647.

## ProducerArn

The Amazon Resource Name (ARN) of the producer namespace.

Type: String

Length Constraints: Maximum length of 2147483647.

## Errors

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

### InvalidDataShareFault

There is an error with the datashare.

HTTP Status Code: 400

### InvalidNamespaceFault

The namespace isn't valid because the namespace doesn't exist. Provide a valid namespace.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of AssociateDataShareConsumer.

### Sample Request

```
AssociateDataShareConsumer&AssociateEntireAccount=true&DataShareArn=arn%3Aaws%3Aredshift%3Aus-east-1%3A827630067164%3Adatashare%3Aa1c54ed4-8323-4d14-b5dd-927cb596dc0e%2Ftestshare&Version=2012-12-01
```

## Sample Response

```
<AssociateDataShareConsumerResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <AssociateDataShareConsumerResult>
    <ProducerNamespaceArn>arn:aws:redshift:us-east-1:827630067164:namespace:a1c54ed4-8323-4d14-b5dd-927cb596dc0e</ProducerNamespaceArn>
    <AllowPubliclyAccessibleConsumers>false</AllowPubliclyAccessibleConsumers>
    <DataShareArn>arn:aws:redshift:us-east-1:827630067164:datashare:a1c54ed4-8323-4d14-b5dd-927cb596dc0e/testshare</DataShareArn>
    <DataShareAssociations>
      <member>
        <StatusChangeDate>2021-01-11T23:39:25.485605</StatusChangeDate>
        <ConsumerIdentifier>827630067164</ConsumerIdentifier>
        <CreateDate>2021-01-11T22:12:23.038612</CreateDate>
        <Status>ACTIVE</Status>
      </member>
    </DataShareAssociations>
  </AssociateDataShareConsumerResult>
  <ResponseMetadata>
    <RequestId>c125d0e3-72de-4938-a919-e6a0c3f8489d</RequestId>
  </ResponseMetadata>
</AssociateDataShareConsumerResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# AuthorizeClusterSecurityGroupIngress

Adds an inbound (ingress) rule to an Amazon Redshift security group. Depending on whether the application accessing your cluster is running on the Internet or an Amazon EC2 instance, you can authorize inbound access to either a Classless Interdomain Routing (CIDR)/Internet Protocol (IP) range or to an Amazon EC2 security group. You can add as many as 20 ingress rules to an Amazon Redshift security group.

If you authorize access to an Amazon EC2 security group, specify *EC2SecurityGroupName* and *EC2SecurityGroupOwnerId*. The Amazon EC2 security group and Amazon Redshift cluster must be in the same Amazon Web Services Region.

If you authorize access to a CIDR/IP address range, specify *CIDRIP*. For an overview of CIDR blocks, see the Wikipedia article on [Classless Inter-Domain Routing](#).

You must also associate the security group with a cluster so that clients running on these IP addresses or the EC2 instance are authorized to connect to the cluster. For information about managing security groups, go to [Working with Security Groups](#) in the *Amazon Redshift Cluster Management Guide*.

## Request Parameters

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

### ClusterSecurityGroupName

The name of the security group to which the ingress rule is added.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### CIDRIP

The IP range to be added the Amazon Redshift security group.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **EC2SecurityGroupName**

The EC2 security group to be added the Amazon Redshift security group.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **EC2SecurityGroupOwnerId**

The Amazon Web Services account number of the owner of the security group specified by the *EC2SecurityGroupName* parameter. The Amazon Access Key ID is not an acceptable value.

Example: 111122223333

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **Response Elements**

The following element is returned by the service.

### **ClusterSecurityGroup**

Describes a security group.

Type: [ClusterSecurityGroup](#) object

## **Errors**

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

### **AuthorizationAlreadyExists**

The specified CIDR block or EC2 security group is already authorized for the specified cluster security group.



HTTP Status Code: 400

### **AuthorizationQuotaExceeded**

The authorization quota for the cluster security group has been reached.

HTTP Status Code: 400

### **ClusterSecurityGroupNotFound**

The cluster security group name does not refer to an existing cluster security group.

HTTP Status Code: 404

### **InvalidClusterSecurityGroupState**

The state of the cluster security group is not available.

HTTP Status Code: 400

## **Examples**

### **Example**

This example illustrates one usage of `AuthorizeClusterSecurityGroupIngress`.

### **Sample Request**

```
https://redshift.us-east-2.amazonaws.com/  
  ?Action=AuthorizeClusterSecurityGroupIngress  
  &CIDRIP=10.24.34.0/24  
  &ClusterSecurityGroupName=example-security-group  
  &SignatureMethod=HmacSHA256&SignatureVersion=4  
  &Version=2012-12-01  
  &X-Amz-Algorithm=AWS4-HMAC-SHA256  
  &X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20150817/us-east-2/redshift/aws4_request  
  &X-Amz-Date=20150825T160000Z  
  &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
  &X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### **Sample Response**

```
<AuthorizeClusterSecurityGroupIngressResponse xmlns="http://redshift.amazonaws.com/  
doc/2012-12-01/">
```

```
<AuthorizeClusterSecurityGroupIngressResult>
  <ClusterSecurityGroup>
    <Tags/>
    <EC2SecurityGroups/>
    <IPRanges>
      <IPRange>
        <CIDRIP>10.24.34.0/24</CIDRIP>
        <Status>authorized</Status>
      </IPRange>
    </IPRanges>
    <Description>Example security group</Description>
    <ClusterSecurityGroupName>example-security-group</ClusterSecurityGroupName>
  </ClusterSecurityGroup>
</AuthorizeClusterSecurityGroupIngressResult>
<ResponseMetadata>
  <RequestId>534d1bce-46ac-11e5-b673-31d855cc98c6</RequestId>
</ResponseMetadata>
</AuthorizeClusterSecurityGroupIngressResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# AuthorizeDataShare

From a data producer account, authorizes the sharing of a datashare with one or more consumer accounts or managing entities. To authorize a datashare for a data consumer, the producer account must have the correct access permissions.

## Request Parameters

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

### ConsumerIdentifier

The identifier of the data consumer that is authorized to access the datashare. This identifier is an Amazon Web Services account ID or a keyword, such as ADX.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### DataShareArn

The Amazon Resource Name (ARN) of the datashare namespace that producers are to authorize sharing for.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### AllowWrites

If set to true, allows write operations for a datashare.

Type: Boolean

Required: No

## Response Elements

The following elements are returned by the service.

## **AllowPubliclyAccessibleConsumers**

A value that specifies whether the datashare can be shared to a publicly accessible cluster.

Type: Boolean

## **DataShareArn**

The Amazon Resource Name (ARN) of the datashare that the consumer is to use.

Type: String

Length Constraints: Maximum length of 2147483647.

## **DataShareAssociations.member.N**

A value that specifies when the datashare has an association between producer and data consumers.

Type: Array of [DataShareAssociation](#) objects

## **DataShareType**

The type of the datashare created by RegisterNamespace.

Type: String

Valid Values: INTERNAL

## **ManagedBy**

The identifier of a datashare to show its managing entity.

Type: String

Length Constraints: Maximum length of 2147483647.

## **ProducerArn**

The Amazon Resource Name (ARN) of the producer namespace.

Type: String

Length Constraints: Maximum length of 2147483647.

## Errors

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

### InvalidDataShareFault

There is an error with the datashare.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of AuthorizeDataShare.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/
    ?Action=AuthorizeDataShare
    &ConsumerIdentifier=275247490162
    &DataShareArn=arn%3Aaws%3Aredshift%3Aus-east-1%3A827630067164%3Adatashare
%3Aaf06285e-8a45-4ee9-b598-648c218c8ff1%2Ftestshare2
    &SignatureMethod=HmacSHA256&SignatureVersion=4
    &Version=2012-12-01
    &X-Amz-Algorithm=AWS4-HMAC-SHA256
    &X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
    &X-Amz-Date=20190825T160000Z
    &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-
date
    &X-Amz-
Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<AuthorizeDataShareResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
    <AuthorizeDataShareResult>
        <AllowPubliclyAccessibleConsumers>>false</
AllowPubliclyAccessibleConsumers>
        <ProducerNamespaceArn>arn:aws:redshift:us-
east-1:827630067164:namespace:af06285e-8a45-4ee9-b598-648c218c8ff1</
ProducerNamespaceArn>
```

```
<DataShareArn>arn:aws:redshift:us-
east-1:827630067164:datashare:af06285e-8a45-4ee9-b598-648c218c8ff1/testshare2</
DataShareArn>
  <DataShareAssociations>
    <member>
      <ConsumerIdentifier>275247490162</ConsumerIdentifier>
      <StatusChangeDate>2020-10-30T17:39:04.021910</StatusChangeDate>
      <CreatedDate>2020-10-29T22:31:53.495665</CreatedDate>
      <Status>PENDING_ACCEPTANCE</Status>
    </member>
  </DataShareAssociations>
</AuthorizeDataShareResult>
<ResponseMetadata>
  <RequestId>7c915a04-fe35-4be1-b71d-363efaa95a08</RequestId>
</ResponseMetadata>
</AuthorizeDataShareResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# AuthorizeEndpointAccess

Grants access to a cluster.

## Request Parameters

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

### Account

The Amazon Web Services account ID to grant access to.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### ClusterIdentifier

The cluster identifier of the cluster to grant access to.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### VpcIds.VpcIdentifier.N

The virtual private cloud (VPC) identifiers to grant access to.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

## Response Elements

The following elements are returned by the service.

### AllowedAllVPCs

Indicates whether all VPCs in the grantee account are allowed access to the cluster.

Type: Boolean

### **AllowedVPCs.VpcIdentifier.N**

The VPCs allowed access to the cluster.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

### **AuthorizeTime**

The time (UTC) when the authorization was created.

Type: Timestamp

### **ClusterIdentifier**

The cluster identifier.

Type: String

Length Constraints: Maximum length of 2147483647.

### **ClusterStatus**

The status of the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

### **EndpointCount**

The number of Redshift-managed VPC endpoints created for the authorization.

Type: Integer

### **Grantee**

The Amazon Web Services account ID of the grantee of the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

### **Grantor**

The Amazon Web Services account ID of the cluster owner.



Type: String

Length Constraints: Maximum length of 2147483647.

## Status

The status of the authorization action.

Type: String

Valid Values: Authorized | Revoking

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### EndpointAuthorizationAlreadyExists

The authorization already exists for this endpoint.

HTTP Status Code: 400

### EndpointAuthorizationsPerClusterLimitExceeded

The number of endpoint authorizations per cluster has exceeded its limit.

HTTP Status Code: 400

### InvalidAuthorizationState

The status of the authorization is not valid.

HTTP Status Code: 400

### InvalidClusterState

The specified cluster is not in the available state.

HTTP Status Code: 400

## UnsupportedOperation

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# AuthorizeSnapshotAccess

Authorizes the specified Amazon Web Services account to restore the specified snapshot.

For more information about working with snapshots, go to [Amazon Redshift Snapshots](#) in the *Amazon Redshift Cluster Management Guide*.

## Request Parameters

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

### AccountWithRestoreAccess

The identifier of the Amazon Web Services account authorized to restore the specified snapshot.

To share a snapshot with Amazon Web Services Support, specify `amazon-redshift-support`.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### SnapshotArn

The Amazon Resource Name (ARN) of the snapshot to authorize access to.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### SnapshotClusterIdentifier

The identifier of the cluster the snapshot was created from.

- *If the snapshot to access doesn't exist and the associated IAM policy doesn't allow access to all (\*) snapshots* - This parameter is required. Otherwise, permissions aren't available to check if the snapshot exists.
- *If the snapshot to access exists* - This parameter isn't required. Redshift can retrieve the cluster identifier and use it to validate snapshot authorization.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **SnapshotIdentifier**

The identifier of the snapshot the account is authorized to restore.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **Response Elements**

The following element is returned by the service.

### **Snapshot**

Describes a snapshot.

Type: [Snapshot](#) object

## **Errors**

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

### **AuthorizationAlreadyExists**

The specified CIDR block or EC2 security group is already authorized for the specified cluster security group.

HTTP Status Code: 400

### **AuthorizationQuotaExceeded**

The authorization quota for the cluster security group has been reached.

HTTP Status Code: 400

## ClusterSnapshotNotFound

The snapshot identifier does not refer to an existing cluster snapshot.

HTTP Status Code: 404

## DependentServiceRequestThrottlingFault

The request cannot be completed because a dependent service is throttling requests made by Amazon Redshift on your behalf. Wait and retry the request.

HTTP Status Code: 400

## InvalidClusterSnapshotState

The specified cluster snapshot is not in the available state, or other accounts are authorized to access the snapshot.

HTTP Status Code: 400

## LimitExceededFault

The encryption key has exceeded its grant limit in Amazon KMS.

HTTP Status Code: 400

## UnsupportedOperation

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# BatchDeleteClusterSnapshots

Deletes a set of cluster snapshots.

## Request Parameters

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

### Identifiers.DeleteClusterSnapshotMessage.N

A list of identifiers for the snapshots that you want to delete.

Type: Array of [DeleteClusterSnapshotMessage](#) objects

Required: Yes

## Response Elements

The following elements are returned by the service.

### Errors.SnapshotErrorMessage.N

A list of any errors returned.

Type: Array of [SnapshotErrorMessage](#) objects

### Resources.String.N

A list of the snapshot identifiers that were deleted.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

## Errors

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

### BatchDeleteRequestSizeExceeded

The maximum number for a batch delete of snapshots has been reached. The limit is 100.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of BatchDeleteClusterSnapshots.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
  ?Action=BatchDeleteClusterSnapshots  
  &Identifiers.DeleteClusterSnapshotMessage.1.SnapshotIdentifier=mynapshotid1  
  &Identifiers.DeleteClusterSnapshotMessage.2.SnapshotIdentifier=mynapshotid2  
  &SignatureMethod=HmacSHA256&SignatureVersion=4  
  &Version=2012-12-01  
  &X-Amz-Algorithm=AWS4-HMAC-SHA256  
  &X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
  &X-Amz-Date=20190825T160000Z  
  &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
  &X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<BatchDeleteClusterSnapshotsResponse xmlns="http://redshift.amazonaws.com/  
doc/2012-12-01/">  
  <BatchDeleteClusterSnapshotsResult>  
    <Resources>  
      <String>mynapshotid1</String>  
      <String>mynapshotid2</String>  
    </Resources>  
  </BatchDeleteClusterSnapshotsResult>  
  <ResponseMetadata>  
    <RequestId>5b43fc38-282e-11ea-8cc9-43f1872b4b75</RequestId>  
  </ResponseMetadata>  
</BatchDeleteClusterSnapshotsResponse>
```

## See Also

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



- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# BatchModifyClusterSnapshots

Modifies the settings for a set of cluster snapshots.

## Request Parameters

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

### **SnapshotIdentifierList.String.N**

A list of snapshot identifiers you want to modify.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: Yes

### **Force**

A boolean value indicating whether to override an exception if the retention period has passed.

Type: Boolean

Required: No

### **ManualSnapshotRetentionPeriod**

The number of days that a manual snapshot is retained. If you specify the value -1, the manual snapshot is retained indefinitely.

The number must be either -1 or an integer between 1 and 3,653.

If you decrease the manual snapshot retention period from its current value, existing manual snapshots that fall outside of the new retention period will return an error. If you want to suppress the errors and delete the snapshots, use the force option.

Type: Integer

Required: No

## Response Elements

The following elements are returned by the service.

## Errors.SnapshotErrorMessage.N

A list of any errors returned.

Type: Array of [SnapshotErrorMessage](#) objects

## Resources.String.N

A list of the snapshots that were modified.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

## Errors

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

### BatchModifyClusterSnapshotsLimitExceededFault

The maximum number for snapshot identifiers has been reached. The limit is 100.

HTTP Status Code: 400

### InvalidRetentionPeriodFault

The retention period specified is either in the past or is not a valid value.

The value must be either -1 or an integer between 1 and 3,653.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of BatchModifyClusterSnapshots.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=BatchModifyClusterSnapshots  
&SnapshotIdentifierList.String.1=mysnapshotid1
```

```
&SnapshotIdentifierList.String.2=mysnapshotid2
&ManualSnapshotRetentionPeriod=30
&SignatureMethod=HmacSHA256&SignatureVersion=4
&Version=2012-12-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<BatchModifyClusterSnapshotsResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <BatchModifyClusterSnapshotsResult>
    <Resources>
      <String>mysnapshotid1</String>
      <String>mysnapshotid2</String>
    </Resources>
    <Errors/>
  </BatchModifyClusterSnapshotsResult>
  <ResponseMetadata>
    <RequestId>c10326d1-282d-11ea-8314-974e2ba81189</RequestId>
  </ResponseMetadata>
</BatchModifyClusterSnapshotsResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# CancelResize

Cancel a resize operation for a cluster.

## Request Parameters

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

### ClusterIdentifier

The unique identifier for the cluster that you want to cancel a resize operation for.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Response Elements

The following elements are returned by the service.

### AvgResizeRateInMegaBytesPerSecond

The average rate of the resize operation over the last few minutes, measured in megabytes per second. After the resize operation completes, this value shows the average rate of the entire resize operation.

Type: Double

### DataTransferProgressPercent

The percent of data transferred from source cluster to target cluster.

Type: Double

### ElapsedTimeInSeconds

The amount of seconds that have elapsed since the resize operation began. After the resize operation completes, this value shows the total actual time, in seconds, for the resize operation.

Type: Long

## **EstimatedTimeToCompletionInSeconds**

The estimated time remaining, in seconds, until the resize operation is complete. This value is calculated based on the average resize rate and the estimated amount of data remaining to be processed. Once the resize operation is complete, this value will be 0.

Type: Long

## **ImportTablesCompleted.member.N**

The names of tables that have been completely imported .

Valid Values: List of table names.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

## **ImportTablesInProgress.member.N**

The names of tables that are being currently imported.

Valid Values: List of table names.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

## **ImportTablesNotStarted.member.N**

The names of tables that have not been yet imported.

Valid Values: List of table names

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

## **Message**

An optional string to provide additional details about the resize action.

Type: String

Length Constraints: Maximum length of 2147483647.

## ProgressInMegaBytes

While the resize operation is in progress, this value shows the current amount of data, in megabytes, that has been processed so far. When the resize operation is complete, this value shows the total amount of data, in megabytes, on the cluster, which may be more or less than TotalResizeDataInMegaBytes (the estimated total amount of data before resize).

Type: Long

## ResizeType

An enum with possible values of ClassicResize and ElasticResize. These values describe the type of resize operation being performed.

Type: String

Length Constraints: Maximum length of 2147483647.

## Status

The status of the resize operation.

Valid Values: NONE | IN\_PROGRESS | FAILED | SUCCEEDED | CANCELLING

Type: String

Length Constraints: Maximum length of 2147483647.

## TargetClusterType

The cluster type after the resize operation is complete.

Valid Values: multi-node | single-node

Type: String

Length Constraints: Maximum length of 2147483647.

## TargetEncryptionType

The type of encryption for the cluster after the resize is complete.

Possible values are KMS and None.

Type: String

Length Constraints: Maximum length of 2147483647.



## TargetNodeType

The node type that the cluster will have after the resize operation is complete.

Type: String

Length Constraints: Maximum length of 2147483647.

## TargetNumberOfNodes

The number of nodes that the cluster will have after the resize operation is complete.

Type: Integer

## TotalResizeDataInMegaBytes

The estimated total amount of data, in megabytes, on the cluster before the resize operation began.

Type: Long

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### InvalidClusterState

The specified cluster is not in the available state.

HTTP Status Code: 400

### ResizeNotFound

A resize operation for the specified cluster is not found.

HTTP Status Code: 404

### UnsupportedOperation

The requested operation isn't supported.

## HTTP Status Code: 400

# Examples

## Example

This example illustrates one usage of CancelResize.

## Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=CancelResize  
&ClusterIdentifier=mycluster  
&ManualSnapshotRetentionPeriod=30  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<CancelResizeResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">  
  <CancelResizeResult>  
    <TargetNodeType>dc2.large</TargetNodeType>  
    <TargetEncryptionType>NONE</TargetEncryptionType>  
    <TargetClusterType>single-node</TargetClusterType>  
    <ResizeType>ClassicResize</ResizeType>  
    <Status>CANCELLING</Status>  
  </CancelResizeResult>  
  <ResponseMetadata>  
    <RequestId>2bb73dd4-282d-11ea-9caa-c956bec1ce87</RequestId>  
  </ResponseMetadata>  
</CancelResizeResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# CopyClusterSnapshot

Copies the specified automated cluster snapshot to a new manual cluster snapshot. The source must be an automated snapshot and it must be in the available state.

When you delete a cluster, Amazon Redshift deletes any automated snapshots of the cluster. Also, when the retention period of the snapshot expires, Amazon Redshift automatically deletes it. If you want to keep an automated snapshot for a longer period, you can make a manual copy of the snapshot. Manual snapshots are retained until you delete them.

For more information about working with snapshots, go to [Amazon Redshift Snapshots](#) in the *Amazon Redshift Cluster Management Guide*.

## Request Parameters

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

### SourceSnapshotIdentifier

The identifier for the source snapshot.

Constraints:

- Must be the identifier for a valid automated snapshot whose state is available.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### TargetSnapshotIdentifier

The identifier given to the new manual snapshot.

Constraints:

- Cannot be null, empty, or blank.
- Must contain from 1 to 255 alphanumeric characters or hyphens.
- First character must be a letter.
- Cannot end with a hyphen or contain two consecutive hyphens.

- Must be unique for the Amazon Web Services account that is making the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### **ManualSnapshotRetentionPeriod**

The number of days that a manual snapshot is retained. If the value is -1, the manual snapshot is retained indefinitely.

The value must be either -1 or an integer between 1 and 3,653.

The default value is -1.

Type: Integer

Required: No

### **SourceSnapshotClusterIdentifier**

The identifier of the cluster the source snapshot was created from. This parameter is required if your IAM user has a policy containing a snapshot resource element that specifies anything other than \* for the cluster name.

Constraints:

- Must be the identifier for a valid cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **Response Elements**

The following element is returned by the service.

### **Snapshot**

Describes a snapshot.

Type: [Snapshot](#) object

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### ClusterSnapshotAlreadyExists

The value specified as a snapshot identifier is already used by an existing snapshot.

HTTP Status Code: 400

### ClusterSnapshotNotFound

The snapshot identifier does not refer to an existing cluster snapshot.

HTTP Status Code: 404

### ClusterSnapshotQuotaExceeded

The request would result in the user exceeding the allowed number of cluster snapshots.

HTTP Status Code: 400

### InvalidClusterSnapshotState

The specified cluster snapshot is not in the `available` state, or other accounts are authorized to access the snapshot.

HTTP Status Code: 400

### InvalidRetentionPeriodFault

The retention period specified is either in the past or is not a valid value.

The value must be either `-1` or an integer between `1` and `3,653`.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of CopyClusterSnapshot.

#### Sample Request

```
https://redshift.us-east-2.amazonaws.com/
    ?Action=CopyClusterSnapshot
&SourceSnapshotIdentifier=mynapshotid1
&TargetSnapshotIdentifier=mynapshotid2
&SignatureMethod=HmacSHA256&SignatureVersion=4
&Version=2012-12-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

#### Sample Response

```
<CopyClusterSnapshotResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <CopyClusterSnapshotResult>
    <Snapshot>
      <SnapshotRetentionStartTime>2019-12-26T19:15:49.354Z</SnapshotRetentionStartTime>
      <ClusterIdentifier>mycluster</ClusterIdentifier>
      <EncryptedWithHSM>>false</EncryptedWithHSM>
      <NumberOfNodes>1</NumberOfNodes>
      <OwnerAccount>123456789012</OwnerAccount>
      <AvailabilityZone>us-east-2a</AvailabilityZone>
      <ClusterVersion>1.0</ClusterVersion>
      <ManualSnapshotRetentionPeriod>-1</ManualSnapshotRetentionPeriod>
      <TotalBackupSizeInMegaBytes>41.0</TotalBackupSizeInMegaBytes>
      <VpcId>vpc-a1abc1a1</VpcId>
      <BackupProgressInMegaBytes>14.0</BackupProgressInMegaBytes>
      <CurrentBackupRateInMegaBytesPerSecond>0.0</
CurrentBackupRateInMegaBytesPerSecond>
      <ElapsedTimeInSeconds>0</ElapsedTimeInSeconds>
      <ClusterCreateTime>2019-12-25T11:21:49.458Z</ClusterCreateTime>
      <MasterUsername>adminuser</MasterUsername>
      <DBName>dev</DBName>
```

```
<ActualIncrementalBackupSizeInMegaBytes>14.0</ActualIncrementalBackupSizeInMegaBytes>
  <SnapshotType>manual</SnapshotType>
  <EnhancedVpcRouting>>false</EnhancedVpcRouting>
  <SnapshotIdentifier>mysnapshotid2</SnapshotIdentifier>
  <NodeType>dc2.large</NodeType>
  <Tags/>
  <Encrypted>>true</Encrypted>
  <EstimatedSecondsToCompletion>-1</EstimatedSecondsToCompletion>
  <Port>5439</Port>
  <MaintenanceTrackName>current</MaintenanceTrackName>
  <SnapshotCreateTime>2019-12-26T19:15:48.359Z</SnapshotCreateTime>
  <KmsKeyId>arn:aws:kms:us-east-2:123456789012:key/bPxRfih3yCo8nvnvEXAMPLEKEY</KmsKeyId>
  <Status>available</Status>
</Snapshot>
</CopyClusterSnapshotResult>
<ResponseMetadata>
  <RequestId>45c7d545-2820-11ea-9caa-c956bec1ce87</RequestId>
</ResponseMetadata>
</CopyClusterSnapshotResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)



# CreateAuthenticationProfile

Creates an authentication profile with the specified parameters.

## Request Parameters

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

### AuthenticationProfileContent

The content of the authentication profile in JSON format. The maximum length of the JSON string is determined by a quota for your account.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### AuthenticationProfileName

The name of the authentication profile to be created.

Type: String

Length Constraints: Maximum length of 63.

Pattern: `^[a-zA-Z0-9\-\_]+$`

Required: Yes

## Response Elements

The following elements are returned by the service.

### AuthenticationProfileContent

The content of the authentication profile in JSON format.

Type: String

Length Constraints: Maximum length of 2147483647.

## AuthenticationProfileName

The name of the authentication profile that was created.

Type: String

Length Constraints: Maximum length of 63.

Pattern: `^[a-zA-Z0-9\-\_]+$`

## Errors

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

### AuthenticationProfileAlreadyExistsFault

The authentication profile already exists.

HTTP Status Code: 400

### AuthenticationProfileQuotaExceededFault

The size or number of authentication profiles has exceeded the quota. The maximum length of the JSON string and maximum number of authentication profiles is determined by a quota for your account.

HTTP Status Code: 400

### InvalidAuthenticationProfileRequestFault

The authentication profile request is not valid. The profile name can't be null or empty. The authentication profile API operation must be available in the Amazon Web Services Region.

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](#)
- [Amazon SDK for .NET](#)

- [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](#)

# CreateCluster

Creates a new cluster with the specified parameters.

To create a cluster in Virtual Private Cloud (VPC), you must provide a cluster subnet group name. The cluster subnet group identifies the subnets of your VPC that Amazon Redshift uses when creating the cluster. For more information about managing clusters, go to [Amazon Redshift Clusters](#) in the *Amazon Redshift Cluster Management Guide*.

VPC Block Public Access (BPA) enables you to block resources in VPCs and subnets that you own in a Region from reaching or being reached from the internet through internet gateways and egress-only internet gateways. If a subnet group for a provisioned cluster is in an account with VPC BPA turned on, the following capabilities are blocked:

- Creating a public cluster
- Restoring a public cluster
- Modifying a private cluster to be public
- Adding a subnet with VPC BPA turned on to the subnet group when there's at least one public cluster within the group

For more information about VPC BPA, see [Block public access to VPCs and subnets](#) in the *Amazon VPC User Guide*.

## Request Parameters

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

### ClusterIdentifier

A unique identifier for the cluster. You use this identifier to refer to the cluster for any subsequent cluster operations such as deleting or modifying. The identifier also appears in the Amazon Redshift console.

Constraints:

- Must contain from 1 to 63 alphanumeric characters or hyphens.
- Alphabetic characters must be lowercase.
- First character must be a letter.

- Cannot end with a hyphen or contain two consecutive hyphens.
- Must be unique for all clusters within an Amazon Web Services account.

Example: `myexamplecluster`

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### **MasterUsername**

The user name associated with the admin user account for the cluster that is being created.

Constraints:

- Must be 1 - 128 alphanumeric characters or hyphens. The user name can't be PUBLIC.
- Must contain only lowercase letters, numbers, underscore, plus sign, period (dot), at symbol (@), or hyphen.
- The first character must be a letter.
- Must not contain a colon (:) or a slash (/).
- Cannot be a reserved word. A list of reserved words can be found in [Reserved Words](#) in the Amazon Redshift Database Developer Guide.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### **NodeType**

The node type to be provisioned for the cluster. For information about node types, go to [Working with Clusters](#) in the *Amazon Redshift Cluster Management Guide*.

Valid Values: `dc2.large` | `dc2.8xlarge` | `ra3.large` | `ra3.x1plus` | `ra3.4xlarge` | `ra3.16xlarge`

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### **AdditionalInfo**

Reserved.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **AllowVersionUpgrade**

If `true`, major version upgrades can be applied during the maintenance window to the Amazon Redshift engine that is running on the cluster.

When a new major version of the Amazon Redshift engine is released, you can request that the service automatically apply upgrades during the maintenance window to the Amazon Redshift engine that is running on your cluster.

Default: `true`

Type: Boolean

Required: No

### **AquaConfigurationStatus**

This parameter is retired. It does not set the AQUA configuration status. Amazon Redshift automatically determines whether to use AQUA (Advanced Query Accelerator).

Type: String

Valid Values: `enabled` | `disabled` | `auto`

Required: No

### **AutomatedSnapshotRetentionPeriod**

The number of days that automated snapshots are retained. If the value is 0, automated snapshots are disabled. Even if automated snapshots are disabled, you can still create manual snapshots when you want with [CreateClusterSnapshot](#).

You can't disable automated snapshots for RA3 node types. Set the automated retention period from 1-35 days.

Default: 1

Constraints: Must be a value from 0 to 35.

Type: Integer

Required: No

### **AvailabilityZone**

The EC2 Availability Zone (AZ) in which you want Amazon Redshift to provision the cluster. For example, if you have several EC2 instances running in a specific Availability Zone, then you might want the cluster to be provisioned in the same zone in order to decrease network latency.

Default: A random, system-chosen Availability Zone in the region that is specified by the endpoint.

Example: us-east-2d

Constraint: The specified Availability Zone must be in the same region as the current endpoint.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **AvailabilityZoneRelocation**

The option to enable relocation for an Amazon Redshift cluster between Availability Zones after the cluster is created.

Type: Boolean

Required: No

### **ClusterParameterGroupName**

The name of the parameter group to be associated with this cluster.

Default: The default Amazon Redshift cluster parameter group. For information about the default parameter group, go to [Working with Amazon Redshift Parameter Groups](#)

Constraints:

- Must be 1 to 255 alphanumeric characters or hyphens.
- First character must be a letter.
- Cannot end with a hyphen or contain two consecutive hyphens.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ClusterSecurityGroups.ClusterSecurityGroupName.N**

A list of security groups to be associated with this cluster.

Default: The default cluster security group for Amazon Redshift.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### **ClusterSubnetGroupName**

The name of a cluster subnet group to be associated with this cluster.

If this parameter is not provided the resulting cluster will be deployed outside virtual private cloud (VPC).

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ClusterType**

The type of the cluster. When cluster type is specified as

- `single-node`, the **NumberOfNodes** parameter is not required.
- `multi-node`, the **NumberOfNodes** parameter is required.

Valid Values: `multi-node` | `single-node`

Default: `multi-node`



Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ClusterVersion**

The version of the Amazon Redshift engine software that you want to deploy on the cluster.

The version selected runs on all the nodes in the cluster.

Constraints: Only version 1.0 is currently available.

Example: 1.0

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **DBName**

The name of the first database to be created when the cluster is created.

To create additional databases after the cluster is created, connect to the cluster with a SQL client and use SQL commands to create a database. For more information, go to [Create a Database](#) in the Amazon Redshift Database Developer Guide.

Default: dev

Constraints:

- Must contain 1 to 64 alphanumeric characters.
- Must contain only lowercase letters.
- Cannot be a word that is reserved by the service. A list of reserved words can be found in [Reserved Words](#) in the Amazon Redshift Database Developer Guide.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## DefaultIamRoleArn

The Amazon Resource Name (ARN) for the IAM role that was set as default for the cluster when the cluster was created.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## ElasticIp

The Elastic IP (EIP) address for the cluster.

Constraints: The cluster must be provisioned in EC2-VPC and publicly-accessible through an Internet gateway. Don't specify the Elastic IP address for a publicly accessible cluster with availability zone relocation turned on. For more information about provisioning clusters in EC2-VPC, go to [Supported Platforms to Launch Your Cluster](#) in the Amazon Redshift Cluster Management Guide.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## Encrypted

If `true`, the data in the cluster is encrypted at rest. If you set the value on this parameter to `false`, the request will fail.

Default: true

Type: Boolean

Required: No

## EnhancedVpcRouting

An option that specifies whether to create the cluster with enhanced VPC routing enabled. To create a cluster that uses enhanced VPC routing, the cluster must be in a VPC. For more information, see [Enhanced VPC Routing](#) in the Amazon Redshift Cluster Management Guide.

If this option is `true`, enhanced VPC routing is enabled.

Default: false

Type: Boolean

Required: No

### **HsmClientCertificateIdentifier**

Specifies the name of the HSM client certificate the Amazon Redshift cluster uses to retrieve the data encryption keys stored in an HSM.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **HsmConfigurationIdentifier**

Specifies the name of the HSM configuration that contains the information the Amazon Redshift cluster can use to retrieve and store keys in an HSM.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **IamRoles.IamRoleArn.N**

A list of Amazon Identity and Access Management (IAM) roles that can be used by the cluster to access other Amazon services. You must supply the IAM roles in their Amazon Resource Name (ARN) format.

The maximum number of IAM roles that you can associate is subject to a quota. For more information, go to [Quotas and limits](#) in the *Amazon Redshift Cluster Management Guide*.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### **IpAddressType**

The IP address types that the cluster supports. Possible values are `ipv4` and `dualstack`.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **KmsKeyId**

The Amazon Key Management Service (KMS) key ID of the encryption key that you want to use to encrypt data in the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **LoadSampleData**

A flag that specifies whether to load sample data once the cluster is created.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **MaintenanceTrackName**

An optional parameter for the name of the maintenance track for the cluster. If you don't provide a maintenance track name, the cluster is assigned to the `current` track.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ManageMasterPassword**

If `true`, Amazon Redshift uses Amazon Secrets Manager to manage this cluster's admin credentials. You can't use `MasterUserPassword` if `ManageMasterPassword` is `true`. If `ManageMasterPassword` is `false` or not set, Amazon Redshift uses `MasterUserPassword` for the admin user account's password.

Type: Boolean

Required: No

### **ManualSnapshotRetentionPeriod**

The default number of days to retain a manual snapshot. If the value is -1, the snapshot is retained indefinitely. This setting doesn't change the retention period of existing snapshots.

The value must be either -1 or an integer between 1 and 3,653.

Type: Integer

Required: No

### **MasterPasswordSecretKmsKeyId**

The ID of the Amazon Key Management Service (KMS) key used to encrypt and store the cluster's admin credentials secret. You can only use this parameter if `ManageMasterPassword` is true.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **MasterUserPassword**

The password associated with the admin user account for the cluster that is being created.

You can't use `MasterUserPassword` if `ManageMasterPassword` is true.

Constraints:

- Must be between 8 and 64 characters in length.
- Must contain at least one uppercase letter.
- Must contain at least one lowercase letter.
- Must contain one number.
- Can be any printable ASCII character (ASCII code 33-126) except ' (single quote), " (double quote), \, /, or @.

Type: String

Required: No

## MultiAZ

If true, Amazon Redshift will deploy the cluster in two Availability Zones (AZ).

Type: Boolean

Required: No

## NumberOfNodes

The number of compute nodes in the cluster. This parameter is required when the **ClusterType** parameter is specified as `multi-node`.

For information about determining how many nodes you need, go to [Working with Clusters](#) in the *Amazon Redshift Cluster Management Guide*.

If you don't specify this parameter, you get a single-node cluster. When requesting a multi-node cluster, you must specify the number of nodes that you want in the cluster.

Default: 1

Constraints: Value must be at least 1 and no more than 100.

Type: Integer

Required: No

## Port

The port number on which the cluster accepts incoming connections.

The cluster is accessible only via the JDBC and ODBC connection strings. Part of the connection string requires the port on which the cluster will listen for incoming connections.

Default: 5439

Valid Values:

- For clusters with `ra3` nodes - Select a port within the ranges 5431-5455 or 8191-8215. (If you have an existing cluster with `ra3` nodes, it isn't required that you change the port to these ranges.)
- For clusters with `dc2` nodes - Select a port within the range 1150-65535.

Type: Integer

Required: No

### **PreferredMaintenanceWindow**

The weekly time range (in UTC) during which automated cluster maintenance can occur.

Format: `ddd:hh24:mi-ddd:hh24:mi`

Default: A 30-minute window selected at random from an 8-hour block of time per region, occurring on a random day of the week. For more information about the time blocks for each region, see [Maintenance Windows](#) in Amazon Redshift Cluster Management Guide.

Valid Days: Mon | Tue | Wed | Thu | Fri | Sat | Sun

Constraints: Minimum 30-minute window.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **PubliclyAccessible**

If `true`, the cluster can be accessed from a public network.

Default: `false`

Type: Boolean

Required: No

### **RedshiftIdcApplicationArn**

The Amazon resource name (ARN) of the Amazon Redshift IAM Identity Center application.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **SnapshotScheduleIdentifier**

A unique identifier for the snapshot schedule.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **Tags.Tag.N**

A list of tag instances.

Type: Array of [Tag](#) objects

Required: No

### **VpcSecurityGroupIds.VpcSecurityGroupId.N**

A list of Virtual Private Cloud (VPC) security groups to be associated with the cluster.

Default: The default VPC security group is associated with the cluster.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

## **Response Elements**

The following element is returned by the service.

### **Cluster**

Describes a cluster.

Type: [Cluster](#) object

## **Errors**

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

### **ClusterAlreadyExists**

The account already has a cluster with the given identifier.

HTTP Status Code: 400



### **ClusterParameterGroupNotFound**

The parameter group name does not refer to an existing parameter group.

HTTP Status Code: 404

### **ClusterQuotaExceeded**

The request would exceed the allowed number of cluster instances for this account. For information about increasing your quota, go to [Limits in Amazon Redshift](#) in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

### **ClusterSecurityGroupNotFound**

The cluster security group name does not refer to an existing cluster security group.

HTTP Status Code: 404

### **ClusterSubnetGroupNotFoundFault**

The cluster subnet group name does not refer to an existing cluster subnet group.

HTTP Status Code: 400

### **DependentServiceRequestThrottlingFault**

The request cannot be completed because a dependent service is throttling requests made by Amazon Redshift on your behalf. Wait and retry the request.

HTTP Status Code: 400

### **HsmClientCertificateNotFoundFault**

There is no Amazon Redshift HSM client certificate with the specified identifier.

HTTP Status Code: 400

### **HsmConfigurationNotFoundFault**

There is no Amazon Redshift HSM configuration with the specified identifier.

HTTP Status Code: 400

### **InsufficientClusterCapacity**

The number of nodes specified exceeds the allotted capacity of the cluster.

HTTP Status Code: 400

### **InvalidClusterSubnetGroupStateFault**

The cluster subnet group cannot be deleted because it is in use.

HTTP Status Code: 400

### **InvalidClusterTrack**

The provided cluster track name is not valid.

HTTP Status Code: 400

### **InvalidElasticIpFault**

The Elastic IP (EIP) is invalid or cannot be found.

HTTP Status Code: 400

### **InvalidRetentionPeriodFault**

The retention period specified is either in the past or is not a valid value.

The value must be either -1 or an integer between 1 and 3,653.

HTTP Status Code: 400

### **InvalidSubnet**

The requested subnet is not valid, or not all of the subnets are in the same VPC.

HTTP Status Code: 400

### **InvalidTagFault**

The tag is invalid.

HTTP Status Code: 400

### **InvalidVPCNetworkStateFault**

The cluster subnet group does not cover all Availability Zones.

HTTP Status Code: 400

### **Ipv6CidrBlockNotFoundFault**

There are no subnets in your VPC with associated IPv6 CIDR blocks. To use dual-stack mode, associate an IPv6 CIDR block with each subnet in your VPC.

HTTP Status Code: 400

### **LimitExceededFault**

The encryption key has exceeded its grant limit in Amazon KMS.

HTTP Status Code: 400

### **NumberOfNodesPerClusterLimitExceeded**

The operation would exceed the number of nodes allowed for a cluster.

HTTP Status Code: 400

### **NumberOfNodesQuotaExceeded**

The operation would exceed the number of nodes allotted to the account. For information about increasing your quota, go to [Limits in Amazon Redshift](#) in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

### **RedshiftIdcApplicationNotExists**

The application you attempted to find doesn't exist.

HTTP Status Code: 404

### **SnapshotScheduleNotFound**

We could not find the specified snapshot schedule.

HTTP Status Code: 400

### **TagLimitExceededFault**

You have exceeded the number of tags allowed.

HTTP Status Code: 400

### **UnauthorizedOperation**

Your account is not authorized to perform the requested operation.

HTTP Status Code: 400

### **UnsupportedOperation**

The requested operation isn't supported.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of CreateCluster.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=CreateCluster  
&ClusterIdentifier=mycluster  
&NodeType=dc2.large  
&MasterUsername=adminuser  
&MasterUserPassword=A1b2c3d4  
&NumberOfNodes=2  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<CreateClusterResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">  
  <CreateClusterResult>  
    <Cluster>  
      <AllowVersionUpgrade>true</AllowVersionUpgrade>  
      <ClusterIdentifier>mycluster</ClusterIdentifier>  
      <NumberOfNodes>2</NumberOfNodes>  
      <ClusterVersion>1.0</ClusterVersion>  
      <ManualSnapshotRetentionPeriod>-1</ManualSnapshotRetentionPeriod>  
      <ClusterAvailabilityStatus>Modifying</ClusterAvailabilityStatus>  
      <VpcId>vpc-a1abc1a1</VpcId>  
      <PubliclyAccessible>>false</PubliclyAccessible>  
      <MasterUsername>adminuser</MasterUsername>  
      <DBName>dev</DBName>  
      <EnhancedVpcRouting>>false</EnhancedVpcRouting>  
      <IamRoles/>
```

```

    <ClusterSecurityGroups/>
    <NodeType>dc2.large</NodeType>
    <ClusterSubnetGroupName>default</ClusterSubnetGroupName>
    <NextMaintenanceWindowStartTime>2019-12-27T04:00:00Z</
NextMaintenanceWindowStartTime>
    <DeferredMaintenanceWindows/>
    <Tags/>
    <VpcSecurityGroups>
      <VpcSecurityGroup>
        <VpcSecurityGroupId>sh-a1a123ab</VpcSecurityGroupId>
        <Status>active</Status>
      </VpcSecurityGroup>
    </VpcSecurityGroups>
    <ClusterParameterGroups>
      <ClusterParameterGroup>
        <ParameterGroupName>default.redshift-1.0</ParameterGroupName>
        <ParameterApplyStatus>in-sync</ParameterApplyStatus>
      </ClusterParameterGroup>
    </ClusterParameterGroups>
    <Encrypted>true</Encrypted>
    <MaintenanceTrackName>current</MaintenanceTrackName>
    <PendingModifiedValues>
      <MasterUserPassword>****</MasterUserPassword>
    </PendingModifiedValues>
    <PreferredMaintenanceWindow>fri:04:00-fri:04:30</PreferredMaintenanceWindow>
    <AutomatedSnapshotRetentionPeriod>1</AutomatedSnapshotRetentionPeriod>
    <ClusterStatus>creating</ClusterStatus>
  </Cluster>
</CreateClusterResult>
<ResponseMetadata>
  <RequestId>61a11272-281d-11ea-8397-219d1980588b</RequestId>
</ResponseMetadata>
</CreateClusterResponse>

```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# CreateClusterParameterGroup

Creates an Amazon Redshift parameter group.

Creating parameter groups is independent of creating clusters. You can associate a cluster with a parameter group when you create the cluster. You can also associate an existing cluster with a parameter group after the cluster is created by using [ModifyCluster](#).

Parameters in the parameter group define specific behavior that applies to the databases you create on the cluster. For more information about parameters and parameter groups, go to [Amazon Redshift Parameter Groups](#) in the *Amazon Redshift Cluster Management Guide*.

## Request Parameters

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

### Description

A description of the parameter group.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### ParameterGroupFamily

The Amazon Redshift engine version to which the cluster parameter group applies. The cluster engine version determines the set of parameters.

To get a list of valid parameter group family names, you can call [DescribeClusterParameterGroups](#). By default, Amazon Redshift returns a list of all the parameter groups that are owned by your Amazon Web Services account, including the default parameter groups for each Amazon Redshift engine version. The parameter group family names associated with the default parameter groups provide you the valid values. For example, a valid family name is "redshift-1.0".

Type: String

Length Constraints: Maximum length of 2147483647.


Required: Yes

### **ParameterGroupName**

The name of the cluster parameter group.

Constraints:

- Must be 1 to 255 alphanumeric characters or hyphens
- First character must be a letter.
- Cannot end with a hyphen or contain two consecutive hyphens.
- Must be unique withing your Amazon Web Services account.

 **Note**

This value is stored as a lower-case string.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### **Tags.Tag.N**

A list of tag instances.

Type: Array of [Tag](#) objects

Required: No

## **Response Elements**

The following element is returned by the service.

### **ClusterParameterGroup**

Describes a parameter group.

Type: [ClusterParameterGroup](#) object



## Errors

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

### ClusterParameterGroupAlreadyExists

A cluster parameter group with the same name already exists.

HTTP Status Code: 400

### ClusterParameterGroupQuotaExceeded

The request would result in the user exceeding the allowed number of cluster parameter groups. For information about increasing your quota, go to [Limits in Amazon Redshift](#) in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

### InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

### TagLimitExceededFault

You have exceeded the number of tags allowed.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of `CreateClusterParameterGroup`.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=CreateClusterParameterGroup  
&ParameterGroupName=myclusterparametergroup  
&ParameterGroupFamily=redshift-1.0  
&Description=My+first+cluster+parameter+group
```

```
&SignatureMethod=HmacSHA256&SignatureVersion=4
&Version=2012-12-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<CreateClusterParameterGroupResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <CreateClusterParameterGroupResult>
    <ClusterParameterGroup>
      <ParameterGroupName>myclusterparametergroup</ParameterGroupName>
      <Description>My first cluster parameter group</Description>
      <ParameterGroupFamily>redshift-1.0</ParameterGroupFamily>
      <Tags/>
    </ClusterParameterGroup>
  </CreateClusterParameterGroupResult>
  <ResponseMetadata>
    <RequestId>d52df43b-281e-11ea-8314-974e2ba81189</RequestId>
  </ResponseMetadata>
</CreateClusterParameterGroupResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# CreateClusterSecurityGroup

Creates a new Amazon Redshift security group. You use security groups to control access to non-VPC clusters.

For information about managing security groups, go to [Amazon Redshift Cluster Security Groups](#) in the *Amazon Redshift Cluster Management Guide*.

## Request Parameters

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

### ClusterSecurityGroupName

The name for the security group. Amazon Redshift stores the value as a lowercase string.

Constraints:

- Must contain no more than 255 alphanumeric characters or hyphens.
- Must not be "Default".
- Must be unique for all security groups that are created by your Amazon Web Services account.

Example: `examplesecuritygroup`

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### Description

A description for the security group.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### Tags.Tag.N

A list of tag instances.

Type: Array of [Tag](#) objects

Required: No

## Response Elements

The following element is returned by the service.

### ClusterSecurityGroup

Describes a security group.

Type: [ClusterSecurityGroup](#) object

## Errors

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

### ClusterSecurityGroupAlreadyExists

A cluster security group with the same name already exists.

HTTP Status Code: 400

### InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

### QuotaExceeded.ClusterSecurityGroup

The request would result in the user exceeding the allowed number of cluster security groups. For information about increasing your quota, go to [Limits in Amazon Redshift](#) in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

### TagLimitExceededFault

You have exceeded the number of tags allowed.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of `CreateClusterSecurityGroup`.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
  ?Action=CreateClusterSecurityGroup  
  &ClusterSecurityGroupName=securitygroup1  
  &Description=my security group  
  &Version=2012-12-01  
  &x-amz-algorithm=AWS4-HMAC-SHA256  
  &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20130123/us-east-2/redshift/aws4_request  
  &x-amz-date=20130123T005817Z  
  &x-amz-signedheaders=content-type;host;x-amz-date
```

### Sample Response

```
<CreateClusterSecurityGroupResponse xmlns="http://redshift.amazonaws.com/  
doc/2012-12-01/">  
  <CreateClusterSecurityGroupResult>  
    <ClusterSecurityGroup>  
      <EC2SecurityGroups/>  
      <IPRanges/>  
      <Description>my security group</Description>  
      <ClusterSecurityGroupName>securitygroup1</ClusterSecurityGroupName>  
    </ClusterSecurityGroup>  
  </CreateClusterSecurityGroupResult>  
  <ResponseMetadata>  
    <RequestId>f9ee270f-64f7-11e2-a8da-655adc216806</RequestId>  
  </ResponseMetadata>  
</CreateClusterSecurityGroupResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)

- [Amazon SDK for .NET](#)
- [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](#)

# CreateClusterSnapshot

Creates a manual snapshot of the specified cluster. The cluster must be in the available state.

For more information about working with snapshots, go to [Amazon Redshift Snapshots](#) in the *Amazon Redshift Cluster Management Guide*.

## Request Parameters

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

### ClusterIdentifier

The cluster identifier for which you want a snapshot.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### SnapshotIdentifier

A unique identifier for the snapshot that you are requesting. This identifier must be unique for all snapshots within the Amazon Web Services account.

Constraints:

- Cannot be null, empty, or blank
- Must contain from 1 to 255 alphanumeric characters or hyphens
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Example: my-snapshot-id

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### ManualSnapshotRetentionPeriod

The number of days that a manual snapshot is retained. If the value is -1, the manual snapshot is retained indefinitely.



The value must be either -1 or an integer between 1 and 3,653.

The default value is -1.

Type: Integer

Required: No

### **Tags.Tag.N**

A list of tag instances.

Type: Array of [Tag](#) objects

Required: No

## **Response Elements**

The following element is returned by the service.

### **Snapshot**

Describes a snapshot.

Type: [Snapshot](#) object

## **Errors**

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

### **ClusterNotFound**

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### **ClusterSnapshotAlreadyExists**

The value specified as a snapshot identifier is already used by an existing snapshot.

HTTP Status Code: 400

### **ClusterSnapshotQuotaExceeded**

The request would result in the user exceeding the allowed number of cluster snapshots.

HTTP Status Code: 400

### **InvalidClusterState**

The specified cluster is not in the available state.

HTTP Status Code: 400

### **InvalidRetentionPeriodFault**

The retention period specified is either in the past or is not a valid value.

The value must be either -1 or an integer between 1 and 3,653.

HTTP Status Code: 400

### **InvalidTagFault**

The tag is invalid.

HTTP Status Code: 400

### **TagLimitExceededFault**

You have exceeded the number of tags allowed.

HTTP Status Code: 400

## **Examples**

### **Example**

This example illustrates one usage of `CreateClusterSnapshot`.

### **Sample Request**

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=CreateClusterSnapshot  
&SnapshotIdentifier=mynsnapshotid  
&ClusterIdentifier=mycluster  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z
```

```
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<CreateClusterSnapshotResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <CreateClusterSnapshotResult>
    <Snapshot>
      <ClusterIdentifier>mycluster</ClusterIdentifier>
      <EncryptedWithHSM>>false</EncryptedWithHSM>
      <NumberOfNodes>2</NumberOfNodes>
      <OwnerAccount>123456789012</OwnerAccount>
      <AvailabilityZone>us-east-2a</AvailabilityZone>
      <ClusterVersion>1.0</ClusterVersion>
      <ManualSnapshotRetentionPeriod>-1</ManualSnapshotRetentionPeriod>
      <TotalBackupSizeInMegaBytes>-1.0</TotalBackupSizeInMegaBytes>
      <VpcId>vpc-a1abc1a1</VpcId>
      <BackupProgressInMegaBytes>0.0</BackupProgressInMegaBytes>
      <CurrentBackupRateInMegaBytesPerSecond>0.0</
CurrentBackupRateInMegaBytesPerSecond>
      <ElapsedTimeInSeconds>0</ElapsedTimeInSeconds>
      <ClusterCreateTime>2019-12-26T20:25:38.716Z</ClusterCreateTime>
      <MasterUsername>adminuser</MasterUsername>
      <DBName>dev</DBName>
      <ActualIncrementalBackupSizeInMegaBytes>-1.0</
ActualIncrementalBackupSizeInMegaBytes>
      <SnapshotType>manual</SnapshotType>
      <EnhancedVpcRouting>>false</EnhancedVpcRouting>
      <SnapshotIdentifier>mysnapshotid</SnapshotIdentifier>
      <NodeType>dc2.large</NodeType>
      <Tags/>
      <Encrypted>>false</Encrypted>
      <EstimatedSecondsToCompletion>-1</EstimatedSecondsToCompletion>
      <Port>5439</Port>
      <MaintenanceTrackName>current</MaintenanceTrackName>
      <SnapshotCreateTime>2019-12-26T22:38:18.854Z</SnapshotCreateTime>
      <Status>creating</Status>
    </Snapshot>
  </CreateClusterSnapshotResult>
  <ResponseMetadata>
    <RequestId>69dec674-2830-11ea-9caa-c956bec1ce87</RequestId>
  </ResponseMetadata>
</CreateClusterSnapshotResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# CreateClusterSubnetGroup

Creates a new Amazon Redshift subnet group. You must provide a list of one or more subnets in your existing Amazon Virtual Private Cloud (Amazon VPC) when creating Amazon Redshift subnet group.

For information about subnet groups, go to [Amazon Redshift Cluster Subnet Groups](#) in the *Amazon Redshift Cluster Management Guide*.

## Request Parameters

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

### ClusterSubnetGroupName

The name for the subnet group. Amazon Redshift stores the value as a lowercase string.

Constraints:

- Must contain no more than 255 alphanumeric characters or hyphens.
- Must not be "Default".
- Must be unique for all subnet groups that are created by your Amazon Web Services account.

Example: `examplesubnetgroup`

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### Description

A description for the subnet group.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### SubnetIds.SubnetIdentifier.N

An array of VPC subnet IDs. A maximum of 20 subnets can be modified in a single request.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: Yes

### **Tags.Tag.N**

A list of tag instances.

Type: Array of [Tag](#) objects

Required: No

## **Response Elements**

The following element is returned by the service.

### **ClusterSubnetGroup**

Describes a subnet group.

Type: [ClusterSubnetGroup](#) object

## **Errors**

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

### **ClusterSubnetGroupAlreadyExists**

*A `ClusterSubnetGroupName` is already used by an existing cluster subnet group.*

HTTP Status Code: 400

### **ClusterSubnetGroupQuotaExceeded**

The request would result in user exceeding the allowed number of cluster subnet groups. For information about increasing your quota, go to [Limits in Amazon Redshift](#) in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

## **ClusterSubnetQuotaExceededFault**

The request would result in user exceeding the allowed number of subnets in a cluster subnet groups. For information about increasing your quota, go to [Limits in Amazon Redshift](#) in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

## **DependentServiceRequestThrottlingFault**

The request cannot be completed because a dependent service is throttling requests made by Amazon Redshift on your behalf. Wait and retry the request.

HTTP Status Code: 400

## **InvalidSubnet**

The requested subnet is not valid, or not all of the subnets are in the same VPC.

HTTP Status Code: 400

## **InvalidTagFault**

The tag is invalid.

HTTP Status Code: 400

## **TagLimitExceededFault**

You have exceeded the number of tags allowed.

HTTP Status Code: 400

## **UnauthorizedOperation**

Your account is not authorized to perform the requested operation.

HTTP Status Code: 400

## **Examples**

### **Example**

This example illustrates one usage of `CreateClusterSubnetGroup`.

## Sample Request

```
https://redshift.us-east-2.amazonaws.com/
    ?Action=CreateClusterSubnetGroup
&ClusterSubnetGroupName=mysubnetgroup
&Description=My+subnet+group
&SubnetIds.SubnetIdentifier.1=subnet-a1b23abc
&SignatureMethod=HmacSHA256&SignatureVersion=4
&Version=2012-12-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<CreateClusterSubnetGroupResponse xmlns="http://redshift.amazonaws.com/
doc/2012-12-01/">
  <CreateClusterSubnetGroupResult>
    <ClusterSubnetGroup>
      <VpcId>vpc-a1abc1a1</VpcId>
      <Description>My subnet group</Description>
      <Subnets>
        <Subnet>
          <SubnetStatus>Active</SubnetStatus>
          <SubnetIdentifier>subnet-a1b23abc</SubnetIdentifier>
          <SubnetAvailabilityZone>
            <Name>us-east-2e</Name>
          </SubnetAvailabilityZone>
        </Subnet>
      </Subnets>
      <ClusterSubnetGroupName>mysubnetgroup</ClusterSubnetGroupName>
      <SubnetGroupStatus>Complete</SubnetGroupStatus>
      <Tags/>
    </ClusterSubnetGroup>
  </CreateClusterSubnetGroupResult>
  <ResponseMetadata>
    <RequestId>7062cbdc-2832-11ea-a940-1b28a85fd753</RequestId>
  </ResponseMetadata>
</CreateClusterSubnetGroupResponse>
```



## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# CreateCustomDomainAssociation

Used to create a custom domain name for a cluster. Properties include the custom domain name, the cluster the custom domain is associated with, and the certificate Amazon Resource Name (ARN).

## Request Parameters

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

### ClusterIdentifier

The cluster identifier that the custom domain is associated with.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### CustomDomainCertificateArn

The certificate Amazon Resource Name (ARN) for the custom domain name association.

Type: String

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

Pattern: `arn:[\w+=/, .@-]+:acm:[\w+=/, .@-]*:[0-9]+:[\w+=, .@-]+(\/[\w+=, .@-]+)*`

Required: Yes

### CustomDomainName

The custom domain name for a custom domain association.

Type: String

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

Pattern: `^(((?!-)[A-Za-z0-9-]{0,62}[A-Za-z0-9])\.)+((?!-)[A-Za-z0-9-]{1,62}[A-Za-z0-9])$`

Required: Yes

## Response Elements

The following elements are returned by the service.

### ClusterIdentifier

The identifier of the cluster that the custom domain is associated with.

Type: String

Length Constraints: Maximum length of 2147483647.

### CustomDomainCertExpiryTime

The expiration time for the certificate for the custom domain.

Type: String

Length Constraints: Maximum length of 2147483647.

### CustomDomainCertificateArn

The Amazon Resource Name (ARN) for the certificate associated with the custom domain name.

Type: String

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

Pattern: `arn:[\w+=/, .@-]+:acm:[\w+=/, .@-]*:[0-9]+:[\w+=, .@-]+(/[\w+=, .@-]+)*`

### CustomDomainName

The custom domain name for the association result.

Type: String

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

Pattern: `^(((?!-)[A-Za-z0-9-]{0,62}[A-Za-z0-9])\.)+((?!-)[A-Za-z0-9-]{1,62}[A-Za-z0-9])$`

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### CustomCnameAssociationFault

An error occurred when an attempt was made to change the custom domain association.

HTTP Status Code: 400

### UnsupportedOperation

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# CreateEndpointAccess

Creates a Redshift-managed VPC endpoint.

## Request Parameters

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

### EndpointName

The Redshift-managed VPC endpoint name.

An endpoint name must contain 1-30 characters. Valid characters are A-Z, a-z, 0-9, and hyphen(-). The first character must be a letter. The name can't contain two consecutive hyphens or end with a hyphen.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### SubnetGroupName

The subnet group from which Amazon Redshift chooses the subnet to deploy the endpoint.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### ClusterIdentifier

The cluster identifier of the cluster to access.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### ResourceOwner

The Amazon Web Services account ID of the owner of the cluster. This is only required if the cluster is in another Amazon Web Services account.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **VpcSecurityGroupIds.VpcSecurityGroupId.N**

The security group that defines the ports, protocols, and sources for inbound traffic that you are authorizing into your endpoint.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

## **Response Elements**

The following elements are returned by the service.

### **Address**

The DNS address of the endpoint.

Type: String

Length Constraints: Maximum length of 2147483647.

### **ClusterIdentifier**

The cluster identifier of the cluster associated with the endpoint.

Type: String

Length Constraints: Maximum length of 2147483647.

### **EndpointCreateTime**

The time (UTC) that the endpoint was created.

Type: Timestamp

### **EndpointName**

The name of the endpoint.

Type: String

Length Constraints: Maximum length of 2147483647.

### **EndpointStatus**

The status of the endpoint.

Type: String

Length Constraints: Maximum length of 2147483647.

### **Port**

The port number on which the cluster accepts incoming connections.

Type: Integer

### **ResourceOwner**

The Amazon Web Services account ID of the owner of the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

### **SubnetGroupName**

The subnet group name where Amazon Redshift chooses to deploy the endpoint.

Type: String

Length Constraints: Maximum length of 2147483647.

### **VpcEndpoint**

The connection endpoint for connecting to an Amazon Redshift cluster through the proxy.

Type: [VpcEndpoint](#) object

### **VpcSecurityGroups.VpcSecurityGroup.N**

The security groups associated with the endpoint.

Type: Array of [VpcSecurityGroupMembership](#) objects

## Errors

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

### **AccessToClusterDenied**

You are not authorized to access the cluster.

HTTP Status Code: 400

### **ClusterNotFound**

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### **ClusterSubnetGroupNotFoundFault**

The cluster subnet group name does not refer to an existing cluster subnet group.

HTTP Status Code: 400

### **EndpointAlreadyExists**

The account already has a Redshift-managed VPC endpoint with the given identifier.

HTTP Status Code: 400

### **EndpointsPerAuthorizationLimitExceeded**

The number of Redshift-managed VPC endpoints per authorization has exceeded its limit.

HTTP Status Code: 400

### **EndpointsPerClusterLimitExceeded**

The number of Redshift-managed VPC endpoints per cluster has exceeded its limit.

HTTP Status Code: 400

### **InvalidClusterSecurityGroupState**

The state of the cluster security group is not available.

HTTP Status Code: 400

### **InvalidClusterState**

The specified cluster is not in the available state.



HTTP Status Code: 400

### **UnauthorizedOperation**

Your account is not authorized to perform the requested operation.

HTTP Status Code: 400

### **UnsupportedOperation**

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# CreateEventSubscription

Creates an Amazon Redshift event notification subscription. This action requires an ARN (Amazon Resource Name) of an Amazon SNS topic created by either the Amazon Redshift console, the Amazon SNS console, or the Amazon SNS API. To obtain an ARN with Amazon SNS, you must create a topic in Amazon SNS and subscribe to the topic. The ARN is displayed in the SNS console.

You can specify the source type, and lists of Amazon Redshift source IDs, event categories, and event severities. Notifications will be sent for all events you want that match those criteria. For example, you can specify source type = cluster, source ID = my-cluster-1 and mycluster2, event categories = Availability, Backup, and severity = ERROR. The subscription will only send notifications for those ERROR events in the Availability and Backup categories for the specified clusters.

If you specify both the source type and source IDs, such as source type = cluster and source identifier = my-cluster-1, notifications will be sent for all the cluster events for my-cluster-1. If you specify a source type but do not specify a source identifier, you will receive notice of the events for the objects of that type in your Amazon Web Services account. If you do not specify either the SourceType nor the SourceIdentifier, you will be notified of events generated from all Amazon Redshift sources belonging to your Amazon Web Services account. You must specify a source type if you specify a source ID.

## Request Parameters

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

### SnsTopicArn

The Amazon Resource Name (ARN) of the Amazon SNS topic used to transmit the event notifications. The ARN is created by Amazon SNS when you create a topic and subscribe to it.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### SubscriptionName

The name of the event subscription to be created.

Constraints:

- Cannot be null, empty, or blank.
- Must contain from 1 to 255 alphanumeric characters or hyphens.
- First character must be a letter.
- Cannot end with a hyphen or contain two consecutive hyphens.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### **Enabled**

A boolean value; set to `true` to activate the subscription, and set to `false` to create the subscription but not activate it.

Type: Boolean

Required: No

### **EventCategories.EventCategory.N**

Specifies the Amazon Redshift event categories to be published by the event notification subscription.

Values: configuration, management, monitoring, security, pending

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### **Severity**

Specifies the Amazon Redshift event severity to be published by the event notification subscription.

Values: ERROR, INFO

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## SourceIds.SourceId.N

A list of one or more identifiers of Amazon Redshift source objects. All of the objects must be of the same type as was specified in the source type parameter. The event subscription will return only events generated by the specified objects. If not specified, then events are returned for all objects within the source type specified.

Example: my-cluster-1, my-cluster-2

Example: my-snapshot-20131010

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

## SourceType

The type of source that will be generating the events. For example, if you want to be notified of events generated by a cluster, you would set this parameter to cluster. If this value is not specified, events are returned for all Amazon Redshift objects in your Amazon Web Services account. You must specify a source type in order to specify source IDs.

Valid values: cluster, cluster-parameter-group, cluster-security-group, cluster-snapshot, and scheduled-action.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## Tags.Tag.N

A list of tag instances.

Type: Array of [Tag](#) objects

Required: No

## Response Elements

The following element is returned by the service.

## EventSubscription

Describes event subscriptions.

Type: [EventSubscription](#) object

## Errors

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

### EventSubscriptionQuotaExceeded

The request would exceed the allowed number of event subscriptions for this account. For information about increasing your quota, go to [Limits in Amazon Redshift](#) in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

### InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

### SNSInvalidTopic

Amazon SNS has responded that there is a problem with the specified Amazon SNS topic.

HTTP Status Code: 400

### SNSNoAuthorization

You do not have permission to publish to the specified Amazon SNS topic.

HTTP Status Code: 400

### SNSTopicArnNotFound

An Amazon SNS topic with the specified Amazon Resource Name (ARN) does not exist.

HTTP Status Code: 404

### SourceNotFound

The specified Amazon Redshift event source could not be found.

HTTP Status Code: 404

### **SubscriptionAlreadyExist**

There is already an existing event notification subscription with the specified name.

HTTP Status Code: 400

### **SubscriptionCategoryNotFound**

The value specified for the event category was not one of the allowed values, or it specified a category that does not apply to the specified source type. The allowed values are Configuration, Management, Monitoring, and Security.

HTTP Status Code: 404

### **SubscriptionEventIdNotFound**

An Amazon Redshift event with the specified event ID does not exist.

HTTP Status Code: 404

### **SubscriptionSeverityNotFound**

The value specified for the event severity was not one of the allowed values, or it specified a severity that does not apply to the specified source type. The allowed values are ERROR and INFO.

HTTP Status Code: 404

### **TagLimitExceededFault**

You have exceeded the number of tags allowed.

HTTP Status Code: 400

## **Examples**

### **Example**

This example illustrates one usage of `CreateEventSubscription`.

### **Sample Request**

```
https://redshift.us-east-2.amazonaws.com/
```

```
?Action=CreateEventSubscription
&SubscriptionName=mysubscription
&SnsTopicArn=arn%3Aaws%3Asns%3Aus-east-2%3A123456789012%3AMySNStopic
&SourceType=cluster
&SourceIds.SourceId.1=mycluster
&SignatureMethod=HmacSHA256&SignatureVersion=4
&Version=2012-12-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<CreateEventSubscriptionResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <CreateEventSubscriptionResult>
    <EventSubscription>
      <Severity>INFO</Severity>
      <CustSubscriptionId>mysubscription</CustSubscriptionId>
      <SourceType>cluster</SourceType>
      <SnsTopicArn>arn:aws:sns:us-east-2:123456789012:MySNStopic</SnsTopicArn>
      <SourceIdsList>
        <SourceId>mycluster</SourceId>
      </SourceIdsList>
      <EventCategoriesList/>
      <SubscriptionCreationTime>2019-12-26T22:58:57.382Z</SubscriptionCreationTime>
      <Enabled>>true</Enabled>
      <Tags/>
      <Status>active</Status>
      <CustomerAwsId>123456789012</CustomerAwsId>
    </EventSubscription>
  </CreateEventSubscriptionResult>
  <ResponseMetadata>
    <RequestId>4c096ab5-2833-11ea-a940-1b28a85fd753</RequestId>
  </ResponseMetadata>
</CreateEventSubscriptionResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)



# CreateHsmClientCertificate

Creates an HSM client certificate that an Amazon Redshift cluster will use to connect to the client's HSM in order to store and retrieve the keys used to encrypt the cluster databases.

