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Date:9/6/2025

Assignment-2

Docker and Kubernetes:Container Masterclass

[\(https://hub.docker.com/repository/docker/tanc2002/demorep\)](https://hub.docker.com/repository/docker/tanc2002/demorep)

(docker pull tanc2002/demorep:latest)

Problem Statement:

Build a Docker File and push it to Docker hub repository: docker build allows to build your own Docker images.

`docker build -t ImageName:TagName dir`

Log into Docker Hub and create your repository. This is the repository where your image will be stored.

Go to <https://hub.docker.com/> and log in with your credentials.

Click the button "Create Repository" on the above screen and create a repository with the name demorep.

Make sure that the visibility of the repository is public.

Once the repository is created, make a note of the pull command which is attached to the repository.

The pull command which will be used in our repository is as follows `docker pull demours/demorep`

Now go back to the Docker Host. Here we need to tag my image to the new repository created in Docker Hub.

Issue the Docker login command to login into the Docker Hub repository from the command prompt.

The Docker login command will prompt you for the username and password to the Docker Hub repository.

Once the image has been tagged, it's now time to push the image to the Docker Hub repository. We can do this via the Docker push command.

Methodology:

Step 1: Create a directory assignment-2 and create a Dockerfile in it. I used the nano editor to write to the file.

```
taneeshq@DESKTOP-63B6L7D: ~/assignments/docker-projects/assignment-2
taneeshq@DESKTOP-63B6L7D:~/assignments/docker-projects$ cd assignment-2
taneeshq@DESKTOP-63B6L7D:~/assignments/docker-projects/assignment-2$ touch Dockerfile
taneeshq@DESKTOP-63B6L7D:~/assignments/docker-projects/assignment-2$ nano Dockerfile
taneeshq@DESKTOP-63B6L7D:~/assignments/docker-projects/assignment-2$ cat Dockerfile
#This is sample image 2.
FROM ubuntu

MAINTAINER demousr@ibm.com

RUN apt-get update

RUN apt-get install -y nginx

CMD["echo","Image created"]
```

```
GNU nano 7.2 Dockerfile
#This is sample image 2.
FROM ubuntu

MAINTAINER demousr@ibm.com

RUN apt-get update

RUN apt-get install -y nginx

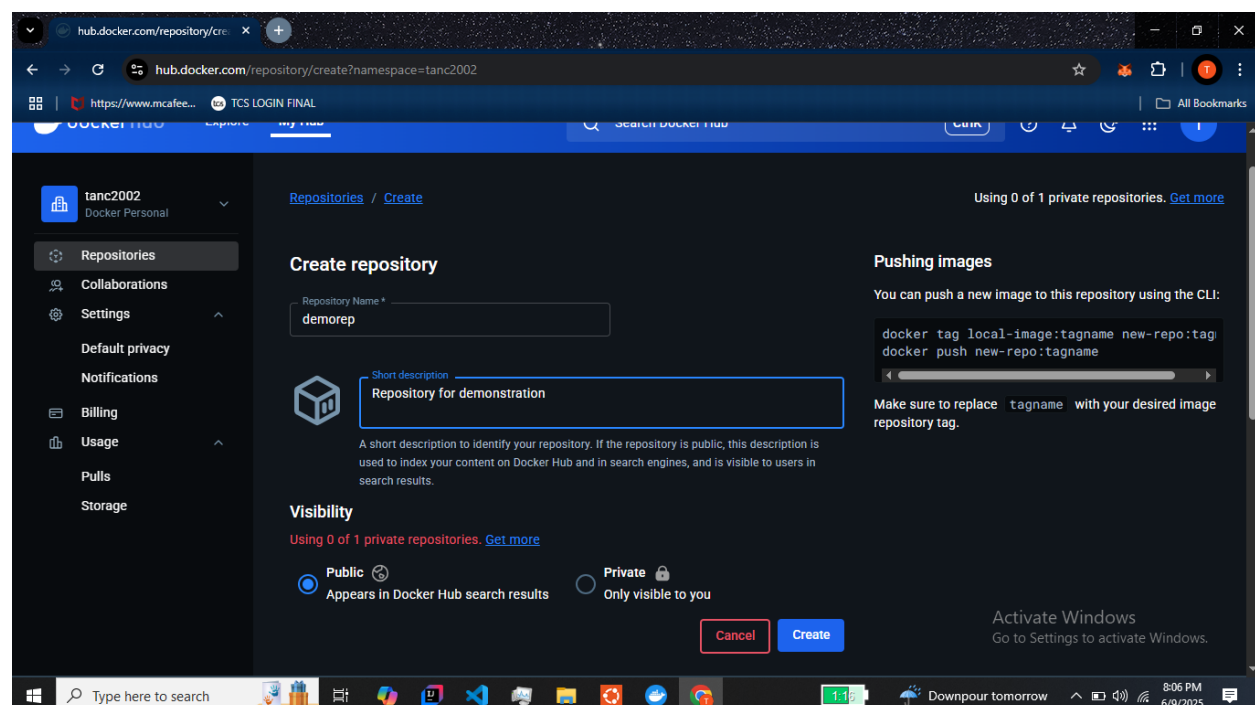
CMD ["echo", "Image created"]
```

