Here is DOCKER Hands on Lab 06.

- **Task List: Docker Image Creation and Deployment**
- 1. **Create Directories:**
 - Establish two directories named "DHUB" and "AWSECR."

SOLUTION:-

```
root@DESKTOP-VIDGD8F:DOCKER# mkdir DHUB
root@DESKTOP-VIDGD8F:DOCKER# mkdir AWSECR
root@DESKTOP-VIDGD8F:DOCKER# ll
total 114224
drwxrwxrwx 1 saniya saniya
                                   512 Jan 18 14:51
                                   512 Jan 17 13:21
drwxrwxrwx 1 saniya saniya
                                   512 Jan 18 13:29
drwxrwxrwx 1 saniya saniya
drwxrwxrwx 1 saniya saniya
                                   512 Jan 18 14:51
                                   512 Jan 18 14:51
drwxrwxrwx 1 saniya saniya
drwxrwxrwx 1 saniya saniya
                                   512 Jan 18 12:30
-rwxrwxrwx 1 saniya saniya
                               806442 Jan 9 15:06 Docker_Assignment_no1.pdf
                               3256846 Jan 10 15:24 Docker_Assignment_no_2.pdf
-rwxrwxrwx 1 saniya saniya
-rwxrwxrwx 1 saniya saniya
                                 11349 Jan 11 12:04
                                                      Docker_Assignment_no_3.docx
                                15891 Jan 11 15:49 Docker_Assignment_no_3.txt
-rwxrwxrwx 1 saniya saniya
                               732532 Jan 17 11:00 Docker_Assignment_no_4.docx
895268 Jan 17 11:00 Docker_Assignment_no_4.pdf
-rwxrwxrwx 1 saniya saniya
-rwxrwxrwx 1 saniya saniya
                               3194164 Jan 18 13:28 Docker_Assignment_no_5.docx
-rwxrwxrwx 1 saniya saniya
-rwxrwxrwx 1 saniya saniya
                               3832653 Jan 18 13:28
                                                      Docker_Assignment_no_5.pdf
                                 12767 Jan 18 14:48 Docker_Assignment_no_6.docx
rwxrwxrwx 1 saniya saniya
                                   123 Jan 18 12:46 Dockerfile
36 Jan 12 12:27 'docker hub password .txt'
-rwxrwxrwx 1 saniya saniya
-rwxrwxrwx 1 saniya saniya
 rwxrwxrwx 1 saniya saniya 104193512 Nov 16 15:37 draw.io-22.1.2-windows-installer.jpg.exe
-rwxrwxrwx 1 saniya saniya
root@DESKTOP-VIDGD8F:DOCKER#
                                   162 Jan 18 14:48 '~$cker_Assignment_no_6.docx'
```

- 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.

SOLUTION:-

```
root@DESKTOP-VIDGD8F:DHUB# ll
total 0
drwxrwxrwx 1 saniya saniya 512 Jan 18 14:51 .
drwxrwxrwx 1 saniya saniya 512 Jan 18 14:51 ..
root@DESKTOP-VIDGD8F:DHUB# vim Dockerfile
```

```
root@DESKTOP-VIDGD8F:DHUB# ll
total 8
drwxrwxrwx 1 saniya saniya 512 Jan 18 17:25 .
drwxrwxrwx 1 saniya saniya 512 Jan 18 15:58 .
-rwxrwxrwx 1 saniya saniya 213 Jan 18 17:25 Dockerfile
-rwxrwxrwx 1 saniya saniya 7243 Jan 18 17:06 apache2.conf
-rwxrwxrwx 1 saniya saniya 21 Jan 18 17:04 index.html
root@DESKTOP-VIDGD8F:DHUB#
```

```
root@DESKTOP-VIDGD8F:DHUB# cat Dockerfile
FROM ubuntu:latest
RUN apt update
RUN apt install apache2 -y
COPY index.html /var/www/html/index.html
COPY apache2.conf /etc/apache2/apache2.conf
ENV ENV_NAME=DHUB
EXPOSE 80
CMD ["apache2ctl", "-D", "FOREGROUND"]
root@DESKTOP-VIDGD8F:DHUB#
```

```
root@DESKTOP-VIDGD8F:AWSECR# ll
total 8
drwxrwxrwx 1 saniya saniya 512 Jan 18 18:57 .
drwxrwxrwx 1 saniya saniya 512 Jan 18 15:58 ..
-rwxrwxrwx 1 saniya saniya 186 Jan 18 16:44 Dockerfile
-rwxrwxrwx 1 saniya saniya 7243 Jan 18 18:57 apache2.conf
-rwxrwxrwx 1 saniya saniya 14 Jan 18 18:56 index.html
```

```
root@DESKTOP-VIDGD8F:DHUB# cat ../AWSECR/Dockerfile
FROM ubuntu:latest
RUN apt update
RUN apt install apache2 -y
RUN echo "I am from ECR" > /var/www/html/index.html
ENV ENV_NAME=AWSECR
ENTRYPOINT ["service", "apache2", "start"]
EXPOSE 80
root@DESKTOP-VIDGD8F:DHUB#
```