The command returns a public key, which you must store in the HSM. In addition to creating the HSM certificate, you must create an Amazon Redshift HSM configuration that provides a cluster the information needed to store and use encryption keys in the HSM. For more information, go to [Hardware Security Modules](#) in the *Amazon Redshift Cluster Management Guide*.

## Request Parameters

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

### HsmClientCertificateIdentifier

The identifier to be assigned to the new HSM client certificate that the cluster will use to connect to the HSM to use the database encryption keys.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### Tags.Tag.N

A list of tag instances.

Type: Array of [Tag](#) objects

Required: No

## Response Elements

The following element is returned by the service.

### HsmClientCertificate

Returns information about an HSM client certificate. The certificate is stored in a secure Hardware Storage Module (HSM), and used by the Amazon Redshift cluster to encrypt data files.

Type: [HsmClientCertificate](#) object

## Errors

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

### **HsmClientCertificateAlreadyExistsFault**

There is already an existing Amazon Redshift HSM client certificate with the specified identifier.

HTTP Status Code: 400

### **HsmClientCertificateQuotaExceededFault**

The quota for HSM client certificates has been reached. For information about increasing your quota, go to [Limits in Amazon Redshift](#) in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

### **InvalidTagFault**

The tag is invalid.

HTTP Status Code: 400

### **TagLimitExceededFault**

You have exceeded the number of tags allowed.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of `CreateHsmClientCertificate`.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=CreateHsmClientCertificate  
&HsmClientCertificateIdentifier=myhsmclientcert  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01
```

```
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<CreateHsmClientCertificateResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <CreateHsmClientCertificateResult>
    <HsmClientCertificate>
      <HsmClientCertificateIdentifier>myhsmclientcert</HsmClientCertificateIdentifier>
      <HsmClientCertificatePublicKey>-----BEGIN CERTIFICATE-----
MIICiTCCAfICCCQD6m7oRw0uX0jANBgkqhkiG9w0BAQUFADCBiDELMaKGA1UEBhMC
VVMxCzAJBgNVBAGTAldBMRAwDgYDVQQHEwdTZWF0dGx1MQ8wDQYDVQQKEwZBbW6
b24xFDASBgNVBAsTC01BTSBDb25zb2x1MRIwEAYDVQQDEwLUZXN0Q21sYWMxHzAd
BgkqhkiG9w0BCQEWEG5vb251QGFtYXpvbi5jb20wHhcNMTEwNDI1MjA0NTIxWhcN
MTIwNDI0MjA0NTIxWjCBiDELMaKGA1UEBhMCVVMxCzAJBgNVBAGTAldBMRAwDgYD
VQQHEwdTZWF0dGx1MQ8wDQYDVQQKEwZBbW6b24xFDASBgNVBAsTC01BTSBDb25z
b2x1MRIwEAYDVQQDEwLUZXN0Q21sYWMxHzAdBgkqhkiG9w0BCQEWEG5vb251QGFt
YXpvbi5jb20wZ8wDQYJKoZIhvcNAQEBBQADgY0AMIGJAoGBAMaK0dn+a4GmWIWJ
21uUSfwfEvySWtC2XADZ4nB+BLyGvIk60CpiwsZ3G93vUEI03IyNoH/f0wYK8m9T
rDHudUZg3qX4waL65M43q7Wgc/MbQITx0USQv7c7ugFFDzQGBzZswY6786m86gpE
Ibb30hjZnzcVQAaRHhdLQWIMm2nrAgMBAAEwDQYJKoZIhvcNAQEFBQADgYEAtCu4
nUhVVxYUntneD9+h8Mg9q6q+auNKyExzyLwax1Aoo7TJHidbtS4J5iNmZgXL0Fkb
FFBjvSfpJiI1J0zbnNYS5f6GuoEDmFJl0ZxBHjJnyp3780D8uTs7fLvJx79LjSTb
NYiytVbZPQUQ5Yaxu2jXnimvw3rEXAMPLE=
-----END CERTIFICATE-----
</HsmClientCertificatePublicKey>
    <Tags/>
  </HsmClientCertificate>
</CreateHsmClientCertificateResult>
  <ResponseMetadata>
    <RequestId>917e54c0-2833-11ea-9caa-c956bec1ce87</RequestId>
  </ResponseMetadata>
</CreateHsmClientCertificateResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# CreateHsmConfiguration

Creates an HSM configuration that contains the information required by an Amazon Redshift cluster to store and use database encryption keys in a Hardware Security Module (HSM). After creating the HSM configuration, you can specify it as a parameter when creating a cluster. The cluster will then store its encryption keys in the HSM.

In addition to creating an HSM configuration, you must also create an HSM client certificate. For more information, go to [Hardware Security Modules](#) in the Amazon Redshift Cluster Management Guide.

## Request Parameters

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

### Description

A text description of the HSM configuration to be created.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### HsmConfigurationIdentifier

The identifier to be assigned to the new Amazon Redshift HSM configuration.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### HsmIpAddress

The IP address that the Amazon Redshift cluster must use to access the HSM.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### **HsmPartitionName**

The name of the partition in the HSM where the Amazon Redshift clusters will store their database encryption keys.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### **HsmPartitionPassword**

The password required to access the HSM partition.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### **HsmServerPublicCertificate**

The HSMs public certificate file. When using Cloud HSM, the file name is server.pem.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### **Tags.Tag.N**

A list of tag instances.

Type: Array of [Tag](#) objects

Required: No

## **Response Elements**

The following element is returned by the service.

## HsmConfiguration

Returns information about an HSM configuration, which is an object that describes to Amazon Redshift clusters the information they require to connect to an HSM where they can store database encryption keys.

Type: [HsmConfiguration](#) object

## Errors

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

### HsmConfigurationAlreadyExistsFault

There is already an existing Amazon Redshift HSM configuration with the specified identifier.

HTTP Status Code: 400

### HsmConfigurationQuotaExceededFault

The quota for HSM configurations has been reached. For information about increasing your quota, go to [Limits in Amazon Redshift](#) in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

### InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

### TagLimitExceededFault

You have exceeded the number of tags allowed.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of `CreateHsmConfiguration`.

## Sample Request

```
https://redshift.us-east-2.amazonaws.com/
    ?Action=CreateHsmConfiguration
    &HsmConfigurationIdentifier=myhsmconnection
    &Description=My+HSM+connection
    &HsmIpAddress=192.0.2.09
    &HsmPartitionName=myhsmpartition
    &HsmPartitionPassword=A1b2c3d4
    &HsmServerPublicCertificate=myhsmclientcert
    &SignatureMethod=HmacSHA256&SignatureVersion=4
    &Version=2012-12-01
    &X-Amz-Algorithm=AWS4-HMAC-SHA256
    &X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
    &X-Amz-Date=20190825T160000Z
    &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
    &X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<CreateHsmConfigurationResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <CreateHsmConfigurationResult>
    <HsmConfiguration>
      <Description>My HSM connection</Description>
      <HsmPartitionName>myhsmpartition</HsmPartitionName>
      <HsmConfigurationIdentifier>myhsmconnection</HsmConfigurationIdentifier>
      <Tags/>
      <HsmIpAddress>192.0.2.09</HsmIpAddress>
    </HsmConfiguration>
  </CreateHsmConfigurationResult>
  <ResponseMetadata>
    <RequestId>e106be9e-2833-11ea-9caa-c956bec1ce87</RequestId>
  </ResponseMetadata>
</CreateHsmConfigurationResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)



- [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](#)

# CreateIntegration

Creates a zero-ETL integration or S3 event integration with Amazon Redshift.

## Request Parameters

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

### IntegrationName

The name of the integration.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 63.

Pattern: `^[a-zA-Z][a-zA-Z0-9]*(-[a-zA-Z0-9]+)*$`

Required: Yes

### SourceArn

The Amazon Resource Name (ARN) of the database to use as the source for replication.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 255.

Pattern: `^arn:aws[a-z\-*:](s3|dynamodb):.*:[a-zA-Z0-9._\-\|/]+$`

Required: Yes

### TargetArn

The Amazon Resource Name (ARN) of the Amazon Redshift data warehouse to use as the target for replication.

Type: String

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

Pattern: `^arn:aws[a-z\-*:]:redshift(-serverless)?:[a-z0-9\-\|/]+:[0-9]{12}:(namespace\|namespace:)[a-z0-9\-\|/]+$`

Required: Yes

**AdditionalEncryptionContext** , AdditionalEncryptionContext.entry.N.key (key),  
AdditionalEncryptionContext.entry.N.value (value)

An optional set of non-secret key–value pairs that contains additional contextual information about the data. For more information, see [Encryption context](#) in the *Amazon Key Management Service Developer Guide*.

You can only include this parameter if you specify the KMSKeyId parameter.

Type: String to string map

Key Length Constraints: Maximum length of 2147483647.

Value Length Constraints: Maximum length of 2147483647.

Required: No

### Description

A description of the integration.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

Pattern: ^.\*\$

Required: No

### KMSKeyId

An Amazon Key Management Service (Amazon KMS) key identifier for the key to use to encrypt the integration. If you don't specify an encryption key, the default Amazon owned key is used.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### TagList.Tag.N

A list of tags.

Type: Array of [Tag](#) objects

Required: No

## Response Elements

The following elements are returned by the service.

**AdditionalEncryptionContext** , AdditionalEncryptionContext.entry.N.key (key),  
AdditionalEncryptionContext.entry.N.value (value)

The encryption context for the integration. For more information, see [Encryption context](#) in the *Amazon Key Management Service Developer Guide*.

Type: String to string map

Key Length Constraints: Maximum length of 2147483647.

Value Length Constraints: Maximum length of 2147483647.

### CreateTime

The time (UTC) when the integration was created.

Type: Timestamp

### Description

The description of the integration.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1000.

Pattern: ^.\*\$

### Errors.IntegrationError.N

Any errors associated with the integration.

Type: Array of [IntegrationError](#) objects

### IntegrationArn

The Amazon Resource Name (ARN) of the integration.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 255.

Pattern: `^arn:aws[a-z\-*]:redshift:[a-z0-9\-*]:[0-9]*:integration:[0-9a-f]{8}-[0-9a-f]{4}-[0-9a-f]{4}-[0-9a-f]{4}-[0-9a-f]{12}$`

### **IntegrationName**

The name of the integration.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 63.

Pattern: `^[a-zA-Z][a-zA-Z0-9]*(-[a-zA-Z0-9]+)*$`

### **KMSKeyId**

The Amazon Key Management Service (Amazon KMS) key identifier for the key used to encrypt the integration.

Type: String

Length Constraints: Maximum length of 2147483647.

### **SourceArn**

The Amazon Resource Name (ARN) of the database used as the source for replication.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 255.

Pattern: `^arn:aws[a-z\-*]:(s3|dynamodb):.*:[a-zA-Z0-9._\-\|/]+$`

### **Status**

The current status of the integration.

Type: String

Valid Values: `creating | active | modifying | failed | deleting | syncing | needs_attention`

### **Tags.Tag.N**

The list of tags associated with the integration.

Type: Array of [Tag](#) objects

## TargetArn

The Amazon Resource Name (ARN) of the Amazon Redshift data warehouse to use as the target for replication.

Type: String

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

Pattern: `^arn:aws[a-z\-*]:redshift(-serverless)?:[a-z0-9\-*]+:[0-9]{12}:(namespace\|namespace:)[a-z0-9\-*]+$`

## Errors

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

### IntegrationAlreadyExistsFault

The integration you are trying to create already exists.

HTTP Status Code: 400

### IntegrationConflictOperationFault

A conflicting conditional operation is currently in progress against this resource. This typically occurs when there are multiple requests being made to the same resource at the same time, and these requests conflict with each other.

HTTP Status Code: 400

### IntegrationQuotaExceededFault

You can't create any more zero-ETL or S3 event integrations because the quota has been reached.

HTTP Status Code: 400

### IntegrationSourceNotFoundFault

The specified integration source can't be found.

HTTP Status Code: 404

## **IntegrationTargetNotFoundFault**

The specified integration target can't be found.

HTTP Status Code: 404

## **InvalidClusterState**

The specified cluster is not in the available state.

HTTP Status Code: 400

## **InvalidTagFault**

The tag is invalid.

HTTP Status Code: 400

## **TagLimitExceededFault**

You have exceeded the number of tags allowed.

HTTP Status Code: 400

## **UnsupportedOperation**

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)



# CreateRedshiftIdcApplication

Creates an Amazon Redshift application for use with IAM Identity Center.

## Request Parameters

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

### IamRoleArn

The IAM role ARN for the Amazon Redshift IAM Identity Center application instance. It has the required permissions to be assumed and invoke the IDC Identity Center API.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### IdcDisplayName

The display name for the Amazon Redshift IAM Identity Center application instance. It appears in the console.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 127.

Pattern: `[\w+=, .@- ]+`

Required: Yes

### IdcInstanceArn

The Amazon resource name (ARN) of the IAM Identity Center instance where Amazon Redshift creates a new managed application.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### RedshiftIdcApplicationName

The name of the Redshift application in IAM Identity Center.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 63.

Pattern: `[a-z][a-z0-9]*(-[a-z0-9]+)*`

Required: Yes

### **AuthorizedTokenIssuerList.member.N**

The token issuer list for the Amazon Redshift IAM Identity Center application instance.

Type: Array of [AuthorizedTokenIssuer](#) objects

Required: No

### **IdentityNamespace**

The namespace for the Amazon Redshift IAM Identity Center application instance. It determines which managed application verifies the connection token.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 127.

Pattern: `^[a-zA-Z0-9_+.#@$-]+$`

Required: No

### **ServiceIntegrations.member.N**

A collection of service integrations for the Redshift IAM Identity Center application.

Type: Array of [ServiceIntegrationsUnion](#) objects

Required: No

## **Response Elements**

The following element is returned by the service.

### **RedshiftIdcApplication**

Contains properties for the Redshift IDC application.

Type: [RedshiftIdcApplication](#) object

## Errors

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

### **DependentServiceAccessDenied**

A dependent service denied access for the integration.

HTTP Status Code: 403

### **DependentServiceUnavailableFault**

Your request cannot be completed because a dependent internal service is temporarily unavailable. Wait 30 to 60 seconds and try again.

HTTP Status Code: 400

### **RedshiftIdcApplicationAlreadyExists**

The application you attempted to add already exists.

HTTP Status Code: 400

### **RedshiftIdcApplicationQuotaExceeded**

The maximum number of Redshift IAM Identity Center applications was exceeded.

HTTP Status Code: 400

### **UnsupportedOperation**

The requested operation isn't supported.

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](#)

- [Amazon SDK for .NET](#)
- [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](#)

# CreateScheduledAction

Creates a scheduled action. A scheduled action contains a schedule and an Amazon Redshift API action. For example, you can create a schedule of when to run the `ResizeCluster` API operation.

## Request Parameters

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

### IamRole

The IAM role to assume to run the target action. For more information about this parameter, see [ScheduledAction](#).

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### Schedule

The schedule in `at( )` or `cron( )` format. For more information about this parameter, see [ScheduledAction](#).

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### ScheduledActionName

The name of the scheduled action. The name must be unique within an account. For more information about this parameter, see [ScheduledAction](#).

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### TargetAction

A JSON format string of the Amazon Redshift API operation with input parameters. For more information about this parameter, see [ScheduledAction](#).

Type: [ScheduledActionType](#) object

Required: Yes

### Enable

If true, the schedule is enabled. If false, the scheduled action does not trigger. For more information about state of the scheduled action, see [ScheduledAction](#).

Type: Boolean

Required: No

### EndTime

The end time in UTC of the scheduled action. After this time, the scheduled action does not trigger. For more information about this parameter, see [ScheduledAction](#).

Type: Timestamp

Required: No

### ScheduledActionDescription

The description of the scheduled action.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### StartTime

The start time in UTC of the scheduled action. Before this time, the scheduled action does not trigger. For more information about this parameter, see [ScheduledAction](#).

Type: Timestamp

Required: No

## Response Elements

The following elements are returned by the service.

## EndTime

The end time in UTC when the schedule is no longer active. After this time, the scheduled action does not trigger.

Type: Timestamp

## IamRole

The IAM role to assume to run the scheduled action. This IAM role must have permission to run the Amazon Redshift API operation in the scheduled action. This IAM role must allow the Amazon Redshift scheduler (Principal scheduler.redshift.amazonaws.com) to assume permissions on your behalf. For more information about the IAM role to use with the Amazon Redshift scheduler, see [Using Identity-Based Policies for Amazon Redshift](#) in the *Amazon Redshift Cluster Management Guide*.

Type: String

Length Constraints: Maximum length of 2147483647.

## NextInvocations.ScheduledActionTime.N

List of times when the scheduled action will run.

Type: Array of timestamps

## Schedule

The schedule for a one-time (at format) or recurring (cron format) scheduled action. Schedule invocations must be separated by at least one hour.

Format of at expressions is "at(yyyy-mm-ddThh:mm:ss)". For example, "at(2016-03-04T17:27:00)".

Format of cron expressions is "cron(Minutes Hours Day-of-month Month Day-of-week Year)". For example, "cron(0 10 ? \* MON \*)". For more information, see [Cron Expressions](#) in the *Amazon CloudWatch Events User Guide*.

Type: String

Length Constraints: Maximum length of 2147483647.

## ScheduledActionDescription

The description of the scheduled action.

Type: String

Length Constraints: Maximum length of 2147483647.

### **ScheduledActionName**

The name of the scheduled action.

Type: String

Length Constraints: Maximum length of 2147483647.

### **StartTime**

The start time in UTC when the schedule is active. Before this time, the scheduled action does not trigger.

Type: Timestamp

### **State**

The state of the scheduled action. For example, DISABLED.

Type: String

Valid Values: ACTIVE | DISABLED

### **TargetAction**

A JSON format string of the Amazon Redshift API operation with input parameters.

```
"{"ResizeCluster":{"NodeType":"ra3.4xlarge"},"ClusterIdentifier":"my-test-cluster"},"NumberOfNodes":3}"]
```

Type: [ScheduledActionType](#) object

## **Errors**

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

### **ClusterNotFound**

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404



## **InvalidSchedule**

The schedule you submitted isn't valid.

HTTP Status Code: 400

## **InvalidScheduledAction**

The scheduled action is not valid.

HTTP Status Code: 400

## **ScheduledActionAlreadyExists**

The scheduled action already exists.

HTTP Status Code: 400

## **ScheduledActionQuotaExceeded**

The quota for scheduled actions exceeded.

HTTP Status Code: 400

## **ScheduledActionTypeUnsupported**

The action type specified for a scheduled action is not supported.

HTTP Status Code: 400

## **UnauthorizedOperation**

Your account is not authorized to perform the requested operation.

HTTP Status Code: 400

## **UnsupportedOperation**

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# CreateSnapshotCopyGrant

Creates a snapshot copy grant that permits Amazon Redshift to use an encrypted symmetric key from Amazon Key Management Service (KMS) to encrypt copied snapshots in a destination region.

For more information about managing snapshot copy grants, go to [Amazon Redshift Database Encryption](#) in the *Amazon Redshift Cluster Management Guide*.

## Request Parameters

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

### SnapshotCopyGrantName

The name of the snapshot copy grant. This name must be unique in the region for the Amazon Web Services account.

Constraints:

- Must contain from 1 to 63 alphanumeric characters or hyphens.
- Alphabetic characters must be lowercase.
- First character must be a letter.
- Cannot end with a hyphen or contain two consecutive hyphens.
- Must be unique for all clusters within an Amazon Web Services account.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### KmsKeyId

The unique identifier of the encrypted symmetric key to which to grant Amazon Redshift permission. If no key is specified, the default key is used.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## Tags.Tag.N

A list of tag instances.

Type: Array of [Tag](#) objects

Required: No

## Response Elements

The following element is returned by the service.

### SnapshotCopyGrant

The snapshot copy grant that grants Amazon Redshift permission to encrypt copied snapshots with the specified encrypted symmetric key from Amazon KMS in the destination region.

For more information about managing snapshot copy grants, go to [Amazon Redshift Database Encryption](#) in the *Amazon Redshift Cluster Management Guide*.

Type: [SnapshotCopyGrant](#) object

## Errors

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

### DependentServiceRequestThrottlingFault

The request cannot be completed because a dependent service is throttling requests made by Amazon Redshift on your behalf. Wait and retry the request.

HTTP Status Code: 400

### InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

### LimitExceededFault

The encryption key has exceeded its grant limit in Amazon KMS.

HTTP Status Code: 400

### **SnapshotCopyGrantAlreadyExistsFault**

The snapshot copy grant can't be created because a grant with the same name already exists.

HTTP Status Code: 400

### **SnapshotCopyGrantQuotaExceededFault**

The Amazon Web Services account has exceeded the maximum number of snapshot copy grants in this region.

HTTP Status Code: 400

### **TagLimitExceededFault**

You have exceeded the number of tags allowed.

HTTP Status Code: 400

## **Examples**

### **Example**

This example illustrates one usage of `CreateSnapshotCopyGrant`.

### **Sample Request**

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=CreateSnapshotCopyGrant  
&SnapshotCopyGrantName=mynsnapshotcopygrantnew  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### **Sample Response**

```
<CreateSnapshotCopyGrantResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
```

```
<CreateSnapshotCopyGrantResult>
  <SnapshotCopyGrant>
    <SnapshotCopyGrantName>mysnapshotcopygrantnew</SnapshotCopyGrantName>
    <KmsKeyId>arn:aws:kms:us-east-2:123456789012:key/bPxRfih3yCo8nvbEXAMPLEKEY</
KmsKeyId>
    <Tags/>
  </SnapshotCopyGrant>
</CreateSnapshotCopyGrantResult>
<ResponseMetadata>
  <RequestId>085f3206-2837-11ea-9939-5fccefa818c0</RequestId>
</ResponseMetadata>
</CreateSnapshotCopyGrantResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# CreateSnapshotSchedule

Create a snapshot schedule that can be associated to a cluster and which overrides the default system backup schedule.

## Request Parameters

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

### DryRun

Type: Boolean

Required: No

### NextInvocations

Type: Integer

Required: No

### ScheduleDefinitions.ScheduleDefinition.N

The definition of the snapshot schedule. The definition is made up of schedule expressions, for example "cron(30 12 \*)" or "rate(12 hours)".

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### ScheduleDescription

The description of the snapshot schedule.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **ScheduleIdentifier**

A unique identifier for a snapshot schedule. Only alphanumeric characters are allowed for the identifier.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **Tags.Tag.N**

An optional set of tags you can use to search for the schedule.

Type: Array of [Tag](#) objects

Required: No

## **Response Elements**

The following elements are returned by the service.

### **AssociatedClusterCount**

The number of clusters associated with the schedule.

Type: Integer

### **AssociatedClusters.ClusterAssociatedToSchedule.N**

A list of clusters associated with the schedule. A maximum of 100 clusters is returned.

Type: Array of [ClusterAssociatedToSchedule](#) objects

### **NextInvocations.SnapshotTime.N**

Type: Array of timestamps

### **ScheduleDefinitions.ScheduleDefinition.N**

A list of ScheduleDefinitions.

Type: Array of strings



Length Constraints: Maximum length of 2147483647.

### **ScheduleDescription**

The description of the schedule.

Type: String

Length Constraints: Maximum length of 2147483647.

### **ScheduleIdentifier**

A unique identifier for the schedule.

Type: String

Length Constraints: Maximum length of 2147483647.

### **Tags.Tag.N**

An optional set of tags describing the schedule.

Type: Array of [Tag](#) objects

## **Errors**

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

### **InvalidSchedule**

The schedule you submitted isn't valid.

HTTP Status Code: 400

### **InvalidTagFault**

The tag is invalid.

HTTP Status Code: 400

### **ScheduleDefinitionTypeUnsupported**

The definition you submitted is not supported.

HTTP Status Code: 400

## SnapshotScheduleAlreadyExists

The specified snapshot schedule already exists.

HTTP Status Code: 400

## SnapshotScheduleQuotaExceeded

You have exceeded the quota of snapshot schedules.

HTTP Status Code: 400

## TagLimitExceededFault

You have exceeded the number of tags allowed.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of `CreateSnapshotSchedule`.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=CreateSnapshotSchedule  
&ScheduleDefinitions.ScheduleDefinition.1=rate%2812+hours%29  
&ScheduleIdentifier=mynapshotschedule  
&ScheduleDescription=My+schedule+description  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<CreateSnapshotScheduleResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">  
  <CreateSnapshotScheduleResult>
```

```
<ScheduleDefinitions>
  <ScheduleDefinition>rate(12 hours)</ScheduleDefinition>
</ScheduleDefinitions>
<ScheduleDescription>My schedule description</ScheduleDescription>
<ScheduleIdentifier>mynapshotschedule</ScheduleIdentifier>
<Tags/>
</CreateSnapshotScheduleResult>
<ResponseMetadata>
  <RequestId>6f3e2f58-2837-11ea-9939-5fccefa818c0</RequestId>
</ResponseMetadata>
</CreateSnapshotScheduleResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# CreateTags

Adds tags to a cluster.

A resource can have up to 50 tags. If you try to create more than 50 tags for a resource, you will receive an error and the attempt will fail.

If you specify a key that already exists for the resource, the value for that key will be updated with the new value.

## Request Parameters

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

### ResourceName

The Amazon Resource Name (ARN) to which you want to add the tag or tags. For example, `arn:aws:redshift:us-east-2:123456789:cluster:t1`.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### Tags.Tag.N

One or more name/value pairs to add as tags to the specified resource. Each tag name is passed in with the parameter `Key` and the corresponding value is passed in with the parameter `Value`. The `Key` and `Value` parameters are separated by a comma (,). Separate multiple tags with a space. For example, `--tags "Key"="owner", "Value"="admin" "Key"="environment", "Value"="test" "Key"="version", "Value"="1.0"`.

Type: Array of [Tag](#) objects

Required: Yes

## Errors

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

## InvalidClusterState

The specified cluster is not in the available state.

HTTP Status Code: 400

## InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

## ResourceNotFoundFault

The resource could not be found.

HTTP Status Code: 404

## TagLimitExceededFault

You have exceeded the number of tags allowed.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of `CreateTags`.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=CreateTags  
&ResourceName=arn%3Aaws%3Aredshift%3Aus-east-2%3A123456789012%3Acluster%3Amycluster  
&Tags.Tag.1.Key=mytag  
&Tags.Tag.1.Value=newtag  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<CreateTagsResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <ResponseMetadata>
    <RequestId>bf5cbe2f-2837-11ea-9467-b9a67a99da45</RequestId>
  </ResponseMetadata>
</CreateTagsResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# CreateUsageLimit

Creates a usage limit for a specified Amazon Redshift feature on a cluster. The usage limit is identified by the returned usage limit identifier.

## Request Parameters

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

### Amount

The limit amount. If time-based, this amount is in minutes. If data-based, this amount is in terabytes (TB). The value must be a positive number.

Type: Long

Required: Yes

### ClusterIdentifier

The identifier of the cluster that you want to limit usage.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### FeatureType

The Amazon Redshift feature that you want to limit.

Type: String

Valid Values: spectrum | concurrency-scaling | cross-region-datasharing

Required: Yes

### LimitType

The type of limit. Depending on the feature type, this can be based on a time duration or data size. If FeatureType is spectrum, then LimitType must be data-scanned. If FeatureType is concurrency-scaling, then LimitType must be time. If FeatureType is cross-region-datasharing, then LimitType must be data-scanned.

Type: String

Valid Values: `time` | `data-scanned`

Required: Yes

### **BreachAction**

The action that Amazon Redshift takes when the limit is reached. The default is `log`. For more information about this parameter, see [UsageLimit](#).

Type: String

Valid Values: `log` | `emit-metric` | `disable`

Required: No

### **Period**

The time period that the amount applies to. A weekly period begins on Sunday. The default is `monthly`.

Type: String

Valid Values: `daily` | `weekly` | `monthly`

Required: No

### **Tags.Tag.N**

A list of tag instances.

Type: Array of [Tag](#) objects

Required: No

## **Response Elements**

The following elements are returned by the service.

### **Amount**

The limit amount. If time-based, this amount is in minutes. If data-based, this amount is in terabytes (TB).



Type: Long

### **BreachAction**

The action that Amazon Redshift takes when the limit is reached. Possible values are:

- **log** - To log an event in a system table. The default is log.
- **emit-metric** - To emit CloudWatch metrics.
- **disable** - To disable the feature until the next usage period begins.

Type: String

Valid Values: log | emit-metric | disable

### **ClusterIdentifier**

The identifier of the cluster with a usage limit.

Type: String

Length Constraints: Maximum length of 2147483647.

### **FeatureType**

The Amazon Redshift feature to which the limit applies.

Type: String

Valid Values: spectrum | concurrency-scaling | cross-region-datasharing

### **LimitType**

The type of limit. Depending on the feature type, this can be based on a time duration or data size.

Type: String

Valid Values: time | data-scanned

### **Period**

The time period that the amount applies to. A weekly period begins on Sunday. The default is monthly.

Type: String

Valid Values: daily | weekly | monthly

## Tags.Tag.N

A list of tag instances.

Type: Array of [Tag](#) objects

## UsageLimitId

The identifier of the usage limit.

Type: String

Length Constraints: Maximum length of 2147483647.

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### InvalidClusterState

The specified cluster is not in the available state.

HTTP Status Code: 400

### InvalidUsageLimit

The usage limit is not valid.

HTTP Status Code: 400

### LimitExceededFault

The encryption key has exceeded its grant limit in Amazon KMS.

HTTP Status Code: 400

### TagLimitExceededFault

You have exceeded the number of tags allowed.

HTTP Status Code: 400

### **UnsupportedOperation**

The requested operation isn't supported.

HTTP Status Code: 400

### **UsageLimitAlreadyExists**

The usage limit already exists.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DeauthorizeDataShare

From a datashare producer account, removes authorization from the specified datashare.

## Request Parameters

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

### ConsumerIdentifier

The identifier of the data consumer that is to have authorization removed from the datashare. This identifier is an Amazon Web Services account ID or a keyword, such as ADX.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### DataShareArn

The namespace Amazon Resource Name (ARN) of the datashare to remove authorization from.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Response Elements

The following elements are returned by the service.

### AllowPubliclyAccessibleConsumers

A value that specifies whether the datashare can be shared to a publicly accessible cluster.

Type: Boolean

### DataShareArn

The Amazon Resource Name (ARN) of the datashare that the consumer is to use.

Type: String

Length Constraints: Maximum length of 2147483647.

### **DataShareAssociations.member.N**

A value that specifies when the datashare has an association between producer and data consumers.

Type: Array of [DataShareAssociation](#) objects

### **DataShareType**

The type of the datashare created by RegisterNamespace.

Type: String

Valid Values: INTERNAL

### **ManagedBy**

The identifier of a datashare to show its managing entity.

Type: String

Length Constraints: Maximum length of 2147483647.

### **ProducerArn**

The Amazon Resource Name (ARN) of the producer namespace.

Type: String

Length Constraints: Maximum length of 2147483647.

## **Errors**

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

### **InvalidDataShareFault**

There is an error with the datashare.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of DeauthorizeDataShare.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/
    ?Action=DeauthorizeDataShare
    &ConsumerIdentifier=275247490162
    &DataShareArn=arn%3Aaws%3Aredshift%3Aus-east-1%3A827630067164%3Adatashare
%3Aaf06285e-8a45-4ee9-b598-648c218c8ff1%2Ftestshare2
    &SignatureMethod=HmacSHA256&SignatureVersion=4
    &Version=2012-12-01
    &X-Amz-Algorithm=AWS4-HMAC-SHA256
    &X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
    &X-Amz-Date=20190825T160000Z
    &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-
date
    &X-Amz-
Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<DeauthorizeDataShareResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
    <DeauthorizeDataShareResult>
        <AllowPubliclyAccessibleConsumers>>false</
AllowPubliclyAccessibleConsumers>
        <ProducerNamespaceArn>arn:aws:redshift:us-
east-1:827630067164:namespace:af06285e-8a45-4ee9-b598-648c218c8ff1</
ProducerNamespaceArn>
        <DataShareAr>arn:aws:redshift:us-
east-1:827630067164:datashare:af06285e-8a45-4ee9-b598-648c218c8ff1/testshare2</
DataShareArn>
        <DataShareAssociations>
            <member>
                <ConsumerIdentifier>275247490162</ConsumerIdentifier>
                <StatusChangeDate>2020-10-30T17:39:04.021910</StatusChangeDate>
                <CreateDate>2020-10-29T22:31:53.495665</CreateDate>
                <Status>DEAUTHORIZED</Status>
            </member>
        </DataShareAssociations>
```

```
</DeauthorizeDataShareResult>
  <ResponseMetadata>
    <RequestId>7c915a04-fe35-4be1-b71d-363efaa95a08</RequestId>
  </ResponseMetadata>
</DeauthorizeDataShareResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DeleteAuthenticationProfile

Deletes an authentication profile.

## Request Parameters

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

### AuthenticationProfileName

The name of the authentication profile to delete.

Type: String

Length Constraints: Maximum length of 63.

Pattern: `^[a-zA-Z0-9\-\ ]+$`

Required: Yes

## Response Elements

The following element is returned by the service.

### AuthenticationProfileName

The name of the authentication profile that was deleted.

Type: String

Length Constraints: Maximum length of 63.

Pattern: `^[a-zA-Z0-9\-\ ]+$`

## Errors

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

### AuthenticationProfileNotFoundFault

The authentication profile can't be found.



HTTP Status Code: 404

### **InvalidAuthenticationProfileRequestFault**

The authentication profile request is not valid. The profile name can't be null or empty. The authentication profile API operation must be available in the Amazon Web Services Region.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DeleteCluster

Deletes a previously provisioned cluster without its final snapshot being created. A successful response from the web service indicates that the request was received correctly. Use [DescribeClusters](#) to monitor the status of the deletion. The delete operation cannot be canceled or reverted once submitted. For more information about managing clusters, go to [Amazon Redshift Clusters](#) in the *Amazon Redshift Cluster Management Guide*.

If you want to shut down the cluster and retain it for future use, set *SkipFinalClusterSnapshot* to `false` and specify a name for *FinalClusterSnapshotIdentifier*. You can later restore this snapshot to resume using the cluster. If a final cluster snapshot is requested, the status of the cluster will be "final-snapshot" while the snapshot is being taken, then it's "deleting" once Amazon Redshift begins deleting the cluster.

For more information about managing clusters, go to [Amazon Redshift Clusters](#) in the *Amazon Redshift Cluster Management Guide*.

## Request Parameters

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

### ClusterIdentifier

The identifier of the cluster to be deleted.

Constraints:

- Must contain lowercase characters.
- Must contain from 1 to 63 alphanumeric characters or hyphens.
- First character must be a letter.
- Cannot end with a hyphen or contain two consecutive hyphens.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### FinalClusterSnapshotIdentifier

The identifier of the final snapshot that is to be created immediately before deleting the cluster. If this parameter is provided, *SkipFinalClusterSnapshot* must be `false`.

**Constraints:**

- Must be 1 to 255 alphanumeric characters.
- First character must be a letter.
- Cannot end with a hyphen or contain two consecutive hyphens.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

**FinalClusterSnapshotRetentionPeriod**

The number of days that a manual snapshot is retained. If the value is `-1`, the manual snapshot is retained indefinitely.

The value must be either `-1` or an integer between 1 and 3,653.


The default value is `-1`.

Type: Integer

Required: No

**SkipFinalClusterSnapshot**

Determines whether a final snapshot of the cluster is created before Amazon Redshift deletes the cluster. If `true`, a final cluster snapshot is not created. If `false`, a final cluster snapshot is created before the cluster is deleted.

 **Note**

The *FinalClusterSnapshotIdentifier* parameter must be specified if *SkipFinalClusterSnapshot* is `false`.

Default: `false`

Type: Boolean

Required: No

## Response Elements

The following element is returned by the service.

### Cluster

Describes a cluster.

Type: [Cluster](#) object

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### ClusterSnapshotAlreadyExists

The value specified as a snapshot identifier is already used by an existing snapshot.

HTTP Status Code: 400

### ClusterSnapshotQuotaExceeded

The request would result in the user exceeding the allowed number of cluster snapshots.

HTTP Status Code: 400

### InvalidClusterState

The specified cluster is not in the available state.

HTTP Status Code: 400

### InvalidRetentionPeriodFault

The retention period specified is either in the past or is not a valid value.

The value must be either -1 or an integer between 1 and 3,653.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of DeleteCluster.

#### Sample Request

```
https://redshift.us-east-2.amazonaws.com/
    ?Action=DeleteCluster
    &ClusterIdentifier=mycluster
    &SkipFinalClusterSnapshot=true
    &SignatureMethod=HmacSHA256&SignatureVersion=4
    &Version=2012-12-01
    &X-Amz-Algorithm=AWS4-HMAC-SHA256
    &X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
    &X-Amz-Date=20190825T160000Z
    &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
    &X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

#### Sample Response

```
<DeleteClusterResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <DeleteClusterResult>
    <Cluster>
      <AllowVersionUpgrade>true</AllowVersionUpgrade>
      <ClusterIdentifier>mycluster</ClusterIdentifier>
      <NumberOfNodes>2</NumberOfNodes>
      <AvailabilityZone>us-east-2a</AvailabilityZone>
      <ClusterVersion>1.0</ClusterVersion>
      <ManualSnapshotRetentionPeriod>-1</ManualSnapshotRetentionPeriod>
      <ClusterAvailabilityStatus>Modifying</ClusterAvailabilityStatus>
      <Endpoint>
        <Port>5439</Port>
        <Address>mycluster.cmeaswqeuae.us-east-2.redshift.amazonaws.com</Address>
      </Endpoint>
      <VpcId>vpc-a1abc1a1</VpcId>
      <PubliclyAccessible>>false</PubliclyAccessible>
      <ClusterCreateTime>2019-12-26T20:25:38.716Z</ClusterCreateTime>
      <MasterUsername>adminuser</MasterUsername>
      <DBName>dev</DBName>
      <EnhancedVpcRouting>>false</EnhancedVpcRouting>
      <IamRoles/>
    </Cluster>
  </DeleteClusterResult>
</DeleteClusterResponse>
```

```
<ClusterSecurityGroups/>
<NodeType>dc2.large</NodeType>
<ClusterSubnetGroupName>default</ClusterSubnetGroupName>
<NextMaintenanceWindowStartTime>2019-12-27T04:00:00Z</
NextMaintenanceWindowStartTime>
<DeferredMaintenanceWindows/>
<Tags>
  <Tag>
    <Value>newtag</Value>
    <Key>mytag</Key>
  </Tag>
</Tags>
<VpcSecurityGroups>
  <VpcSecurityGroup>
    <VpcSecurityGroupId>sh-a1a123ab</VpcSecurityGroupId>
    <Status>active</Status>
  </VpcSecurityGroup>
</VpcSecurityGroups>
<ClusterParameterGroups>
  <ClusterParameterGroup>
    <ParameterGroupName>default.redshift-1.0</ParameterGroupName>
    <ParameterApplyStatus>in-sync</ParameterApplyStatus>
  </ClusterParameterGroup>
</ClusterParameterGroups>
<Encrypted>true</Encrypted>
<MaintenanceTrackName>current</MaintenanceTrackName>
<PendingModifiedValues>
  <ClusterType>single-node</ClusterType>
  <NodeType>dc2.large</NodeType>
</PendingModifiedValues>
<PreferredMaintenanceWindow>fri:04:00-fri:04:30</PreferredMaintenanceWindow>
<AutomatedSnapshotRetentionPeriod>1</AutomatedSnapshotRetentionPeriod>
<ClusterStatus>deleting</ClusterStatus>
</Cluster>
</DeleteClusterResult>
<ResponseMetadata>
  <RequestId>4b6dd471-2838-11ea-b6af-7126da6f11af</RequestId>
</ResponseMetadata>
</DeleteClusterResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DeleteClusterParameterGroup

Deletes a specified Amazon Redshift parameter group.

## Note

You cannot delete a parameter group if it is associated with a cluster.

## Request Parameters

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

### ParameterGroupName

The name of the parameter group to be deleted.

Constraints:

- Must be the name of an existing cluster parameter group.
- Cannot delete a default cluster parameter group.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Errors

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

### ClusterParameterGroupNotFound

The parameter group name does not refer to an existing parameter group.

HTTP Status Code: 404

### InvalidClusterParameterGroupState

The cluster parameter group action can not be completed because another task is in progress that involves the parameter group. Wait a few moments and try the operation again.



HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of DeleteClusterParameterGroup.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=DeleteClusterParameterGroup  
&ParameterGroupName=myclusterparametergroup  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<DeleteClusterParameterGroupResponse xmlns="http://redshift.amazonaws.com/  
doc/2012-12-01/">  
  <ResponseMetadata>  
    <RequestId>95c53381-2838-11ea-a07c-5d44c0d19e91</RequestId>  
  </ResponseMetadata>  
</DeleteClusterParameterGroupResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DeleteClusterSecurityGroup

Deletes an Amazon Redshift security group.

## Note

You cannot delete a security group that is associated with any clusters. You cannot delete the default security group.

For information about managing security groups, go to [Amazon Redshift Cluster Security Groups](#) in the *Amazon Redshift Cluster Management Guide*.

## Request Parameters

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

### ClusterSecurityGroupName

The name of the cluster security group to be deleted.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Errors

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

### ClusterSecurityGroupNotFound

The cluster security group name does not refer to an existing cluster security group.

HTTP Status Code: 404

### InvalidClusterSecurityGroupState

The state of the cluster security group is not available.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of DeleteClusterSecurityGroup.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
  ?Action=DeleteClusterSecurityGroup  
  &ClusterSecurityGroupName=securitygroup1  
  &Version=2012-12-01  
  &x-amz-algorithm=AWS4-HMAC-SHA256  
  &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20121208/us-east-2/redshift/aws4_request  
  &x-amz-date=20121208T015926Z  
  &x-amz-signedheaders=content-type;host;x-amz-date
```

### Sample Response

```
<DeleteClusterSecurityGroupResponse xmlns="http://redshift.amazonaws.com/  
doc/2012-12-01/">  
  <ResponseMetadata>  
    <RequestId>e54e05dc-40da-11e2-955f-313c36e9e01d</RequestId>  
  </ResponseMetadata>  
</DeleteClusterSecurityGroupResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DeleteClusterSnapshot

Deletes the specified manual snapshot. The snapshot must be in the `available` state, with no other users authorized to access the snapshot.

Unlike automated snapshots, manual snapshots are retained even after you delete your cluster. Amazon Redshift does not delete your manual snapshots. You must delete manual snapshot explicitly to avoid getting charged. If other accounts are authorized to access the snapshot, you must revoke all of the authorizations before you can delete the snapshot.

## Request Parameters

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

### SnapshotIdentifier

The unique identifier of the manual snapshot to be deleted.

**Constraints:** Must be the name of an existing snapshot that is in the `available`, `failed`, or `cancelled` state.

**Type:** String

**Length Constraints:** Maximum length of 2147483647.

**Required:** Yes

### SnapshotClusterIdentifier

The unique identifier of the cluster the snapshot was created from. This parameter is required if your IAM user has a policy containing a snapshot resource element that specifies anything other than `*` for the cluster name.

**Constraints:** Must be the name of valid cluster.

**Type:** String

**Length Constraints:** Maximum length of 2147483647.

**Required:** No

## Response Elements

The following element is returned by the service.

### Snapshot

Describes a snapshot.

Type: [Snapshot](#) object

## Errors

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

### ClusterSnapshotNotFound

The snapshot identifier does not refer to an existing cluster snapshot.

HTTP Status Code: 404

### InvalidClusterSnapshotState

The specified cluster snapshot is not in the available state, or other accounts are authorized to access the snapshot.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of DeleteClusterSnapshot.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=DeleteClusterSnapshot  
&SnapshotIdentifier=mysnapshotid  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256
```

```
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<DeleteClusterSnapshotResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <DeleteClusterSnapshotResult>
    <Snapshot>
      <SnapshotRetentionStartTime>2019-12-26T22:38:40.158Z</SnapshotRetentionStartTime>
      <ClusterIdentifier>mycluster</ClusterIdentifier>
      <EncryptedWithHSM>>false</EncryptedWithHSM>
      <NumberOfNodes>2</NumberOfNodes>
      <OwnerAccount>123456789012</OwnerAccount>
      <AvailabilityZone>us-east-2a</AvailabilityZone>
      <ClusterVersion>1.0</ClusterVersion>
      <ManualSnapshotRetentionPeriod>-1</ManualSnapshotRetentionPeriod>
      <TotalBackupSizeInMegaBytes>55.0</TotalBackupSizeInMegaBytes>
      <VpcId>vpc-a1abc1a1</VpcId>
      <BackupProgressInMegaBytes>31.0</BackupProgressInMegaBytes>
      <CurrentBackupRateInMegaBytesPerSecond>25.5354</
CurrentBackupRateInMegaBytesPerSecond>
      <ElapsedTimeInSeconds>1</ElapsedTimeInSeconds>
      <ClusterCreateTime>2019-12-26T20:25:38.716Z</ClusterCreateTime>
      <MasterUsername>adminuser</MasterUsername>
      <DBName>dev</DBName>
      <ActualIncrementalBackupSizeInMegaBytes>31.0</
ActualIncrementalBackupSizeInMegaBytes>
      <SnapshotType>>manual</SnapshotType>
      <EnhancedVpcRouting>>false</EnhancedVpcRouting>
      <SnapshotIdentifier>mysnapshotid</SnapshotIdentifier>
      <NodeType>dc2.large</NodeType>
      <Tags/>
      <Encrypted>>false</Encrypted>
      <Port>5439</Port>
      <EstimatedSecondsToCompletion>0</EstimatedSecondsToCompletion>
      <MaintenanceTrackName>current</MaintenanceTrackName>
      <SnapshotCreateTime>2019-12-26T22:38:38.944Z</SnapshotCreateTime>
      <Status>deleted</Status>
    </Snapshot>
  </DeleteClusterSnapshotResult>
  <ResponseMetadata>
```



```
<RequestId>08614243-2839-11ea-8cc9-43f1872b4b75</RequestId>  
</ResponseMetadata>  
</DeleteClusterSnapshotResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DeleteClusterSubnetGroup

Deletes the specified cluster subnet group.

## Request Parameters

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

### ClusterSubnetGroupName

The name of the cluster subnet group name to be deleted.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Errors

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

### ClusterSubnetGroupNotFoundFault

The cluster subnet group name does not refer to an existing cluster subnet group.

HTTP Status Code: 400

### InvalidClusterSubnetGroupStateFault

The cluster subnet group cannot be deleted because it is in use.

HTTP Status Code: 400

### InvalidClusterSubnetStateFault

The state of the subnet is invalid.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of `DeleteClusterSubnetGroup`.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=DeleteClusterSubnetGroup  
&ClusterSubnetGroupName=mysubnetgroup  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<DeleteClusterSubnetGroupResponse xmlns="http://redshift.amazonaws.com/  
doc/2012-12-01/">  
  <ResponseMetadata>  
    <RequestId>35a0d116-2839-11ea-9939-5fccefa818c0</RequestId>  
  </ResponseMetadata>  
</DeleteClusterSubnetGroupResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DeleteCustomDomainAssociation

Contains information about deleting a custom domain association for a cluster.

## Request Parameters

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

### ClusterIdentifier

The identifier of the cluster to delete a custom domain association for.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### CustomDomainName

The custom domain name for the custom domain association.

Type: String

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

Pattern: `^(((?!-)[A-Za-z0-9-]{0,62}[A-Za-z0-9])\.)+((?!-)[A-Za-z0-9-]{1,62}[A-Za-z0-9])$`

Required: Yes

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### CustomCnameAssociationFault

An error occurred when an attempt was made to change the custom domain association.

HTTP Status Code: 400

### **CustomDomainAssociationNotFoundFault**

An error occurred. The custom domain name couldn't be found.

HTTP Status Code: 404

### **UnsupportedOperation**

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DeleteEndpointAccess

Deletes a Redshift-managed VPC endpoint.

## Request Parameters

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

### EndpointName

The Redshift-managed VPC endpoint to delete.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Response Elements

The following elements are returned by the service.

### Address

The DNS address of the endpoint.

Type: String

Length Constraints: Maximum length of 2147483647.

### ClusterIdentifier

The cluster identifier of the cluster associated with the endpoint.

Type: String

Length Constraints: Maximum length of 2147483647.

### EndpointCreateTime

The time (UTC) that the endpoint was created.

Type: Timestamp

**EndpointName**

The name of the endpoint.

Type: String

Length Constraints: Maximum length of 2147483647.

**EndpointStatus**

The status of the endpoint.

Type: String

Length Constraints: Maximum length of 2147483647.

**Port**

The port number on which the cluster accepts incoming connections.

Type: Integer

**ResourceOwner**

The Amazon Web Services account ID of the owner of the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

**SubnetGroupName**

The subnet group name where Amazon Redshift chooses to deploy the endpoint.

Type: String

Length Constraints: Maximum length of 2147483647.

**VpcEndpoint**

The connection endpoint for connecting to an Amazon Redshift cluster through the proxy.

Type: [VpcEndpoint](#) object

**VpcSecurityGroups.VpcSecurityGroup.N**

The security groups associated with the endpoint.



Type: Array of [VpcSecurityGroupMembership](#) objects

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### EndpointNotFound

The endpoint name doesn't refer to an existing endpoint.

HTTP Status Code: 404

### InvalidClusterSecurityGroupState

The state of the cluster security group is not available.

HTTP Status Code: 400

### InvalidClusterState

The specified cluster is not in the available state.

HTTP Status Code: 400

### InvalidEndpointState

The status of the endpoint is not valid.

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](#)
- [Amazon SDK for .NET](#)

- [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](#)

# DeleteEventSubscription

Deletes an Amazon Redshift event notification subscription.

## Request Parameters

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

### SubscriptionName

The name of the Amazon Redshift event notification subscription to be deleted.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Errors

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

### InvalidSubscriptionStateFault

The subscription request is invalid because it is a duplicate request. This subscription request is already in progress.

HTTP Status Code: 400

### SubscriptionNotFound

An Amazon Redshift event notification subscription with the specified name does not exist.

HTTP Status Code: 404

## Examples

### Example

This example illustrates one usage of DeleteEventSubscription.

## Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=DeleteEventSubscription  
&SubscriptionName=mysubscription  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<DeleteEventSubscriptionResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">  
  <ResponseMetadata>  
    <RequestId>8beeeeac-2839-11ea-9467-b9a67a99da45</RequestId>  
  </ResponseMetadata>  
</DeleteEventSubscriptionResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DeleteHsmClientCertificate

Deletes the specified HSM client certificate.

## Request Parameters

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

### HsmClientCertificateIdentifier

The identifier of the HSM client certificate to be deleted.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Errors

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

### HsmClientCertificateNotFoundFault

There is no Amazon Redshift HSM client certificate with the specified identifier.

HTTP Status Code: 400

### InvalidHsmClientCertificateStateFault

The specified HSM client certificate is not in the available state, or it is still in use by one or more Amazon Redshift clusters.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of DeleteHsmClientCertificate.

