

Docker Assignment 06

1. ****Create Directories:****

- Establish two directories named "DHUB" and "AWSECR."

```
root@ASAD-PC-3313:/home/asad/as6# mkdir DHUB
root@ASAD-PC-3313:/home/asad/as6# mkdir AWSECR
root@ASAD-PC-3313:/home/asad/as6# ll
total 16
drwxr-xr-x 4 root root 4096 Jan 18 16:49 ./
drwxr-x--- 5 asad asad 4096 Jan 18 16:48 ../
drwxr-xr-x 2 root root 4096 Jan 18 16:49 AWSECR/
drwxr-xr-x 2 root root 4096 Jan 18 16:49 DHUB/
-rw-r--r-- 1 root root    0 Jan 18 16:48 Docker_Assignment_06
root@ASAD-PC-3313:/home/asad/as6#
```

2. ****Dockerfile Creation:****

- Develop two Dockerfiles to construct custom images with the following specifications:
 - Base image: Ubuntu
 - Install packages: httpd
 - Add "I am from Docker Hub" to the index.html file for DHUB directory and "I am from ECR" for AWSECR directory.
 - Set environment variable ENV_NAME=DHUB for the DHUB directory and ENV_NAME=AWSECR for the AWSECR directory.
 - Start http service using ENTRYPOINT
 - Expose port 80.

→

```

root@ASAD-PC-3313:/home/asad/as6# cat AWSECR/Dockerfile DHUB/Dockerfile
# Use the official Ubuntu base image
FROM ubuntu:latest

# Install Apache HTTP server
RUN apt-get update && \
    apt-get install -y apache2 && \
    rm -rf /var/lib/apt/lists/*

#Copy apache2.conf
COPY apache2.conf /etc/apache2/apache2.conf

# Set the environment variable for AWSECR
ENV ENV_NAME=AWSECR

# Add content to index.html
RUN echo "I am from ECR" > /var/www/html/index.html

# Expose port 80
EXPOSE 80

# Start the HTTP service using ENTRYPOINT
ENTRYPOINT ["apache2ctl", "-D", "FOREGROUND"]
FROM ubuntu:latest
RUN apt-get update && \
    apt-get install -y apache2 && \
    rm -rf /var/lib/apt/lists/*

COPY apache2.conf /etc/apache2/apache2.conf
ENV ENV_NAME=DHUB
RUN echo "I am from Docker Hub" > /var/www/html/index.html
EXPOSE 80
ENTRYPOINT ["apache2ctl", "-D", "FOREGROUND"]
root@ASAD-PC-3313:/home/asad/as6# █

```

3. ****Build Custom Images:****

- Utilize the docker build command to build the custom images.
- List all available images using docker images

```

root@ASAD-PC-3313:/home/asad/as6#
root@ASAD-PC-3313:/home/asad/as6# docker image build -t my-dhub-image DHUB/
[+] Building 48.7s (18/10) FINISHED
=> [internal] load build definition from Dockerfile
=> == transferring dockerfile: 128B
=> [internal] load .dockerignore
=> == transferring context: 2B
=> [internal] load metadata for docker.io/library/ubuntu:latest
=> [auth] library/ubuntu:pull token for registry-1.docker.io
=> CACHED [1/4] FROM docker.io/library/ubuntu:latest@sha256:e6173d4dc55e76b87c4af8db8821b1feae4146dd47341e40431118c7dd068a7a
=> [internal] load build context
=> == transferring context: 7.29kB
=> [2/4] RUN apt-get update && apt-get install -y apache2 && rm -rf /var/lib/apt/lists/*
=> [3/4] COPY apache2.conf /etc/apache2/apache2.conf
=> [4/4] RUN echo "I am from Docker Hub" > /var/www/html/index.html
=> exporting to image
=> == exporting layers
=> == writing image sha256:0194226269f3a537a59e3a3aad3fbfefaa2a075da22969f56493cb33eb7fd42ac
=> == naming to docker.io/library/my-dhub-image
root@ASAD-PC-3313:/home/asad/as6# docker image build -t my-awseccr-image AWSECCR/
[+] Building 13.1s (9/9) FINISHED
=> [internal] load .dockerignore
=> == transferring context: 2B
=> [internal] load build definition from Dockerfile
=> == transferring dockerfile: 504B
=> [internal] load metadata for docker.io/library/ubuntu:latest
=> [1/4] FROM docker.io/library/ubuntu:latest@sha256:e6173d4dc55e76b87c4af8db8821b1feae4146dd47341e40431118c7dd068a7a
=> [internal] load build context
=> == transferring context: 7.29kB
=> CACHED [2/4] RUN apt-get update && apt-get install -y apache2 && rm -rf /var/lib/apt/lists/*
=> CACHED [3/4] COPY apache2.conf /etc/apache2/apache2.conf
=> [4/4] RUN echo "I am from ECR" > /var/www/html/index.html
=> exporting to image
=> == exporting layers
=> == writing image sha256:2afdef889da68a6a4a3645552d7adde47722bdddab19c34ff3f11ee4e6b8877

