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User Guide

Amazon ECR Public

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Amazon ECR Public: User Guide

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What Is Amazon Elastic Container Registry Public?

Amazon Elastic Container Registry Public is a managed Amazon container image registry service that is secure, scalable, and reliable. Amazon ECR supports public image repositories with resource-based permissions using Amazon IAM so that specific users can access your public repositories to push images. Developers can use their preferred CLI to push and manage Docker images, Open Container Initiative (OCI) images, and OCI compatible artifacts. Your images are publicly available to pull, either anonymously or using an Amazon ECR Public authentication token.

> **Note**
>
> Amazon ECR supports private container image repositories as well. For more information, see What is Amazon ECR in the *Amazon Elastic Container Registry User Guide*.

The Amazon container services team maintains a public roadmap on GitHub. It contains information about what the teams are working on and allows all Amazon customers the ability to give direct feedback. For more information, see Amazon Containers Roadmap.

Components of Amazon ECR Public

Amazon ECR Public contains the following components:

Amazon ECR Public Gallery

The Amazon ECR Public Gallery is the public portal that lists all public repositories hosted on Amazon ECR Public. Visit the Amazon ECR Public Gallery at https://gallery.ecr.aws. For more information, see Amazon ECR Public Gallery.

Registry

A public registry is provided to each Amazon account; you can create public image repositories in your public registry and store images in them. For more information, see Amazon ECR public registries.

Authorization token

Your client must authenticate to a public registry as an Amazon user before it can push images to a public repository. For image pulls, Amazon ECR Public accepts both anonymous pulls

and pulls using an authentication token. For more information, see Registry authentication in Amazon ECR public.

Repository

An Amazon ECR image repository contains your Docker images, Open Container Initiative (OCI) images, and OCI compatible artifacts. For more information, see Amazon ECR public repositories.

Repository policy

You can control access to your repositories and the images within them with repository policies. For more information, see Public repository policies in Amazon ECR Public.

Image

You can push and pull container images to your repositories. You can use these images locally on your development system, or you can use them in Amazon ECS task definitions and Amazon EKS pod specifications.

How to get started with Amazon ECR Public

If you've signed up for Amazon and have been using Amazon Elastic Container Service (Amazon ECS) or Amazon Elastic Kubernetes Service (Amazon EKS), you are close to being able to use Amazon ECR. The setup process for those two services is similar, as Amazon ECR is an extension of both services. When using the Amazon CLI with Amazon ECR, we recommend that you use a version of the Amazon CLI that supports the latest Amazon ECR features. If you do not see support for an Amazon ECR feature in the Amazon CLI, you should upgrade to the latest version. For more information, see http://www.amazonaws.cn/cli/.

For a quickstart guide on pushing a container image to Amazon ECR Public repository, see Moving an image through its lifecycle in Amazon ECR Public.

Amazon ECR Public Gallery

The Amazon ECR Public Gallery is a public website to find and share container images hosted in Amazon ECR public repositories. There is no authentication required to browse the public repositories and pull the images. Visit the Amazon ECR Public Gallery at https://gallery.ecr.aws.

Amazon ECR users create public repositories and define the catalog data that appears in the Amazon ECR Public Gallery. The catalog data includes the repository name, a short description, a more detailed description on the **About** tab, and detailed usage instructions on the **Usage** tab. Amazon accounts that publish popular or commonly used images can request a **Verified account** badge by contacting support. For more information, see Creating a support case.

The Amazon ECR Public Gallery provides search filters that make it easy to browse through the public repositories. The available search filters include verified accounts, supported operating systems, and system architectures. You can also use the search option to find a specific repository.

You can launch some Amazon ECR Public Gallery container images as web services running on Amazon App Runner. When browsing the gallery, look for **Launch to Amazon App Runner** on an image's gallery page. An image with this option is a web application that App Runner supports. For more information, see Launch an App Runner service directly from the Amazon ECR Public Gallery in the *App Runner developer guide*.

To get started with creating your own public repository, see Moving an image through its lifecycle in Amazon ECR Public.

Making requests to Amazon ECR Public registries

You can push, pull, delete, view, and manage OCI images, Docker images, and OCI-compatible artifacts in Amazon ECR Public registries using either IPv4-only endpoints or dual-stack (IPv4 and IPv6) endpoints. For making requests from IPv4 networks, you can use either dual-stack or IPv4 endpoints. For making requests from an IPv6 network, use a dual-stack endpoint. For more information about making requests to Amazon ECR private registries using IPv4 and dual-stack endpoints, see Making requests to Amazon ECR registries. There are no additional charges for accessing Amazon ECR Public over IPv6. For more information about pricing, see Amazon Elastic Container Registry pricing.

Amazon ECR Public endpoints are designated by attributes beyond IPv4-only endpoint or dual-stack endpoints support. These attributes can include:

- **Region** – Each endpoint is specific to a Region.
- **Type** – Endpoint selection depends on whether you're using the Amazon SDK or OCI-compatible and Docker command line interfaces.

For more information about service endpoints supported by IPv4, dual-stack, Docker, and OCI client, which handles Amazon ECR Public API calls from Amazon CLI and Amazon SDKs see, Service endpoints.

Getting started with making requests over IPv6

To make a request to an Amazon ECR Public registry over IPv6, you need to use a dual-stack endpoint. Before accessing an Amazon ECR Public registry over IPv6, verify the following requirements:

- Your client and network must support IPv6.
- Amazon ECR Public supports the following request types over IPv6:
  - OCI and Docker client requests:

    ```
    ecr-public.aws.com
    ```

  - Amazon API requests

    ```
    ecr-public.us-east-1.api.aws
    ```

- You must update any Amazon Identity and Access Management (IAM) or registry policies that use source IP address filtering to include IPv6 address ranges. For more information, see Using IPv6 addresses in IAM policies.
- When you use IPv6, server access logs display `Remote IP` addresses in IPv6 format. Update your existing tools, scripts, and software to parse these IPv6-formatted IP addresses.

> **Note**
>
> If you experience issues related to the presence of IPv6 addresses in log files, contact Amazon Web Services Support.

Testing IP address compatibility

If you are using use Linux/Unix or Mac OS X, you can test whether you can access a dual-stack endpoint over IPv6 by using the `curl` command as shown in the following example:

Example

```
curl -v https://ecr-public.us-east-1.api.aws
```

You get back information similar to the following example. If you are connected over IPv6 the connected IP address will be an IPv6 address.

```
* About to connect() to ecr-public.us-east-1.api.aws port 80 (#0)
* Trying IPv6 address... connected
* Connected to ecr-public.us-east-1.api.aws (IPv6 address) port 80 (#0)
> GET / HTTP/1.1
> User-Agent: curl/7.18.1 (x86_64-unknown-linux-gnu) libcurl/7.18.1 OpenSSL/1.0.1t
 zlib/1.2.3
> Host:ecr-public.us-east-1.api.aws
```

If you are using Microsoft Windows 7 or Windows 10, you can test whether you can access a dual-stack endpoint over IPv6 or IPv4 by using the `ping` command as shown in the following example.

```
ping ipv6.ecr-public.us-east-1.api.aws
```

Making requests over IPv6 by using dual-stack endpoints

You can make Amazon ECR Public API calls over IPv6 using dual-stack endpoints. The functionality and performance of Amazon ECR Public API operations remain consistent whether you use IPv4 or IPv6.

When you use the Amazon Command Line Interface (Amazon CLI) and Amazon SDKs, you can enable IPv6 either by using a parameter or flag to switch to a dual-stack endpoint, or by directly specifying the dual-stack endpoint in your config file to override the default Amazon ECR endpoint. The following example shows how to make requests over IPv6 by using the Amazon CLI.

Example Making requests over IPv6 using the Amazon CLI

```
aws ecr-public describe-repositories --region us-east-1 --endpoint-url
https://ecr-public.us-east-1.api.aws
```

Using Amazon ECR Public endpoints from the docker CLI

After you sign in to your Amazon ECR Public repository and tag your image, you can push and pull OCI containers and Docker images to and from Amazon ECR Public registries. The following examples demonstrate docker push and docker pull commands with both dual-stack endpoints.

Example Pushing docker images using IPv4 endpoint

```
docker push public.ecr.aws/<public-registry-alias>/my-repository:tag
```

Example Pushing docker images using dual-stack endpoint

```
docker push ecr-public.aws.com/<public-registry-alias>/my-repository:tag
```

Example Pulling docker images using IPv4 endpoint

```
docker pull public.ecr.aws/<public-registry-alias>/my-repository:tag
```

Example Pulling docker images using dual-stack endpoint

```
docker pull ecr-public.aws.com/<public-registry-alias>/my-repository:tag
```

Using IPv6 addresses in IAM policies

Before you access a registry using IPv6, ensure that your IAM user and Amazon ECR registry policies that use IP address filtering include IPv6 address ranges. If IP address filtering policies aren't

updated to handle IPv6 addresses, clients might incorrectly lose or gain access to the registry when they start using IPv6. For more information about managing access permissions with IAM, see Identity and Access Management for Amazon ECR Public.

IAM policies that filter IP addresses use IP Address Condition Operators. The following registry policy example shows how to identify the `54.240.143.*` range of allowed IPv4 addresses by using IP address condition operators. Any IP addresses outside of this range are denied access to the registry (`exampleregistry`). Because all IPv6 addresses are outside of the allowed range, this policy prevents IPv6 addresses from accessing `exampleregistry`.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "IPAllow",
      "Effect": "Allow",
      "Principal": "*",
      "Action": "ecr-public:*",
      "Resource": "arn:aws-cn:ecr-public:::exampleregistry/*",
      "Condition": {
         "IpAddress": {"aws:SourceIp": "54.240.143.0/24"}
      }
    }
  ]
}
```

To allow both IPv4 (`54.240.143.0/24`) and IPv6 (`2001:DB8:1234:5678::/64`) address ranges, modify the registry policy's Condition element as shown in the following example. You can use this `Condition` block format to update both your IAM user and registry policies.

```
       "Condition": {
         "IpAddress": {
            "aws:SourceIp": [
              "54.240.143.0/24",
               "2001:DB8:1234:5678::/64"
             ]
          }
        }
```

Important

Before using IPv6 you must update all relevant IAM user and registry policies that use IP address filtering. We don't recommend using IP address filtering in registry policies.

You can review your IAM user policies using the IAM console at https://console.amazonaws.cn/iam/. For more information about IAM, see the IAM User Guide.

Moving an image through its lifecycle in Amazon ECR Public

This quick start guide walks you through the steps needed to create a Docker image, publish the image to a public repository, pull the image down from the Amazon ECR Public Gallery, and then clean up the resources using the Docker CLI and the Amazon CLI.

To use the Amazon Web Services Management Console instead of the Amazon CLI, see the section called "Creating a public repository".

For more information on the other tools available for managing your Amazon resources, including the different Amazon SDKs, IDE toolkits, and the Windows PowerShell command line tools, see http://www.amazonaws.cn/tools/.

Prerequisites

If you do not have the latest Amazon CLI and Docker installed and ready to use, use the following steps to install both of these tools.

Install the Amazon CLI

To use the Amazon CLI with Amazon ECR, install the latest Amazon CLI version. For information, see Installing the Amazon Command Line Interface in the *Amazon Command Line Interface User Guide*.

Install Docker

Docker is available on many different operating systems, including most modern Linux distributions, like Ubuntu, and even macOS and Windows. For more information about how to install Docker on your particular operating system, go to the Docker installation guide.

You do not need a local development system to use Docker. If you are using Amazon EC2 already, you can launch an Amazon Linux 2023 instance and install Docker to get started.

If you already have Docker installed, skip to Step 1: Create a Docker image.

To install Docker on an Amazon EC2 instance using an Amazon Linux 2023 AMI

1. Launch an instance with the latest Amazon Linux 2023 AMI. For more information, see Launching an instance in the *Amazon EC2 User Guide*.
2. Connect to your instance. For more information, see Connect to Your Linux Instance in the *Amazon EC2 User Guide*.
3. Update the installed packages and package cache on your instance.

```
sudo yum update -y
```

4. Install the most recent Docker Community Edition package.

```
sudo yum install docker
```

5. Start the Docker service.

```
sudo service docker start
```

6. Add the `ec2-user` to the `docker` group so you can execute Docker commands without using `sudo`.

```
sudo usermod -a -G docker ec2-user
```

7. Log out and log back in again to pick up the new `docker` group permissions. You can accomplish this by closing your current SSH terminal window and reconnecting to your instance in a new one. Your new SSH session will have the appropriate `docker` group permissions.
8. Verify that the `ec2-user` can run Docker commands without `sudo`.

```
docker info
```

> **Note**
>
> In some cases, you may need to reboot your instance to provide permissions for the `ec2-user` to access the Docker daemon. Try rebooting your instance if you see the following error:

```
Cannot connect to the Docker daemon. Is the docker daemon running on this
 host?
```

Step 1: Create a Docker image

In this step, you create a Docker image of a simple web application, and test it on your local system or Amazon EC2 instance.

To create a Docker image of a simple web application

1. Create a file called `Dockerfile`. A Dockerfile is a manifest that describes the base image to use for your Docker image and what you want installed and running on it. For more information about Dockerfiles, go to the Dockerfile Reference.

   ```
   touch Dockerfile
   ```

2. Edit the `Dockerfile` you just created and add the following content.

   ```
   FROM public.ecr.aws/amazonlinux/amazonlinux:latest

   # Install dependencies
   RUN yum update -y && \
    yum install -y httpd

   # Install apache and write hello world message
   RUN echo 'Hello World!' > /var/www/html/index.html

   # Configure apache
   RUN echo 'mkdir -p /var/run/httpd' >> /root/run_apache.sh && \
    echo 'mkdir -p /var/lock/httpd' >> /root/run_apache.sh && \
    echo '/usr/sbin/httpd -D FOREGROUND' >> /root/run_apache.sh && \
    chmod 755 /root/run_apache.sh

   EXPOSE 80

   CMD /root/run_apache.sh
   ```

This Dockerfile uses the public Amazon Linux 2 image hosted on Amazon ECR Public. The RUN instructions update the package caches, installs some software packages for the web server, and then write the "Hello World!" content to the web servers document root. The EXPOSE instruction exposes port 80 on the container, and the CMD instruction starts the web server.

3. Build the Docker image from your Dockerfile.

> **Note**
>
> Some versions of Docker may require the full path to your Dockerfile in the following command, instead of the relative path shown below.

```
docker build -t hello-world .
```

4. List your container image.

```
docker images --filter reference=hello-world
```

Output:

```
REPOSITORY          TAG                 IMAGE ID            CREATED
 SIZE
hello-world         latest              e9ffedc8c286        4 minutes ago
 194MB
```

5. Run the newly built image. The `-p 80:80` option maps the exposed port 80 on the container to port 80 on the host system. For more information about **docker run**, go to the Docker run reference.

```
docker run -t -i -p 80:80 hello-world
```

> **Note**
>
> Output from the Apache web server is displayed in the terminal window. You can ignore the "`Could not reliably determine the fully qualified domain name`" message.

6. Open a browser and point to the server that is running Docker and hosting your container.

   - If you are using an EC2 instance, this is the **Public DNS** value for the server, which is the same address you use to connect to the instance with SSH. Make sure that the security group for your instance allows inbound traffic on port 80.
   - If you are running Docker locally, point your browser to http://localhost/.
   - If you are using **docker-machine** on a Windows or Mac computer, find the IP address of the VirtualBox VM that is hosting Docker with the **docker-machine ip** command, substituting *machine-name* with the name of the docker machine you are using.

     ```
     docker-machine ip machine-name
     ```

   You should see a web page with your "Hello World!" statement.

7. Stop the Docker container by typing **Ctrl + c**.

Step 2: Authenticate to the public registry

After you have installed and configured the Amazon CLI, authenticate the Docker CLI to your public registry. That way, the **docker** command can push to and pull images from an Amazon ECR public repository. The Amazon CLI provides a **get-login-password** command to simplify the authentication process.

To authenticate Docker to an Amazon ECR public registry with get-login-password, run the **aws ecr-public get-login-password --region us-east-1** command. The Amazon ECR Public registry requires authentication in the `us-east-1` Region, so you need to specify `--region us-east-1` each time you authenticate. The authentication token received gives you access to each public registry your IAM principal has access to. When passing the authentication token to the **docker login** command, use the value `AWS` for the username and specify `public.ecr.aws`, which is the common public registry URI.

> **Important**
>
> If you receive an error, install or upgrade to the latest version of the Amazon CLI. For more information, see Installing the Amazon Command Line Interface in the *Amazon Command Line Interface User Guide*.

```
aws ecr-public get-login-password --region us-east-1 | docker login --username AWS --
password-stdin public.ecr.aws
```

Step 3: Create a public repository

Now that you have an image to push to Amazon ECR Public, you can create a public repository. In this example, you create a public repository called `ecr-tutorial` to which you later push the `hello-world:latest` image. All public repositories that contain an image are publicly visible in the Amazon ECR Public Gallery so we will specify some catalog data for the repository.

Create a file named `repositorycatalogdata.json` with the following contents. For this tutorial we are going to include a repository logo, which is named `myrepoimage.png` and is in the same directory as the `repositorycatalogdata.json` file we are creating.

> **Note**
>
> When creating a repository logo, the supported image dimensions for both height and width should be a minimum of 60 pixels and a maximum of 2048 pixels. The maximum logo file size is 500 KB.

```
{
    "description": "This is a test repo for an Amazon ECR tutorial.",
    "architectures": [
        "x86"
    ],
    "operatingSystems": [
        "Linux"
    ],
    "logoImageBlob": "$(cat myrepoimage.png |base64 -w 0)",
    "aboutText": "This repository is used as a tutorial only.",
    "usageText": "This repository is not for public use."
}
```

Use the catalog data file we just created to run the following `create-repository` command. Your repository URI is included in the response, which you will need in the next step for pushing an image to the repository.