## Sample Request

```
https://redshift.us-east-2.amazonaws.com/
    ?Action=DeleteHsmClientCertificate
    &HsmClientCertificateIdentifier=myhsmclientcert
    &SignatureMethod=HmacSHA256&SignatureVersion=4
    &Version=2012-12-01
    &X-Amz-Algorithm=AWS4-HMAC-SHA256
    &X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
    &X-Amz-Date=20190825T160000Z
    &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
    &X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<DeleteHsmClientCertificateResponse xmlns="http://redshift.amazonaws.com/
doc/2012-12-01/">
  <ResponseMetadata>
    <RequestId>ff0388ec-2839-11ea-b6af-7126da6f11af</RequestId>
  </ResponseMetadata>
</DeleteHsmClientCertificateResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)



# DeleteHsmConfiguration

Deletes the specified Amazon Redshift HSM configuration.

## Request Parameters

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

### HsmConfigurationIdentifier

The identifier of the Amazon Redshift HSM configuration to be deleted.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Errors

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

### HsmConfigurationNotFoundFault

There is no Amazon Redshift HSM configuration with the specified identifier.

HTTP Status Code: 400

### InvalidHsmConfigurationStateFault

The specified HSM configuration is not in the available state, or it is still in use by one or more Amazon Redshift clusters.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of DeleteHsmConfiguration.



## Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=DeleteHsmConfiguration  
&HsmConfigurationIdentifier=myhsmconnection  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<DeleteHsmConfigurationResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">  
  <ResponseMetadata>  
    <RequestId>3d45f314-283a-11ea-8397-219d1980588b</RequestId>  
  </ResponseMetadata>  
</DeleteHsmConfigurationResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DeleteIntegration

Deletes a zero-ETL integration or S3 event integration with Amazon Redshift.

## Request Parameters

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

### IntegrationArn

The unique identifier of the integration to delete.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 255.

Pattern: `^arn:aws[a-z\-\]*:redshift:[a-z0-9\-\]*:[0-9]*:integration:[0-9a-f]{8}-[0-9a-f]{4}-[0-9a-f]{4}-[0-9a-f]{4}-[0-9a-f]{12}$`

Required: Yes

## Response Elements

The following elements are returned by the service.

**AdditionalEncryptionContext** , AdditionalEncryptionContext.entry.N.key (key),  
AdditionalEncryptionContext.entry.N.value (value)

The encryption context for the integration. For more information, see [Encryption context](#) in the *Amazon Key Management Service Developer Guide*.

Type: String to string map

Key Length Constraints: Maximum length of 2147483647.

Value Length Constraints: Maximum length of 2147483647.

### CreateTime

The time (UTC) when the integration was created.

Type: Timestamp

## Description

The description of the integration.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1000.

Pattern: `^.*$`

## Errors.IntegrationError.N

Any errors associated with the integration.

Type: Array of [IntegrationError](#) objects

## IntegrationArn

The Amazon Resource Name (ARN) of the integration.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 255.

Pattern: `^arn:aws[a-z\-\]*:redshift:[a-z0-9\-\]*:[0-9]*:integration:[0-9a-f]{8}-[0-9a-f]{4}-[0-9a-f]{4}-[0-9a-f]{4}-[0-9a-f]{12}$`

## IntegrationName

The name of the integration.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 63.

Pattern: `^[a-zA-Z][a-zA-Z0-9]*(-[a-zA-Z0-9]+)*$`

## KMSKeyId

The Amazon Key Management Service (Amazon KMS) key identifier for the key used to encrypt the integration.

Type: String

Length Constraints: Maximum length of 2147483647.

## SourceArn

The Amazon Resource Name (ARN) of the database used as the source for replication.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 255.

Pattern: `^arn:aws[a-z\-\-]*:(s3|dynamodb):.*:[a-zA-Z0-9.\_\-\-\/]+`

## Status

The current status of the integration.

Type: String

Valid Values: `creating | active | modifying | failed | deleting | syncing | needs_attention`

## Tags.Tag.N

The list of tags associated with the integration.

Type: Array of [Tag](#) objects

## TargetArn

The Amazon Resource Name (ARN) of the Amazon Redshift data warehouse to use as the target for replication.

Type: String

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

Pattern: `^arn:aws[a-z\-\-]*:redshift(-serverless)?:[a-z0-9\-\-]+:[0-9]{12}:(namespace\|namespace:)[a-z0-9\-\-]+`

## Errors

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

### IntegrationConflictOperationFault

A conflicting conditional operation is currently in progress against this resource. This typically occurs when there are multiple requests being made to the same resource at the same time, and these requests conflict with each other.

HTTP Status Code: 400

## IntegrationConflictStateFault

The integration is in an invalid state and can't perform the requested operation.

HTTP Status Code: 400

## IntegrationNotFoundFault

The integration can't be found.

HTTP Status Code: 404

## UnsupportedOperation

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DeletePartner

Deletes a partner integration from a cluster. Data can still flow to the cluster until the integration is deleted at the partner's website.

## Request Parameters

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

### AccountId

The Amazon Web Services account ID that owns the cluster.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `^[0-9]+$`

Required: Yes

### ClusterIdentifier

The cluster identifier of the cluster that receives data from the partner.

Type: String

Length Constraints: Maximum length of 63.

Pattern: `^[a-zA-Z0-9\-\_]+$`

Required: Yes

### DatabaseName

The name of the database that receives data from the partner.

Type: String

Length Constraints: Maximum length of 127.

Pattern: `^[\\p{L}_][\\p{L}\\p{N}@$_#_]+$`

Required: Yes

## PartnerName

The name of the partner that is authorized to send data.

Type: String

Length Constraints: Maximum length of 255.

Pattern: `^[a-zA-Z0-9\-\_]+$`

Required: Yes

## Response Elements

The following elements are returned by the service.

### DatabaseName

The name of the database that receives data from the partner.

Type: String

Length Constraints: Maximum length of 127.

Pattern: `^[\\p{L}_][\\p{L}\\p{N}@$#_]+$`

### PartnerName

The name of the partner that is authorized to send data.

Type: String

Length Constraints: Maximum length of 255.

Pattern: `^[a-zA-Z0-9\-\_]+$`

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### **PartnerNotFound**

The name of the partner was not found.

HTTP Status Code: 404

### **UnauthorizedPartnerIntegration**

The partner integration is not authorized.

HTTP Status Code: 401

### **UnsupportedOperation**

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)



# DeleteRedshiftIdcApplication

Deletes an Amazon Redshift IAM Identity Center application.

## Request Parameters

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

### RedshiftIdcApplicationArn

The ARN for a deleted Amazon Redshift IAM Identity Center application.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Errors

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

### DependentServiceAccessDenied

A dependent service denied access for the integration.

HTTP Status Code: 403

### DependentServiceUnavailableFault

Your request cannot be completed because a dependent internal service is temporarily unavailable. Wait 30 to 60 seconds and try again.

HTTP Status Code: 400

### RedshiftIdcApplicationNotExists

The application you attempted to find doesn't exist.

HTTP Status Code: 404

### UnsupportedOperation

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DeleteResourcePolicy

Deletes the resource policy for a specified resource.

## Request Parameters

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

### ResourceArn

The Amazon Resource Name (ARN) of the resource of which its resource policy is deleted.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Errors

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

### ResourceNotFoundFault

The resource could not be found.

HTTP Status Code: 404

### UnsupportedOperation

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)

- [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](#)

# DeleteScheduledAction

Deletes a scheduled action.

## Request Parameters

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

### ScheduledActionName

The name of the scheduled action to delete.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Errors

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

### ScheduledActionNotFound

The scheduled action cannot be found.

HTTP Status Code: 400

### UnauthorizedOperation

Your account is not authorized to perform the requested operation.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of DeleteScheduledAction.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/
```

```
?Action=DeleteScheduledAction
&ScheduledActionName=myscheduledaction
&SignatureMethod=HmacSHA256&SignatureVersion=4
&Version=2012-12-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<DeleteScheduledActionResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <ResponseMetadata>
    <RequestId>2c20099c-283b-11ea-9caa-c956bec1ce87</RequestId>
  </ResponseMetadata>
</DeleteScheduledActionResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DeleteSnapshotCopyGrant

Deletes the specified snapshot copy grant.

## Request Parameters

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

### SnapshotCopyGrantName

The name of the snapshot copy grant to delete.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Errors

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

### InvalidSnapshotCopyGrantStateFault

The snapshot copy grant can't be deleted because it is used by one or more clusters.

HTTP Status Code: 400

### SnapshotCopyGrantNotFoundFault

The specified snapshot copy grant can't be found. Make sure that the name is typed correctly and that the grant exists in the destination region.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of DeleteSnapshotCopyGrant.

## Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=DeleteSnapshotCopyGrant  
&SnapshotCopyGrantName=mysnapshotcopygrantname  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<DeleteSnapshotCopyGrantResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">  
  <ResponseMetadata>  
    <RequestId>a0c0f3ad-283c-11ea-a940-1b28a85fd753</RequestId>  
  </ResponseMetadata>  
</DeleteSnapshotCopyGrantResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)



# DeleteSnapshotSchedule

Deletes a snapshot schedule.

## Request Parameters

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

### ScheduleIdentifier

A unique identifier of the snapshot schedule to delete.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Errors

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

### InvalidClusterSnapshotScheduleState

The cluster snapshot schedule state is not valid.

HTTP Status Code: 400

### SnapshotScheduleNotFound

We could not find the specified snapshot schedule.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of DeleteSnapshotSchedule.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/
```

```
?Action=DeleteSnapshotSchedule
&ScheduleIdentifier=mynapshotschedule
&SignatureMethod=HmacSHA256&SignatureVersion=4
&Version=2012-12-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<DeleteSnapshotScheduleResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <ResponseMetadata>
    <RequestId>165cd56f-283d-11ea-a940-1b28a85fd753</RequestId>
  </ResponseMetadata>
</DeleteSnapshotScheduleResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DeleteTags

Deletes tags from a resource. You must provide the ARN of the resource from which you want to delete the tag or tags.

## Request Parameters

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

### ResourceName

The Amazon Resource Name (ARN) from which you want to remove the tag or tags. For example, `arn:aws:redshift:us-east-2:123456789:cluster:t1`.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### TagKeys.TagKey.N

The tag key that you want to delete.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Errors

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

### InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

### ResourceNotFoundFault

The resource could not be found.

HTTP Status Code: 404

## Examples

### Example

This example illustrates one usage of DeleteTags.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=DeleteTags  
&ResourceName=arn%3Aaws%3Aredshift%3Aus-east-2%3A123456789012%3Acluster%3Amycluster  
&TagKeys.TagKey.1=mytag  
&TagKeys.TagKey.2=newtag  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<DeleteTagsResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">  
  <ResponseMetadata>  
    <RequestId>bd69e08c-283d-11ea-9939-5fccefa818c0</RequestId>  
  </ResponseMetadata>  
</DeleteTagsResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DeleteUsageLimit

Deletes a usage limit from a cluster.

## Request Parameters

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

### UsageLimitId

The identifier of the usage limit to delete.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Errors

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

### UnsupportedOperation

The requested operation isn't supported.

HTTP Status Code: 400

### UsageLimitNotFound

The usage limit identifier can't be found.

HTTP Status Code: 404

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)

- [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](#)

# DeregisterNamespace

Deregisters a cluster or serverless namespace from the Amazon Glue Data Catalog.

## Request Parameters

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

### ConsumerIdentifiers.member.N

An array containing the ID of the consumer account that you want to deregister the cluster or serverless namespace from.

Type: Array of strings

Array Members: Fixed number of 1 item.

Length Constraints: Maximum length of 2147483647.

Required: Yes

### NamespaceIdentifier

The unique identifier of the cluster or serverless namespace that you want to deregister.

Type: [NamespaceIdentifierUnion](#) object

**Note:** This object is a Union. Only one member of this object can be specified or returned.

Required: Yes

## Response Elements

The following element is returned by the service.

### Status

The registration status of the cluster or serverless namespace.

Type: String

Valid Values: Registering | Deregistering



## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### InvalidClusterState

The specified cluster is not in the available state.

HTTP Status Code: 400

### InvalidNamespaceFault

The namespace isn't valid because the namespace doesn't exist. Provide a valid namespace.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribeAccountAttributes

Returns a list of attributes attached to an account

## Request Parameters

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

### AttributeNames.AttributeName.N

A list of attribute names.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

## Response Elements

The following element is returned by the service.

### AccountAttributes.AccountAttribute.N

A list of attributes assigned to an account.

Type: Array of [AccountAttribute](#) objects

## Errors

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

## Examples

### Example

This example illustrates one usage of DescribeAccountAttributes.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/
```

```
?Action=DescribeAccountAttributes
&SignatureMethod=HmacSHA256&SignatureVersion=4
&Version=2012-12-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<DescribeAccountAttributesResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <DescribeAccountAttributesResult>
    <AccountAttributes>
      <AccountAttribute>
        <AttributeValues>
          <AttributeValueTarget>
            <AttributeValue>45</AttributeValue>
          </AttributeValueTarget>
        </AttributeValues>
        <AttributeName>max-defer-maintenance-duration</AttributeName>
      </AccountAttribute>
    </AccountAttributes>
  </DescribeAccountAttributesResult>
  <ResponseMetadata>
    <RequestId>fbb48802-283d-11ea-9467-b9a67a99da45</RequestId>
  </ResponseMetadata>
</DescribeAccountAttributesResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribeAuthenticationProfiles

Describes an authentication profile.

## Request Parameters

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

### AuthenticationProfileName

The name of the authentication profile to describe. If not specified then all authentication profiles owned by the account are listed.

Type: String

Length Constraints: Maximum length of 63.

Pattern: `^[a-zA-Z0-9\-\_]+$`

Required: No

## Response Elements

The following element is returned by the service.

### AuthenticationProfiles.member.N

The list of authentication profiles.

Type: Array of [AuthenticationProfile](#) objects

## Errors

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

### AuthenticationProfileNotFoundFault

The authentication profile can't be found.

HTTP Status Code: 404

## InvalidAuthenticationProfileRequestFault

The authentication profile request is not valid. The profile name can't be null or empty. The authentication profile API operation must be available in the Amazon Web Services Region.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribeClusterDbRevisions

Returns an array of `ClusterDbRevision` objects.

## Request Parameters

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

### ClusterIdentifier

A unique identifier for a cluster whose `ClusterDbRevisions` you are requesting. This parameter is case sensitive. All clusters defined for an account are returned by default.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Marker

An optional parameter that specifies the starting point for returning a set of response records. When the results of a `DescribeClusterDbRevisions` request exceed the value specified in `MaxRecords`, Amazon Redshift returns a value in the `marker` field of the response. You can retrieve the next set of response records by providing the returned `marker` value in the `marker` parameter and retrying the request.

Constraints: You can specify either the `ClusterIdentifier` parameter, or the `marker` parameter, but not both.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in the `marker` field of the response. You can retrieve the next set of response records by providing the returned `marker` value in the `marker` parameter and retrying the request.

Default: 100

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

## Response Elements

The following elements are returned by the service.

### ClusterDbRevisions.ClusterDbRevision.N

A list of revisions.

Type: Array of [ClusterDbRevision](#) objects

### Marker

A string representing the starting point for the next set of revisions. If a value is returned in a response, you can retrieve the next set of revisions by providing the value in the `marker` parameter and retrying the command. If the `marker` field is empty, all revisions have already been returned.

Type: String

Length Constraints: Maximum length of 2147483647.

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### InvalidClusterState

The specified cluster is not in the available state.

HTTP Status Code: 400



## Examples

### Example

This example illustrates one usage of DescribeClusterDbRevisions.

#### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=DescribeClusterDbRevisions  
&ClusterIdentifier=mycluster  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

#### Sample Response

```
<DescribeClusterDbRevisionsResponse xmlns="http://redshift.amazonaws.com/  
doc/2012-12-01/">  
  <DescribeClusterDbRevisionsResult>  
    <ClusterDbRevisions>  
      <ClusterDbRevision>  
        <DatabaseRevisionReleaseDate>2019-12-23T19:11:37.360Z</  
DatabaseRevisionReleaseDate>  
        <ClusterIdentifier>mycluster</ClusterIdentifier>  
        <RevisionTargets/>  
        <CurrentDatabaseRevision>11978</CurrentDatabaseRevision>  
      </ClusterDbRevision>  
    </ClusterDbRevisions>  
  </DescribeClusterDbRevisionsResult>  
  <ResponseMetadata>  
    <RequestId>28c11f9d-283e-11ea-8cc9-43f1872b4b75</RequestId>  
  </ResponseMetadata>  
</DescribeClusterDbRevisionsResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

## DescribeClusterParameterGroups

Returns a list of Amazon Redshift parameter groups, including parameter groups you created and the default parameter group. For each parameter group, the response includes the parameter group name, description, and parameter group family name. You can optionally specify a name to retrieve the description of a specific parameter group.

For more information about parameters and parameter groups, go to [Amazon Redshift Parameter Groups](#) in the *Amazon Redshift Cluster Management Guide*.

If you specify both tag keys and tag values in the same request, Amazon Redshift returns all parameter groups that match any combination of the specified keys and values. For example, if you have `owner` and `environment` for tag keys, and `admin` and `test` for tag values, all parameter groups that have any combination of those values are returned.

If both tag keys and values are omitted from the request, parameter groups are returned regardless of whether they have tag keys or values associated with them.

### Request Parameters

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

#### Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a [DescribeClusterParameterGroups](#) request exceed the value specified in `MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

#### MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker`

field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: 100

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

### **ParameterGroupName**

The name of a specific parameter group for which to return details. By default, details about all parameter groups and the default parameter group are returned.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **TagKeys.TagKey.N**

A tag key or keys for which you want to return all matching cluster parameter groups that are associated with the specified key or keys. For example, suppose that you have parameter groups that are tagged with keys called `owner` and `environment`. If you specify both of these tag keys in the request, Amazon Redshift returns a response with the parameter groups that have either or both of these tag keys associated with them.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### **TagValues.TagValue.N**

A tag value or values for which you want to return all matching cluster parameter groups that are associated with the specified tag value or values. For example, suppose that you have parameter groups that are tagged with values called `admin` and `test`. If you specify both of these tag values in the request, Amazon Redshift returns a response with the parameter groups that have either or both of these tag values associated with them.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

## Response Elements

The following elements are returned by the service.

### Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Length Constraints: Maximum length of 2147483647.

### ParameterGroups.ClusterParameterGroup.N

A list of [ClusterParameterGroup](#) instances. Each instance describes one cluster parameter group.

Type: Array of [ClusterParameterGroup](#) objects

## Errors

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

### ClusterParameterGroupNotFound

The parameter group name does not refer to an existing parameter group.

HTTP Status Code: 404

### InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of DescribeClusterParameterGroups.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/
    ?Action=DescribeClusterParameterGroups
&SignatureMethod=HmacSHA256&SignatureVersion=4
&Version=2012-12-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<DescribeClusterParameterGroupsResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <DescribeClusterParameterGroupsResult>
    <ParameterGroups>
      <ClusterParameterGroup>
        <ParameterGroupName>default.redshift-1.0</ParameterGroupName>
        <Description>Default parameter group for redshift-1.0</Description>
        <ParameterGroupFamily>redshift-1.0</ParameterGroupFamily>
        <Tags/>
      </ClusterParameterGroup>
      <ClusterParameterGroup>
        <ParameterGroupName>myclusterparametergroup</ParameterGroupName>
        <Description>My first cluster parameter group</Description>
        <ParameterGroupFamily>redshift-1.0</ParameterGroupFamily>
        <Tags/>
      </ClusterParameterGroup>
    </ParameterGroups>
  </DescribeClusterParameterGroupsResult>
  <ResponseMetadata>
    <RequestId>71d08207-2831-11ea-9939-5fccefa818c0</RequestId>
  </ResponseMetadata>
</DescribeClusterParameterGroupsResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribeClusterParameters

Returns a detailed list of parameters contained within the specified Amazon Redshift parameter group. For each parameter the response includes information such as parameter name, description, data type, value, whether the parameter value is modifiable, and so on.

You can specify *source* filter to retrieve parameters of only specific type. For example, to retrieve parameters that were modified by a user action such as from [ModifyClusterParameterGroup](#), you can specify *source* equal to *user*.

For more information about parameters and parameter groups, go to [Amazon Redshift Parameter Groups](#) in the *Amazon Redshift Cluster Management Guide*.

## Request Parameters

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

### ParameterGroupName

The name of a cluster parameter group for which to return details.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a [DescribeClusterParameters](#) request exceed the value specified in `MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No



## MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: 100

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

## Source

The parameter types to return. Specify `user` to show parameters that are different from the default. Similarly, specify `engine-default` to show parameters that are the same as the default parameter group.

Default: All parameter types returned.

Valid Values: `user` | `engine-default`

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## Response Elements

The following elements are returned by the service.

### Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Length Constraints: Maximum length of 2147483647.

## Parameters.Parameter.N

A list of [Parameter](#) instances. Each instance lists the parameters of one cluster parameter group.

Type: Array of [Parameter](#) objects

## Errors

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

### ClusterParameterGroupNotFound

The parameter group name does not refer to an existing parameter group.

HTTP Status Code: 404

## Examples

### Example

This example illustrates one usage of DescribeClusterParameters.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
  ?Action=DescribeClusterParameters  
&ParameterGroupName=myclusterparametergroup  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<DescribeClusterParametersResponse xmlns="http://redshift.amazonaws.com/  
doc/2012-12-01/">  
  <DescribeClusterParametersResult>
```

```

<Parameters>
  <Parameter>
    <ApplyType>static</ApplyType>
    <AllowedValues>>true,false</AllowedValues>
    <DataType>boolean</DataType>
    <Description>Use auto analyze</Description>
    <Source>engine-default</Source>
    <ParameterName>auto_analyze</ParameterName>
    <ParameterValue>>true</ParameterValue>
    <IsModifiable>>true</IsModifiable>
  </Parameter>
  <Parameter>
    <ApplyType>static</ApplyType>
    <DataType>string</DataType>
    <Description>Sets the display format for date and time values.</Description>
    <Source>engine-default</Source>
    <ParameterName>datestyle</ParameterName>
    <ParameterValue>ISO, MDY</ParameterValue>
    <IsModifiable>>true</IsModifiable>
  </Parameter>
  <Parameter>
    <ApplyType>static</ApplyType>
    <AllowedValues>>true,false</AllowedValues>
    <DataType>boolean</DataType>
    <Description>parameter for audit logging purpose</Description>
    <Source>engine-default</Source>
    <ParameterName>enable_user_activity_logging</ParameterName>
    <ParameterValue>>false</ParameterValue>
    <IsModifiable>>true</IsModifiable>
  </Parameter>
  <Parameter>
    <ApplyType>static</ApplyType>
    <AllowedValues>-15-2</AllowedValues>
    <DataType>integer</DataType>
    <Description>Sets the number of digits displayed for floating-point values</
Description>
    <Source>engine-default</Source>
    <ParameterName>extra_float_digits</ParameterName>
    <ParameterValue>0</ParameterValue>
    <IsModifiable>>true</IsModifiable>
  </Parameter>
  <Parameter>
    <ApplyType>static</ApplyType>
    <AllowedValues>0-10</AllowedValues>

```

```

    <DataType>integer</DataType>
    <Description>The maximum concurrency scaling clusters can be used.</
Description>
    <Source>engine-default</Source>
    <ParameterName>max_concurrency_scaling_clusters</ParameterName>
    <ParameterValue>1</ParameterValue>
    <IsModifiable>true</IsModifiable>
</Parameter>
<Parameter>
    <ApplyType>static</ApplyType>
    <AllowedValues>0-14400000</AllowedValues>
    <DataType>integer</DataType>
    <Description>Sets the max cursor result set size</Description>
    <Source>engine-default</Source>
    <ParameterName>max_cursor_result_set_size</ParameterName>
    <ParameterValue>default</ParameterValue>
    <IsModifiable>true</IsModifiable>
</Parameter>
<Parameter>
    <ApplyType>static</ApplyType>
    <DataType>string</DataType>
    <Description>This parameter applies a user-defined label to a group of queries
that are run during the same session..</Description>
    <Source>engine-default</Source>
    <ParameterName>query_group</ParameterName>
    <ParameterValue>default</ParameterValue>
    <IsModifiable>true</IsModifiable>
</Parameter>
<Parameter>
    <ApplyType>static</ApplyType>
    <AllowedValues>>true,false</AllowedValues>
    <DataType>boolean</DataType>
    <Description>require ssl for all databaseconnections</Description>
    <Source>engine-default</Source>
    <ParameterName>require_ssl</ParameterName>
    <ParameterValue>>false</ParameterValue>
    <IsModifiable>true</IsModifiable>
</Parameter>
<Parameter>
    <ApplyType>static</ApplyType>
    <DataType>string</DataType>
    <Description>Sets the schema search order for names that are not schema-
qualified.</Description>
    <Source>engine-default</Source>

```

```
<ParameterName>search_path</ParameterName>
<ParameterValue>$user, public</ParameterValue>
<IsModifiable>>true</IsModifiable>
</Parameter>
<Parameter>
  <ApplyType>static</ApplyType>
  <AllowedValues>0,100-2147483647</AllowedValues>
  <DataType>integer</DataType>
  <Description>Stops any statement that takes over the specified number of
milliseconds.</Description>
  <Source>engine-default</Source>
  <ParameterName>statement_timeout</ParameterName>
  <ParameterValue>0</ParameterValue>
  <IsModifiable>>true</IsModifiable>
</Parameter>
<Parameter>
  <ApplyType>static</ApplyType>
  <AllowedValues>>true,false</AllowedValues>
  <DataType>boolean</DataType>
  <Description>Use fips ssl library</Description>
  <Source>engine-default</Source>
  <ParameterName>use_fips_ssl</ParameterName>
  <ParameterValue>>false</ParameterValue>
  <IsModifiable>>true</IsModifiable>
</Parameter>
<Parameter>
  <ApplyType>static</ApplyType>
  <DataType>string</DataType>
  <Description>wlm json configuration</Description>
  <Source>engine-default</Source>
  <ParameterName>wlm_json_configuration</ParameterName>
  <ParameterValue>[{"auto_wlm":true}]</ParameterValue>
  <IsModifiable>>true</IsModifiable>
</Parameter>
</Parameters>
</DescribeClusterParametersResult>
<ResponseMetadata>
  <RequestId>a22ce073-2831-11ea-a940-1b28a85fd753</RequestId>
</ResponseMetadata>
</DescribeClusterParametersResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribeClusters

Returns properties of provisioned clusters including general cluster properties, cluster database properties, maintenance and backup properties, and security and access properties. This operation supports pagination. For more information about managing clusters, go to [Amazon Redshift Clusters](#) in the *Amazon Redshift Cluster Management Guide*.

If you specify both tag keys and tag values in the same request, Amazon Redshift returns all clusters that match any combination of the specified keys and values. For example, if you have `owner` and `environment` for tag keys, and `admin` and `test` for tag values, all clusters that have any combination of those values are returned.

If both tag keys and values are omitted from the request, clusters are returned regardless of whether they have tag keys or values associated with them.

## Request Parameters

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

### ClusterIdentifier

The unique identifier of a cluster whose properties you are requesting. This parameter is case sensitive.

The default is that all clusters defined for an account are returned.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a [DescribeClusters](#) request exceed the value specified in `MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Constraints: You can specify either the **ClusterIdentifier** parameter or the **Marker** parameter, but not both.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **MaxRecords**

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified MaxRecords value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: 100

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

### **TagKeys.TagKey.N**

A tag key or keys for which you want to return all matching clusters that are associated with the specified key or keys. For example, suppose that you have clusters that are tagged with keys called `owner` and `environment`. If you specify both of these tag keys in the request, Amazon Redshift returns a response with the clusters that have either or both of these tag keys associated with them.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### **TagValues.TagValue.N**

A tag value or values for which you want to return all matching clusters that are associated with the specified tag value or values. For example, suppose that you have clusters that are tagged with values called `admin` and `test`. If you specify both of these tag values in the request, Amazon Redshift returns a response with the clusters that have either or both of these tag values associated with them.



Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

## Response Elements

The following elements are returned by the service.

### Clusters.Cluster.N

A list of `Cluster` objects, where each object describes one cluster.

Type: Array of [Cluster](#) objects

### Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Length Constraints: Maximum length of 2147483647.

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of DescribeClusters.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/
    ?Action=DescribeClusters
&SignatureMethod=HmacSHA256&SignatureVersion=4
&Version=2012-12-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<DescribeClustersResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <DescribeClustersResult>
    <Clusters>
      <Cluster>
        <AllowVersionUpgrade>true</AllowVersionUpgrade>
        <ClusterIdentifier>mycluster</ClusterIdentifier>
        <ClusterRevisionNumber>11978</ClusterRevisionNumber>
        <NumberOfNodes>1</NumberOfNodes>
        <ClusterPublicKey>ssh-rsa AAAABExamplepublickey...LzrwzEXAMPLE Amazon-
Redshift</ClusterPublicKey>
        <AvailabilityZone>us-east-2f</AvailabilityZone>
        <ClusterVersion>1.0</ClusterVersion>
        <ManualSnapshotRetentionPeriod>-1</ManualSnapshotRetentionPeriod>
        <ClusterAvailabilityStatus>Available</ClusterAvailabilityStatus>
        <Endpoint>
          <Port>5439</Port>
          <Address>mycluster.cmeaswquae.us-east-2.redshift.amazonaws.com</Address>
        </Endpoint>
        <VpcId>vpc-a1abc1a1</VpcId>
        <PubliclyAccessible>>false</PubliclyAccessible>
        <ClusterCreateTime>2019-12-23T23:21:27.977Z</ClusterCreateTime>
        <ClusterSnapshotCopyStatus>
          <ManualSnapshotRetentionPeriod>-1</ManualSnapshotRetentionPeriod>
```

```

    <DestinationRegion>us-east-1</DestinationRegion>
    <RetentionPeriod>15</RetentionPeriod>
  </ClusterSnapshotCopyStatus>
  <MasterUsername>adminuser</MasterUsername>
  <DBName>dev</DBName>
  <EnhancedVpcRouting>>false</EnhancedVpcRouting>
  <IamRoles/>
  <ClusterSecurityGroups/>
  <NodeType>dc2.large</NodeType>
  <ClusterSubnetGroupName>default</ClusterSubnetGroupName>
  <NextMaintenanceWindowStartTime>2020-01-12T23:15:00Z</
NextMaintenanceWindowStartTime>
  <DeferredMaintenanceWindows>
    <DeferredMaintenanceWindow>
      <DeferMaintenanceEndTime>2020-01-09T18:18:39.354Z</DeferMaintenanceEndTime>
      <DeferMaintenanceIdentifier>dfm-MuEIB0A9bi0aZ1Vjh0cy</
DeferMaintenanceIdentifier>
      <DeferMaintenanceStartTime>2019-12-10T18:18:39.354Z</
DeferMaintenanceStartTime>
    </DeferredMaintenanceWindow>
  </DeferredMaintenanceWindows>
  <Tags/>
  <VpcSecurityGroups>
    <VpcSecurityGroup>
      <VpcSecurityGroupId>sh-a1a123ab</VpcSecurityGroupId>
      <Status>active</Status>
    </VpcSecurityGroup>
  </VpcSecurityGroups>
  <ClusterParameterGroups>
    <ClusterParameterGroup>
      <ParameterGroupName>default.redshift-1.0</ParameterGroupName>
      <ParameterApplyStatus>in-sync</ParameterApplyStatus>
    </ClusterParameterGroup>
  </ClusterParameterGroups>
  <Encrypted>>false</Encrypted>
  <ClusterNodes>
    <member>
      <PrivateIpAddress>172.31.64.51</PrivateIpAddress>
      <NodeRole>SHARED</NodeRole>
      <PublicIpAddress>54.162.164.238</PublicIpAddress>
    </member>
  </ClusterNodes>
  <MaintenanceTrackName>current</MaintenanceTrackName>
  <PendingModifiedValues/>

```

```
<PreferredMaintenanceWindow>sun:23:15-sun:23:45</PreferredMaintenanceWindow>
<AutomatedSnapshotRetentionPeriod>1</AutomatedSnapshotRetentionPeriod>
<ClusterStatus>available</ClusterStatus>
</Cluster>
</Clusters>
</DescribeClustersResult>
<ResponseMetadata>
  <RequestId>e47f901c-283e-11ea-8397-219d1980588b</RequestId>
</ResponseMetadata>
</DescribeClustersResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribeClusterSecurityGroups

Returns information about Amazon Redshift security groups. If the name of a security group is specified, the response will contain only information about only that security group.

For information about managing security groups, go to [Amazon Redshift Cluster Security Groups](#) in the *Amazon Redshift Cluster Management Guide*.

If you specify both tag keys and tag values in the same request, Amazon Redshift returns all security groups that match any combination of the specified keys and values. For example, if you have `owner` and `environment` for tag keys, and `admin` and `test` for tag values, all security groups that have any combination of those values are returned.

If both tag keys and values are omitted from the request, security groups are returned regardless of whether they have tag keys or values associated with them.

## Request Parameters

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

### ClusterSecurityGroupName

The name of a cluster security group for which you are requesting details. You must specify either the **Marker** parameter or a **ClusterSecurityGroupName** parameter, but not both.

Example: `securitygroup1`

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a [DescribeClusterSecurityGroups](#) request exceed the value specified in `MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Constraints: You must specify either the **ClusterSecurityGroupName** parameter or the **Marker** parameter, but not both.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **MaxRecords**

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: 100

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

### **TagKeys.TagKey.N**

A tag key or keys for which you want to return all matching cluster security groups that are associated with the specified key or keys. For example, suppose that you have security groups that are tagged with keys called `owner` and `environment`. If you specify both of these tag keys in the request, Amazon Redshift returns a response with the security groups that have either or both of these tag keys associated with them.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### **TagValues.TagValue.N**

A tag value or values for which you want to return all matching cluster security groups that are associated with the specified tag value or values. For example, suppose that you have security groups that are tagged with values called `admin` and `test`. If you specify both of these tag

values in the request, Amazon Redshift returns a response with the security groups that have either or both of these tag values associated with them.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

## Response Elements

The following elements are returned by the service.

### ClusterSecurityGroups.ClusterSecurityGroup.N

A list of [ClusterSecurityGroup](#) instances.

Type: Array of [ClusterSecurityGroup](#) objects

### Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Length Constraints: Maximum length of 2147483647.

## Errors

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

### ClusterSecurityGroupNotFound

The cluster security group name does not refer to an existing cluster security group.

HTTP Status Code: 404

### InvalidTagFault

The tag is invalid.

## HTTP Status Code: 400

# Examples

## Example

This example illustrates one usage of DescribeClusterSecurityGroups.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
  ?Action=DescribeClusterSecurityGroups  
  &Version=2012-12-01  
  &x-amz-algorithm=AWS4-HMAC-SHA256  
  &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20130123/us-east-2/redshift/aws4_request  
  &x-amz-date=20130123T010237Z  
  &x-amz-signedheaders=content-type;host;x-amz-date
```

### Sample Response

```
<DescribeClusterSecurityGroupsResponse xmlns="http://redshift.amazonaws.com/  
doc/2012-12-01/">  
  <DescribeClusterSecurityGroupsResult>  
    <ClusterSecurityGroups>  
      <ClusterSecurityGroup>  
        <EC2SecurityGroups/>  
        <IPRanges>  
          <IPRange>  
            <CIDRIP>0.0.0.0/0</CIDRIP>  
            <Status>authorized</Status>  
          </IPRange>  
        </IPRanges>  
        <Description>default</Description>  
        <ClusterSecurityGroupName>default</ClusterSecurityGroupName>  
      </ClusterSecurityGroup>  
      <ClusterSecurityGroup>  
        <EC2SecurityGroups/>  
        <IPRanges/>  
        <Description>my security group</Description>  
        <ClusterSecurityGroupName>securitygroup1</ClusterSecurityGroupName>  
      </ClusterSecurityGroup>  
    </ClusterSecurityGroups>
```



```
</DescribeClusterSecurityGroupsResult>
<ResponseMetadata>
  <RequestId>947a8305-64f8-11e2-bec0-17624ad140dd</RequestId>
</ResponseMetadata>
</DescribeClusterSecurityGroupsResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

## DescribeClusterSnapshots

Returns one or more snapshot objects, which contain metadata about your cluster snapshots. By default, this operation returns information about all snapshots of all clusters that are owned by your Amazon Web Services account. No information is returned for snapshots owned by inactive Amazon Web Services accounts.

If you specify both tag keys and tag values in the same request, Amazon Redshift returns all snapshots that match any combination of the specified keys and values. For example, if you have `owner` and `environment` for tag keys, and `admin` and `test` for tag values, all snapshots that have any combination of those values are returned. Only snapshots that you own are returned in the response; shared snapshots are not returned with the tag key and tag value request parameters.

If both tag keys and values are omitted from the request, snapshots are returned regardless of whether they have tag keys or values associated with them.

### Request Parameters

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

#### ClusterExists

A value that indicates whether to return snapshots only for an existing cluster. You can perform table-level restore only by using a snapshot of an existing cluster, that is, a cluster that has not been deleted. Values for this parameter work as follows:

- If `ClusterExists` is set to `true`, `ClusterIdentifier` is required.
- If `ClusterExists` is set to `false` and `ClusterIdentifier` isn't specified, all snapshots associated with deleted clusters (orphaned snapshots) are returned.
- If `ClusterExists` is set to `false` and `ClusterIdentifier` is specified for a deleted cluster, snapshots associated with that cluster are returned.
- If `ClusterExists` is set to `false` and `ClusterIdentifier` is specified for an existing cluster, no snapshots are returned.

Type: Boolean

Required: No

#### ClusterIdentifier

The identifier of the cluster which generated the requested snapshots.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## EndTime

A time value that requests only snapshots created at or before the specified time. The time value is specified in ISO 8601 format. For more information about ISO 8601, go to the [ISO8601 Wikipedia page](#).

Example: 2012-07-16T18:00:00Z

Type: Timestamp

Required: No

## Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a [DescribeClusterSnapshots](#) request exceed the value specified in `MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: 100

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

### **OwnerAccount**

The Amazon Web Services account used to create or copy the snapshot. Use this field to filter the results to snapshots owned by a particular account. To describe snapshots you own, either specify your Amazon Web Services account, or do not specify the parameter.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **SnapshotArn**

The Amazon Resource Name (ARN) of the snapshot associated with the message to describe cluster snapshots.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **SnapshotIdentifier**

The snapshot identifier of the snapshot about which to return information.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **SnapshotType**

The type of snapshots for which you are requesting information. By default, snapshots of all types are returned.

Valid Values: `automated` | `manual`

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## SortingEntities.SnapshotSortingEntity.N

Type: Array of [SnapshotSortingEntity](#) objects

Required: No

### StartTime

A value that requests only snapshots created at or after the specified time. The time value is specified in ISO 8601 format. For more information about ISO 8601, go to the [ISO8601 Wikipedia page](#).

Example: 2012-07-16T18:00:00Z

Type: Timestamp

Required: No

### TagKeys.TagKey.N

A tag key or keys for which you want to return all matching cluster snapshots that are associated with the specified key or keys. For example, suppose that you have snapshots that are tagged with keys called `owner` and `environment`. If you specify both of these tag keys in the request, Amazon Redshift returns a response with the snapshots that have either or both of these tag keys associated with them.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### TagValues.TagValue.N

A tag value or values for which you want to return all matching cluster snapshots that are associated with the specified tag value or values. For example, suppose that you have snapshots that are tagged with values called `admin` and `test`. If you specify both of these tag values in the request, Amazon Redshift returns a response with the snapshots that have either or both of these tag values associated with them.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

## Response Elements

The following elements are returned by the service.

### Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Length Constraints: Maximum length of 2147483647.

### Snapshots.Snapshot.N

A list of [Snapshot](#) instances.

Type: Array of [Snapshot](#) objects

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### ClusterSnapshotNotFound

The snapshot identifier does not refer to an existing cluster snapshot.

HTTP Status Code: 404

### InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

## UnsupportedOperation

The requested operation isn't supported.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of DescribeClusterSnapshots.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=DescribeClusterSnapshots  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<DescribeClusterSnapshotsResponse xmlns="http://redshift.amazonaws.com/  
doc/2012-12-01/">  
  <DescribeClusterSnapshotsResult>  
    <Snapshots>  
      <Snapshot>  
        <SnapshotRetentionStartTime>2019-12-26T22:38:40.158Z</  
SnapshotRetentionStartTime>  
        <ClusterIdentifier>mycluster</ClusterIdentifier>  
        <EncryptedWithHSM>>false</EncryptedWithHSM>  
        <NumberOfNodes>2</NumberOfNodes>  
        <OwnerAccount>123456789012</OwnerAccount>  
        <AvailabilityZone>us-east-2a</AvailabilityZone>  
        <ClusterVersion>1.0</ClusterVersion>  
        <ManualSnapshotRetentionPeriod>-1</ManualSnapshotRetentionPeriod>
```

```

    <TotalBackupSizeInMegaBytes>55.0</TotalBackupSizeInMegaBytes>
    <VpcId>vpc-a1abc1a1</VpcId>
    <BackupProgressInMegaBytes>31.0</BackupProgressInMegaBytes>
    <CurrentBackupRateInMegaBytesPerSecond>25.5354</
CurrentBackupRateInMegaBytesPerSecond>
    <ElapsedTimeInSeconds>1</ElapsedTimeInSeconds>
    <ClusterCreateTime>2019-12-26T20:25:38.716Z</ClusterCreateTime>
    <MasterUsername>adminuser</MasterUsername>
    <DBName>dev</DBName>
    <ActualIncrementalBackupSizeInMegaBytes>31.0</
ActualIncrementalBackupSizeInMegaBytes>
    <SnapshotType>manual</SnapshotType>
    <EnhancedVpcRouting>>false</EnhancedVpcRouting>
    <SnapshotIdentifier>mysnapshotid</SnapshotIdentifier>
    <NodeType>dc2.large</NodeType>
    <Tags/>
    <RestorableNodeTypes>
      <NodeType>dc2.large</NodeType>
    </RestorableNodeTypes>
    <Encrypted>>false</Encrypted>
    <EstimatedSecondsToCompletion>0</EstimatedSecondsToCompletion>
    <Port>5439</Port>
    <MaintenanceTrackName>current</MaintenanceTrackName>
    <SnapshotCreateTime>2019-12-26T22:38:38.944Z</SnapshotCreateTime>
    <Status>available</Status>
  </Snapshot>
</Snapshots>
</DescribeClusterSnapshotsResult>
<ResponseMetadata>
  <RequestId>f1fdebc9-2831-11ea-9939-5fccefa818c0</RequestId>
</ResponseMetadata>
</DescribeClusterSnapshotsResponse>

```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribeClusterSubnetGroups

Returns one or more cluster subnet group objects, which contain metadata about your cluster subnet groups. By default, this operation returns information about all cluster subnet groups that are defined in your Amazon Web Services account.

If you specify both tag keys and tag values in the same request, Amazon Redshift returns all subnet groups that match any combination of the specified keys and values. For example, if you have `owner` and `environment` for tag keys, and `admin` and `test` for tag values, all subnet groups that have any combination of those values are returned.

If both tag keys and values are omitted from the request, subnet groups are returned regardless of whether they have tag keys or values associated with them.

## Request Parameters

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

### ClusterSubnetGroupName

The name of the cluster subnet group for which information is requested.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a [DescribeClusterSubnetGroups](#) request exceed the value specified in `MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified MaxRecords value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: 100

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

## TagKeys.TagKey.N

A tag key or keys for which you want to return all matching cluster subnet groups that are associated with the specified key or keys. For example, suppose that you have subnet groups that are tagged with keys called `owner` and `environment`. If you specify both of these tag keys in the request, Amazon Redshift returns a response with the subnet groups that have either or both of these tag keys associated with them.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

## TagValues.TagValue.N

A tag value or values for which you want to return all matching cluster subnet groups that are associated with the specified tag value or values. For example, suppose that you have subnet groups that are tagged with values called `admin` and `test`. If you specify both of these tag values in the request, Amazon Redshift returns a response with the subnet groups that have either or both of these tag values associated with them.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

## Response Elements

The following elements are returned by the service.

### **ClusterSubnetGroups.ClusterSubnetGroup.N**

A list of [ClusterSubnetGroup](#) instances.

Type: Array of [ClusterSubnetGroup](#) objects

### **Marker**

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Length Constraints: Maximum length of 2147483647.

## Errors

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

### **ClusterSubnetGroupNotFoundFault**

The cluster subnet group name does not refer to an existing cluster subnet group.

HTTP Status Code: 400

### **InvalidTagFault**

The tag is invalid.

HTTP Status Code: 400

## Examples

### **Example**

This example illustrates one usage of `DescribeClusterSubnetGroups`.

## Sample Request

```
https://redshift.us-east-2.amazonaws.com/
    ?Action=DescribeClusterSubnetGroups
&SignatureMethod=HmacSHA256&SignatureVersion=4
&Version=2012-12-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<DescribeClusterSubnetGroupsResponse xmlns="http://redshift.amazonaws.com/
doc/2012-12-01/">
  <DescribeClusterSubnetGroupsResult>
    <ClusterSubnetGroups>
      <ClusterSubnetGroup>
        <VpcId>vpc-a1abc1a1</VpcId>
        <Description>default</Description>
        <Subnets>
          <Subnet>
            <SubnetStatus>Active</SubnetStatus>
            <SubnetIdentifier>subnet-a1b23aba</SubnetIdentifier>
            <SubnetAvailabilityZone>
              <Name>us-east-2a</Name>
            </SubnetAvailabilityZone>
          </Subnet>
          <Subnet>
            <SubnetStatus>Active</SubnetStatus>
            <SubnetIdentifier>subnet-a1b23abb</SubnetIdentifier>
            <SubnetAvailabilityZone>
              <Name>us-east-2b</Name>
            </SubnetAvailabilityZone>
          </Subnet>
          <Subnet>
            <SubnetStatus>Active</SubnetStatus>
            <SubnetIdentifier>subnet-a1b23abc</SubnetIdentifier>
            <SubnetAvailabilityZone>
              <Name>us-east-2c</Name>
            </SubnetAvailabilityZone>
          </Subnet>
        </Subnets>
      </ClusterSubnetGroup>
    </ClusterSubnetGroups>
  </DescribeClusterSubnetGroupsResult>
</DescribeClusterSubnetGroupsResponse>
```

```
</Subnets>
  <ClusterSubnetGroupName>default</ClusterSubnetGroupName>
  <SubnetGroupStatus>Complete</SubnetGroupStatus>
  <Tags/>
</ClusterSubnetGroup>
</ClusterSubnetGroups>
</DescribeClusterSubnetGroupsResult>
<ResponseMetadata>
  <RequestId>29fd403c-2832-11ea-8397-219d1980588b</RequestId>
</ResponseMetadata>
</DescribeClusterSubnetGroupsResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribeClusterTracks

Returns a list of all the available maintenance tracks.

## Request Parameters

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

### MaintenanceTrackName

The name of the maintenance track.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a `DescribeClusterTracks` request exceed the value specified in `MaxRecords`, Amazon Redshift returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### MaxRecords

An integer value for the maximum number of maintenance tracks to return.

Type: Integer

Required: No

## Response Elements

The following elements are returned by the service.

## MaintenanceTracks.MaintenanceTrack.N

A list of maintenance tracks output by the DescribeClusterTracks operation.

Type: Array of [MaintenanceTrack](#) objects

### Marker

The starting point to return a set of response tracklist records. You can retrieve the next set of response records by providing the returned marker value in the Marker parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

## Errors

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

### InvalidClusterTrack

The provided cluster track name is not valid.

HTTP Status Code: 400

### UnauthorizedOperation

Your account is not authorized to perform the requested operation.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of DescribeClusterTracks.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
?Action=DescribeClusterTracks
```



```

&MaintenanceTrackName=current
&SignatureMethod=HmacSHA256&SignatureVersion=4
&Version=2012-12-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b

```

## Sample Response

```

<DescribeClusterTracksResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <DescribeClusterTracksResult>
    <MaintenanceTracks>
      <MaintenanceTrack>
        <UpdateTargets>
          <UpdateTarget>
            <DatabaseVersion>1.0.11746</DatabaseVersion>
            <MaintenanceTrackName>preview_features</MaintenanceTrackName>
            <SupportedOperations>
              <SupportedOperation>
                <OperationName>restore-from-cluster-snapshot</OperationName>
              </SupportedOperation>
            </SupportedOperations>
          </UpdateTarget>
          <UpdateTarget>
            <DatabaseVersion>1.0.11116</DatabaseVersion>
            <MaintenanceTrackName>trailing</MaintenanceTrackName>
            <SupportedOperations>
              <SupportedOperation>
                <OperationName>restore-from-cluster-snapshot</OperationName>
              </SupportedOperation>
              <SupportedOperation>
                <OperationName>modify-cluster</OperationName>
              </SupportedOperation>
            </SupportedOperations>
          </UpdateTarget>
        </UpdateTargets>
        <DatabaseVersion>1.0.11978</DatabaseVersion>
        <MaintenanceTrackName>current</MaintenanceTrackName>
      </MaintenanceTrack>
    </MaintenanceTracks>
  </DescribeClusterTracksResult>

```

```
<ResponseMetadata>
  <RequestId>7db182a3-283e-11ea-9caa-c956bec1ce87</RequestId>
</ResponseMetadata>
</DescribeClusterTracksResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribeClusterVersions

Returns descriptions of the available Amazon Redshift cluster versions. You can call this operation even before creating any clusters to learn more about the Amazon Redshift versions. For more information about managing clusters, go to [Amazon Redshift Clusters](#) in the *Amazon Redshift Cluster Management Guide*.

## Request Parameters

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

### ClusterParameterGroupFamily

The name of a specific cluster parameter group family to return details for.

Constraints:

- Must be 1 to 255 alphanumeric characters
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### ClusterVersion

The specific cluster version to return.

Example: 1.0

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a [DescribeClusterVersions](#) request exceed the value specified in

`MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: 100

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

## Response Elements

The following elements are returned by the service.

### ClusterVersions.ClusterVersion.N

A list of `Version` elements.

Type: Array of [ClusterVersion](#) objects

### Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Length Constraints: Maximum length of 2147483647.

## Errors

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

## Examples

### Example

This example illustrates one usage of DescribeClusterVersions.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
  ?Action=DescribeClusterVersions  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<DescribeClusterVersionsResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">  
  <DescribeClusterVersionsResult>  
    <ClusterVersions>  
      <ClusterVersion>  
        <ClusterParameterGroupFamily>redshift-1.0</ClusterParameterGroupFamily>  
        <Description>release db engine 1.0.54</Description>  
        <ClusterVersion>1.0</ClusterVersion>  
      </ClusterVersion>  
    </ClusterVersions>  
  </DescribeClusterVersionsResult>  
  <ResponseMetadata>  
    <RequestId>be41d43b-283e-11ea-8cc9-43f1872b4b75</RequestId>  
  </ResponseMetadata>  
</DescribeClusterVersionsResponse>
```

```
</DescribeClusterVersionsResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribeCustomDomainAssociations

Contains information about custom domain associations for a cluster.

## Request Parameters

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

### CustomDomainCertificateArn

The certificate Amazon Resource Name (ARN) for the custom domain association.

Type: String

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

Pattern: `arn:[\w+=/, .@- ]+ : acm:[\w+=/, .@- ]* : [0-9]+ : [\w+=, .@- ]+( /[\w+=, .@- ]+ )*`

Required: No

### CustomDomainName

The custom domain name for the custom domain association.

Type: String

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

Pattern: `^(((?!-)[A-Za-z0-9-]{0,62}[A-Za-z0-9])\.)+((?!-)[A-Za-z0-9-]{1,62}[A-Za-z0-9])$`

Required: No

### Marker

The marker for the custom domain association.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## MaxRecords

The maximum records setting for the associated custom domain.

Type: Integer

Required: No

## Response Elements

The following elements are returned by the service.

### Associations.Association.N

The associations for the custom domain.

Type: Array of [Association](#) objects

### Marker

The marker for the custom domain association.

Type: String

Length Constraints: Maximum length of 2147483647.

## Errors

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

### CustomDomainAssociationNotFoundFault

An error occurred. The custom domain name couldn't be found.

HTTP Status Code: 404

### UnsupportedOperation

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribeDataShares

Shows the status of any inbound or outbound datashares available in the specified account.

## Request Parameters

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

### DataShareArn

The Amazon resource name (ARN) of the datashare to describe details of.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a [DescribeDataShares](#) request exceed the value specified in `MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Type: Integer

Required: No

## Response Elements

The following elements are returned by the service.

### DataShares.member.N

The results returned from describing datashares.

Type: Array of [DataShare](#) objects

### Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a [DescribeDataShares](#) request exceed the value specified in `MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

## Errors

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

### InvalidDataShareFault

There is an error with the datashare.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of `DescribeDataShares`.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
?Action=DescribeDataShares
```

```

    &NamespaceArn=arn%3Aaws%3Aredshift%3Aus-east-2%3A827630067164%3Adatawarehouse%3Aaf06285e-8a45-4ee9-b598-648c218c8ff1
    &DataShareRelationship=PRODUCER
    &SignatureMethod=HmacSHA256&SignatureVersion=4
    &Version=2012-12-01
    &X-Amz-Algorithm=AWS4-HMAC-SHA256
    &X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
    &X-Amz-Date=20190825T160000Z
    &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
    &X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b

```

## Sample Response

```

<DescribeDataSharesResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <DescribeDataSharesResult>
    <DataShares>
      <member>
        <ProducerNamespaceArn>arn:aws:redshift:us-east-1:275247490162:namespace:fd59653e-4ace-4952-a102-286dad7263ca</ProducerNamespaceArn>
        <AllowPubliclyAccessibleConsumers>true</AllowPubliclyAccessibleConsumers>
        <DataShareArn>arn:aws:redshift:us-east-1:275247490162:datashare:fd59653e-4ace-4952-a102-286dad7263ca/testshare2</DataShareArn>
        <DataShareAssociations>
          <member>
            <StatusChangeDate>2020-10-29T22:55:58.971101</StatusChangeDate>
            <ConsumerIdentifier>827630067164</ConsumerIdentifier>
            <CreateDate>2020-10-29T22:54:34.187829</CreateDate>
            <Status>PENDING_ACCEPTANCE</Status>
          </member>
        </DataShareAssociations>
      </member>
      <member>
        <ProducerNamespaceArn>arn:aws:redshift:us-east-1:275247490162:namespace:fd59653e-4ace-4952-a102-286dad7263ca</ProducerNamespaceArn>
        <AllowPubliclyAccessibleConsumers>=>true</AllowPubliclyAccessibleConsumers>

```

```

        <DataShareArn>arn:aws:redshift:us-
east-1:275247490162:datashare:fd59653e-4ace-4952-a102-286dad7263ca/testshare</
DataShareArn>
        <DataShareAssociations>
            <member>
                <StatusChangeDate>2020-10-30T16:05:51.137152</
StatusChangeDate>
                <ConsumerIdentifier>827630067164</ConsumerIdentifier>
                <CreateDate>2020-10-29T22:51:42.639841</CreateDate>
                <Status>ACTIVE</Status>
            </member>
        </DataShareAssociations>
    </member>
    <member>
        <ProducerNamespaceArn>arn:aws:redshift:us-
east-1:275247490162:namespace:fd59653e-4ace-4952-a102-286dad7263ca</
ProducerNamespaceArn>
        <AllowPubliclyAccessibleConsumers>true</
AllowPubliclyAccessibleConsumers>
        <DataShareArn>arn:aws:redshift:us-
east-1:275247490162:datashare:fd59653e-4ace-4952-a102-286dad7263ca/testshare1</
DataShareArn>
        <DataShareAssociations>
            <member>
                <StatusChangeDate>2020-10-30T17:43:02.108138</
StatusChangeDate>
                <ConsumerIdentifier>827630067164</ConsumerIdentifier>
                <CreateDate>2020-10-29T22:54:27.948849</CreateDate>
                <Status>ACTIVE</Status>
            </member>
        </DataShareAssociations>
    </member>
</DataShares>
</DescribeDataSharesResult>
<ResponseMetadata>
    <RequestId>1acb9710-0880-4703-9fd7-60863b5c7ddc</RequestId>
</ResponseMetadata>
</DescribeDataSharesResponse>

```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribeDataSharesForConsumer

Returns a list of datashares where the account identifier being called is a consumer account identifier.

## Request Parameters

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

### ConsumerArn

The Amazon Resource Name (ARN) of the consumer namespace that returns in the list of datashares.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a [DescribeDataSharesForConsumer](#) request exceed the value specified in `MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Type: Integer

Required: No

## Status

An identifier giving the status of a datashare in the consumer cluster. If this field is specified, Amazon Redshift returns the list of datashares that have the specified status.

Type: String

Valid Values: ACTIVE | AVAILABLE

Required: No

## Response Elements

The following elements are returned by the service.

### DataShares.member.N

Shows the results of datashares available for consumers.

Type: Array of [DataShare](#) objects

### Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a [DescribeDataSharesForConsumer](#) request exceed the value specified in `MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

## Errors

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

### InvalidNamespaceFault

The namespace isn't valid because the namespace doesn't exist. Provide a valid namespace.



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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribeDataSharesForProducer

Returns a list of datashares when the account identifier being called is a producer account identifier.

## Request Parameters

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

### Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a [DescribeDataSharesForProducer](#) request exceed the value specified in `MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Type: Integer

Required: No

### ProducerArn

The Amazon Resource Name (ARN) of the producer namespace that returns in the list of datashares.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## Status

An identifier giving the status of a datashare in the producer. If this field is specified, Amazon Redshift returns the list of datashares that have the specified status.

Type: String

Valid Values: ACTIVE | AUTHORIZED | PENDING\_AUTHORIZATION | DEAUTHORIZED | REJECTED

Required: No

## Response Elements

The following elements are returned by the service.

### DataShares.member.N

Shows the results of datashares available for producers.

Type: Array of [DataShare](#) objects

### Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a [DescribeDataSharesForProducer](#) request exceed the value specified in `MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

## Errors

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

### InvalidNamespaceFault

The namespace isn't valid because the namespace doesn't exist. Provide a valid namespace.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribeDefaultClusterParameters

Returns a list of parameter settings for the specified parameter group family.

For more information about parameters and parameter groups, go to [Amazon Redshift Parameter Groups](#) in the *Amazon Redshift Cluster Management Guide*.

## Request Parameters

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

### ParameterGroupFamily

The name of the cluster parameter group family.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a [DescribeDefaultClusterParameters](#) request exceed the value specified in `MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: 100

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

## Response Elements

The following element is returned by the service.

### DefaultClusterParameters

Describes the default cluster parameters for a parameter group family.

Type: [DefaultClusterParameters](#) object

## Errors

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

## Examples

### Example

This example illustrates one usage of DescribeDefaultClusterParameters.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=DescribeDefaultClusterParameters  
&ParameterGroupFamily=redshift-1.0  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```

<DescribeDefaultClusterParametersResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <DescribeDefaultClusterParametersResult>
    <DefaultClusterParameters>
      <ParameterGroupFamily>redshift-1.0</ParameterGroupFamily>
      <Parameters>
        <Parameter>
          <ApplyType>static</ApplyType>
          <AllowedValues>>true,false</AllowedValues>
          <DataType>boolean</DataType>
          <Description>Use auto analyze</Description>
          <Source>engine-default</Source>
          <ParameterName>auto_analyze</ParameterName>
          <ParameterValue>>true</ParameterValue>
          <IsModifiable>>true</IsModifiable>
        </Parameter>
        <Parameter>
          <ApplyType>static</ApplyType>
          <DataType>string</DataType>
          <Description>Sets the display format for date and time values.</Description>
          <Source>engine-default</Source>
          <ParameterName>datestyle</ParameterName>
          <ParameterValue>ISO, MDY</ParameterValue>
          <IsModifiable>true</IsModifiable>
        </Parameter>
        <Parameter>
          <ApplyType>static</ApplyType>
          <AllowedValues>>true,false</AllowedValues>
          <DataType>boolean</DataType>
          <Description>parameter for audit logging purpose</Description>
          <Source>engine-default</Source>
          <ParameterName>enable_user_activity_logging</ParameterName>
          <ParameterValue>>false</ParameterValue>
          <IsModifiable>true</IsModifiable>
        </Parameter>
        <Parameter>
          <ApplyType>static</ApplyType>
          <AllowedValues>-15-2</AllowedValues>
          <DataType>integer</DataType>
          <Description>Sets the number of digits displayed for floating-point values</
Description>
          <Source>engine-default</Source>

```

```

    <ParameterName>extra_float_digits</ParameterName>
    <ParameterValue>0</ParameterValue>
    <IsModifiable>true</IsModifiable>
  </Parameter>
  <Parameter>
    <ApplyType>static</ApplyType>
    <AllowedValues>0-10</AllowedValues>
    <DataType>integer</DataType>
    <Description>The maximum concurrency scaling clusters can be used.</
Description>
    <Source>engine-default</Source>
    <ParameterName>max_concurrency_scaling_clusters</ParameterName>
    <ParameterValue>1</ParameterValue>
    <IsModifiable>true</IsModifiable>
  </Parameter>
  <Parameter>
    <ApplyType>static</ApplyType>
    <AllowedValues>0-14400000</AllowedValues>
    <DataType>integer</DataType>
    <Description>Sets the max cursor result set size</Description>
    <Source>engine-default</Source>
    <ParameterName>max_cursor_result_set_size</ParameterName>
    <ParameterValue>default</ParameterValue>
    <IsModifiable>true</IsModifiable>
  </Parameter>
  <Parameter>
    <ApplyType>static</ApplyType>
    <DataType>string</DataType>
    <Description>This parameter applies a user-defined label to a group of
queries that are run during the same session..</Description>
    <Source>engine-default</Source>
    <ParameterName>query_group</ParameterName>
    <ParameterValue>default</ParameterValue>
    <IsModifiable>true</IsModifiable>
  </Parameter>
  <Parameter>
    <ApplyType>static</ApplyType>
    <AllowedValues>true,false</AllowedValues>
    <DataType>boolean</DataType>
    <Description>require ssl for all databaseconnections</Description>
    <Source>engine-default</Source>
    <ParameterName>require_ssl</ParameterName>
    <ParameterValue>>false</ParameterValue>
    <IsModifiable>true</IsModifiable>