```

```

root@ASAD-PC-3313:/home/asad/as6# docker images
REPOSITORY          TAG          IMAGE ID          CREATED          SIZE
my-awseccr-image    latest       2afdef889da6     2 minutes ago   186MB
my-dhub-image        latest       0194226269f3     3 minutes ago   186MB
asad_ubuntu          v1          619868be0f29     4 hours ago     212MB
asadis7171/asad_cloudethix_busybox  ngnx        76d4d0842b5e     4 hours ago     185MB
asad_nginx            latest       76d4d0842b5e     4 hours ago     185MB
asadis7171/asad_cloudethix_nginx    v1          d91f88987996     25 hours ago    187MB
asadis7171/nginx      v1          ebab94a9965d     2 days ago      187MB
asadis7171/asad_cloudethix_redis    v1          bdfbf4838c172    8 days ago      138MB
asadis7171/asad_cloudethix_redis    v2          bdfbf4838c172    8 days ago      138MB
busybox               latest       9211bbaa0dbd     4 weeks ago     4.26MB
asadis7171/asad_cloudethix_busybox  v1          9211bbaa0dbd     4 weeks ago     4.26MB
hello-world           latest       d2c94e258dcb     8 months ago    13.3kB
root@ASAD-PC-3313:/home/asad/as6#

```

4. **Push Images to Repositories:**

- Push the Docker image to Docker Hub.

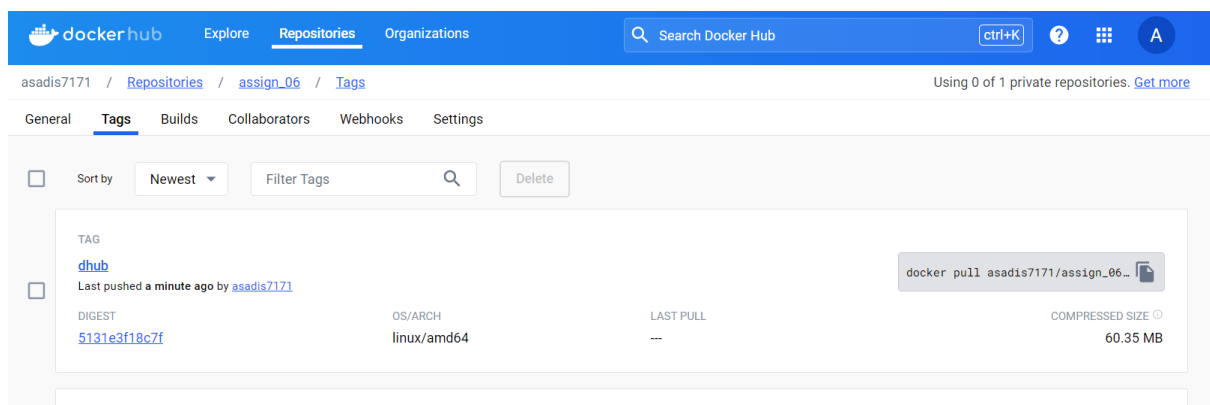
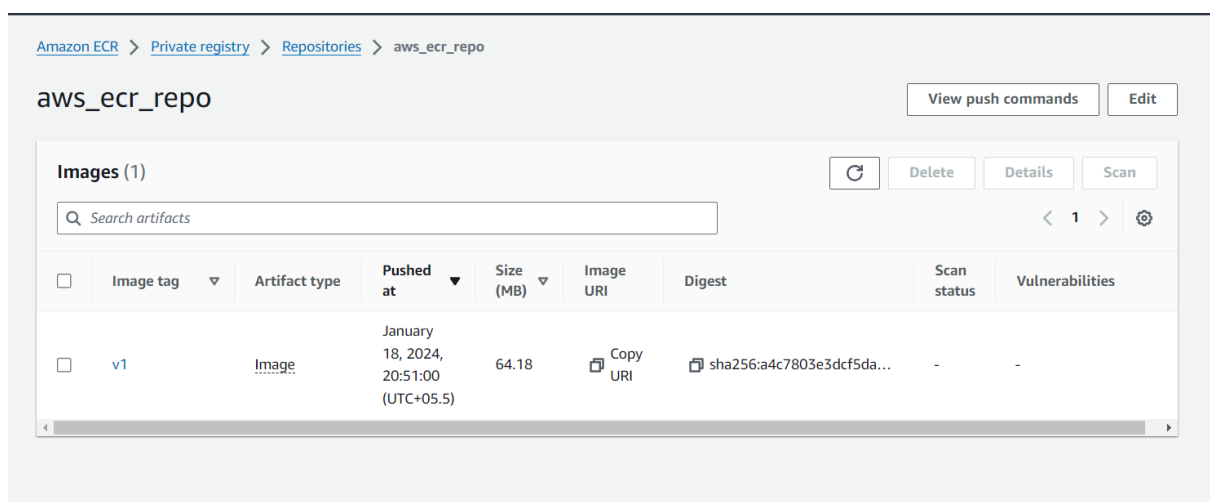
- Push the Docker image to AWS ECR.

```

root@ASAD-PC-3313:/home/asad/as6# docker push asadis7171/assign_06:dhub
The push refers to repository [docker.io/asadis7171/assign_06]
ee85c7dc3b4c: Pushed
7919802ffc7e: Layer already exists
9a355715f731: Layer already exists
8e87ff28f1b5: Layer already exists
dhub: digest: sha256:5131e3f18c7f74d02fcc5652614081373f5464ff7ad221a5ca0499aa3a5ed243 size: 1156
root@ASAD-PC-3313:/home/asad/as6#