```
aws ecr-public create-repository \
```

```
    --repository-name ecr-tutorial \
    --catalog-data file://repositorycatalogdata.json \
    --region us-east-1
```

Step 4: Push an image to Amazon ECR Public

Now you can push your image to the Amazon ECR public repository you created in the previous section. You use the Docker CLI to push images, but there are a few prerequisites that must be satisfied for this to work properly:

- The Amazon ECR Public authorization token has been configured with **docker login**.
- The Amazon ECR public repository exists and the user has access to push to the repository.

After those prerequisites are met, you can push your image to your newly created repository in the default registry for your account.

To tag and push an image to Amazon ECR Public

1. List the images you have stored locally to identify the image to tag and push.

   ```
   docker images
   ```

   Output:

   ```
   REPOSITORY          TAG                 IMAGE ID            CREATED
    VIRTUAL SIZE
   hello-world         latest              e9ffedc8c286        4 minutes ago
    241MB
   ```

2. Tag the image to push to your repository with your public repository URI which was in the response to the `create-repository` call you made in the previous step.

   ```
   docker tag hello-world:latest public.ecr.aws/registry_alias/ecr-tutorial
   ```

3. Push the image.

   ```
   docker push public.ecr.aws/registry_alias/ecr-tutorial
   ```

   Output:

```
The push refers to a repository [public.ecr.aws/registry_alias/ecr-tutorial] (len:
 1)
e9ae3c220b23: Pushed
a6785352b25c: Pushed
0998bf8fb9e9: Pushed
0a85502c06c9: Pushed
latest: digest: sha256:215d7e4121b30157d8839e81c4e0912606fca105775bb0636b95EXAMPLE
 size: 1569
```

Step 5: Pull an image from the Amazon ECR Public Gallery

After your image has been pushed to your Amazon ECR public repository, you can pull it from other locations. It is considered best practice to authenticate prior to pulling images from the public gallery. If you need to reauthenticate, see Step 2: Authenticate to the public registry.

> **Note**
>
> Unauthenticated pulls are allowed, but have a lower rate limit than authenticated pulls. For more information, see Amazon ECR Public service quotas.

View your repository on the Amazon ECR Public Gallery.

```
https://gallery.ecr.aws/registry_alias/ecr-tutorial
```

```
docker pull public.ecr.aws/registry_alias/ecr-tutorial/hello-world:latest
```

Step 6: Delete a public image

If you decide that you no longer need or want an image in one of your repositories, you can delete it with the **batch-delete-image** command. To delete an image, you must specify the repository that it is in and either a `imageTag` or `imageDigest` value for the image. The example below deletes an image in the `hello-world` repository with the image tag `latest`.

```
aws ecr-public batch-delete-image \
      --repository-name ecr-tutorial \
```

```
      --image-ids imageTag=latest \
      --region us-east-1
```

Step 7: Delete a public repository

If you decide that you no longer need or want an entire repository of images, you can delete the repository. By default, you cannot delete a repository that contains images; however, the `--force` flag allows this. To delete a repository that contains images (and all the images within it), run the following command.

```
aws ecr-public delete-repository \
      --repository-name ecr-tutorial \
      --force \
      --region us-east-1
```

Amazon ECR public registries

Amazon ECR public registries host your container images in a highly available and scalable architecture, allowing you to deploy containers reliably for your applications. You can use your public registry to manage public image repositories consisting of Docker and Open Container Initiative (OCI) images. Each Amazon account is provided with a default public and private Amazon ECR registry. For information about private registries, see Amazon ECR registries in the *Amazon Elastic Container Registry User Guide.*

Topics

Public registry concepts

The following concepts apply to your public registry.

- A default alias is assigned to your public registry after creating your first public repository. A custom alias can be requested in the public registry settings in the Amazon ECR console.
- Each repository you create in your public registry is available publicly in the Amazon ECR Public Gallery. The Amazon ECR Public Gallery is available at `https://gallery.ecr.aws`. The URL to access a repository in your public registry on the Amazon ECR Public Gallery is `https://gallery.ecr.aws/`*`registry_alias`*`/`*`repository_name`*.

  > **Note**
  >
  > Any active alias for your public registry can be used. This includes both the default alias and custom alias for your public registry.

- The URI to use when pulling images from a repository in your public registry is `public.ecr.aws/`*`registry_alias`*`/`*`repository_name`*`:`*`image_tag`*.

> **Note**
>
> Any active alias for your public registry can be used. This includes both the default alias and custom alias for your public registry.

- By default, your account has read and write access to the repositories in your private registry. However, users require permissions to make calls to the Amazon ECR APIs and to push images to your repositories. Anyone will be able to pull images from your public repository from the Amazon ECR Public Gallery.

> **Important**
>
> If you've previously authenticated to Amazon ECR Public, if your auth token has expired you may receive an authentication error when attempting to do unauthenticated docker pulls from Amazon ECR Public. To resolve this issue, it may be necessary to run `docker logout public.ecr.aws` to avoid the error. This will result in an unauthenticated pull. For more information, see Authentication issues.

- You must authenticate your Docker client to your public registry so that you can use the **docker push** command to push images to the repositories in your public registry. For more information, see Registry authentication in Amazon ECR public.
- Repositories can be controlled with both IAM user access policies and repository policies. For more information about repository policies, see Public repository policies in Amazon ECR Public.

Registry authentication in Amazon ECR public

You can use the Amazon Web Services Management Console, the Amazon CLI, or the Amazon SDKs to create and manage public repositories. You can also use those methods to perform some actions on images, such as listing or deleting them. These clients use standard Amazon authentication methods. Although technically you can use the Amazon ECR Public API to push and pull images, you are much more likely to use the Docker CLI or a language-specific Docker library.

The Docker CLI does not support native IAM authentication methods. Additional steps must be taken so that Amazon ECR can authenticate and authorize Docker push and pull requests.

The following registry authentication methods are available.

Using an authorization token

The permission scope of an authorization token matches that of the IAM principal used to retrieve the authentication token. An authentication token is used to access any Amazon ECR public registry that your IAM principal has access to and is valid for 12 hours. The authentication token is also used to pull any images from a public repository on the Amazon ECR Public Gallery. To obtain an authorization token, you must use the GetAuthorizationToken API operation to retrieve a base64-encoded authorization token containing the username `AWS` and an encoded password. The Amazon CLI `get-login-password` command simplifies this by retrieving and decoding the authorization token which you can then pipe into a **docker login** command to authenticate.

To authenticate Docker to an Amazon ECR registry with get-login-password

To authenticate Docker to an Amazon ECR registry with get-login-password, run the **aws ecr-public get-login-password** command. When passing the authentication token to the **docker login** command, use the value `AWS` for the username and specify the Amazon ECR registry URI you want to authenticate to. When authenticating to a public registry, always authenticate to the `us-east-1` Region when using the Amazon CLI.

> **Important**
>
> If you receive an error, install or upgrade to the latest version of the Amazon CLI. For more information, see Installing the Amazon Command Line Interface in the *Amazon Command Line Interface User Guide*.

get-login-password (Amazon CLI)

```
aws ecr-public get-login-password --region us-east-1 | docker login --username AWS --password-stdin public.ecr.aws
```

Using HTTP API authentication

Amazon ECR Public supports the Docker Registry HTTP API, with the exception of the tags API. However, you must provide an authorization token with every HTTP request. You can add an HTTP authorization header using the `-H` option for **curl** and pass the authorization token provided by the **get-authorization-token** Amazon CLI command.

To authenticate with the Amazon ECR HTTP API

1. Retrieve an authorization token with the Amazon CLI and set it to an environment variable.

```
TOKEN=$(aws ecr-public get-authorization-token --region us-east-1 --output=text --
query 'authorizationData.authorizationToken')
```

2. To authenticate to the API, pass the $TOKEN variable to the -H option of **curl**. For example, the following command lists the manifest details for an image in an Amazon ECR public repository. For more information, see the Docker Registry HTTP API reference documentation.

```
curl -i -H "Authorization: Bearer $TOKEN" https://public.ecr.aws/
v2/registry_alias/repository_name/manifests/image_tag
```

Output:

```
HTTP/1.1 200 OK
Date: Mon, 30 Nov 2020 16:20:09 GMT
Content-Type: application/vnd.docker.distribution.manifest.v2+json
Content-Length: 1569
Connection: keep-alive
Docker-Distribution-Api-Version: registry/2.0

{
   "schemaVersion": 2,
   "mediaType": "application/vnd.docker.distribution.manifest.v2+json",
   "config": {
      "mediaType": "application/vnd.docker.container.image.v1+json",
      "size": 3854,
      "digest":
 "sha256:2599adbc30c28b1ee5f25a5ebabcc40a37eb81bd89e6f837989ce0fEXAMPLE"
   },
   "layers": [
      {
         "mediaType": "application/vnd.docker.image.rootfs.diff.tar.gzip",
         "size": 26708056,
         "digest":
 "sha256:f22ccc0b8772d8e1bcb40f137b373686bc27427a70c0e41dd22b3801EXAMPLE"
      },
      {
         "mediaType": "application/vnd.docker.image.rootfs.diff.tar.gzip",
         "size": 850,
```

```
            "digest":
 "sha256:3cf8fb62ba5ffb221a2edb2208741346eb4d2d99a174138e4afbb69ceEXAMPLE"
         },
         {
            "mediaType": "application/vnd.docker.image.rootfs.diff.tar.gzip",
            "size": 162,
            "digest":
 "sha256:e80c964ece6a3edf0db1cfc72ae0e6f0699fb776bbfcc92b708fbb945EXAMPLE"
         },
         {
            "mediaType": "application/vnd.docker.image.rootfs.diff.tar.gzip",
            "size": 56322511,
            "digest":
 "sha256:9f379ca76d09bc8d1647896e7dc2d9de21b772fd49cb9f21114de76EXAMPLE"
         },
         {
            "mediaType": "application/vnd.docker.image.rootfs.diff.tar.gzip",
            "size": 190,
            "digest":
 "sha256:d8a5f6eb23fabfe50ebb6facb8c46aa2b2ca0b3a455fe631c312034EXAMPLE"
         },
         {
            "mediaType": "application/vnd.docker.image.rootfs.diff.tar.gzip",
            "size": 207,
            "digest":
 "sha256:69c1ea2550a94189f95691ed2538c44a2635f988b7cf0d5425f5b4aEXAMPLE"
         }
      ]
}
```

Required IAM permissions for Amazon ECR public registries

When editing your Amazon ECR public registry settings to request a custom alias, the IAM principal must have permission to call the `ecr-public:PutRegistryAlias` API. This is a private API.

> **Note**
>
> Setting a **Display name** for your Amazon ECR public registry doesn't require any additional permissions.

The following IAM policy can be added as an inline policy to the principal performing the public registry edit. Replace the example Amazon account ID in this example with your own account ID.

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": "ecr-public:PutRegistryAlias",
            "Resource": "arn:aws:ecr-public::123456789012:registry/*"
        }
    ]
}
```

Updating registry settings in Amazon ECR public

Your public registry provides settings to configure a custom alias and display name.

By default, your public registry is assigned a **default alias** after your first public repository is created. You can request a **custom alias** for your registry, and if approved, both the default alias and custom alias can be used to access your public repositories. The registry **display name** appears on each repository in the Amazon ECR Public Gallery as well.

When requesting a custom alias, the following words or phrases should be avoided:

- An alias that includes `aws`, `amazon`, or the name of an Amazon service
- An alias using a company name for which you do not have permission to use
- Generic names, such as `test`, `public`, and `marketplace`
- Offensive, inappropriate, or non-inclusive words and phrases

Prerequisites

Before you can update your public registry settings in Amazon ECR, you must first have the required IAM permissions. See, Required IAM permissions for Amazon ECR public registries to ensure you have the necessary permissions before continuing with the steps outlined on this page.

Update your registry settings

Use the following steps to edit your public registry settings.

To edit public registry settings (Amazon Web Services Management Console)

1. Open the Amazon ECR console at https://console.amazonaws.cn/ecr/.
2. From the navigation bar, choose the Region to edit your public registry settings in.
3. In the navigation pane, choose **Registries**.
4. On the **Registries** page, select your **Public** registry and then choose **Edit**.
5. For **Custom alias**, enter a custom alias to request.
6. For **Display name**, enter a display name for your registry.
7. Choose **Save changes**.

Amazon ECR public repositories

Amazon Elastic Container Registry provides API operations to create, monitor, and delete public image repositories and set permissions that control who can push images to them. You can perform the same actions in the **Repositories** section of the Amazon ECR console. Amazon ECR integrates with the Docker CLI to push images from your development environments to your public repositories.

A public repository is open to pull images from and is visible on the Amazon ECR Public Gallery. When you create a public repository, you specify catalog data that helps users find and use your images. For more information about the Amazon ECR Public Gallery, see Amazon ECR Public Gallery.

Topics

Public repository concepts

- The public repositories that you create with images appear publicly on the Amazon ECR Public Gallery. Visit the Amazon ECR Public Gallery at https://gallery.ecr.aws. For more information, see Amazon ECR Public Gallery.
- By default, your account has read and write access to the repositories in your public registry. However, users require permissions to make calls to the Amazon ECR APIs and to push images to your repositories.
- Public repositories can be controlled with both IAM user access policies and repository policies. For more information, see Public repository policies in Amazon ECR Public.

Creating an Amazon ECR public repository to store images

Before you can push your Docker or Open Container Initiative (OCI) images to Amazon ECR, you must create a repository to store them in. Public repositories are visible on the Amazon ECR Public Gallery and are open to publicly pull images from. If you want to create a private repository instead, see Repositories in the *Amazon Elastic Container Registry User Guide*.

To create a public repository (Amazon Web Services Management Console)

1. Open the Amazon ECR console at https://console.amazonaws.cn/ecr/.
2. From the navigation bar, choose the Amazon Web Services Region to create your public repository in.
3. In the navigation pane, choose **Repositories**.
4. On the **Repositories** page, choose **Create repository**.
5. For **Visibility settings**, choose **Public**.
6. For **Repository name**, enter a unique name for your public repository. The repository name can be specified on its own (for example, `nginx-web-app`) or prepended with a namespace to group the repository into a category (for example, `project-a/nginx-web-app`).

   > **Note**
   >
   > The repository name may container a maximum of 205 characters. The name must start with a letter and can only contain lowercase letters, numbers, hyphens, underscores, periods and forward slashes. Using a double hyphen, double underscore, or double forward slash isn't supported.

7. For **Repository logo**, choose **Upload file** and select a local image file to use as the repository logo. Amazon ECR uploads your logo as a base64-encoded payload to a publicly available Amazon S3 bucket.

   > **Note**
   >
   > The repository logo is only publicly visible in the Amazon ECR Public Gallery for verified accounts. A verified account is an account that is Amazon Web Services Marketplace certified.

8. For **Short description** enter a description of the repository. The description field is displayed on the Amazon ECR Public Gallery in the search results and on the repository detail page.
9. For **Content types** select the operating system and system architecture tags to associate with the repository. These tags are publicly displayed in the Amazon ECR Public Gallery as badges on the repository and are used as search filters.
10. For **About**, enter a detailed description for the repository. This text should be in Github Flavored Markdown format. For format examples, see Specifying the repository catalog data in Amazon ECR public. This field is publicly visible on the Amazon ECR Public Gallery on the repository detail page.
11. For **Usage**, enter details about how to use the images in the repository. This text should be in Github Flavored Markdown format. For format examples, see Specifying the repository catalog data in Amazon ECR public. This field is publicly visible on the Amazon ECR Public Gallery on the repository detail page.
12. Choose **Create repository**.

Next steps

To view the steps to push an image to your repository, select the repository and choose **View push commands**. For more information about pushing an image to your repository, see Pushing an image to a public repository in Amazon ECR public.

Editing an Amazon ECR public repository

An existing public repository can be edited to change the catalog data details that are visible in the Amazon ECR Public Gallery.

To edit a repository

1. Open the Amazon ECR console at https://console.amazonaws.cn/ecr/repositories.
2. From the navigation bar, choose the Region that the repository to edit is in.
3. In the navigation pane, choose **Repositories**.
4. On the **Repositories** page, select the **Public** tab, and then select the repository to edit and choose **Edit**.
5. For **Repository logo**, if your repository doesn't have a logo, then choose **Upload file** and select a local image file to use as the repository logo. If your repository has a logo currently, choose **Replace file** to choose a new logo file. Choose **Reset** to reset your logo selection.

> **Note**
>
> The repository logo is only publicly visible in the Amazon ECR Public Gallery for verified accounts.

6. For **Short description** edit the description of the repository. The description field is displayed on the Amazon ECR Public Gallery in the search results and on the repository detail page.
7. For **Content types** select the operating system and system architecture tags to associate with the repository. These tags are publicly displayed in the Amazon ECR Public Gallery as badges on the repository and are used as search filters.
8. For **About**, enter a detailed description for the repository. This field is publicly visible on the Amazon ECR Public Gallery on the repository detail page. This text must be in the GitHub Flavored Markdown format. For examples, see Specifying the repository catalog data in Amazon ECR public.
9. For **Usage**, enter details about how to use the images in the repository. This field is publicly visible on the Amazon ECR Public Gallery on the repository detail page. This text must be in the GitHub Flavored Markdown format. For examples, see Specifying the repository catalog data in Amazon ECR public.
10. Choose **Save** to update the repository settings.

Specifying the repository catalog data in Amazon ECR public

When you create a public repository, you specify the catalog data that helps users find, understand, and use the images in the repository. The catalog data that you configure for a public repository includes a short description, the operating system and system architecture compatibilities, an optional logo, an **About** section that provides a more detailed description, and an **Usage** section that provides details on how to use the images.

When you specify a logo, the logo is specified as a blob that's a base64-encoded string. The supported image dimensions for both height and width must be at least 60 pixels but can be up to 2048 pixels long. The maximum file size is 500 KB. To generate a blob from an existing PNG file, run the following command.

```
cat myrepoimage.png | base64
```

The text for the **About** and **Usage** must be in the GitHub Flavored Markdown format. When using the API, SDK, or Amazon CLI to format the text, use `/n` to indicate a line break.