```



```

    </Parameter>
    <Parameter>
      <ApplyType>static</ApplyType>
      <DataType>string</DataType>
      <Description>Sets the schema search order for names that are not schema-
qualified.</Description>
      <Source>engine-default</Source>
      <ParameterName>search_path</ParameterName>
      <ParameterValue>$user, public</ParameterValue>
      <IsModifiable>true</IsModifiable>
    </Parameter>
    <Parameter>
      <ApplyType>static</ApplyType>
      <AllowedValues>0,100-2147483647</AllowedValues>
      <DataType>integer</DataType>
      <Description>Stops any statement that takes over the specified number of
milliseconds.</Description>
      <Source>engine-default</Source>
      <ParameterName>statement_timeout</ParameterName>
      <ParameterValue>0</ParameterValue>
      <IsModifiable>true</IsModifiable>
    </Parameter>
    <Parameter>
      <ApplyType>static</ApplyType>
      <AllowedValues>true,false</AllowedValues>
      <DataType>boolean</DataType>
      <Description>Use fips ssl library</Description>
      <Source>engine-default</Source>
      <ParameterName>use_fips_ssl</ParameterName>
      <ParameterValue>>false</ParameterValue>
      <IsModifiable>true</IsModifiable>
    </Parameter>
    <Parameter>
      <ApplyType>static</ApplyType>
      <DataType>string</DataType>
      <Description>wlm json configuration</Description>
      <Source>engine-default</Source>
      <ParameterName>wlm_json_configuration</ParameterName>
      <ParameterValue>[{"auto_wlm":true}]</ParameterValue>
      <IsModifiable>true</IsModifiable>
    </Parameter>
  </Parameters>
</DefaultClusterParameters>
</DescribeDefaultClusterParametersResult>

```

```
<ResponseMetadata>
  <RequestId>2ee9dbcc-283f-11ea-8a28-2fd1719d0e86</RequestId>
</ResponseMetadata>
</DescribeDefaultClusterParametersResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribeEndpointAccess

Describes a Redshift-managed VPC endpoint.

## Request Parameters

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

### ClusterIdentifier

The cluster identifier associated with the described endpoint.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### EndpointName

The name of the endpoint to be described.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Marker

An optional pagination token provided by a previous DescribeEndpointAccess request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by the MaxRecords parameter.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### MaxRecords

The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a Marker is included in the response so that the remaining results can be retrieved.

Type: Integer

Required: No

### **ResourceOwner**

The Amazon Web Services account ID of the owner of the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **VpcId**

The virtual private cloud (VPC) identifier with access to the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **Response Elements**

The following elements are returned by the service.

### **EndpointAccessList.member.N**

The list of endpoints with access to the cluster.

Type: Array of [EndpointAccess](#) objects

### **Marker**

An optional pagination token provided by a previous `DescribeEndpointAccess` request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by the `MaxRecords` parameter.

Type: String

Length Constraints: Maximum length of 2147483647.

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### EndpointNotFound

The endpoint name doesn't refer to an existing endpoint.

HTTP Status Code: 404

### InvalidClusterState

The specified cluster is not in the available state.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribeEndpointAuthorization

Describes an endpoint authorization.

## Request Parameters

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

### Account

The Amazon Web Services account ID of either the cluster owner (grantor) or grantee. If `Grantee` parameter is true, then the `Account` value is of the grantor.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### ClusterIdentifier

The cluster identifier of the cluster to access.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Grantee

Indicates whether to check authorization from a grantor or grantee point of view. If true, Amazon Redshift returns endpoint authorizations that you've been granted. If false (default), checks authorization from a grantor point of view.

Type: Boolean

Required: No

### Marker

An optional pagination token provided by a previous `DescribeEndpointAuthorization` request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by the `MaxRecords` parameter.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### MaxRecords

The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a Marker is included in the response so that the remaining results can be retrieved.

Type: Integer

Required: No

## Response Elements

The following elements are returned by the service.

### EndpointAuthorizationList.member.N

The authorizations to an endpoint.

Type: Array of [EndpointAuthorization](#) objects

### Marker

An optional pagination token provided by a previous DescribeEndpointAuthorization request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by the MaxRecords parameter.

Type: String

Length Constraints: Maximum length of 2147483647.

## Errors

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

### ClusterNotFound

The ClusterIdentifier parameter does not refer to an existing cluster.

HTTP Status Code: 404

## UnsupportedOperation

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)



# DescribeEventCategories

Displays a list of event categories for all event source types, or for a specified source type. For a list of the event categories and source types, go to [Amazon Redshift Event Notifications](#).

## Request Parameters

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

### SourceType

The source type, such as cluster or parameter group, to which the described event categories apply.

Valid values: cluster, cluster-snapshot, cluster-parameter-group, cluster-security-group, and scheduled-action.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## Response Elements

The following element is returned by the service.

### EventCategoriesMapList.EventCategoriesMap.N

A list of event categories descriptions.

Type: Array of [EventCategoriesMap](#) objects

## Errors

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

## Examples

### Example

This example illustrates one usage of DescribeEventCategories.

#### Sample Request

```
https://redshift.us-east-2.amazonaws.com/
    ?Action=DescribeEventCategories
&SourceType=cluster
&SignatureMethod=HmacSHA256&SignatureVersion=4
&Version=2012-12-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

#### Sample Response

```
<DescribeEventCategoriesResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <DescribeEventCategoriesResult>
    <EventCategoriesMapList>
      <EventCategoriesMap>
        <SourceType>cluster</SourceType>
        <Events>
          <EventInfoMap>
            <Severity>INFO</Severity>
            <EventDescription>Cluster <cluster name> created at <time in UTC>.</
EventDescription>
            <EventId>REDSHIFT-EVENT-2000</EventId>
            <EventCategories>
              <EventCategory>management</EventCategory>
            </EventCategories>
          </EventInfoMap>
          <EventInfoMap>
            <Severity>INFO</Severity>
            <EventDescription>Cluster <cluster name> deleted at <time in UTC>.</
EventDescription>
            <EventId>REDSHIFT-EVENT-2001</EventId>
            <EventCategories>
              <EventCategory>management</EventCategory>
```

```
        </EventCategories>
      </EventInfoMap>
    </Events>
  </EventCategoriesMap>
</EventCategoriesMapList>
</DescribeEventCategoriesResult>
<ResponseMetadata>
  <RequestId>5ad8a6a4-283f-11ea-a940-1b28a85fd753</RequestId>
</ResponseMetadata>
</DescribeEventCategoriesResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

## DescribeEvents

Returns events related to clusters, security groups, snapshots, and parameter groups for the past 14 days. Events specific to a particular cluster, security group, snapshot or parameter group can be obtained by providing the name as a parameter. By default, the past hour of events are returned.

### Request Parameters

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

#### Duration

The number of minutes prior to the time of the request for which to retrieve events. For example, if the request is sent at 18:00 and you specify a duration of 60, then only events which have occurred after 17:00 will be returned.

Default: 60

Type: Integer

Required: No

#### EndTime

The end of the time interval for which to retrieve events, specified in ISO 8601 format. For more information about ISO 8601, go to the [ISO8601 Wikipedia page](#).

Example: 2009-07-08T18:00Z

Type: Timestamp

Required: No

#### Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a [DescribeEvents](#) request exceed the value specified in `MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: 100

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

### SourceIdentifier

The identifier of the event source for which events will be returned. If this parameter is not specified, then all sources are included in the response.

Constraints:

If *SourceIdentifier* is supplied, *SourceType* must also be provided.

- Specify a cluster identifier when *SourceType* is `cluster`.
- Specify a cluster security group name when *SourceType* is `cluster-security-group`.
- Specify a cluster parameter group name when *SourceType* is `cluster-parameter-group`.
- Specify a cluster snapshot identifier when *SourceType* is `cluster-snapshot`.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### SourceType

The event source to retrieve events for. If no value is specified, all events are returned.

Constraints:

If *SourceType* is supplied, *SourceIdentifier* must also be provided.

- Specify `cluster` when *SourceIdentifier* is a cluster identifier.

- Specify `cluster-security-group` when *SourceIdentifier* is a cluster security group name.
- Specify `cluster-parameter-group` when *SourceIdentifier* is a cluster parameter group name.
- Specify `cluster-snapshot` when *SourceIdentifier* is a cluster snapshot identifier.

Type: String

Valid Values: `cluster` | `cluster-parameter-group` | `cluster-security-group` | `cluster-snapshot` | `scheduled-action`

Required: No

## StartTime

The beginning of the time interval to retrieve events for, specified in ISO 8601 format. For more information about ISO 8601, go to the [ISO8601 Wikipedia page](#).

Example: `2009-07-08T18:00Z`

Type: Timestamp

Required: No

## Response Elements

The following elements are returned by the service.

### Events.Event.N

A list of Event instances.

Type: Array of [Event](#) objects

### Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Length Constraints: Maximum length of 2147483647.

## Errors

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

## Examples

### Example

This example illustrates one usage of DescribeEvents.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=DescribeEvents  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<DescribeEventsResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">  
  <DescribeEventsResult>  
    <Events>  
      <Event>  
        <Date>2019-12-26T23:36:48.457Z</Date>  
        <Severity>INFO</Severity>  
        <EventId>REDSHIFT-EVENT-1004</EventId>  
        <SourceIdentifier>myclusterparametergroup</SourceIdentifier>  
        <SourceType>cluster-parameter-group</SourceType>  
        <EventCategories>  
          <EventCategory>configuration</EventCategory>  
        </EventCategories>  
        <Message>Cluster parameter group 'myclusterparametergroup' was deleted at  
2019-12-26 23:36 UTC.</Message>  
      </Event>  
      <Event>  
        <Date>2019-12-26T23:40:00.753Z</Date>  
        <Severity>INFO</Severity>  
        <EventId>REDSHIFT-EVENT-2011</EventId>
```

```
<SourceIdentifier>mysnapshotid</SourceIdentifier>
<SourceType>cluster-snapshot</SourceType>
<EventCategories>
  <EventCategory>management</EventCategory>
</EventCategories>
<Message>The cluster snapshot 'mysnapshotid' for Amazon Redshift cluster
'mycluster' was deleted at 2019-12-26 23:40 UTC.</Message>
</Event>
<Event>
  <Date>2019-12-26T23:42:43.247Z</Date>
  <Severity>INFO</Severity>
  <EventId>REDSHIFT-EVENT-2001</EventId>
  <SourceIdentifier>mycluster</SourceIdentifier>
  <SourceType>cluster</SourceType>
  <EventCategories>
    <EventCategory>management</EventCategory>
  </EventCategories>
  <Message>Amazon Redshift cluster 'mycluster' has been deleted at 2019-12-26
23:42 UTC. A final snapshot was not saved.</Message>
</Event>
<Event>
  <Date>2019-12-26T23:55:04.170Z</Date>
  <Severity>INFO</Severity>
  <EventId>REDSHIFT-EVENT-3614</EventId>
  <SourceIdentifier>myscheduledaction</SourceIdentifier>
  <SourceType>scheduled-action</SourceType>
  <EventCategories>
    <EventCategory>management</EventCategory>
  </EventCategories>
  <Message>The scheduled action 'myscheduledaction' was created at 2019-12-26
23:55 UTC. The first invocation is scheduled at 2019-12-31 00:00 UTC.</Message>
</Event>
<Event>
  <Date>2019-12-26T23:55:19.846Z</Date>
  <Severity>INFO</Severity>
  <EventId>REDSHIFT-EVENT-3627</EventId>
  <SourceIdentifier>myscheduledaction</SourceIdentifier>
  <SourceType>scheduled-action</SourceType>
  <EventCategories>
    <EventCategory>management</EventCategory>
  </EventCategories>
  <Message>Scheduled action 'myscheduledaction' was deleted at 2019-12-26 23:55
UTC.</Message>
</Event>
```



```
<Event>
  <Date>2019-12-27T00:16:36.767Z</Date>
  <Severity>INFO</Severity>
  <EventId>REDSHIFT-EVENT-2000</EventId>
  <SourceIdentifier>mycluster</SourceIdentifier>
  <SourceType>cluster</SourceType>
  <EventCategories>
    <EventCategory>management</EventCategory>
  </EventCategories>
  <Message>Amazon Redshift cluster 'mycluster' has been created at 2019-12-27
00:16 UTC and is ready for use.</Message>
</Event>
</Events>
</DescribeEventsResult>
<ResponseMetadata>
  <RequestId>eb82309b-283f-11ea-9caa-c956bec1ce87</RequestId>
</ResponseMetadata>
</DescribeEventsResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribeEventSubscriptions

Lists descriptions of all the Amazon Redshift event notification subscriptions for a customer account. If you specify a subscription name, lists the description for that subscription.

If you specify both tag keys and tag values in the same request, Amazon Redshift returns all event notification subscriptions that match any combination of the specified keys and values. For example, if you have `owner` and `environment` for tag keys, and `admin` and `test` for tag values, all subscriptions that have any combination of those values are returned.

If both tag keys and values are omitted from the request, subscriptions are returned regardless of whether they have tag keys or values associated with them.

## Request Parameters

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

### Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a `DescribeEventSubscriptions` request exceed the value specified in `MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: 100

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

### **SubscriptionName**

The name of the Amazon Redshift event notification subscription to be described.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **TagKeys.TagKey.N**

A tag key or keys for which you want to return all matching event notification subscriptions that are associated with the specified key or keys. For example, suppose that you have subscriptions that are tagged with keys called `owner` and `environment`. If you specify both of these tag keys in the request, Amazon Redshift returns a response with the subscriptions that have either or both of these tag keys associated with them.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### **TagValues.TagValue.N**

A tag value or values for which you want to return all matching event notification subscriptions that are associated with the specified tag value or values. For example, suppose that you have subscriptions that are tagged with values called `admin` and `test`. If you specify both of these tag values in the request, Amazon Redshift returns a response with the subscriptions that have either or both of these tag values associated with them.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

## **Response Elements**

The following elements are returned by the service.

## EventSubscriptionsList.EventSubscription.N

A list of event subscriptions.

Type: Array of [EventSubscription](#) objects

### Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Length Constraints: Maximum length of 2147483647.

## Errors

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

### InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

### SubscriptionNotFound

An Amazon Redshift event notification subscription with the specified name does not exist.

HTTP Status Code: 404

## Examples

### Example

This example illustrates one usage of `DescribeEventSubscriptions`.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/
```

```
?Action=DescribeEventSubscriptions
&SubscriptionName=mysubscription
&SignatureMethod=HmacSHA256&SignatureVersion=4
&Version=2012-12-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<DescribeEventSubscriptionsResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <DescribeEventSubscriptionsResult>
    <EventSubscriptionsList>
      <EventSubscription>
        <Severity>ERROR</Severity>
        <CustSubscriptionId>mysubscription</CustSubscriptionId>
        <SnsTopicArn>arn:aws:sns:us-east-2:123456789012:MySNSTopic</SnsTopicArn>
        <SourceIdsList/>
        <EventCategoriesList/>
        <SubscriptionCreationTime>2019-12-27T00:27:43.748Z</SubscriptionCreationTime>
        <Enabled>true</Enabled>
        <Tags/>
        <Status>active</Status>
        <CustomerAwsId>123456789012</CustomerAwsId>
      </EventSubscription>
    </EventSubscriptionsList>
  </DescribeEventSubscriptionsResult>
  <ResponseMetadata>
    <RequestId>b80f1c37-283f-11ea-9caa-c956bec1ce87</RequestId>
  </ResponseMetadata>
</DescribeEventSubscriptionsResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)

- [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](#)

## DescribeHsmClientCertificates

Returns information about the specified HSM client certificate. If no certificate ID is specified, returns information about all the HSM certificates owned by your Amazon Web Services account.

If you specify both tag keys and tag values in the same request, Amazon Redshift returns all HSM client certificates that match any combination of the specified keys and values. For example, if you have `owner` and `environment` for tag keys, and `admin` and `test` for tag values, all HSM client certificates that have any combination of those values are returned.

If both tag keys and values are omitted from the request, HSM client certificates are returned regardless of whether they have tag keys or values associated with them.

### Request Parameters

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

#### HsmClientCertificateIdentifier

The identifier of a specific HSM client certificate for which you want information. If no identifier is specified, information is returned for all HSM client certificates owned by your Amazon Web Services account.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

#### Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a [DescribeHsmClientCertificates](#) request exceed the value specified in `MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified MaxRecords value, a value is returned in a marker field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: 100

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

## TagKeys.TagKey.N

A tag key or keys for which you want to return all matching HSM client certificates that are associated with the specified key or keys. For example, suppose that you have HSM client certificates that are tagged with keys called `owner` and `environment`. If you specify both of these tag keys in the request, Amazon Redshift returns a response with the HSM client certificates that have either or both of these tag keys associated with them.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

## TagValues.TagValue.N

A tag value or values for which you want to return all matching HSM client certificates that are associated with the specified tag value or values. For example, suppose that you have HSM client certificates that are tagged with values called `admin` and `test`. If you specify both of these tag values in the request, Amazon Redshift returns a response with the HSM client certificates that have either or both of these tag values associated with them.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No



## Response Elements

The following elements are returned by the service.

### **HsmClientCertificates.HsmClientCertificate.N**

A list of the identifiers for one or more HSM client certificates used by Amazon Redshift clusters to store and retrieve database encryption keys in an HSM.

Type: Array of [HsmClientCertificate](#) objects

### **Marker**

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Length Constraints: Maximum length of 2147483647.

## Errors

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

### **HsmClientCertificateNotFoundFault**

There is no Amazon Redshift HSM client certificate with the specified identifier.

HTTP Status Code: 400

### **InvalidTagFault**

The tag is invalid.

HTTP Status Code: 400

## Examples

### **Example**

This example illustrates one usage of `DescribeHsmClientCertificates`.

## Sample Request

```
https://redshift.us-east-2.amazonaws.com/
    ?Action=DescribeHsmClientCertificates
    &HsmClientCertificateIdentifier=myhsmclientcert
    &SignatureMethod=HmacSHA256&SignatureVersion=4
    &Version=2012-12-01
    &X-Amz-Algorithm=AWS4-HMAC-SHA256
    &X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
    &X-Amz-Date=20190825T160000Z
    &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
    &X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<DescribeHsmClientCertificatesResponse xmlns="http://redshift.amazonaws.com/
doc/2012-12-01/">
  <DescribeHsmClientCertificatesResult>
    <HsmClientCertificates>
      <HsmClientCertificate>
        <HsmClientCertificateIdentifier>myhsmclientcert</
HsmClientCertificateIdentifier>
        <HsmClientCertificatePublicKey>-----BEGIN CERTIFICATE-----
MIICiTCCAfICCQD6m7oRw0uX0jANBgkqhkiG9w0BAQUFADCBiDELMakGA1UEBhMC
VVMx CzA JBgNVBAGTAldBMRAwDgYDVQQHEwdTZWF0dGx1MQ8wDQYDVQQKEwZBbWF6
b24x FDASBgNVBAsTC01BTSBDb25zb2x1MRIwEAYDVQQDEw1UZXR0Q21sYWxhZAd
BgkqhkiG9w0BCQEWEG5vb25lQGFTYXpvbi5jb20wHhcNMTEwNDI1MjA0NTIxWhcN
MTIwNDI0MjA0NTIxWjCBiDELMakGA1UEBhMCVVMx CzA JBgNVBAGTAldBMRAwDgYD
VQQHEwdTZWF0dGx1MQ8wDQYDVQQKEwZBbWF6b24x FDASBgNVBAsTC01BTSBDb25z
b2x1MRIwEAYDVQQDEw1UZXR0Q21sYWxhZAdBgkqhkiG9w0BCQEWEG5vb25lQGFT
YXpvbi5jb20wgZ8wDQYJKoZIhvcNAQEBBQADgY0AMIGJAoGBAMak0dn+a4GmWIWJ
21uUSfwfEvySwTc2XADZ4nB+BLYgVIk60CpiwsZ3G93vUEI03IyNoH/f0wYK8m9T
rDHudUZg3qX4waLG5M43q7Wgc/MbQITx0USQv7c7ugFFDzQGBzZswY6786m86gpE
Ibb30hjZnzcVQAaRHhd1QWIMm2nrAgMBAAEwDQYJKoZIhvcNAQEFBQADgYEAtCu4
nUhVVxYUntneD9+h8Mg9q6q+auNKyExzyLwax1Aoo7TJHidbtS4J5iNmZgXL0Fkb
FFBjvSfpJI1J00zbhNYS5f6GuoEDmFJl0ZxBHjJnyp3780D8uTs7fLvJx79LjSTb
NYiytVbZPQUQ5Yaxu2jXnimvw3rEXAMPLE=
-----END CERTIFICATE-----
</HsmClientCertificatePublicKey>
      <Tags/>
    </HsmClientCertificate>
  </HsmClientCertificates>
</DescribeHsmClientCertificatesResult>
```

```
<ResponseMetadata>
  <RequestId>83526b29-28cb-11ea-9939-5fccefa818c0</RequestId>
</ResponseMetadata>
</DescribeHsmClientCertificatesResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

## DescribeHsmConfigurations

Returns information about the specified Amazon Redshift HSM configuration. If no configuration ID is specified, returns information about all the HSM configurations owned by your Amazon Web Services account.

If you specify both tag keys and tag values in the same request, Amazon Redshift returns all HSM connections that match any combination of the specified keys and values. For example, if you have `owner` and `environment` for tag keys, and `admin` and `test` for tag values, all HSM connections that have any combination of those values are returned.

If both tag keys and values are omitted from the request, HSM connections are returned regardless of whether they have tag keys or values associated with them.

### Request Parameters

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

#### HsmConfigurationIdentifier

The identifier of a specific Amazon Redshift HSM configuration to be described. If no identifier is specified, information is returned for all HSM configurations owned by your Amazon Web Services account.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

#### Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a [DescribeHsmConfigurations](#) request exceed the value specified in `MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **MaxRecords**

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: 100

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

### **TagKeys.TagKey.N**

A tag key or keys for which you want to return all matching HSM configurations that are associated with the specified key or keys. For example, suppose that you have HSM configurations that are tagged with keys called `owner` and `environment`. If you specify both of these tag keys in the request, Amazon Redshift returns a response with the HSM configurations that have either or both of these tag keys associated with them.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### **TagValues.TagValue.N**

A tag value or values for which you want to return all matching HSM configurations that are associated with the specified tag value or values. For example, suppose that you have HSM configurations that are tagged with values called `admin` and `test`. If you specify both of these tag values in the request, Amazon Redshift returns a response with the HSM configurations that have either or both of these tag values associated with them.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

## Response Elements

The following elements are returned by the service.

### **HsmConfigurations.HsmConfiguration.N**

A list of `HsmConfiguration` objects.

Type: Array of [HsmConfiguration](#) objects

### **Marker**

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Length Constraints: Maximum length of 2147483647.

## Errors

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

### **HsmConfigurationNotFoundFault**

There is no Amazon Redshift HSM configuration with the specified identifier.

HTTP Status Code: 400

### **InvalidTagFault**

The tag is invalid.

HTTP Status Code: 400

## Examples

### **Example**

This example illustrates one usage of `DescribeHsmConfigurations`.

## Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=DescribeHsmConfigurations  
&HsmConfigurationIdentifier=myhsmconnection  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<DescribeHsmConfigurationsResponse xmlns="http://redshift.amazonaws.com/  
doc/2012-12-01/">  
  <DescribeHsmConfigurationsResult>  
    <HsmConfigurations>  
      <HsmConfiguration>  
        <Description>My HSM partition</Description>  
        <HsmPartitionName>myhsmpartition</HsmPartitionName>  
        <HsmConfigurationIdentifier>myhsmconnection</HsmConfigurationIdentifier>  
        <Tags/>  
        <HsmIpAddress>192.0.2.09</HsmIpAddress>  
      </HsmConfiguration>  
    </HsmConfigurations>  
  </DescribeHsmConfigurationsResult>  
  <ResponseMetadata>  
    <RequestId>367be4c0-28cc-11ea-8314-974e2ba81189</RequestId>  
  </ResponseMetadata>  
</DescribeHsmConfigurationsResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)



# DescribeInboundIntegrations

Returns a list of inbound integrations.

## Request Parameters

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

### IntegrationArn

The Amazon Resource Name (ARN) of the inbound integration.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 255.

Pattern: `^arn:aws[a-z\-\]*:.[a-z0-9\-\]*:[0-9]*:integration:[0-9a-f]{8}-[0-9a-f]{4}-[0-9a-f]{4}-[0-9a-f]{4}-[0-9a-f]{12}$`

Required: No

### Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a [DescribeInboundIntegrations](#) request exceed the value specified in `MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: 100

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

### TargetArn

The Amazon Resource Name (ARN) of the target of an inbound integration.

Type: String

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

Pattern: `^arn:aws[a-z\-\]*:redshift(-serverless)?:[a-z0-9\-\-]+:[0-9]{12}:(namespace\|namespace:)[a-z0-9\-\-]+$`

Required: No

## Response Elements

The following elements are returned by the service.

### InboundIntegrations.InboundIntegration.N

A list of [InboundIntegration](#) instances.

Type: Array of [InboundIntegration](#) objects

### Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Length Constraints: Maximum length of 2147483647.

## Errors

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

## IntegrationNotFoundFault

The integration can't be found.

HTTP Status Code: 404

## InvalidNamespaceFault

The namespace isn't valid because the namespace doesn't exist. Provide a valid namespace.

HTTP Status Code: 400

## UnsupportedOperation

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribeIntegrations

Describes one or more zero-ETL or S3 event integrations with Amazon Redshift.

## Request Parameters

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

### Filters.DescribeIntegrationsFilter.N

A filter that specifies one or more resources to return.

Type: Array of [DescribeIntegrationsFilter](#) objects

Required: No

### IntegrationArn

The unique identifier of the integration.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 255.

Pattern: `^arn:aws[a-z\-\-]*:redshift:[a-z0-9\-\-]*:[0-9]*:integration:[0-9a-f]{8}-[0-9a-f]{4}-[0-9a-f]{4}-[0-9a-f]{4}-[0-9a-f]{12}$`

Required: No

### Marker

An optional pagination token provided by a previous DescribeIntegrations request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified MaxRecords value, a value is returned in a marker

field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: 100

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

## Response Elements

The following elements are returned by the service.

### **Integrations.Integration.N**

List of integrations that are described.

Type: Array of [Integration](#) objects

### **Marker**

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Length Constraints: Maximum length of 2147483647.

## Errors

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

### **IntegrationNotFoundFault**

The integration can't be found.

HTTP Status Code: 404

## UnsupportedOperation

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribeLoggingStatus

Describes whether information, such as queries and connection attempts, is being logged for the specified Amazon Redshift cluster.

## Request Parameters

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

### ClusterIdentifier

The identifier of the cluster from which to get the logging status.

Example: `examplecluster`

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Response Elements

The following elements are returned by the service.

### BucketName

The name of the S3 bucket where the log files are stored.

Type: String

Length Constraints: Maximum length of 2147483647.

### LastFailureMessage

The message indicating that logs failed to be delivered.

Type: String

Length Constraints: Maximum length of 2147483647.

### LastFailureTime

The last time when logs failed to be delivered.

Type: Timestamp

### **LastSuccessfulDeliveryTime**

The last time that logs were delivered.

Type: Timestamp

### **LogDestinationType**

The log destination type. An enum with possible values of `s3` and `cloudwatch`.

Type: String

Valid Values: `s3` | `cloudwatch`

### **LogExports.member.N**

The collection of exported log types. Possible values are `connectionlog`, `useractivitylog`, and `userlog`.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

### **LoggingEnabled**

`true` if logging is on, `false` if logging is off.

Type: Boolean

### **S3KeyPrefix**

The prefix applied to the log file names.

Type: String

Length Constraints: Maximum length of 256.

Pattern: `[\p{L}\p{Z}\p{N}_. :/=+\-@]*`

## **Errors**

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



## ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

## UnsupportedOperation

The requested operation isn't supported.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of `DescribeLoggingStatus`.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=DescribeLoggingStatus  
&ClusterIdentifier=mycluster  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<DescribeLoggingStatusResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">  
  <DescribeLoggingStatusResult>  
    <LoggingEnabled>>false</LoggingEnabled>  
  </DescribeLoggingStatusResult>  
  <ResponseMetadata>  
    <RequestId>9ed2dcec-28cc-11ea-b6af-7126da6f11af</RequestId>  
  </ResponseMetadata>  
</DescribeLoggingStatusResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribeNodeConfigurationOptions

Returns properties of possible node configurations such as node type, number of nodes, and disk usage for the specified action type.

## Request Parameters

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

### ActionType

The action type to evaluate for possible node configurations. Specify "restore-cluster" to get configuration combinations based on an existing snapshot. Specify "recommend-node-config" to get configuration recommendations based on an existing cluster or snapshot. Specify "resize-cluster" to get configuration combinations for elastic resize based on an existing cluster.

Type: String

Valid Values: `restore-cluster` | `recommend-node-config` | `resize-cluster`

Required: Yes

### ClusterIdentifier

The identifier of the cluster to evaluate for possible node configurations.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Filter.NodeConfigurationOptionsFilter.N

A set of name, operator, and value items to filter the results.

Type: Array of [NodeConfigurationOptionsFilter](#) objects

Required: No

### Marker

An optional parameter that specifies the starting point to return a set of response records.

When the results of a [DescribeNodeConfigurationOptions](#) request exceed the value specified in

`MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **MaxRecords**

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: 500

Constraints: minimum 100, maximum 500.

Type: Integer

Required: No

### **OwnerAccount**

The Amazon Web Services account used to create or copy the snapshot. Required if you are restoring a snapshot you do not own, optional if you own the snapshot.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **SnapshotArn**

The Amazon Resource Name (ARN) of the snapshot associated with the message to describe node configuration.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **SnapshotIdentifier**

The identifier of the snapshot to evaluate for possible node configurations.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **Response Elements**

The following elements are returned by the service.

### **Marker**

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Length Constraints: Maximum length of 2147483647.

### **NodeConfigurationOptionList.NodeConfigurationOption.N**

A list of valid node configurations.

Type: Array of [NodeConfigurationOption](#) objects

## **Errors**

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

### **AccessToSnapshotDenied**

The owner of the specified snapshot has not authorized your account to access the snapshot.

HTTP Status Code: 400

## ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

## ClusterSnapshotNotFound

The snapshot identifier does not refer to an existing cluster snapshot.

HTTP Status Code: 404

## InvalidClusterSnapshotState

The specified cluster snapshot is not in the available state, or other accounts are authorized to access the snapshot.

HTTP Status Code: 400

## UnsupportedOperation

The requested operation isn't supported.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of `DescribeNodeConfigurationOptions`.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=DescribeNodeConfigurationOptions  
&ActionType=restore-cluster  
&SnapshotIdentifier=mynsnapshotid  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
```

```
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<DescribeNodeConfigurationOptionsResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <DescribeNodeConfigurationOptionsResult>
    <NodeConfigurationOptionList>
      <NodeConfigurationOption>
        <EstimatedDiskUtilizationPercent>0.01</EstimatedDiskUtilizationPercent>
        <NumberOfNodes>2</NumberOfNodes>
        <NodeType>dc2.large</NodeType>
      </NodeConfigurationOption>
      <NodeConfigurationOption>
        <EstimatedDiskUtilizationPercent>0.01</EstimatedDiskUtilizationPercent>
        <NumberOfNodes>4</NumberOfNodes>
        <NodeType>dc2.large</NodeType>
      </NodeConfigurationOption>
      <NodeConfigurationOption>
        <EstimatedDiskUtilizationPercent>0.01</EstimatedDiskUtilizationPercent>
        <NumberOfNodes>2</NumberOfNodes>
        <NodeType>ra3.4xlarge</NodeType>
      </NodeConfigurationOption>
      <NodeConfigurationOption>
        <EstimatedDiskUtilizationPercent>0.01</EstimatedDiskUtilizationPercent>
        <NumberOfNodes>4</NumberOfNodes>
        <NodeType>ra3.4xlarge</NodeType>
      </NodeConfigurationOption>
    </NodeConfigurationOptionList>
  </DescribeNodeConfigurationOptionsResult>
  <ResponseMetadata>
    <RequestId>ed601e39-28cc-11ea-a940-1b28a85fd753</RequestId>
  </ResponseMetadata>
</DescribeNodeConfigurationOptionsResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)

- [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](#)



# DescribeOrderableClusterOptions

Returns a list of orderable cluster options. Before you create a new cluster you can use this operation to find what options are available, such as the EC2 Availability Zones (AZ) in the specific Amazon Web Services Region that you can specify, and the node types you can request. The node types differ by available storage, memory, CPU and price. With the cost involved you might want to obtain a list of cluster options in the specific region and specify values when creating a cluster. For more information about managing clusters, go to [Amazon Redshift Clusters](#) in the *Amazon Redshift Cluster Management Guide*.

## Request Parameters

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

### ClusterVersion

The version filter value. Specify this parameter to show only the available offerings matching the specified version.

Default: All versions.

Constraints: Must be one of the version returned from [DescribeClusterVersions](#).

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a [DescribeOrderableClusterOptions](#) request exceed the value specified in `MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified MaxRecords value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: 100

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

### NodeType

The node type filter value. Specify this parameter to show only the available offerings matching the specified node type.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## Response Elements

The following elements are returned by the service.

### Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Length Constraints: Maximum length of 2147483647.

## OrderableClusterOptions.OrderableClusterOption.N

An `OrderableClusterOption` structure containing information about orderable options for the cluster.

Type: Array of [OrderableClusterOption](#) objects

## Errors

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

## Examples

### Example

This example illustrates one usage of `DescribeOrderableClusterOptions`.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/
    ?Action=DescribeOrderableClusterOptions
&SignatureMethod=HmacSHA256&SignatureVersion=4
&Version=2012-12-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<DescribeOrderableClusterOptionsResponse xmlns="http://redshift.amazonaws.com/
doc/2012-12-01/">
  <DescribeOrderableClusterOptionsResult>
    <OrderableClusterOptions>
      <OrderableClusterOption>
        <ClusterType>multi-node</ClusterType>
        <AvailabilityZones>
          <AvailabilityZone>
            <Name>us-east-2a</Name>
            <SupportedPlatforms>
              <SupportedPlatform>
```

```
        <Name>VPC</Name>
      </SupportedPlatform>
    </SupportedPlatforms>
  </AvailabilityZone>
  <AvailabilityZone>
    <Name>us-east-2b</Name>
    <SupportedPlatforms>
      <SupportedPlatform>
        <Name>VPC</Name>
      </SupportedPlatform>
    </SupportedPlatforms>
  </AvailabilityZone>
  <AvailabilityZone>
    <Name>us-east-2c</Name>
    <SupportedPlatforms>
      <SupportedPlatform>
        <Name>VPC</Name>
      </SupportedPlatform>
    </SupportedPlatforms>
  </AvailabilityZone>
  <AvailabilityZone>
    <Name>us-east-2d</Name>
    <SupportedPlatforms>
      <SupportedPlatform>
        <Name>VPC</Name>
      </SupportedPlatform>
    </SupportedPlatforms>
  </AvailabilityZone>
  <AvailabilityZone>
    <Name>us-east-2e</Name>
    <SupportedPlatforms>
      <SupportedPlatform>
        <Name>VPC</Name>
      </SupportedPlatform>
    </SupportedPlatforms>
  </AvailabilityZone>
  <AvailabilityZone>
    <Name>us-east-2f</Name>
    <SupportedPlatforms>
      <SupportedPlatform>
        <Name>VPC</Name>
      </SupportedPlatform>
    </SupportedPlatforms>
  </AvailabilityZone>
```

```
</AvailabilityZones>
  <NodeType>dc2.8xlarge</NodeType>
  <ClusterVersion>1.0</ClusterVersion>
</OrderableClusterOption>
  <ClusterType>multi-node</ClusterType>
  <AvailabilityZones>
    <AvailabilityZone>
      <Name>us-east-2a</Name>
      <SupportedPlatforms>
        <SupportedPlatform>
          <Name>VPC</Name>
        </SupportedPlatform>
      </SupportedPlatforms>
    </AvailabilityZone>
    <AvailabilityZone>
      <Name>us-east-2b</Name>
      <SupportedPlatforms>
        <SupportedPlatform>
          <Name>VPC</Name>
        </SupportedPlatform>
      </SupportedPlatforms>
    </AvailabilityZone>
    <AvailabilityZone>
      <Name>us-east-2c</Name>
      <SupportedPlatforms>
        <SupportedPlatform>
          <Name>VPC</Name>
        </SupportedPlatform>
      </SupportedPlatforms>
    </AvailabilityZone>
    <AvailabilityZone>
      <Name>us-east-2f</Name>
      <SupportedPlatforms>
        <SupportedPlatform>
          <Name>VPC</Name>
        </SupportedPlatform>
      </SupportedPlatforms>
    </AvailabilityZone>
  </AvailabilityZones>
  <NodeType>ra3.16xlarge</NodeType>
  <ClusterVersion>1.0</ClusterVersion>
</OrderableClusterOption>
</OrderableClusterOptions>
</DescribeOrderableClusterOptionsResult>
```

```
<ResponseMetadata>
  <RequestId>28e69ca9-28cd-11ea-8a28-2fd1719d0e86</RequestId>
</ResponseMetadata>
</DescribeOrderableClusterOptionsResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribePartners

Returns information about the partner integrations defined for a cluster.

## Request Parameters

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

### AccountId

The Amazon Web Services account ID that owns the cluster.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `^[0-9]+$`

Required: Yes

### ClusterIdentifier

The cluster identifier of the cluster whose partner integration is being described.

Type: String

Length Constraints: Maximum length of 63.

Pattern: `^[a-zA-Z0-9\-\_]+$`

Required: Yes

### DatabaseName

The name of the database whose partner integration is being described. If database name is not specified, then all databases in the cluster are described.

Type: String

Length Constraints: Maximum length of 127.

Pattern: `^[\\p{L}_][\\p{L}\\p{N}@$#_]+$`

Required: No

## PartnerName

The name of the partner that is being described. If partner name is not specified, then all partner integrations are described.

Type: String

Length Constraints: Maximum length of 255.

Pattern: `^[a-zA-Z0-9\-\_]+$`

Required: No

## Response Elements

The following element is returned by the service.

### PartnerIntegrationInfoList.PartnerIntegrationInfo.N

A list of partner integrations.

Type: Array of [PartnerIntegrationInfo](#) objects

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### UnauthorizedPartnerIntegration

The partner integration is not authorized.

HTTP Status Code: 401

### UnsupportedOperation

The requested operation isn't supported.



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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribeRedshiftIdcApplications

Lists the Amazon Redshift IAM Identity Center applications.

## Request Parameters

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

### Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the Marker parameter and retrying the command. If the Marker field is empty, all response records have been retrieved for the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified MaxRecords value, a value is returned in a marker field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Type: Integer

Required: No

### RedshiftIdcApplicationArn

The ARN for the Redshift application that integrates with IAM Identity Center.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## Response Elements

The following elements are returned by the service.

### Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the Marker parameter and retrying the command. If the Marker field is empty, all response records have been retrieved for the request.

Type: String

Length Constraints: Maximum length of 2147483647.

### RedshiftIdcApplications.member.N

The list of Amazon Redshift IAM Identity Center applications.

Type: Array of [RedshiftIdcApplication](#) objects

## Errors

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

### DependentServiceAccessDenied

A dependent service denied access for the integration.

HTTP Status Code: 403

### DependentServiceUnavailableFault

Your request cannot be completed because a dependent internal service is temporarily unavailable. Wait 30 to 60 seconds and try again.

HTTP Status Code: 400

### RedshiftIdcApplicationNotExists

The application you attempted to find doesn't exist.

HTTP Status Code: 404

## UnsupportedOperation

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribeReservedNodeExchangeStatus

Returns exchange status details and associated metadata for a reserved-node exchange. Statuses include such values as in progress and requested.

## Request Parameters

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

### Marker

An optional pagination token provided by a previous `DescribeReservedNodeExchangeStatus` request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by the `MaxRecords` parameter. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `Marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Type: Integer

Required: No

### ReservedNodeExchangeRequestId

The identifier of the reserved-node exchange request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## ReservedNodeId

The identifier of the source reserved node in a reserved-node exchange request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## Response Elements

The following elements are returned by the service.

### Marker

A pagination token provided by a previous `DescribeReservedNodeExchangeStatus` request.

Type: String

Length Constraints: Maximum length of 2147483647.

### ReservedNodeExchangeStatusDetails.ReservedNodeExchangeStatus.N

The details of the reserved-node exchange request, including the status, request time, source reserved-node identifier, and additional details.

Type: Array of [ReservedNodeExchangeStatus](#) objects

## Errors

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

### ReservedNodeExchangeNotFond

The reserved-node exchange status wasn't found.

HTTP Status Code: 404

### ReservedNodeNotFound

The specified reserved compute node not found.

HTTP Status Code: 404

## UnsupportedOperation

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

## DescribeReservedNodeOfferings

Returns a list of the available reserved node offerings by Amazon Redshift with their descriptions including the node type, the fixed and recurring costs of reserving the node and duration the node will be reserved for you. These descriptions help you determine which reserve node offering you want to purchase. You then use the unique offering ID in you call to [PurchaseReservedNodeOffering](#) to reserve one or more nodes for your Amazon Redshift cluster.

For more information about reserved node offerings, go to [Purchasing Reserved Nodes](#) in the *Amazon Redshift Cluster Management Guide*.

### Request Parameters

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

#### Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a [DescribeReservedNodeOfferings](#) request exceed the value specified in `MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

#### MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: 100

Constraints: minimum 20, maximum 100.

Type: Integer



Required: No

### **ReservedNodeOfferingId**

The unique identifier for the offering.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **Response Elements**

The following elements are returned by the service.

### **Marker**

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Length Constraints: Maximum length of 2147483647.

### **ReservedNodeOfferings.ReservedNodeOffering.N**

A list of `ReservedNodeOffering` objects.

Type: Array of [ReservedNodeOffering](#) objects

## **Errors**

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

### **DependentServiceUnavailableFault**

Your request cannot be completed because a dependent internal service is temporarily unavailable. Wait 30 to 60 seconds and try again.

HTTP Status Code: 400

## ReservedNodeOfferingNotFound

Specified offering does not exist.

HTTP Status Code: 404

## UnsupportedOperation

The requested operation isn't supported.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of DescribeReservedNodeOfferings.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=DescribeReservedNodeOfferings  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<DescribeReservedNodeOfferingsResponse xmlns="http://redshift.amazonaws.com/  
doc/2012-12-01/">  
  <DescribeReservedNodeOfferingsResult>  
    <ReservedNodeOfferings>  
      <ReservedNodeOffering>  
        <Duration>94608000</Duration>  
        <UsagePrice>0.0</UsagePrice>  
        <ReservedNodeOfferingId>12345678-12ab-12a1-1a2a-12ab-12a12aEXAMPLE</  
ReservedNodeOfferingId>  
        <OfferingType>No Upfront</OfferingType>  
        <ReservedNodeOfferingType>Regular</ReservedNodeOfferingType>
```

```

    <RecurringCharges>
      <RecurringCharge>
        <RecurringChargeAmount>5.6724</RecurringChargeAmount>
        <RecurringChargeFrequency>Hourly</RecurringChargeFrequency>
      </RecurringCharge>
    </RecurringCharges>
    <NodeType>ra3.16xlarge</NodeType>
    <FixedPrice>0.0</FixedPrice>
    <CurrencyCode>USD</CurrencyCode>
  </ReservedNodeOffering>
  <ReservedNodeOffering>
    <Duration>31536000</Duration>
    <UsagePrice>0.0</UsagePrice>
    <ReservedNodeOfferingId>12345678-12ab-12a1-1a2a-12ab-12a12bEXAMPLE</
ReservedNodeOfferingId>
    <OfferingType>Partial Upfront</OfferingType>
    <ReservedNodeOfferingType>Regular</ReservedNodeOfferingType>
    <RecurringCharges>
      <RecurringCharge>
        <RecurringChargeAmount>0.075</RecurringChargeAmount>
        <RecurringChargeFrequency>Hourly</RecurringChargeFrequency>
      </RecurringCharge>
    </RecurringCharges>
    <NodeType>dc2.large</NodeType>
    <FixedPrice>750.0</FixedPrice>
    <CurrencyCode>USD</CurrencyCode>
  </ReservedNodeOffering>
</ReservedNodeOfferings>
</DescribeReservedNodeOfferingsResult>
<ResponseMetadata>
  <RequestId>680f96a7-28cd-11ea-8314-974e2ba81189</RequestId>
</ResponseMetadata>
</DescribeReservedNodeOfferingsResponse>

```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribeReservedNodes

Returns the descriptions of the reserved nodes.

## Request Parameters

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

### Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a [DescribeReservedNodes](#) request exceed the value specified in `MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: 100

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

### ReservedNodeid

Identifier for the node reservation.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## Response Elements

The following elements are returned by the service.

### Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Length Constraints: Maximum length of 2147483647.

### ReservedNodes.ReservedNode.N

The list of `ReservedNode` objects.

Type: Array of [ReservedNode](#) objects

## Errors

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

### DependentServiceUnavailableFault

Your request cannot be completed because a dependent internal service is temporarily unavailable. Wait 30 to 60 seconds and try again.

HTTP Status Code: 400

### ReservedNodeNotFound

The specified reserved compute node not found.

HTTP Status Code: 404

## Examples

### Example

This example illustrates one usage of DescribeReservedNodes.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/
    ?Action=DescribeReservedNodes
&SignatureMethod=HmacSHA256&SignatureVersion=4
&Version=2012-12-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<DescribeReservedNodesResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <DescribeReservedNodesResult>
    <ReservedNodes>
      <ReservedNode>
        <ReservedNodeId>12345678-12ab-12a1-1a2a-12ab-12a12aEXAMPLE</ReservedNodeId>
        <OfferingType>All Upfront</OfferingType>
        <ReservedNodeOfferingType>Regular</ReservedNodeOfferingType>
        <RecurringCharges>
          <RecurringCharge>
            <RecurringChargeAmount>0.0</RecurringChargeAmount>
            <RecurringChargeFrequency>Hourly</RecurringChargeFrequency>
          </RecurringCharge>
        </RecurringCharges>
        <NodeType>dc2.large</NodeType>
        <FixedPrice>1380.0</FixedPrice>
        <Duration>31536000</Duration>
        <UsagePrice>0.0</UsagePrice>
        <ReservedNodeOfferingId>12345678-12ab-12a1-1a2a-12ab-12a12bEXAMPLE</
ReservedNodeOfferingId>
        <StartTime>2019-12-23T22:33:53.881Z</StartTime>
        <NodeCount>1</NodeCount>
        <State>active</State>
        <CurrencyCode>USD</CurrencyCode>
```

```
</ReservedNode>
</ReservedNodes>
</DescribeReservedNodesResult>
<ResponseMetadata>
  <RequestId>d451d255-28cd-11ea-8314-974e2ba81189</RequestId>
</ResponseMetadata>
</DescribeReservedNodesResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)



# DescribeResize

Returns information about the last resize operation for the specified cluster. If no resize operation has ever been initiated for the specified cluster, a HTTP 404 error is returned. If a resize operation was initiated and completed, the status of the resize remains as SUCCEEDED until the next resize.

A resize operation can be requested using [ModifyCluster](#) and specifying a different number or type of nodes for the cluster.

## Request Parameters

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

### ClusterIdentifier

The unique identifier of a cluster whose resize progress you are requesting. This parameter is case-sensitive.

By default, resize operations for all clusters defined for an Amazon Web Services account are returned.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Response Elements

The following elements are returned by the service.

### AvgResizeRateInMegaBytesPerSecond

The average rate of the resize operation over the last few minutes, measured in megabytes per second. After the resize operation completes, this value shows the average rate of the entire resize operation.

Type: Double

### DataTransferProgressPercent

The percent of data transferred from source cluster to target cluster.

Type: Double

### **ElapsedTimeInSeconds**

The amount of seconds that have elapsed since the resize operation began. After the resize operation completes, this value shows the total actual time, in seconds, for the resize operation.

Type: Long

### **EstimatedTimeToCompletionInSeconds**

The estimated time remaining, in seconds, until the resize operation is complete. This value is calculated based on the average resize rate and the estimated amount of data remaining to be processed. Once the resize operation is complete, this value will be 0.

Type: Long

### **ImportTablesCompleted.member.N**

The names of tables that have been completely imported .

Valid Values: List of table names.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

### **ImportTablesInProgress.member.N**

The names of tables that are being currently imported.

Valid Values: List of table names.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

### **ImportTablesNotStarted.member.N**

The names of tables that have not been yet imported.

Valid Values: List of table names

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

## Message

An optional string to provide additional details about the resize action.

Type: String

Length Constraints: Maximum length of 2147483647.

## ProgressInMegaBytes

While the resize operation is in progress, this value shows the current amount of data, in megabytes, that has been processed so far. When the resize operation is complete, this value shows the total amount of data, in megabytes, on the cluster, which may be more or less than `TotalResizeDataInMegaBytes` (the estimated total amount of data before resize).

Type: Long

## ResizeType

An enum with possible values of `ClassicResize` and `ElasticResize`. These values describe the type of resize operation being performed.

Type: String

Length Constraints: Maximum length of 2147483647.

## Status

The status of the resize operation.

Valid Values: `NONE` | `IN_PROGRESS` | `FAILED` | `SUCCEEDED` | `CANCELLING`

Type: String

Length Constraints: Maximum length of 2147483647.

## TargetClusterType

The cluster type after the resize operation is complete.

Valid Values: `multi-node` | `single-node`

Type: String

Length Constraints: Maximum length of 2147483647.

## TargetEncryptionType

The type of encryption for the cluster after the resize is complete.

Possible values are KMS and None.

Type: String

Length Constraints: Maximum length of 2147483647.

## TargetNodeType

The node type that the cluster will have after the resize operation is complete.

Type: String

Length Constraints: Maximum length of 2147483647.

## TargetNumberOfNodes

The number of nodes that the cluster will have after the resize operation is complete.

Type: Integer

## TotalResizeDataInMegaBytes

The estimated total amount of data, in megabytes, on the cluster before the resize operation began.

Type: Long

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### ResizeNotFound

A resize operation for the specified cluster is not found.

HTTP Status Code: 404

## UnsupportedOperation

The requested operation isn't supported.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of DescribeResize.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=DescribeResize  
&ClusterIdentifier=mycluster  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<DescribeResizeResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">  
  <DescribeResizeResult>  
    <AvgResizeRateInMegaBytesPerSecond>0.1498</AvgResizeRateInMegaBytesPerSecond>  
    <TargetNodeType>dc2.large</TargetNodeType>  
    <TargetEncryptionType>NONE</TargetEncryptionType>  
    <EstimatedTimeToCompletionInSeconds>0</EstimatedTimeToCompletionInSeconds>  
    <ProgressInMegaBytes>55</ProgressInMegaBytes>  
    <DataTransferProgressPercent>100.0</DataTransferProgressPercent>  
    <TotalResizeDataInMegaBytes>55</TotalResizeDataInMegaBytes>  
    <ElapsedTimeInSeconds>1226</ElapsedTimeInSeconds>  
    <TargetClusterType>single-node</TargetClusterType>  
    <ResizeType>ClassicResize</ResizeType>  
    <Status>SUCCEEDED</Status>
```

```
</DescribeResizeResult>
<ResponseMetadata>
  <RequestId>6a152dbe-28d1-11ea-8cc9-43f1872b4b75</RequestId>
</ResponseMetadata>
</DescribeResizeResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribeScheduledActions

Describes properties of scheduled actions.

## Request Parameters

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

### Active

If true, retrieve only active scheduled actions. If false, retrieve only disabled scheduled actions.

Type: Boolean

Required: No

### EndTime

The end time in UTC of the scheduled action to retrieve. Only active scheduled actions that have invocations before this time are retrieved.

Type: Timestamp

Required: No

### Filters.ScheduledActionFilter.N

List of scheduled action filters.

Type: Array of [ScheduledActionFilter](#) objects

Required: No

### Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a [DescribeScheduledActions](#) request exceed the value specified in `MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **MaxRecords**

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified MaxRecords value, a value is returned in a marker field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: 100

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

### **ScheduledActionName**

The name of the scheduled action to retrieve.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **StartTime**

The start time in UTC of the scheduled actions to retrieve. Only active scheduled actions that have invocations after this time are retrieved.

Type: Timestamp

Required: No

### **TargetActionType**

The type of the scheduled actions to retrieve.

Type: String



Valid Values: `ResizeCluster` | `PauseCluster` | `ResumeCluster`

Required: No

## Response Elements

The following elements are returned by the service.

### Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a [DescribeScheduledActions](#) request exceed the value specified in `MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

### ScheduledActions.ScheduledAction.N

List of retrieved scheduled actions.

Type: Array of [ScheduledAction](#) objects

## Errors

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

### ScheduledActionNotFound

The scheduled action cannot be found.

HTTP Status Code: 400

### UnauthorizedOperation

Your account is not authorized to perform the requested operation.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of DescribeScheduledActions.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/
    ?Action=DescribeScheduledActions
&SignatureMethod=HmacSHA256&SignatureVersion=4
&Version=2012-12-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<DescribeScheduledActionsResponse xmlns="http://redshift.amazonaws.com/
doc/2012-12-01/">
  <DescribeScheduledActionsResult>
    <ScheduledActions>
      <ScheduledAction>
        <IamRole>arn:aws:iam::123456789012:role/myRedshiftRole</IamRole>
        <Schedule>at(2019-12-10T00:07:00)</Schedule>
        <ScheduledActionName>myscheduledaction</ScheduledActionName>
        <TargetAction>
          <ResizeCluster>
            <ClusterIdentifier>mycluster</ClusterIdentifier>
            <Classic>>false</Classic>
            <NumberOfNodes>4</NumberOfNodes>
          </ResizeCluster>
        </TargetAction>
        <NextInvocations/>
        <State>DISABLED</State>
      </ScheduledAction>
    </ScheduledActions>
  </DescribeScheduledActionsResult>
  <ResponseMetadata>
    <RequestId>d9377e44-28d1-11ea-b6af-7126da6f11af</RequestId>
  </ResponseMetadata>
</DescribeScheduledActionsResponse>
```

```
</DescribeScheduledActionsResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribeSnapshotCopyGrants

Returns a list of snapshot copy grants owned by the Amazon Web Services account in the destination region.

For more information about managing snapshot copy grants, go to [Amazon Redshift Database Encryption](#) in the *Amazon Redshift Cluster Management Guide*.

## Request Parameters

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

### Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a `DescribeSnapshotCopyGrant` request exceed the value specified in `MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Constraints: You can specify either the `SnapshotCopyGrantName` parameter or the `Marker` parameter, but not both.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: 100

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

### **SnapshotCopyGrantName**

The name of the snapshot copy grant.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **TagKeys.TagKey.N**

A tag key or keys for which you want to return all matching resources that are associated with the specified key or keys. For example, suppose that you have resources tagged with keys called `owner` and `environment`. If you specify both of these tag keys in the request, Amazon Redshift returns a response with all resources that have either or both of these tag keys associated with them.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### **TagValues.TagValue.N**

A tag value or values for which you want to return all matching resources that are associated with the specified value or values. For example, suppose that you have resources tagged with values called `admin` and `test`. If you specify both of these tag values in the request, Amazon Redshift returns a response with all resources that have either or both of these tag values associated with them.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

## **Response Elements**

The following elements are returned by the service.

## Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a `DescribeSnapshotCopyGrant` request exceed the value specified in `MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Constraints: You can specify either the `SnapshotCopyGrantName` parameter or the `Marker` parameter, but not both.

Type: String

Length Constraints: Maximum length of 2147483647.

## `SnapshotCopyGrants.SnapshotCopyGrant.N`

The list of `SnapshotCopyGrant` objects.

Type: Array of [SnapshotCopyGrant](#) objects

## Errors

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

### `InvalidTagFault`

The tag is invalid.

HTTP Status Code: 400

### `SnapshotCopyGrantNotFoundFault`

The specified snapshot copy grant can't be found. Make sure that the name is typed correctly and that the grant exists in the destination region.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of `DescribeSnapshotCopyGrants`.

## Sample Request

```
https://redshift.us-east-2.amazonaws.com/
    ?Action=DescribeSnapshotCopyGrants
    &SnapshotCopyGrantName=mysnapshotcopygrantnew
    &SignatureMethod=HmacSHA256&SignatureVersion=4
    &Version=2012-12-01
    &X-Amz-Algorithm=AWS4-HMAC-SHA256
    &X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
    &X-Amz-Date=20190825T160000Z
    &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
    &X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<DescribeSnapshotCopyGrantsResponse xmlns="http://redshift.amazonaws.com/
doc/2012-12-01/">
  <DescribeSnapshotCopyGrantsResult>
    <SnapshotCopyGrants>
      <SnapshotCopyGrant>
        <SnapshotCopyGrantName>mysnapshotcopygrantnew</SnapshotCopyGrantName>
        <KmsKeyId>arn:aws:kms:us-east-2:123456789012:key/bPxRfih3yCo8nvbEXAMPLEKEY</
KmsKeyId>
        <Tags/>
      </SnapshotCopyGrant>
    </SnapshotCopyGrants>
  </DescribeSnapshotCopyGrantsResult>
  <ResponseMetadata>
    <RequestId>3a843f76-28d2-11ea-9caa-c956bec1ce87</RequestId>
  </ResponseMetadata>
</DescribeSnapshotCopyGrantsResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)



# DescribeSnapshotSchedules

Returns a list of snapshot schedules.

## Request Parameters

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

### ClusterIdentifier

The unique identifier for the cluster whose snapshot schedules you want to view.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `marker` parameter and retrying the command. If the `marker` field is empty, all response records have been retrieved for the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned `marker` value.

Type: Integer

Required: No

### ScheduleIdentifier

A unique identifier for a snapshot schedule.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **TagKeys.TagKey.N**

The key value for a snapshot schedule tag.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### **TagValues.TagValue.N**

The value corresponding to the key of the snapshot schedule tag.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

## **Response Elements**

The following elements are returned by the service.

### **Marker**

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `marker` parameter and retrying the command. If the `marker` field is empty, all response records have been retrieved for the request.

Type: String

Length Constraints: Maximum length of 2147483647.

### **SnapshotSchedules.SnapshotSchedule.N**

A list of SnapshotSchedules.

Type: Array of [SnapshotSchedule](#) objects

## Errors

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

## Examples

### Example

This example illustrates one usage of DescribeSnapshotSchedules.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=DescribeSnapshotSchedules  
&ClusterIdentifier=mycluster  
&ScheduleIdentifier=mynapshotschedule  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<DescribeSnapshotSchedulesResponse xmlns="http://redshift.amazonaws.com/  
doc/2012-12-01/">  
  <DescribeSnapshotSchedulesResult>  
    <SnapshotSchedules>  
      <SnapshotSchedule>  
        <ScheduleDefinitions>  
          <ScheduleDefinition>rate(12 hours)</ScheduleDefinition>  
        </ScheduleDefinitions>  
        <ScheduleDescription>My schedule description</ScheduleDescription>  
        <AssociatedClusterCount>1</AssociatedClusterCount>  
        <AssociatedClusters>  
          <ClusterAssociatedToSchedule>  
            <ScheduleAssociationState>ACTIVE</ScheduleAssociationState>
```

```
<ClusterIdentifier>mycluster</ClusterIdentifier>
  </ClusterAssociatedToSchedule>
</AssociatedClusters>
  <ScheduleIdentifier>mysnapshotschedule</ScheduleIdentifier>
  <Tags/>
</SnapshotSchedule>
</SnapshotSchedules>
</DescribeSnapshotSchedulesResult>
<ResponseMetadata>
  <RequestId>65030ae0-28d3-11ea-9caa-c956bec1ce87</RequestId>
</ResponseMetadata>
</DescribeSnapshotSchedulesResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribeStorage

Returns account level backups storage size and provisional storage.

## Response Elements

The following elements are returned by the service.

### TotalBackupSizeInMegaBytes

The total amount of storage currently used for snapshots.

Type: Double

### TotalProvisionedStorageInMegaBytes

The total amount of storage currently provisioned.

Type: Double

## Errors

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

## Examples

### Example

This example illustrates one usage of DescribeStorage.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=DescribeStorage  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<DescribeStorageResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <DescribeStorageResult>
    <TotalProvisionedStorageInMegaBytes>491520.0</TotalProvisionedStorageInMegaBytes>
    <TotalBackupSizeInMegaBytes>26.0</TotalBackupSizeInMegaBytes>
  </DescribeStorageResult>
  <ResponseMetadata>
    <RequestId>d6b07363-28d3-11ea-8397-219d1980588b</RequestId>
  </ResponseMetadata>
</DescribeStorageResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DescribeTableRestoreStatus

Lists the status of one or more table restore requests made using the [RestoreTableFromClusterSnapshot](#) API action. If you don't specify a value for the `TableRestoreRequestId` parameter, then `DescribeTableRestoreStatus` returns the status of all table restore requests ordered by the date and time of the request in ascending order. Otherwise `DescribeTableRestoreStatus` returns the status of the table specified by `TableRestoreRequestId`.