```

```
root@ASAD-PC-3313:~# docker image tag my-awsecr-image 734620144921.dkr.ecr.us-east-1.amazonaws.com/aws_ecr_repo:v1
root@ASAD-PC-3313:~# docker images
REPOSITORY                                                                 TAG                                                                 IMAGE ID                                                                 CREATED                                                                 SIZE
734620144921.dkr.ecr.us-east-1.amazonaws.com/aws_ecr_repo              v1                                                                 2afdef889da6                                                            44 minutes ago                                                       186MB
asadis7171/assign_06                                                    awsecr                                                             2afdef889da6                                                            44 minutes ago                                                       186MB
my-awsecr-image                                                         latest                                                             2afdef889da6                                                            44 minutes ago                                                       186MB
my-dhub-image                                                           latest                                                             0194226269f3                                                            45 minutes ago                                                       186MB
asadis7171/assign_06                                                    dhub                                                                0194226269f3                                                            45 minutes ago                                                       186MB
asad_ubuntu                                                            v1                                                                619868be0f29                                                            5 hours ago                                                           212MB
asadis7171/asad_cloudethix_busybox                                      nginx                                                             76d4d0842b5e                                                            5 hours ago                                                           185MB
asad_nginx                                                             latest                                                            76d4d0842b5e                                                            5 hours ago                                                           185MB
asadis7171/asad_cloudethix_nginx                                       v1                                                                d91f88987996                                                            25 hours ago                                                         187MB
asadis7171/nginx                                                       v1                                                                ebab94a9965d                                                            2 days ago                                                           187MB
asadis7171/asad_cloudethix_redis                                       v1                                                                bdff4838c172                                                            8 days ago                                                           138MB
asadis7171/asad_cloudethix_redis                                       v2                                                                bdff4838c172                                                            8 days ago                                                           138MB
asadis7171/asad_cloudethix_busybox                                      v1                                                                9211bbaa0dbd                                                            4 weeks ago                                                           4.26MB
busybox                                                                latest                                                            9211bbaa0dbd                                                            4 weeks ago                                                           4.26MB
hello-world                                                            latest                                                            d2c94e258dcb                                                            8 months ago                                                         13.3kB
root@ASAD-PC-3313:~# docker push 734620144921.dkr.ecr.us-east-1.amazonaws.com/aws_ecr_repo:v1
The push refers to repository [734620144921.dkr.ecr.us-east-1.amazonaws.com/aws_ecr_repo]
0313984402f6: Pushed
7919802ffc7e: Pushed
9a355715f731: Pushed
8e87ff28f1b5: Pushed
v1: digest: sha256:a4c7803e3dcf5da543477b78f277c862cc908006546c4f0f91388ec6d927489a size: 1156
root@ASAD-PC-3313:~#
```



5. **Run Containers:**

- Execute a container from the Docker Hub image, naming it "I_AM_FROM_DHUB," and mapping host port 8081 to the container.