The following table provides examples for specifying certain element types in the `About` and `Usage` sections of your repository catalog data.

Examples

The following are examples of how to format the **About** and **Usage** repository catalog data so that it appears properly on the Amazon ECR Public Gallery.

Topics

Example: Headings

Headings are designated by the number sign (#). A single number sign and a space indicate a top-level heading, two number signs create a second-level heading, and three number signs create a third-level heading. This is illustrated in the following examples.

Amazon Web Services Management Console

The following example is the format for headings in the console.

```
# Heading level one

Body text

## Heading level two

Body text

### Heading level three
```

```
Body text
```

Amazon CLI

The following example is the format to use for headings in the Amazon CLI.

```
# Heading level one\n\nBody text\n\n## Heading level two\n\nBody text\n\n### Heading
 level three\n\nBody text\n\n#### Heading level four\n\nBody text
```

Example: Text formatting

You can use the following syntax to apply italics, bold, or strikethrough to text. The syntax is the same for both the console and the Amazon CLI.

```
*This text appears in italics*
```

```
**This text appears in bold**
```

```
~~This text appears in strikethrough~~
```

Example: Code formatting

You can use the following syntax for single-line and multi-line code blocks. The syntax is the same for both the console and the Amazon CLI.

```
`code text`
```

```
```
multi-line
codeblock
```
```

Example: Links

You can create a clickable web link by surrounding the `link_text` with square brackets and surrounding the full URL with parentheses. The syntax for is the same for both the console and the Amazon CLI.

```
[What is Amazon Elastic Container Registry?](https://docs.aws.amazon.com/AmazonECR/
latest/userguide/what-is-ecr.html)
```

Example: Lists

To format lines as part of a bulleted list, enter them on separate lines with a single asterisk and then a space at the beginning of the line. To format lines as part of a numbered list, enter them on separate lines with a number, period, and space at the beginning of the line.

Amazon Web Services Management Console

The following example is the format to use for lists in the console.

```
* Bullet 1
* Bullet 2
* Bullet 3
```

```
1. Step one
2. Step two
3. Step three
```

Amazon CLI

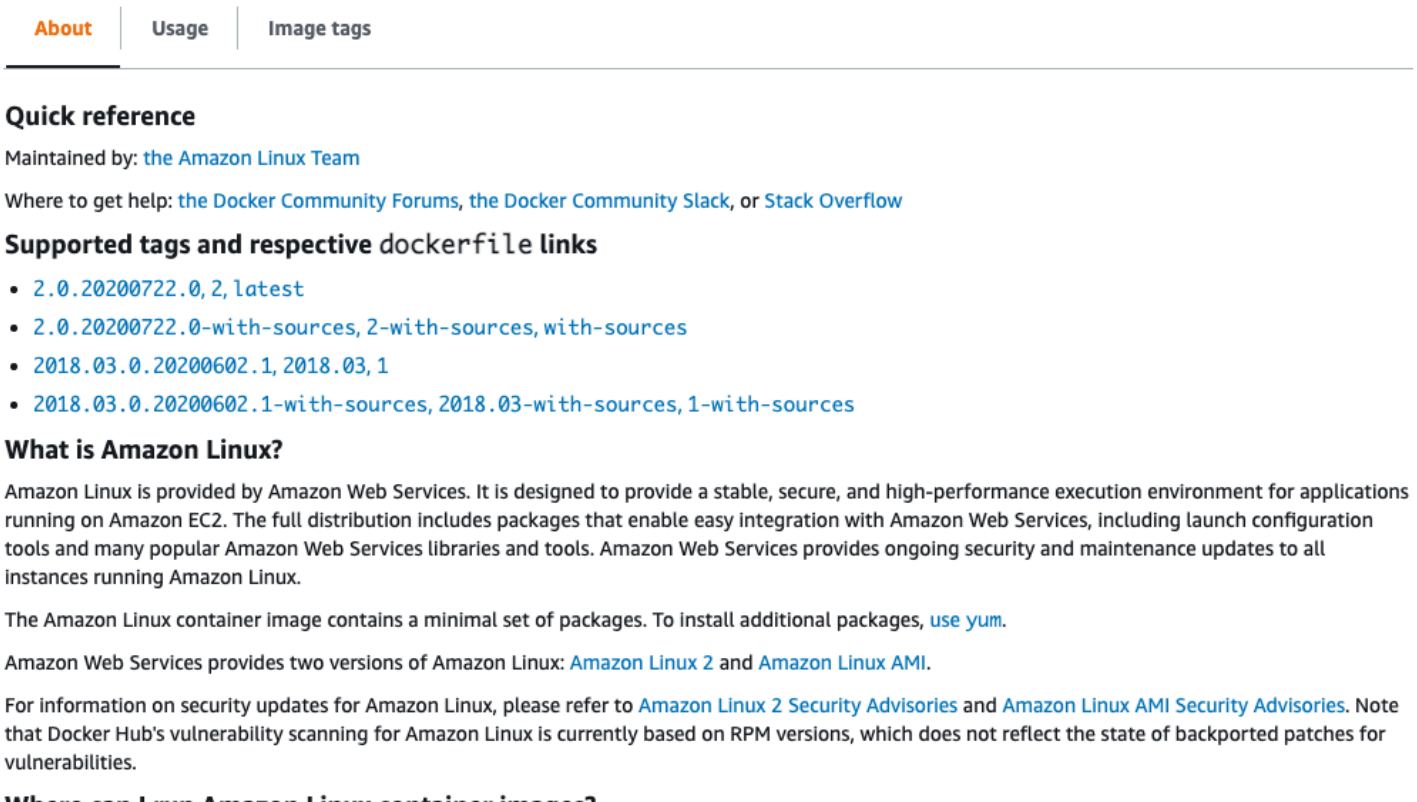
The following example is the format to use for lists in the Amazon CLI.

```
* Bullet 1\n* Bullet 2\n* Bullet 3
```

```
1. Step one\n2. Step two\n3. Step three
```

Example: Full About description

The following screenshot from the Amazon ECR Public Gallery displays how an **About** section is constructed. This section covers the format to use for this text when using both the Amazon Web Services Management Console and the Amazon CLI.



About | Usage | Image tags

Quick reference

Maintained by: the Amazon Linux Team

Where to get help: the Docker Community Forums, the Docker Community Slack, or Stack Overflow

Supported tags and respective `dockerfile` links

- `2.0.20200722.0`, `2`, `latest`
- `2.0.20200722.0-with-sources`, `2-with-sources`, `with-sources`
- `2018.03.0.20200602.1`, `2018.03`, `1`
- `2018.03.0.20200602.1-with-sources`, `2018.03-with-sources`, `1-with-sources`

What is Amazon Linux?

Amazon Linux is provided by Amazon Web Services. It is designed to provide a stable, secure, and high-performance execution environment for applications running on Amazon EC2. The full distribution includes packages that enable easy integration with Amazon Web Services, including launch configuration tools and many popular Amazon Web Services libraries and tools. Amazon Web Services provides ongoing security and maintenance updates to all instances running Amazon Linux.

The Amazon Linux container image contains a minimal set of packages. To install additional packages, use `yum`.

Amazon Web Services provides two versions of Amazon Linux: Amazon Linux 2 and Amazon Linux AMI.

For information on security updates for Amazon Linux, please refer to Amazon Linux 2 Security Advisories and Amazon Linux AMI Security Advisories. Note that Docker Hub's vulnerability scanning for Amazon Linux is currently based on RPM versions, which does not reflect the state of backported patches for vulnerabilities.

Where can I run Amazon Linux container images?

You can run Amazon Linux container images in any Docker based environment. Examples include, your laptop, in Amazon EC2 instances, and Amazon ECS clusters.

License

Amazon Linux is available under the GNU General Public License, version 2.0. Individual software packages are available under their own licenses; run `rpm -qi [package name]` or check `/usr/share/doc/[package name]-*` and `/usr/share/licenses/[package name]-*` for details.

As with all Docker images, these likely also contain other software which may be under other licenses (such as Bash, etc from the base distribution, along with any direct or indirect dependencies of the primary software being contained).

Some additional license information which was able to be auto-detected might be found in the `repo-info` repository's `amazonlinux/` directory.

Security

For information on security updates for Amazon Linux, please refer to Amazon Linux 2 Security Advisories and Amazon Linux AMI Security Advisories. Note that Docker Hub's vulnerability scanning for Amazon Linux is currently based on RPM versions, which does not reflect the state of backported patches for vulnerabilities.

Amazon Web Services Management Console

The following is the format to use for the preceding screenshot in the console.

```
## Quick reference

Maintained by: [the Amazon Linux Team](https://github.com/aws/amazon-linux-docker-
images)
```

```
Where to get help: [the Docker Community Forums](https://forums.docker.com/), [the
 Docker Community Slack](https://dockr.ly/slack), or [Stack Overflow](https://
stackoverflow.com/search?tab=newest&q=docker)

## Supported tags and respective `dockerfile` links

* [`2.0.20200722.0`, `2`, `latest`](https://github.com/amazonlinux/container-images/
blob/03d54f8c4d522bf712cffd6c8f9aafba0a875e78/Dockerfile)
* [`2.0.20200722.0-with-sources`, `2-with-sources`, `with-sources`](https://github.com/
amazonlinux/container-images/blob/1e7349845e029a2e6afe6dc473ef17d052e3546f/Dockerfile)
* [`2018.03.0.20200602.1`, `2018.03`, `1`](https://github.com/amazonlinux/container-
images/blob/f10932e08c75457eeb372bf1cc47ea2a4b8e98c8/Dockerfile)
* [`2018.03.0.20200602.1-with-sources`, `2018.03-with-sources`,
 `1-with-sources`](https://github.com/amazonlinux/container-images/
blob/8c9ee491689d901aa72719be0ec12087a5fa8faf/Dockerfile)

## What is Amazon Linux?

Amazon Linux is provided by Amazon Web Services. It is designed to provide a stable,
 secure, and high-performance execution environment for applications running on Amazon
 EC2. The full distribution includes packages that enable easy integration with Amazon
 Web Services, including launch configuration tools and many popular Amazon libraries
 and tools. Amazon provides ongoing security and maintenance updates to all instances
 running Amazon Linux.

The Amazon Linux container image contains a minimal set of packages. To install
 additional packages, [use `yum`](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/
managing-software.html).

Amazon Web Services provides two versions of Amazon Linux: [Amazon Linux 2](https://
aws.amazon.com/amazon-linux-2/) and [Amazon Linux AMI](https://aws.amazon.com/amazon-
linux-ami/).

For information on security updates for Amazon Linux, please refer to [Amazon Linux
 2 Security Advisories](https://alas.aws.amazon.com/alas2.html) and [Amazon Linux
 AMI Security Advisories](https://alas.aws.amazon.com/). Note that Docker Hub's
 vulnerability scanning for Amazon Linux is currently based on RPM versions, which does
 not reflect the state of backported patches for vulnerabilities.

## Where can I run Amazon Linux container images?

You can run Amazon Linux container images in any Docker based environment. Examples
 include, your laptop, in Amazon EC2 instances, and Amazon ECS clusters.
```

```
## License

Amazon Linux is available under the [GNU General Public License, version 2.0](https://
github.com/aws/amazon-linux-docker-images/blob/master/LICENSE). Individual software
 packages are available under their own licenses; run `rpm -qi [package name]` or
 check `/usr/share/doc/[package name]-*` and `/usr/share/licenses/[package name]-*` for
 details.

As with all Docker images, these likely also contain other software which may be under
 other licenses (such as Bash, etc from the base distribution, along with any direct or
 indirect dependencies of the primary software being contained).

Some additional license information which was able to be auto-detected might be found
 in [the `repo-info` repository's `amazonlinux/` directory](https://github.com/docker-
library/repo-info/tree/master/repos/amazonlinux).

## Security

For information on security updates for Amazon Linux, please refer to [Amazon Linux
 2 Security Advisories](https://alas.aws.amazon.com/alas2.html) and [Amazon Linux
 AMI Security Advisories](https://alas.aws.amazon.com/). Note that Docker Hub's
 vulnerability scanning for Amazon Linux is currently based on RPM versions, which does
 not reflect the state of backported patches for vulnerabilities.
```

Amazon CLI

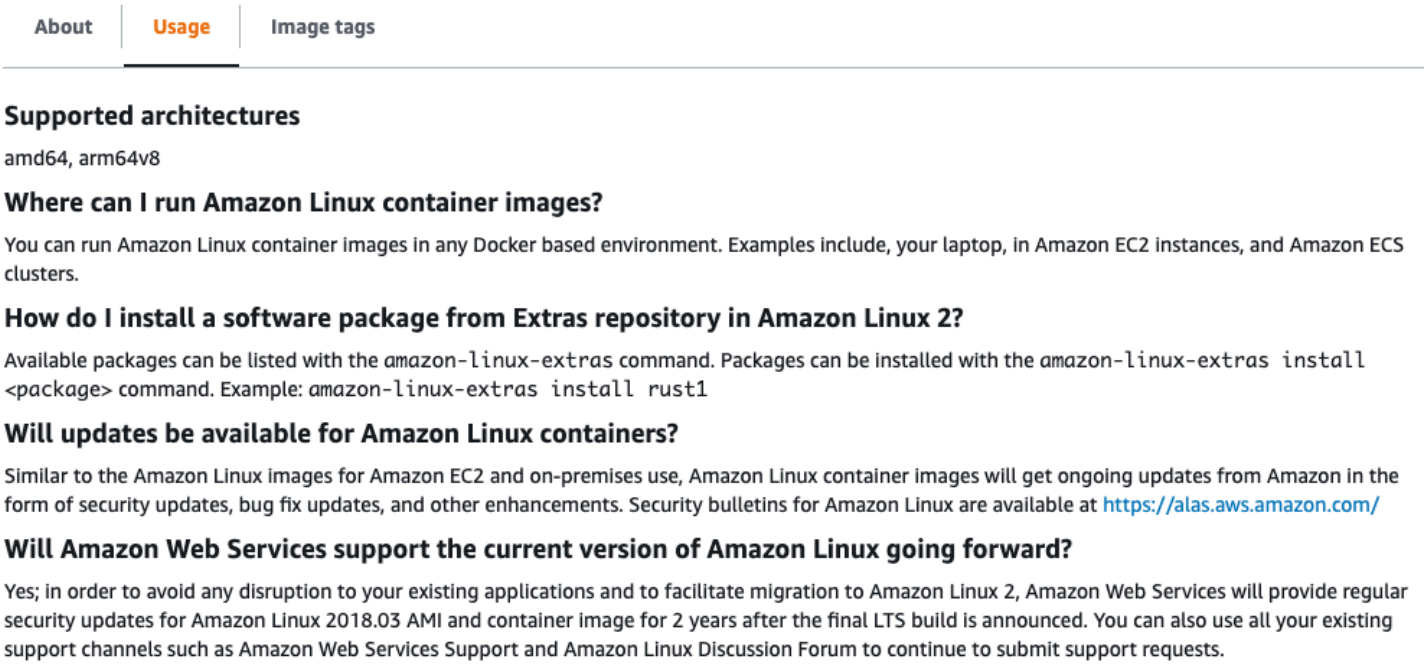
The following is the format to use for the preceding screenshot in the Amazon CLI.

```
## Quick reference\n\nMaintained by: [the Amazon Linux Team](https://github.com/
aws/amazon-linux-docker-images)\n\nWhere to get help: [the Docker Community
 Forums](https://forums.docker.com/), [the Docker Community Slack](https://
dockr.ly/slack), or [Stack Overflow](https://stackoverflow.com/search?
tab=newest&q=docker)\n\n## Supported tags and respective `dockerfile` links
\n\n* [`2.0.20200722.0`, `2`, `latest`](https://github.com/amazonlinux/
container-images/blob/03d54f8c4d522bf712cffd6c8f9aafba0a875e78/Dockerfile)\n*
 [`2.0.20200722.0-with-sources`, `2-with-sources`, `with-sources`](https://
github.com/amazonlinux/container-images/blob/1e7349845e029a2e6afe6dc473ef17d052e3546f/
Dockerfile)\n* [`2018.03.0.20200602.1`, `2018.03`, `1`](https://github.com/
amazonlinux/container-images/blob/f10932e08c75457eeb372bf1cc47ea2a4b8e98c8/
Dockerfile)\n* [`2018.03.0.20200602.1-with-sources`, `2018.03-with-sources`,
 `1-with-sources`](https://github.com/amazonlinux/container-images/
blob/8c9ee491689d901aa72719be0ec12087a5fa8faf/Dockerfile)\n\n## What is Amazon Linux?\n
\nAmazon Linux is provided by Amazon Web Services (Amazon). It is designed to provide
 a stable, secure, and high-performance execution environment for applications running
```

```
 on Amazon EC2. The full distribution includes packages that enable easy integration
 with Amazon, including launch configuration tools and many popular Amazon libraries
 and tools. Amazon provides ongoing security and maintenance updates to all instances
 running Amazon Linux.\n\nThe Amazon Linux container image contains a minimal set of
 packages. To install additional packages, [use `yum`](https://docs.aws.amazon.com/
AWSEC2/latest/UserGuide/managing-software.html).\n\nAmazon provides two versions of
 Amazon Linux: [Amazon Linux 2](https://aws.amazon.com/amazon-linux-2/) and [Amazon
 Linux AMI](https://aws.amazon.com/amazon-linux-ami/).\n\nFor information on security
 updates for Amazon Linux, please refer to [Amazon Linux 2 Security Advisories]
(https://alas.aws.amazon.com/alas2.html) and [Amazon Linux AMI Security Advisories]
(https://alas.aws.amazon.com/). Note that Docker Hub's vulnerability scanning for
 Amazon Linux is currently based on RPM versions, which does not reflect the state of
 backported patches for vulnerabilities.\n\n## Where can I run Amazon Linux container
 images?\n\nYou can run Amazon Linux container images in any Docker based environment.
 Examples include, your laptop, in Amazon EC2 instances, and Amazon ECS clusters.
\n\n## License\n\nAmazon Linux is available under the [GNU General Public License,
 version 2.0](https://github.com/aws/amazon-linux-docker-images/blob/master/LICENSE).
 Individual software packages are available under their own licenses; run `rpm -qi
 [package name]` or check `/usr/share/doc/[package name]-*` and `/usr/share/licenses/
[package name]-*` for details.\n\nAs with all Docker images, these likely also contain
 other software which may be under other licenses (such as Bash, etc from the base
 distribution, along with any direct or indirect dependencies of the primary software
 being contained).\n\nSome additional license information which was able to be auto-
detected might be found in [the `repo-info` repository's `amazonlinux/` directory]
(https://github.com/docker-library/repo-info/tree/master/repos/amazonlinux).\n\n##
 Security\n\nFor information on security updates for Amazon Linux, please refer to
 [Amazon Linux 2 Security Advisories](https://alas.aws.amazon.com/alas2.html) and
 [Amazon Linux AMI Security Advisories](https://alas.aws.amazon.com/). Note that Docker
 Hub's vulnerability scanning for Amazon Linux is currently based on RPM versions,
 which does not reflect the state of backported patches for vulnerabilities.
```

Example: Full Usage description

The following screenshot from the Amazon ECR Public Gallery displays how an **Usage** section is constructed. This section covers how to format this text using both the Amazon Web Services Management Console and the Amazon CLI.