## Request Parameters

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

### ClusterIdentifier

The Amazon Redshift cluster that the table is being restored to.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Marker

An optional pagination token provided by a previous `DescribeTableRestoreStatus` request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by the `MaxRecords` parameter.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### MaxRecords

The maximum number of records to include in the response. If more records exist than the specified `MaxRecords` value, a pagination token called a marker is included in the response so that the remaining results can be retrieved.

Type: Integer

Required: No

### **TableRestoreRequestId**

The identifier of the table restore request to return status for. If you don't specify a `TableRestoreRequestId` value, then `DescribeTableRestoreStatus` returns the status of all in-progress table restore requests.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **Response Elements**

The following elements are returned by the service.

### **Marker**

A pagination token that can be used in a subsequent [DescribeTableRestoreStatus](#) request.

Type: String

Length Constraints: Maximum length of 2147483647.

### **TableRestoreStatusDetails.TableRestoreStatus.N**

A list of status details for one or more table restore requests.

Type: Array of [TableRestoreStatus](#) objects

## **Errors**

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

### **ClusterNotFound**

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404



## TableRestoreNotFoundFault

The specified `TableRestoreRequestId` value was not found.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of `DescribeTableRestoreStatus`.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/
    ?Action=DescribeTableRestoreStatus
    &ClusterIdentifier=mycluster
    &SignatureMethod=HmacSHA256&SignatureVersion=4
    &Version=2012-12-01
    &X-Amz-Algorithm=AWS4-HMAC-SHA256
    &X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
    &X-Amz-Date=20190825T160000Z
    &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
    &X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<DescribeTableRestoreStatusResponse xmlns="http://redshift.amazonaws.com/
doc/2012-12-01/">
  <DescribeTableRestoreStatusResult>
    <TableRestoreStatusDetails>
      <TableRestoreStatus>
        <NewTableName>mytable-clone</NewTableName>
        <ClusterIdentifier>mycluster</ClusterIdentifier>
        <SnapshotIdentifier>mysnapshotid</SnapshotIdentifier>
        <RequestTime>2019-12-27T18:22:12.257Z</RequestTime>
        <SourceTableName>mytable</SourceTableName>
        <SourceDatabaseName>dev</SourceDatabaseName>
        <TableRestoreRequestId>z1116630-0e80-46f4-ba86-bd9670411ebd</
TableRestoreRequestId>
        <TargetDatabaseName>dev</TargetDatabaseName>
        <SourceSchemaName>public</SourceSchemaName>
```

```
<TargetSchemaName>public</TargetSchemaName>
  <Status>IN_PROGRESS</Status>
</TableRestoreStatus>
</TableRestoreStatusDetails>
</DescribeTableRestoreStatusResult>
<ResponseMetadata>
  <RequestId>3a0cf005-28d6-11ea-9caa-c956bec1ce87</RequestId>
</ResponseMetadata>
</DescribeTableRestoreStatusResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

## DescribeTags

Returns a list of tags. You can return tags from a specific resource by specifying an ARN, or you can return all tags for a given type of resource, such as clusters, snapshots, and so on.

The following are limitations for DescribeTags:

- You cannot specify an ARN and a resource-type value together in the same request.
- You cannot use the MaxRecords and Marker parameters together with the ARN parameter.
- The MaxRecords parameter can be a range from 10 to 50 results to return in a request.

If you specify both tag keys and tag values in the same request, Amazon Redshift returns all resources that match any combination of the specified keys and values. For example, if you have owner and environment for tag keys, and admin and test for tag values, all resources that have any combination of those values are returned.

If both tag keys and values are omitted from the request, resources are returned regardless of whether they have tag keys or values associated with them.

## Request Parameters

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

### Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the marker parameter and retrying the command. If the marker field is empty, all response records have been retrieved for the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified MaxRecords value, a value is returned in a marker

field of the response. You can retrieve the next set of records by retrying the command with the returned `marker` value.

Type: Integer

Required: No

### ResourceName

The Amazon Resource Name (ARN) for which you want to describe the tag or tags. For example, `arn:aws:redshift:us-east-2:123456789:cluster:t1`.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### ResourceType

The type of resource with which you want to view tags. Valid resource types are:

- Cluster
- CIDR/IP
- EC2 security group
- Snapshot
- Cluster security group
- Subnet group
- HSM connection
- HSM certificate
- Parameter group
- Snapshot copy grant
- Integration (zero-ETL integration or S3 event integration)

#### Note

To describe the tags associated with an integration, don't specify `ResourceType`, instead specify the `ResourceName` of the integration.

For more information about Amazon Redshift resource types and constructing ARNs, go to [Specifying Policy Elements: Actions, Effects, Resources, and Principals](#) in the Amazon Redshift Cluster Management Guide.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **TagKeys.TagKey.N**

A tag key or keys for which you want to return all matching resources that are associated with the specified key or keys. For example, suppose that you have resources tagged with keys called `owner` and `environment`. If you specify both of these tag keys in the request, Amazon Redshift returns a response with all resources that have either or both of these tag keys associated with them.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### **TagValues.TagValue.N**

A tag value or values for which you want to return all matching resources that are associated with the specified value or values. For example, suppose that you have resources tagged with values called `admin` and `test`. If you specify both of these tag values in the request, Amazon Redshift returns a response with all resources that have either or both of these tag values associated with them.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

## **Response Elements**

The following elements are returned by the service.

## Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Length Constraints: Maximum length of 2147483647.

## TaggedResources.TaggedResource.N

A list of tags with their associated resources.

Type: Array of [TaggedResource](#) objects

## Errors

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

### InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

### ResourceNotFoundFault

The resource could not be found.

HTTP Status Code: 404

## Examples

### Example

This example illustrates one usage of `DescribeTags`.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
?Action=DescribeTags
```

```
&ResourceName=arn%3Aaws%3Aredshift%3Aus-east-2%3A123456789012%3Acluster%3Amycluster
&TagKeys.TagKey.1=mytag
&TagValues.TagValue.1=newtag
&SignatureMethod=HmacSHA256&SignatureVersion=4
&Version=2012-12-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<DescribeTagsResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <DescribeTagsResult>
    <TaggedResources>
      <TaggedResource>
        <ResourceName>arn:aws:redshift:us-east-2:123456789012:cluster:mycluster</
ResourceName>
        <Tag>
          <Value>newtag</Value>
          <Key>mytag</Key>
        </Tag>
        <ResourceType>cluster</ResourceType>
      </TaggedResource>
    </TaggedResources>
  </DescribeTagsResult>
  <ResponseMetadata>
    <RequestId>09b7e6a0-28da-11ea-8314-974e2ba81189</RequestId>
  </ResponseMetadata>
</DescribeTagsResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)



# DescribeUsageLimits

Shows usage limits on a cluster. Results are filtered based on the combination of input usage limit identifier, cluster identifier, and feature type parameters:

- If usage limit identifier, cluster identifier, and feature type are not provided, then all usage limit objects for the current account in the current region are returned.
- If usage limit identifier is provided, then the corresponding usage limit object is returned.
- If cluster identifier is provided, then all usage limit objects for the specified cluster are returned.
- If cluster identifier and feature type are provided, then all usage limit objects for the combination of cluster and feature are returned.

## Request Parameters

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

### ClusterIdentifier

The identifier of the cluster for which you want to describe usage limits.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### FeatureType

The feature type for which you want to describe usage limits.

Type: String

Valid Values: spectrum | concurrency-scaling | cross-region-datasharing

Required: No

### Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a [DescribeUsageLimits](#) request exceed the value specified in `MaxRecords`, Amazon returns a value in the `Marker` field of the response. You can retrieve the next set of

response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **MaxRecords**

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: 100

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

### **TagKeys.TagKey.N**

A tag key or keys for which you want to return all matching usage limit objects that are associated with the specified key or keys. For example, suppose that you have parameter groups that are tagged with keys called `owner` and `environment`. If you specify both of these tag keys in the request, Amazon Redshift returns a response with the usage limit objects have either or both of these tag keys associated with them.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### **TagValues.TagValue.N**

A tag value or values for which you want to return all matching usage limit objects that are associated with the specified tag value or values. For example, suppose that you have parameter groups that are tagged with values called `admin` and `test`. If you specify both of

these tag values in the request, Amazon Redshift returns a response with the usage limit objects that have either or both of these tag values associated with them.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### **UsageLimitId**

The identifier of the usage limit to describe.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **Response Elements**

The following elements are returned by the service.

### **Marker**

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Length Constraints: Maximum length of 2147483647.

### **UsageLimits.member.N**

Contains the output from the [DescribeUsageLimits](#) action.

Type: Array of [UsageLimit](#) objects

## **Errors**

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

## ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

## UnsupportedOperation

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DisableLogging

Stops logging information, such as queries and connection attempts, for the specified Amazon Redshift cluster.

## Request Parameters

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

### ClusterIdentifier

The identifier of the cluster on which logging is to be stopped.

Example: `examplecluster`

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Response Elements

The following elements are returned by the service.

### BucketName

The name of the S3 bucket where the log files are stored.

Type: String

Length Constraints: Maximum length of 2147483647.

### LastFailureMessage

The message indicating that logs failed to be delivered.

Type: String

Length Constraints: Maximum length of 2147483647.

### LastFailureTime

The last time when logs failed to be delivered.

Type: Timestamp

### **LastSuccessfulDeliveryTime**

The last time that logs were delivered.

Type: Timestamp

### **LogDestinationType**

The log destination type. An enum with possible values of `s3` and `cloudwatch`.

Type: String

Valid Values: `s3` | `cloudwatch`

### **LogExports.member.N**

The collection of exported log types. Possible values are `connectionlog`, `useractivitylog`, and `userlog`.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

### **LoggingEnabled**

`true` if logging is on, `false` if logging is off.

Type: Boolean

### **S3KeyPrefix**

The prefix applied to the log file names.

Type: String

Length Constraints: Maximum length of 256.

Pattern: `[\p{L}\p{Z}\p{N}_.: /+=\ -@]*`

## **Errors**

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

## ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

## InvalidClusterState

The specified cluster is not in the available state.

HTTP Status Code: 400

## UnsupportedOperation

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DisableSnapshotCopy

Disables the automatic copying of snapshots from one region to another region for a specified cluster.

If your cluster and its snapshots are encrypted using an encrypted symmetric key from Amazon Key Management Service, use [DeleteSnapshotCopyGrant](#) to delete the grant that grants Amazon Redshift permission to the key in the destination region.

## Request Parameters

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

### ClusterIdentifier

The unique identifier of the source cluster that you want to disable copying of snapshots to a destination region.

Constraints: Must be the valid name of an existing cluster that has cross-region snapshot copy enabled.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Response Elements

The following element is returned by the service.

### Cluster

Describes a cluster.

Type: [Cluster](#) object

## Errors

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



## ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

## InvalidClusterState

The specified cluster is not in the available state.

HTTP Status Code: 400

## SnapshotCopyAlreadyDisabledFault

The cluster already has cross-region snapshot copy disabled.

HTTP Status Code: 400

## UnauthorizedOperation

Your account is not authorized to perform the requested operation.

HTTP Status Code: 400

## UnsupportedOperation

The requested operation isn't supported.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of `DisableSnapshotCopy`.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=DisableSnapshotCopy  
&ClusterIdentifier=mycluster  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
```

```
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<DisableSnapshotCopyResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <DisableSnapshotCopyResult>
    <Cluster>
      <AllowVersionUpgrade>>true</AllowVersionUpgrade>
      <ClusterIdentifier>mycluster</ClusterIdentifier>
      <NumberOfNodes>1</NumberOfNodes>
      <AvailabilityZone>us-east-2a</AvailabilityZone>
      <ClusterVersion>1.0</ClusterVersion>
      <ExpectedNextSnapshotScheduleTimeStatus>OnTrack</
ExpectedNextSnapshotScheduleTimeStatus>
      <ManualSnapshotRetentionPeriod>-1</ManualSnapshotRetentionPeriod>
      <ClusterAvailabilityStatus>Available</ClusterAvailabilityStatus>
      <Endpoint>
        <Port>5439</Port>
        <Address>mycluster.cmeaswquae.us-east-2.redshift.amazonaws.com</Address>
      </Endpoint>
      <VpcId>vpc-a1abc1a1</VpcId>
      <PubliclyAccessible>>false</PubliclyAccessible>
      <ClusterCreateTime>2019-12-27T17:48:01.504Z</ClusterCreateTime>
      <MasterUsername>adminuser</MasterUsername>
      <DBName>dev</DBName>
      <EnhancedVpcRouting>>false</EnhancedVpcRouting>
      <IamRoles/>
      <ClusterSecurityGroups/>
      <ExpectedNextSnapshotScheduleTime>2019-12-28T05:48:20.939Z</
ExpectedNextSnapshotScheduleTime>
      <NodeType>dc2.large</NodeType>
      <ClusterSubnetGroupName>default</ClusterSubnetGroupName>
      <NextMaintenanceWindowStartTime>2019-12-29T05:30:00Z</
NextMaintenanceWindowStartTime>
      <DeferredMaintenanceWindows/>
      <Tags>
        <Tag>
          <Value>newtag</Value>
          <Key>mytag</Key>
        </Tag>
      </Tags>
    </Cluster>
  </DisableSnapshotCopyResult>
</DisableSnapshotCopyResponse>
```

```
<VpcSecurityGroups>
  <VpcSecurityGroup>
    <VpcSecurityGroupId>sh-a1a123ab</VpcSecurityGroupId>
    <Status>active</Status>
  </VpcSecurityGroup>
</VpcSecurityGroups>
<ClusterParameterGroups>
  <ClusterParameterGroup>
    <ParameterGroupName>default.redshift-1.0</ParameterGroupName>
    <ParameterApplyStatus>in-sync</ParameterApplyStatus>
  </ClusterParameterGroup>
</ClusterParameterGroups>
<Encrypted>>false</Encrypted>
<MaintenanceTrackName>current</MaintenanceTrackName>
<PendingModifiedValues/>
<PreferredMaintenanceWindow>sun:05:30-sun:06:00</PreferredMaintenanceWindow>
<AutomatedSnapshotRetentionPeriod>1</AutomatedSnapshotRetentionPeriod>
<ClusterStatus>available</ClusterStatus>
</Cluster>
</DisableSnapshotCopyResult>
<ResponseMetadata>
  <RequestId>7ec20f61-28da-11ea-9939-5fccefa818c0</RequestId>
</ResponseMetadata>
</DisableSnapshotCopyResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# DisassociateDataShareConsumer

From a datashare consumer account, remove association for the specified datashare.

## Request Parameters

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

### DataShareArn

The Amazon Resource Name (ARN) of the datashare to remove association for.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### ConsumerArn

The Amazon Resource Name (ARN) of the consumer namespace that association for the datashare is removed from.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### ConsumerRegion

From a datashare consumer account, removes association of a datashare from all the existing and future namespaces in the specified Amazon Region.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### DisassociateEntireAccount

A value that specifies whether association for the datashare is removed from the entire account.

Type: Boolean

Required: No

## Response Elements

The following elements are returned by the service.

### **AllowPubliclyAccessibleConsumers**

A value that specifies whether the datashare can be shared to a publicly accessible cluster.

Type: Boolean

### **DataShareArn**

The Amazon Resource Name (ARN) of the datashare that the consumer is to use.

Type: String

Length Constraints: Maximum length of 2147483647.

### **DataShareAssociations.member.N**

A value that specifies when the datashare has an association between producer and data consumers.

Type: Array of [DataShareAssociation](#) objects

### **DataShareType**

The type of the datashare created by RegisterNamespace.

Type: String

Valid Values: INTERNAL

### **ManagedBy**

The identifier of a datashare to show its managing entity.

Type: String

Length Constraints: Maximum length of 2147483647.

### **ProducerArn**

The Amazon Resource Name (ARN) of the producer namespace.

Type: String

Length Constraints: Maximum length of 2147483647.

## Errors

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

### InvalidDataShareFault

There is an error with the datashare.

HTTP Status Code: 400

### InvalidNamespaceFault

The namespace isn't valid because the namespace doesn't exist. Provide a valid namespace.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of `DisassociateDataShareConsumer`.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/
  ?Action=DisassociateDataShareConsumer
  &DataShareArn=arn%3Aaws%3Aredshift%3Aus-east-1%3A275247490162%3Adatashare
%3Afd59653e-4ace-4952-a102-286dad7263ca%2Ftestshare1
  &ConsumerArn=arn%3Aaws%3Aredshift%3Aus-east-1%3A275247490162%3Anamespace
%3A57beacb3-2f8a-4c22-a3e3-d2d73da7ee6a
  &DisassociateEntireAccount=false
  &SignatureMethod=HmacSHA256&SignatureVersion=4
  &Version=2012-12-01
  &X-Amz-Algorithm=AWS4-HMAC-SHA256
  &X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
  &X-Amz-Date=20190825T160000Z
  &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
  &X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<DisassociateDataShareConsumerResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <DisassociateDataShareConsumerResult>
    <ProducerNamespaceArn>arn:aws:redshift:us-east-1:827630067164:namespace:73ff3b6a-0fab-4122-8ba4-c6613d707a6e</ProducerNamespaceArn>
    <AllowPubliclyAccessibleConsumers>true</AllowPubliclyAccessibleConsumers>
    <DataShareArn>arn:aws:redshift:us-east-1:827630067164:datashare:73ff3b6a-0fab-4122-8ba4-c6613d707a6e/share_data</DataShareArn>
    <DataShareAssociations/>
  </DisassociateDataShareConsumerResult>
  <ResponseMetadata>
    <RequestId>183c52e9-ba40-472c-9b31-66bfd7b20d88</RequestId>
  </ResponseMetadata>
</DisassociateDataShareConsumerResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)



# EnableLogging

Starts logging information, such as queries and connection attempts, for the specified Amazon Redshift cluster.

## Request Parameters

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

### ClusterIdentifier

The identifier of the cluster on which logging is to be started.

Example: `examplecluster`

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### BucketName

The name of an existing S3 bucket where the log files are to be stored.

Constraints:

- Must be in the same region as the cluster
- The cluster must have read bucket and put object permissions

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### LogDestinationType

The log destination type. An enum with possible values of `s3` and `cloudwatch`.

Type: String

Valid Values: `s3` | `cloudwatch`

Required: No

### **LogExports.member.N**

The collection of exported log types. Possible values are `connectionlog`, `useractivitylog`, and `userlog`.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### **S3KeyPrefix**

The prefix applied to the log file names.

Valid characters are any letter from any language, any whitespace character, any numeric character, and the following characters: underscore (`_`), period (`.`), colon (`:`), slash (`/`), equal (`=`), plus (`+`), backslash (`\`), hyphen (`-`), at symbol (`@`).

Type: String

Length Constraints: Maximum length of 256.

Pattern: `[\p{L}\p{Z}\p{N}_ . :/=+\-@]*`

Required: No

## **Response Elements**

The following elements are returned by the service.

### **BucketName**

The name of the S3 bucket where the log files are stored.

Type: String

Length Constraints: Maximum length of 2147483647.

### **LastFailureMessage**

The message indicating that logs failed to be delivered.

Type: String

Length Constraints: Maximum length of 2147483647.

### **LastFailureTime**

The last time when logs failed to be delivered.

Type: Timestamp

### **LastSuccessfulDeliveryTime**

The last time that logs were delivered.

Type: Timestamp

### **LogDestinationType**

The log destination type. An enum with possible values of `s3` and `cloudwatch`.

Type: String

Valid Values: `s3` | `cloudwatch`

### **LogExports.member.N**

The collection of exported log types. Possible values are `connectionlog`, `useractivitylog`, and `userlog`.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

### **LoggingEnabled**

`true` if logging is on, `false` if logging is off.

Type: Boolean

### **S3KeyPrefix**

The prefix applied to the log file names.

Type: String

Length Constraints: Maximum length of 256.

Pattern: `[\p{L}\p{Z}\p{N}_ . : / = + \ - @]*`

## Errors

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

### BucketNotFoundFault

Could not find the specified S3 bucket.

HTTP Status Code: 400

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### InsufficientS3BucketPolicyFault

The cluster does not have read bucket or put object permissions on the S3 bucket specified when enabling logging.

HTTP Status Code: 400

### InvalidClusterState

The specified cluster is not in the available state.

HTTP Status Code: 400

### InvalidS3BucketNameFault

The S3 bucket name is invalid. For more information about naming rules, go to [Bucket Restrictions and Limitations](#) in the Amazon Simple Storage Service (S3) Developer Guide.

HTTP Status Code: 400

### InvalidS3KeyPrefixFault

The string specified for the logging S3 key prefix does not comply with the documented constraints.

HTTP Status Code: 400

### UnsupportedOperation

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# EnableSnapshotCopy

Enables the automatic copy of snapshots from one region to another region for a specified cluster.

## Request Parameters

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

### ClusterIdentifier

The unique identifier of the source cluster to copy snapshots from.

Constraints: Must be the valid name of an existing cluster that does not already have cross-region snapshot copy enabled.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### DestinationRegion

The destination Amazon Web Services Region that you want to copy snapshots to.

Constraints: Must be the name of a valid Amazon Web Services Region. For more information, see [Regions and Endpoints](#) in the Amazon Web Services General Reference.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### ManualSnapshotRetentionPeriod

The number of days to retain newly copied snapshots in the destination Amazon Web Services Region after they are copied from the source Amazon Web Services Region. If the value is -1, the manual snapshot is retained indefinitely.

The value must be either -1 or an integer between 1 and 3,653.

Type: Integer

Required: No

### **RetentionPeriod**

The number of days to retain automated snapshots in the destination region after they are copied from the source region.

Default: 7.

Constraints: Must be at least 1 and no more than 35.

Type: Integer

Required: No

### **SnapshotCopyGrantName**

The name of the snapshot copy grant to use when snapshots of an Amazon KMS-encrypted cluster are copied to the destination region.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **Response Elements**

The following element is returned by the service.

### **Cluster**

Describes a cluster.

Type: [Cluster](#) object

## **Errors**

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

## **ClusterNotFound**

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

## **CopyToRegionDisabledFault**

Cross-region snapshot copy was temporarily disabled. Try your request again.

HTTP Status Code: 400

## **DependentServiceRequestThrottlingFault**

The request cannot be completed because a dependent service is throttling requests made by Amazon Redshift on your behalf. Wait and retry the request.

HTTP Status Code: 400

## **IncompatibleOrderableOptions**

The specified options are incompatible.

HTTP Status Code: 400

## **InvalidClusterState**

The specified cluster is not in the available state.

HTTP Status Code: 400

## **InvalidRetentionPeriodFault**

The retention period specified is either in the past or is not a valid value.

The value must be either -1 or an integer between 1 and 3,653.

HTTP Status Code: 400

## **LimitExceededFault**

The encryption key has exceeded its grant limit in Amazon KMS.

HTTP Status Code: 400



## SnapshotCopyAlreadyEnabledFault

The cluster already has cross-region snapshot copy enabled.

HTTP Status Code: 400

## SnapshotCopyGrantNotFoundFault

The specified snapshot copy grant can't be found. Make sure that the name is typed correctly and that the grant exists in the destination region.

HTTP Status Code: 400

## UnauthorizedOperation

Your account is not authorized to perform the requested operation.

HTTP Status Code: 400

## UnknownSnapshotCopyRegionFault

The specified region is incorrect or does not exist.

HTTP Status Code: 404

## Examples

### Example

This example illustrates one usage of EnableSnapshotCopy.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=EnableSnapshotCopy  
&ClusterIdentifier=mycluster  
&DestinationRegion=us-east-1  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```

<EnableSnapshotCopyResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <EnableSnapshotCopyResult>
    <Cluster>
      <AllowVersionUpgrade>true</AllowVersionUpgrade>
      <ClusterIdentifier>mycluster</ClusterIdentifier>
      <NumberOfNodes>1</NumberOfNodes>
      <AvailabilityZone>us-east-2a</AvailabilityZone>
      <ClusterVersion>1.0</ClusterVersion>
      <ExpectedNextSnapshotScheduleTimeStatus>OnTrack</
ExpectedNextSnapshotScheduleTimeStatus>
      <ManualSnapshotRetentionPeriod>-1</ManualSnapshotRetentionPeriod>
      <ClusterAvailabilityStatus>Available</ClusterAvailabilityStatus>
      <Endpoint>
        <Port>5439</Port>
        <Address>mycluster.cmeaswquae.us-east-2.redshift.amazonaws.com</Address>
      </Endpoint>
      <VpcId>vpc-a1abc1a1</VpcId>
      <PubliclyAccessible>>false</PubliclyAccessible>
      <ClusterCreateTime>2019-12-27T17:48:01.504Z</ClusterCreateTime>
      <ClusterSnapshotCopyStatus>
        <ManualSnapshotRetentionPeriod>-1</ManualSnapshotRetentionPeriod>
        <DestinationRegion>us-east-1</DestinationRegion>
        <RetentionPeriod>7</RetentionPeriod>
      </ClusterSnapshotCopyStatus>
      <MasterUsername>adminuser</MasterUsername>
      <DBName>dev</DBName>
      <EnhancedVpcRouting>>false</EnhancedVpcRouting>
      <IamRoles/>
      <ClusterSecurityGroups/>
      <ExpectedNextSnapshotScheduleTime>2019-12-28T05:48:20.939Z</
ExpectedNextSnapshotScheduleTime>
      <NodeType>dc2.large</NodeType>
      <ClusterSubnetGroupName>default</ClusterSubnetGroupName>
      <NextMaintenanceWindowStartTime>2019-12-29T05:30:00Z</
NextMaintenanceWindowStartTime>
      <DeferredMaintenanceWindows/>
      <Tags>
        <Tag>
          <Value>newtag</Value>
          <Key>mytag</Key>
        </Tag>
      </Tags>
    </Cluster>
  </EnableSnapshotCopyResult>
</EnableSnapshotCopyResponse>

```

```
<VpcSecurityGroups>
  <VpcSecurityGroup>
    <VpcSecurityGroupId>sh-a1a123ab</VpcSecurityGroupId>
    <Status>active</Status>
  </VpcSecurityGroup>
</VpcSecurityGroups>
<ClusterParameterGroups>
  <ClusterParameterGroup>
    <ParameterGroupName>default.redshift-1.0</ParameterGroupName>
    <ParameterApplyStatus>in-sync</ParameterApplyStatus>
  </ClusterParameterGroup>
</ClusterParameterGroups>
<Encrypted>>false</Encrypted>
<MaintenanceTrackName>current</MaintenanceTrackName>
<PendingModifiedValues/>
<PreferredMaintenanceWindow>sun:05:30-sun:06:00</PreferredMaintenanceWindow>
<AutomatedSnapshotRetentionPeriod>1</AutomatedSnapshotRetentionPeriod>
<ClusterStatus>available</ClusterStatus>
</Cluster>
</EnableSnapshotCopyResult>
<ResponseMetadata>
  <RequestId>76c22d87-28da-11ea-8314-974e2ba81189</RequestId>
</ResponseMetadata>
</EnableSnapshotCopyResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# FailoverPrimaryCompute

Fails over the primary compute unit of the specified Multi-AZ cluster to another Availability Zone.

## Request Parameters

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

### ClusterIdentifier

The unique identifier of the cluster for which the primary compute unit will be failed over to another Availability Zone.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Response Elements

The following element is returned by the service.

### Cluster

Describes a cluster.

Type: [Cluster](#) object

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### InvalidClusterState

The specified cluster is not in the available state.

HTTP Status Code: 400

### **UnauthorizedOperation**

Your account is not authorized to perform the requested operation.

HTTP Status Code: 400

### **UnsupportedOperation**

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# GetClusterCredentials

Returns a database user name and temporary password with temporary authorization to log on to an Amazon Redshift database. The action returns the database user name prefixed with `IAM:` if `AutoCreate` is `False` or `IAMA:` if `AutoCreate` is `True`. You can optionally specify one or more database user groups that the user will join at log on. By default, the temporary credentials expire in 900 seconds. You can optionally specify a duration between 900 seconds (15 minutes) and 3600 seconds (60 minutes). For more information, see [Using IAM Authentication to Generate Database User Credentials](#) in the Amazon Redshift Cluster Management Guide.

The Amazon Identity and Access Management (IAM) user or role that runs `GetClusterCredentials` must have an IAM policy attached that allows access to all necessary actions and resources. For more information about permissions, see [Resource Policies for GetClusterCredentials](#) in the Amazon Redshift Cluster Management Guide.

If the `DbGroups` parameter is specified, the IAM policy must allow the `redshift:JoinGroup` action with access to the listed `dbgroups`.

In addition, if the `AutoCreate` parameter is set to `True`, then the policy must include the `redshift:CreateClusterUser` permission.

If the `DbName` parameter is specified, the IAM policy must allow access to the resource `dbname` for the specified database name.

## Request Parameters

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

### DbUser

The name of a database user. If a user name matching `DbUser` exists in the database, the temporary user credentials have the same permissions as the existing user. If `DbUser` doesn't exist in the database and `Autocreate` is `True`, a new user is created using the value for `DbUser` with `PUBLIC` permissions. If a database user matching the value for `DbUser` doesn't exist and `Autocreate` is `False`, then the command succeeds but the connection attempt will fail because the user doesn't exist in the database.

For more information, see [CREATE USER](#) in the Amazon Redshift Database Developer Guide.

Constraints:

- Must be 1 to 64 alphanumeric characters or hyphens. The user name can't be PUBLIC.
- Must contain uppercase or lowercase letters, numbers, underscore, plus sign, period (dot), at symbol (@), or hyphen.
- First character must be a letter.
- Must not contain a colon ( : ) or slash ( / ).
- Cannot be a reserved word. A list of reserved words can be found in [Reserved Words](#) in the Amazon Redshift Database Developer Guide.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### **AutoCreate**

Create a database user with the name specified for the user named in DbUser if one does not exist.

Type: Boolean

Required: No

### **ClusterIdentifier**

The unique identifier of the cluster that contains the database for which you are requesting credentials. This parameter is case sensitive.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **CustomDomainName**

The custom domain name for the cluster credentials.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No



## DbGroups.DbGroup.N

A list of the names of existing database groups that the user named in `DbUser` will join for the current session, in addition to any group memberships for an existing user. If not specified, a new user is added only to PUBLIC.

Database group name constraints

- Must be 1 to 64 alphanumeric characters or hyphens
- Must contain only lowercase letters, numbers, underscore, plus sign, period (dot), at symbol (@), or hyphen.
- First character must be a letter.
- Must not contain a colon ( : ) or slash ( / ).
- Cannot be a reserved word. A list of reserved words can be found in [Reserved Words](#) in the Amazon Redshift Database Developer Guide.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

## DbName

The name of a database that `DbUser` is authorized to log on to. If `DbName` is not specified, `DbUser` can log on to any existing database.

Constraints:

- Must be 1 to 64 alphanumeric characters or hyphens
- Must contain uppercase or lowercase letters, numbers, underscore, plus sign, period (dot), at symbol (@), or hyphen.
- First character must be a letter.
- Must not contain a colon ( : ) or slash ( / ).
- Cannot be a reserved word. A list of reserved words can be found in [Reserved Words](#) in the Amazon Redshift Database Developer Guide.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **DurationSeconds**

The number of seconds until the returned temporary password expires.

Constraint: minimum 900, maximum 3600.

Default: 900

Type: Integer

Required: No

## **Response Elements**

The following elements are returned by the service.

### **DbPassword**

A temporary password that authorizes the user name returned by `DbUser` to log on to the database `DbName`.

Type: String

### **DbUser**

A database user name that is authorized to log on to the database `DbName` using the password `DbPassword`. If the specified `DbUser` exists in the database, the new user name has the same database permissions as the the user named in `DbUser`. By default, the user is added to PUBLIC. If the `DbGroups` parameter is specified, `DbUser` is added to the listed groups for any sessions created using these credentials.

Type: String

Length Constraints: Maximum length of 2147483647.

### **Expiration**

The date and time the password in `DbPassword` expires.

Type: Timestamp

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### UnsupportedOperation

The requested operation isn't supported.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of `GetClusterCredentials`.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=GetClusterCredentials  
&ClusterIdentifier=mycluster  
&DbUser=adminuser  
&DbName=dev  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<GetClusterCredentialsResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">  
  <GetClusterCredentialsResult>  
    <DbUser>IAM:adminuser</DbUser>
```

```
<Expiration>2019-12-27T19:44:51.001Z</Expiration>
<DbPassword>AMAFUyyuros/QjxPTtgzcsuQsqzIasdzJEN04aCtWDzXx109d6UmpkBtvEqFly/
EXAMPLE==</DbPassword>
</GetClusterCredentialsResult>
<ResponseMetadata>
  <RequestId>404b34b9-28df-11ea-a940-1b28a85fd753</RequestId>
</ResponseMetadata>
</GetClusterCredentialsResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# GetClusterCredentialsWithIAM

Returns a database user name and temporary password with temporary authorization to log in to an Amazon Redshift database. The database user is mapped 1:1 to the source Amazon Identity and Access Management (IAM) identity. For more information about IAM identities, see [IAM Identities \(users, user groups, and roles\)](#) in the Amazon Identity and Access Management User Guide.

The Amazon Identity and Access Management (IAM) identity that runs this operation must have an IAM policy attached that allows access to all necessary actions and resources. For more information about permissions, see [Using identity-based policies \(IAM policies\)](#) in the Amazon Redshift Cluster Management Guide.

## Request Parameters

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

### ClusterIdentifier

The unique identifier of the cluster that contains the database for which you are requesting credentials.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 63.

Required: No

### CustomDomainName

The custom domain name for the IAM message cluster credentials.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### DbName

The name of the database for which you are requesting credentials. If the database name is specified, the IAM policy must allow access to the resource dbname for the specified database name. If the database name is not specified, access to all databases is allowed.

Type: String

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

Required: No

### **DurationSeconds**

The number of seconds until the returned temporary password expires.

Range: 900-3600. Default: 900.

Type: Integer

Required: No

## **Response Elements**

The following elements are returned by the service.

### **DbPassword**

A temporary password that you provide when you connect to a database.

Type: String

### **DbUser**

A database user name that you provide when you connect to a database. The database user is mapped 1:1 to the source IAM identity.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 127.

### **Expiration**

The time (UTC) when the temporary password expires. After this timestamp, a log in with the temporary password fails.

Type: Timestamp

### **NextRefreshTime**

Reserved for future use.

Type: Timestamp

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### UnsupportedOperation

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# GetReservedNodeExchangeConfigurationOptions

Gets the configuration options for the reserved-node exchange. These options include information about the source reserved node and target reserved node offering. Details include the node type, the price, the node count, and the offering type.

## Request Parameters

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

### ActionType

The action type of the reserved-node configuration. The action type can be an exchange initiated from either a snapshot or a resize.

Type: String

Valid Values: `restore-cluster` | `resize-cluster`

Required: Yes

### ClusterIdentifier

The identifier for the cluster that is the source for a reserved-node exchange.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Marker

An optional pagination token provided by a previous `GetReservedNodeExchangeConfigurationOptions` request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by the `MaxRecords` parameter. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.



Required: No

### **MaxRecords**

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `Marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Type: Integer

Required: No

### **SnapshotIdentifier**

The identifier for the snapshot that is the source for the reserved-node exchange.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **Response Elements**

The following elements are returned by the service.

### **Marker**

A pagination token provided by a previous `GetReservedNodeExchangeConfigurationOptions` request.

Type: String

Length Constraints: Maximum length of 2147483647.

### **ReservedNodeConfigurationOptionList.ReservedNodeConfigurationOption.N**

the configuration options for the reserved-node exchange. These options include information about the source reserved node and target reserved node. Details include the node type, the price, the node count, and the offering type.

Type: Array of [ReservedNodeConfigurationOption](#) objects

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### ClusterSnapshotNotFound

The snapshot identifier does not refer to an existing cluster snapshot.

HTTP Status Code: 404

### DependentServiceUnavailableFault

Your request cannot be completed because a dependent internal service is temporarily unavailable. Wait 30 to 60 seconds and try again.

HTTP Status Code: 400

### InvalidReservedNodeState

Indicates that the Reserved Node being exchanged is not in an active state.

HTTP Status Code: 400

### ReservedNodeAlreadyMigrated

Indicates that the reserved node has already been exchanged.

HTTP Status Code: 400

### ReservedNodeNotFound

The specified reserved compute node not found.

HTTP Status Code: 404

### ReservedNodeOfferingNotFound

Specified offering does not exist.

HTTP Status Code: 404

## UnsupportedOperation

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# GetReservedNodeExchangeOfferings

Returns an array of DC2 ReservedNodeOfferings that matches the payment type, term, and usage price of the given DC1 reserved node.

## Request Parameters

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

### ReservedNodeId

A string representing the node identifier for the DC1 Reserved Node to be exchanged.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### Marker

A value that indicates the starting point for the next set of ReservedNodeOfferings.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### MaxRecords

An integer setting the maximum number of ReservedNodeOfferings to retrieve.

Type: Integer

Required: No

## Response Elements

The following elements are returned by the service.

### Marker

An optional parameter that specifies the starting point for returning a set of response records. When the results of a `GetReservedNodeExchangeOfferings` request exceed the value

specified in `MaxRecords`, Amazon Redshift returns a value in the marker field of the response. You can retrieve the next set of response records by providing the returned marker value in the marker parameter and retrying the request.

Type: String

Length Constraints: Maximum length of 2147483647.

### **ReservedNodeOfferings.ReservedNodeOffering.N**

Returns an array of [ReservedNodeOffering](#) objects.

Type: Array of [ReservedNodeOffering](#) objects

## **Errors**

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

### **DependentServiceUnavailableFault**

Your request cannot be completed because a dependent internal service is temporarily unavailable. Wait 30 to 60 seconds and try again.

HTTP Status Code: 400

### **InvalidReservedNodeState**

Indicates that the Reserved Node being exchanged is not in an active state.

HTTP Status Code: 400

### **ReservedNodeAlreadyMigrated**

Indicates that the reserved node has already been exchanged.

HTTP Status Code: 400

### **ReservedNodeNotFound**

The specified reserved compute node not found.

HTTP Status Code: 404

### **ReservedNodeOfferingNotFound**

Specified offering does not exist.

HTTP Status Code: 404

## UnsupportedOperation

The requested operation isn't supported.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of `GetReservedNodeExchangeOfferings`.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=GetReservedNodeExchangeOfferings  
&ReservedNodeId=12345678-12ab-12a1-1a2a-12ab-12a12EXAMPLE  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<GetReservedNodeExchangeOfferingsResponse xmlns="http://redshift.amazonaws.com/  
doc/2012-12-01/">  
  <GetReservedNodeExchangeOfferingsResult>  
    <ReservedNodeOfferings>  
      <ReservedNodeOffering>  
        <Duration>31536000</Duration>  
        <UsagePrice>0.0</UsagePrice>  
        <ReservedNodeOfferingId>12345678-12ab-12a1-1a2a-12ab-12a12EXAMPLE</  
ReservedNodeOfferingId>  
        <OfferingType>All Upfront</OfferingType>  
        <ReservedNodeOfferingType>Regular</ReservedNodeOfferingType>  
        <RecurringCharges>  
          <RecurringCharge>
```

```
<RecurringChargeAmount>0.0</RecurringChargeAmount>
  <RecurringChargeFrequency>Hourly</RecurringChargeFrequency>
</RecurringCharge>
</RecurringCharges>
<NodeType>dc2.large</NodeType>
<FixedPrice>0.0</FixedPrice>
<CurrencyCode>USD</CurrencyCode>
</ReservedNodeOffering>
</ReservedNodeOfferings>
</GetReservedNodeExchangeOfferingsResult>
<ResponseMetadata>
  <RequestId>c75f325d-282f-11ea-9caa-c956bec1ce87</RequestId>
</ResponseMetadata>
</GetReservedNodeExchangeOfferingsResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# GetResourcePolicy

Get the resource policy for a specified resource.

## Request Parameters

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

### ResourceArn

The Amazon Resource Name (ARN) of the resource of which its resource policy is fetched.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Response Elements

The following element is returned by the service.

### ResourcePolicy

The content of the resource policy.

Type: [ResourcePolicy](#) object

## Errors

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

### InvalidPolicyFault

The resource policy isn't valid.

HTTP Status Code: 400

### ResourceNotFoundFault

The resource could not be found.



HTTP Status Code: 404

## UnsupportedOperation

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# ListRecommendations

List the Amazon Redshift Advisor recommendations for one or multiple Amazon Redshift clusters in an Amazon Web Services account.

## Request Parameters

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

### ClusterIdentifier

The unique identifier of the Amazon Redshift cluster for which the list of Advisor recommendations is returned. If neither the cluster identifier and the cluster namespace ARN parameters are specified, then recommendations for all clusters in the account are returned.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the Marker parameter and retrying the command. If the Marker field is empty, all response records have been retrieved for the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified MaxRecords value, a value is returned in a marker field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Type: Integer

Required: No

### **NamespaceArn**

The Amazon Redshift cluster namespace Amazon Resource Name (ARN) for which the list of Advisor recommendations is returned. If the neither the cluster identifier and the cluster namespace ARN parameters are specified, then recommendations for all clusters in the account are returned.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **Response Elements**

The following elements are returned by the service.

### **Marker**

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the Marker parameter and retrying the command. If the Marker field is empty, all response records have been retrieved for the request.

Type: String

Length Constraints: Maximum length of 2147483647.

### **Recommendations.Recommendation.N**

The Advisor recommendations for action on the Amazon Redshift cluster.

Type: Array of [Recommendation](#) objects

## **Errors**

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

## ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

## UnsupportedOperation

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# ModifyAquaConfiguration

This operation is retired. Calling this operation does not change AQUA configuration. Amazon Redshift automatically determines whether to use AQUA (Advanced Query Accelerator).

## Request Parameters

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

### ClusterIdentifier

The identifier of the cluster to be modified.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### AquaConfigurationStatus

This parameter is retired. Amazon Redshift automatically determines whether to use AQUA (Advanced Query Accelerator).

Type: String

Valid Values: enabled | disabled | auto

Required: No

## Response Elements

The following element is returned by the service.

### AquaConfiguration

This parameter is retired. Amazon Redshift automatically determines whether to use AQUA (Advanced Query Accelerator).

Type: [AquaConfiguration](#) object

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### InvalidClusterState

The specified cluster is not in the available state.

HTTP Status Code: 400

### UnsupportedOperation

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# ModifyAuthenticationProfile

Modifies an authentication profile.

## Request Parameters

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

### AuthenticationProfileContent

The new content of the authentication profile in JSON format. The maximum length of the JSON string is determined by a quota for your account.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### AuthenticationProfileName

The name of the authentication profile to replace.

Type: String

Length Constraints: Maximum length of 63.

Pattern: `^[a-zA-Z0-9\-\_]+$`

Required: Yes

## Response Elements

The following elements are returned by the service.

### AuthenticationProfileContent

The updated content of the authentication profile in JSON format.

Type: String

Length Constraints: Maximum length of 2147483647.

## AuthenticationProfileName

The name of the authentication profile that was replaced.

Type: String

Length Constraints: Maximum length of 63.

Pattern: `^[a-zA-Z0-9\-\_]+$`

## Errors

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

### AuthenticationProfileNotFoundFault

The authentication profile can't be found.

HTTP Status Code: 404

### AuthenticationProfileQuotaExceededFault

The size or number of authentication profiles has exceeded the quota. The maximum length of the JSON string and maximum number of authentication profiles is determined by a quota for your account.

HTTP Status Code: 400

### InvalidAuthenticationProfileRequestFault

The authentication profile request is not valid. The profile name can't be null or empty. The authentication profile API operation must be available in the Amazon Web Services Region.

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](#)
- [Amazon SDK for .NET](#)



- [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](#)

# ModifyCluster

Modifies the settings for a cluster.

You can also change node type and the number of nodes to scale up or down the cluster. When resizing a cluster, you must specify both the number of nodes and the node type even if one of the parameters does not change.

You can add another security or parameter group, or change the admin user password. Resetting a cluster password or modifying the security groups associated with a cluster do not need a reboot. However, modifying a parameter group requires a reboot for parameters to take effect. For more information about managing clusters, go to [Amazon Redshift Clusters](#) in the *Amazon Redshift Cluster Management Guide*.

VPC Block Public Access (BPA) enables you to block resources in VPCs and subnets that you own in a Region from reaching or being reached from the internet through internet gateways and egress-only internet gateways. If a subnet group for a provisioned cluster is in an account with VPC BPA turned on, the following capabilities are blocked:

- Creating a public cluster
- Restoring a public cluster
- Modifying a private cluster to be public
- Adding a subnet with VPC BPA turned on to the subnet group when there's at least one public cluster within the group

For more information about VPC BPA, see [Block public access to VPCs and subnets](#) in the *Amazon VPC User Guide*.

## Request Parameters

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

### ClusterIdentifier

The unique identifier of the cluster to be modified.

Example: `examplecluster`

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### **AllowVersionUpgrade**

If `true`, major version upgrades will be applied automatically to the cluster during the maintenance window.

Default: `false`

Type: Boolean

Required: No

### **AutomatedSnapshotRetentionPeriod**

The number of days that automated snapshots are retained. If the value is 0, automated snapshots are disabled. Even if automated snapshots are disabled, you can still create manual snapshots when you want with [CreateClusterSnapshot](#).

If you decrease the automated snapshot retention period from its current value, existing automated snapshots that fall outside of the new retention period will be immediately deleted.

You can't disable automated snapshots for RA3 node types. Set the automated retention period from 1-35 days.

Default: Uses existing setting.

Constraints: Must be a value from 0 to 35.

Type: Integer

Required: No

### **AvailabilityZone**

The option to initiate relocation for an Amazon Redshift cluster to the target Availability Zone.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## AvailabilityZoneRelocation

The option to enable relocation for an Amazon Redshift cluster between Availability Zones after the cluster modification is complete.

Type: Boolean

Required: No

## ClusterParameterGroupName

The name of the cluster parameter group to apply to this cluster. This change is applied only after the cluster is rebooted. To reboot a cluster use [RebootCluster](#).

Default: Uses existing setting.

Constraints: The cluster parameter group must be in the same parameter group family that matches the cluster version.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## ClusterSecurityGroups.ClusterSecurityGroupName.N

A list of cluster security groups to be authorized on this cluster. This change is asynchronously applied as soon as possible.

Security groups currently associated with the cluster, and not in the list of groups to apply, will be revoked from the cluster.

Constraints:

- Must be 1 to 255 alphanumeric characters or hyphens
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

## ClusterType

The new cluster type.

When you submit your cluster resize request, your existing cluster goes into a read-only mode. After Amazon Redshift provisions a new cluster based on your resize requirements, there will be outage for a period while the old cluster is deleted and your connection is switched to the new cluster. You can use [DescribeResize](#) to track the progress of the resize request.

Valid Values: multi-node | single-node

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## ClusterVersion

The new version number of the Amazon Redshift engine to upgrade to.

For major version upgrades, if a non-default cluster parameter group is currently in use, a new cluster parameter group in the cluster parameter group family for the new version must be specified. The new cluster parameter group can be the default for that cluster parameter group family. For more information about parameters and parameter groups, go to [Amazon Redshift Parameter Groups](#) in the *Amazon Redshift Cluster Management Guide*.

Example: 1.0

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## ElasticIp

The Elastic IP (EIP) address for the cluster.

Constraints: The cluster must be provisioned in EC2-VPC and publicly-accessible through an Internet gateway. For more information about provisioning clusters in EC2-VPC, go to

[Supported Platforms to Launch Your Cluster](#) in the Amazon Redshift Cluster Management Guide.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **Encrypted**

Indicates whether the cluster is encrypted. If the value is encrypted (true) and you provide a value for the `KmsKeyId` parameter, we encrypt the cluster with the provided `KmsKeyId`. If you don't provide a `KmsKeyId`, we encrypt with the default key.

If the value is not encrypted (false), then the cluster is decrypted.

Type: Boolean

Required: No

### **EnhancedVpcRouting**

An option that specifies whether to create the cluster with enhanced VPC routing enabled. To create a cluster that uses enhanced VPC routing, the cluster must be in a VPC. For more information, see [Enhanced VPC Routing](#) in the Amazon Redshift Cluster Management Guide.

If this option is `true`, enhanced VPC routing is enabled.

Default: false

Type: Boolean

Required: No

### **HsmClientCertificateIdentifier**

Specifies the name of the HSM client certificate the Amazon Redshift cluster uses to retrieve the data encryption keys stored in an HSM.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **HsmConfigurationIdentifier**

Specifies the name of the HSM configuration that contains the information the Amazon Redshift cluster can use to retrieve and store keys in an HSM.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **IpAddressType**

The IP address types that the cluster supports. Possible values are `ipv4` and `dualstack`.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **KmsKeyId**

The Amazon Key Management Service (KMS) key ID of the encryption key that you want to use to encrypt data in the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **MaintenanceTrackName**

The name for the maintenance track that you want to assign for the cluster. This name change is asynchronous. The new track name stays in the `PendingModifiedValues` for the cluster until the next maintenance window. When the maintenance track changes, the cluster is switched to the latest cluster release available for the maintenance track. At this point, the maintenance track name is applied.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## ManageMasterPassword

If `true`, Amazon Redshift uses Amazon Secrets Manager to manage this cluster's admin credentials. You can't use `MasterUserPassword` if `ManageMasterPassword` is `true`. If `ManageMasterPassword` is `false` or not set, Amazon Redshift uses `MasterUserPassword` for the admin user account's password.

Type: Boolean

Required: No

## ManualSnapshotRetentionPeriod

The default for number of days that a newly created manual snapshot is retained. If the value is `-1`, the manual snapshot is retained indefinitely. This value doesn't retroactively change the retention periods of existing manual snapshots.

The value must be either `-1` or an integer between 1 and 3,653.

The default value is `-1`.

Type: Integer

Required: No

## MasterPasswordSecretKmsKeyId

The ID of the Amazon Key Management Service (KMS) key used to encrypt and store the cluster's admin credentials secret. You can only use this parameter if `ManageMasterPassword` is `true`.

Type: String

Length Constraints: Maximum length of 2147483647.


Required: No

## MasterUserPassword

The new password for the cluster admin user. This change is asynchronously applied as soon as possible. Between the time of the request and the completion of the request, the `MasterUserPassword` element exists in the `PendingModifiedValues` element of the operation response.



You can't use `MasterUserPassword` if `ManageMasterPassword` is true.

 **Note**

Operations never return the password, so this operation provides a way to regain access to the admin user account for a cluster if the password is lost.

Default: Uses existing setting.

Constraints:

- Must be between 8 and 64 characters in length.
- Must contain at least one uppercase letter.
- Must contain at least one lowercase letter.
- Must contain one number.
- Can be any printable ASCII character (ASCII code 33-126) except ' (single quote), " (double quote), \, /, or @.

Type: String

Required: No

### **MultiAZ**

If true and the cluster is currently only deployed in a single Availability Zone, the cluster will be modified to be deployed in two Availability Zones.

Type: Boolean

Required: No

### **NewClusterIdentifier**

The new identifier for the cluster.

Constraints:

- Must contain from 1 to 63 alphanumeric characters or hyphens.
- Alphabetic characters must be lowercase.
- First character must be a letter.
- Cannot end with a hyphen or contain two consecutive hyphens.

- Must be unique for all clusters within an Amazon Web Services account.

Example: `examplecluster`

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## NodeType

The new node type of the cluster. If you specify a new node type, you must also specify the `number of nodes` parameter.

For more information about resizing clusters, go to [Resizing Clusters in Amazon Redshift](#) in the *Amazon Redshift Cluster Management Guide*.

Valid Values: `dc2.large` | `dc2.8xlarge` | `ra3.large` | `ra3.x1plus` | `ra3.4xlarge` | `ra3.16xlarge`

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## NumberOfNodes

The new number of nodes of the cluster. If you specify a new number of nodes, you must also specify the `node type` parameter.

For more information about resizing clusters, go to [Resizing Clusters in Amazon Redshift](#) in the *Amazon Redshift Cluster Management Guide*.

Valid Values: Integer greater than 0.

Type: Integer

Required: No

## Port

The option to change the port of an Amazon Redshift cluster.

**Valid Values:**

- For clusters with ra3 nodes - Select a port within the ranges 5431-5455 or 8191-8215. (If you have an existing cluster with ra3 nodes, it isn't required that you change the port to these ranges.)
- For clusters with dc2 nodes - Select a port within the range 1150-65535.

Type: Integer

Required: No

**PreferredMaintenanceWindow**

The weekly time range (in UTC) during which system maintenance can occur, if necessary. If system maintenance is necessary during the window, it may result in an outage.

This maintenance window change is made immediately. If the new maintenance window indicates the current time, there must be at least 120 minutes between the current time and end of the window in order to ensure that pending changes are applied.

Default: Uses existing setting.

Format: ddd:hh24:mi-ddd:hh24:mi, for example wed:07:30-wed:08:00.

Valid Days: Mon | Tue | Wed | Thu | Fri | Sat | Sun

Constraints: Must be at least 30 minutes.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

**PubliclyAccessible**

If `true`, the cluster can be accessed from a public network. Only clusters in VPCs can be set to be publicly available.

Default: false

Type: Boolean

Required: No

## VpcSecurityGroupIds.VpcSecurityGroupId.N

A list of virtual private cloud (VPC) security groups to be associated with the cluster. This change is asynchronously applied as soon as possible.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

## Response Elements

The following element is returned by the service.

### Cluster

Describes a cluster.

Type: [Cluster](#) object

## Errors

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

### ClusterAlreadyExists

The account already has a cluster with the given identifier.

HTTP Status Code: 400

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### ClusterParameterGroupNotFound

The parameter group name does not refer to an existing parameter group.

HTTP Status Code: 404

### **ClusterSecurityGroupNotFound**

The cluster security group name does not refer to an existing cluster security group.

HTTP Status Code: 404

### **CustomCnameAssociationFault**

An error occurred when an attempt was made to change the custom domain association.

HTTP Status Code: 400

### **DependentServiceRequestThrottlingFault**

The request cannot be completed because a dependent service is throttling requests made by Amazon Redshift on your behalf. Wait and retry the request.

HTTP Status Code: 400

### **HsmClientCertificateNotFoundFault**

There is no Amazon Redshift HSM client certificate with the specified identifier.

HTTP Status Code: 400

### **HsmConfigurationNotFoundFault**

There is no Amazon Redshift HSM configuration with the specified identifier.

HTTP Status Code: 400

### **InsufficientClusterCapacity**

The number of nodes specified exceeds the allotted capacity of the cluster.

HTTP Status Code: 400

### **InvalidClusterSecurityGroupState**

The state of the cluster security group is not available.

HTTP Status Code: 400

### **InvalidClusterState**

The specified cluster is not in the available state.

HTTP Status Code: 400

### **InvalidClusterTrack**

The provided cluster track name is not valid.

HTTP Status Code: 400

### **InvalidElasticIpFault**

The Elastic IP (EIP) is invalid or cannot be found.

HTTP Status Code: 400

### **InvalidRetentionPeriodFault**

The retention period specified is either in the past or is not a valid value.

The value must be either -1 or an integer between 1 and 3,653.

HTTP Status Code: 400

### **Ipv6CidrBlockNotFoundFault**

There are no subnets in your VPC with associated IPv6 CIDR blocks. To use dual-stack mode, associate an IPv6 CIDR block with each subnet in your VPC.

HTTP Status Code: 400

### **LimitExceededFault**

The encryption key has exceeded its grant limit in Amazon KMS.

HTTP Status Code: 400

### **NumberOfNodesPerClusterLimitExceeded**

The operation would exceed the number of nodes allowed for a cluster.

HTTP Status Code: 400

### **NumberOfNodesQuotaExceeded**

The operation would exceed the number of nodes allotted to the account. For information about increasing your quota, go to [Limits in Amazon Redshift](#) in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

## TableLimitExceeded

The number of tables in the cluster exceeds the limit for the requested new cluster node type.

HTTP Status Code: 400

## UnauthorizedOperation

Your account is not authorized to perform the requested operation.

HTTP Status Code: 400

## UnsupportedOperation

The requested operation isn't supported.

HTTP Status Code: 400

## UnsupportedOptionFault

A request option was specified that is not supported.

HTTP Status Code: 400

## Examples

### Example

This example changes the weekly preferred maintenance window for a cluster to be the minimum four hour window starting Sundays at 11:15 PM, and ending Mondays at 3:15 AM.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=ModifyCluster  
&ClusterIdentifier=mycluster  
&PreferredMaintenanceWindow=Sun%3A23%3A15-Mon%3A03%3A15  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<ModifyClusterResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <ModifyClusterResult>
    <Cluster>
      <AllowVersionUpgrade>true</AllowVersionUpgrade>
      <ClusterIdentifier>mycluster</ClusterIdentifier>
      <NumberOfNodes>1</NumberOfNodes>
      <AvailabilityZone>us-east-2a</AvailabilityZone>
      <ClusterVersion>1.0</ClusterVersion>
      <ExpectedNextSnapshotScheduleTimeStatus>OnTrack</
ExpectedNextSnapshotScheduleTimeStatus>
      <ManualSnapshotRetentionPeriod>-1</ManualSnapshotRetentionPeriod>
      <ClusterAvailabilityStatus>Available</ClusterAvailabilityStatus>
      <Endpoint>
        <Port>5439</Port>
        <Address>mycluster.cmeaswquae.us-east-2.redshift.amazonaws.com</Address>
      </Endpoint>
      <VpcId>vpc-a1abc1a1</VpcId>
      <PubliclyAccessible>false</PubliclyAccessible>
      <ClusterCreateTime>2019-12-27T17:48:01.504Z</ClusterCreateTime>
      <MasterUsername>adminuser</MasterUsername>
      <DBName>dev</DBName>
      <EnhancedVpcRouting>false</EnhancedVpcRouting>
      <IamRoles/>
      <ClusterSecurityGroups/>
      <ExpectedNextSnapshotScheduleTime>2019-12-28T05:48:20.939Z</
ExpectedNextSnapshotScheduleTime>
      <NodeType>dc2.large</NodeType>
      <ClusterSubnetGroupName>default</ClusterSubnetGroupName>
      <NextMaintenanceWindowStartTime>2019-12-29T23:15:00Z</
NextMaintenanceWindowStartTime>
      <DeferredMaintenanceWindows/>
      <Tags>
        <Tag>
          <Value>newtag</Value>
          <Key>mytag</Key>
        </Tag>
      </Tags>
      <VpcSecurityGroups>
        <VpcSecurityGroup>
          <VpcSecurityGroupId>sh-a1a123ab</VpcSecurityGroupId>
          <Status>active</Status>
        </VpcSecurityGroup>
      </VpcSecurityGroups>
    </Cluster>
  </ModifyClusterResult>
</ModifyClusterResponse>
```



```
</VpcSecurityGroups>
<ClusterParameterGroups>
  <ClusterParameterGroup>
    <ParameterGroupName>default.redshift-1.0</ParameterGroupName>
    <ParameterApplyStatus>in-sync</ParameterApplyStatus>
  </ClusterParameterGroup>
</ClusterParameterGroups>
<Encrypted>>false</Encrypted>
<MaintenanceTrackName>current</MaintenanceTrackName>
<PendingModifiedValues/>
<PreferredMaintenanceWindow>sun:23:15-mon:03:15</PreferredMaintenanceWindow>
<AutomatedSnapshotRetentionPeriod>1</AutomatedSnapshotRetentionPeriod>
<ClusterStatus>available</ClusterStatus>
</Cluster>
</ModifyClusterResult>
<ResponseMetadata>
  <RequestId>819eaffd-28df-11ea-8397-219d1980588b</RequestId>
</ResponseMetadata>
</ModifyClusterResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# ModifyClusterDbRevision

Modifies the database revision of a cluster. The database revision is a unique revision of the database running in a cluster.

## Request Parameters

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

### ClusterIdentifier

The unique identifier of a cluster whose database revision you want to modify.

Example: `examplecluster`

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### RevisionTarget

The identifier of the database revision. You can retrieve this value from the response to the [DescribeClusterDbRevisions](#) request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Response Elements

The following element is returned by the service.

### Cluster

Describes a cluster.

Type: [Cluster](#) object

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### ClusterOnLatestRevision

Cluster is already on the latest database revision.

HTTP Status Code: 400

### InvalidClusterState

The specified cluster is not in the available state.

HTTP Status Code: 400

### UnsupportedOperation

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# ModifyClusterIamRoles

Modifies the list of Amazon Identity and Access Management (IAM) roles that can be used by the cluster to access other Amazon services.