3. **Build Custom Images: **

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

SOLUTION:-

```
REPOSITORY
                                                              IMAGE ID
                                                                             CREATED
custom
                                       DHUB
                                                              5602c487eae3
                                                                             3 minutes ago
                                                                                              233MB
custom
                                                              b2832fb1d7fb
                                                                             2 hours ago
                                                                                              261MB
image_nginx_cont
                                       latest
                                                              da8eb5c05b32
                                                                              3 hours ago
                                                                                              185MB
sanu28221/saniya_cloudethix_busybox
                                       nginx_cont_image_v1
                                                              da8eb5c05b32
                                                                             3 hours ago
                                                                                              185MB
redis_v3
                                       latest
                                                              67a102f3406b
                                                                             3 hours ago
                                                                                              142MB
redis_v1
                                       latest
                                                              eb3a8f5231f2
                                                                               hours ago
                                                                                              142MB
                                                              7812e3a95a12
                                                                             4 hours ago
                                                                                              187MB
nginx
sanu28221/saniya_cloudethix_nginx
                                       version1
                                                              7812e3a95a12
                                                                             4 hours ago
                                                                                              187MB
                                       latest
                                                              9211bbaa0dbd
                                                                             4 weeks ago
                                                                                              4.26MB
sanu28221/saniya_cloudethix_busybox
                                       version1
                                                              9211bbaa0dbd
                                                                             4 weeks ago
                                                                                              4.26MB
ubuntu
                                       latest
                                                              174c8c134b2a
                                                                             5 weeks ago
                                                                                              77.9MB
                                                              a8758716bb6a
                                                                             2 months ago
                                                                                              187MB
nginx
                                       latest
                                       latest
                                                              6fd77d7e5eb7
                                                                             3 months ago
                                                                                              167MB
httpd
root@DESKTOP-VIDGD8F:DHUB#
```

root@DESKTOP-VIDGD8F:AWSECR# docker	images			
REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
custom	AWSECR	b9fff863f9b3	7 seconds ago	233MB
custom	DHUB	5602c487eae3	5 minutes ago	233MB
custom	v1	b2832fb1d7fb	3 hours ago	261MB
image_nginx_cont	latest	da8eb5c05b32	3 hours ago	185MB
sanu28221/saniya_cloudethix_busybox	nginx_cont_image_v1	da8eb5c05b32	3 hours ago	185MB
redis_v3	latest	67a102f3406b	3 hours ago	142MB
redis_v1	latest	eb3a8f5231f2	3 hours ago	142MB
nginx	v1	7812e3a95a12	4 hours ago	187MB
sanu28221/saniya_cloudethix_nginx	version1	7812e3a95a12	4 hours ago	187MB
busybox	latest	9211bbaa0dbd	4 weeks ago	4.26MB
sanu28221/saniya_cloudethix_busybox	version1	9211bbaa0dbd	4 weeks ago	4.26MB
ubuntu	latest	174c8c134b2a	5 weeks ago	77.9MB
nginx	latest	a8758716bb6a	2 months ago	187MB
httpd	latest	6fd77d7e5eb7	3 months ago	167MB
root@DESKTOP-VIDGD8F:AWSECR#				

4. **Push Images to Repositories:**

- Push the Docker image to Docker Hub.
- Push the Docker image to AWS ECR.