Amazon Web Services Management Console

The following is the format to use for the preceding screenshot in the console.

```
## Supported architectures

amd64, arm64v8

## Where can I run Amazon Linux container images?

You can run Amazon Linux container images in any Docker based environment. Examples
 include, your laptop, in Amazon EC2 instances, and Amazon ECS clusters.

## How do I install a software package from Extras repository in Amazon Linux 2?

Available packages can be listed with the `amazon-linux-extras` command. Packages
 can be installed with the `amazon-linux-extras install <package>` command. Example:
 `amazon-linux-extras install rust1`

## Will updates be available for Amazon Linux containers?

Similar to the Amazon Linux images for Amazon EC2 and on-premises use, Amazon Linux
 container images will get ongoing updates from Amazon in the form of security updates,
 bug fix updates, and other enhancements. Security bulletins for Amazon Linux are
 available at https://alas.aws.amazon.com/
```

```
## Will Amazon Web Services support the current version of Amazon Linux going forward?

Yes; in order to avoid any disruption to your existing applications and to facilitate
 migration to Amazon Linux 2, Amazon will provide regular security updates for Amazon
 Linux 2018.03 AMI and container image for 2 years after the final LTS build is
 announced. You can also use all your existing support channels such as Amazon Web
 Services Support and Amazon Linux Discussion Forum to continue to submit support
 requests.
```

Amazon CLI

The following is the format to use for the preceding screenshot in the Amazon CLI.

```
## Supported architectures\n\namd64, arm64v8\n\n## Where can I run Amazon Linux
 container images?\n\nYou can run Amazon Linux container images in any Docker based
 environment. Examples include, your laptop, in Amazon EC2 instances, and ECS clusters.
\n\n## How do I install a software package from Extras repository in Amazon Linux 2?
\n\nAvailable packages can be listed with the `amazon-linux-extras` command. Packages
 can be installed with the `amazon-linux-extras install <package>` command. Example:
 `amazon-linux-extras install rust1`\n\n## Will updates be available for Amazon Linux
 containers?\n\nSimilar to the Amazon Linux images for Amazon EC2 and on-premises use,
 Amazon Linux container images will get ongoing updates from Amazon in the form of
 security updates, bug fix updates, and other enhancements. Security bulletins for
 Amazon Linux are available at https://alas.aws.amazon.com/\n\n## Will Amazon Web
 Services Support the current version of Amazon Linux going forward?\n\nYes; in order
 to avoid any disruption to your existing applications and to facilitate migration to
 Amazon Linux 2, Amazon will provide regular security updates for Amazon Linux 2018.03
 AMI and container image for 2 years after the final LTS build is announced. You can
 also use all your existing support channels such as Amazon Web Services Support and
 Amazon Linux Discussion Forum to continue to submit support requests.
```

Viewing the contents and details of a repository in Amazon ECR public

After you create a public repository, you can view details about it in the Amazon Web Services Management Console. For each image in the repository, you can view the image size, the URI for pulling the image, the SHA digest, the image tags, and the time when the image was last pushed. You can review the catalog data for the Amazon ECR Public Gallery. You can also see the repository permission policies that are associated with the repository.

> **Note**
>
> Beginning with Docker version 1.9, the Docker client compresses image layers before pushing them to a V2 Docker registry. The output of the **docker images** command shows the uncompressed image size. Therefore, the image size that's returned might be larger than the image sizes that are shown in the Amazon Web Services Management Console.

To view public repository information

1. Open the Amazon ECR console at https://console.amazonaws.cn/ecr/repositories.
2. From the navigation bar, choose the Region that the repository to view is in.
3. In the navigation pane, choose **Repositories**.
4. On the **Repositories** page, select the **Public** tab, and then choose the repository to view the details of.
5. On the **Repositories >** ***repository_name*** page, choose **View public listing** to navigate to the repository detail page in the Amazon ECR Public Gallery in a new tab or use the navigation bar to view more details about the repository.
   - Choose **Images** to view information about the images in the repository. If there are untagged images that you want to delete, you can select the box to the left of the repositories to delete and choose **Delete**. For more information, see Deleting an image in a public repository in Amazon ECR public.
   - Choose **Gallery detail** to view the public catalog data for the repository.
   - Choose **Permissions** to view the repository policies that are applied to the repository. For more information, see Public repository policies in Amazon ECR Public.

Deleting a public repository policy statement Amazon ECR public

If you're finished using a repository, you can delete it. When you delete a repository in the Amazon Web Services Management Console, all of the images that are contained in the repository are also deleted. This action can't be undone.

To delete a public repository

1. Open the Amazon ECR console at https://console.amazonaws.cn/ecr/repositories.
2. From the navigation bar, choose the Amazon Web Services Region that contains the repository to delete.
3. In the navigation pane, choose **Repositories**.
4. On the **Repositories** page, select the **Public** tab, and then select the repository to delete and choose **Delete**.
5. In the **Delete *repository_name*** window, double check the repositories that you selected to delete and choose **Delete**.

> **Important**
>
> Any images in the selected repositories are also deleted.

Public repository policies in Amazon ECR Public

Amazon ECR uses resource-based permissions to control access to public repositories. When a public repository is created, it is publicly visible on the Amazon ECR Public Gallery and anyone can pull images from the repository. By default however, only the repository owner has access to push to the repository. With resource-based permissions, you specify which users, or roles have access to push to a public repository and what additional actions they can perform on it. You can apply a policy document to allow additional permissions to your repository.

> **Note**
>
> All public repositories are visible on the Amazon ECR Public Gallery. Using a repository policy to deny access to view or pull from a public repository is not supported.

Repository policies vs IAM policies

Amazon ECR public repository policies are a subset of IAM policies that are both scoped for and specifically used for controlling access to individual Amazon ECR repositories. In general, you use IAM policies to apply permissions for the entire Amazon ECR service. However, you can also use IAM policies to control access to specific resources.

For determining which actions a specific IAM user or role might perform on a repository, you use both Amazon ECR repository policies and IAM policies. If a user or role is allowed to perform an action through a repository policy but is denied permission through an IAM policy, the action is denied. Similarly, if a user or role is denied permission through an IAM policy even though that identity is allowed to perform an action, the action is denied. You can grant a user or role permission for an action through either a repository policy or an IAM policy, but you can't grant permission both ways.

Important

Amazon ECR requires that users have permission to make calls to the `ecr-public:GetAuthorizationToken` and `sts:GetServiceBearerToken` API through an IAM policy before they can authenticate to a registry and push any images to an Amazon ECR repository.

You can use either of these policy types to control access to your public repositories, as shown in the following examples.

This example shows an Amazon ECR public repository policy, which allows for a specific IAM user to describe the repository and the images within the repository.

```
{
  "Version": "2008-10-17",
  "Statement": [{
    "Sid": "ECR Public Repository Policy",
    "Effect": "Allow",
    "Principal": {
      "AWS": "arn:aws:iam::account-id:user/username"
    },
    "Action": [
       "ecr-public:DescribeImages",
       "ecr-public:DescribeRepositories"
    ]
  }]
}
```

This example shows an IAM policy that achieves the same goal as the preceding example. In this example, the policy is scoped to a public repository (specified by the full Amazon Resource Name

(ARN) of the public repository) using the resource parameter. For more information about ARN format, see Resources.

```
{
  "Version": "2012-10-17",
  "Statement": [{
    "Sid": "ECR Public Repository Policy",
    "Effect": "Allow",
    "Principal": {
      "AWS": "arn:aws:iam::account-id:user/username"
    },
    "Action": [
      "ecr-public:DescribeImages",
      "ecr-public:DescribeRepositories"
    ],
    "Resource": [
      "arn:aws:ecr-public::account-id:repository/repository-name"
    ]
    }]
}
```

Topics

- Setting a repository policy statement in Amazon ECR Public
- Deleting a public repository policy statement in Amazon ECR Public
- Public repository policy examples in Amazon ECR Public

Setting a repository policy statement in Amazon ECR Public

You can add an access policy statement to a public repository in the Amazon Web Services Management Console by following these steps. You can add multiple policy statements per public repository. For example policies, see Public repository policy examples in Amazon ECR Public.

> **Important**
>
> Amazon ECR requires that users have permission to make calls to the `ecr-public:GetAuthorizationToken` and `sts:GetServiceBearerToken` API through an IAM policy before they can authenticate to a registry and push any images to an Amazon ECR repository.

To set a repository policy statement

1. Open the Amazon ECR console at https://console.amazonaws.cn/ecr/repositories.
2. From the navigation bar, choose the Amazon Web Services Region that contains the repository to set a policy statement on.
3. In the navigation pane, choose **Repositories**.
4. On the **Repositories** page, select the **Public** tab, and then choose the repository to set a policy statement on.
5. In the navigation pane, choose **Permissions**, **Edit**.
6. On the **Edit permissions** page, choose **Add statement**.
7. For **Statement name**, enter a name for the statement.
8. For **Effect**, choose whether the policy statement results in an allow or an explicit deny.

   > **Note**
   >
   > All public repositories are visible on the Amazon ECR Public Gallery. Using a repository policy to deny access to view or pull from a public repository is not supported.

9. For **Principal**, choose the scope to apply the policy statement to. For more information, see Amazon JSON Policy Elements: Principal in the *IAM User Guide*.

   - You can apply the statement to all authenticated Amazon users by selecting the **Everyone (*)** check box.
   - For **Service principal**, specify the service principal name (for example, `ecs.amazonaws.com`) to apply the statement to a specific service.
   - For **Amazon Account IDs**, specify an Amazon Web Services account number (for example, `111122223333`) to apply the statement to all users under a specific Amazon Web Services account. Multiple accounts can be specified by using a comma-separated list.
   - For **IAM Entities**, select the roles or users under your Amazon Web Services account to apply the statement to.

> **Note**
>
> For more complicated repository policies that are not currently supported in the Amazon Web Services Management Console, you can apply the policy with the **set-repository-policy** Amazon CLI command.

10. For **Actions**, choose the scope of the Amazon ECR API operations that the policy statement applies to from the list of individual API operations.
11. When you're finished, choose **Save** to set the policy.
12. Repeat the previous step for each repository policy to add.

Deleting a public repository policy statement in Amazon ECR Public

If you no longer want an existing repository policy statement to apply to a repository, you can delete it.

To delete a repository policy statement

1. Open the Amazon ECR console at https://console.amazonaws.cn/ecr/repositories.
2. From the navigation bar, choose the Region that contains the repository to delete a policy statement from.
3. In the navigation pane, choose **Repositories**.
4. On the **Repositories** page, select the **Public** tab, and then choose the repository to delete a policy statement from.
5. In the navigation pane, choose **Permissions**, **Edit**.
6. On the **Edit permissions** page, choose **Delete**.

Public repository policy examples in Amazon ECR Public

The following examples show policy statements that you use to control the permissions that users have to your public repositories.

Note

All public repositories are visible on the Amazon ECR Public Gallery. Using a repository policy to deny access to view or pull from a public repository is not supported.

Important

Amazon ECR requires that users have permission to make calls to the `ecr-public:GetAuthorizationToken` and `sts:GetServiceBearerToken` API through an IAM policy before they can authenticate to a registry and push any images to an Amazon ECR repository.

Example: Allow an IAM user within your account

The following repository policy allows users within your account to push images.

```
{
    "Version": "2008-10-17",
    "Statement": [
        {
            "Sid": "AllowPush",
            "Effect": "Allow",
            "Principal": {
                "AWS": [
                    "arn:aws:iam::account-id:user/push-pull-user-1",
                    "arn:aws:iam::account-id:user/push-pull-user-2"
                ]
            },
            "Action": [
                "ecr-public:BatchCheckLayerAvailability",
                "ecr-public:PutImage",
                "ecr-public:InitiateLayerUpload",
                "ecr-public:UploadLayerPart",
                "ecr-public:CompleteLayerUpload"
            ]
        }
    ]
}
```

Example: Allow another account

The following repository policy allows a specific account to push images.

```
{
    "Version": "2008-10-17",
    "Statement": [
        {
            "Sid": "AllowCrossAccountPush",
            "Effect": "Allow",
            "Principal": {
                "AWS": "arn:aws:iam::account-id:root"
            },
            "Action": [
                "ecr-public:BatchCheckLayerAvailability",
                "ecr-public:PutImage",
                "ecr-public:InitiateLayerUpload",
                "ecr-public:UploadLayerPart",
                "ecr-public:CompleteLayerUpload"
            ]
        }
    ]
}
```

Tag an Amazon ECR Public repository

To help you manage your Amazon ECR Public repositories, you can optionally assign your own metadata to each repository by using *tags*. This topic provides an overview about tags and how to create them.

Tag basics

A tag is a label that you assign to an Amazon resource. Each tag consists of a *key* and an optional *value*. You define both of them.

You can use tags to categorize your Amazon resources in different ways, for example, by purpose, owner, or environment. This is useful when you have many resources of the same type. This is because you can quickly identify a specific resource based on the tags you've assigned to it. For example, you can define a set of tags for your account's Amazon ECR Public repositories to track each repository's owner.

We recommend that you devise a set of tag keys that meets your specific needs. Using a consistent set of tag keys can help you keep better track of your resources and find specific resources quickly. That is, you can search and filter the resources based on the specific tags that you add.

Tags don't have any semantic meaning to Amazon ECR and are interpreted strictly as a string of characters. Tags aren't automatically assigned to your resources. You can edit tag keys and values, and you can remove tags from a resource at any time. You can set the value of a tag to an empty string. However, you can't set the value of a tag to null. If you add a tag that has the same key as an existing tag on that resource, the new value overwrites the old value. If you delete a resource, any tags for the resource are also deleted.

You can work with tags using the Amazon Web Services Management Console, the Amazon CLI, and the Amazon ECR Public API.

If you're using Amazon Identity and Access Management (IAM), you can control which users in your Amazon Web Services account have permission to manage tags.

Tagging your resources

You can tag new or existing Amazon ECR Public repositories.

If you're using the Amazon ECR console, you can apply tags to new resources when they're created or to existing resources by using the **Tags** option on the navigation pane at any time.

If you're using the Amazon ECR Public API, the Amazon CLI, or an Amazon SDK, you can apply tags to new repositories using the `tags` parameter on the `CreateRepository` API action or use the `TagResource` API action to apply tags to existing resources. For more information, see TagResource.

Additionally, if tags can't be applied when a repository is created, the repository creation process is rolled back. This ensures that repositories are either created with tags or not created at all and that no repositories are left untagged at any time. By tagging repositories when they're created, you eliminate the need to run custom tagging scripts after the repository is created.

Adding tags to a public repository in Amazon ECR public

You can add tags to a public repository.

For information about names and best practices for tags, see Tag naming limits and requirements and Best practices in the *Tagging Amazon Resources User Guide*.

When you select a specific repository in the Amazon ECR console, you can view the tags by selecting **Tags** in the navigation pane.

Amazon Web Services Management Console

To add a tag to a public repository

1. Open the Amazon ECR console at https://console.amazonaws.cn/ecr/.
2. From the navigation bar, select the Amazon Web Services Region to use.
3. In the navigation pane, choose **Repositories**.
4. On the **Repositories** page, on the **Public** tab, choose the repository to view.
5. On the **Repositories >** ***repository_name*** page, select **Tags** from the navigation pane.
6. On the **Tags** page, select **Add tags**, **Add tag**.
7. On the **Edit Tags** page, specify the key and value for each tag, and then choose **Save**.

Amazon CLI

You can add or overwrite one or more tags by using the Amazon CLI or an API.

- Amazon CLI - tag-resource
- API action - TagResource

The following examples show how to manage tags using the Amazon CLI.

Example 1: Tag an existing public repository

The following command tags an existing public repository.

```
aws ecr-public tag-resource \
      --resource-arn arn:aws:ecr-public::account_id:repository/repository_name \
      --tags Key=stack,Value=dev \
      --region us-east-1
```

Example 2: Tag an existing public repository with multiple tags

The following command tags an existing repository.

```
aws ecr-public tag-resource \
```

```
      --resource-arn arn:aws:ecr-public::account_id:repository/repository_name \
      --tags Key=key1,Value=value1 Key=key2,Value=value2 Key=key3,Value=value3 \
      --region us-east-1
```

Example 3: List tags for a public repository

The following command lists the tags that are associated with an existing public repository.

```
aws ecr-public list-tags-for-resource \
      --resource-arn arn:aws:ecr-public::account_id:repository/repository_name \
      --region us-east-1
```

Example 4: Create a public repository and apply a tag

The following command creates a public repository that's named `test-repo` and adds a tag with key `team` and value `devs`.

```
aws ecr-public create-repository \
      --repository-name test-repo \
      --tags Key=team,Value=devs \
      --region us-east-1
```

Deleting tags from a public repository in Amazon ECR public

You can delete tags from an individual resource.

