Your company has recently decided to use Docker to run containers in production.

They have built some Docker images to run their own proprietary software and need a place to store and manage these images.

You have been asked to build a secure, private Docker registry for use by the company.

In order to verify that everything works, you have also been asked to configure a Docker workstation server to push to and pull from the registry.

To complete this lab, ensure that the following requirements are met for the registry:

1. A private Docker registry is running on the Docker registry server using version 2 of the registry image.

2. The container name for the registry should be registry.

3. The registry should always automatically restart if it stops or the Docker daemon or server restarts.

4. The registry should require authentication. Set up an initial account with the username docker and the password d0ck3rrU73z.

5. The registry should use TLS with a self-signed certificate.

6. The registry should listen on port 443.

Set up the Docker workstation server to meet the following requirements:

1. Docker is logged in to the private registry.

2. Docker is configured to accept the self-signed cert. Do not turn off certificate verification using the insecure-registries setting.

3. To confirm that everything is working, push a test image called ip-10-0-1-101:443/test-image:1 to the private registry.

You can pull any image from Docker hub and tag it with ip-10-0-1-101:443/test-image:1 as a test.

4. Delete the test image locally and pull it from the registry.

[NOTE: Write the series of commands to achieve above in this file below the question scenario with documentation]

Good luck!

To create a private registry and assign the login and password to the docker private registry, we have to create the self-signed certificate.

For this make a directory:

mkdir -p /opt/certs

cd /opt/certs/

quick self-signed certificate generate the key/certificate pair, then sign it, all with one openssl line

openssl req -new -newkey rsa:2048 -days 365 -nodes -x509 -keyout server.key -out server.crt

now run the command to assign the username:

cd /opt

docker run --entrypoint htpasswd registry:2 -Bbn docker d0ck3rrU73z > auth/htpasswd

Run the following command to go the private registry:

docker run -d \

-p 5000:5000 \

--restart=always \

--name registry \

-v /opt/auth:/auth \

-e "REGISTRY\_AUTH=htpasswd" \

-e "REGISTRY\_AUTH\_HTPASSWD\_REALM=Registry Realm" \

-e REGISTRY\_AUTH\_HTPASSWD\_PATH=/auth/htpasswd \

-v /opt/certs:/certs \

-v /opt/data:/var/lib/registry \

-e REGISTRY\_HTTP\_TLS\_CERTIFICATE=/certs/server.crt \

-e REGISTRY\_HTTP\_TLS\_KEY=/certs/server.key \

registry:2

Login with the following command:

docker login localhost:5000

now pull any image from docker hub

docker pull nginx:latest

tag with the localhost:

docker tag ip-10-0-1-101:443/test-image:1 localhost:5000/nginx:latest

docker push localhost:5000/nginx:latest