SOLUTION:-

Push the Docker image to Docker Hub

```
TOP-VIDGD8F:DHUB# docker login
sting with existing credentials...
not succeed, error: Error response from daemon: Get "https://registry-l.docker.io/v2/": net/http: request canceled while waiting for connection (C
rout exceeded while awaiting headers)
the two Exceeded while awaiting headers or bush and pull images from Docker Hub. If you don't have a Docker ID, head over to https://hub.docker.com/ to
 ne.
log in with your password or a Personal Access Token (PAT). Using a limited-scope PAT grants better security and is required for organizations using
arn more at https://docs.docker.com/go/access-tokens/
d:
!Your password will be stored unencrypted in /root/.docker/config.json.
re a credential helper to remove this warning. See
/docs.docker.com/engine/reference/commandline/login/#credentials-store
```

root@DESKTOP-VIDGD8F:DHUB# docker ima	iges			
REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
custom	AWSECR	b9fff863f9b3	4 minutes ago	233MB
custom	DHUB	5602c487eae3	9 minutes ago	233MB
custom	v1	b2832fb1d7fb	3 hours ago	261MB
image_nginx_cont	latest	da8eb5c05b32	3 hours ago	185MB
sanu28221/saniya_cloudethix_busybox	nginx_cont_image_v1	da8eb5c05b32	3 hours ago	185MB
redis_v3	latest	67a102f3406b	3 hours ago	142MB
redis_v1	latest	eb3a8f5231f2	3 hours ago	142MB
nginx	v1	7812e3a95a12	4 hours ago	187MB
sanu28221/saniya_cloudethix_nginx	version1	7812e3a95a12	4 hours ago	187MB
busybox	latest	9211bbaa0dbd	4 weeks ago	4.26MB
sanu28221/saniya_cloudethix_busybox	version1	9211bbaa0dbd	4 weeks ago	4.26MB
ubuntu	latest	174c8c134b2a	5 weeks ago	77.9MB
nginx	latest	a8758716bb6a	2 months ago	187MB
httpd	latest	6fd77d7e5eb7	3 months ago	167MB
root@DESKTOP-VIDGD8F:DHUB# docker ima	ge tag custom:DHUB sam	nu28221/saniya_d	cloudethix_docker	_repo:custome_DHUB_image

root@DESKTOP-VIDGD8F:DHUB# docker images				
REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
custom	AWSECR	b9fff863f9b3	9 minutes ago	233MB
custom	DHUB	5602c487eae3	14 minutes ago	233MB
sanu28221/saniya_cloudethix_docker_repo	custome_DHUB_image	5602c487eae3	14 minutes ago	233MB
custom	v1	b2832fb1d7fb	3 hours ago	261MB
sanu28221/saniya_cloudethix_busybox	nginx_cont_image_v1	da8eb5c05b32	3 hours ago	185MB
image_nginx_cont	latest	da8eb5c05b32	3 hours ago	185MB
redis_v3	latest	67a102f3406b	3 hours ago	142MB
redis_v1	latest	eb3a8f5231f2	3 hours ago	142MB
nginx	v1	7812e3a95a12	4 hours ago	187MB
sanu28221/saniya_cloudethix_nginx	version1	7812e3a95a12	4 hours ago	187MB
busybox	latest	9211bbaa0dbd	4 weeks ago	4.26MB
sanu28221/saniya_cloudethix_busybox	version1	9211bbaa0dbd	4 weeks ago	4.26MB
ubuntu	latest	174c8c134b2a	5 weeks ago	77.9MB
nginx	latest	a8758716bb6a	2 months ago	187MB
httpd	latest	6fd77d7e5eb7	3 months ago	167MB
root@DESKTOP-VIDGD8F:DHUB#				