Amazon Web Services Management Console

1. Open the Amazon ECR console at https://console.amazonaws.cn/ecr/.
2. From the navigation bar, select the Region to use.
3. On the **Repositories** page, on the **Public** tab, choose the repository to view.
4. On the **Repositories >** ***repository_name*** page, select **Tags** from the navigation pane.
5. On the **Tags** page, select **Edit**.
6. On the **Edit tags** page, select **Remove** for each tag you want to delete, and choose **Save**.

Amazon CLI

You can delete one or more tags by using the Amazon CLI or an API.

- Amazon CLI - untag-resource
- API action - UntagResource

The following example shows how to delete a tag from an existing public repository.

```
aws ecr-public untag-resource \
      --resource-arn arn:aws:ecr-public::account_id:repository/repository_name \
      --tag-keys tag_key \
      --region us-east-1
```

Amazon ECR Public images

Amazon ECR Public is a fully-managed service provided by Amazon that allows you to store, manage, and deploy Docker images, Open Container Initiative (OCI) images, and OCI compatible artifacts in public repositories. You can use the Docker CLI and other compatible clients to push and pull images to and from your Amazon ECR public repositories. Once stored, you can easily deploy these container images to various environments like Amazon ECS, Amazon EKS, or on-premises infrastructure.

Amazon ECR public provides features for managing the lifecycle of your container images, including tracking versions, applying tags, and controlling access to your public repositories. Amazon ECR public repositories are globally available, allowing you to distribute and consume container images from anywhere in the world.

> **Important**
>
> Amazon ECR requires that users have permission to make calls to the `ecr-public:GetAuthorizationToken` and `sts:GetServiceBearerToken` API through an IAM policy before they can authenticate to a registry and push any images to an Amazon ECR repository.

Topics

Pushing an image to a public repository in Amazon ECR public

You can push your Docker images to an Amazon ECR public repository with the **docker push** command.

> **Important**
>
> Amazon ECR requires that users have permission to make calls to the `ecr-public:GetAuthorizationToken` and `sts:GetServiceBearerToken` API through an IAM policy before they can authenticate to a registry and push any images to an Amazon ECR repository.

Amazon ECR Public also supports creating and pushing Docker manifest lists which are used for multi-architecture images. Each image referenced in a manifest list must already be pushed to your repository. For more information, see Pushing a multi-architecture image to a public repository in Amazon ECR public.

To push a Docker image to an Amazon ECR public repository

1. Authenticate your Docker client to the Amazon ECR public registry to which you intend to push your image. Authentication tokens are valid for 12 hours. For more information, see Registry authentication in Amazon ECR public.
2. If your public repository does not exist in the registry you intend to push to yet, create it. For more information, see Creating an Amazon ECR public repository to store images.
3. Identify the image to push. Run the **docker images** command to list the images on your system.

   ```
   docker images
   ```

   You can identify an image with the *repository:tag* value or the image ID in the resulting command output.
4. Tag your image with the Amazon ECR public registry, public repository, and optional image tag name combination to use. The public registry format is `public.ecr.aws/`*registry_alias*. The public repository name should match the repository that you created for your image. If you omit the image tag, we assume that the tag is `latest`.

   The following example tags an image with the ID *e9ae3c220b23* as `public.ecr.aws/`*registry_alias*`/my-web-app`

   ```
   docker tag e9ae3c220b23 public.ecr.aws/registry_alias/my-web-app
   ```

5. Push the image using the **docker push** command:

```
docker push public.ecr.aws/registry_alias/my-web-app
```

6. (Optional) Apply any additional tags to your image and push those tags to Amazon ECR Public by repeating Step 4 and Step 5. You can apply up to 1000 tags per image in Amazon ECR Public.

Pushing a multi-architecture image to a public repository in Amazon ECR public

Amazon ECR Public supports creating and pushing Docker manifest lists which are used for multi-architecture images. A *manifest list* is a list of images that is created by specifying one or more image names. Typically the manifest list is created from images that serve the same function but for different operating systems or architectures, but this is not required. For more information, see docker manifest.

> **Important**
>
> Your Docker CLI must have experimental features enabled to use this feature. For more information, see Experimental features.

A manifest list can be pulled or referenced in an Amazon ECS task definition or Amazon EKS pod spec like other Amazon ECR Public images.

The following steps can be used to create and push a Docker manifest list to an Amazon ECR public repository. You must already have the images pushed to your public repository to reference in the Docker manifest. For information on pushing an image, see Pushing an image to a public repository in Amazon ECR public.

To push a multi-architecture Docker image to an Amazon ECR public repository

1. Authenticate your Docker client to the Amazon ECR public registry to which you intend to push your image. Authentication tokens are valid for 12 hours. For more information, see Registry authentication in Amazon ECR public.
2. List the images in your public repository, confirming the image tags.

```
aws ecr-public describe-images \
     --repository-name my-web-app
     --region us-east-1
```

3. Create the Docker manifest list. The `manifest create` command verifies that the referenced images are already in your public repository and creates the manifest locally.

```
docker manifest create public.ecr.aws/registry_alias/my-web-
app public.ecr.aws/registry_alias/my-web-app:image_one_tag
 public.ecr.aws/registry_alias/my-web-app:image_two
```

4. (Optional) Inspect the Docker manifest list. This enables you to confirm the size and digest for each image manifest referenced in the manifest list.

```
docker manifest inspect public.ecr.aws/registry_alias/my-web-app
```

5. Push the Docker manifest list to your Amazon ECR public repository.

```
docker manifest push public.ecr.aws/registry_alias/my-web-app
```

Pushing a Helm chart to a public repository in Amazon ECR public

Amazon ECR Public supports pushing Open Container Initiative (OCI) artifacts to your public repositories. To display this functionality, use the following steps to push a Helm chart to Amazon ECR Public.

To push a Helm chart to an Amazon ECR public repository

1. Install Helm version `3.8.0` or higher of the Helm client. These steps were written using Helm version `3.8.0`. For more information, see Installing Helm.
2. Use the following steps to create a test Helm chart. For more information, see Helm Docs - Getting Started.

    a. Create a Helm chart named `helm-test-chart` and clear the contents of the `templates` directory.

```
helm create helm-test-chart
rm -rf ./helm-test-chart/templates/*
```

b. Create a ConfigMap in the `templates` folder.

```
cd helm-test-chart/templates
cat <<EOF > configmap.yaml
apiVersion: v1
kind: ConfigMap
metadata:
  name: helm-test-chart-configmap
data:
  myvalue: "Hello World"
EOF
```

3. Package the chart. The output will contain the filename of the packaged chart which you use when pushing the Helm chart.

```
cd ..
helm package helm-test-chart
```

Output

```
Successfully packaged chart and saved it to: /Users/username/helm-test-chart-0.1.0.tgz
```

4. Create a public repository to store your Helm chart. For more information, see Creating an Amazon ECR public repository to store images.

```
aws ecr-public create-repository \
     --repository-name helm-test-chart \
     --region us-east-1
```

5. Authenticate your Helm client to the Amazon ECR public registry to which you intend to push your Helm chart. Authentication tokens are valid for 12 hours. For more information, see Registry authentication in Amazon ECR public.

```
aws ecr-public get-login-password \
     --region us-east-1 | helm registry login \
     --username AWS \
```

```
     --password-stdin public.ecr.aws
```

6. Push the Helm chart using the **helm push** command. The output should include the Amazon ECR repository URI and SHA digest.

```
helm push helm-test-chart-0.1.0.tgz oci://public.ecr.aws/registry_alias
```

7. Describe your Helm chart.

```
aws ecr-public describe-images \
     --repository-name helm-test-chart \
     --region us-east-1
```

```
{
    "imageDetails": [
        {
            "registryId": "aws_account_id",
            "repositoryName": "helm-test-chart",
            "imageDigest":
 "sha256:f23ab9dc0fda33175e465bd694a5f4cade93eaf62715fa9390d9fEXAMPLE",
            "imageTags": [
                "0.1.0"
            ],
            "imageSizeInBytes": 1636,
            "imagePushedAt": "2022-06-01T12:17:39-05:00",
            "imageManifestMediaType": "application/vnd.oci.image.manifest.v1+json"
        }
    ]
}
```

Pulling an image from the Amazon ECR Public Gallery

If you would like to run a Docker image that is available in Amazon ECR Public, you can pull it to your local environment with the **docker pull** command. You can do this from any public repository. Every public repository created on Amazon ECR Public is available on the Amazon ECR Public Gallery. Visit the Amazon ECR Public Gallery at https://gallery.ecr.aws. For more information, see Amazon ECR Public Gallery.

Amazon ECR Public supports both unauthenticated and authenticated pulls from public repositories. There are separate service quotas for each type of image pull. For more information, see Amazon ECR Public service quotas.

- An unauthenticated pull is a pull without an auth token. You can confirm whether there is an auth token in your Docker configuration by checking your `~/.docker/config.json` file. If you've previously authenticated to Amazon ECR Public but you want to perform an unauthenticated pull, you can logout using the `docker logout public.ecr.aws` command which will remove the auth token from your Docker configuration file.
- An authenticated pull requires that you authenticate to Amazon ECR Public prior to the pull request. For more information, see Registry authentication in Amazon ECR public.

> **Note**
>
> For authenticated pulls, Amazon ECR Public requires that users have permission to make calls to the `ecr-public:GetAuthorizationToken` and `sts:GetServiceBearerToken` API through an IAM policy before they can authenticate to Amazon ECR Public and pull an image from a public repository.

To pull a public image from the Amazon ECR Public Gallery

1. Identify the image to pull. You can view the available public repositories on the Amazon ECR Public Gallery at https://gallery.ecr.aws.
2. For authenticated pulls, you must authenticate your Docker client to the Amazon ECR public registry. Authentication tokens are valid for 12 hours. For more information, see Registry authentication in Amazon ECR public.

   > **Note**
   >
   > For unauthenticated pulls, you can skip this step.

3. Pull the image using the **docker pull** command. The image name format should be *registry_alias*/*repository*[:*tag*] to pull by tag, or *registry_alias*/*repository*[@*digest*] to pull by digest.

   ```
   docker pull public.ecr.aws/registry_alias/repository:tag
   ```

Deleting an image in a public repository in Amazon ECR public

If you are done using an image, you can delete it from your public repository. You can delete an image using the Amazon Web Services Management Console, or the Amazon CLI.

> **Note**
>
> If you are done with a public repository, you can delete the entire repository and all of the images within it. For more information, see Deleting a public repository policy statement Amazon ECR public.

To delete a public image with the Amazon Web Services Management Console

1. Open the Amazon ECR console at https://console.amazonaws.cn/ecr/repositories.
2. From the navigation bar, choose the Region that contains the image to delete.
3. In the navigation pane, choose **Repositories**.
4. On the **Repositories** page, select the **Public** tab and then select the repository containing the image to delete.
5. On the **Repositories:** ***repository_name*** page, select the box to the left of the image to delete and choose **Delete**.
6. In the **Delete image(s)** dialog box, verify that the selected images should be deleted and choose **Delete**.

To delete a public image with the Amazon CLI

1. List the image tags in your repository.

```
aws ecr-public describe-image-tags \
      --repository-name my-repo \
      --region us-east-1
```

2. (Optional) Delete any unwanted tags for the image by specifying the tag of the image you want to delete.

> **Note**
>
> When you delete the last tag for an image, the image is deleted.

```
aws ecr-public batch-delete-image \
      --repository-name my-repo \
      --image-ids imageTag=latest \
      --region us-east-1
```

3. Delete the image by specifying the digest of the image to delete.

> **Note**
>
> When you delete an image by referencing its digest, the image and all of its tags are deleted.

```
aws ecr-public batch-delete-image \
      --repository-name my-repo \
      --image-ids
 imageDigest=sha256:4f70ef7a4d29e8c0c302b13e25962d8f7a0bd304c7c2c1a9d6fa3e9de6bf552d
      --region us-east-1
```

Container image manifest formats in Amazon ECR public

Amazon ECR Public supports the following container image manifest formats:

- Docker Image Manifest V2 Schema 1 (used with Docker version 1.9 and older)
- Docker Image Manifest V2 Schema 2 (used with Docker version 1.10 and newer)
- Open Container Initiative (OCI) Specifications (v1.0 and up)

Support for Docker Image Manifest V2 Schema 2 provides the following functionality:

- The ability to use multiple tags per image.

- Support for storing Windows container images. For more information, see Pushing Windows Images to Amazon ECR in the *Amazon Elastic Container Service Developer Guide*.

Amazon ECR image manifest conversion

When you push and pull images to and from Amazon ECR Public, your container engine client (for example, Docker) communicates with the public registry to agree on a manifest format that is understood by the client and the registry to use for the image.

When you push an image to Amazon ECR Public with Docker version 1.9 or older, the image manifest format is stored as Docker Image Manifest V2 Schema 1. When you push an image to Amazon ECR Public with Docker version 1.10 or newer, the image manifest format is stored as Docker Image Manifest V2 Schema 2.

When you pull an image from Amazon ECR Public *by tag*, Amazon ECR Public returns the image manifest format that is stored in the repository. The format is returned only if that format is understood by the client. If the stored image manifest format is not understood by the client, Amazon ECR Public converts the image manifest into a format that is understood by the client. For example, if a Docker 1.9 client requests an image manifest that is stored as Docker Image Manifest V2 Schema 2, Amazon ECR Public returns the manifest in the Docker Image Manifest V2 Schema 1 format. The table below describes the available conversions supported by Amazon ECR Public when an image is pulled *by tag*:

Schema requested by client	Pushed to ECR as V2, schema 1	Pushed to ECR as V2, schema 2	Pushed to ECR as OCI
V2, schema 1	No translation required	Translated to V2, schema 1	Translated to V2, schema 1
V2, schema 2	No translation available, client falls back to V2, schema 1	No translation required	Translated to V2, schema 2
OCI	No translation available	Translated to OCI	No translation required

Important

If you pull an image *by digest*, there is no translation available; your client must understand the image manifest format that is stored in Amazon ECR. If you request a Docker Image Manifest V2 Schema 2 image by digest on a Docker 1.9 or older client, the image pull fails. For more information, see Registry compatibility in the Docker documentation.
In this example, if you request the same image *by tag*, Amazon ECR Public translates the image manifest into a format that the client can understand. The image pull succeeds.

Security in Amazon Elastic Container Registry

Cloud security at Amazon is the highest priority. As an Amazon customer, you benefit from a data center and network architecture that is built to meet the requirements of the most security-sensitive organizations.

Security is a shared responsibility between Amazon and you. The shared responsibility model describes this as security *of* the cloud and security *in* the cloud:

- **Security of the cloud** – Amazon is responsible for protecting the infrastructure that runs Amazon services in the Amazon Cloud. Amazon also provides you with services that you can use securely. Third-party auditors regularly test and verify the effectiveness of our security as part of the Amazon compliance programs. To learn about the compliance programs that apply to Amazon ECR, see Amazon Services in Scope by Compliance Program.
- **Security in the cloud** – Your responsibility is determined by the Amazon service that you use. You are also responsible for other factors including the sensitivity of your data, your company's requirements, and applicable laws and regulations.

This documentation helps you understand how to apply the shared responsibility model when using Amazon ECR. The following topics show you how to configure Amazon ECR to meet your security and compliance objectives. You also learn how to use other Amazon services that help you to monitor and secure your Amazon ECR resources.

Topics

Identity and Access Management for Amazon ECR Public

Amazon Identity and Access Management (IAM) is an Amazon Web Services service that helps an administrator securely control access to Amazon resources. IAM administrators control who can be *authenticated* (signed in) and *authorized* (have permissions) to use Amazon ECR Public resources. IAM is an Amazon Web Services service that you can use with no additional charge.

> **Note**
>
> For IAM information for Amazon ECR private registries, see Identity and Access Management for Amazon Elastic Container Registry in the *Amazon Elastic Container Registry User Guide*.

Topics

Audience

How you use Amazon Identity and Access Management (IAM) differs, depending on the work that you do in Amazon ECR Public.

Service user – If you use the Amazon ECR Public service to do your job, then your administrator provides you with the credentials and permissions that you need. As you use more Amazon ECR Public features to do your work, you might need additional permissions. Understanding how access is managed can help you request the right permissions from your administrator. If you cannot access a feature in Amazon ECR Public, see Troubleshooting Amazon ECR Public identity and access.

Service administrator – If you're in charge of Amazon ECR Public resources at your company, you probably have full access to Amazon ECR Public. It's your job to determine which Amazon ECR Public features and resources your service users should access. You must then submit requests to your IAM administrator to change the permissions of your service users. Review the information on this page to understand the basic concepts of IAM. To learn more about how your company can use IAM with Amazon ECR Public, see How Amazon ECR Public works with IAM.

IAM administrator – If you're an IAM administrator, you might want to learn details about how you can write policies to manage access to Amazon ECR Public. To view example Amazon ECR Public identity-based policies that you can use in IAM, see Amazon ECR public identity-based policy examples.

Authenticating With Identities

Authentication is how you sign in to Amazon using your identity credentials. You must be *authenticated* (signed in to Amazon) as the Amazon Web Services account root user, as an IAM user, or by assuming an IAM role.

If you access Amazon programmatically, Amazon provides a software development kit (SDK) and a command line interface (CLI) to cryptographically sign your requests by using your credentials. If you don't use Amazon tools, you must sign requests yourself. For more information about using the recommended method to sign requests yourself, see Amazon Signature Version 4 for API requests in the *IAM User Guide*.

