

Task

Task: 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.

1. Create local folder.

```
ubuntu@ip-172-31-43-17: ~/custom-nginx
ubuntu@ip-172-31-43-17:~$ mkdir custom-nginx
ubuntu@ip-172-31-43-17:~$ cd custom-nginx
```

2. Create Website Files

```
ubuntu@ip-172-31-43-17:~/custom-nginx$ ls
ubuntu@ip-172-31-43-17:~/custom-nginx$ mkdir html
ubuntu@ip-172-31-43-17:~/custom-nginx$ vi html/index.html
```

```
<!DOCTYPE html>
<html>
<head>
  <title>Custom NGINX</title>
</head>
<body>
  <h1>Custom NGINX Docker Image</h1>
  <p>Name: Raval i</p>
  <p>Role: DevOps Learner</p>
</body>
</html>
~
~
~
~
```

3. Create custom nginx

```
ubuntu@ip-172-31-43-17: ~/custom-nginx
server {
  listen 80;
  location / {
    root /var/opt/nginx;
    index index.html;
  }
}
```

4. Create dockerfile

```
ubuntu@ip-172-31-43-17: ~/custom-nginx
FROM nginx:alpine
# Remove default config and add our custom one
RUN rm /etc/nginx/conf.d/default.conf
COPY my-nginx.conf /etc/nginx/conf.d/

# Create the target directory
RUN mkdir -p /var/opt/nginx
~
~
```

5. Deploy with Docker Compose (Bind Mount)

```
ubuntu@ip-172-31-43-17: ~/custom-nginx
version: '3.8'
services:
  custom-nginx:
    build: .
    image: your-dockerhub-username/my-custom-nginx:v1
    ports:
      - "80:80"
    volumes:
      - ./website-content:/var/opt/nginx
```

6. Build and run image

```
ubuntu@ip-172-31-43-17: ~/custom-nginx
ubuntu@ip-172-31-43-17:~$ mkdir custom-nginx
ubuntu@ip-172-31-43-17:~$ cd custom-nginx
ubuntu@ip-172-31-43-17:~/custom-nginx$ ls
ubuntu@ip-172-31-43-17:~/custom-nginx$ mkdir html
ubuntu@ip-172-31-43-17:~/custom-nginx$ vi html/index.html
ubuntu@ip-172-31-43-17:~/custom-nginx$ vi Dockerfile
ubuntu@ip-172-31-43-17:~/custom-nginx$ vi my-nginx.conf
ubuntu@ip-172-31-43-17:~/custom-nginx$ vi docker-compose.yml
ubuntu@ip-172-31-43-17:~/custom-nginx$ docker-compose up -d
Creating network "custom-nginx_default" with the default driver
Building custom-nginx
DEPRECATED: The legacy builder is deprecated and will be removed in a future release.
             Install the buildx component to build images with BuildKit:
             https://docs.docker.com/go/buildx/

Sending build context to Docker daemon  5.632kB
Step 1/4 : FROM nginx:alpine
--> 2a855eac5070
Step 2/4 : RUN rm /etc/nginx/conf.d/default.conf
--> Running in ff890d37bcd3
--> Removed intermediate container ff890d37bcd3
--> 3a37080e2deb
Step 3/4 : COPY my-nginx.conf /etc/nginx/conf.d/
--> 543e4443ae4a
Step 4/4 : RUN mkdir -p /var/opt/nginx
--> Running in d9845158b6d7
--> Removed intermediate container d9845158b6d7
--> eb6b7a9a510e
Successfully built eb6b7a9a510e
Successfully tagged your-dockerhub-username/my-custom-nginx:v1
WARNING: Image for service custom-nginx was built because it did not already exist. To
Creating custom-nginx_custom-nginx_1 ... done
ubuntu@ip-172-31-43-17:~/custom-nginx$ |
```

```
ubuntu@ip-172-31-43-17:~/custom-nginx$ docker ps -a
CONTAINER ID   IMAGE                                     COMMAND                  NAMES
5120f8541203   your-dockerhub-username/my-custom-nginx:v1   "/docker-entrypoint.    custom
"             2 minutes ago   Up 2 minutes           0.0.0.0:80->80/tcp, [::]:80->80/tcp   nginx_custom-nginx_1
ubuntu@ip-172-31-43-17:~/custom-nginx$
```

7. Push to Docker Hub

```
Error response from daemon: Get https://registry-1.docker.io/v2/: unauthorized: incorrect
ubuntu@ip-172-31-43-17:~/custom-nginx$ docker login -u dugyalaravali28

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

Password:

WARNING! Your credentials are stored unencrypted in '/home/ubuntu/.docker/config.json'.
Configure a credential helper to remove this warning. See
https://docs.docker.com/go/credential-store/

Login Succeeded
ubuntu@ip-172-31-43-17:~/custom-nginx$

ubuntu@ip-172-31-43-17:~/custom-nginx$ docker tag your-dockerhub-username/my-custom-nginx:v1 dugyalaravali28/my-custom-nginx:v1
ubuntu@ip-172-31-43-17:~/custom-nginx$ docker push your-dockerhub-dugyalaravali28/my-custom-nginx:v1

Error response from daemon: your dockerhub-username/my-custom-nginx:v1 /docker-credential-... is mirrored by
ubuntu@ip-172-31-43-17:~/custom-nginx$ docker login
Authenticating with existing credentials... [Username: dugyalaravali28]

Info → To login with a different account, run 'docker logout' followed by 'docker login'

Login Succeeded
ubuntu@ip-172-31-43-17:~/custom-nginx$ docker push dugyalaravali28/my-custom-nginx:v1
The push refers to repository [docker.io/dugyalaravali28/my-custom-nginx]
3330a1eb31e1: Pushed
2f988049f51c: Pushed
abf3e5469540: Pushed
8b4b7787dd1: Pushed
06d5972670c6: Pushed
e22da3f459ae: Pushed
536851695bd2: Pushed
14b08f05bc0a: Pushed
2f3eeb9b695d: Pushed
ae33d91d45a6: Pushed
989e799e6349: Pushed
v1: digest: sha256:e7c73e4f6df26adab8db8e90571e3a60869536b15d53c2fad29cc160fd6bfff56 size: 2610
ubuntu@ip-172-31-43-17:~/custom-nginx$ |
```

8. Checking image in my docker hub

The screenshot shows the Docker Hub interface for the user 'dugyalaravali28'. The left sidebar contains navigation links: Repositories, Hardened Images, Collaborations, Settings, Default privacy, Notifications, Billing, and Usage. The main content area is titled 'Repositories' and shows a table of repositories within the 'dugyalaravali28' namespace. The table has columns for Name, Last Pushed, Contains, Visibility, and Scout. One repository is listed: 'dugyalaravali28/my-custom-nginx', which was pushed 6 minutes ago, contains an image, is public, and has a scout status of 'Inactive'.

| Name | Last Pushed | Contains | Visibility | Scout |
|---------------------------------|---------------|----------|------------|----------|
| dugyalaravali28/my-custom-nginx | 6 minutes ago | IMAGE | Public | Inactive |

Image pushed successfully.