...

```
docker run -d -p 8081:80 --name I_AM_FROM_DHUB your_docker_hub_image
```

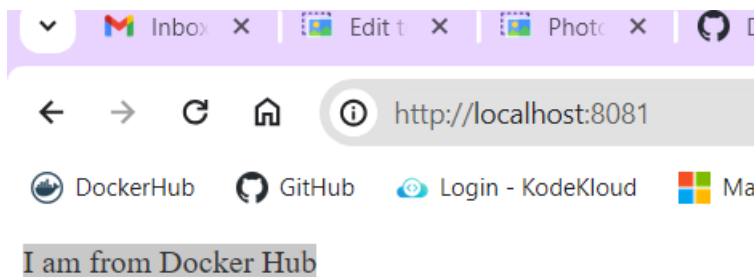
...

- Execute a container from the AWS ECR image, naming it "I_AM_FROM_ECR," and mapping host port 8082 to the container.


...

```
docker run -d -p 8082:80 --name I_AM_FROM_ECR your_aws_ecr_image
```

```
root@ASAD-PC-3313:/home/asad/as6# docker run -d -p 8081:80 --name I_AM_FROM_DHUB my-dhub-image
6861f665597d58e99acdf6468bbf89ea0d373b33dd1a9a520b929ecd828e7686
root@ASAD-PC-3313:/home/asad/as6# curl localhost:8081
I am from Docker Hub
root@ASAD-PC-3313:/home/asad/as6# docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
asadis7171/assign_06    awsecr             2afdef889da6       21 minutes ago     186MB
my-awsecr-image        latest             2afdef889da6       21 minutes ago     186MB
asadis7171/assign_06    dhub               0194226269f3       22 minutes ago     186MB
my-dhub-image          latest             0194226269f3       22 minutes ago     186MB
asad_ubuntu            v1                 619868be0f29       4 hours ago        212MB
asadis7171/asad_cloudethix_busybox  ngnx               76d4d0842b5e       5 hours ago        185MB
asad_nginx              latest             76d4d0842b5e       5 hours ago        185MB
asadis7171/asad_cloudethix_nginx     v1                 d91f88987996       25 hours ago       187MB
asadis7171/nginx        v1                 ebab94a9965d       2 days ago         187MB
asadis7171/asad_cloudethix_redis     v1                 bdf4f4838c172      8 days ago         138MB
asadis7171/asad_cloudethix_redis     v2                 bdf4f4838c172      8 days ago         138MB
asadis7171/asad_cloudethix_busybox   v1                 9211bbaa0dbd       4 weeks ago        4.26MB
busybox                 latest             9211bbaa0dbd       4 weeks ago        4.26MB
hello-world             latest             d2c94e258dcb       8 months ago       13.3kB
root@ASAD-PC-3313:/home/asad/as6# docker run -d -p 8082:80 --name I_AM_FROM_ECR my-awsecr-image
8352ae27eea5cabf904c18176e9c379b86cf2061f5a3f92d7233bcf05160429e
root@ASAD-PC-3313:/home/asad/as6# curl localhost:8082
I am from ECR
root@ASAD-PC-3313:/home/asad/as6#
```



← → ↻ 🏠 ⓘ http://localhost:8082

 DockerHub  GitHub  Login - KodeKloud  Mail - Asad SI

I am from ECR

```
root@ASAD-PC-3313:/home/asad/as6# docker ps
CONTAINER ID   IMAGE                                COMMAND                  CREATED        STATUS        PORTS                               NAMES
8352ae27eea5   my-awsecr-image                    "apache2ctl -D FOREG..." 4 minutes ago  Up 4 minutes  0.0.0.0:8082->80/tcp, :::8082->80/tcp  I_AM_FROM_ECR
6861f665597d   my-dhub-image                      "apache2ctl -D FOREG..." 6 minutes ago  Up 6 minutes  0.0.0.0:8081->80/tcp, :::8081->80/tcp  I_AM_FROM_DHUB
b8eb6102d452   asadis7171/asad_cloudehix_nginx:v1 "/docker-entrypoint..." 9 hours ago    Up 9 hours    0.0.0.0:8383->80/tcp, :::8383->80/tcp  asad_nginx_05
root@ASAD-PC-3313:/home/asad/as6# docker exec -ti I_AM_FROM_ECR bash
root@8352ae27eea5:/# service apache2 status
* apache2 is running
root@8352ae27eea5:/#
```

```
root@8352ae27eea5:/# Read escape sequence
root@ASAD-PC-3313:/home/asad/as6# docker exec -ti I_AM_FROM_DHUB bash
root@6861f665597d:/# service apache2 status
* apache2 is running
root@6861f665597d:/#
```