

Create a custom docker image for nginx and deploy it using docker compose, where the volume bind mount should be at /var/opt/nginx location. Push the created custom docker image to your docker hub.

Created Docker file and docker-compose file using vi:

```
root@ip-172-31-47-183: ~/my-nginx-app
root@ip-172-31-47-183:~/my-nginx-app# cat docker-compose.yml
version: '3'
services:
  web_app:
    image: my-image
    ports:
      - 80:80
    volumes:
      - /var/opt/nginx:/data
root@ip-172-31-47-183:~/my-nginx-app# cat Dockerfile
FROM nginx:latest
WORKDIR app
COPY . /usr/share/nginx/html
EXPOSE 80
CMD [ "nginx", "-g", "daemon off;" ]
root@ip-172-31-47-183:~/my-nginx-app# |
```

After Dockerfile creation, Created Image called “my-image”:

```
root@ip-172-31-47-183: ~/my-nginx-app
root@ip-172-31-47-183:~/my-nginx-app# docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
my-image      latest    bbeb27f72f99   4 minutes ago  187MB
nginx         latest    b690f5f0a2d5   3 months ago   187MB
root@ip-172-31-47-183:~/my-nginx-app# |
```

Then downloaded the docker compose using below commands:

1.Download the Docker Compose binary:

```
sudo curl -L "https://github.com/docker/compose/releases/latest/download/docker-compose-$(uname -s)-$(uname -m)" -o /usr/local/bin/docker-compose
```

2.Apply executable permissions:

```
sudo chmod +x /usr/local/bin/docker-compose
```

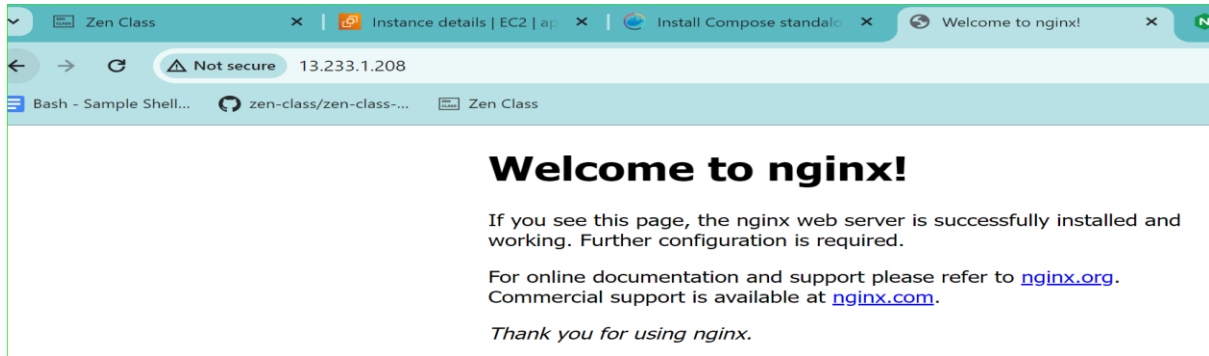
And then created the container using “docker-compose up -d”

```

root@ip-172-31-47-183:~/my-nginx-app# docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
my-image      latest    bbeb27f72f99   5 seconds ago  187MB
nginx         latest    b690f5f0a2d5   3 months ago   187MB
root@ip-172-31-47-183:~/my-nginx-app# vi docker-compose.yml
root@ip-172-31-47-183:~/my-nginx-app# docker-compose up -d
[+] Running 1/1
✔ Container my-nginx-app-web_app-1 Started
root@ip-172-31-47-183:~/my-nginx-app# docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS                               NAMES
dd709fa3a366   my-image  "/docker-entrypoint..." 5 seconds ago  Up 3 seconds  0.0.0.0:80->80/tcp, :::80->80/tcp  my-nginx-app-web_app-1
root@ip-172-31-47-183:~/my-nginx-app# docker exec -it dd709fa3a366 /bin/bash
root@dd709fa3a366:/app# ls
root@dd709fa3a366:/app# cd /data/
root@dd709fa3a366:/data# ll
bash: ll: command not found
root@dd709fa3a366:/data# ls
file.txt  file1.txt
root@dd709fa3a366:/data# |

```

Output of wserver:



Verify the volume folder /data from container:

```

root@ip-172-31-47-183:~/my-nginx-app# docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS                               NAMES
9055b98ef95a   my-image  "/docker-entrypoint..." 7 seconds ago  Up 5 seconds  0.0.0.0:80->80/tcp, :::80->80/tcp  my-nginx-app-web_app-1
root@ip-172-31-47-183:~/my-nginx-app# ls
dockerfile  docker-compose.yml
root@ip-172-31-47-183:~/my-nginx-app# docker exec -it 9055b98ef95a /bin/bash
root@9055b98ef95a:/app# ls
root@9055b98ef95a:/app# cd /data/
root@9055b98ef95a:/data# ls
file.txt  file1.txt
root@9055b98ef95a:/data# cat file1.txt
this file created from docker
root@9055b98ef95a:/data# |