The maximum number of IAM roles that you can associate is subject to a quota. For more information, go to [Quotas and limits](#) in the *Amazon Redshift Cluster Management Guide*.

## Request Parameters

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

### ClusterIdentifier

The unique identifier of the cluster for which you want to associate or disassociate IAM roles.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### AddIamRoles.IamRoleArn.N

Zero or more IAM roles to associate with the cluster. The roles must be in their Amazon Resource Name (ARN) format.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### DefaultIamRoleArn

The Amazon Resource Name (ARN) for the IAM role that was set as default for the cluster when the cluster was last modified.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **RemoveIamRoles.IamRoleArn.N**

Zero or more IAM roles in ARN format to disassociate from the cluster.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

## **Response Elements**

The following element is returned by the service.

### **Cluster**

Describes a cluster.

Type: [Cluster](#) object

## **Errors**

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

### **ClusterNotFound**

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### **InvalidClusterState**

The specified cluster is not in the available state.

HTTP Status Code: 400

## **Examples**

### **Example**

This example removes an Amazon Identity and Access Management (IAM) role from a cluster.

## Sample Request

```
https://redshift.us-east-2.amazonaws.com/
    ?Action=ModifyClusterIamRoles
    &ClusterIdentifier=mycluster
    &RemoveIamRoles.IamRoleArn.1=arn%3Aaws%3Aiam%3A%3A123456789012%3Arole%2FmyRedshiftRole
    &SignatureMethod=HmacSHA256&SignatureVersion=4
    &Version=2012-12-01
    &X-Amz-Algorithm=AWS4-HMAC-SHA256
    &X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
    &X-Amz-Date=20190825T160000Z
    &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
    &X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<ModifyClusterIamRolesResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <ModifyClusterIamRolesResult>
    <Cluster>
      <AllowVersionUpgrade>>true</AllowVersionUpgrade>
      <ClusterIdentifier>mycluster</ClusterIdentifier>
      <NumberOfNodes>1</NumberOfNodes>
      <AvailabilityZone>us-east-2a</AvailabilityZone>
      <ClusterVersion>1.0</ClusterVersion>
      <ExpectedNextSnapshotScheduleTimeStatus>OnTrack</
ExpectedNextSnapshotScheduleTimeStatus>
      <ManualSnapshotRetentionPeriod>-1</ManualSnapshotRetentionPeriod>
      <ClusterAvailabilityStatus>Available</ClusterAvailabilityStatus>
      <Endpoint>
        <Port>5439</Port>
        <Address>mycluster.cmeaswqeuae.us-east-2.redshift.amazonaws.com</Address>
      </Endpoint>
      <VpcId>vpc-a1abc1a1</VpcId>
      <PubliclyAccessible>>false</PubliclyAccessible>
      <ClusterCreateTime>2019-12-27T17:48:01.504Z</ClusterCreateTime>
      <MasterUsername>adminuser</MasterUsername>
      <DBName>dev</DBName>
      <EnhancedVpcRouting>>false</EnhancedVpcRouting>
      <IamRoles/>
      <ClusterSecurityGroups/>
      <ExpectedNextSnapshotScheduleTime>2019-12-28T05:48:20.939Z</
ExpectedNextSnapshotScheduleTime>
      <NodeType>dc2.large</NodeType>
```

```

    <ClusterSubnetGroupName>default</ClusterSubnetGroupName>
    <NextMaintenanceWindowStartTime>2019-12-29T23:15:00Z</
NextMaintenanceWindowStartTime>
    <DeferredMaintenanceWindows/>
    <Tags>
      <Tag>
        <Value>newtag</Value>
        <Key>mytag</Key>
      </Tag>
    </Tags>
    <VpcSecurityGroups>
      <VpcSecurityGroup>
        <VpcSecurityGroupId>sh-a1a123ab</VpcSecurityGroupId>
        <Status>active</Status>
      </VpcSecurityGroup>
    </VpcSecurityGroups>
    <ClusterParameterGroups>
      <ClusterParameterGroup>
        <ParameterGroupName>default.redshift-1.0</ParameterGroupName>
        <ParameterApplyStatus>in-sync</ParameterApplyStatus>
      </ClusterParameterGroup>
    </ClusterParameterGroups>
    <Encrypted>>false</Encrypted>
    <MaintenanceTrackName>current</MaintenanceTrackName>
    <PendingModifiedValues/>
    <PreferredMaintenanceWindow>sun:23:15-mon:03:15</PreferredMaintenanceWindow>
    <AutomatedSnapshotRetentionPeriod>1</AutomatedSnapshotRetentionPeriod>
    <ClusterStatus>available</ClusterStatus>
  </Cluster>
</ModifyClusterIamRolesResult>
<ResponseMetadata>
  <RequestId>3ca20e36-28e0-11ea-8397-219d1980588b</RequestId>
</ResponseMetadata>
</ModifyClusterIamRolesResponse>

```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)



- [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](#)

# ModifyClusterMaintenance

Modifies the maintenance settings of a cluster.

## Request Parameters

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

### ClusterIdentifier

A unique identifier for the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### DeferMaintenance

A boolean indicating whether to enable the deferred maintenance window.

Type: Boolean

Required: No

### DeferMaintenanceDuration

An integer indicating the duration of the maintenance window in days. If you specify a duration, you can't specify an end time. The duration must be 45 days or less.

Type: Integer

Required: No

### DeferMaintenanceEndTime

A timestamp indicating end time for the deferred maintenance window. If you specify an end time, you can't specify a duration.

Type: Timestamp

Required: No

## DeferMaintenanceIdentifier

A unique identifier for the deferred maintenance window.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## DeferMaintenanceStartTime

A timestamp indicating the start time for the deferred maintenance window.

Type: Timestamp

Required: No

## Response Elements

The following element is returned by the service.

### Cluster

Describes a cluster.

Type: [Cluster](#) object

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### InvalidClusterState

The specified cluster is not in the available state.

HTTP Status Code: 400

## Examples

### Example

This example defers the maintenance of a cluster by duration of 30 days. You can also update or cancel a deferment.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/
    ?Action=ModifyClusterMaintenance
&ClusterIdentifier=mycluster
&DeferMaintenance=true
&DeferMaintenanceDuration=30
&SignatureMethod=HmacSHA256&SignatureVersion=4
&Version=2012-12-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<ModifyClusterMaintenanceResponse xmlns="http://redshift.amazonaws.com/
doc/2012-12-01/">
  <ModifyClusterMaintenanceResult>
    <Cluster>
      <AllowVersionUpgrade>true</AllowVersionUpgrade>
      <ClusterIdentifier>mycluster</ClusterIdentifier>
      <NumberOfNodes>1</NumberOfNodes>
      <AvailabilityZone>us-east-2d</AvailabilityZone>
      <ClusterVersion>1.0</ClusterVersion>
      <ExpectedNextSnapshotScheduleTimeStatus>OnTrack</
ExpectedNextSnapshotScheduleTimeStatus>
      <ManualSnapshotRetentionPeriod>-1</ManualSnapshotRetentionPeriod>
      <ClusterAvailabilityStatus>Available</ClusterAvailabilityStatus>
      <Endpoint>
        <Port>5439</Port>
        <Address>mycluster.cmeaswqeuae.us-east-2.redshift.amazonaws.com</Address>
      </Endpoint>
      <VpcId>vpc-a1abc1a1</VpcId>
      <PubliclyAccessible>>false</PubliclyAccessible>
```

```

    <ClusterCreateTime>2019-12-27T17:48:01.504Z</ClusterCreateTime>
    <MasterUsername>adminuser</MasterUsername>
    <DBName>dev</DBName>
    <EnhancedVpcRouting>>false</EnhancedVpcRouting>
    <IamRoles/>
    <ClusterSecurityGroups/>
    <ExpectedNextSnapshotScheduleTime>2019-12-28T05:48:20.939Z</
ExpectedNextSnapshotScheduleTime>
    <NodeType>dc2.large</NodeType>
    <ClusterSubnetGroupName>default</ClusterSubnetGroupName>
    <NextMaintenanceWindowStartTime>2020-01-26T23:15:00Z</
NextMaintenanceWindowStartTime>
    <DeferredMaintenanceWindows>
      <DeferredMaintenanceWindow>
        <DeferMaintenanceEndTime>2020-01-26T19:39:15.075Z</DeferMaintenanceEndTime>
        <DeferMaintenanceIdentifier>dfm-VcfYqSYqQ4tdX0qbKw0o</
DeferMaintenanceIdentifier>
        <DeferMaintenanceStartTime>2019-12-27T19:39:15.075Z</
DeferMaintenanceStartTime>
      </DeferredMaintenanceWindow>
    </DeferredMaintenanceWindows>
    <Tags>
      <Tag>
        <Value>newtag</Value>
        <Key>mytag</Key>
      </Tag>
    </Tags>
    <VpcSecurityGroups>
      <VpcSecurityGroup>
        <VpcSecurityGroupId>sh-a1a123ab</VpcSecurityGroupId>
        <Status>active</Status>
      </VpcSecurityGroup>
    </VpcSecurityGroups>
    <ClusterParameterGroups>
      <ClusterParameterGroup>
        <ParameterGroupName>default.redshift-1.0</ParameterGroupName>
        <ParameterApplyStatus>in-sync</ParameterApplyStatus>
      </ClusterParameterGroup>
    </ClusterParameterGroups>
    <Encrypted>>false</Encrypted>
    <MaintenanceTrackName>current</MaintenanceTrackName>
    <PendingModifiedValues/>
    <PreferredMaintenanceWindow>sun:23:15-mon:03:15</PreferredMaintenanceWindow>
    <AutomatedSnapshotRetentionPeriod>1</AutomatedSnapshotRetentionPeriod>

```

```
<ClusterStatus>available</ClusterStatus>
</Cluster>
</ModifyClusterMaintenanceResult>
<ResponseMetadata>
  <RequestId>908322d5-28e0-11ea-8314-974e2ba81189</RequestId>
</ResponseMetadata>
</ModifyClusterMaintenanceResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# ModifyClusterParameterGroup

Modifies the parameters of a parameter group. For the parameters parameter, it can't contain ASCII characters.

For more information about parameters and parameter groups, go to [Amazon Redshift Parameter Groups](#) in the *Amazon Redshift Cluster Management Guide*.

## Request Parameters

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

### ParameterGroupName

The name of the parameter group to be modified.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### Parameters.Parameter.N

An array of parameters to be modified. A maximum of 20 parameters can be modified in a single request.

For each parameter to be modified, you must supply at least the parameter name and parameter value; other name-value pairs of the parameter are optional.

For the workload management (WLM) configuration, you must supply all the name-value pairs in the wlm\_json\_configuration parameter.

Type: Array of [Parameter](#) objects

Required: Yes

## Response Elements

The following elements are returned by the service.

## ParameterGroupName

The name of the cluster parameter group.

Type: String

Length Constraints: Maximum length of 2147483647.

## ParameterGroupStatus

The status of the parameter group. For example, if you made a change to a parameter group name-value pair, then the change could be pending a reboot of an associated cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

## Errors

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

### ClusterParameterGroupNotFound

The parameter group name does not refer to an existing parameter group.

HTTP Status Code: 404

### InvalidClusterParameterGroupState

The cluster parameter group action can not be completed because another task is in progress that involves the parameter group. Wait a few moments and try the operation again.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of `ModifyClusterParameterGroup`.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/
```



```
?Action=ModifyClusterParameterGroup
&ParameterGroupName=myclusterparametergroup
&Parameters.Parameter.1.ParameterName=auto_analyze
&Parameters.Parameter.1.ParameterValue=false
&SignatureMethod=HmacSHA256&SignatureVersion=4
&Version=2012-12-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<ModifyClusterParameterGroupResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <ModifyClusterParameterGroupResult>
    <ParameterGroupName>myclusterparametergroup</ParameterGroupName>
    <ParameterGroupStatus>Your parameter group has been updated. If you changed only
dynamic parameters, associated clusters are being modified now. If you changed static
parameters, all updates, including dynamic parameters, will be applied when you reboot
the associated clusters.</ParameterGroupStatus>
  </ModifyClusterParameterGroupResult>
  <ResponseMetadata>
    <RequestId>565b33e6-28e9-11ea-9939-5fccefa818c0</RequestId>
  </ResponseMetadata>
</ModifyClusterParameterGroupResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# ModifyClusterSnapshot

Modifies the settings for a snapshot.

This example modifies the manual retention period setting for a cluster snapshot.

## Request Parameters

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

### SnapshotIdentifier

The identifier of the snapshot whose setting you want to modify.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### Force

A Boolean option to override an exception if the retention period has already passed.

Type: Boolean

Required: No

### ManualSnapshotRetentionPeriod

The number of days that a manual snapshot is retained. If the value is -1, the manual snapshot is retained indefinitely.

If the manual snapshot falls outside of the new retention period, you can specify the force option to immediately delete the snapshot.

The value must be either -1 or an integer between 1 and 3,653.

Type: Integer

Required: No

## Response Elements

The following element is returned by the service.

### Snapshot

Describes a snapshot.

Type: [Snapshot](#) object

## Errors

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

### ClusterSnapshotNotFound

The snapshot identifier does not refer to an existing cluster snapshot.

HTTP Status Code: 404

### InvalidClusterSnapshotState

The specified cluster snapshot is not in the available state, or other accounts are authorized to access the snapshot.

HTTP Status Code: 400

### InvalidRetentionPeriodFault

The retention period specified is either in the past or is not a valid value.

The value must be either -1 or an integer between 1 and 3,653.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of `ModifyClusterSnapshot`.

## Sample Request

```
https://redshift.us-east-2.amazonaws.com/
    ?Action=ModifyClusterSnapshot
    &ClusterIdentifier=mycluster
    &SnapshotIdentifier=mynsnapshotid
    &ManualSnapshotRetentionPeriod=10
    &SignatureMethod=HmacSHA256&SignatureVersion=4
    &Version=2012-12-01
    &X-Amz-Algorithm=AWS4-HMAC-SHA256
    &X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
    &X-Amz-Date=20190825T160000Z
    &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
    &X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<ModifyClusterSnapshotResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <ModifyClusterSnapshotResult>
    <Snapshot>
      <SnapshotRetentionStartTime>2019-12-27T18:19:14.966Z</SnapshotRetentionStartTime>
      <ClusterIdentifier>mycluster</ClusterIdentifier>
      <EncryptedWithHSM>>false</EncryptedWithHSM>
      <NumberOfNodes>1</NumberOfNodes>
      <OwnerAccount>123456789012</OwnerAccount>
      <AvailabilityZone>us-east-2a</AvailabilityZone>
      <ClusterVersion>1.0</ClusterVersion>
      <ManualSnapshotRetentionPeriod>10</ManualSnapshotRetentionPeriod>
      <TotalBackupSizeInMegaBytes>62758.0</TotalBackupSizeInMegaBytes>
      <VpcId>vpc-a1abc1a1</VpcId>
      <BackupProgressInMegaBytes>15.0</BackupProgressInMegaBytes>
      <CurrentBackupRateInMegaBytesPerSecond>5.4506</
CurrentBackupRateInMegaBytesPerSecond>
      <ClusterCreateTime>2019-12-23T23:21:27.977Z</ClusterCreateTime>
      <ElapsedTimeInSeconds>2</ElapsedTimeInSeconds>
      <MasterUsername>adminuser</MasterUsername>
      <DBName>dev</DBName>
      <ActualIncrementalBackupSizeInMegaBytes>15.0</
ActualIncrementalBackupSizeInMegaBytes>
      <SnapshotType>>manual</SnapshotType>
      <EnhancedVpcRouting>>false</EnhancedVpcRouting>
      <ManualSnapshotRemainingDays>9</ManualSnapshotRemainingDays>
      <SnapshotIdentifier>mynsnapshotid</SnapshotIdentifier>
```

```
<NodeType>dc2.large</NodeType>
<Tags/>
<Encrypted>>false</Encrypted>
<Port>5439</Port>
<EstimatedSecondsToCompletion>0</EstimatedSecondsToCompletion>
<MaintenanceTrackName>current</MaintenanceTrackName>
<SnapshotCreateTime>2019-12-27T18:19:12.214Z</SnapshotCreateTime>
<Status>available</Status>
</Snapshot>
</ModifyClusterSnapshotResult>
<ResponseMetadata>
  <RequestId>f377d8a2-28e9-11ea-b6af-7126da6f11af</RequestId>
</ResponseMetadata>
</ModifyClusterSnapshotResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# ModifyClusterSnapshotSchedule

Modifies a snapshot schedule for a cluster.

## Request Parameters

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

### ClusterIdentifier

A unique identifier for the cluster whose snapshot schedule you want to modify.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### DisassociateSchedule

A boolean to indicate whether to remove the association between the cluster and the schedule.

Type: Boolean

Required: No

### ScheduleIdentifier

A unique alphanumeric identifier for the schedule that you want to associate with the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### **InvalidClusterSnapshotScheduleState**

The cluster snapshot schedule state is not valid.

HTTP Status Code: 400

### **SnapshotScheduleNotFound**

We could not find the specified snapshot schedule.

HTTP Status Code: 400

## **Examples**

### **Example**

This example removes a snapshot schedule from a cluster.

### **Sample Request**

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=ModifyClusterSnapshotSchedule  
&ClusterIdentifier=mycluster  
&ScheduleIdentifier=mynapshotschedule  
&DisassociateSchedule=true  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### **Sample Response**

```
<ModifyClusterSnapshotScheduleResponse xmlns="http://redshift.amazonaws.com/  
doc/2012-12-01/">  
  <ResponseMetadata>  
    <RequestId>3ec38335-28ea-11ea-b6af-7126da6f11af</RequestId>  
  </ResponseMetadata>  
</ModifyClusterSnapshotScheduleResponse>
```



## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# ModifyClusterSubnetGroup

Modifies a cluster subnet group to include the specified list of VPC subnets. The operation replaces the existing list of subnets with the new list of subnets.

VPC Block Public Access (BPA) enables you to block resources in VPCs and subnets that you own in a Region from reaching or being reached from the internet through internet gateways and egress-only internet gateways. If a subnet group for a provisioned cluster is in an account with VPC BPA turned on, the following capabilities are blocked:

- Creating a public cluster
- Restoring a public cluster
- Modifying a private cluster to be public
- Adding a subnet with VPC BPA turned on to the subnet group when there's at least one public cluster within the group

For more information about VPC BPA, see [Block public access to VPCs and subnets](#) in the *Amazon VPC User Guide*.

## Request Parameters

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

### ClusterSubnetGroupName

The name of the subnet group to be modified.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### SubnetIds.SubnetIdentifier.N

An array of VPC subnet IDs. A maximum of 20 subnets can be modified in a single request.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Description

A text description of the subnet group to be modified.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## Response Elements

The following element is returned by the service.

### ClusterSubnetGroup

Describes a subnet group.

Type: [ClusterSubnetGroup](#) object

## Errors

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

### ClusterSubnetGroupNotFoundFault

The cluster subnet group name does not refer to an existing cluster subnet group.

HTTP Status Code: 400

### ClusterSubnetQuotaExceededFault

The request would result in user exceeding the allowed number of subnets in a cluster subnet groups. For information about increasing your quota, go to [Limits in Amazon Redshift](#) in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

### DependentServiceRequestThrottlingFault

The request cannot be completed because a dependent service is throttling requests made by Amazon Redshift on your behalf. Wait and retry the request.

HTTP Status Code: 400

### **InvalidSubnet**

The requested subnet is not valid, or not all of the subnets are in the same VPC.

HTTP Status Code: 400

### **SubnetAlreadyInUse**

A specified subnet is already in use by another cluster.

HTTP Status Code: 400

### **UnauthorizedOperation**

Your account is not authorized to perform the requested operation.

HTTP Status Code: 400

## **Examples**

### **Example**

This example illustrates one usage of `ModifyClusterSubnetGroup`.

### **Sample Request**

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=ModifyClusterSubnetGroup  
&ClusterSubnetGroupName=mysubnetgroup  
&SubnetIds.SubnetIdentifier.1=subnet-a1b21abc  
&SubnetIds.SubnetIdentifier.2=subnet-a1b22abc  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### **Sample Response**

```
<ModifyClusterSubnetGroupResponse xmlns="http://redshift.amazonaws.com/  
doc/2012-12-01/">
```

```
<ModifyClusterSubnetGroupResult>
  <ClusterSubnetGroup>
    <VpcId>vpc-a1abc1a1</VpcId>
    <Description>My subnet group</Description>
    <Subnets>
      <Subnet>
        <SubnetStatus>Active</SubnetStatus>
        <SubnetIdentifier>subnet-a1b21abc</SubnetIdentifier>
        <SubnetAvailabilityZone>
          <Name>us-east-2f</Name>
        </SubnetAvailabilityZone>
      </Subnet>
      <Subnet>
        <SubnetStatus>Active</SubnetStatus>
        <SubnetIdentifier>subnet-a1b22abc</SubnetIdentifier>
        <SubnetAvailabilityZone>
          <Name>us-east-2a</Name>
        </SubnetAvailabilityZone>
      </Subnet>
    </Subnets>
    <ClusterSubnetGroupName>mysubnetgroup</ClusterSubnetGroupName>
    <SubnetGroupStatus>Complete</SubnetGroupStatus>
    <Tags/>
  </ClusterSubnetGroup>
</ModifyClusterSubnetGroupResult>
<ResponseMetadata>
  <RequestId>0b638b21-28eb-11ea-8cc9-43f1872b4b75</RequestId>
</ResponseMetadata>
</ModifyClusterSubnetGroupResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# ModifyCustomDomainAssociation

Contains information for changing a custom domain association.

## Request Parameters

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

### ClusterIdentifier

The identifier of the cluster to change a custom domain association for.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### CustomDomainCertificateArn

The certificate Amazon Resource Name (ARN) for the changed custom domain association.

Type: String

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

Pattern: `arn:[\w+=/, .@- ]+ : acm:[\w+=/, .@- ]* : [0-9]+ : [\w+=, .@- ]+( / [\w+=, .@- ]+ )*`

Required: Yes

### CustomDomainName

The custom domain name for a changed custom domain association.

Type: String

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

Pattern: `^(((?!-)[A-Za-z0-9-]{0,62}[A-Za-z0-9])\.)+(((?!-)[A-Za-z0-9-]{1,62}[A-Za-z0-9])$`

Required: Yes

## Response Elements

The following elements are returned by the service.

### ClusterIdentifier

The identifier of the cluster associated with the result for the changed custom domain association.

Type: String

Length Constraints: Maximum length of 2147483647.

### CustomDomainCertExpiryTime

The certificate expiration time associated with the result for the changed custom domain association.

Type: String

Length Constraints: Maximum length of 2147483647.

### CustomDomainCertificateArn

The certificate Amazon Resource Name (ARN) associated with the result for the changed custom domain association.

Type: String

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

Pattern: `arn:[\w+=/, .@- ]+ : acm:[\w+=/, .@- ]* : [0-9]+ : [\w+=, .@- ]+(/[ \w+=, .@- ]+)*`

### CustomDomainName

The custom domain name associated with the result for the changed custom domain association.

Type: String

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

Pattern: `^(((?!-)[A-Za-z0-9-]{0,62}[A-Za-z0-9])\.)+((?!-)[A-Za-z0-9-]{1,62}[A-Za-z0-9])$`



## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### CustomCnameAssociationFault

An error occurred when an attempt was made to change the custom domain association.

HTTP Status Code: 400

### CustomDomainAssociationNotFoundFault

An error occurred. The custom domain name couldn't be found.

HTTP Status Code: 404

### UnsupportedOperation

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# ModifyEndpointAccess

Modifies a Redshift-managed VPC endpoint.

## Request Parameters

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

### EndpointName

The endpoint to be modified.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### VpcSecurityGroupIds.VpcSecurityGroupId.N

The complete list of VPC security groups associated with the endpoint after the endpoint is modified.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

## Response Elements

The following elements are returned by the service.

### Address

The DNS address of the endpoint.

Type: String

Length Constraints: Maximum length of 2147483647.

### ClusterIdentifier

The cluster identifier of the cluster associated with the endpoint.

Type: String

Length Constraints: Maximum length of 2147483647.

### **EndpointCreateTime**

The time (UTC) that the endpoint was created.

Type: Timestamp

### **EndpointName**

The name of the endpoint.

Type: String

Length Constraints: Maximum length of 2147483647.

### **EndpointStatus**

The status of the endpoint.

Type: String

Length Constraints: Maximum length of 2147483647.

### **Port**

The port number on which the cluster accepts incoming connections.

Type: Integer

### **ResourceOwner**

The Amazon Web Services account ID of the owner of the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

### **SubnetGroupName**

The subnet group name where Amazon Redshift chooses to deploy the endpoint.

Type: String

Length Constraints: Maximum length of 2147483647.

## VpcEndpoint

The connection endpoint for connecting to an Amazon Redshift cluster through the proxy.

Type: [VpcEndpoint](#) object

## VpcSecurityGroups.VpcSecurityGroup.N

The security groups associated with the endpoint.

Type: Array of [VpcSecurityGroupMembership](#) objects

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### EndpointNotFound

The endpoint name doesn't refer to an existing endpoint.

HTTP Status Code: 404

### InvalidClusterSecurityGroupState

The state of the cluster security group is not available.

HTTP Status Code: 400

### InvalidClusterState

The specified cluster is not in the available state.

HTTP Status Code: 400

### InvalidEndpointState

The status of the endpoint is not valid.

HTTP Status Code: 400

## UnauthorizedOperation

Your account is not authorized to perform the requested 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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# ModifyEventSubscription

Modifies an existing Amazon Redshift event notification subscription.

## Request Parameters

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

### SubscriptionName

The name of the modified Amazon Redshift event notification subscription.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### Enabled

A Boolean value indicating if the subscription is enabled. `true` indicates the subscription is enabled

Type: Boolean

Required: No

### EventCategories.EventCategory.N

Specifies the Amazon Redshift event categories to be published by the event notification subscription.

Values: configuration, management, monitoring, security, pending

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### Severity

Specifies the Amazon Redshift event severity to be published by the event notification subscription.

Values: ERROR, INFO

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **SnsTopicArn**

The Amazon Resource Name (ARN) of the SNS topic to be used by the event notification subscription.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **SourceIds.SourceId.N**

A list of one or more identifiers of Amazon Redshift source objects. All of the objects must be of the same type as was specified in the source type parameter. The event subscription will return only events generated by the specified objects. If not specified, then events are returned for all objects within the source type specified.

Example: my-cluster-1, my-cluster-2

Example: my-snapshot-20131010

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### **SourceType**

The type of source that will be generating the events. For example, if you want to be notified of events generated by a cluster, you would set this parameter to cluster. If this value is not specified, events are returned for all Amazon Redshift objects in your Amazon Web Services account. You must specify a source type in order to specify source IDs.

Valid values: cluster, cluster-parameter-group, cluster-security-group, cluster-snapshot, and scheduled-action.



Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## Response Elements

The following element is returned by the service.

### EventSubscription

Describes event subscriptions.

Type: [EventSubscription](#) object

## Errors

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

### InvalidSubscriptionStateFault

The subscription request is invalid because it is a duplicate request. This subscription request is already in progress.

HTTP Status Code: 400

### SNSInvalidTopic

Amazon SNS has responded that there is a problem with the specified Amazon SNS topic.

HTTP Status Code: 400

### SNSNoAuthorization

You do not have permission to publish to the specified Amazon SNS topic.

HTTP Status Code: 400

### SNSTopicArnNotFound

An Amazon SNS topic with the specified Amazon Resource Name (ARN) does not exist.

HTTP Status Code: 404

## SourceNotFound

The specified Amazon Redshift event source could not be found.

HTTP Status Code: 404

## SubscriptionCategoryNotFound

The value specified for the event category was not one of the allowed values, or it specified a category that does not apply to the specified source type. The allowed values are Configuration, Management, Monitoring, and Security.

HTTP Status Code: 404

## SubscriptionEventIdNotFound

An Amazon Redshift event with the specified event ID does not exist.

HTTP Status Code: 404

## SubscriptionNotFound

An Amazon Redshift event notification subscription with the specified name does not exist.

HTTP Status Code: 404

## SubscriptionSeverityNotFound

The value specified for the event severity was not one of the allowed values, or it specified a severity that does not apply to the specified source type. The allowed values are ERROR and INFO.

HTTP Status Code: 404

## Examples

### Example

This example disables an event notification subscription.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
?Action=ModifyEventSubscription
```

```
&SubscriptionName=mysubscription
&Enabled=false
&SignatureMethod=HmacSHA256&SignatureVersion=4
&Version=2012-12-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<ModifyEventSubscriptionResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <ModifyEventSubscriptionResult>
    <EventSubscription>
      <Severity>ERROR</Severity>
      <CustSubscriptionId>mysubscription</CustSubscriptionId>
      <SnsTopicArn>arn:aws:sns:us-east-2:123456789012:MySNStopic</SnsTopicArn>
      <SourceIdsList/>
      <EventCategoriesList/>
      <SubscriptionCreationTime>2019-12-27T00:27:43.748Z</SubscriptionCreationTime>
      <Enabled>>false</Enabled>
      <Tags/>
      <Status>active</Status>
      <CustomerAwsId>123456789012</CustomerAwsId>
    </EventSubscription>
  </ModifyEventSubscriptionResult>
  <ResponseMetadata>
    <RequestId>ab342788-28f2-11ea-a940-1b28a85fd753</RequestId>
  </ResponseMetadata>
</ModifyEventSubscriptionResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# ModifyIntegration

Modifies a zero-ETL integration or S3 event integration with Amazon Redshift.

## Request Parameters

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

### IntegrationArn

The unique identifier of the integration to modify.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 255.

Pattern: `^arn:aws[a-z\-*]:redshift:[a-z0-9\-*]:[0-9]*:integration:[0-9a-f]{8}-[0-9a-f]{4}-[0-9a-f]{4}-[0-9a-f]{4}-[0-9a-f]{12}$`

Required: Yes

### Description

A new description for the integration.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

Pattern: `^.*$`

Required: No

### IntegrationName

A new name for the integration.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 63.

Pattern: `^[a-zA-Z][a-zA-Z0-9]*(-[a-zA-Z0-9]+)*$`

Required: No

## Response Elements

The following elements are returned by the service.

**AdditionalEncryptionContext** , AdditionalEncryptionContext.entry.N.key (key),  
AdditionalEncryptionContext.entry.N.value (value)

The encryption context for the integration. For more information, see [Encryption context](#) in the *Amazon Key Management Service Developer Guide*.

Type: String to string map

Key Length Constraints: Maximum length of 2147483647.

Value Length Constraints: Maximum length of 2147483647.

### CreateTime

The time (UTC) when the integration was created.

Type: Timestamp

### Description

The description of the integration.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1000.

Pattern: `^.*$`

### Errors.IntegrationError.N

Any errors associated with the integration.

Type: Array of [IntegrationError](#) objects

### IntegrationArn

The Amazon Resource Name (ARN) of the integration.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 255.

Pattern: `^arn:aws[a-z\-*]:redshift:[a-z0-9\-*]:[0-9]*:integration:[0-9a-f]{8}-[0-9a-f]{4}-[0-9a-f]{4}-[0-9a-f]{4}-[0-9a-f]{12}$`

### **IntegrationName**

The name of the integration.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 63.

Pattern: `^[a-zA-Z][a-zA-Z0-9]*(-[a-zA-Z0-9]+)*$`

### **KMSKeyId**

The Amazon Key Management Service (Amazon KMS) key identifier for the key used to encrypt the integration.

Type: String

Length Constraints: Maximum length of 2147483647.

### **SourceArn**

The Amazon Resource Name (ARN) of the database used as the source for replication.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 255.

Pattern: `^arn:aws[a-z\-*]:(s3|dynamodb):.*:[a-zA-Z0-9._\-\|/]+$`

### **Status**

The current status of the integration.

Type: String

Valid Values: `creating | active | modifying | failed | deleting | syncing | needs_attention`

### **Tags.Tag.N**

The list of tags associated with the integration.

Type: Array of [Tag](#) objects

## TargetArn

The Amazon Resource Name (ARN) of the Amazon Redshift data warehouse to use as the target for replication.

Type: String

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

Pattern: `^arn:aws[a-z\-\ ]*:redshift(-serverless)?:[a-z0-9\-\ ]+:[0-9]{12}:(namespace\|namespace:)[a-z0-9\-\ ]+$`

## Errors

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

### IntegrationAlreadyExistsFault

The integration you are trying to create already exists.

HTTP Status Code: 400

### IntegrationConflictOperationFault

A conflicting conditional operation is currently in progress against this resource. This typically occurs when there are multiple requests being made to the same resource at the same time, and these requests conflict with each other.

HTTP Status Code: 400

### IntegrationConflictStateFault

The integration is in an invalid state and can't perform the requested operation.

HTTP Status Code: 400

### IntegrationNotFoundFault

The integration can't be found.

HTTP Status Code: 404

### UnsupportedOperation

The requested operation isn't supported.



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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# ModifyRedshiftIdcApplication

Changes an existing Amazon Redshift IAM Identity Center application.

## Request Parameters

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

### RedshiftIdcApplicationArn

The ARN for the Redshift application that integrates with IAM Identity Center.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### AuthorizedTokenIssuerList.member.N

The authorized token issuer list for the Amazon Redshift IAM Identity Center application to change.

Type: Array of [AuthorizedTokenIssuer](#) objects

Required: No

### IamRoleArn

The IAM role ARN associated with the Amazon Redshift IAM Identity Center application to change. It has the required permissions to be assumed and invoke the IDC Identity Center API.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### IdcDisplayName

The display name for the Amazon Redshift IAM Identity Center application to change. It appears on the console.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 127.

Pattern: `[\w+=, .@- ]+`

Required: No

## IdentityNamespace

The namespace for the Amazon Redshift IAM Identity Center application to change. It determines which managed application verifies the connection token.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 127.

Pattern: `^[a-zA-Z0-9_+.#@$- ]+$`

Required: No

## ServiceIntegrations.member.N

A collection of service integrations associated with the application.

Type: Array of [ServiceIntegrationsUnion](#) objects

Required: No

## Response Elements

The following element is returned by the service.

### RedshiftIdcApplication

Contains properties for the Redshift IDC application.

Type: [RedshiftIdcApplication](#) object

## Errors

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

### DependentServiceAccessDenied

A dependent service denied access for the integration.

HTTP Status Code: 403

### **DependentServiceUnavailableFault**

Your request cannot be completed because a dependent internal service is temporarily unavailable. Wait 30 to 60 seconds and try again.

HTTP Status Code: 400

### **RedshiftIdcApplicationNotExists**

The application you attempted to find doesn't exist.

HTTP Status Code: 404

### **UnsupportedOperation**

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# ModifyScheduledAction

Modifies a scheduled action.

## Request Parameters

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

### ScheduledActionName

The name of the scheduled action to modify.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### Enable

A modified enable flag of the scheduled action. If true, the scheduled action is active. If false, the scheduled action is disabled.

Type: Boolean

Required: No

### EndTime

A modified end time of the scheduled action. For more information about this parameter, see [ScheduledAction](#).

Type: Timestamp

Required: No

### IamRole

A different IAM role to assume to run the target action. For more information about this parameter, see [ScheduledAction](#).

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## Schedule

A modified schedule in either `at( )` or `cron( )` format. For more information about this parameter, see [ScheduledAction](#).

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## ScheduledActionDescription

A modified description of the scheduled action.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## StartTime

A modified start time of the scheduled action. For more information about this parameter, see [ScheduledAction](#).

Type: Timestamp

Required: No

## TargetAction

A modified JSON format of the scheduled action. For more information about this parameter, see [ScheduledAction](#).

Type: [ScheduledActionType](#) object

Required: No

## Response Elements

The following elements are returned by the service.

## EndTime

The end time in UTC when the schedule is no longer active. After this time, the scheduled action does not trigger.

Type: Timestamp

## IamRole

The IAM role to assume to run the scheduled action. This IAM role must have permission to run the Amazon Redshift API operation in the scheduled action. This IAM role must allow the Amazon Redshift scheduler (Principal scheduler.redshift.amazonaws.com) to assume permissions on your behalf. For more information about the IAM role to use with the Amazon Redshift scheduler, see [Using Identity-Based Policies for Amazon Redshift](#) in the *Amazon Redshift Cluster Management Guide*.

Type: String

Length Constraints: Maximum length of 2147483647.

## NextInvocations.ScheduledActionTime.N

List of times when the scheduled action will run.

Type: Array of timestamps

## Schedule

The schedule for a one-time (at format) or recurring (cron format) scheduled action. Schedule invocations must be separated by at least one hour.

Format of at expressions is "at(yyyy-mm-ddThh:mm:ss)". For example, "at(2016-03-04T17:27:00)".

Format of cron expressions is "cron(Minutes Hours Day-of-month Month Day-of-week Year)". For example, "cron(0 10 ? \* MON \*)". For more information, see [Cron Expressions](#) in the *Amazon CloudWatch Events User Guide*.

Type: String

Length Constraints: Maximum length of 2147483647.

## ScheduledActionDescription

The description of the scheduled action.

Type: String

Length Constraints: Maximum length of 2147483647.

### **ScheduledActionName**

The name of the scheduled action.

Type: String

Length Constraints: Maximum length of 2147483647.

### **StartTime**

The start time in UTC when the schedule is active. Before this time, the scheduled action does not trigger.

Type: Timestamp

### **State**

The state of the scheduled action. For example, DISABLED.

Type: String

Valid Values: ACTIVE | DISABLED

### **TargetAction**

A JSON format string of the Amazon Redshift API operation with input parameters.

```
"{"ResizeCluster":{"NodeType":"ra3.4xlarge","ClusterIdentifier":"my-test-cluster","NumberOfNodes":3}}"
```

Type: [ScheduledActionType](#) object

## **Errors**

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

### **ClusterNotFound**

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404



## InvalidSchedule

The schedule you submitted isn't valid.

HTTP Status Code: 400

## InvalidScheduledAction

The scheduled action is not valid.

HTTP Status Code: 400

## ScheduledActionNotFound

The scheduled action cannot be found.

HTTP Status Code: 400

## ScheduledActionTypeUnsupported

The action type specified for a scheduled action is not supported.

HTTP Status Code: 400

## UnauthorizedOperation

Your account is not authorized to perform the requested operation.

HTTP Status Code: 400

## UnsupportedOperation

The requested operation isn't supported.

HTTP Status Code: 400

## Examples

### Example

This example adds description to an existing scheduled action.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/
```

```

?Action=ModifyScheduledAction
&ScheduledActionName=myscheduledaction
&ScheduledActionDescription=My+scheduled+action
&SignatureMethod=HmacSHA256&SignatureVersion=4
&Version=2012-12-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b

```

## Sample Response

```

<ModifyScheduledActionResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <ModifyScheduledActionResult>
    <IamRole>arn:aws:iam::123456789012:role/myRedshiftRole</IamRole>
    <Schedule>at(2019-12-31T00:00:00)</Schedule>
    <ScheduledActionName>myscheduledaction</ScheduledActionName>
    <TargetAction>
      <ResizeCluster>
        <ClusterType>multi-node</ClusterType>
        <ClusterIdentifier>mycluster</ClusterIdentifier>
        <Classic>true</Classic>
        <NumberOfNodes>3</NumberOfNodes>
        <NodeType>dc2.large</NodeType>
      </ResizeCluster>
    </TargetAction>
    <NextInvocations>
      <ScheduledActionTime>2019-12-31T00:00:00Z</ScheduledActionTime>
    </NextInvocations>
    <State>ACTIVE</State>
    <ScheduledActionDescription>My scheduled action</ScheduledActionDescription>
  </ModifyScheduledActionResult>
  <ResponseMetadata>
    <RequestId>a2388ba8-28f3-11ea-8a28-2fd1719d0e86</RequestId>
  </ResponseMetadata>
</ModifyScheduledActionResponse>

```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# ModifySnapshotCopyRetentionPeriod

Modifies the number of days to retain snapshots in the destination Amazon Web Services Region after they are copied from the source Amazon Web Services Region. By default, this operation only changes the retention period of copied automated snapshots. The retention periods for both new and existing copied automated snapshots are updated with the new retention period. You can set the manual option to change only the retention periods of copied manual snapshots. If you set this option, only newly copied manual snapshots have the new retention period.

## Request Parameters

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

### ClusterIdentifier

The unique identifier of the cluster for which you want to change the retention period for either automated or manual snapshots that are copied to a destination Amazon Web Services Region.

Constraints: Must be the valid name of an existing cluster that has cross-region snapshot copy enabled.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### RetentionPeriod

The number of days to retain automated snapshots in the destination Amazon Web Services Region after they are copied from the source Amazon Web Services Region.

By default, this only changes the retention period of copied automated snapshots.

If you decrease the retention period for automated snapshots that are copied to a destination Amazon Web Services Region, Amazon Redshift deletes any existing automated snapshots that were copied to the destination Amazon Web Services Region and that fall outside of the new retention period.

Constraints: Must be at least 1 and no more than 35 for automated snapshots.

If you specify the `manual` option, only newly copied manual snapshots will have the new retention period.

If you specify the value of `-1` newly copied manual snapshots are retained indefinitely.

Constraints: The number of days must be either `-1` or an integer between `1` and `3,653` for manual snapshots.

Type: Integer

Required: Yes

## Manual

Indicates whether to apply the snapshot retention period to newly copied manual snapshots instead of automated snapshots.

Type: Boolean

Required: No

## Response Elements

The following element is returned by the service.

### Cluster

Describes a cluster.

Type: [Cluster](#) object

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

## InvalidClusterState

The specified cluster is not in the available state.

HTTP Status Code: 400

## InvalidRetentionPeriodFault

The retention period specified is either in the past or is not a valid value.

The value must be either -1 or an integer between 1 and 3,653.

HTTP Status Code: 400

## SnapshotCopyDisabledFault

Cross-region snapshot copy was temporarily disabled. Try your request again.

HTTP Status Code: 400

## UnauthorizedOperation

Your account is not authorized to perform the requested operation.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of `ModifySnapshotCopyRetentionPeriod`.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=ModifySnapshotCopyRetentionPeriod  
&ClusterIdentifier=mycluster  
&RetentionPeriod=15  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```

<ModifySnapshotCopyRetentionPeriodResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <ModifySnapshotCopyRetentionPeriodResult>
    <Cluster>
      <AllowVersionUpgrade>true</AllowVersionUpgrade>
      <ClusterIdentifier>mycluster</ClusterIdentifier>
      <NumberOfNodes>1</NumberOfNodes>
      <AvailabilityZone>us-east-2a</AvailabilityZone>
      <ClusterVersion>1.0</ClusterVersion>
      <ManualSnapshotRetentionPeriod>-1</ManualSnapshotRetentionPeriod>
      <ClusterAvailabilityStatus>Available</ClusterAvailabilityStatus>
      <Endpoint>
        <Port>5439</Port>
        <Address>mycluster.cmeaswqeuae.us-east-2.redshift.amazonaws.com</Address>
      </Endpoint>
      <VpcId>vpc-a1abc1a1</VpcId>
      <PubliclyAccessible>>false</PubliclyAccessible>
      <ClusterCreateTime>2019-12-27T17:48:01.504Z</ClusterCreateTime>
      <ClusterSnapshotCopyStatus>
        <ManualSnapshotRetentionPeriod>-1</ManualSnapshotRetentionPeriod>
        <DestinationRegion>us-east-1</DestinationRegion>
        <RetentionPeriod>15</RetentionPeriod>
      </ClusterSnapshotCopyStatus>
      <MasterUsername>adminuser</MasterUsername>
      <DBName>dev</DBName>
      <EnhancedVpcRouting>>false</EnhancedVpcRouting>
      <IamRoles/>
      <ClusterSecurityGroups/>
      <NodeType>dc2.large</NodeType>
      <ClusterSubnetGroupName>default</ClusterSubnetGroupName>
      <NextMaintenanceWindowStartTime>2020-01-26T23:15:00Z</
NextMaintenanceWindowStartTime>
      <DeferredMaintenanceWindows>
        <DeferredMaintenanceWindow>
          <DeferMaintenanceEndTime>2020-01-26T19:39:15.075Z</DeferMaintenanceEndTime>
          <DeferMaintenanceIdentifier>dfm-VcfYqSYqQ4tdX0qbKw0o</
DeferMaintenanceIdentifier>
          <DeferMaintenanceStartTime>2019-12-27T19:39:15.075Z</
DeferMaintenanceStartTime>
        </DeferredMaintenanceWindow>
      </DeferredMaintenanceWindows>
      <Tags>

```

```
<Tag>
  <Value>newtag</Value>
  <Key>mytag</Key>
</Tag>
</Tags>
<VpcSecurityGroups>
  <VpcSecurityGroup>
    <VpcSecurityGroupId>sh-a1a123ab</VpcSecurityGroupId>
    <Status>active</Status>
  </VpcSecurityGroup>
</VpcSecurityGroups>
<ClusterParameterGroups>
  <ClusterParameterGroup>
    <ParameterGroupName>default.redshift-1.0</ParameterGroupName>
    <ParameterApplyStatus>in-sync</ParameterApplyStatus>
  </ClusterParameterGroup>
</ClusterParameterGroups>
<Encrypted>>false</Encrypted>
<MaintenanceTrackName>current</MaintenanceTrackName>
<PendingModifiedValues/>
<PreferredMaintenanceWindow>sun:23:15-mon:03:15</PreferredMaintenanceWindow>
<AutomatedSnapshotRetentionPeriod>1</AutomatedSnapshotRetentionPeriod>
<ClusterStatus>available</ClusterStatus>
</Cluster>
</ModifySnapshotCopyRetentionPeriodResult>
<ResponseMetadata>
  <RequestId>f24fc770-28f3-11ea-9467-b9a67a99da45</RequestId>
</ResponseMetadata>
</ModifySnapshotCopyRetentionPeriodResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# ModifySnapshotSchedule

Modifies a snapshot schedule. Any schedule associated with a cluster is modified asynchronously.

## Request Parameters

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

### ScheduleDefinitions.ScheduleDefinition.N

An updated list of schedule definitions. A schedule definition is made up of schedule expressions, for example, "cron(30 12 \*)" or "rate(12 hours)".

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: Yes

### ScheduleIdentifier

A unique alphanumeric identifier of the schedule to modify.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Response Elements

The following elements are returned by the service.

### AssociatedClusterCount

The number of clusters associated with the schedule.

Type: Integer

### AssociatedClusters.ClusterAssociatedToSchedule.N

A list of clusters associated with the schedule. A maximum of 100 clusters is returned.

Type: Array of [ClusterAssociatedToSchedule](#) objects

### **NextInvocations.SnapshotTime.N**

Type: Array of timestamps

### **ScheduleDefinitions.ScheduleDefinition.N**

A list of ScheduleDefinitions.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

### **ScheduleDescription**

The description of the schedule.

Type: String

Length Constraints: Maximum length of 2147483647.

### **ScheduleIdentifier**

A unique identifier for the schedule.

Type: String

Length Constraints: Maximum length of 2147483647.

### **Tags.Tag.N**

An optional set of tags describing the schedule.

Type: Array of [Tag](#) objects

## **Errors**

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

### **InvalidSchedule**

The schedule you submitted isn't valid.

HTTP Status Code: 400

## SnapshotScheduleNotFound

We could not find the specified snapshot schedule.

HTTP Status Code: 400

## SnapshotScheduleUpdateInProgress

The specified snapshot schedule is already being updated.

HTTP Status Code: 400

## Examples

### Example

This example sets a snapshot schedule to the rate of every 10 hours.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/
    ?Action=ModifySnapshotSchedule
    &ScheduleIdentifier=mynapshotschedule
    &ScheduleDefinitions.ScheduleDefinition.1=rate%2810+hours%29
    &SignatureMethod=HmacSHA256&SignatureVersion=4
    &Version=2012-12-01
    &X-Amz-Algorithm=AWS4-HMAC-SHA256
    &X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
    &X-Amz-Date=20190825T160000Z
    &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
    &X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<ModifySnapshotScheduleResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <ModifySnapshotScheduleResult>
    <ScheduleDefinitions>
      <ScheduleDefinition>rate(10 hours)</ScheduleDefinition>
    </ScheduleDefinitions>
    <ScheduleDescription>My schedule description</ScheduleDescription>
    <ScheduleIdentifier>mynapshotschedule</ScheduleIdentifier>
    <Tags/>
```

```
</ModifySnapshotScheduleResult>
<ResponseMetadata>
  <RequestId>8c27532d-28f4-11ea-a940-1b28a85fd753</RequestId>
</ResponseMetadata>
</ModifySnapshotScheduleResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# ModifyUsageLimit

Modifies a usage limit in a cluster. You can't modify the feature type or period of a usage limit.

## Request Parameters

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

### UsageLimitId

The identifier of the usage limit to modify.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### Amount

The new limit amount. For more information about this parameter, see [UsageLimit](#).

Type: Long

Required: No

### BreachAction

The new action that Amazon Redshift takes when the limit is reached. For more information about this parameter, see [UsageLimit](#).

Type: String

Valid Values: `log` | `emit-metric` | `disable`

Required: No

## Response Elements

The following elements are returned by the service.

### Amount

The limit amount. If time-based, this amount is in minutes. If data-based, this amount is in terabytes (TB).

Type: Long

### **BreachAction**

The action that Amazon Redshift takes when the limit is reached. Possible values are:

- **log** - To log an event in a system table. The default is log.
- **emit-metric** - To emit CloudWatch metrics.
- **disable** - To disable the feature until the next usage period begins.

Type: String

Valid Values: log | emit-metric | disable

### **ClusterIdentifier**

The identifier of the cluster with a usage limit.

Type: String

Length Constraints: Maximum length of 2147483647.

### **FeatureType**

The Amazon Redshift feature to which the limit applies.

Type: String

Valid Values: spectrum | concurrency-scaling | cross-region-datasharing

### **LimitType**

The type of limit. Depending on the feature type, this can be based on a time duration or data size.

Type: String

Valid Values: time | data-scanned

### **Period**

The time period that the amount applies to. A weekly period begins on Sunday. The default is monthly.

Type: String

Valid Values: `daily` | `weekly` | `monthly`

### **Tags.Tag.N**

A list of tag instances.

Type: Array of [Tag](#) objects

### **UsageLimitId**

The identifier of the usage limit.

Type: String

Length Constraints: Maximum length of 2147483647.

## **Errors**

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

### **InvalidUsageLimit**

The usage limit is not valid.

HTTP Status Code: 400

### **UnsupportedOperation**

The requested operation isn't supported.

HTTP Status Code: 400

### **UsageLimitNotFound**

The usage limit identifier can't be found.

HTTP Status Code: 404

## **See Also**

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

- [Amazon Command Line Interface](#)



- [Amazon SDK for .NET](#)
- [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](#)

# PauseCluster

Pauses a cluster.

## Request Parameters

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

### ClusterIdentifier

The identifier of the cluster to be paused.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Response Elements

The following element is returned by the service.

### Cluster

Describes a cluster.

Type: [Cluster](#) object

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### InvalidClusterState

The specified cluster is not in the available state.

HTTP Status Code: 400

## UnsupportedOperation

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# PurchaseReservedNodeOffering

Allows you to purchase reserved nodes. Amazon Redshift offers a predefined set of reserved node offerings. You can purchase one or more of the offerings. You can call the [DescribeReservedNodeOfferings](#) API to obtain the available reserved node offerings. You can call this API by providing a specific reserved node offering and the number of nodes you want to reserve.

For more information about reserved node offerings, go to [Purchasing Reserved Nodes](#) in the *Amazon Redshift Cluster Management Guide*.

## Request Parameters

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

### ReservedNodeOfferingId

The unique identifier of the reserved node offering you want to purchase.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### NodeCount

The number of reserved nodes that you want to purchase.

Default: 1

Type: Integer

Required: No

## Response Elements

The following element is returned by the service.

### ReservedNode

Describes a reserved node. You can call the [DescribeReservedNodeOfferings](#) API to obtain the available reserved node offerings.

Type: [ReservedNode](#) object

## Errors

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

### ReservedNodeAlreadyExists

User already has a reservation with the given identifier.

HTTP Status Code: 404

### ReservedNodeOfferingNotFound

Specified offering does not exist.

HTTP Status Code: 404

### ReservedNodeQuotaExceeded

Request would exceed the user's compute node quota. For information about increasing your quota, go to [Limits in Amazon Redshift](#) in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

### UnsupportedOperation

The requested operation isn't supported.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of PurchaseReservedNodeOffering.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=PurchaseReservedNodeOffering  
&ReservedNodeOfferingId=12345678-12ab-12a1-1a2a-12ab-12a12bEXAMPLE
```

```
&SignatureMethod=HmacSHA256&SignatureVersion=4
&Version=2012-12-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<PurchaseReservedNodeOfferingResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <PurchaseReservedNodeOfferingResult>
    <ReservedNode>
      <ReservedNodeId>12345678-12ab-12a1-1a2a-12ab-12a12aEXAMPLE</ReservedNodeId>
      <OfferingType>All Upfront</OfferingType>
      <ReservedNodeOfferingType>Regular</ReservedNodeOfferingType>
      <RecurringCharges/>
      <NodeType>ra3.4xlarge</NodeType>
      <FixedPrice>4295.0</FixedPrice>
      <Duration>31536000</Duration>
      <UsagePrice>0.0</UsagePrice>
      <ReservedNodeOfferingId>12345678-12ab-12a1-1a2a-12ab-12a12bEXAMPLE</ReservedNodeOfferingId>
    </ReservedNode>
  </PurchaseReservedNodeOfferingResult>
  <ResponseMetadata>
    <RequestId>1c8a0fe4-28f5-11ea-8314-974e2ba81189</RequestId>
  </ResponseMetadata>
</PurchaseReservedNodeOfferingResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)

- [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](#)

# PutResourcePolicy

Updates the resource policy for a specified resource.

## Request Parameters

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

### Policy

The content of the resource policy being updated.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### ResourceArn

The Amazon Resource Name (ARN) of the resource of which its resource policy is updated.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Response Elements

The following element is returned by the service.

### ResourcePolicy

The content of the updated resource policy.

Type: [ResourcePolicy](#) object

## Errors

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



## **ConflictPolicyUpdateFault**

There is a conflict while updating the resource policy.

HTTP Status Code: 409

## **InvalidPolicyFault**

The resource policy isn't valid.

HTTP Status Code: 400

## **ResourceNotFoundFault**

The resource could not be found.

HTTP Status Code: 404

## **UnsupportedOperation**

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# RebootCluster

Reboots a cluster. This action is taken as soon as possible. It results in a momentary outage to the cluster, during which the cluster status is set to `rebooting`. A cluster event is created when the reboot is completed. Any pending cluster modifications (see [ModifyCluster](#)) are applied at this reboot. For more information about managing clusters, go to [Amazon Redshift Clusters](#) in the *Amazon Redshift Cluster Management Guide*.

## Request Parameters

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

### ClusterIdentifier

The cluster identifier.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Response Elements

The following element is returned by the service.

### Cluster

Describes a cluster.

Type: [Cluster](#) object

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

## InvalidClusterState

The specified cluster is not in the available state.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of RebootCluster.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=RebootCluster  
&ClusterIdentifier=mycluster  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<RebootClusterResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">  
  <RebootClusterResult>  
    <Cluster>  
      <AllowVersionUpgrade>>true</AllowVersionUpgrade>  
      <ClusterIdentifier>mycluster</ClusterIdentifier>  
      <NumberOfNodes>1</NumberOfNodes>  
      <AvailabilityZone>us-east-2a</AvailabilityZone>  
      <ClusterVersion>1.0</ClusterVersion>  
      <ManualSnapshotRetentionPeriod>-1</ManualSnapshotRetentionPeriod>  
      <ClusterAvailabilityStatus>Modifying</ClusterAvailabilityStatus>  
      <Endpoint>  
        <Port>5439</Port>  
        <Address>mycluster.cmeaswquae.us-east-2.redshift.amazonaws.com</Address>  
      </Endpoint>  
      <VpcId>vpc-a1abc1a1</VpcId>
```

```

<PubliclyAccessible>>false</PubliclyAccessible>
<ClusterCreateTime>2019-12-27T17:48:01.504Z</ClusterCreateTime>
<ClusterSnapshotCopyStatus>
  <ManualSnapshotRetentionPeriod>-1</ManualSnapshotRetentionPeriod>
  <DestinationRegion>us-east-1</DestinationRegion>
  <RetentionPeriod>15</RetentionPeriod>
</ClusterSnapshotCopyStatus>
<MasterUsername>adminuser</MasterUsername>
<DBName>dev</DBName>
<EnhancedVpcRouting>>false</EnhancedVpcRouting>
<IamRoles/>
<ClusterSecurityGroups/>
<NodeType>dc2.large</NodeType>
<ClusterSubnetGroupName>default</ClusterSubnetGroupName>
<NextMaintenanceWindowStartTime>2020-01-26T23:15:00Z</
NextMaintenanceWindowStartTime>
  <DeferredMaintenanceWindows>
    <DeferredMaintenanceWindow>
      <DeferMaintenanceEndTime>2020-01-26T19:39:15.075Z</DeferMaintenanceEndTime>
      <DeferMaintenanceIdentifier>dfm-VcfYqSYqQ4tdX0qbKw0o</
DeferMaintenanceIdentifier>
      <DeferMaintenanceStartTime>2019-12-27T19:39:15.075Z</
DeferMaintenanceStartTime>
    </DeferredMaintenanceWindow>
  </DeferredMaintenanceWindows>
<Tags>
  <Tag>
    <Value>newtag</Value>
    <Key>mytag</Key>
  </Tag>
</Tags>
<VpcSecurityGroups>
  <VpcSecurityGroup>
    <VpcSecurityGroupId>sh-a1a123ab</VpcSecurityGroupId>
    <Status>active</Status>
  </VpcSecurityGroup>
</VpcSecurityGroups>
<ClusterParameterGroups>
  <ClusterParameterGroup>
    <ParameterGroupName>default.redshift-1.0</ParameterGroupName>
    <ParameterApplyStatus>in-sync</ParameterApplyStatus>
  </ClusterParameterGroup>
</ClusterParameterGroups>
<Encrypted>>false</Encrypted>

```

```
<MaintenanceTrackName>current</MaintenanceTrackName>
<PendingModifiedValues/>
<PreferredMaintenanceWindow>sun:23:15-mon:03:15</PreferredMaintenanceWindow>
<AutomatedSnapshotRetentionPeriod>1</AutomatedSnapshotRetentionPeriod>
<ClusterStatus>rebooting</ClusterStatus>
</Cluster>
</RebootClusterResult>
<ResponseMetadata>
  <RequestId>6f1299dc-28f5-11ea-9caa-c956bec1ce87</RequestId>
</ResponseMetadata>
</RebootClusterResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# RegisterNamespace

Registers a cluster or serverless namespace to the Amazon Glue Data Catalog.

## Request Parameters

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

### ConsumerIdentifiers.member.N

An array containing the ID of the consumer account that you want to register the namespace to.

Type: Array of strings

Array Members: Fixed number of 1 item.

Length Constraints: Maximum length of 2147483647.

Required: Yes

### NamespaceIdentifier

The unique identifier of the cluster or serverless namespace that you want to register.

Type: [NamespaceIdentifierUnion](#) object

**Note:** This object is a Union. Only one member of this object can be specified or returned.

Required: Yes

## Response Elements

The following element is returned by the service.

### Status

The registration status of the cluster or serverless namespace.

Type: String

Valid Values: Registering | Deregistering

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### InvalidClusterState

The specified cluster is not in the available state.

HTTP Status Code: 400

### InvalidNamespaceFault

The namespace isn't valid because the namespace doesn't exist. Provide a valid namespace.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# RejectDataShare

From a datashare consumer account, rejects the specified datashare.

## Request Parameters

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

### DataShareArn

The Amazon Resource Name (ARN) of the datashare to reject.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Response Elements

The following elements are returned by the service.

### AllowPubliclyAccessibleConsumers

A value that specifies whether the datashare can be shared to a publicly accessible cluster.

Type: Boolean

### DataShareArn

The Amazon Resource Name (ARN) of the datashare that the consumer is to use.

Type: String

Length Constraints: Maximum length of 2147483647.

### DataShareAssociations.member.N

A value that specifies when the datashare has an association between producer and data consumers.

Type: Array of [DataShareAssociation](#) objects



## DataShareType

The type of the datashare created by RegisterNamespace.

Type: String

Valid Values: INTERNAL

## ManagedBy

The identifier of a datashare to show its managing entity.

Type: String

Length Constraints: Maximum length of 2147483647.

## ProducerArn

The Amazon Resource Name (ARN) of the producer namespace.

Type: String

Length Constraints: Maximum length of 2147483647.

## Errors

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

### InvalidDataShareFault

There is an error with the datashare.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of RejectDataShare.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
?Action=RejectDataShare
```

```

    &DataShareArn=arn%3Aaws%3Aredshift%3Aus-east-1%3A275247490162%3Adatashare
%3Afd59653e-4ace-4952-a102-286dad7263ca%2Ftestshare1
    &SignatureMethod=HmacSHA256&SignatureVersion=4
    &Version=2012-12-01
    &X-Amz-Algorithm=AWS4-HMAC-SHA256
    &X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
    &X-Amz-Date=20190825T160000Z
    &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-
date
    &X-Amz-
Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b

```

## Sample Response

```

<RejectDataShareResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <RejectDataShareResult>
    <ProducerNamespaceArn>arn:aws:redshift:us-
east-1:275247490162:namespace:fd59653e-4ace-4952-a102-286dad7263ca</
ProducerNamespaceArn>
    <AllowPubliclyAccessibleConsumers>true</
AllowPubliclyAccessibleConsumers>
    <DataShareArn>arn:aws:redshift:us-
east-1:275247490162:datashare:fd59653e-4ace-4952-a102-286dad7263ca/testshare1</
DataShareArn>
    <DataShareAssociations>
      <member>
        <StatusChangeDate>2020-10-30T17:43:02.108138</StatusChangeDate>
        <ConsumerIdentifier>827630067164</ConsumerIdentifier>
        <CreatedDate>2020-10-29T22:54:27.948849</CreatedDate>
        <Status>REJECTED</Status>
      </member>
    </DataShareAssociations>
  </RejectDataShareResult>
  <ResponseMetadata>
    <RequestId>fc19bc1a-18c1-4888-a35e-3e1366775c36</RequestId>
  </ResponseMetadata>
</RejectDataShareResponse>

```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# ResetClusterParameterGroup

Sets one or more parameters of the specified parameter group to their default values and sets the source values of the parameters to "engine-default". To reset the entire parameter group specify the *ResetAllParameters* parameter. For parameter changes to take effect you must reboot any associated clusters.

