

Lesson 02 Demo 05

Deploying and Configuring a Registry

Objective: To configure a local Docker registry for efficient storage and transfer of container images, facilitating streamlined image management within the development environment

Tools required: Docker

Prerequisites: None

Steps to be followed:

1. Run a local registry

Step 1: Run a local registry

- 1.1 Run the following command to start the registry container:

```
sudo docker run -d -p 5000:5000 --restart=always --name registry registry:2
```

```
labsuser@ip-172-31-32-178: ~  
labsuser@ip-172-31-32-178:~$ sudo docker run -d -p 5000:5000 --restart=always --name registry registry:2  
Unable to find image 'registry:2' locally  
2: Pulling from library/registry  
619be1103602: Pull complete  
2ba4b87859f5: Pull complete  
0da701e3b4d6: Pull complete  
14a4d5d702c7: Pull complete  
d1a4f6454cb2: Pull complete  
Digest: sha256:f4e1b878d4bc40a1f65532d68c94dcfbab56aa8cba1f00e355a206e7f6cc9111  
Status: Downloaded newer image for registry:2  
d6eacd74f46b79597b0a0879dc07a00fb764dc127c001cbbda43bb698f2f3457  
labsuser@ip-172-31-32-178:~$
```

1.2 Run the following command to list the running containers to check the newly created container:

sudo docker ps

```
d6eacd74f46b79597b0a0879dc07a00fb764dc127c001cbbda43bb698f2f3457
labsuser@ip-172-31-32-178:~$ sudo docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS
NAME          registry:2    "/entrypoint.sh /etc..." About a minute ago Up About a minute 0.0.0.0:5000->5000/tcp, :::5000->5000/tcp
labsuser@ip-172-31-32-178:~$
```

1.3 Pull the Ubuntu image using the following command:

sudo docker pull ubuntu:16.04

```
labsuser@ip-172-31-32-178:~$ sudo docker pull ubuntu:16.04
16.04: Pulling from library/ubuntu
58690f9b18fc: Pull complete
b51569e7c507: Pull complete
da8ef40b9eca: Pull complete
fb15d46c38dc: Pull complete
Digest: sha256:1f1a2d56de1d604801a9671f301190704c25d604a416f59e03c04f5c6ffee0d6
Status: Downloaded newer image for ubuntu:16.04
docker.io/library/ubuntu:16.04

What's Next?
1. Sign in to your Docker account -> docker login
2. View a summary of image vulnerabilities and recommendations -> docker scout quickview ubuntu:16.04
labsuser@ip-172-31-32-178:~$
```

1.4 Use the following commands to tag the Ubuntu image and check the running images:

sudo docker tag ubuntu:16.04 localhost:5000/my-ubuntu

sudo docker images

```
labsuser@ip-172-31-32-178:~$ sudo docker tag ubuntu:16.04 localhost:5000/my-ubuntu
labsuser@ip-172-31-32-178:~$ sudo docker images
REPOSITORY          TAG                 IMAGE ID            CREATED            SIZE
<none>              <none>             d7aad287f1df       4 days ago        183MB
demo/nginx_img      version1.0          e4720093a3c1       3 weeks ago        187MB
demo/nginx_img      version2.0          e4720093a3c1       3 weeks ago        187MB
demo/nginx_img      version3.0.latest   e4720093a3c1       3 weeks ago        187MB
nginx               latest             e4720093a3c1       3 weeks ago        187MB
myregistry:5000/demo/nginx_img version4.0          e4720093a3c1       3 weeks ago        187MB
registry            2                  a8781fe3b7a2       6 weeks ago        25.4MB
ubuntu              16.04              b6f507652425       2 years ago        135MB
localhost:5000/my-ubuntu latest             b6f507652425       2 years ago        135MB
labsuser@ip-172-31-32-178:~$
```

1.5 Push the image to the local registry using the following command:

```
sudo docker push localhost:5000/my-ubuntu
```

```
labsuser@ip-172-31-32-178: ~  
labsuser@ip-172-31-32-178:~$ sudo docker push localhost:5000/my-ubuntu  
Using default tag: latest  
The push refers to repository [localhost:5000/my-ubuntu]  
1251204ef8fc: Pushed  
47ef83afae74: Pushed  
df54c846128d: Pushed  
be96a3f634de: Pushed  
latest: digest: sha256:a3785f78ab8547ae2710c89e627783cfa7ee7824d3468cae6835c9f4eae23ff7 size: 1150  
labsuser@ip-172-31-32-178:~$
```

1.6 Remove the locally cached images using the following commands:

```
sudo docker image remove ubuntu:16.04
```

```
sudo docker image remove localhost:5000/my-ubuntu
```

```
labsuser@ip-172-31-32-178:~$ sudo docker image remove ubuntu:16.04  
Untagged: ubuntu:16.04  
Untagged: ubuntu@sha256:1f1a2d56de1d604801a9671f301190704c25d604a416f59e03c04f5c6ffee0d6  
labsuser@ip-172-31-32-178:~$ sudo docker image remove localhost:5000/my-ubuntu  
Untagged: localhost:5000/my-ubuntu:latest  
Untagged: localhost:5000/my-ubuntu@sha256:a3785f78ab8547ae2710c89e627783cfa7ee7824d3468cae6835c9f4eae23ff7  
Deleted: sha256:b6f50765242581c887ff1acc2511fa2d885c52d8fb3ac8c4bba131fd86567f2e  
Deleted: sha256:0214f4b057d78b44fd12702828152f67c0ce115f9346acc63acdf997cab7e7c8  
Deleted: sha256:1b9d0485372c5562fa614d5b35766f6c442539bcee9825a6e90d1158c3299a61  
Deleted: sha256:3c0f34be6eb98057c607b9080237cce0be0b86f52d51ba620dc018a3d421baea  
Deleted: sha256:be96a3f634de79f523f07c7e4e0216c28af45eb5776e7a6238a2392f71e01069  
labsuser@ip-172-31-32-178:~$
```

1.7 Pull the localhost:5000/my-ubuntu image from the local registry

```
sudo docker pull localhost:5000/my-ubuntu
```

```
labsuser@ip-172-31-32-178:~$ sudo docker pull localhost:5000/my-ubuntu  
Using default tag: latest  
latest: Pulling from my-ubuntu  
58690f9b18fc: Pull complete  
b51569e7c507: Pull complete  
da8ef40b9eca: Pull complete  
fb15d46c38dc: Pull complete  
Digest: sha256:a3785f78ab8547ae2710c89e627783cfa7ee7824d3468cae6835c9f4eae23ff7  
Status: Downloaded newer image for localhost:5000/my-ubuntu:latest  
localhost:5000/my-ubuntu:latest  
  
What's Next?  
1. Sign in to your Docker account → docker login  
2. View a summary of image vulnerabilities and recommendations → docker scout quickview localhost:5000/my-ubuntu  
labsuser@ip-172-31-32-178:~$
```

1.8 Use the following command to stop the running registry container:

sudo docker container stop registry

```
What's Next?
  1. Sign in to your Docker account → docker login
  2. View a summary of image vulnerabilities and recommendations → docker scout quickview localhost:5000/my-ubuntu
labsuser@ip-172-31-32-178:~$ sudo docker container stop registry
registry
labsuser@ip-172-31-32-178:~$ █
```

By following these steps, you have successfully configured a local registry, transferred an Ubuntu image to it, and demonstrated the ability to push and pull images to and from the registry.