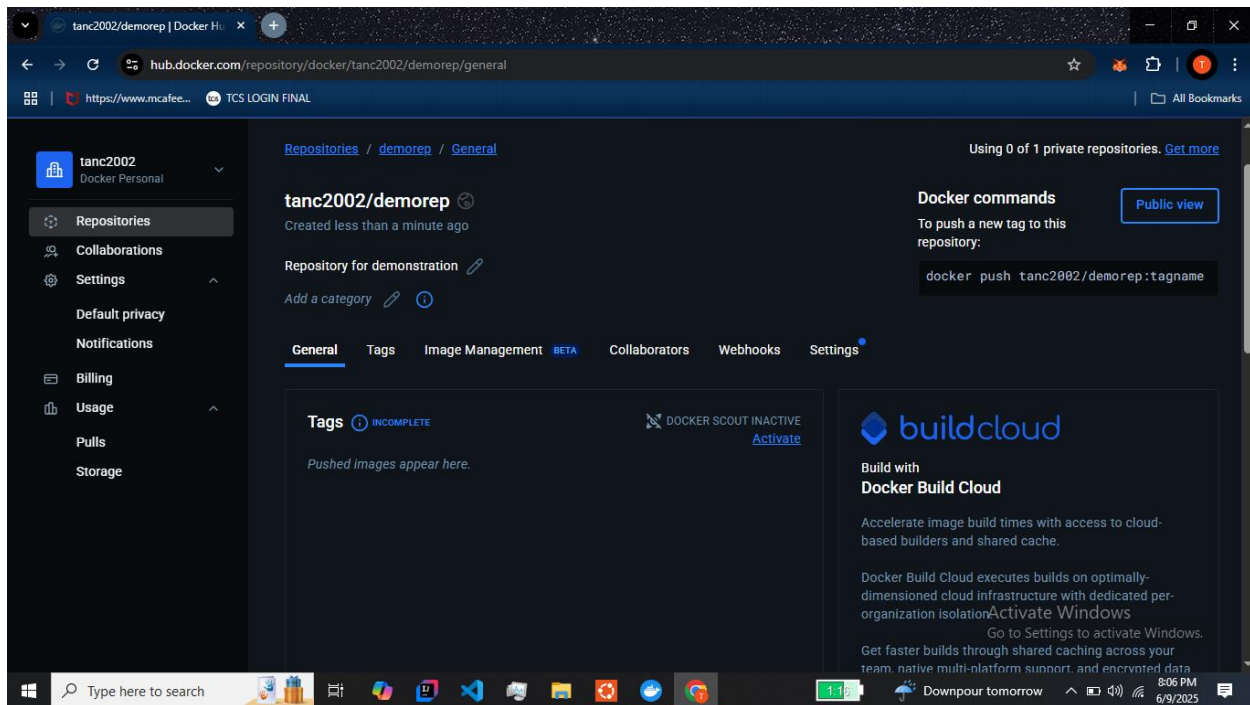
Step 2: Build the image using docker build command. Also I listed the images for verification.

```
taneeshq@DESKTOP-6386L7D:~/assignments/docker-projects/assignment-2$ docker build -t sample-image-2 .
[+] Building 16.4s (8/8) FINISHED                                docker:default
=> [internal] load build definition from Dockerfile              0.6s
=> => transferring dockerfile: 185B                             0.0s
=> [internal] load metadata for docker.io/library/ubuntu:latest 6.2s
=> [auth] library/ubuntu:pull token for registry-1.docker.io    0.0s
=> [internal] load .dockerignore                                1.6s
=> => transferring context: 2B                                    0.0s
=> [1/3] FROM docker.io/library/ubuntu:latest@sha256:b59d21599a2b151e23eea5f6602f4af4d7d31c4e236d22bf0b62b86d2e3 1.2s
=> => resolve docker.io/library/ubuntu:latest@sha256:b59d21599a2b151e23eea5f6602f4af4d7d31c4e236d22bf0b62b86d2e3 1.1s
=> CACHED [2/3] RUN apt-get update                             0.0s
=> CACHED [3/3] RUN apt-get install -y nginx                   0.0s
=> exporting to image                                           3.2s
=> => exporting layers                                           0.0s