## Request Parameters

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

### ParameterGroupName

The name of the cluster parameter group to be reset.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### Parameters.Parameter.N

An array of names of parameters to be reset. If *ResetAllParameters* option is not used, then at least one parameter name must be supplied.

Constraints: A maximum of 20 parameters can be reset in a single request.

Type: Array of [Parameter](#) objects

Required: No

### ResetAllParameters

If `true`, all parameters in the specified parameter group will be reset to their default values.

Default: `true`

Type: Boolean

Required: No

## Response Elements

The following elements are returned by the service.

### **ParameterGroupName**

The name of the cluster parameter group.

Type: String

Length Constraints: Maximum length of 2147483647.

### **ParameterGroupStatus**

The status of the parameter group. For example, if you made a change to a parameter group name-value pair, then the change could be pending a reboot of an associated cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

## Errors

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

### **ClusterParameterGroupNotFound**

The parameter group name does not refer to an existing parameter group.

HTTP Status Code: 404

### **InvalidClusterParameterGroupState**

The cluster parameter group action can not be completed because another task is in progress that involves the parameter group. Wait a few moments and try the operation again.

HTTP Status Code: 400

## Examples

### **Example**

This example illustrates one usage of `ResetClusterParameterGroup`.

## Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=ResetClusterParameterGroup  
&ParameterGroupName=myclusterparametergroup  
&ResetAllParameters=true  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<ResetClusterParameterGroupResponse xmlns="http://redshift.amazonaws.com/  
doc/2012-12-01/">  
  <ResetClusterParameterGroupResult>  
    <ParameterGroupName>myclusterparametergroup</ParameterGroupName>  
    <ParameterGroupStatus>Your parameter group has been updated. If you changed only  
dynamic parameters, associated clusters are being modified now. If you changed static  
parameters, all updates, including dynamic parameters, will be applied when you reboot  
the associated clusters.</ParameterGroupStatus>  
  </ResetClusterParameterGroupResult>  
  <ResponseMetadata>  
    <RequestId>9e0e57b9-28f5-11ea-9caa-c956bec1ce87</RequestId>  
  </ResponseMetadata>  
</ResetClusterParameterGroupResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# ResizeCluster

Changes the size of the cluster. You can change the cluster's type, or change the number or type of nodes. The default behavior is to use the elastic resize method. With an elastic resize, your cluster is available for read and write operations more quickly than with the classic resize method.

Elastic resize operations have the following restrictions:

- You can only resize clusters of the following types:
  - dc2.large
  - dc2.8xlarge
  - ra3.large
  - ra3.xlplus
  - ra3.4xlarge
  - ra3.16xlarge
- The type of nodes that you add must match the node type for the cluster.

## Request Parameters

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

### ClusterIdentifier

The unique identifier for the cluster to resize.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### Classic

A boolean value indicating whether the resize operation is using the classic resize process. If you don't provide this parameter or set the value to `false`, the resize type is elastic.

Type: Boolean

Required: No



## ClusterType

The new cluster type for the specified cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## NodeType

The new node type for the nodes you are adding. If not specified, the cluster's current node type is used.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## NumberOfNodes

The new number of nodes for the cluster. If not specified, the cluster's current number of nodes is used.

Type: Integer

Required: No

## ReservedNodeId

The identifier of the reserved node.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## TargetReservedNodeOfferingId

The identifier of the target reserved node offering.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## Response Elements

The following element is returned by the service.

### Cluster

Describes a cluster.

Type: [Cluster](#) object

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### DependentServiceUnavailableFault

Your request cannot be completed because a dependent internal service is temporarily unavailable. Wait 30 to 60 seconds and try again.

HTTP Status Code: 400

### InsufficientClusterCapacity

The number of nodes specified exceeds the allotted capacity of the cluster.

HTTP Status Code: 400

### InvalidClusterState

The specified cluster is not in the available state.

HTTP Status Code: 400

**InvalidReservedNodeState**

Indicates that the Reserved Node being exchanged is not in an active state.

HTTP Status Code: 400

**LimitExceededFault**

The encryption key has exceeded its grant limit in Amazon KMS.

HTTP Status Code: 400

**NumberOfNodesPerClusterLimitExceeded**

The operation would exceed the number of nodes allowed for a cluster.

HTTP Status Code: 400

**NumberOfNodesQuotaExceeded**

The operation would exceed the number of nodes allotted to the account. For information about increasing your quota, go to [Limits in Amazon Redshift](#) in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

**ReservedNodeAlreadyExists**

User already has a reservation with the given identifier.

HTTP Status Code: 404

**ReservedNodeAlreadyMigrated**

Indicates that the reserved node has already been exchanged.

HTTP Status Code: 400

**ReservedNodeNotFound**

The specified reserved compute node not found.

HTTP Status Code: 404

**ReservedNodeOfferingNotFound**

Specified offering does not exist.

HTTP Status Code: 404

### UnauthorizedOperation

Your account is not authorized to perform the requested operation.

HTTP Status Code: 400

### UnsupportedOperation

The requested operation isn't supported.

HTTP Status Code: 400

### UnsupportedOptionFault

A request option was specified that is not supported.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of `ResizeCluster`.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=ResizeCluster  
&ClusterIdentifier=mycluster  
&ClusterType=multi-node  
&NodeType=dc2.large  
&NumberOfNodes=6  
&Classic=true  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```

<ResizeClusterResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <ResizeClusterResult>
    <Cluster>
      <AllowVersionUpgrade>true</AllowVersionUpgrade>
      <ClusterIdentifier>mycluster</ClusterIdentifier>
      <NumberOfNodes>1</NumberOfNodes>
      <AvailabilityZone>us-east-2d</AvailabilityZone>
      <ClusterVersion>1.0</ClusterVersion>
      <ManualSnapshotRetentionPeriod>-1</ManualSnapshotRetentionPeriod>
      <ClusterAvailabilityStatus>Modifying</ClusterAvailabilityStatus>
      <Endpoint>
        <Port>5439</Port>
        <Address>mycluster.cmeaswquae.us-east-2.redshift.amazonaws.com</Address>
      </Endpoint>
      <VpcId>vpc-a1abc1a1</VpcId>
      <PubliclyAccessible>>false</PubliclyAccessible>
      <ClusterCreateTime>2019-12-27T17:48:01.504Z</ClusterCreateTime>
      <ClusterSnapshotCopyStatus>
        <ManualSnapshotRetentionPeriod>-1</ManualSnapshotRetentionPeriod>
        <DestinationRegion>us-east-1</DestinationRegion>
        <RetentionPeriod>15</RetentionPeriod>
      </ClusterSnapshotCopyStatus>
      <MasterUsername>adminuser</MasterUsername>
      <DBName>dev</DBName>
      <EnhancedVpcRouting>>false</EnhancedVpcRouting>
      <IamRoles/>
      <ResizeInfo>
        <AllowCancelResize>true</AllowCancelResize>
        <ResizeType>ClassicResize</ResizeType>
      </ResizeInfo>
      <ClusterSecurityGroups/>
      <NodeType>dc2.large</NodeType>
      <ClusterSubnetGroupName>default</ClusterSubnetGroupName>
      <NextMaintenanceWindowStartTime>2020-01-26T23:15:00Z</
NextMaintenanceWindowStartTime>
      <DeferredMaintenanceWindows>
        <DeferredMaintenanceWindow>
          <DeferMaintenanceEndTime>2020-01-26T19:39:15.075Z</DeferMaintenanceEndTime>
          <DeferMaintenanceIdentifier>dfm-VcfYqSYqQ4tdX0qbKw0o</
DeferMaintenanceIdentifier>
          <DeferMaintenanceStartTime>2019-12-27T19:39:15.075Z</
DeferMaintenanceStartTime>

```

```

    </DeferredMaintenanceWindow>
  </DeferredMaintenanceWindows>
  <Tags>
    <Tag>
      <Value>newtag</Value>
      <Key>mytag</Key>
    </Tag>
  </Tags>
  <VpcSecurityGroups>
    <VpcSecurityGroup>
      <VpcSecurityGroupId>sh-a1a123ab</VpcSecurityGroupId>
      <Status>active</Status>
    </VpcSecurityGroup>
  </VpcSecurityGroups>
  <ClusterParameterGroups>
    <ClusterParameterGroup>
      <ParameterGroupName>default.redshift-1.0</ParameterGroupName>
      <ParameterApplyStatus>in-sync</ParameterApplyStatus>
    </ClusterParameterGroup>
  </ClusterParameterGroups>
  <Encrypted>>false</Encrypted>
  <MaintenanceTrackName>current</MaintenanceTrackName>
  <PendingModifiedValues>
    <ClusterType>multi-node</ClusterType>
    <NumberOfNodes>6</NumberOfNodes>
    <NodeType>dc2.large</NodeType>
  </PendingModifiedValues>
  <PreferredMaintenanceWindow>sun:23:15-mon:03:15</PreferredMaintenanceWindow>
  <AutomatedSnapshotRetentionPeriod>1</AutomatedSnapshotRetentionPeriod>
  <ClusterStatus>resizing</ClusterStatus>
</Cluster>
</ResizeClusterResult>
<ResponseMetadata>
  <RequestId>d504c6c0-28f5-11ea-8cc9-43f1872b4b75</RequestId>
</ResponseMetadata>
</ResizeClusterResponse>

```

## See Also

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

- [Amazon Command Line Interface](#)

- [Amazon SDK for .NET](#)
- [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](#)

# RestoreFromClusterSnapshot

Creates a new cluster from a snapshot. By default, Amazon Redshift creates the resulting cluster with the same configuration as the original cluster from which the snapshot was created, except that the new cluster is created with the default cluster security and parameter groups. After Amazon Redshift creates the cluster, you can use the [ModifyCluster](#) API to associate a different security group and different parameter group with the restored cluster. If you are using a DS node type, you can also choose to change to another DS node type of the same size during restore.

If you restore a cluster into a VPC, you must provide a cluster subnet group where you want the cluster restored.

VPC Block Public Access (BPA) enables you to block resources in VPCs and subnets that you own in a Region from reaching or being reached from the internet through internet gateways and egress-only internet gateways. If a subnet group for a provisioned cluster is in an account with VPC BPA turned on, the following capabilities are blocked:

- Creating a public cluster
- Restoring a public cluster
- Modifying a private cluster to be public
- Adding a subnet with VPC BPA turned on to the subnet group when there's at least one public cluster within the group

For more information about VPC BPA, see [Block public access to VPCs and subnets](#) in the *Amazon VPC User Guide*.

For more information about working with snapshots, go to [Amazon Redshift Snapshots](#) in the *Amazon Redshift Cluster Management Guide*.

## Request Parameters

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

### ClusterIdentifier

The identifier of the cluster that will be created from restoring the snapshot.

Constraints:



- Must contain from 1 to 63 alphanumeric characters or hyphens.
- Alphabetic characters must be lowercase.
- First character must be a letter.
- Cannot end with a hyphen or contain two consecutive hyphens.
- Must be unique for all clusters within an Amazon Web Services account.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### **AdditionalInfo**

Reserved.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **AllowVersionUpgrade**

If `true`, major version upgrades can be applied during the maintenance window to the Amazon Redshift engine that is running on the cluster.

Default: `true`

Type: Boolean

Required: No

### **AquaConfigurationStatus**

This parameter is retired. It does not set the AQUA configuration status. Amazon Redshift automatically determines whether to use AQUA (Advanced Query Accelerator).

Type: String

Valid Values: `enabled` | `disabled` | `auto`

Required: No

## AutomatedSnapshotRetentionPeriod

The number of days that automated snapshots are retained. If the value is 0, automated snapshots are disabled. Even if automated snapshots are disabled, you can still create manual snapshots when you want with [CreateClusterSnapshot](#).

You can't disable automated snapshots for RA3 node types. Set the automated retention period from 1-35 days.

Default: The value selected for the cluster from which the snapshot was taken.

Constraints: Must be a value from 0 to 35.

Type: Integer

Required: No

## AvailabilityZone

The Amazon EC2 Availability Zone in which to restore the cluster.

Default: A random, system-chosen Availability Zone.

Example: us-east-2a

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## AvailabilityZoneRelocation

The option to enable relocation for an Amazon Redshift cluster between Availability Zones after the cluster is restored.

Type: Boolean

Required: No

## ClusterParameterGroupName

The name of the parameter group to be associated with this cluster.

Default: The default Amazon Redshift cluster parameter group. For information about the default parameter group, go to [Working with Amazon Redshift Parameter Groups](#).

**Constraints:**

- Must be 1 to 255 alphanumeric characters or hyphens.
- First character must be a letter.
- Cannot end with a hyphen or contain two consecutive hyphens.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

**ClusterSecurityGroups.ClusterSecurityGroupName.N**

A list of security groups to be associated with this cluster.

Default: The default cluster security group for Amazon Redshift.

Cluster security groups only apply to clusters outside of VPCs.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

**ClusterSubnetGroupName**

The name of the subnet group where you want to cluster restored.

A snapshot of cluster in VPC can be restored only in VPC. Therefore, you must provide subnet group name where you want the cluster restored.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

**DefaultIamRoleArn**

The Amazon Resource Name (ARN) for the IAM role that was set as default for the cluster when the cluster was last modified while it was restored from a snapshot.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ElasticIp**

The Elastic IP (EIP) address for the cluster. Don't specify the Elastic IP address for a publicly accessible cluster with availability zone relocation turned on.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **Encrypted**

Enables support for restoring an unencrypted snapshot to a cluster encrypted with Amazon Key Management Service (KMS) and a customer managed key.

Type: Boolean

Required: No

### **EnhancedVpcRouting**

An option that specifies whether to create the cluster with enhanced VPC routing enabled. To create a cluster that uses enhanced VPC routing, the cluster must be in a VPC. For more information, see [Enhanced VPC Routing](#) in the Amazon Redshift Cluster Management Guide.

If this option is `true`, enhanced VPC routing is enabled.

Default: `false`

Type: Boolean

Required: No

### **HsmClientCertificateIdentifier**

Specifies the name of the HSM client certificate the Amazon Redshift cluster uses to retrieve the data encryption keys stored in an HSM.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **HsmConfigurationIdentifier**

Specifies the name of the HSM configuration that contains the information the Amazon Redshift cluster can use to retrieve and store keys in an HSM.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **IamRoles.IamRoleArn.N**

A list of Amazon Identity and Access Management (IAM) roles that can be used by the cluster to access other Amazon services. You must supply the IAM roles in their Amazon Resource Name (ARN) format.

The maximum number of IAM roles that you can associate is subject to a quota. For more information, go to [Quotas and limits](#) in the *Amazon Redshift Cluster Management Guide*.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### **IpAddressType**

The IP address type for the cluster. Possible values are `ipv4` and `dualstack`.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **KmsKeyId**

The Amazon Key Management Service (KMS) key ID of the encryption key that encrypts data in the cluster restored from a shared snapshot. You can also provide the key ID when you restore

from an unencrypted snapshot to an encrypted cluster in the same account. Additionally, you can specify a new KMS key ID when you restore from an encrypted snapshot in the same account in order to change it. In that case, the restored cluster is encrypted with the new KMS key ID.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **MaintenanceTrackName**

The name of the maintenance track for the restored cluster. When you take a snapshot, the snapshot inherits the `MaintenanceTrack` value from the cluster. The snapshot might be on a different track than the cluster that was the source for the snapshot. For example, suppose that you take a snapshot of a cluster that is on the current track and then change the cluster to be on the trailing track. In this case, the snapshot and the source cluster are on different tracks.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ManageMasterPassword**

If `true`, Amazon Redshift uses Amazon Secrets Manager to manage the restored cluster's admin credentials. If `ManageMasterPassword` is `false` or not set, Amazon Redshift uses the admin credentials the cluster had at the time the snapshot was taken.

Type: Boolean

Required: No

### **ManualSnapshotRetentionPeriod**

The default number of days to retain a manual snapshot. If the value is `-1`, the snapshot is retained indefinitely. This setting doesn't change the retention period of existing snapshots.

The value must be either `-1` or an integer between 1 and 3,653.

Type: Integer

Required: No

### **MasterPasswordSecretKmsKeyId**

The ID of the Amazon Key Management Service (KMS) key used to encrypt and store the cluster's admin credentials secret. You can only use this parameter if `ManageMasterPassword` is true.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **MultiAZ**

If true, the snapshot will be restored to a cluster deployed in two Availability Zones.

Type: Boolean

Required: No

### **NodeType**

The node type that the restored cluster will be provisioned with.

If you have a DC instance type, you must restore into that same instance type and size. In other words, you can only restore a `dc2.large` node type into another `dc2` type. For more information about node types, see [About Clusters and Nodes](#) in the *Amazon Redshift Cluster Management Guide*.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **NumberOfNodes**

The number of nodes specified when provisioning the restored cluster.

Type: Integer

Required: No

## OwnerAccount

The Amazon Web Services account used to create or copy the snapshot. Required if you are restoring a snapshot you do not own, optional if you own the snapshot.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## Port

The port number on which the cluster accepts connections.

Default: The same port as the original cluster.

Valid values: For clusters with DC2 nodes, must be within the range 1150-65535. For clusters with ra3 nodes, must be within the ranges 5431-5455 or 8191-8215.

Type: Integer

Required: No

## PreferredMaintenanceWindow

The weekly time range (in UTC) during which automated cluster maintenance can occur.

Format: ddd:hh24:mi-ddd:hh24:mi

Default: The value selected for the cluster from which the snapshot was taken. For more information about the time blocks for each region, see [Maintenance Windows](#) in Amazon Redshift Cluster Management Guide.

Valid Days: Mon | Tue | Wed | Thu | Fri | Sat | Sun

Constraints: Minimum 30-minute window.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No



## **PubliclyAccessible**

If `true`, the cluster can be accessed from a public network.

Default: `false`

Type: Boolean

Required: No

## **ReservedNodeId**

The identifier of the target reserved node offering.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **SnapshotArn**

The Amazon Resource Name (ARN) of the snapshot associated with the message to restore from a cluster. You must specify this parameter or `snapshotIdentifier`, but not both.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **SnapshotClusterIdentifier**

The name of the cluster the source snapshot was created from. This parameter is required if your IAM user has a policy containing a snapshot resource element that specifies anything other than `*` for the cluster name.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **SnapshotIdentifier**

The name of the snapshot from which to create the new cluster. This parameter isn't case sensitive. You must specify this parameter or `snapshotArn`, but not both.

Example: `my-snapshot-id`

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **SnapshotScheduleIdentifier**

A unique identifier for the snapshot schedule.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **TargetReservedNodeOfferingId**

The identifier of the target reserved node offering.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **VpcSecurityGroupIds.VpcSecurityGroupID.N**

A list of Virtual Private Cloud (VPC) security groups to be associated with the cluster.

Default: The default VPC security group is associated with the cluster.

VPC security groups only apply to clusters in VPCs.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

## **Response Elements**

The following element is returned by the service.

## Cluster

Describes a cluster.

Type: [Cluster](#) object

## Errors

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

### AccessToSnapshotDenied

The owner of the specified snapshot has not authorized your account to access the snapshot.

HTTP Status Code: 400

### ClusterAlreadyExists

The account already has a cluster with the given identifier.

HTTP Status Code: 400

### ClusterParameterGroupNotFound

The parameter group name does not refer to an existing parameter group.

HTTP Status Code: 404

### ClusterQuotaExceeded

The request would exceed the allowed number of cluster instances for this account. For information about increasing your quota, go to [Limits in Amazon Redshift](#) in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

### ClusterSecurityGroupNotFound

The cluster security group name does not refer to an existing cluster security group.

HTTP Status Code: 404

### ClusterSnapshotNotFound

The snapshot identifier does not refer to an existing cluster snapshot.

HTTP Status Code: 404

### **ClusterSubnetGroupNotFoundFault**

The cluster subnet group name does not refer to an existing cluster subnet group.

HTTP Status Code: 400

### **DependentServiceRequestThrottlingFault**

The request cannot be completed because a dependent service is throttling requests made by Amazon Redshift on your behalf. Wait and retry the request.

HTTP Status Code: 400

### **DependentServiceUnavailableFault**

Your request cannot be completed because a dependent internal service is temporarily unavailable. Wait 30 to 60 seconds and try again.

HTTP Status Code: 400

### **HsmClientCertificateNotFoundFault**

There is no Amazon Redshift HSM client certificate with the specified identifier.

HTTP Status Code: 400

### **HsmConfigurationNotFoundFault**

There is no Amazon Redshift HSM configuration with the specified identifier.

HTTP Status Code: 400

### **InsufficientClusterCapacity**

The number of nodes specified exceeds the allotted capacity of the cluster.

HTTP Status Code: 400

### **InvalidClusterSnapshotState**

The specified cluster snapshot is not in the available state, or other accounts are authorized to access the snapshot.

HTTP Status Code: 400

**InvalidClusterSubnetGroupStateFault**

The cluster subnet group cannot be deleted because it is in use.

HTTP Status Code: 400

**InvalidClusterTrack**

The provided cluster track name is not valid.

HTTP Status Code: 400

**InvalidElasticIpFault**

The Elastic IP (EIP) is invalid or cannot be found.

HTTP Status Code: 400

**InvalidReservedNodeState**

Indicates that the Reserved Node being exchanged is not in an active state.

HTTP Status Code: 400

**InvalidRestore**

The restore is invalid.

HTTP Status Code: 406

**InvalidSubnet**

The requested subnet is not valid, or not all of the subnets are in the same VPC.

HTTP Status Code: 400

**InvalidTagFault**

The tag is invalid.

HTTP Status Code: 400

**InvalidVPCNetworkStateFault**

The cluster subnet group does not cover all Availability Zones.

HTTP Status Code: 400

## **Ipv6CidrBlockNotFoundFault**

There are no subnets in your VPC with associated IPv6 CIDR blocks. To use dual-stack mode, associate an IPv6 CIDR block with each subnet in your VPC.

HTTP Status Code: 400

## **LimitExceededFault**

The encryption key has exceeded its grant limit in Amazon KMS.

HTTP Status Code: 400

## **NumberOfNodesPerClusterLimitExceeded**

The operation would exceed the number of nodes allowed for a cluster.

HTTP Status Code: 400

## **NumberOfNodesQuotaExceeded**

The operation would exceed the number of nodes allotted to the account. For information about increasing your quota, go to [Limits in Amazon Redshift](#) in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

## **ReservedNodeAlreadyExists**

User already has a reservation with the given identifier.

HTTP Status Code: 404

## **ReservedNodeAlreadyMigrated**

Indicates that the reserved node has already been exchanged.

HTTP Status Code: 400

## **ReservedNodeNotFound**

The specified reserved compute node not found.

HTTP Status Code: 404

## **ReservedNodeOfferingNotFound**

Specified offering does not exist.

HTTP Status Code: 404

### **SnapshotScheduleNotFound**

We could not find the specified snapshot schedule.

HTTP Status Code: 400

### **TagLimitExceededFault**

You have exceeded the number of tags allowed.

HTTP Status Code: 400

### **UnauthorizedOperation**

Your account is not authorized to perform the requested operation.

HTTP Status Code: 400

### **UnsupportedOperation**

The requested operation isn't supported.

HTTP Status Code: 400

## **Examples**

### **Example**

This example illustrates one usage of `RestoreFromClusterSnapshot`.

### **Sample Request**

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=RestoreFromClusterSnapshot  
&ClusterIdentifier=mycluster  
&SnapshotIdentifier=mynsnapshotid  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<RestoreFromClusterSnapshotResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <RestoreFromClusterSnapshotResult>
    <Cluster>
      <AllowVersionUpgrade>true</AllowVersionUpgrade>
      <ClusterIdentifier>mycluster</ClusterIdentifier>
      <NumberOfNodes>1</NumberOfNodes>
      <ClusterVersion>1.0</ClusterVersion>
      <ManualSnapshotRetentionPeriod>-1</ManualSnapshotRetentionPeriod>
      <ClusterAvailabilityStatus>Modifying</ClusterAvailabilityStatus>
      <VpcId>vpc-a1abc1a1</VpcId>
      <PubliclyAccessible>>false</PubliclyAccessible>
      <MasterUsername>adminuser</MasterUsername>
      <DBName>dev</DBName>
      <EnhancedVpcRouting>>false</EnhancedVpcRouting>
      <IamRoles/>
      <ClusterSecurityGroups/>
      <NodeType>dc2.large</NodeType>
      <ClusterSubnetGroupName>default</ClusterSubnetGroupName>
      <NextMaintenanceWindowStartTime>2019-12-29T23:15:00Z</
NextMaintenanceWindowStartTime>
      <DeferredMaintenanceWindows/>
      <Tags/>
      <VpcSecurityGroups>
        <VpcSecurityGroup>
          <VpcSecurityGroupId>sh-a1a123ab</VpcSecurityGroupId>
          <Status>active</Status>
        </VpcSecurityGroup>
      </VpcSecurityGroups>
      <ClusterParameterGroups>
        <ClusterParameterGroup>
          <ParameterGroupName>default.redshift-1.0</ParameterGroupName>
          <ParameterApplyStatus>in-sync</ParameterApplyStatus>
        </ClusterParameterGroup>
      </ClusterParameterGroups>
      <Encrypted>>false</Encrypted>
      <MaintenanceTrackName>current</MaintenanceTrackName>
      <PendingModifiedValues/>
      <PreferredMaintenanceWindow>sun:23:15-sun:23:45</PreferredMaintenanceWindow>
      <AutomatedSnapshotRetentionPeriod>1</AutomatedSnapshotRetentionPeriod>
      <ClusterStatus>creating</ClusterStatus>
    </Cluster>
  </RestoreFromClusterSnapshotResult>
</RestoreFromClusterSnapshotResponse>
```



```
</RestoreFromClusterSnapshotResult>
<ResponseMetadata>
  <RequestId>56190ef5-28f6-11ea-8a28-2fd1719d0e86</RequestId>
</ResponseMetadata>
</RestoreFromClusterSnapshotResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# RestoreTableFromClusterSnapshot

Creates a new table from a table in an Amazon Redshift cluster snapshot. You must create the new table within the Amazon Redshift cluster that the snapshot was taken from.

You cannot use `RestoreTableFromClusterSnapshot` to restore a table with the same name as an existing table in an Amazon Redshift cluster. That is, you cannot overwrite an existing table in a cluster with a restored table. If you want to replace your original table with a new, restored table, then rename or drop your original table before you call `RestoreTableFromClusterSnapshot`. When you have renamed your original table, then you can pass the original name of the table as the `NewTableName` parameter value in the call to `RestoreTableFromClusterSnapshot`. This way, you can replace the original table with the table created from the snapshot.

You can't use this operation to restore tables with [interleaved sort keys](#).

## Request Parameters

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

### ClusterIdentifier

The identifier of the Amazon Redshift cluster to restore the table to.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### NewTableName

The name of the table to create as a result of the current request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### SnapshotIdentifier

The identifier of the snapshot to restore the table from. This snapshot must have been created from the Amazon Redshift cluster specified by the `ClusterIdentifier` parameter.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### **SourceDatabaseName**

The name of the source database that contains the table to restore from.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### **SourceTableName**

The name of the source table to restore from.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### **EnableCaseSensitiveIdentifier**

Indicates whether name identifiers for database, schema, and table are case sensitive. If `true`, the names are case sensitive. If `false` (default), the names are not case sensitive.

Type: Boolean

Required: No

### **SourceSchemaName**

The name of the source schema that contains the table to restore from. If you do not specify a `SourceSchemaName` value, the default is `public`.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **TargetDatabaseName**

The name of the database to restore the table to.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **TargetSchemaName**

The name of the schema to restore the table to.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **Response Elements**

The following element is returned by the service.

### **TableRestoreStatus**

Describes the status of a [RestoreTableFromClusterSnapshot](#) operation.

Type: [TableRestoreStatus](#) object

## **Errors**

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

### **ClusterNotFound**

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

## **ClusterSnapshotNotFound**

The snapshot identifier does not refer to an existing cluster snapshot.

HTTP Status Code: 404

## **InProgressTableRestoreQuotaExceededFault**

You have exceeded the allowed number of table restore requests. Wait for your current table restore requests to complete before making a new request.

HTTP Status Code: 400

## **InvalidClusterSnapshotState**

The specified cluster snapshot is not in the available state, or other accounts are authorized to access the snapshot.

HTTP Status Code: 400

## **InvalidClusterState**

The specified cluster is not in the available state.

HTTP Status Code: 400

## **InvalidTableRestoreArgument**

The value specified for the `sourceDatabaseName`, `sourceSchemaName`, or `sourceTableName` parameter, or a combination of these, doesn't exist in the snapshot.

HTTP Status Code: 400

## **UnsupportedOperation**

The requested operation isn't supported.

HTTP Status Code: 400

## **Examples**

### **Example**

This example illustrates one usage of `RestoreTableFromClusterSnapshot`.

## Sample Request

```
https://redshift.us-east-2.amazonaws.com/
    ?Action=RestoreTableFromClusterSnapshot
&ClusterIdentifier=mycluster
&SnapshotIdentifier=mynsnapshotid
&SourceDatabaseName=dev
&SourceSchemaName=public
&SourceTableName=mytable
&TargetDatabaseName=dev
&TargetSchemaName=public
&NewTableName=mytable-clone
&SignatureMethod=HmacSHA256&SignatureVersion=4
&Version=2012-12-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request
&X-Amz-Date=20190825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

## Sample Response

```
<RestoreTableFromClusterSnapshotResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <RestoreTableFromClusterSnapshotResult>
    <TableRestoreStatus>
      <NewTableName>mytable-clone</NewTableName>
      <ClusterIdentifier>mycluster</ClusterIdentifier>
      <SnapshotIdentifier>mynsnapshotid</SnapshotIdentifier>
      <RequestTime>2019-12-27T18:22:12.257Z</RequestTime>
      <SourceTableName>mytable</SourceTableName>
      <SourceDatabaseName>dev</SourceDatabaseName>
      <TableRestoreRequestId>z1116630-0e80-46f4-ba86-bd9670411ebd</
TableRestoreRequestId>
      <TargetDatabaseName>dev</TargetDatabaseName>
      <SourceSchemaName>public</SourceSchemaName>
      <TargetSchemaName>public</TargetSchemaName>
      <Status>PENDING</Status>
    </TableRestoreStatus>
  </RestoreTableFromClusterSnapshotResult>
  <ResponseMetadata>
    <RequestId>cd0df3b1-28d5-11ea-a07c-5d44c0d19e91</RequestId>
  </ResponseMetadata>
```

```
</RestoreTableFromClusterSnapshotResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# ResumeCluster

Resumes a paused cluster.

## Request Parameters

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

### ClusterIdentifier

The identifier of the cluster to be resumed.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Response Elements

The following element is returned by the service.

### Cluster

Describes a cluster.

Type: [Cluster](#) object

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### InsufficientClusterCapacity

The number of nodes specified exceeds the allotted capacity of the cluster.



HTTP Status Code: 400

### **InvalidClusterState**

The specified cluster is not in the available state.

HTTP Status Code: 400

### **UnsupportedOperation**

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# RevokeClusterSecurityGroupIngress

Revokes an ingress rule in an Amazon Redshift security group for a previously authorized IP range or Amazon EC2 security group. To add an ingress rule, see [AuthorizeClusterSecurityGroupIngress](#). For information about managing security groups, go to [Amazon Redshift Cluster Security Groups](#) in the *Amazon Redshift Cluster Management Guide*.

## Request Parameters

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

### ClusterSecurityGroupName

The name of the security Group from which to revoke the ingress rule.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### CIDRIP

The IP range for which to revoke access. This range must be a valid Classless Inter-Domain Routing (CIDR) block of IP addresses. If CIDRIP is specified, EC2SecurityGroupName and EC2SecurityGroupOwnerId cannot be provided.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### EC2SecurityGroupName

The name of the EC2 Security Group whose access is to be revoked. If EC2SecurityGroupName is specified, EC2SecurityGroupOwnerId must also be provided and CIDRIP cannot be provided.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **EC2SecurityGroupOwnerId**

The Amazon Web Services account number of the owner of the security group specified in the `EC2SecurityGroupName` parameter. The Amazon access key ID is not an acceptable value. If `EC2SecurityGroupOwnerId` is specified, `EC2SecurityGroupName` must also be provided. and CIDRIP cannot be provided.

Example: 111122223333

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **Response Elements**

The following element is returned by the service.

### **ClusterSecurityGroup**

Describes a security group.

Type: [ClusterSecurityGroup](#) object

## **Errors**

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

### **AuthorizationNotFound**

The specified CIDR IP range or EC2 security group is not authorized for the specified cluster security group.

HTTP Status Code: 404

### **ClusterSecurityGroupNotFound**

The cluster security group name does not refer to an existing cluster security group.

HTTP Status Code: 404

## InvalidClusterSecurityGroupState

The state of the cluster security group is not available.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of `RevokeClusterSecurityGroupIngress`.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
?Action=RevokeClusterSecurityGroupIngress  
&ClusterSecurityGroupName=securitygroup1  
&CIDRIP=192.168.40.3/32  
&Version=2012-12-01  
&x-amz-algorithm=AWS4-HMAC-SHA256  
&x-amz-credential=AKIAIOSFODNN7EXAMPLE/20130123/us-east-2/redshift/aws4_request  
&x-amz-date=20130123T021606Z  
&x-amz-signedheaders=content-type;host;x-amz-date
```

### Sample Response

```
<RevokeClusterSecurityGroupIngressResponse xmlns="http://redshift.amazonaws.com/  
doc/2012-12-01/">  
  <RevokeClusterSecurityGroupIngressResult>  
    <ClusterSecurityGroup>  
      <EC2SecurityGroups/>  
      <IPRanges/>  
      <Description>my security group</Description>  
      <ClusterSecurityGroupName>securitygroup1</ClusterSecurityGroupName>  
    </ClusterSecurityGroup>  
  </RevokeClusterSecurityGroupIngressResult>  
  <ResponseMetadata>  
    <RequestId>d8eff363-6502-11e2-a8da-655adc216806</RequestId>  
  </ResponseMetadata>  
</RevokeClusterSecurityGroupIngressResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# RevokeEndpointAccess

Revokes access to a cluster.

## Request Parameters

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

### Account

The Amazon Web Services account ID whose access is to be revoked.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### ClusterIdentifier

The cluster to revoke access from.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Force

Indicates whether to force the revoke action. If true, the Redshift-managed VPC endpoints associated with the endpoint authorization are also deleted.

Type: Boolean

Required: No

### VpcIds.VpcIdentifier.N

The virtual private cloud (VPC) identifiers for which access is to be revoked.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

## Response Elements

The following elements are returned by the service.

### **AllowedAllVPCs**

Indicates whether all VPCs in the grantee account are allowed access to the cluster.

Type: Boolean

### **AllowedVPCs.VpcIdentifier.N**

The VPCs allowed access to the cluster.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

### **AuthorizeTime**

The time (UTC) when the authorization was created.

Type: Timestamp

### **ClusterIdentifier**

The cluster identifier.

Type: String

Length Constraints: Maximum length of 2147483647.

### **ClusterStatus**

The status of the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

### **EndpointCount**

The number of Redshift-managed VPC endpoints created for the authorization.

Type: Integer

### **Grantee**

The Amazon Web Services account ID of the grantee of the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

### **Grantor**

The Amazon Web Services account ID of the cluster owner.

Type: String

Length Constraints: Maximum length of 2147483647.

### **Status**

The status of the authorization action.

Type: String

Valid Values: Authorized | Revoking

## **Errors**

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

### **ClusterNotFound**

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### **EndpointAuthorizationNotFound**

The authorization for this endpoint can't be found.

HTTP Status Code: 404

### **EndpointNotFound**

The endpoint name doesn't refer to an existing endpoint.



HTTP Status Code: 404

### **InvalidAuthorizationState**

The status of the authorization is not valid.

HTTP Status Code: 400

### **InvalidClusterSecurityGroupState**

The state of the cluster security group is not available.

HTTP Status Code: 400

### **InvalidClusterState**

The specified cluster is not in the available state.

HTTP Status Code: 400

### **InvalidEndpointState**

The status of the endpoint is not valid.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)



## RevokeSnapshotAccess

Removes the ability of the specified Amazon Web Services account to restore the specified snapshot. If the account is currently restoring the snapshot, the restore will run to completion.

For more information about working with snapshots, go to [Amazon Redshift Snapshots](#) in the *Amazon Redshift Cluster Management Guide*.

### Request Parameters

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

#### AccountWithRestoreAccess

The identifier of the Amazon Web Services account that can no longer restore the specified snapshot.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

#### SnapshotArn

The Amazon Resource Name (ARN) of the snapshot associated with the message to revoke access.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

#### SnapshotClusterIdentifier

The identifier of the cluster the snapshot was created from. This parameter is required if your IAM user has a policy containing a snapshot resource element that specifies anything other than \* for the cluster name.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **SnapshotIdentifier**

The identifier of the snapshot that the account can no longer access.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **Response Elements**

The following element is returned by the service.

### **Snapshot**

Describes a snapshot.

Type: [Snapshot](#) object

## **Errors**

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

### **AccessToSnapshotDenied**

The owner of the specified snapshot has not authorized your account to access the snapshot.

HTTP Status Code: 400

### **AuthorizationNotFound**

The specified CIDR IP range or EC2 security group is not authorized for the specified cluster security group.

HTTP Status Code: 404

### **ClusterSnapshotNotFound**

The snapshot identifier does not refer to an existing cluster snapshot.

HTTP Status Code: 404

## UnsupportedOperation

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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](#)

# RotateEncryptionKey

Rotates the encryption keys for a cluster.

## Request Parameters

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

### ClusterIdentifier

The unique identifier of the cluster that you want to rotate the encryption keys for.

Constraints: Must be the name of valid cluster that has encryption enabled.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

## Response Elements

The following element is returned by the service.

### Cluster

Describes a cluster.

Type: [Cluster](#) object

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

## DependentServiceRequestThrottlingFault

The request cannot be completed because a dependent service is throttling requests made by Amazon Redshift on your behalf. Wait and retry the request.

HTTP Status Code: 400

## InvalidClusterState

The specified cluster is not in the available state.

HTTP Status Code: 400

## UnsupportedOperation

The requested operation isn't supported.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of `RotateEncryptionKey`.

### Sample Request

```
https://redshift.us-east-2.amazonaws.com/  
    ?Action=RotateEncryptionKey  
&ClusterIdentifier=mycluster  
&SignatureMethod=HmacSHA256&SignatureVersion=4  
&Version=2012-12-01  
&X-Amz-Algorithm=AWS4-HMAC-SHA256  
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20190817/us-east-2/redshift/aws4_request  
&X-Amz-Date=20190825T160000Z  
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date  
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

### Sample Response

```
<RotateEncryptionKeyResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">  
  <RotateEncryptionKeyResult>  
    <Cluster>  
      <AllowVersionUpgrade>true</AllowVersionUpgrade>
```

```
<ClusterIdentifier>mycluster</ClusterIdentifier>
<NumberOfNodes>1</NumberOfNodes>
<AvailabilityZone>us-east-2a</AvailabilityZone>
<ClusterVersion>1.0</ClusterVersion>
<ManualSnapshotRetentionPeriod>-1</ManualSnapshotRetentionPeriod>
<ClusterAvailabilityStatus>Modifying</ClusterAvailabilityStatus>
<Endpoint>
  <Port>5439</Port>
  <Address>mycluster.cmeaswqeuae.us-east-2.redshift.amazonaws.com</Address>
</Endpoint>
<VpcId>vpc-a1abc1a1</VpcId>
<PubliclyAccessible>>false</PubliclyAccessible>
<ClusterCreateTime>2019-12-25T11:21:49.458Z</ClusterCreateTime>
<MasterUsername>adminuser</MasterUsername>
<DBName>dev</DBName>
<EnhancedVpcRouting>>false</EnhancedVpcRouting>
<IamRoles>
  <ClusterIamRole>
    <IamRoleArn>arn:aws:iam::123456789012:role/myRedshiftRole</IamRoleArn>
    <ApplyStatus>in-sync</ApplyStatus>
  </ClusterIamRole>
</IamRoles>
<ClusterSecurityGroups/>
<NodeType>dc2.large</NodeType>
<ClusterSubnetGroupName>default</ClusterSubnetGroupName>
<NextMaintenanceWindowStartTime>2019-12-28T16:00:00Z</
NextMaintenanceWindowStartTime>
<DeferredMaintenanceWindows/>
<Tags/>
<VpcSecurityGroups>
  <VpcSecurityGroup>
    <VpcSecurityGroupId>sh-a1a123ab</VpcSecurityGroupId>
    <Status>active</Status>
  </VpcSecurityGroup>
</VpcSecurityGroups>
<ClusterParameterGroups>
  <ClusterParameterGroup>
    <ParameterGroupName>default.redshift-1.0</ParameterGroupName>
    <ParameterApplyStatus>in-sync</ParameterApplyStatus>
  </ClusterParameterGroup>
</ClusterParameterGroups>
<Encrypted>>true</Encrypted>
<MaintenanceTrackName>current</MaintenanceTrackName>
<PendingModifiedValues/>
```



```
<PreferredMaintenanceWindow>sat:16:00-sat:16:30</PreferredMaintenanceWindow>
<KmsKeyId>arn:aws:kms:us-east-2:123456789012:key/bPxRfih3yCo8nvbEXAMPLEKEY</
KmsKeyId>
<AutomatedSnapshotRetentionPeriod>1</AutomatedSnapshotRetentionPeriod>
<ClusterStatus>rotating-keys</ClusterStatus>
</Cluster>
</RotateEncryptionKeyResult>
<ResponseMetadata>
  <RequestId>0cdb408d-28f7-11ea-8a28-2fd1719d0e86</RequestId>
</ResponseMetadata>
</RotateEncryptionKeyResponse>
```

## See Also

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

- [Amazon Command Line Interface](#)
- [Amazon SDK for .NET](#)
- [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](#)

# UpdatePartnerStatus

Updates the status of a partner integration.

## Request Parameters

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

### AccountId

The Amazon Web Services account ID that owns the cluster.

Type: String

Length Constraints: Fixed length of 12.

Pattern: `^[0-9]+$`

Required: Yes

### ClusterIdentifier

The cluster identifier of the cluster whose partner integration status is being updated.

Type: String

Length Constraints: Maximum length of 63.

Pattern: `^[a-zA-Z0-9\-\_]+$`

Required: Yes

### DatabaseName

The name of the database whose partner integration status is being updated.

Type: String

Length Constraints: Maximum length of 127.

Pattern: `^[\\p{L}_][\\p{L}\\p{N}@$_#_]+$`

Required: Yes

## PartnerName

The name of the partner whose integration status is being updated.

Type: String

Length Constraints: Maximum length of 255.

Pattern: `^[a-zA-Z0-9\-\_]+$`

Required: Yes

## Status

The value of the updated status.

Type: String

Valid Values: Active | Inactive | RuntimeFailure | ConnectionFailure

Required: Yes

## StatusMessage

The status message provided by the partner.

Type: String

Length Constraints: Maximum length of 262144.

Pattern: `^[\x20-\x7E]+$`

Required: No

## Response Elements

The following elements are returned by the service.

### DatabaseName

The name of the database that receives data from the partner.

Type: String

Length Constraints: Maximum length of 127.

Pattern: `^\p{L}_[\p{L}\p{N}@$#_]+$`

## PartnerName

The name of the partner that is authorized to send data.

Type: String

Length Constraints: Maximum length of 255.

Pattern: `^[a-zA-Z0-9\-\_]+$`

## Errors

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

### ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

### PartnerNotFound

The name of the partner was not found.

HTTP Status Code: 404

### UnauthorizedPartnerIntegration

The partner integration is not authorized.

HTTP Status Code: 401

### UnsupportedOperation

The requested operation isn't supported.

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](#)
- [Amazon SDK for .NET](#)
- [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 Amazon Redshift API contains several data types that various actions use. This section describes each data type in detail.

## Note

The order of each element in a data type structure is not guaranteed. Applications should not assume a particular order.

The following data types are supported:

- [AccountAttribute](#)
- [AccountWithRestoreAccess](#)
- [AquaConfiguration](#)
- [Association](#)
- [AttributeValueTarget](#)
- [AuthenticationProfile](#)
- [AuthorizedTokenIssuer](#)
- [AvailabilityZone](#)
- [CertificateAssociation](#)
- [Cluster](#)
- [ClusterAssociatedToSchedule](#)
- [ClusterDbRevision](#)
- [ClusterIamRole](#)
- [ClusterNode](#)
- [ClusterParameterGroup](#)
- [ClusterParameterGroupStatus](#)
- [ClusterParameterStatus](#)
- [ClusterSecurityGroup](#)
- [ClusterSecurityGroupMembership](#)
- [ClusterSnapshotCopyStatus](#)

- [ClusterSubnetGroup](#)
- [ClusterVersion](#)
- [DataShare](#)
- [DataShareAssociation](#)
- [DataTransferProgress](#)
- [DefaultClusterParameters](#)
- [DeferredMaintenanceWindow](#)
- [DeleteClusterSnapshotMessage](#)
- [DescribeIntegrationsFilter](#)
- [EC2SecurityGroup](#)
- [ElasticIpStatus](#)
- [Endpoint](#)
- [EndpointAccess](#)
- [EndpointAuthorization](#)
- [Event](#)
- [EventCategoriesMap](#)
- [EventInfoMap](#)
- [EventSubscription](#)
- [HsmClientCertificate](#)
- [HsmConfiguration](#)
- [HsmStatus](#)
- [InboundIntegration](#)
- [Integration](#)
- [IntegrationError](#)
- [IPRange](#)
- [LakeFormationQuery](#)
- [LakeFormationScopeUnion](#)
- [MaintenanceTrack](#)
- [NamespaceIdentifierUnion](#)
- [NetworkInterface](#)

- [NodeConfigurationOption](#)
- [NodeConfigurationOptionsFilter](#)
- [OrderableClusterOption](#)
- [Parameter](#)
- [PartnerIntegrationInfo](#)
- [PauseClusterMessage](#)
- [PendingModifiedValues](#)
- [ProvisionedIdentifier](#)
- [ReadWriteAccess](#)
- [Recommendation](#)
- [RecommendedAction](#)
- [RecurringCharge](#)
- [RedshiftIldcApplication](#)
- [ReferenceLink](#)
- [ReservedNode](#)
- [ReservedNodeConfigurationOption](#)
- [ReservedNodeExchangeStatus](#)
- [ReservedNodeOffering](#)
- [ResizeClusterMessage](#)
- [ResizeInfo](#)
- [ResourcePolicy](#)
- [RestoreStatus](#)
- [ResumeClusterMessage](#)
- [RevisionTarget](#)
- [S3AccessGrantsScopeUnion](#)
- [ScheduledAction](#)
- [ScheduledActionFilter](#)
- [ScheduledActionType](#)
- [SecondaryClusterInfo](#)
- [ServerlessIdentifier](#)



- [ServiceIntegrationsUnion](#)
- [Snapshot](#)
- [SnapshotCopyGrant](#)
- [SnapshotErrorMessage](#)
- [SnapshotSchedule](#)
- [SnapshotSortingEntity](#)
- [Subnet](#)
- [SupportedOperation](#)
- [SupportedPlatform](#)
- [TableRestoreStatus](#)
- [Tag](#)
- [TaggedResource](#)
- [UpdateTarget](#)
- [UsageLimit](#)
- [VpcEndpoint](#)
- [VpcSecurityGroupMembership](#)

# AccountAttribute

A name value pair that describes an aspect of an account.

## Contents

### Note

In the following list, the required parameters are described first.

### AttributeName

The name of the attribute.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### AttributeValues.AttributeValueTarget.N

A list of attribute values.

Type: Array of [AttributeValueTarget](#) 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](#)

# AccountWithRestoreAccess

Describes an Amazon Web Services account authorized to restore a snapshot.

## Contents

### Note

In the following list, the required parameters are described first.

### AccountAlias

The identifier of an Amazon support account authorized to restore a snapshot. For Amazon Web Services Support, the identifier is `amazon-redshift-support`.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### AccountId

The identifier of an Amazon Web Services account authorized to restore a snapshot.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)



# AquaConfiguration

The operation that uses this structure is retired. Amazon Redshift automatically determines whether to use AQUA (Advanced Query Accelerator).

## Contents

### Note

In the following list, the required parameters are described first.

### AquaConfigurationStatus

This field is retired. Amazon Redshift automatically determines whether to use AQUA (Advanced Query Accelerator).

Type: String

Valid Values: enabled | disabled | auto

Required: No

### AquaStatus

This field is retired. Amazon Redshift automatically determines whether to use AQUA (Advanced Query Accelerator).

Type: String

Valid Values: enabled | disabled | applying

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](#)

# Association

Contains information about the custom domain name association.

## Contents

### Note

In the following list, the required parameters are described first.

### **CertificateAssociations.CertificateAssociation.N**

A list of all associated clusters and domain names tied to a specific certificate.

Type: Array of [CertificateAssociation](#) objects

Required: No

### **CustomDomainCertificateArn**

The Amazon Resource Name (ARN) for the certificate associated with the custom domain.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **CustomDomainCertificateExpiryDate**

The expiration date for the certificate.

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](#)



# AttributeValueTarget

Describes an attribute value.

## Contents

### Note

In the following list, the required parameters are described first.

### AttributeValue

The value of the attribute.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# AuthenticationProfile

Describes an authentication profile.

## Contents

### Note

In the following list, the required parameters are described first.

### AuthenticationProfileContent

The content of the authentication profile in JSON format. The maximum length of the JSON string is determined by a quota for your account.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### AuthenticationProfileName

The name of the authentication profile.

Type: String

Length Constraints: Maximum length of 63.

Pattern: `^[a-zA-Z0-9\ -]+$`

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](#)

# AuthorizedTokenIssuer

The authorized token issuer for the Amazon Redshift IAM Identity Center application.

## Contents

### Note

In the following list, the required parameters are described first.

### **AuthorizedAudiencesList.member.N**

The list of audiences for the authorized token issuer for integrating Amazon Redshift with IDC Identity Center.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### **TrustedTokenIssuerArn**

The ARN for the authorized token issuer for integrating Amazon Redshift with IDC Identity Center.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# AvailabilityZone

Describes an availability zone.

## Contents

### Note

In the following list, the required parameters are described first.

### Name

The name of the availability zone.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### SupportedPlatforms.SupportedPlatform.N

Type: Array of [SupportedPlatform](#) 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](#)

# CertificateAssociation

A cluster ID and custom domain name tied to a specific certificate. These are typically returned in a list.

## Contents

### Note

In the following list, the required parameters are described first.

### ClusterIdentifier

The cluster identifier for the certificate association.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### CustomDomainName

The custom domain name for the certificate association.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)





# Cluster

Describes a cluster.

## Contents

### Note

In the following list, the required parameters are described first.

### **AllowVersionUpgrade**

A boolean value that, if `true`, indicates that major version upgrades will be applied automatically to the cluster during the maintenance window.

Type: Boolean

Required: No

### **AquaConfiguration**

This field is retired. Amazon Redshift automatically determines whether to use AQUA (Advanced Query Accelerator).

Type: [AquaConfiguration](#) object

Required: No

### **AutomatedSnapshotRetentionPeriod**

The number of days that automatic cluster snapshots are retained.

Type: Integer

Required: No

### **AvailabilityZone**

The name of the Availability Zone in which the cluster is located.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **AvailabilityZoneRelocationStatus**

Describes the status of the Availability Zone relocation operation.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ClusterAvailabilityStatus**

The availability status of the cluster for queries. Possible values are the following:

- Available - The cluster is available for queries.
- Unavailable - The cluster is not available for queries.
- Maintenance - The cluster is intermittently available for queries due to maintenance activities.
- Modifying - The cluster is intermittently available for queries due to changes that modify the cluster.
- Failed - The cluster failed and is not available for queries.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ClusterCreateTime**

The date and time that the cluster was created.

Type: Timestamp

Required: No

### **ClusterIdentifier**

The unique identifier of the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **ClusterNamespaceArn**

The namespace Amazon Resource Name (ARN) of the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **ClusterNodes.member.N**

The nodes in the cluster.

Type: Array of [ClusterNode](#) objects

Required: No

## **ClusterParameterGroups.ClusterParameterGroup.N**

The list of cluster parameter groups that are associated with this cluster. Each parameter group in the list is returned with its status.

Type: Array of [ClusterParameterGroupStatus](#) objects

Required: No

## **ClusterPublicKey**

The public key for the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **ClusterRevisionNumber**

The specific revision number of the database in the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## ClusterSecurityGroups.ClusterSecurityGroup.N

A list of cluster security group that are associated with the cluster. Each security group is represented by an element that contains `ClusterSecurityGroup.Name` and `ClusterSecurityGroup.Status` subelements.

Cluster security groups are used when the cluster is not created in an Amazon Virtual Private Cloud (VPC). Clusters that are created in a VPC use VPC security groups, which are listed by the **VpcSecurityGroups** parameter.

Type: Array of [ClusterSecurityGroupMembership](#) objects

Required: No

## ClusterSnapshotCopyStatus

A value that returns the destination region and retention period that are configured for cross-region snapshot copy.

Type: [ClusterSnapshotCopyStatus](#) object

Required: No

## ClusterStatus

The current state of the cluster. Possible values are the following:

- available
- available, prep-for-resize
- available, resize-cleanup
- cancelling-resize
- creating
- deleting
- final-snapshot
- hardware-failure
- incompatible-hsm
- incompatible-network
- incompatible-parameters
- incompatible-restore

- modifying
- paused
- rebooting
- renaming
- resizing
- rotating-keys
- storage-full
- updating-hsm

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ClusterSubnetGroupName**

The name of the subnet group that is associated with the cluster. This parameter is valid only when the cluster is in a VPC.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ClusterVersion**

The version ID of the Amazon Redshift engine that is running on the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **CustomDomainCertificateArn**

The certificate Amazon Resource Name (ARN) for the custom domain name.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **CustomDomainCertificateExpiryDate**

The expiration date for the certificate associated with the custom domain name.

Type: Timestamp

Required: No

### **CustomDomainName**

The custom domain name associated with the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **DataTransferProgress**

Type: [DataTransferProgress](#) object

Required: No

### **DBName**

The name of the initial database that was created when the cluster was created. This same name is returned for the life of the cluster. If an initial database was not specified, a database named devdev was created by default.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **DefaultIamRoleArn**

The Amazon Resource Name (ARN) for the IAM role set as default for the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **DeferredMaintenanceWindows.DeferredMaintenanceWindow.N**

Describes a group of `DeferredMaintenanceWindow` objects.

Type: Array of [DeferredMaintenanceWindow](#) objects

Required: No

## **ElasticIpStatus**

The status of the elastic IP (EIP) address.

Type: [ElasticIpStatus](#) object

Required: No

## **ElasticResizeNumberOfNodeOptions**

The number of nodes that you can resize the cluster to with the elastic resize method.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **Encrypted**

A boolean value that, if `true`, indicates that data in the cluster is encrypted at rest.

Type: Boolean

Required: No

## **Endpoint**

The connection endpoint.

Type: [Endpoint](#) object

Required: No

## **EnhancedVpcRouting**

An option that specifies whether to create the cluster with enhanced VPC routing enabled. To create a cluster that uses enhanced VPC routing, the cluster must be in a VPC. For more information, see [Enhanced VPC Routing](#) in the Amazon Redshift Cluster Management Guide.

If this option is `true`, enhanced VPC routing is enabled.

Default: `false`

Type: Boolean

Required: No

### **ExpectedNextSnapshotScheduleTime**

The date and time when the next snapshot is expected to be taken for clusters with a valid snapshot schedule and backups enabled.

Type: Timestamp

Required: No

### **ExpectedNextSnapshotScheduleTimeStatus**

The status of next expected snapshot for clusters having a valid snapshot schedule and backups enabled. Possible values are the following:

- `OnTrack` - The next snapshot is expected to be taken on time.
- `Pending` - The next snapshot is pending to be taken.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **HsmStatus**

A value that reports whether the Amazon Redshift cluster has finished applying any hardware security module (HSM) settings changes specified in a modify cluster command.

Values: `active`, `applying`

Type: [HsmStatus](#) object

Required: No

### **IamRoles.ClusterIamRole.N**

A list of Amazon Identity and Access Management (IAM) roles that can be used by the cluster to access other Amazon services.



Type: Array of [ClusterIamRole](#) objects

Required: No

### **IpAddressType**

The IP address type for the cluster. Possible values are `ipv4` and `dualstack`.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **KmsKeyId**

The Amazon Key Management Service (KMS) key ID of the encryption key used to encrypt data in the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **MaintenanceTrackName**

The name of the maintenance track for the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ManualSnapshotRetentionPeriod**

The default number of days to retain a manual snapshot. If the value is `-1`, the snapshot is retained indefinitely. This setting doesn't change the retention period of existing snapshots.

The value must be either `-1` or an integer between 1 and 3,653.

Type: Integer

Required: No

## MasterPasswordSecretArn

The Amazon Resource Name (ARN) for the cluster's admin user credentials secret.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## MasterPasswordSecretKmsKeyId

The ID of the Amazon Key Management Service (KMS) key used to encrypt and store the cluster's admin credentials secret.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## MasterUsername

The admin user name for the cluster. This name is used to connect to the database that is specified in the **DBName** parameter.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## ModifyStatus

The status of a modify operation, if any, initiated for the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## MultiAZ

A boolean value that, if true, indicates that the cluster is deployed in two Availability Zones.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **MultiAZSecondary**

The secondary compute unit of a cluster, if Multi-AZ deployment is turned on.

Type: [SecondaryClusterInfo](#) object

Required: No

### **NextMaintenanceWindowStartTime**

The date and time in UTC when system maintenance can begin.

Type: Timestamp

Required: No

### **NodeType**

The node type for the nodes in the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **NumberOfNodes**

The number of compute nodes in the cluster.

Type: Integer

Required: No

### **PendingActions.member.N**

Cluster operations that are waiting to be started.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### **PendingModifiedValues**

A value that, if present, indicates that changes to the cluster are pending. Specific pending changes are identified by subelements.

Type: [PendingModifiedValues](#) object

Required: No

### **PreferredMaintenanceWindow**

The weekly time range, in Universal Coordinated Time (UTC), during which system maintenance can occur.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **PubliclyAccessible**

A boolean value that, if `true`, indicates that the cluster can be accessed from a public network.

Default: `false`

Type: Boolean

Required: No

### **ReservedNodeExchangeStatus**

The status of the reserved-node exchange request. Statuses include in-progress and requested.

Type: [ReservedNodeExchangeStatus](#) object

Required: No

### **ResizeInfo**

Returns the following:

- `AllowCancelResize`: a boolean value indicating if the resize operation can be cancelled.
- `ResizeType`: Returns `ClassicResize`

Type: [ResizeInfo](#) object

Required: No

### **RestoreStatus**

A value that describes the status of a cluster restore action. This parameter returns null if the cluster was not created by restoring a snapshot.

Type: [RestoreStatus](#) object

Required: No

### **SnapshotScheduleIdentifier**

A unique identifier for the cluster snapshot schedule.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **SnapshotScheduleState**

The current state of the cluster snapshot schedule.