root@DESKTOP-VIDGD8F:DHUB# docker image push sanu28221/saniya_cloudethix_docker_repo:custome_DHUB_image
The push refers to repository [docker.io/sanu28221/saniya_cloudethix_docker_repo]
7badf6be9ef3: Pushed
c64e567ec026: Pushed
6557a881c01d: Pushed
a1360aae5271: Mounted from library/ubuntu
custome_DHUB_image: digest: sha256:b0f98b5bc70daaeb6b8ee7bcda4ac2af93a614e9d687aa6e944b46ab666e7db0 size: 1160

sanu28221 / saniya_cloudethix_docker_repo

Description

This repository does not have a description 🧪

(Last pushed: 7 minutes ago

Tags

This repository contains 1 tag(s).

Tag	os	Туре	Pulled	Pushed
custome_DHUB_image	۵	Image	12	7 minutes ago

Push the Docker image to AWS ECR.

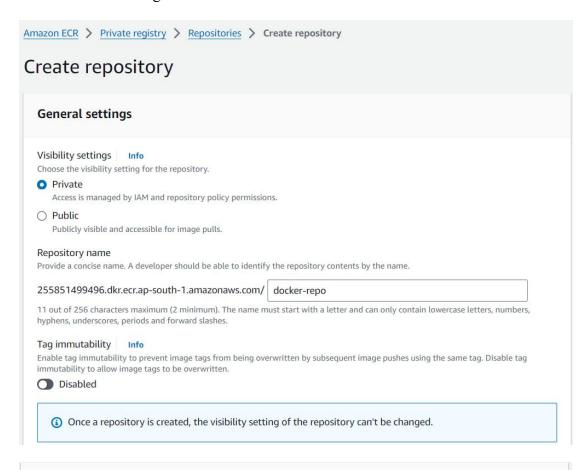


Image scan settings



(i) Deprecation warning

ScanOnPush configuration at the repository level is deprecated in favor of registry level scan filters.

Scan on push

Enable scan on push to have each image automatically scanned after being pushed to a repository. If disabled, each image scan must be manually started to get scan results.



Disabled

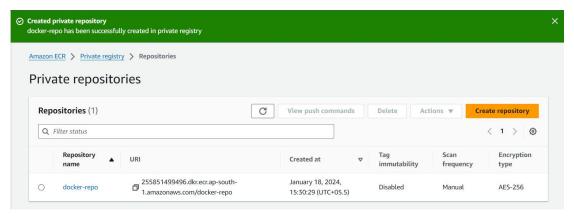
Encryption settings

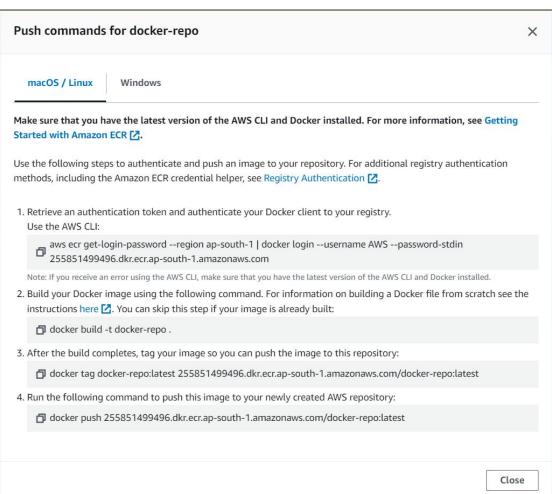
KMS encryption

You can use AWS Key Management Service (KMS) to encrypt images stored in this repository, instead of using the default encryption settings.