=> => exporting manifest sha256:b6eed8c15493b05e3aacc242d5fcd557ded49d08435eebab61f13087ab6310 0.1s
=> => exporting config sha256:6a0a2e493423530a8dd426fe9b615841b1ed0c7c55ed1a76778f99c9b435dc2b 0.4s
=> => exporting attestation manifest sha256:c7dbc0bc8411f53356a81248acc581c63cfb9c35d09376b8ce20a7c868d9e2cd 1.0s
=> => exporting manifest list sha256:5bd8e332fec547edca458f5ec88b189d6c46b09556773167b162af696343a963 0.5s
=> => naming to docker.io/library/sample-image-2:latest        0.1s
=> => unpacking to docker.io/library/sample-image-2:latest      0.1s

1 warning found (use docker --debug to expand):
- MaintainerDeprecated: Maintainer instruction is deprecated in favor of using label (line 4)
taneeshq@DESKTOP-6386L7D:~/assignments/docker-projects/assignment-2$ docker image ls
REPOSITORY          TAG          IMAGE ID       CREATED        SIZE
sample-image        latest       ac37338cd04c   7 hours ago   214MB
tanc2002/sample-image latest       ac37338cd04c   7 hours ago   214MB
sample-image-2      latest       5bd8e332fec5   7 hours ago   214MB
mongo               latest       15fb53a5160e   5 days ago    1.2GB
hello-world         latest       0b6a027b5cf3   4 months ago  20.4kB
mongo-express        latest       1b23d7976f02   15 months ago 286MB
```