Type: String

Valid Values: MODIFYING | ACTIVE | FAILED

Required: No

### **Tags.Tag.N**

The list of tags for the cluster.

Type: Array of [Tag](#) objects

Required: No

### **TotalStorageCapacityInMegaBytes**

The total storage capacity of the cluster in megabytes.

Type: Long

Required: No

## VpcId

The identifier of the VPC the cluster is in, if the cluster is in a VPC.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## VpcSecurityGroups.VpcSecurityGroup.N

A list of Amazon Virtual Private Cloud (Amazon VPC) security groups that are associated with the cluster. This parameter is returned only if the cluster is in a VPC.

Type: Array of [VpcSecurityGroupMembership](#) 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](#)

# ClusterAssociatedToSchedule

## Contents

### Note

In the following list, the required parameters are described first.

### ClusterIdentifier

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### ScheduleAssociationState

Type: String

Valid Values: MODIFYING | ACTIVE | FAILED

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](#)

# ClusterDbRevision

Describes a `ClusterDbRevision`.

## Contents

### Note

In the following list, the required parameters are described first.

### **ClusterIdentifier**

The unique identifier of the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **CurrentDatabaseRevision**

A string representing the current cluster version.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **DatabaseRevisionReleaseDate**

The date on which the database revision was released.

Type: Timestamp

Required: No

### **RevisionTargets.RevisionTarget.N**

A list of `RevisionTarget` objects, where each object describes the database revision that a cluster can be updated to.



Type: Array of [RevisionTarget](#) 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](#)

# ClusterIamRole

An Amazon Identity and Access Management (IAM) role that can be used by the associated Amazon Redshift cluster to access other Amazon services.

## Contents

### Note

In the following list, the required parameters are described first.

## ApplyStatus

A value that describes the status of the IAM role's association with an Amazon Redshift cluster.

The following are possible statuses and descriptions.

- `in-sync`: The role is available for use by the cluster.
- `adding`: The role is in the process of being associated with the cluster.
- `removing`: The role is in the process of being disassociated with the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## IamRoleArn

The Amazon Resource Name (ARN) of the IAM role, for example, `arn:aws:iam::123456789012:role/RedshiftCopyUnload`.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# ClusterNode

The identifier of a node in a cluster.

## Contents

### Note

In the following list, the required parameters are described first.

### NodeRole

Whether the node is a leader node or a compute node.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### PrivateIPAddress

The private IP address of a node within a cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### PublicIPAddress

The public IP address of a node within a cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# ClusterParameterGroup

Describes a parameter group.

## Contents

### Note

In the following list, the required parameters are described first.

### Description

The description of the parameter group.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### ParameterGroupFamily

The name of the cluster parameter group family that this cluster parameter group is compatible with.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### ParameterGroupName

The name of the cluster parameter group.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Tags.Tag.N

The list of tags for the cluster parameter group.

Type: Array of [Tag](#) 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](#)

# ClusterParameterGroupStatus

Describes the status of a parameter group.

## Contents

### Note

In the following list, the required parameters are described first.

### **ClusterParameterStatusList.member.N**

The list of parameter statuses.

For more information about parameters and parameter groups, go to [Amazon Redshift Parameter Groups](#) in the *Amazon Redshift Cluster Management Guide*.

Type: Array of [ClusterParameterStatus](#) objects

Required: No

### **ParameterApplyStatus**

The status of parameter updates.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ParameterGroupName**

The name of the cluster parameter group.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# ClusterParameterStatus

Describes the status of a parameter group.

## Contents

### Note

In the following list, the required parameters are described first.

### ParameterApplyErrorDescription

The error that prevented the parameter from being applied to the database.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### ParameterApplyStatus

The status of the parameter that indicates whether the parameter is in sync with the database, waiting for a cluster reboot, or encountered an error when being applied.

The following are possible statuses and descriptions.

- `in-sync`: The parameter value is in sync with the database.
- `pending-reboot`: The parameter value will be applied after the cluster reboots.
- `applying`: The parameter value is being applied to the database.
- `invalid-parameter`: Cannot apply the parameter value because it has an invalid value or syntax.
- `apply-deferred`: The parameter contains static property changes. The changes are deferred until the cluster reboots.
- `apply-error`: Cannot connect to the cluster. The parameter change will be applied after the cluster reboots.
- `unknown-error`: Cannot apply the parameter change right now. The change will be applied after the cluster reboots.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ParameterName**

The name of the parameter.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# ClusterSecurityGroup

Describes a security group.

## Contents

### Note

In the following list, the required parameters are described first.

### ClusterSecurityGroupName

The name of the cluster security group to which the operation was applied.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Description

A description of the security group.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### EC2SecurityGroups.EC2SecurityGroup.N

A list of EC2 security groups that are permitted to access clusters associated with this cluster security group.

Type: Array of [EC2SecurityGroup](#) objects

Required: No

### IPRanges.IPRange.N

A list of IP ranges (CIDR blocks) that are permitted to access clusters associated with this cluster security group.

Type: Array of [IPRange](#) objects

Required: No

### **Tags.Tag.N**

The list of tags for the cluster security group.

Type: Array of [Tag](#) 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](#)

# ClusterSecurityGroupMembership

Describes a cluster security group.

## Contents

### Note

In the following list, the required parameters are described first.

### ClusterSecurityGroupName

The name of the cluster security group.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Status

The status of the cluster security group.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# ClusterSnapshotCopyStatus

Returns the destination region and retention period that are configured for cross-region snapshot copy.

## Contents

### Note

In the following list, the required parameters are described first.

### DestinationRegion

The destination region that snapshots are automatically copied to when cross-region snapshot copy is enabled.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### ManualSnapshotRetentionPeriod

The number of days that automated snapshots are retained in the destination region after they are copied from a source region. If the value is -1, the manual snapshot is retained indefinitely.

The value must be either -1 or an integer between 1 and 3,653.

Type: Integer

Required: No

### RetentionPeriod

The number of days that automated snapshots are retained in the destination region after they are copied from a source region.

Type: Long

Required: No

## SnapshotCopyGrantName

The name of the snapshot copy grant.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)



# ClusterSubnetGroup

Describes a subnet group.

## Contents

### Note

In the following list, the required parameters are described first.

### ClusterSubnetGroupName

The name of the cluster subnet group.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Description

The description of the cluster subnet group.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### SubnetGroupStatus

The status of the cluster subnet group. Possible values are Complete, Incomplete and Invalid.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Subnets.Subnet.N

A list of the VPC [Subnet](#) elements.

Type: Array of [Subnet](#) objects

Required: No

### **SupportedClusterIpAddressTypes.item.N**

The IP address types supported by this cluster subnet group. Possible values are `ipv4` and `dualstack`.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### **Tags.Tag.N**

The list of tags for the cluster subnet group.

Type: Array of [Tag](#) objects

Required: No

### **VpcId**

The VPC ID of the cluster subnet group.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# ClusterVersion

Describes a cluster version, including the parameter group family and description of the version.

## Contents

### Note

In the following list, the required parameters are described first.

### ClusterParameterGroupFamily

The name of the cluster parameter group family for the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### ClusterVersion

The version number used by the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Description

The description of the cluster version.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# DataShare

## Contents

### Note

In the following list, the required parameters are described first.

### **AllowPubliclyAccessibleConsumers**

A value that specifies whether the datashare can be shared to a publicly accessible cluster.

Type: Boolean

Required: No

### **DataShareArn**

The Amazon Resource Name (ARN) of the datashare that the consumer is to use.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **DataShareAssociations.member.N**

A value that specifies when the datashare has an association between producer and data consumers.

Type: Array of [DataShareAssociation](#) objects

Required: No

### **DataShareType**

The type of the datashare created by RegisterNamespace.

Type: String

Valid Values: INTERNAL

Required: No

### **ManagedBy**

The identifier of a datashare to show its managing entity.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ProducerArn**

The Amazon Resource Name (ARN) of the producer namespace.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# DataShareAssociation

The association of a datashare from a producer account with a data consumer.

## Contents

### Note

In the following list, the required parameters are described first.

### **ConsumerAcceptedWrites**

Specifies whether write operations were allowed during data share association.

Type: Boolean

Required: No

### **ConsumerIdentifier**

The name of the consumer accounts that have an association with a producer datashare.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ConsumerRegion**

The Amazon Region of the consumer accounts that have an association with a producer datashare.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **CreatedDate**

The creation date of the datashare that is associated.

Type: Timestamp

Required: No

### **ProducerAllowedWrites**

Specifies whether write operations were allowed during data share authorization.

Type: Boolean

Required: No

### **Status**

The status of the datashare that is associated.

Type: String

Valid Values: ACTIVE | PENDING\_AUTHORIZATION | AUTHORIZED | DEAUTHORIZED | REJECTED | AVAILABLE

Required: No

### **StatusChangeDate**

The status change data of the datashare that is associated.

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](#)



# DataTransferProgress

Describes the status of a cluster while it is in the process of resizing with an incremental resize.

## Contents

### Note

In the following list, the required parameters are described first.

### **CurrentRateInMegaBytesPerSecond**

Describes the data transfer rate in MB's per second.

Type: Double

Required: No

### **DataTransferredInMegaBytes**

Describes the total amount of data that has been transfered in MB's.

Type: Long

Required: No

### **ElapsedTimeInSeconds**

Describes the number of seconds that have elapsed during the data transfer.

Type: Long

Required: No

### **EstimatedTimeToCompletionInSeconds**

Describes the estimated number of seconds remaining to complete the transfer.

Type: Long

Required: No

## Status

Describes the status of the cluster. While the transfer is in progress the status is `transferringdata`.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## TotalDataInMegaBytes

Describes the total amount of data to be transferred in megabytes.

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](#)

# DefaultClusterParameters

Describes the default cluster parameters for a parameter group family.

## Contents

### Note

In the following list, the required parameters are described first.

### Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### ParameterGroupFamily

The name of the cluster parameter group family to which the engine default parameters apply.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Parameters.Parameter.N

The list of cluster default parameters.

Type: Array of [Parameter](#) 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](#)

# DeferredMaintenanceWindow

Describes a deferred maintenance window

## Contents

### Note

In the following list, the required parameters are described first.

### **DeferMaintenanceEndTime**

A timestamp for the end of the time period when we defer maintenance.

Type: Timestamp

Required: No

### **DeferMaintenanceIdentifier**

A unique identifier for the maintenance window.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **DeferMaintenanceStartTime**

A timestamp for the beginning of the time period when we defer maintenance.

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](#)

# DeleteClusterSnapshotMessage

## Contents

### Note

In the following list, the required parameters are described first.

### SnapshotIdentifier

The unique identifier of the manual snapshot to be deleted.

Constraints: Must be the name of an existing snapshot that is in the available, failed, or cancelled state.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### SnapshotClusterIdentifier

The unique identifier of the cluster the snapshot was created from. This parameter is required if your IAM user has a policy containing a snapshot resource element that specifies anything other than \* for the cluster name.

Constraints: Must be the name of valid cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)



# DescribeIntegrationsFilter

A set of elements to filter the returned integrations.

## Contents

### Note

In the following list, the required parameters are described first.

### Name

Specifies the type of integration filter.

Type: String

Valid Values: `integration-arn` | `source-arn` | `source-types` | `status`

Required: Yes

### Values.Value.N

Specifies the values to filter on.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

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](#)

# EC2SecurityGroup

Describes an Amazon EC2 security group.

## Contents

### Note

In the following list, the required parameters are described first.

### **EC2SecurityGroupName**

The name of the EC2 Security Group.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **EC2SecurityGroupOwnerId**

The Amazon Web Services account ID of the owner of the EC2 security group specified in the `EC2SecurityGroupName` field.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **Status**

The status of the EC2 security group.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **Tags.Tag.N**

The list of tags for the EC2 security group.

Type: Array of [Tag](#) 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](#)

# ElasticIpStatus

Describes the status of the elastic IP (EIP) address.

## Contents

### Note

In the following list, the required parameters are described first.

### ElasticIp

The elastic IP (EIP) address for the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Status

The status of the elastic IP (EIP) address.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# Endpoint

Describes a connection endpoint.

## Contents

### Note

In the following list, the required parameters are described first.

### Address

The DNS address of the Cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Port

The port that the database engine is listening on.

Type: Integer

Required: No

### VpcEndpoints.VpcEndpoint.N

Describes a connection endpoint.

Type: Array of [VpcEndpoint](#) 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](#)

# EndpointAccess

Describes a Redshift-managed VPC endpoint.

## Contents

### Note

In the following list, the required parameters are described first.

### Address

The DNS address of the endpoint.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### ClusterIdentifier

The cluster identifier of the cluster associated with the endpoint.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### EndpointCreateTime

The time (UTC) that the endpoint was created.

Type: Timestamp

Required: No

### EndpointName

The name of the endpoint.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **EndpointStatus**

The status of the endpoint.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **Port**

The port number on which the cluster accepts incoming connections.

Type: Integer

Required: No

### **ResourceOwner**

The Amazon Web Services account ID of the owner of the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **SubnetGroupName**

The subnet group name where Amazon Redshift chooses to deploy the endpoint.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **VpcEndpoint**

The connection endpoint for connecting to an Amazon Redshift cluster through the proxy.

Type: [VpcEndpoint](#) object



Required: No

### **VpcSecurityGroups.VpcSecurityGroup.N**

The security groups associated with the endpoint.

Type: Array of [VpcSecurityGroupMembership](#) 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](#)

# EndpointAuthorization

Describes an endpoint authorization for authorizing Redshift-managed VPC endpoint access to a cluster across Amazon Web Services accounts.

## Contents

### Note

In the following list, the required parameters are described first.

### **AllowedAllVPCs**

Indicates whether all VPCs in the grantee account are allowed access to the cluster.

Type: Boolean

Required: No

### **AllowedVPCs.VpcIdentifier.N**

The VPCs allowed access to the cluster.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### **AuthorizeTime**

The time (UTC) when the authorization was created.

Type: Timestamp

Required: No

### **ClusterIdentifier**

The cluster identifier.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ClusterStatus**

The status of the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **EndpointCount**

The number of Redshift-managed VPC endpoints created for the authorization.

Type: Integer

Required: No

### **Grantee**

The Amazon Web Services account ID of the grantee of the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **Grantor**

The Amazon Web Services account ID of the cluster owner.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **Status**

The status of the authorization action.

Type: String

Valid Values: Authorized | Revoking

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](#)

# Event

Describes an event.

## Contents

### Note

In the following list, the required parameters are described first.

### Date

The date and time of the event.

Type: Timestamp

Required: No

### EventCategories.EventCategory.N

A list of the event categories.

Values: Configuration, Management, Monitoring, Security, Pending

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### EventId

The identifier of the event.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Message

The text of this event.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Severity

The severity of the event.

Values: ERROR, INFO

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### SourceIdentifier

The identifier for the source of the event.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### SourceType

The source type for this event.

Type: String

Valid Values: `cluster` | `cluster-parameter-group` | `cluster-security-group` | `cluster-snapshot` | `scheduled-action`

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](#)

# EventCategoriesMap

Describes event categories.

## Contents

### Note

In the following list, the required parameters are described first.

### Events.EventInfoMap.N

The events in the event category.

Type: Array of [EventInfoMap](#) objects

Required: No

### SourceType

The source type, such as cluster or cluster-snapshot, that the returned categories belong to.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)



# EventInfoMap

Describes event information.

## Contents

### Note

In the following list, the required parameters are described first.

### **EventCategories.EventCategory.N**

The category of an Amazon Redshift event.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### **EventDescription**

The description of an Amazon Redshift event.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **EventId**

The identifier of an Amazon Redshift event.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **Severity**

The severity of the event.

Values: ERROR, INFO

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# EventSubscription

Describes event subscriptions.

## Contents

### Note

In the following list, the required parameters are described first.

### **CustomerAwsId**

The Amazon Web Services account associated with the Amazon Redshift event notification subscription.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **CustSubscriptionId**

The name of the Amazon Redshift event notification subscription.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **Enabled**

A boolean value indicating whether the subscription is enabled; `true` indicates that the subscription is enabled.

Type: Boolean

Required: No

### **EventCategoriesList.EventCategory.N**

The list of Amazon Redshift event categories specified in the event notification subscription.

Values: Configuration, Management, Monitoring, Security, Pending

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### **Severity**

The event severity specified in the Amazon Redshift event notification subscription.

Values: ERROR, INFO

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **SnsTopicArn**

The Amazon Resource Name (ARN) of the Amazon SNS topic used by the event notification subscription.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **SourceIdsList.SourceId.N**

A list of the sources that publish events to the Amazon Redshift event notification subscription.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

### **SourceType**

The source type of the events returned by the Amazon Redshift event notification, such as cluster, cluster-snapshot, cluster-parameter-group, cluster-security-group, or scheduled-action.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## Status

The status of the Amazon Redshift event notification subscription.

Constraints:

- Can be one of the following: active | no-permission | topic-not-exist
- The status "no-permission" indicates that Amazon Redshift no longer has permission to post to the Amazon SNS topic. The status "topic-not-exist" indicates that the topic was deleted after the subscription was created.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## SubscriptionCreationTime

The date and time the Amazon Redshift event notification subscription was created.

Type: Timestamp

Required: No

## Tags.Tag.N

The list of tags for the event subscription.

Type: Array of [Tag](#) 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](#)

# HsmClientCertificate

Returns information about an HSM client certificate. The certificate is stored in a secure Hardware Storage Module (HSM), and used by the Amazon Redshift cluster to encrypt data files.

## Contents

### Note

In the following list, the required parameters are described first.

### HsmClientCertificateIdentifier

The identifier of the HSM client certificate.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### HsmClientCertificatePublicKey

The public key that the Amazon Redshift cluster will use to connect to the HSM. You must register the public key in the HSM.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Tags.Tag.N

The list of tags for the HSM client certificate.

Type: Array of [Tag](#) 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](#)



# HsmConfiguration

Returns information about an HSM configuration, which is an object that describes to Amazon Redshift clusters the information they require to connect to an HSM where they can store database encryption keys.

## Contents

### Note

In the following list, the required parameters are described first.

## Description

A text description of the HSM configuration.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## HsmConfigurationIdentifier

The name of the Amazon Redshift HSM configuration.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## HsmIpAddress

The IP address that the Amazon Redshift cluster must use to access the HSM.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## HsmPartitionName

The name of the partition in the HSM where the Amazon Redshift clusters will store their database encryption keys.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## Tags.Tag.N

The list of tags for the HSM configuration.

Type: Array of [Tag](#) 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](#)

# HsmStatus

Describes the status of changes to HSM settings.

## Contents

### Note

In the following list, the required parameters are described first.

### **HsmClientCertificateIdentifier**

Specifies the name of the HSM client certificate the Amazon Redshift cluster uses to retrieve the data encryption keys stored in an HSM.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **HsmConfigurationIdentifier**

Specifies the name of the HSM configuration that contains the information the Amazon Redshift cluster can use to retrieve and store keys in an HSM.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **Status**

Reports whether the Amazon Redshift cluster has finished applying any HSM settings changes specified in a modify cluster command.

Values: active, applying

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# InboundIntegration

The content of an inbound integration.

## Contents

### Note

In the following list, the required parameters are described first.

### CreateTime

The creation time of an inbound integration.

Type: Timestamp

Required: No

### Errors.IntegrationError.N

The outstanding errors of an inbound integration. Each item is an "IntegrationError". This is null if there is no error.

Type: Array of [IntegrationError](#) objects

Required: No

### IntegrationArn

The Amazon Resource Name (ARN) of an inbound integration.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 255.

Pattern: `^arn:aws[a-z\-\]*:.\+:[a-z0-9\-\]*:[0-9]*:integration:[0-9a-f]{8}-[0-9a-f]{4}-[0-9a-f]{4}-[0-9a-f]{4}-[0-9a-f]{12}$`

Required: No

### SourceArn

The Amazon Resource Name (ARN) of the source of an inbound integration.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## Status

The status of an inbound integration.

Type: String

Valid Values: creating | active | modifying | failed | deleting | syncing | needs\_attention

Required: No

## TargetArn

The Amazon Resource Name (ARN) of the target of an inbound integration.

Type: String

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

Pattern: ^arn:aws[a-z\-\*]:redshift(-serverless)?:[a-z0-9\-\+]:[0-9]{12}:(namespace\|namespace:)[a-z0-9\-\+]

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](#)

# Integration

## Contents

### Note

In the following list, the required parameters are described first.

**AdditionalEncryptionContext** , `AdditionalEncryptionContext.entry.N.key` (key) ,  
`AdditionalEncryptionContext.entry.N.value` (value)

The encryption context for the integration. For more information, see [Encryption context](#) in the *Amazon Key Management Service Developer Guide*.

Type: String to string map

Key Length Constraints: Maximum length of 2147483647.

Value Length Constraints: Maximum length of 2147483647.

Required: No

### **CreateTime**

The time (UTC) when the integration was created.

Type: Timestamp

Required: No

### **Description**

The description of the integration.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1000.

Pattern: `^.*$`

Required: No

## Errors.IntegrationError.N

Any errors associated with the integration.

Type: Array of [IntegrationError](#) objects

Required: No

## IntegrationArn

The Amazon Resource Name (ARN) of the integration.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 255.

Pattern: `^arn:aws[a-z\-*]:redshift:[a-z0-9\-*]:[0-9]*:integration:[0-9a-f]{8}-[0-9a-f]{4}-[0-9a-f]{4}-[0-9a-f]{4}-[0-9a-f]{12}$`

Required: No

## IntegrationName

The name of the integration.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 63.

Pattern: `^[a-zA-Z][a-zA-Z0-9]*(-[a-zA-Z0-9]+)*$`

Required: No

## KMSKeyId

The Amazon Key Management Service (Amazon KMS) key identifier for the key used to encrypt the integration.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## SourceArn

The Amazon Resource Name (ARN) of the database used as the source for replication.



Type: String

Length Constraints: Minimum length of 1. Maximum length of 255.

Pattern: `^arn:aws[a-z\-\-]*:(s3|dynamodb):.*.*:[a-zA-Z0-9._\-\-\/]+`

Required: No

## Status

The current status of the integration.

Type: String

Valid Values: `creating | active | modifying | failed | deleting | syncing | needs_attention`

Required: No

## Tags.Tag.N

The list of tags associated with the integration.

Type: Array of [Tag](#) objects

Required: No

## TargetArn

The Amazon Resource Name (ARN) of the Amazon Redshift data warehouse to use as the target for replication.

Type: String

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

Pattern: `^arn:aws[a-z\-\-]*:redshift(-serverless)?:[a-z0-9\-\-]+:[0-9]{12}:(namespace\|namespace:)[a-z0-9\-\-]+`

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](#)

# IntegrationError

The error of an inbound integration.

## Contents

### Note

In the following list, the required parameters are described first.

### ErrorCode

The error code of an inbound integration error.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### ErrorMessage

The error message of an inbound integration error.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# IPRange

Describes an IP range used in a security group.

## Contents

### Note

In the following list, the required parameters are described first.

### **CIDRIP**

The IP range in Classless Inter-Domain Routing (CIDR) notation.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **Status**

The status of the IP range, for example, "authorized".

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **Tags.Tag.N**

The list of tags for the IP range.

Type: Array of [Tag](#) 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](#)

# LakeFormationQuery

The Lake Formation scope.

## Contents

### Note

In the following list, the required parameters are described first.

## Authorization

Determines whether the query scope is enabled or disabled.

Type: String

Valid Values: Enabled | Disabled

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](#)

# LakeFormationScopeUnion

A list of scopes set up for Lake Formation integration.

## Contents

### Note

In the following list, the required parameters are described first.

### Important

This data type is a UNION, so only one of the following members can be specified when used or returned.

## LakeFormationQuery

The Lake Formation scope.

Type: [LakeFormationQuery](#) 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](#)

# MaintenanceTrack

Defines a maintenance track that determines which Amazon Redshift version to apply during a maintenance window. If the value for `MaintenanceTrack` is `current`, the cluster is updated to the most recently certified maintenance release. If the value is `trailing`, the cluster is updated to the previously certified maintenance release.

## Contents

### Note

In the following list, the required parameters are described first.

### DatabaseVersion

The version number for the cluster release.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### MaintenanceTrackName

The name of the maintenance track. Possible values are `current` and `trailing`.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### UpdateTargets.UpdateTarget.N

An array of [UpdateTarget](#) objects to update with the maintenance track.

Type: Array of [UpdateTarget](#) 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](#)

# NamespaceIdentifierUnion

Object to store union of values for a provisioned cluster or serverless namespace's identifier.

## Contents

### Note

In the following list, the required parameters are described first.

### Important

This data type is a UNION, so only one of the following members can be specified when used or returned.

## ProvisionedIdentifier

The identifier for a provisioned cluster.

Type: [ProvisionedIdentifier](#) object

Required: No

## ServerlessIdentifier

The identifier for a serverless namespace.

Type: [ServerlessIdentifier](#) 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](#)

# NetworkInterface

Describes a network interface.

## Contents

### Note

In the following list, the required parameters are described first.

### AvailabilityZone

The Availability Zone.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Ipv6Address

The IPv6 address of the network interface within the subnet.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### NetworkInterfaceId

The network interface identifier.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### PrivateIpAddress

The IPv4 address of the network interface within the subnet.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **SubnetId**

The subnet identifier.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# NodeConfigurationOption

A list of node configurations.

## Contents

### Note

In the following list, the required parameters are described first.

### **EstimatedDiskUtilizationPercent**

The estimated disk utilization percentage.

Type: Double

Required: No

### **Mode**

The category of the node configuration recommendation.

Type: String

Valid Values: `standard` | `high-performance`

Required: No

### **NodeType**

The node type, such as, "ra3.4xlarge".

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **NumberOfNodes**

The number of nodes.

Type: Integer

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](#)

# NodeConfigurationOptionsFilter

A set of elements to filter the returned node configurations.

## Contents

### Note

In the following list, the required parameters are described first.

### Name

The name of the element to filter.

Type: String

Valid Values: NodeType | NumberOfNodes | EstimatedDiskUtilizationPercent | Mode

Required: No

### Operator

The filter operator. If filter Name is NodeType only the 'in' operator is supported. Provide one value to evaluate for 'eq', 'lt', 'le', 'gt', and 'ge'. Provide two values to evaluate for 'between'. Provide a list of values for 'in'.

Type: String

Valid Values: eq | lt | gt | le | ge | in | between

Required: No

### Value.item.N

List of values. Compare Name using Operator to Values. If filter Name is NumberOfNodes, then values can range from 0 to 200. If filter Name is EstimatedDiskUtilizationPercent, then values can range from 0 to 100. For example, filter NumberOfNodes (name) GT (operator) 3 (values).

Type: Array of strings

Length Constraints: Maximum length of 2147483647.



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](#)

# OrderableClusterOption

Describes an orderable cluster option.

## Contents

### Note

In the following list, the required parameters are described first.

### **AvailabilityZones.AvailabilityZone.N**

A list of availability zones for the orderable cluster.

Type: Array of [AvailabilityZone](#) objects

Required: No

### **ClusterType**

The cluster type, for example `multi-node`.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ClusterVersion**

The version of the orderable cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **NodeType**

The node type for the orderable cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# Parameter

Describes a parameter in a cluster parameter group.

## Contents

### Note

In the following list, the required parameters are described first.

### AllowedValues

The valid range of values for the parameter.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### ApplyType

Specifies how to apply the WLM configuration parameter. Some properties can be applied dynamically, while other properties require that any associated clusters be rebooted for the configuration changes to be applied. For more information about parameters and parameter groups, go to [Amazon Redshift Parameter Groups](#) in the *Amazon Redshift Cluster Management Guide*.

Type: String

Valid Values: `static` | `dynamic`

Required: No

### DataType

The data type of the parameter.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **Description**

A description of the parameter.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **IsModifiable**

If `true`, the parameter can be modified. Some parameters have security or operational implications that prevent them from being changed.

Type: Boolean

Required: No

### **MinimumEngineVersion**

The earliest engine version to which the parameter can apply.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ParameterName**

The name of the parameter.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ParameterValue**

The value of the parameter. If `ParameterName` is `wlm_json_configuration`, then the maximum size of `ParameterValue` is 8000 characters.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Source

The source of the parameter value, such as "engine-default" or "user".

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# PartnerIntegrationInfo

Describes a partner integration.

## Contents

### Note

In the following list, the required parameters are described first.

### CreatedAt

The date (UTC) that the partner integration was created.

Type: Timestamp

Required: No

### DatabaseName

The name of the database that receives data from a partner.

Type: String

Length Constraints: Maximum length of 127.

Pattern: `^[\\p{L}_][\\p{L}\\p{N}@$_#_]+$`

Required: No

### PartnerName

The name of the partner.

Type: String

Length Constraints: Maximum length of 255.

Pattern: `^[a-zA-Z0-9\\-_]+$`

Required: No

## Status

The partner integration status.

Type: String

Valid Values: Active | Inactive | RuntimeFailure | ConnectionFailure

Required: No

## StatusMessage

The status message provided by the partner.

Type: String

Length Constraints: Maximum length of 262144.

Pattern: ^[\x20-\x7E]+\$

Required: No

## UpdatedAt

The date (UTC) that the partner integration status was last updated by the partner.

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](#)



# PauseClusterMessage

Describes a pause cluster operation. For example, a scheduled action to run the `PauseCluster` API operation.

## Contents

### Note

In the following list, the required parameters are described first.

### ClusterIdentifier

The identifier of the cluster to be paused.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# PendingModifiedValues

Describes cluster attributes that are in a pending state. A change to one or more the attributes was requested and is in progress or will be applied.

## Contents

### Note

In the following list, the required parameters are described first.

### **AutomatedSnapshotRetentionPeriod**

The pending or in-progress change of the automated snapshot retention period.

Type: Integer

Required: No

### **ClusterIdentifier**

The pending or in-progress change of the new identifier for the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ClusterType**

The pending or in-progress change of the cluster type.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ClusterVersion**

The pending or in-progress change of the service version.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **EncryptionType**

The encryption type for a cluster. Possible values are: KMS and None.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **EnhancedVpcRouting**

An option that specifies whether to create the cluster with enhanced VPC routing enabled. To create a cluster that uses enhanced VPC routing, the cluster must be in a VPC. For more information, see [Enhanced VPC Routing](#) in the Amazon Redshift Cluster Management Guide.

If this option is `true`, enhanced VPC routing is enabled.

Default: `false`

Type: Boolean

Required: No

### **MaintenanceTrackName**

The name of the maintenance track that the cluster will change to during the next maintenance window.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **MasterUserPassword**

The pending or in-progress change of the admin user password for the cluster.

Type: String

Required: No

### **NodeType**

The pending or in-progress change of the cluster's node type.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **NumberOfNodes**

The pending or in-progress change of the number of nodes in the cluster.

Type: Integer

Required: No

### **PubliclyAccessible**

The pending or in-progress change of the ability to connect to the cluster from the public network.

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](#)

# ProvisionedIdentifier

The identifier for a provisioned cluster.

## Contents

### Note

In the following list, the required parameters are described first.

### ClusterIdentifier

The unique identifier for the provisioned cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# ReadWriteAccess

The S3 Access Grants scope.

## Contents

### Note

In the following list, the required parameters are described first.

## Authorization

Determines whether the read/write scope is enabled or disabled.

Type: String

Valid Values: Enabled | Disabled

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](#)

# Recommendation

An Amazon Redshift Advisor recommended action on the Amazon Redshift cluster.

## Contents

### Note

In the following list, the required parameters are described first.

### ClusterIdentifier

The unique identifier of the cluster for which the recommendation is returned.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### CreatedAt

The date and time (UTC) that the recommendation was created.

Type: Timestamp

Required: No

### Description

The description of the recommendation.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Id

A unique identifier of the Advisor recommendation.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ImpactRanking**

The scale of the impact that the Advisor recommendation has to the performance and cost of the cluster.

Type: String

Valid Values: HIGH | MEDIUM | LOW

Required: No

### **NamespaceArn**

The Amazon Redshift cluster namespace ARN for which the recommendations is returned.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **Observation**

The description of what was observed about your cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **RecommendationText**

The description of the recommendation.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **RecommendationType**

The type of Advisor recommendation.



Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **RecommendedActions.RecommendedAction.N**

List of Amazon Redshift recommended actions.

Type: Array of [RecommendedAction](#) objects

Required: No

### **ReferenceLinks.ReferenceLink.N**

List of helpful links for more information about the Advisor recommendation.

Type: Array of [ReferenceLink](#) objects

Required: No

### **Title**

The title of the recommendation.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# RecommendedAction

The recommended action from the Amazon Redshift Advisor recommendation.

## Contents

### Note

In the following list, the required parameters are described first.

### Command

The command to run.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Database

The database name to perform the action on. Only applicable if the type of command is SQL.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Text

The specific instruction about the command.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Type

The type of command.

Type: String

Valid Values: SQL | CLI

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](#)

# RecurringCharge

Describes a recurring charge.

## Contents

### Note

In the following list, the required parameters are described first.

### RecurringChargeAmount

The amount charged per the period of time specified by the recurring charge frequency.

Type: Double

Required: No

### RecurringChargeFrequency

The frequency at which the recurring charge amount is applied.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# RedshiftIdcApplication

Contains properties for the Redshift IDC application.

## Contents

### Note

In the following list, the required parameters are described first.

### **AuthorizedTokenIssuerList.member.N**

The authorized token issuer list for the Amazon Redshift IAM Identity Center application.

Type: Array of [AuthorizedTokenIssuer](#) objects

Required: No

### **IamRoleArn**

The ARN for the Amazon Redshift IAM Identity Center application. It has the required permissions to be assumed and invoke the IDC Identity Center API.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **IdcDisplayName**

The display name for the Amazon Redshift IAM Identity Center application. It appears on the console.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 127.

Pattern: `[\w+=, .@- ]+`

Required: No

## **IdcInstanceArn**

The ARN for the IAM Identity Center instance that Redshift integrates with.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **IdcManagedApplicationArn**

The ARN for the Amazon Redshift IAM Identity Center application.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **IdcOnboardStatus**

The onboarding status for the Amazon Redshift IAM Identity Center application.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## **IdentityNamespace**

The identity namespace for the Amazon Redshift IAM Identity Center application. It determines which managed application verifies the connection token.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 127.

Pattern: `^[a-zA-Z0-9_+.#@$-]+$`

Required: No

## **RedshiftIdcApplicationArn**

The ARN for the Redshift application that integrates with IAM Identity Center.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **RedshiftIdcApplicationName**

The name of the Redshift application in IAM Identity Center.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 63.

Pattern: `[a-z][a-z0-9]*(-[a-z0-9]+)*`

Required: No

### **ServiceIntegrations.member.N**

A list of service integrations for the Redshift IAM Identity Center application.

Type: Array of [ServiceIntegrationsUnion](#) 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](#)

# ReferenceLink

A link to an Amazon Redshift Advisor reference for more information about a recommendation.

## Contents

### Note

In the following list, the required parameters are described first.

### Link

The URL address to find more information.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Text

The hyperlink text that describes the link to more information.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)



# ReservedNode

Describes a reserved node. You can call the [DescribeReservedNodeOfferings](#) API to obtain the available reserved node offerings.

## Contents

### Note

In the following list, the required parameters are described first.

### CurrencyCode

The currency code for the reserved cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Duration

The duration of the node reservation in seconds.

Type: Integer

Required: No

### FixedPrice

The fixed cost Amazon Redshift charges you for this reserved node.

Type: Double

Required: No

### NodeCount

The number of reserved compute nodes.

Type: Integer

Required: No

### **NodeType**

The node type of the reserved node.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **OfferingType**

The anticipated utilization of the reserved node, as defined in the reserved node offering.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **RecurringCharges.RecurringCharge.N**

The recurring charges for the reserved node.

Type: Array of [RecurringCharge](#) objects

Required: No

### **ReservedNodeId**

The unique identifier for the reservation.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ReservedNodeOfferingId**

The identifier for the reserved node offering.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ReservedNodeOfferingType**

Type: String

Valid Values: Regular | Upgradable

Required: No

### **StartTime**

The time the reservation started. You purchase a reserved node offering for a duration. This is the start time of that duration.

Type: Timestamp

Required: No

### **State**

The state of the reserved compute node.

Possible Values:

- pending-payment-This reserved node has recently been purchased, and the sale has been approved, but payment has not yet been confirmed.
- active-This reserved node is owned by the caller and is available for use.
- payment-failed-Payment failed for the purchase attempt.
- retired-The reserved node is no longer available.
- exchanging-The owner is exchanging the reserved node for another reserved node.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **UsagePrice**

The hourly rate Amazon Redshift charges you for this reserved node.

Type: Double

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](#)

# ReservedNodeConfigurationOption

Details for a reserved-node exchange. Examples include the node type for a reserved node, the price for a node, the node's state, and other details.

## Contents

### Note

In the following list, the required parameters are described first.

### SourceReservedNode

Describes a reserved node. You can call the [DescribeReservedNodeOfferings](#) API to obtain the available reserved node offerings.

Type: [ReservedNode](#) object

Required: No

### TargetReservedNodeCount

The target reserved-node count.

Type: Integer

Required: No

### TargetReservedNodeOffering

Describes a reserved node offering.

Type: [ReservedNodeOffering](#) 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](#)

# ReservedNodeExchangeStatus

Reserved-node status details, such as the source reserved-node identifier, the target reserved-node identifier, the node type, the node count, and other details.

## Contents

### Note

In the following list, the required parameters are described first.

### RequestTime

A date and time that indicate when the reserved-node exchange was requested.

Type: Timestamp

Required: No

### ReservedNodeExchangeRequestId

The identifier of the reserved-node exchange request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### SourceReservedNodeCount

The source reserved-node count in the cluster.

Type: Integer

Required: No

### SourceReservedNodeId

The identifier of the source reserved node.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **SourceReservedNodeType**

The source reserved-node type, for example ra3.4xlarge.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **Status**

The status of the reserved-node exchange request. Statuses include in-progress and requested.

Type: String

Valid Values: REQUESTED | PENDING | IN\_PROGRESS | RETRYING | SUCCEEDED | FAILED

Required: No

### **TargetReservedNodeCount**

The count of target reserved nodes in the cluster.

Type: Integer

Required: No

### **TargetReservedNodeOfferingId**

The identifier of the target reserved node offering.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **TargetReservedNodeType**

The node type of the target reserved node, for example ra3.4xlarge.



Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# ReservedNodeOffering

Describes a reserved node offering.

## Contents

### Note

In the following list, the required parameters are described first.

### CurrencyCode

The currency code for the compute nodes offering.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Duration

The duration, in seconds, for which the offering will reserve the node.

Type: Integer

Required: No

### FixedPrice

The upfront fixed charge you will pay to purchase the specific reserved node offering.

Type: Double

Required: No

### NodeType

The node type offered by the reserved node offering.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **OfferingType**

The anticipated utilization of the reserved node, as defined in the reserved node offering.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **RecurringCharges.RecurringCharge.N**

The charge to your account regardless of whether you are creating any clusters using the node offering. Recurring charges are only in effect for heavy-utilization reserved nodes.

Type: Array of [RecurringCharge](#) objects

Required: No

### **ReservedNodeOfferingId**

The offering identifier.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ReservedNodeOfferingType**

Type: String

Valid Values: Regular | Upgradable

Required: No

### **UsagePrice**

The rate you are charged for each hour the cluster that is using the offering is running.

Type: Double

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](#)

# ResizeClusterMessage

Describes a resize cluster operation. For example, a scheduled action to run the `ResizeCluster` API operation.

## Contents

### Note

In the following list, the required parameters are described first.

### ClusterIdentifier

The unique identifier for the cluster to resize.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### Classic

A boolean value indicating whether the resize operation is using the classic resize process. If you don't provide this parameter or set the value to `false`, the resize type is elastic.

Type: Boolean

Required: No

### ClusterType

The new cluster type for the specified cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### NodeType

The new node type for the nodes you are adding. If not specified, the cluster's current node type is used.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **NumberOfNodes**

The new number of nodes for the cluster. If not specified, the cluster's current number of nodes is used.

Type: Integer

Required: No

### **ReservedNodeId**

The identifier of the reserved node.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **TargetReservedNodeOfferingId**

The identifier of the target reserved node offering.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)



# ResizeInfo

Describes a resize operation.

## Contents

### Note

In the following list, the required parameters are described first.

### **AllowCancelResize**

A boolean value indicating if the resize operation can be cancelled.

Type: Boolean

Required: No

### **ResizeType**

Returns the value `ClassicResize`.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)



# ResourcePolicy

The policy that is attached to a resource.

## Contents

### Note

In the following list, the required parameters are described first.

## Policy

The content of a resource policy.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## ResourceArn

The resources that a policy is attached to.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# RestoreStatus

Describes the status of a cluster restore action. Returns null if the cluster was not created by restoring a snapshot.

## Contents

### Note

In the following list, the required parameters are described first.

### **CurrentRestoreRateInMegaBytesPerSecond**

The number of megabytes per second being transferred from the backup storage. Returns the average rate for a completed backup. This field is only updated when you restore to DC2 node types.

Type: Double

Required: No

### **ElapsedTimeInSeconds**

The amount of time an in-progress restore has been running, or the amount of time it took a completed restore to finish. This field is only updated when you restore to DC2 node types.

Type: Long

Required: No

### **EstimatedTimeToCompletionInSeconds**

The estimate of the time remaining before the restore will complete. Returns 0 for a completed restore. This field is only updated when you restore to DC2 node types.

Type: Long

Required: No

### **ProgressInMegaBytes**

The number of megabytes that have been transferred from snapshot storage. This field is only updated when you restore to DC2 node types.

Type: Long

Required: No

### **SnapshotSizeInMegaBytes**

The size of the set of snapshot data used to restore the cluster. This field is only updated when you restore to DC2 node types.

Type: Long

Required: No

### **Status**

The status of the restore action. Returns starting, restoring, completed, or failed.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# ResumeClusterMessage

Describes a resume cluster operation. For example, a scheduled action to run the ResumeCluster API operation.

## Contents

### Note

In the following list, the required parameters are described first.

### ClusterIdentifier

The identifier of the cluster to be resumed.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# RevisionTarget

Describes a RevisionTarget.

## Contents

### Note

In the following list, the required parameters are described first.

### DatabaseRevision

A unique string that identifies the version to update the cluster to. You can use this value in [ModifyClusterDbRevision](#).

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### DatabaseRevisionReleaseDate

The date on which the database revision was released.

Type: Timestamp

Required: No

### Description

A string that describes the changes and features that will be applied to the cluster when it is updated to the corresponding [ClusterDbRevision](#).

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# S3AccessGrantsScopeUnion

A list of scopes set up for S3 Access Grants integration.

## Contents

### Note

In the following list, the required parameters are described first.

### Important

This data type is a UNION, so only one of the following members can be specified when used or returned.

## ReadWriteAccess

The S3 Access Grants scope.

Type: [ReadWriteAccess](#) 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](#)

# ScheduledAction

Describes a scheduled action. You can use a scheduled action to trigger some Amazon Redshift API operations on a schedule. For information about which API operations can be scheduled, see [ScheduledActionType](#).

## Contents

### Note

In the following list, the required parameters are described first.

### EndTime

The end time in UTC when the schedule is no longer active. After this time, the scheduled action does not trigger.

Type: Timestamp

Required: No

### IamRole

The IAM role to assume to run the scheduled action. This IAM role must have permission to run the Amazon Redshift API operation in the scheduled action. This IAM role must allow the Amazon Redshift scheduler (Principal scheduler.redshift.amazonaws.com) to assume permissions on your behalf. For more information about the IAM role to use with the Amazon Redshift scheduler, see [Using Identity-Based Policies for Amazon Redshift](#) in the *Amazon Redshift Cluster Management Guide*.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### NextInvocations.ScheduledActionTime.N

List of times when the scheduled action will run.

Type: Array of timestamps



Required: No

## Schedule

The schedule for a one-time (at format) or recurring (cron format) scheduled action. Schedule invocations must be separated by at least one hour.

Format of at expressions is "at(yyyy-mm-ddThh:mm:ss)". For example, "at(2016-03-04T17:27:00)".

Format of cron expressions is "cron(Minutes Hours Day-of-month Month Day-of-week Year)". For example, "cron(0 10 ? \* MON \*)". For more information, see [Cron Expressions](#) in the *Amazon CloudWatch Events User Guide*.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## ScheduledActionDescription

The description of the scheduled action.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## ScheduledActionName

The name of the scheduled action.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## StartTime

The start time in UTC when the schedule is active. Before this time, the scheduled action does not trigger.

Type: Timestamp

Required: No

## State

The state of the scheduled action. For example, DISABLED.

Type: String

Valid Values: ACTIVE | DISABLED

Required: No

## TargetAction

A JSON format string of the Amazon Redshift API operation with input parameters.

```
"{\ "ResizeCluster\":{\ "NodeType\":\ "ra3.4xlarge\","\ "ClusterIdentifier\":\ "my-test-cluster\","\ "NumberOfNodes\":3}}
```

Type: [ScheduledActionType](#) 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](#)

# ScheduledActionFilter

A set of elements to filter the returned scheduled actions.

## Contents

### Note

In the following list, the required parameters are described first.

### Name

The type of element to filter.

Type: String

Valid Values: `cluster-identifier` | `iam-role`

Required: Yes

### Values.item.N

List of values. Compare if the value (of type defined by Name) equals an item in the list of scheduled actions.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

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](#)



# ScheduledActionType

The action type that specifies an Amazon Redshift API operation that is supported by the Amazon Redshift scheduler.

## Contents

### Note

In the following list, the required parameters are described first.

### PauseCluster

An action that runs a `PauseCluster` API operation.

Type: [PauseClusterMessage](#) object

Required: No

### ResizeCluster

An action that runs a `ResizeCluster` API operation.

Type: [ResizeClusterMessage](#) object

Required: No

### ResumeCluster

An action that runs a `ResumeCluster` API operation.

Type: [ResumeClusterMessage](#) 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](#)

# SecondaryClusterInfo

The AvailabilityZone and ClusterNodes information of the secondary compute unit.

## Contents

### Note

In the following list, the required parameters are described first.

### AvailabilityZone

The name of the Availability Zone in which the secondary compute unit of the cluster is located.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### ClusterNodes.member.N

The nodes in the secondary compute unit.

Type: Array of [ClusterNode](#) 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](#)

# ServerlessIdentifier

The identifier for a serverless namespace.

## Contents

### Note

In the following list, the required parameters are described first.

### NamespaceIdentifier

The unique identifier for the serverless namespace.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: Yes

### WorkgroupIdentifier

The unique identifier for the workgroup associated with the serverless namespace.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)



# ServiceIntegrationsUnion

A list of service integrations.

## Contents

### Note

In the following list, the required parameters are described first.

### Important

This data type is a UNION, so only one of the following members can be specified when used or returned.

### LakeFormation.member.N

A list of scopes set up for Lake Formation integration.

Type: Array of [LakeFormationScopeUnion](#) objects

Required: No

### S3AccessGrants.member.N

A list of scopes set up for S3 Access Grants integration.

Type: Array of [S3AccessGrantsScopeUnion](#) 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](#)

# Snapshot

Describes a snapshot.

## Contents

### Note

In the following list, the required parameters are described first.

### **AccountsWithRestoreAccess.AccountWithRestoreAccess.N**

A list of the Amazon Web Services accounts authorized to restore the snapshot. Returns null if no accounts are authorized. Visible only to the snapshot owner.

Type: Array of [AccountWithRestoreAccess](#) objects

Required: No

### **ActualIncrementalBackupSizeInMegaBytes**

The size of the incremental backup.

Type: Double

Required: No

### **AvailabilityZone**

The Availability Zone in which the cluster was created.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **BackupProgressInMegaBytes**

The number of megabytes that have been transferred to the snapshot backup.

Type: Double

Required: No

### **ClusterCreateTime**

The time (UTC) when the cluster was originally created.

Type: Timestamp

Required: No

### **ClusterIdentifier**

The identifier of the cluster for which the snapshot was taken.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ClusterVersion**

The version ID of the Amazon Redshift engine that is running on the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **CurrentBackupRateInMegaBytesPerSecond**

The number of megabytes per second being transferred to the snapshot backup. Returns 0 for a completed backup.

Type: Double

Required: No

### **DBName**

The name of the database that was created when the cluster was created.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ElapsedTimeInSeconds**

The amount of time an in-progress snapshot backup has been running, or the amount of time it took a completed backup to finish.

Type: Long

Required: No

### **Encrypted**

If `true`, the data in the snapshot is encrypted at rest.

Type: Boolean

Required: No

### **EncryptedWithHSM**

A boolean that indicates whether the snapshot data is encrypted using the HSM keys of the source cluster. `true` indicates that the data is encrypted using HSM keys.

Type: Boolean

Required: No

### **EngineFullVersion**

The cluster version of the cluster used to create the snapshot. For example, 1.0.15503.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **EnhancedVpcRouting**

An option that specifies whether to create the cluster with enhanced VPC routing enabled. To create a cluster that uses enhanced VPC routing, the cluster must be in a VPC. For more information, see [Enhanced VPC Routing](#) in the Amazon Redshift Cluster Management Guide.

If this option is `true`, enhanced VPC routing is enabled.

Default: `false`

Type: Boolean

Required: No

### **EstimatedSecondsToCompletion**

The estimate of the time remaining before the snapshot backup will complete. Returns 0 for a completed backup.

Type: Long

Required: No

### **KmsKeyId**

The Amazon Key Management Service (KMS) key ID of the encryption key that was used to encrypt data in the cluster from which the snapshot was taken.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **MaintenanceTrackName**

The name of the maintenance track for the snapshot.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **ManualSnapshotRemainingDays**

The number of days until a manual snapshot will pass its retention period.

Type: Integer

Required: No

### **ManualSnapshotRetentionPeriod**

The number of days that a manual snapshot is retained. If the value is -1, the manual snapshot is retained indefinitely.

The value must be either -1 or an integer between 1 and 3,653.

Type: Integer

Required: No

### **MasterPasswordSecretArn**

The Amazon Resource Name (ARN) for the cluster's admin user credentials secret.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **MasterPasswordSecretKmsKeyId**

The ID of the Amazon Key Management Service (KMS) key used to encrypt and store the cluster's admin credentials secret.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **MasterUsername**

The admin user name for the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **NodeType**

The node type of the nodes in the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## NumberOfNodes

The number of nodes in the cluster.

Type: Integer

Required: No

## OwnerAccount

For manual snapshots, the Amazon Web Services account used to create or copy the snapshot. For automatic snapshots, the owner of the cluster. The owner can perform all snapshot actions, such as sharing a manual snapshot.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## Port

The port that the cluster is listening on.

Type: Integer

Required: No

## RestorableNodeTypes.NodeType.N

The list of node types that this cluster snapshot is able to restore into.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No

## SnapshotArn

The Amazon Resource Name (ARN) of the snapshot.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No



## SnapshotCreateTime

The time (in UTC format) when Amazon Redshift began the snapshot. A snapshot contains a copy of the cluster data as of this exact time.

Type: Timestamp

Required: No

## SnapshotIdentifier

The snapshot identifier that is provided in the request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## SnapshotRetentionStartTime

A timestamp representing the start of the retention period for the snapshot.

Type: Timestamp

Required: No

## SnapshotType

The snapshot type. Snapshots created using [CreateClusterSnapshot](#) and [CopyClusterSnapshot](#) are of type "manual".

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## SourceRegion

The source region from which the snapshot was copied.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## Status

The snapshot status. The value of the status depends on the API operation used:

- [CreateClusterSnapshot](#) and [CopyClusterSnapshot](#) returns status as "creating".
- [DescribeClusterSnapshots](#) returns status as "creating", "available", "final snapshot", or "failed".
- [DeleteClusterSnapshot](#) returns status as "deleted".

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## Tags.Tag.N

The list of tags for the cluster snapshot.

Type: Array of [Tag](#) objects

Required: No

## TotalBackupSizeInMegaBytes

The size of the complete set of backup data that would be used to restore the cluster.

Type: Double

Required: No

## VpcId

The VPC identifier of the cluster if the snapshot is from a cluster in a VPC. Otherwise, this field is not in the output.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# SnapshotCopyGrant

The snapshot copy grant that grants Amazon Redshift permission to encrypt copied snapshots with the specified encrypted symmetric key from Amazon KMS in the destination region.

For more information about managing snapshot copy grants, go to [Amazon Redshift Database Encryption](#) in the *Amazon Redshift Cluster Management Guide*.

## Contents

### Note

In the following list, the required parameters are described first.

### KmsKeyId

The unique identifier of the encrypted symmetric key in Amazon KMS to which Amazon Redshift is granted permission.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### SnapshotCopyGrantName

The name of the snapshot copy grant.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Tags.Tag.N

A list of tag instances.

Type: Array of [Tag](#) 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](#)

# SnapshotErrorMessage

Describes the errors returned by a snapshot.

## Contents

### Note

In the following list, the required parameters are described first.

### FailureCode

The failure code for the error.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### FailureReason

The text message describing the error.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### SnapshotClusterIdentifier

A unique identifier for the cluster.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### SnapshotIdentifier

A unique identifier for the snapshot returning the error.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# SnapshotSchedule

Describes a snapshot schedule. You can set a regular interval for creating snapshots of a cluster. You can also schedule snapshots for specific dates.

## Contents

### Note

In the following list, the required parameters are described first.

### **AssociatedClusterCount**

The number of clusters associated with the schedule.

Type: Integer

Required: No

### **AssociatedClusters.ClusterAssociatedToSchedule.N**

A list of clusters associated with the schedule. A maximum of 100 clusters is returned.

Type: Array of [ClusterAssociatedToSchedule](#) objects

Required: No

### **NextInvocations.SnapshotTime.N**

Type: Array of timestamps

Required: No

### **ScheduleDefinitions.ScheduleDefinition.N**

A list of ScheduleDefinitions.

Type: Array of strings

Length Constraints: Maximum length of 2147483647.

Required: No



## ScheduleDescription

The description of the schedule.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## ScheduleIdentifier

A unique identifier for the schedule.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## Tags.Tag.N

An optional set of tags describing the schedule.

Type: Array of [Tag](#) 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](#)

# SnapshotSortingEntity

Describes a sorting entity

## Contents

### Note

In the following list, the required parameters are described first.

### Attribute

The category for sorting the snapshots.

Type: String

Valid Values: SOURCE\_TYPE | TOTAL\_SIZE | CREATE\_TIME

Required: Yes

### SortOrder

The order for listing the attributes.

Type: String

Valid Values: ASC | DESC

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](#)

# Subnet

Describes a subnet.

## Contents

### Note

In the following list, the required parameters are described first.

### **SubnetAvailabilityZone**

Type: [AvailabilityZone](#) object

Required: No

### **SubnetIdentifier**

The identifier of the subnet.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **SubnetStatus**

The status of the subnet.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# SupportedOperation

Describes the operations that are allowed on a maintenance track.

## Contents

### Note

In the following list, the required parameters are described first.

### OperationName

A list of the supported operations.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# SupportedPlatform

A list of supported platforms for orderable clusters.

## Contents

### Note

In the following list, the required parameters are described first.

### Name

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# TableRestoreStatus

Describes the status of a [RestoreTableFromClusterSnapshot](#) operation.

## Contents

### Note

In the following list, the required parameters are described first.

### ClusterIdentifier

The identifier of the Amazon Redshift cluster that the table is being restored to.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Message

A description of the status of the table restore request. Status values include SUCCEEDED, FAILED, CANCELED, PENDING, IN\_PROGRESS.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### NewTableName

The name of the table to create as a result of the table restore request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### ProgressInMegaBytes

The amount of data restored to the new table so far, in megabytes (MB).

Type: Long

Required: No

### **RequestTime**

The time that the table restore request was made, in Universal Coordinated Time (UTC).

Type: Timestamp

Required: No

### **SnapshotIdentifier**

The identifier of the snapshot that the table is being restored from.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **SourceDatabaseName**

The name of the source database that contains the table being restored.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **SourceSchemaName**

The name of the source schema that contains the table being restored.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **SourceTableName**

The name of the source table being restored.

Type: String



Length Constraints: Maximum length of 2147483647.

Required: No

### **Status**

A value that describes the current state of the table restore request.

Valid Values: SUCCEEDED, FAILED, CANCELED, PENDING, IN\_PROGRESS

Type: String

Valid Values: PENDING | IN\_PROGRESS | SUCCEEDED | FAILED | CANCELED

Required: No

### **TableRestoreRequestId**

The unique identifier for the table restore request.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **TargetDatabaseName**

The name of the database to restore the table to.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **TargetSchemaName**

The name of the schema to restore the table to.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## TotalDataInMegaBytes

The total amount of data to restore to the new table, in megabytes (MB).

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](#)

# Tag

A tag consisting of a name/value pair for a resource.

## Contents

### Note

In the following list, the required parameters are described first.

### Key

The key, or name, for the resource tag.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### Value

The value for the resource tag.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# TaggedResource

A tag and its associated resource.

## Contents

### Note

In the following list, the required parameters are described first.

### ResourceName

The Amazon Resource Name (ARN) with which the tag is associated, for example:  
`arn:aws:redshift:us-east-2:123456789:cluster:t1.`

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### ResourceType

The type of resource with which the tag is associated. Valid resource types are:

- Cluster
- CIDR/IP
- EC2 security group
- Snapshot
- Cluster security group
- Subnet group
- HSM connection
- HSM certificate
- Parameter group

For more information about Amazon Redshift resource types and constructing ARNs, go to [Constructing an Amazon Redshift Amazon Resource Name \(ARN\)](#) in the Amazon Redshift Cluster Management Guide.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## Tag

The tag for the resource.

Type: [Tag](#) 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](#)

# UpdateTarget

A maintenance track that you can switch the current track to.

## Contents

### Note

In the following list, the required parameters are described first.

### **DatabaseVersion**

The cluster version for the new maintenance track.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **MaintenanceTrackName**

The name of the new maintenance track.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **SupportedOperations.SupportedOperation.N**

A list of operations supported by the maintenance track.

Type: Array of [SupportedOperation](#) 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](#)

# UsageLimit

Describes a usage limit object for a cluster.

## Contents

### Note

In the following list, the required parameters are described first.

### Amount

The limit amount. If time-based, this amount is in minutes. If data-based, this amount is in terabytes (TB).

Type: Long

Required: No

### BreachAction

The action that Amazon Redshift takes when the limit is reached. Possible values are:

- **log** - To log an event in a system table. The default is log.
- **emit-metric** - To emit CloudWatch metrics.
- **disable** - To disable the feature until the next usage period begins.

Type: String

Valid Values: log | emit-metric | disable

Required: No

### ClusterIdentifier

The identifier of the cluster with a usage limit.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No



## FeatureType

The Amazon Redshift feature to which the limit applies.

Type: String

Valid Values: `spectrum` | `concurrency-scaling` | `cross-region-datasharing`

Required: No

## LimitType

The type of limit. Depending on the feature type, this can be based on a time duration or data size.

Type: String

Valid Values: `time` | `data-scanned`

Required: No

## Period

The time period that the amount applies to. A weekly period begins on Sunday. The default is monthly.

Type: String

Valid Values: `daily` | `weekly` | `monthly`

Required: No

## Tags.Tag.N

A list of tag instances.

Type: Array of [Tag](#) objects

Required: No

## UsageLimitId

The identifier of the usage limit.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# VpcEndpoint

The connection endpoint for connecting to an Amazon Redshift cluster through the proxy.

## Contents

### Note

In the following list, the required parameters are described first.

### **NetworkInterfaces.NetworkInterface.N**

One or more network interfaces of the endpoint. Also known as an interface endpoint.

Type: Array of [NetworkInterface](#) objects

Required: No

### **VpcEndpointId**

The connection endpoint ID for connecting an Amazon Redshift cluster through the proxy.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

### **VpcId**

The VPC identifier that the endpoint is associated.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# VpcSecurityGroupMembership

Describes the members of a VPC security group.

## Contents

### Note

In the following list, the required parameters are described first.

## Status

The status of the VPC security group.

Type: String

Length Constraints: Maximum length of 2147483647.

Required: No

## VpcSecurityGroupId

The identifier of the VPC security group.

Type: String

Length Constraints: Maximum length of 2147483647.

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](#)

# 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

## **InvalidParameterCombination**

Parameters that must not be used together were used together.

HTTP Status Code: 400

## **InvalidParameterValue**

An invalid or out-of-range value was supplied for the input parameter.

HTTP Status Code: 400

**InvalidQueryParameter**

The Amazon query string is malformed or does not adhere to Amazon standards.

HTTP Status Code: 400

**MalformedQueryString**

The query string contains a syntax error.

HTTP Status Code: 404

**MissingAction**

The request is missing an action or a required parameter.

HTTP Status Code: 400

**MissingAuthenticationToken**

The request must contain either a valid (registered) Amazon access key ID or X.509 certificate.

HTTP Status Code: 403

**MissingParameter**

A required parameter for the specified action is not supplied.

HTTP Status Code: 400

**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