Regardless of the authentication method that you use, you might be required to provide additional security information. For example, Amazon recommends that you use multi-factor authentication (MFA) to increase the security of your account. To learn more, see Amazon Multi-factor authentication in IAM in the *IAM User Guide*.

Amazon Web Services account root user

When you create an Amazon Web Services account, you begin with one sign-in identity that has complete access to all Amazon Web Services services and resources in the account. This identity is called the Amazon Web Services account *root user* and is accessed by signing in with the email address and password that you used to create the account. We strongly recommend that you don't use the root user for your everyday tasks. Safeguard your root user credentials and use them to perform the tasks that only the root user can perform. For the complete list of tasks that require you to sign in as the root user, see Tasks that require root user credentials in the *IAM User Guide*.

IAM Users and Groups

An *IAM user* is an identity within your Amazon Web Services account that has specific permissions for a single person or application. Where possible, we recommend relying on temporary credentials instead of creating IAM users who have long-term credentials such as passwords and access keys. However, if you have specific use cases that require long-term credentials with IAM users, we recommend that you rotate access keys. For more information, see Rotate access keys regularly for use cases that require long-term credentials in the *IAM User Guide*.

An *IAM group* is an identity that specifies a collection of IAM users. You can't sign in as a group. You can use groups to specify permissions for multiple users at a time. Groups make permissions easier to manage for large sets of users. For example, you could have a group named *IAMAdmins* and give that group permissions to administer IAM resources.

Users are different from roles. A user is uniquely associated with one person or application, but a role is intended to be assumable by anyone who needs it. Users have permanent long-term credentials, but roles provide temporary credentials. To learn more, see Use cases for IAM users in the *IAM User Guide*.

IAM Roles

An *IAM role* is an identity within your Amazon Web Services account that has specific permissions. It is similar to an IAM user, but is not associated with a specific person. To temporarily assume an IAM role in the Amazon Web Services Management Console, you can switch from a user to an IAM role (console). You can assume a role by calling an Amazon CLI or Amazon API operation or by using a custom URL. For more information about methods for using roles, see Methods to assume a role in the *IAM User Guide*.

IAM roles with temporary credentials are useful in the following situations:

- **Federated user access** – To assign permissions to a federated identity, you create a role and define permissions for the role. When a federated identity authenticates, the identity is associated with the role and is granted the permissions that are defined by the role. For information about roles for federation, see Create a role for a third-party identity provider (federation) in the *IAM User Guide*.
- **Temporary IAM user permissions** – An IAM user or role can assume an IAM role to temporarily take on different permissions for a specific task.
- **Cross-account access** – You can use an IAM role to allow someone (a trusted principal) in a different account to access resources in your account. Roles are the primary way to grant cross-account access. However, with some Amazon Web Services services, you can attach a policy directly to a resource (instead of using a role as a proxy). To learn the difference between roles and resource-based policies for cross-account access, see Cross account resource access in IAM in the *IAM User Guide*.
- **Cross-service access** – Some Amazon Web Services services use features in other Amazon Web Services services. For example, when you make a call in a service, it's common for that service to run applications in Amazon EC2 or store objects in Amazon S3. A service might do this using the calling principal's permissions, using a service role, or using a service-linked role.

- **Forward access sessions (FAS)** – When you use an IAM user or role to perform actions in Amazon, you are considered a principal. When you use some services, you might perform an action that then initiates another action in a different service. FAS uses the permissions of the principal calling an Amazon Web Services service, combined with the requesting Amazon Web Services service to make requests to downstream services. FAS requests are only made when a service receives a request that requires interactions with other Amazon Web Services services or resources to complete. In this case, you must have permissions to perform both actions. For policy details when making FAS requests, see Forward access sessions.
- **Service role** – A service role is an IAM role that a service assumes to perform actions on your behalf. An IAM administrator can create, modify, and delete a service role from within IAM. For more information, see Create a role to delegate permissions to an Amazon Web Services service in the *IAM User Guide*.
- **Service-linked role** – A service-linked role is a type of service role that is linked to an Amazon Web Services service. The service can assume the role to perform an action on your behalf. Service-linked roles appear in your Amazon Web Services account and are owned by the service. An IAM administrator can view, but not edit the permissions for service-linked roles.

- **Applications running on Amazon EC2** – You can use an IAM role to manage temporary credentials for applications that are running on an EC2 instance and making Amazon CLI or Amazon API requests. This is preferable to storing access keys within the EC2 instance. To assign an Amazon role to an EC2 instance and make it available to all of its applications, you create an instance profile that is attached to the instance. An instance profile contains the role and enables programs that are running on the EC2 instance to get temporary credentials. For more information, see Use an IAM role to grant permissions to applications running on Amazon EC2 instances in the *IAM User Guide*.

Managing Access Using Policies

You control access in Amazon by creating policies and attaching them to Amazon identities or resources. A policy is an object in Amazon that, when associated with an identity or resource, defines their permissions. Amazon evaluates these policies when a principal (user, root user, or role session) makes a request. Permissions in the policies determine whether the request is allowed or denied. Most policies are stored in Amazon as JSON documents. For more information about the structure and contents of JSON policy documents, see Overview of JSON policies in the *IAM User Guide*.

Administrators can use Amazon JSON policies to specify who has access to what. That is, which **principal** can perform **actions** on what **resources**, and under what **conditions**.

By default, users and roles have no permissions. To grant users permission to perform actions on the resources that they need, an IAM administrator can create IAM policies. The administrator can then add the IAM policies to roles, and users can assume the roles.

IAM policies define permissions for an action regardless of the method that you use to perform the operation. For example, suppose that you have a policy that allows the `iam:GetRole` action. A user with that policy can get role information from the Amazon Web Services Management Console, the Amazon CLI, or the Amazon API.

Identity-Based Policies

Identity-based policies are JSON permissions policy documents that you can attach to an identity, such as an IAM user, group of users, or role. These policies control what actions users and roles can perform, on which resources, and under what conditions. To learn how to create an identity-based policy, see Define custom IAM permissions with customer managed policies in the *IAM User Guide*.

Identity-based policies can be further categorized as *inline policies* or *managed policies*. Inline policies are embedded directly into a single user, group, or role. Managed policies are standalone policies that you can attach to multiple users, groups, and roles in your Amazon Web Services account. Managed policies include Amazon managed policies and customer managed policies. To learn how to choose between a managed policy or an inline policy, see Choose between managed policies and inline policies in the *IAM User Guide*.

Resource-Based Policies

Resource-based policies are JSON policy documents that you attach to a resource. Examples of resource-based policies are IAM *role trust policies* and Amazon S3 *bucket policies*. In services that support resource-based policies, service administrators can use them to control access to a specific resource. For the resource where the policy is attached, the policy defines what actions a specified principal can perform on that resource and under what conditions. You must specify a principal in a resource-based policy. Principals can include accounts, users, roles, federated users, or Amazon Web Services services.

Resource-based policies are inline policies that are located in that service. You can't use Amazon managed policies from IAM in a resource-based policy.

Other Policy Types

Amazon supports additional, less-common policy types. These policy types can set the maximum permissions granted to you by the more common policy types.

- **Permissions boundaries** – A permissions boundary is an advanced feature in which you set the maximum permissions that an identity-based policy can grant to an IAM entity (IAM user or role). You can set a permissions boundary for an entity. The resulting permissions are the intersection of an entity's identity-based policies and its permissions boundaries. Resource-based policies that specify the user or role in the `Principal` field are not limited by the permissions boundary. An explicit deny in any of these policies overrides the allow. For more information about permissions boundaries, see Permissions boundaries for IAM entities in the *IAM User Guide*.
- **Service control policies (SCPs)** – SCPs are JSON policies that specify the maximum permissions for an organization or organizational unit (OU) in Amazon Organizations. Amazon Organizations is a service for grouping and centrally managing multiple Amazon Web Services accounts that your business owns. If you enable all features in an organization, then you can apply service control policies (SCPs) to any or all of your accounts. The SCP limits permissions for entities in member accounts, including each Amazon Web Services account root user. For more information about Organizations and SCPs, see Service control policies in the *Amazon Organizations User Guide*.
- **Resource control policies (RCPs)** – RCPs are JSON policies that you can use to set the maximum available permissions for resources in your accounts without updating the IAM policies attached to each resource that you own. The RCP limits permissions for resources in member accounts and can impact the effective permissions for identities, including the Amazon Web Services account root user, regardless of whether they belong to your organization. For more information about Organizations and RCPs, including a list of Amazon Web Services services that support RCPs, see Resource control policies (RCPs) in the *Amazon Organizations User Guide*.
- **Session policies** – Session policies are advanced policies that you pass as a parameter when you programmatically create a temporary session for a role or federated user. The resulting session's permissions are the intersection of the user or role's identity-based policies and the session policies. Permissions can also come from a resource-based policy. An explicit deny in any of these policies overrides the allow. For more information, see Session policies in the *IAM User Guide*.

Multiple Policy Types

When multiple types of policies apply to a request, the resulting permissions are more complicated to understand. To learn how Amazon determines whether to allow a request when multiple policy types are involved, see Policy evaluation logic in the *IAM User Guide*.

How Amazon ECR Public works with IAM

Before you use IAM to manage access to Amazon ECR, you should understand what IAM features are available to use with Amazon ECR. To get a high-level view of how Amazon ECR and other Amazon services work with IAM, see Amazon services that work with IAM in the *IAM User Guide*.

Topics

- Amazon ECR identity-based policies
- Amazon ECR resource-based policies
- Amazon ECR IAM roles

Amazon ECR identity-based policies

With IAM identity-based policies, you can specify allowed or denied actions and resources as well as the conditions under which actions are allowed or denied. Amazon ECR supports specific actions, resources, and condition keys when managing a public registry and the resources in a public registry. The image pull permissions can't be changed because Amazon ECR Public repositories are public accessible. To learn about all of the elements that you use in a JSON policy, see IAM JSON policy elements reference in the *IAM User Guide*.

Actions

Administrators can use Amazon JSON policies to specify who has access to what. That is, which **principal** can perform **actions** on what **resources**, and under what **conditions**.

The `Action` element of a JSON policy describes the actions that you can use to allow or deny access in a policy. Policy actions usually have the same name as the associated Amazon API operation. There are some exceptions, such as *permission-only actions* that don't have a matching API operation. There are also some operations that require multiple actions in a policy. These additional actions are called *dependent actions*.

Include actions in a policy to grant permissions to perform the associated operation.

Policy actions in Amazon ECR Public use the following prefix before the action: `ecr-public:`. For example, to grant someone permission to create a public Amazon ECR repository with the Amazon ECR Public `CreateRepository` API operation, you include the `ecr-public:CreateRepository` action in their policy. Policy statements must include either an `Action` or `NotAction` element. Amazon ECR defines its own set of actions that describe tasks that you can perform with this service.

To specify multiple actions in a single statement, separate them with commas as follows:

```
"Action": [
      "ecr-public:action1",
      "ecr-public:action2"
```

You can specify multiple actions using wildcards (*). For example, to specify all actions that begin with the word `Describe`, include the following action:

```
"Action": "ecr-public:Describe*"
```

To see a list of Amazon ECR actions, see Actions, Resources, and Condition Keys for Amazon ECR Public in the *IAM User Guide*.

Resources

Administrators can use Amazon JSON policies to specify who has access to what. That is, which **principal** can perform **actions** on what **resources**, and under what **conditions**.

The `Resource` JSON policy element specifies the object or objects to which the action applies. Statements must include either a `Resource` or a `NotResource` element. As a best practice, specify a resource using its Amazon Resource Name (ARN). You can do this for actions that support a specific resource type, known as *resource-level permissions*.

For actions that don't support resource-level permissions, such as listing operations, use a wildcard (*) to indicate that the statement applies to all resources.

```
"Resource": "*"
```

An Amazon ECR public repository resource has the following ARN. You don't use a Region name in the ARN.

```
arn:${Partition}:ecr-public::${Account}:repository/${Repository-name}
```

For more information about the format of ARNs, see Amazon Resource Names (ARNs) and Amazon Service Namespaces.

For example, to specify the `my-repo` public repository in your statement, use the following ARN:

```
"Resource": "arn:aws:ecr-public::123456789012:repository/my-repo"
```

To specify all public repositories that belong to a specific account, use the wildcard (*):

```
"Resource": "arn:aws:ecr-public::123456789012:repository/*"
```

To specify multiple resources in a single statement, separate the ARNs with commas.

```
"Resource": [
      "resource1",
      "resource2"
```

To see a list of Amazon ECR Public resource types and their ARNs, see Resources defined by Amazon ECR Public in the *IAM User Guide*. To learn with which actions you can specify the ARN of each resource, see Actions defined by Amazon ECR.

Condition Keys

Administrators can use Amazon JSON policies to specify who has access to what. That is, which **principal** can perform **actions** on what **resources**, and under what **conditions**.

The `Condition` element (or `Condition` *block*) lets you specify conditions in which a statement is in effect. The `Condition` element is optional. You can create conditional expressions that use condition operators, such as equals or less than, to match the condition in the policy with values in the request.

If you specify multiple `Condition` elements in a statement, or multiple keys in a single `Condition` element, Amazon evaluates them using a logical `AND` operation. If you specify multiple values for a single condition key, Amazon evaluates the condition using a logical `OR` operation. All of the conditions must be met before the statement's permissions are granted.

You can also use placeholder variables when you specify conditions. For example, you can grant an IAM user permission to access a resource only if it is tagged with their IAM user name. For more information, see IAM policy elements: variables and tags in the *IAM User Guide*.

Amazon supports global condition keys and service-specific condition keys. To see all Amazon global condition keys, see Amazon global condition context keys in the *IAM User Guide*.

Amazon ECR supports using some global condition keys. To see all Amazon global condition keys, see Amazon global condition context keys in the *IAM User Guide*.

To see a list of Amazon ECR Public condition keys, see Condition keys defined by Amazon ECR Public in the *IAM User Guide*. To learn with which actions and resources you can use a condition key, see Actions defined by Amazon ECR.

Examples

To view examples of Amazon ECR identity-based policies, see Amazon ECR public identity-based policy examples.

Amazon ECR resource-based policies

Resource-based policies are JSON policy documents that specify what actions a specified principal can perform on an Amazon ECR Public resource and under what conditions. Amazon ECR supports resource-based permissions policies for Amazon ECR public repositories. Resource-based policies let you grant usage permission to other accounts on a per-resource basis. You can also use a resource-based policy to allow an Amazon service to access your Amazon ECR public repositories.

To enable cross-account access, you can specify an entire account or IAM entities in another account as the principal in a resource-based policy. Adding a cross-account principal to a resource-based policy is only half of establishing the trust relationship. When the principal and the resource are in different Amazon accounts, you must also grant the principal entity permission to access the resource. Grant permission by attaching an identity-based policy to the entity. However, if a resource-based policy grants access to a principal in the same account, no additional identity-based policy is required. For more information, see How IAM roles differ from resource-based policies in the *IAM User Guide*.

The Amazon ECR Public service supports only one type of resource-based policy called a *repository policy*, which is attached to a *repository*. This policy defines which principal entities (accounts, users, roles, and federated users) can perform actions on the repository.

To learn how to attach a resource-based policy to a repository, see Public repository policies in Amazon ECR Public.

Examples

To view examples of Amazon ECR resource-based policies, see Public repository policy examples in Amazon ECR Public.

Amazon ECR IAM roles

An IAM role is an entity within your Amazon account that has specific permissions.

Using temporary credentials with Amazon ECR

You can use temporary credentials to sign in with federation, assume an IAM role, or to assume a cross-account role. You obtain temporary security credentials by calling Amazon STS API operations such as AssumeRole or GetFederationToken.

Amazon ECR Public supports using temporary credentials.

Service-linked roles

Service-linked roles allow Amazon services to access resources in other services to complete an action on your behalf. Service-linked roles appear in your IAM account and are owned by the service. An IAM administrator can view but not edit the permissions for service-linked roles.

Amazon ECR Public does not support service-linked roles.

Amazon managed policies for Amazon ECR Public

Amazon ECR Public provides several managed policies that you can attach to users or Amazon EC2 instances. These policies allow for differing levels of control over Amazon ECR resources and API operations. You can apply these policies directly or use them as starting points for creating your own policies. For more information about each API operation that's mentioned in these policies, see Actions in the *Amazon ECR Public API Reference*.

Topics

- AmazonElasticContainerRegistryPublicFullAccess
- AmazonElasticContainerRegistryPublicPowerUser
- AmazonElasticContainerRegistryPublicReadOnly
- Amazon ECR Public updates to Amazon managed policies

AmazonElasticContainerRegistryPublicFullAccess

You can attach the AmazonElasticContainerRegistryPublicFullAccess policy to your IAM identities.

This managed policy is a starting point for providing an IAM user or role with full administrator access to manage their use of Amazon ECR Public.

Permissions details

This policy includes the following permissions:

- ecr-public – Provides IAM principals full access to all Amazon ECR APIs.
- sts – Allows IAM principals to acquire a Amazon Security Token Service bearer token for an Amazon root user, IAM role, or an IAM user.

The AmazonElasticContainerRegistryPublicFullAccess policy is as follows.

