

# 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
ubuntu@ip-172-31-43-17:~/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</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
DEPRECATION: 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
5120f8541203      your-dockerhub-username/my-custom-nginx:v1   "/docker-entrypoint.
."    2 minutes ago     Up 2 minutes   0.0.0.0:80->80/tcp, [::]:80->80/tcp   custom
-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 password
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-username/dugyalaravali28/my-custom-nginx:v1
```

```
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
```

```
8b4b77877dd1: Pushed
```

```
06d5972670c6: Pushed
```

```
e22da3f459ae: Pushed
```

```
536851695bd2: Pushed
```

```
14b08f05bc0a: Pushed
```

```
2f3eeb9b695d: Pushed
```

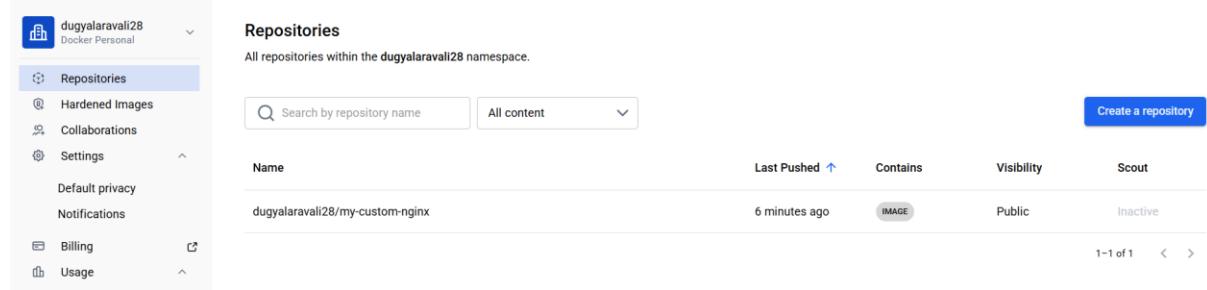
```
ae33d91d45a6: Pushed
```

```
989e799e6349: Pushed
```

```
v1: digest: sha256:e7c73e4f6df26adab8db8e90571e3a60869536b15d53c2fad29cc160fd6bff56 size: 2610
```

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

## 8. Checking image in my docker hub



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

Image pushed successfully.