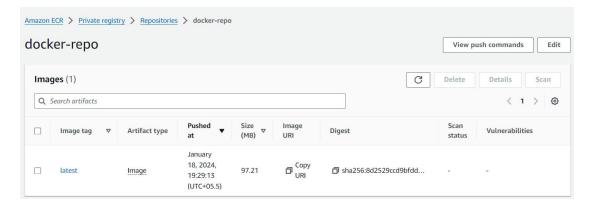
The KMS encryption settings cannot be changed or disabled after the repository is created.





```
oot@DESKTOP-VIDGD8F:AWSECR# docker tag custom:AWSECR 255851499496.dkr.ecr.ap-south-1.amazonaws.com/docker-repo:latest
oot@DESKTOP-VIDGD8F:AWSECR# docker images
                                                                                                            IMAGE ID
                                                                                                                                CREATED
                                                                                                                                15 minutes ago
15 minutes ago
20 minutes ago
                                                                                                            b9fff863f9b3
b9fff863f9b3
255851499496.dkr.ecr.ap-south-1.amazonaws.com/docker-repo
                                                                               AWSECR
custom
                                                                               DHUB
                                                                                                            5602c487eae3
sanu28221/saniya_cloudethix_docker_repo
                                                                               custome_DHUB_image
                                                                                                            5602c487eae3
                                                                                                                                20 minutes ago
                                                                                                            b2832fb1d7fb
da8eb5c05b32
da8eb5c05b32
custom
image_nginx_cont
                                                                                                                                3 hours ago
3 hours ago
sanu28221/saniya_cloudethix_busybox
                                                                               nginx_cont_image_v1
latest
                                                                                                                                  hours ago
redis_v1
                                                                               latest
                                                                                                            eb3a8f5231f2
                                                                                                                                  hours
nginx
sanu28221/saniya_cloudethix_nginx
                                                                                                            7812e3a95a12
7812e3a95a12
                                                                                version1
busybox
sanu28221/saniya_cloudethix_busybox
ubuntu
                                                                                                            174c8c134b2a
```

```
root@DESKTOP-VIDGD8F:AWSECR# docker push 255851499496.dkr.ecr.ap-south-1.amazonaws.com/docker-repo:latest
The push refers to repository [255851499496.dkr.ecr.ap-south-1.amazonaws.com/docker-repo]
7b57e2c8be5b: Pushed
c64e567ec026: Pushed
6557a881c01d: Pushed
a1360aae5271: Pushed
latest: digest: sha256:be521bc2affb4d0cce4d4ac588396e890140786e6a2ebaec2b3ae7656bd5f071 size: 1160
root@DESKTOP-VIDGD8F:AWSECR#
```



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.

- 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

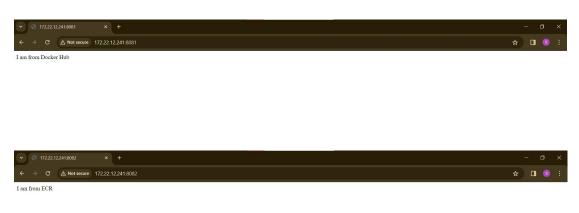
SOLUTION:-

```
root@DESKTOP-VIDGD8F:AWSECR# docker run -itd -p 8081:80 --name I_AM_FROM_DHUB sanu28221/saniya_cloudethix_docker_repo:custome_DHUB_ima
ge
92d3d51792504a59356648c34546d4bd47451e01832fc278f7f002975a649841
root@DESKTOP-VIDGD8F:AWSECR# docker container ls -a
CONTAINER ID IMAGE
PORTS
NAMES
92d3d5179250 sanu28221/saniya_cloudethix_docker_repo:custome_DHUB_image
0.0.0.8801->80/tcp, :::8081->80/tcp
I_AM_FROM_DHUB
11273228469eb ubuntu:latest
agitated_knuth
0.0.0.8383->80/tcp, :::8383->80/tcp
0.0.0.8383->80/tcp, :::8383->80/tcp
0.0.0.8383->80/tcp, :::8383->80/tcp
0.0.0.8383->80/tcp, :::8383->80/tcp
0.0.0.8383->80/tcp, :::8383->80/tcp
0.0.0.0.8383->80/tcp
0.0.0.8383->80/tcp
0.0.0.
```

6. **Access Pages from Browser:**

- Open a web browser and access the pages:
 - For Docker Hub: http://localhost:8081
- For AWS ECR: http://localhost:8082

SOLUTION:-



This task list guides you through the process of creating custom Docker images, pushing them to Docker Hub and AWS ECR, running containers, and accessing the pages from a browser.