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": [
                "ecr-public:*",
                "sts:GetServiceBearerToken"
            ],
            "Resource": "*"
        }
    ]
}
```

AmazonElasticContainerRegistryPublicPowerUser

You can attach the AmazonEC2ContainerRegistryPowerUser policy to your IAM identities.

This policy grants administratice permissions that allow power user access to Amazon ECR Public. This provides write access to public repositories, but it doesn't allow users to delete public repositories or change the policy documents that are applied to them.

Permissions details

This policy includes the following permissions:

- `ecr-public` – Allows IAM principals to read and write to respositores and read lifecycle policies. IAM principals aren't granted permission to delete repositories or change the lifecycle policies that are applied to them.
- `sts` – Allows IAM principals to acquire a Amazon Security Token Service bearer token for an Amazon root user, IAM role, or an IAM user.

The `AmazonElasticContainerRegistryPublicPowerUser` policy is as follows.

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": [
                "ecr-public:GetAuthorizationToken",
                "sts:GetServiceBearerToken",
                "ecr-public:BatchCheckLayerAvailability",
                "ecr-public:GetRepositoryPolicy",
                "ecr-public:DescribeRepositories",
                "ecr-public:DescribeRegistries",
                "ecr-public:DescribeImages",
                "ecr-public:DescribeImageTags",
                "ecr-public:GetRepositoryCatalogData",
                "ecr-public:GetRegistryCatalogData",
                "ecr-public:InitiateLayerUpload",
                "ecr-public:UploadLayerPart",
                "ecr-public:CompleteLayerUpload",
                "ecr-public:PutImage"
            ],
            "Resource": "*"
        }
    ]
}
```

AmazonElasticContainerRegistryPublicReadOnly

You can attach the `AmazonElasticContainerRegistryPublicReadOnly` policy to your IAM identities.

This policy grants read-only permissions to Amazon ECR Public. These permissions include the ability to describe public registries, to list and describe public repositories, to describe images within a public repository, and to pull images from Amazon ECR Public with the Docker CLI.

Permissions details

This policy includes the following permissions:

- `ecr` – Allows IAM principals to read repositories and their respective lifecycle policies.
- `sts` – Allows IAM principals to acquire a Amazon Security Token Service bearer token for an Amazon root user, IAM role, or an IAM user.

The `AmazonElasticContainerRegistryPublicReadOnly` policy is as follows.

```
{
    "Version": "2012-10-17",
    "Statement": [{
        "Effect": "Allow",
        "Action": [
            "ecr-public:GetAuthorizationToken",
            "sts:GetServiceBearerToken",
            "ecr-public:BatchCheckLayerAvailability",
            "ecr-public:GetRepositoryPolicy",
            "ecr-public:DescribeRepositories",
            "ecr-public:DescribeRegistries",
            "ecr-public:DescribeImages",
            "ecr-public:DescribeImageTags",
            "ecr-public:GetRepositoryCatalogData",
            "ecr-public:GetRegistryCatalogData"
        ],
        "Resource": "*"
    }]
}
```

Amazon ECR Public updates to Amazon managed policies

View details about updates to Amazon managed policies for Amazon ECR Public since the time that this service began tracking these changes. For automatic alerts about changes to this page, subscribe to the RSS feed on the Amazon ECR Public Document history page.

Change	Description	Date
Amazon ECR started tracking changes	Amazon ECR started tracking changes for Amazon managed policies.	June 24, 2021
AmazonElasticContainerRegistryPublicReadOnly – New policy	Amazon ECR added a new policy that grants read-only permissions to Amazon ECR Public. These permissions include the ability to describe public registries, to list and describe public repositories, to describe images within a public repository and to pull images from Amazon ECR Public with the Docker CLI.	December 1, 2020
AmazonElasticContainerRegistryPublicPowerUser – New policy	Amazon ECR added a new policy that grants administrative permissions to Amazon ECR Public that allow write access to public repositories. However, these permissions don't allow users to delete public repositories or change the policy documents that are applied to them.	December 1, 2020
AmazonElasticContainerRegistryPublicFullAccess – New policy	Amazon ECR added a new policy that grants full access to Amazon ECR Public.	December 1, 2020

Amazon ECR public identity-based policy examples

By default, users and roles don't have permission to create or modify Amazon ECR Public resources. They also can't perform tasks by using the Amazon Web Services Management Console, Amazon

Command Line Interface (Amazon CLI), or Amazon API. To grant users permission to perform actions on the resources that they need, an IAM administrator can create IAM policies. The administrator can then add the IAM policies to roles, and users can assume the roles.

To learn how to create an IAM identity-based policy by using these example JSON policy documents, see Create IAM policies (console) in the *IAM User Guide*.

For details about actions and resource types defined by Amazon ECR, including the format of the ARNs for each of the resource types, see Actions, resources, and condition keys for Amazon Elastic Container Registry in the *Service Authorization Reference*.

Topics

Policy best practices

Identity-based policies determine whether someone can create, access, or delete Amazon ECR Public resources in your account. These actions can incur costs for your Amazon Web Services account. When you create or edit identity-based policies, follow these guidelines and recommendations:

- **Get started with Amazon managed policies and move toward least-privilege permissions** – To get started granting permissions to your users and workloads, use the *Amazon managed policies* that grant permissions for many common use cases. They are available in your Amazon Web Services account. We recommend that you reduce permissions further by defining Amazon customer managed policies that are specific to your use cases. For more information, see Amazon managed policies or Amazon managed policies for job functions in the *IAM User Guide*.
- **Apply least-privilege permissions** – When you set permissions with IAM policies, grant only the permissions required to perform a task. You do this by defining the actions that can be taken on specific resources under specific conditions, also known as *least-privilege permissions*. For more information about using IAM to apply permissions, see Policies and permissions in IAM in the *IAM User Guide*.
- **Use conditions in IAM policies to further restrict access** – You can add a condition to your policies to limit access to actions and resources. For example, you can write a policy condition to

specify that all requests must be sent using SSL. You can also use conditions to grant access to service actions if they are used through a specific Amazon Web Services service, such as Amazon CloudFormation. For more information, see IAM JSON policy elements: Condition in the *IAM User Guide*.

- **Use IAM Access Analyzer to validate your IAM policies to ensure secure and functional permissions** – IAM Access Analyzer validates new and existing policies so that the policies adhere to the IAM policy language (JSON) and IAM best practices. IAM Access Analyzer provides more than 100 policy checks and actionable recommendations to help you author secure and functional policies. For more information, see Validate policies with IAM Access Analyzer in the *IAM User Guide*.
- **Require multi-factor authentication (MFA)** – If you have a scenario that requires IAM users or a root user in your Amazon Web Services account, turn on MFA for additional security. To require MFA when API operations are called, add MFA conditions to your policies. For more information, see Secure API access with MFA in the *IAM User Guide*.

For more information about best practices in IAM, see Security best practices in IAM in the *IAM User Guide*.

Using the Amazon ECR console

> **Note**
>
> These permissions are only for Amazon ECR Public resources. For permissions related to your private Amazon ECR resources, see Amazon ECR identity-based policy examples in the *Amazon Elastic Container Registry User Guide*.

To access the Amazon ECR console, you must have a minimum set of permissions. These permissions must allow you to list and view details about the Amazon ECR Public resources in your Amazon account. If you create an identity-based policy that is more restrictive than the minimum required permissions, the console won't function as intended for entities (users or roles) with that policy.

To ensure that those entities can still use the Amazon ECR console, add the `AmazonElasticContainerRegistryPublicReadOnly` Amazon managed policy to the entities. For more information, see Adding Permissions to a User in the *IAM User Guide*:

```
{
    "Version": "2012-10-17",
    "Statement": [{
        "Effect": "Allow",
        "Action": [
            "ecr-public:GetAuthorizationToken",
            "sts:GetServiceBearerToken",
            "ecr-public:BatchCheckLayerAvailability",
            "ecr-public:GetRepositoryPolicy",
            "ecr-public:DescribeRepositories",
            "ecr-public:DescribeRegistries",
            "ecr-public:DescribeImages",
            "ecr-public:DescribeImageTags",
            "ecr-public:GetRepositoryCatalogData",
            "ecr-public:GetRegistryCatalogData"
        ],
        "Resource": "*"
    }]
}
```

You don't need to allow minimum console permissions for users that are making calls only to the Amazon CLI or the Amazon API. Instead, allow access to only the actions that match the API operation that you're trying to perform.

Allow users to view their own permissions

This example shows how you might create a policy that allows IAM users to view the inline and managed policies that are attached to their user identity. This policy includes permissions to complete this action on the console or programmatically using the Amazon CLI or Amazon API.

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Sid": "ViewOwnUserInfo",
            "Effect": "Allow",
            "Action": [
                "iam:GetUserPolicy",
                "iam:ListGroupsForUser",
                "iam:ListAttachedUserPolicies",
                "iam:ListUserPolicies",
                "iam:GetUser"
```

```
            ],
            "Resource": ["arn:aws-cn:iam::*:user/${aws:username}"]
        },
        {
            "Sid": "NavigateInConsole",
            "Effect": "Allow",
            "Action": [
                "iam:GetGroupPolicy",
                "iam:GetPolicyVersion",
                "iam:GetPolicy",
                "iam:ListAttachedGroupPolicies",
                "iam:ListGroupPolicies",
                "iam:ListPolicyVersions",
                "iam:ListPolicies",
                "iam:ListUsers"
            ],
            "Resource": "*"
        }
    ]
}
```

Accessing an Amazon ECR public repository

In this example, you want to grant an IAM user in your Amazon account access to one of your Amazon ECR public repositories, `my-repo`.

```
{
   "Version":"2012-10-17",
   "Statement":[
      {
         "Sid":"GetAuthorizationToken",
         "Effect":"Allow",
         "Action":[
            "ecr-public:GetAuthorizationToken"
         ],
         "Resource":"*"
      },
      {
         "Sid":"ManageRepositoryContents",
         "Effect":"Allow",
         "Action":[
                "ecr-public:BatchCheckLayerAvailability",
                "ecr-public:GetRepositoryPolicy",
```

```
                "ecr-public:DescribeRepositories",
                "ecr-public:DescribeImages",
                "ecr-public:InitiateLayerUpload",
                "ecr-public:UploadLayerPart",
                "ecr-public:CompleteLayerUpload",
                "ecr-public:PutImage"
            ],
            "Resource":"arn:aws-cn:ecr-public::123456789012:repository/my-repo"
        }
    ]
}
```

Using tag-based access control in Amazon ECR public

The Amazon ECR Public `CreateRepository` API action enables you to specify tags when you create the repository. For more information, see Tag an Amazon ECR Public repository.

To enable users to tag repositories on creation, they must have permissions to use the action that creates the resource (for example, `ecr-public:CreateRepository`). If tags are specified in the resource-creating action, Amazon performs additional authorization on the `ecr-public:CreateRepository` action to verify if users have permissions to create tags.

You can used tag-based access control through IAM policies. The following are examples.

The following policy would only allow an IAM user to create or tag a public repository where the tag key is `environment` and tag value is `dev`.

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Sid": "AllowOnlyTagWithVals",
            "Effect": "Allow",
            "Action": [
                "ecr-public:CreateRepository",
                "ecr-public:TagResource"
            ],
            "Resource": "*",
            "Condition": {
                "StringEquals": {
                    "aws:RequestTag/environment": [
                        "dev"
```

```
                    ]
                }
            }
        }
    ]
}
```

The following policy would allow an IAM user access to all public repositories unless they were tagged as `key=environment,value=prod`.

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": "ecr-public:*",
            "Resource": "*"
        },
        {
            "Effect": "Deny",
            "Action": "ecr-public:*",
            "Resource": "*",
            "Condition": {
                "StringEquals": {
                    "ecr:ResourceTag/environment": "prod"
                }
            }
        }
    ]
}
```

Troubleshooting Amazon ECR Public identity and access

Use the following information to help you diagnose and fix common issues that you might encounter when working with Amazon ECR and IAM.

Topics

- I am not authorized to perform an action in Amazon ECR Public
- I am not authorized to perform iam:PassRole
- I'm an administrator and want to allow others to access Amazon ECR Public
- I want to allow people outside of my Amazon account to access my Amazon ECR Public resources

I am not authorized to perform an action in Amazon ECR Public

If you receive an error that you're not authorized to perform an action, your policies must be updated to allow you to perform the action.

The following example error occurs when the `mateojackson` IAM user tries to use the console to view details about a fictional *`my-example-widget`* resource but doesn't have the fictional `ecr:`*`GetWidget`* permissions.

```
User: arn:aws-cn:iam::123456789012:user/mateojackson is not authorized to perform:
 ecr:GetWidget on resource: my-example-widget
```

In this case, the policy for the `mateojackson` user must be updated to allow access to the *`my-example-widget`* resource by using the `ecr:`*`GetWidget`* action.

If you need help, contact your Amazon administrator. Your administrator is the person who provided you with your sign-in credentials.

I am not authorized to perform iam:PassRole

If you receive an error that you're not authorized to perform the `iam:PassRole` action, your policies must be updated to allow you to pass a role to Amazon ECR Public.

Some Amazon Web Services services allow you to pass an existing role to that service instead of creating a new service role or service-linked role. To do this, you must have permissions to pass the role to the service.

The following example error occurs when an IAM user named `marymajor` tries to use the console to perform an action in Amazon ECR Public. However, the action requires the service to have permissions that are granted by a service role. Mary does not have permissions to pass the role to the service.

```
User: arn:aws-cn:iam::123456789012:user/marymajor is not authorized to perform:
 iam:PassRole
```

In this case, Mary's policies must be updated to allow her to perform the `iam:PassRole` action.

If you need help, contact your Amazon administrator. Your administrator is the person who provided you with your sign-in credentials.

I'm an administrator and want to allow others to access Amazon ECR Public

To allow others to access Amazon ECR Public, you must grant permission to the people or applications that need access. If you are using Amazon IAM Identity Center to manage people and applications, you assign permission sets to users or groups to define their level of access. Permission sets automatically create and assign IAM policies to IAM roles that are associated with the person or application. For more information, see Permission sets in the *Amazon IAM Identity Center User Guide*.

If you are not using IAM Identity Center, you must create IAM entities (users or roles) for the people or applications that need access. You must then attach a policy to the entity that grants them the correct permissions in Amazon ECR Public. After the permissions are granted, provide the credentials to the user or application developer. They will use those credentials to access Amazon. To learn more about creating IAM users, groups, policies, and permissions, see IAM Identities and Policies and permissions in IAM in the *IAM User Guide*.

I want to allow people outside of my Amazon account to access my Amazon ECR Public resources

You can create a role that users in other accounts or people outside of your organization can use to access your resources. You can specify who is trusted to assume the role. For services that support resource-based policies or access control lists (ACLs), you can use those policies to grant people access to your resources.

To learn more, consult the following:

- To learn whether Amazon ECR Public supports these features, see How Amazon ECR Public works with IAM.
- To learn how to provide access to your resources across Amazon Web Services accounts that you own, see Providing access to an IAM user in another Amazon Web Services account that you own in the *IAM User Guide*.
- To learn how to provide access to your resources to third-party Amazon Web Services accounts, see Providing access to Amazon Web Services accounts owned by third parties in the *IAM User Guide*.
- To learn how to provide access through identity federation, see Providing access to externally authenticated users (identity federation) in the *IAM User Guide*.
- To learn the difference between using roles and resource-based policies for cross-account access, see Cross account resource access in IAM in the *IAM User Guide*.

Logging Amazon ECR Public actions with Amazon CloudTrail

Amazon ECR Public is integrated with Amazon CloudTrail, a service that provides a record of actions taken by a user, a role, or an Amazon service in Amazon ECR Public. When activity occurs in Amazon ECR Public, that activity is recorded in a CloudTrail event along with other Amazon service events in **Event history**. You can view, search, and download recent events in your Amazon account. Because Amazon ECR Public is a global service, events for the service are logged in **US East (N. Virginia)**.

When a trail is created, you can enable continuous delivery of CloudTrail events to an Amazon S3 bucket, including events for Amazon ECR Public. If you don't configure a trail, you can still view the most recent events in the CloudTrail console in **Event history**. Using this information, you can determine the request that was made to Amazon ECR Public, the originating IP address, who made the request, when it was made, and additional details.

For more information, see the Amazon CloudTrail User Guide.

Amazon ECR Public information in CloudTrail

CloudTrail is enabled on your Amazon account when you create the account. When activity occurs in Amazon ECR Public, that activity is recorded in a CloudTrail event along with other Amazon service events in **Event history**. You can view, search, and download recent events in your Amazon account. For more information, see Viewing Events with CloudTrail Event History.

For an ongoing record of events in your Amazon account, including events for Amazon ECR Public, create a trail. A trail enables CloudTrail to deliver log files to an Amazon S3 bucket. When you create a trail in the console, you can apply the trail to a single Region or to all Regions. The trail logs events in the Amazon partition and delivers the log files to the Amazon S3 bucket that you specify. Additionally, you can configure other Amazon services to analyze and act upon the event data collected in CloudTrail logs. For more information, see:

- Creating a trail for your Amazon account
- Amazon service integrations with CloudTrail logs
- Configuring Amazon SNS notifications for CloudTrail

- Receiving CloudTrail log files from multiple regions and Receiving CloudTrail Log Files from Multiple Accounts

All Amazon ECR Public API actions are logged by CloudTrail and are documented in the Amazon ECR Public API Reference. When you perform common tasks, sections are generated in the CloudTrail log files for each API action that is part of that task. For example, when you create a repository, `GetAuthorizationToken` and `CreateRepository` sections are generated in the CloudTrail log files. When you push an image to a repository, `InitiateLayerUpload`, `UploadLayerPart`, `CompleteLayerUpload`, and `PutImage` sections are generated. For examples of these common tasks, see CloudTrail log entry examples.

Every event or log entry contains information about who generated the request. The identity information helps you determine the following:

- Whether the request was made with root or IAM user credentials
- Whether the request was made with temporary security credentials for a role or federated user
- Whether the request was made by another Amazon service

For more information, see the CloudTrail `userIdentity` element.

Understanding Amazon ECR Public log file entries

A trail is a configuration that enables delivery of events as log files to an Amazon S3 bucket that you specify. CloudTrail log files contain one or more log entries. An event represents a single request from any source and includes information about the requested action, the date and time of the action, request parameters, and other information. CloudTrail log files are not an ordered stack trace of the public API calls, so they do not appear in any specific order.

> **Important**
>
> Because Amazon ECR Public is a global service, events for the service are logged in **US East (N. Virginia)**.

CloudTrail log entry examples

The following are CloudTrail log entry examples for a few common Amazon ECR tasks.

Note

These examples have been formatted for improved readability. In a CloudTrail log file, all entries and events are concatenated into a single line. In addition, this example has been limited to a single Amazon ECR Public entry. In a real CloudTrail log file, you see entries and events from multiple Amazon services.

Topics

Example: Create repository action

The following example shows a CloudTrail log entry that demonstrates the `CreateRepository` action.