Step 3: Create a repository on Dockerhub





Step 4: Login to docker through the terminal and add a tag to the image.

```
taneeshq@DESKTOP-63B6L7D:~/assignments/docker-projects/assignment-2$ docker login
Failed to start web-based login - falling back to command line login...

Log in with your Docker ID or email address to push and pull images from Docker Hub. If you
You can log in with your password or a Personal Access Token (PAT). Using a limited-scope P
more at https://docs.docker.com/go/access-tokens/

Username: tanc2002

Info → A Personal Access Token (PAT) can be used instead.
To create a PAT, visit https://app.docker.com/settings

Password:
Login Succeeded

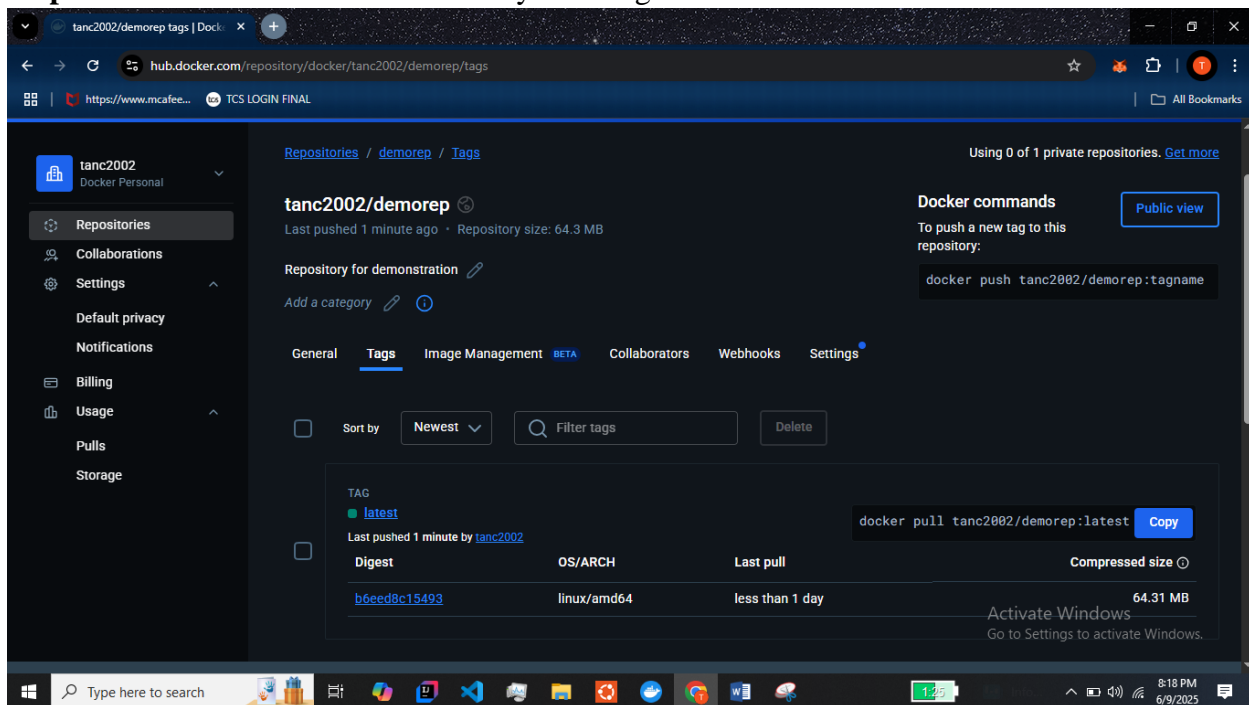
taneeshq@DESKTOP-63B6L7D:~/assignments/docker-projects/assignment-2$ docker tag sample-image-2 tanc2002/demorep
taneeshq@DESKTOP-63B6L7D:~/assignments/docker-projects/assignment-2$ docker image ls
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
sample-image-2	latest	5bd8e332fec5	7 hours ago	214MB
tanc2002/demorep	latest	5bd8e332fec5	7 hours ago	214MB
sample-image	latest	ac37338cd04c	7 hours ago	214MB
tanc2002/sample-image	latest	ac37338cd04c	7 hours ago	214MB
mongo	latest	15fb53a5160e	5 days ago	1.2GB
hello-world	latest	0b6a027b5cf3	4 months ago	20.4kB
mongo-express	latest	1b23d7976f02	15 months ago	286MB

Step 5: Push the image to the repository.

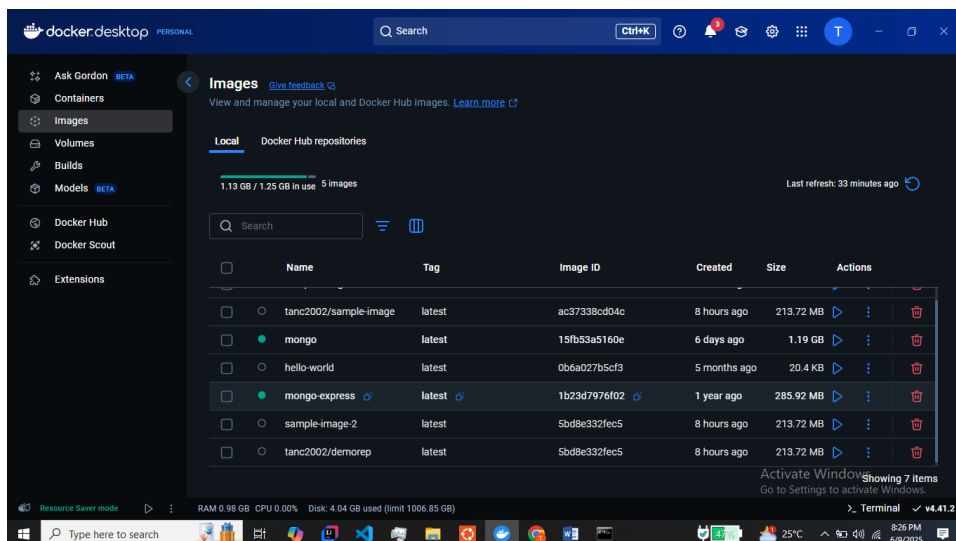
```
taneeshq@DESKTOP-63B6L7D:~/assignments/docker-projects/assignment-2$ docker push tanc2002/demorep
Using default tag: latest
The push refers to repository [docker.io/tanc2002/demorep]
ce35663a6fb8: Pushed
4a0a289261c7: Mounted from tanc2002/sample-image
d9d352c11bbd: Mounted from tanc2002/sample-image
144b30a99187: Mounted from tanc2002/sample-image
latest: digest: sha256:5bd8e332fec547edca458f5ec88b189d6c46b09556773167b162af696343a963 size: 855