```

Verify the same from host machine:

```

root@ip-172-31-47-183:~/my-nginx-app# cat /var/opt/nginx/file1.txt
this file created from docker
root@ip-172-31-47-183:~/my-nginx-app# |

```

To push the image to docker hub registry:

1. Docker login

```

root@ip-172-31-47-183:~/my-nginx-app# docker login
Login with your Docker ID to push and pull images from Docker Hub. If you don't have a Docker ID, head over to https://hub.docker.com to create one.
Username: surya92kumaran
Password:
WARNING! Your password will be stored unencrypted in /root/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store
Login Succeeded
root@ip-172-31-47-183:~/my-nginx-app# |

```

2. Using tag option named the repo: "docker tag my-image:latest surya92kumaran/my-nginximg"

```

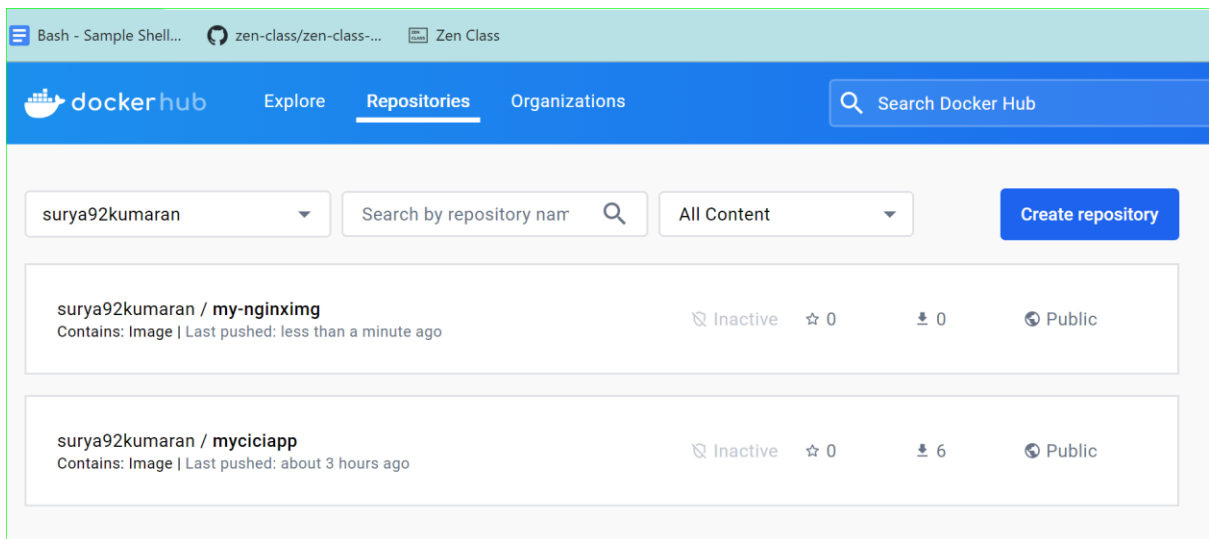
root@ip-172-31-47-183:~/my-nginx-app# docker tag my-image:latest surya92kumaran/my-nginximg
root@ip-172-31-47-183:~/my-nginx-app# docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
my-image      latest    bbeb27f72f99   10 minutes ago  187MB
surya92kumaran/my-nginximg  latest    bbeb27f72f99   10 minutes ago  187MB
nginx         latest    b690f5f0a2d5   3 months ago   187MB

```

3. Then using “docker push surya92kumaran/my-nginximg”

```
root@ip-172-31-47-183:~/my-nginx-app# docker push surya92kumaran/my-nginximg
Using default tag: latest
The push refers to repository [docker.io/surya92kumaran/my-nginximg]
31aaaae8045c2: Pushed
43b2b9223c74: Pushed
f205d290cd76: Mounted from library/nginx
2b28485849ea: Mounted from library/nginx
9f21a390e3f6: Mounted from library/nginx
06536efc503a: Mounted from library/nginx
84e0c9ef07d7: Mounted from library/nginx
83bdf27d9aaa: Mounted from library/nginx
fb1bd2fc5282: Mounted from library/nginx
latest: digest: sha256:24d3f64be674e40b52b122b38c4d66723f4121fe04eb67ecd3184821818755e3 size: 2191
root@ip-172-31-47-183:~/my-nginx-app#
```

4. Image has been successfully pushed to docker hub repository:



The screenshot shows the Docker Hub interface for the repository `surya92kumaran/my-nginximg`. The page is titled "Repositories" and includes a search bar and a "Create repository" button. The repository is listed as "Inactive" with 0 stars and 0 downloads. It is a public repository and contains an image. The last push was made less than a minute ago. Below this, another repository `surya92kumaran/myciciapp` is listed, also inactive, with 0 stars and 6 downloads, pushed about 3 hours ago.

Repository	Status	Stars	Downloads	Visibility	Last Pushed
surya92kumaran / my-nginximg	Inactive	0	0	Public	less than a minute ago
surya92kumaran / myciciapp	Inactive	0	6	Public	about 3 hours ago