```
{
    "eventVersion": "1.08",
    "userIdentity": {
        "type": "IAMUser",
        "principalId": "AIDACKC6C2EXAMPLE:account_name",
        "arn": "arn:aws:iam::123456789012:user/admin",
        "accountId": "123456789012",
        "accessKeyId": "AKIAIOSFODNN7EXAMPLE",
        "userName": "admin"
    },
    "eventTime": "2020-11-27T21:51:29Z",
    "eventSource": "ecr-public.amazonaws.com",
    "eventName": "CreateRepository",
    "awsRegion": "us-east-1",
    "sourceIPAddress": "72.21.198.67",
    "userAgent": "aws-cli/2.0.28 Python/3.7.4 Darwin/18.7.0 botocore/2.0.0dev32",
    "requestParameters": {
        "repositoryName": "ecr-tutorial"
    },
    "responseElements": {
        "repository": {
            "repositoryArn": "arn:aws:ecr-public::123456789012:repository/ecr-
tutorial",
```

```
            "registryId": "123456789012",
            "repositoryName": "ecr-tutorial",
            "repositoryUri": "public.ecr.aws/j3y4EXAMPLE/ecr-tutorial",
            "createdAt": "Nov 27, 2020, 9:51:29 PM"
        },
        "catalogData": {}
    },
    "requestID": "852d12c4-2495-451c-9fd6-a1fcEXAMPLE",
    "eventID": "28371107-6ffc-44a1-92d9-564EXAMPLE",
    "readOnly": false,
    "resources": [
        {
            "accountId": "123456789012",
            "ARN": "arn:aws:ecr-public::123456789012:repository/ecr-tutorial"
        }
    ],
    "eventType": "AwsApiCall",
    "managementEvent": true,
    "eventCategory": "Management",
    "recipientAccountId": "123456789012"
}
```

Example: Image push action

The following example shows a CloudTrail log entry that demonstrates an image push which uses the `PutImage` action.

> **Note**
>
> When pushing an image, you will also see `InitiateLayerUpload`, `UploadLayerPart`, and `CompleteLayerUpload` references in the CloudTrail logs.

```
{
    "eventVersion": "1.04",
    "userIdentity": {
    "type": "IAMUser",
    "principalId": "AIDACKC6C2EXAMPLE:account_name",
    "arn": "arn:aws:sts::123456789012:user/Mary_Major",
    "accountId": "123456789012",
    "accessKeyId": "AKIAIOSFODNN7EXAMPLE",
  "userName": "Mary_Major",
```

```
  "sessionContext": {
   "attributes": {
    "mfaAuthenticated": "false",
    "creationDate": "2019-04-15T16:42:14Z"
   }
  }
 },
 "eventTime": "2019-04-15T16:45:00Z",
 "eventSource": "ecr-public.amazonaws.com",
 "eventName": "PutImage",
 "awsRegion": "us-east-1",
 "sourceIPAddress": "203.0.113.12",
 "userAgent": "console.amazonaws.com",
 "requestParameters": {
  "repositoryName": "testrepo",
  "imageTag": "latest",
  "registryId": "123456789012",
  "imageManifest": "{\n   \"schemaVersion\": 2,\n   \"mediaType\": \"application/
vnd.docker.distribution.manifest.v2+json\",\n   \"config\": {\n      \"mediaType\":
 \"application/vnd.docker.container.image.v1+json\",\n      \"size\": 5543,\n
 \"digest\": \"sha256:000b9b805af1cdb60628898c9f411996301a1c13afd3dbef1d8a16ac6dbf503a
\"\n   },\n   \"layers\": [\n      {\n         \"mediaType\": \"application/
vnd.docker.image.rootfs.diff.tar.gzip\",\n         \"size\": 43252507,\n
 \"digest\": \"sha256:3b37166ec61459e76e33282dda08f2a9cd698ca7e3d6bc44e6a6e7580cdeff8e
\"\n      },\n      {\n         \"mediaType\": \"application/
vnd.docker.image.rootfs.diff.tar.gzip\",\n         \"size\": 846,\n         \"digest
\": \"sha256:504facff238fde83f1ca8f9f54520b4219c5b8f80be9616ddc52d31448a044bd
\"\n      },\n      {\n         \"mediaType\": \"application/
vnd.docker.image.rootfs.diff.tar.gzip\",\n         \"size\": 615,\n         \"digest
\": \"sha256:ebbcacd28e101968415b0c812b2d2dc60f969e36b0b08c073bf796e12b1bb449\"\n
      },\n      {\n         \"mediaType\": \"application/
vnd.docker.image.rootfs.diff.tar.gzip\",\n         \"size\": 850,\n         \"digest
\": \"sha256:c7fb3351ecad291a88b92b600037e2435c84a347683d540042086fe72c902b8a
\"\n      },\n      {\n         \"mediaType\": \"application/
vnd.docker.image.rootfs.diff.tar.gzip\",\n         \"size\": 168,\n         \"digest\":
 \"sha256:2e3debadcbf7e542e2aefbce1b64a358b1931fb403b3e4aeca27cb4d809d56c2\"\n      },
\n      {\n         \"mediaType\": \"application/vnd.docker.image.rootfs.diff.tar.gzip
\",\n         \"size\": 37720774,\n         \"digest\":
 \"sha256:f8c9f51ad524d8ae9bf4db69cd3e720ba92373ec265f5c390ffb21bb0c277941\"\n
      },\n      {\n         \"mediaType\": \"application/
vnd.docker.image.rootfs.diff.tar.gzip\",\n         \"size\": 30432107,\n
 \"digest\": \"sha256:813a50b13f61cf1f8d25f19fa96ad3aa5b552896c83e86ce413b48b091d7f01b
\"\n      },\n      {\n         \"mediaType\": \"application/
vnd.docker.image.rootfs.diff.tar.gzip\",\n         \"size\": 197,\n         \"digest
```

```
\": \"sha256:7ab043301a6187ea3293d80b30ba06c7bf1a0c3cd4c43d10353b31bc0cecfe7d
\"\n      },\n      {\n         \"mediaType\": \"application/
vnd.docker.image.rootfs.diff.tar.gzip\",\n         \"size\": 154,\n         \"digest
\": \"sha256:67012cca8f31dc3b8ee2305e7762fee20c250513effdedb38a1c37784a5a2e71\"\n
      },\n      {\n         \"mediaType\": \"application/
vnd.docker.image.rootfs.diff.tar.gzip\",\n         \"size\": 176,\n         \"digest
\": \"sha256:3bc892145603fffc9b1c97c94e2985b4cb19ca508750b15845a5d97becbd1a0e
\"\n      },\n      {\n         \"mediaType\": \"application/
vnd.docker.image.rootfs.diff.tar.gzip\",\n         \"size\": 183,\n         \"digest
\": \"sha256:6f1c79518f18251d35977e7e46bfa6c6b9cf50df2a79d4194941d95c54258d18\"\n
      },\n      {\n         \"mediaType\": \"application/
vnd.docker.image.rootfs.diff.tar.gzip\",\n         \"size\": 212,\n         \"digest
\": \"sha256:b7bcfbc2e2888afebede4dd1cd5eebf029bb6315feeaf0b56e425e11a50afe42\"\n
      },\n      {\n         \"mediaType\": \"application/
vnd.docker.image.rootfs.diff.tar.gzip\",\n         \"size\": 212,\n         \"digest\":
 \"sha256:2b220f8b0f32b7c2ed8eaafe1c802633bbd94849b9ab73926f0ba46cdae91629\"\n      }\n
   ]\n}"
 },
 "responseElements": {
  "image": {
   "repositoryName": "testrepo",
   "imageManifest": "{\n   \"schemaVersion\": 2,\n   \"mediaType\": \"application/
vnd.docker.distribution.manifest.v2+json\",\n   \"config\": {\n      \"mediaType\":
 \"application/vnd.docker.container.image.v1+json\",\n      \"size\": 5543,\n
 \"digest\": \"sha256:000b9b805af1cdb60628898c9f411996301a1c13afd3dbef1d8a16ac6dbf503a
\"\n   },\n   \"layers\": [\n      {\n         \"mediaType\": \"application/
vnd.docker.image.rootfs.diff.tar.gzip\",\n         \"size\": 43252507,\n
 \"digest\": \"sha256:3b37166ec61459e76e33282dda08f2a9cd698ca7e3d6bc44e6a6e7580cdeff8e
\"\n      },\n      {\n         \"mediaType\": \"application/
vnd.docker.image.rootfs.diff.tar.gzip\",\n         \"size\": 846,\n         \"digest
\": \"sha256:504facff238fde83f1ca8f9f54520b4219c5b8f80be9616ddc52d31448a044bd
\"\n      },\n      {\n         \"mediaType\": \"application/
vnd.docker.image.rootfs.diff.tar.gzip\",\n         \"size\": 615,\n         \"digest
\": \"sha256:ebbcacd28e101968415b0c812b2d2dc60f969e36b0b08c073bf796e12b1bb449\"\n
      },\n      {\n         \"mediaType\": \"application/
vnd.docker.image.rootfs.diff.tar.gzip\",\n         \"size\": 850,\n         \"digest
\": \"sha256:c7fb3351ecad291a88b92b600037e2435c84a347683d540042086fe72c902b8a
\"\n      },\n      {\n         \"mediaType\": \"application/
vnd.docker.image.rootfs.diff.tar.gzip\",\n         \"size\": 168,\n         \"digest\":
 \"sha256:2e3debadcbf7e542e2aefbce1b64a358b1931fb403b3e4aeca27cb4d809d56c2\"\n      },
\n      {\n         \"mediaType\": \"application/vnd.docker.image.rootfs.diff.tar.gzip
\",\n         \"size\": 37720774,\n         \"digest\":
 \"sha256:f8c9f51ad524d8ae9bf4db69cd3e720ba92373ec265f5c390ffb21bb0c277941\"\n
      },\n      {\n         \"mediaType\": \"application/
```

```
vnd.docker.image.rootfs.diff.tar.gzip\",\n         \"size\": 30432107,\n
 \"digest\": \"sha256:813a50b13f61cf1f8d25f19fa96ad3aa5b552896c83e86ce413b48b091d7f01b
\"\n      },\n      {\n         \"mediaType\": \"application/
vnd.docker.image.rootfs.diff.tar.gzip\",\n         \"size\": 197,\n         \"digest
\": \"sha256:7ab043301a6187ea3293d80b30ba06c7bf1a0c3cd4c43d10353b31bc0cecfe7d
\"\n      },\n      {\n         \"mediaType\": \"application/
vnd.docker.image.rootfs.diff.tar.gzip\",\n         \"size\": 154,\n         \"digest
\": \"sha256:67012cca8f31dc3b8ee2305e7762fee20c250513effdedb38a1c37784a5a2e71\"\n
      },\n      {\n         \"mediaType\": \"application/
vnd.docker.image.rootfs.diff.tar.gzip\",\n         \"size\": 176,\n         \"digest
\": \"sha256:3bc892145603fffc9b1c97c94e2985b4cb19ca508750b15845a5d97becbd1a0e
\"\n      },\n      {\n         \"mediaType\": \"application/
vnd.docker.image.rootfs.diff.tar.gzip\",\n         \"size\": 183,\n         \"digest
\": \"sha256:6f1c79518f18251d35977e7e46bfa6c6b9cf50df2a79d4194941d95c54258d18\"\n
      },\n      {\n         \"mediaType\": \"application/
vnd.docker.image.rootfs.diff.tar.gzip\",\n         \"size\": 212,\n         \"digest
\": \"sha256:b7bcfbc2e2888afebede4dd1cd5eebf029bb6315feeaf0b56e425e11a50afe42\"\n
      },\n      {\n         \"mediaType\": \"application/
vnd.docker.image.rootfs.diff.tar.gzip\",\n         \"size\": 212,\n         \"digest\":
 \"sha256:2b220f8b0f32b7c2ed8eaafe1c802633bbd94849b9ab73926f0ba46cdae91629\"\n      }\n
   ]\n}",
   "registryId": "123456789012",
   "imageId": {
    "imageDigest":
 "sha256:98c8b060c21d9adbb6b8c41b916e95e6307102786973ab93a41e8b86d1fc6d3e",
    "imageTag": "latest"
   }
  }
 },
 "requestID": "cf044b7d-5f9d-11e9-9b2a-95983139cc57",
 "eventID": "2bfd4ee2-2178-4a82-a27d-b12939923f0f",
 "resources": [{
  "ARN": "arn:aws:ecr-public:us-east-1:123456789012:repository/testrepo",
  "accountId": "123456789012"
 }],
 "eventType": "AwsApiCall",
 "recipientAccountId": "123456789012"
}
```

Amazon ECR Public service quotas

The following table provides the default service quotas for Amazon ECR Public. For unauthenticated customers, Amazon ECR Public supports up to 500GB of data per month. This is the max amount of data supported and isn't adjustable.

Name	Default	Adjustable	Description
Images per repository	Each supported Region: 20,000	Yes	The maximum number of images per repository.
Layer parts	Each supported Region: 1,000	No	The maximum number of layer parts. This is only applicable if you are using Amazon ECR API actions directly to initiate multipart uploads for image push operations.
Maximum layer part size	Each supported Region: 10	No	The maximum size (MiB) of a layer part. This is only applicable if you are using Amazon ECR API actions directly to initiate multipart uploads for image push operations.
Maximum layer size	Each supported Region: 10,000	No	The maximum size per layer.
Minimum layer part size	Each supported Region: 5	No	The minimum size (MiB) of a layer part. This is only applicable if you are using Amazon ECR API actions directly to initiate

Name	Default	Adjustable	Description
			multipart uploads for image push operations.
Rate of BatchCheckLayerAvailability requests	Each supported Region: 200 per second	Yes	The maximum number of BatchCheckLayerAvailability requests that you can make per second in the current Region. When an image is pushed to a repository, each image layer is checked to verify if it has been uploaded before. If it has been uploaded, then the image layer is skipped.
Rate of CompleteLayerUpload requests	Each supported Region: 10 per second	Yes	The maximum number of CompleteLayerUpload requests that you can make per second in the current Region. When an image is pushed, the CompleteLayerUpload API is called once per each new image layer to verify that the upload has completed.
Rate of GetAuthorizationToken requests	Each supported Region: 200 per second	Yes	The maximum number of GetAuthorizationToken requests that you can make per second in the current Region.

Name	Default	Adjustable	Description
Rate of InitiateLayerUpload requests	Each supported Region: 200 per second	Yes	The maximum number of InitiateLayerUpload requests that you can make per second in the current Region. When an image is pushed, the InitiateLayerUpload API is called once per image layer that has not already been uploaded. Whether or not an image layer has been uploaded is determined by the BatchCheckLayerAvailability API action.
Rate of PutImage requests	Each supported Region: 10 per second	Yes	The maximum number of PutImage requests that you can make per second in the current Region. When an image is pushed and all new image layers have been uploaded, the PutImage API is called once to create or update the image manifest and the tags associated with the image.

Name	Default	Adjustable	Description
Rate of UploadLayerPart requests	Each supported Region: 260 per second	Yes	The maximum number of UploadLayerPart requests that you can make per second in the current Region. When an image is pushed, each new image layer is uploaded in parts and the UploadLayerPart API is called once per each new image layer part.
Rate of authenticated image pulls	Each supported Region: 10 per second	Yes	The maximum number of authenticated image pulls per second.
Rate of image pulls to Amazon resources	Each supported Region: 10 per second	No	The maximum number of image pulls per second to resources running on Amazon ECS, Fargate, or Amazon EC2.
Rate of unauthenticated image pulls	Each supported Region: 1 per second	No	The maximum number of unauthenticated image pulls per second.
Registered repositories	Each supported Region: 10,000	Yes	The maximum number of repositories that you can create in this account in the current Region.
Tags per image	Each supported Region: 1,000	No	The maximum number of tags per image.

Amazon ECR Public troubleshooting

This chapter helps you find diagnostic information for Amazon ECR Public, and provides troubleshooting steps for common issues and error messages.

Topics

Authentication issues

Issue: When performing an unauthenticated pull from an Amazon ECR Public repository, you receive an authentication token expired response. This is likely due to the fact that you've previously requested an authentication token from Amazon ECR Public and that token has expired. When the new Amazon ECR Public image pull is performed, the expired token is used and the error is received. The following is an example error.

```
Error response from daemon: pull access denied for
 public.ecr.aws/registry_alias/repository_name, repository does not exist or may
 require 'docker login': denied: Your authorization token has expired. Reauthenticate
 and try again.
```

Resolution: To resolve this issue, you can either re-authenticate to Amazon ECR Public or you can log your Docker CLI out of the Amazon ECR Public registry and re-attempt your unauthenticated image pull.

```
docker logout public.ecr.aws
```

Document history

The following table describes the important changes to the documentation since the last release of Amazon ECR Public. We also update the documentation frequently to address the feedback that you send us.

Change	Description	Date
IPv6 support	Added support for making requests to Amazon ECR Public registries using both IPv4-only and dual-stack (IPv4 and IPv6) endpoints. For more information, see Making requests to Amazon ECR Public registries.	30 April 2025
Amazon Managed Policies for Amazon ECR Public	Amazon ECR Public added documentation of Amazon managed policies. For more information, see Amazon managed policies for Amazon ECR Public.	24 June 2021
Tagging support	Added support for tagging your public repositories. For more information, see Tag an Amazon ECR Public repository.	24 Feb 2021
Amazon ECR Public general availability	Amazon Elastic Container Registry Public is a public Amazon container image registry service that is secure, scalable, and reliable.	1 Dec 2020