taneeshq@DESKTOP-63B6L7D:~/assignments/docker-projects/assignment-2$
```

Step 6: Go back to dockerhub and verify the image.



The screenshot shows the Docker Hub repository page for `tanc2002/demorep`. The page is titled "Repositories / demorep / Tags". It shows the repository size as 64.3 MB and the last push time as 1 minute ago. The "Tags" tab is selected, showing a table of tags. The table has columns for TAG, Digest, OS/ARCH, Last pull, and Compressed size. The tag `latest` is listed with a digest of `b6eed8c15493`, OS/ARCH of `linux/amd64`, and a last pull time of "less than 1 day". The compressed size is 64.31 MB. A "docker pull tanc2002/demorep:latest" command is shown with a "Copy" button.

TAG	Digest	OS/ARCH	Last pull	Compressed size
<code>latest</code>	<code>b6eed8c15493</code>	<code>linux/amd64</code>	less than 1 day	64.31 MB



The screenshot shows the Docker Desktop "Images" tab. It displays a list of local Docker images. The table has columns for Name, Tag, Image ID, Created, Size, and Actions. The images listed are `tanc2002/sample-image`, `mongo`, `hello-world`, `mongo-express`, `sample-image-2`, and `tanc2002/demorep`. The `sample-image-2` image is highlighted.

Name	Tag	Image ID	Created	Size	Actions
<code>tanc2002/sample-image</code>	<code>latest</code>	<code>ac37338cd04c</code>	8 hours ago	213.72 MB	
<code>mongo</code>	<code>latest</code>	<code>15fb33a5160e</code>	6 days ago	1.19 GB	
<code>hello-world</code>	<code>latest</code>	<code>0b6a027b5cf3</code>	5 months ago	20.4 KB	
<code>mongo-express</code>	<code>latest</code>	<code>1b23d7976f02</code>	1 year ago	285.92 MB	
<code>sample-image-2</code>	<code>latest</code>	<code>5bd8e332fec5</code>	8 hours ago	213.72 MB	
<code>tanc2002/demorep</code>	<code>latest</code>	<code>5bd8e332fec5</code>	8 hours ago	213.72 MB	