

Lab Exercise 5- Building a Docker Image for an HTML App Using Nginx

Name – Sujal Bhandari

SAP_ID – 500106865

Roll_No – R2142220181

1. Setup

You will need:

- Docker installed on your machine.
- A simple HTML file for the app.

2. Step 1: Create the HTML File

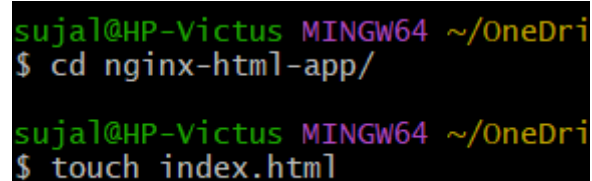
Create a directory for your HTML app and place an index.html file in it.

```
mkdir nginx-html-app
```

```
cd nginx-html-app
```

Inside the nginx-html-app directory, create the HTML file.

```
touch index.html
```



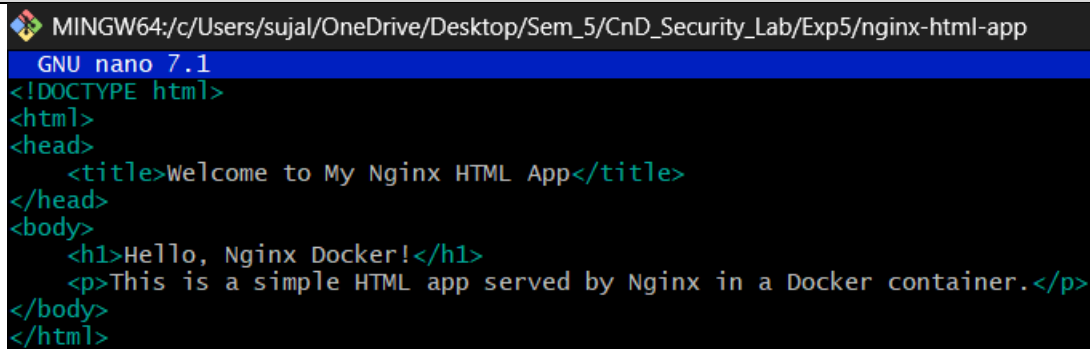
```
suja1@HP-Victus MINGW64 ~/OneDri
$ cd nginx-html-app/

suja1@HP-Victus MINGW64 ~/OneDri
$ touch index.html
```

Edit the index.html file with the following content (or any custom HTML content you want):

```
<!DOCTYPE html>
<html>
<head>
  <title>Welcome to My Nginx HTML App</title>
```

```
</head>
<body>
  <h1>Hello, Nginx Docker!</h1>
  <p>This is a simple HTML app served by Nginx in a Docker container.</p>
</body>
</html>
```

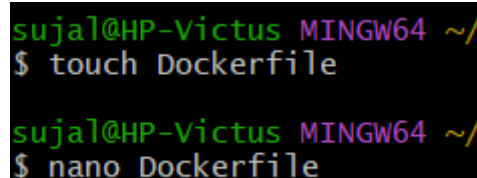


```
MINGW64:/c/Users/sujal/OneDrive/Desktop/Sem_5/CnD_Security_Lab/Exp5/nginx-html-app
GNU nano 7.1
<!DOCTYPE html>
<html>
<head>
  <title>Welcome to My Nginx HTML App</title>
</head>
<body>
  <h1>Hello, Nginx Docker!</h1>
  <p>This is a simple HTML app served by Nginx in a Docker container.</p>
</body>
</html>
```

3. Step 2: Create a Dockerfile

In the same directory, create a Dockerfile. This file will define how to build the Docker image using Nginx as the base image.

```
touch Dockerfile
```



```
sujal@HP-Victus MINGW64 ~/
$ touch Dockerfile

sujal@HP-Victus MINGW64 ~/
$ nano Dockerfile
```

Edit the Dockerfile and add the following content:

```
FROM nginx:latest
COPY index.html /usr/share/nginx/html/
EXPOSE 80
```

```
MINGW64:/c/Users/sujal/OneDrive/Desktop/Sem_5
GNU nano 7.1
FROM nginx:latest
COPY index.html /usr/share/nginx/html/
EXPOSE 80
```

4. Step 3: Build the Docker Image

Now that you have the Dockerfile and index.html, it's time to build the Docker image. Run the following command to build the image, giving it a tag (e.g., nginx-html-app):

```
docker build -t nginx-html-app .
```

```
suja1@HP-Victus MINGW64 ~/OneDrive/Desktop/Sem_5/CnD_Security_Lab/Exp5/nginx-html-app
$ docker build -t nginx-html-app .
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  3.072kB
Step 1/3 : FROM nginx:latest
--> 39286ab8a5e1
Step 2/3 : COPY index.html /usr/share/nginx/html/
--> 65249597469c
Step 3/3 : EXPOSE 80
--> Running in e7067c209d9f
--> Removed intermediate container e7067c209d9f
--> d74cf2f91216
Successfully built d74cf2f91216
Successfully tagged nginx-html-app:latest
SECURITY WARNING: You are building a Docker image from Windows against a non-Windows Docker
engine. Please check and reset permissions for sensitive files and directories.
```

Docker will use the Nginx base image, copy your index.html into the appropriate directory, and build the image.

5. Step 4: Run the Docker Container

After building the image, you can run the container with the following command:

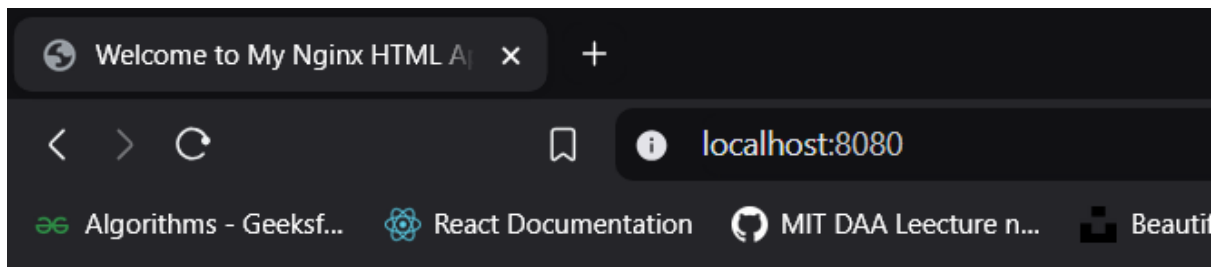
```
docker run -d -p 8080:80 nginx-html-app
```

```
suja1@HP-Victus MINGW64 ~/OneDrive/Desktop/Sem_5/CnD_Security_Lab/Exp5
$ docker run -d -p 8080:80 nginx-html-app
416596fa46a6e23d09c29cf7421fa277cfe353f10c8bb97670605f2f2b2bd716
```

This command runs the container in detached mode (-d) and maps port 8080 on your host machine to port 80 inside the container, where Nginx is serving your HTML app.

6. Step 5: Verify

Open a browser and go to `http://localhost:8080`. You should see your HTML page with the message “Hello, Nginx Docker!”.



Hello, Nginx Docker!

This is a simple HTML app served by Nginx in a Docker container.

7. Step 6: Stop and Remove the Container

Once you're done, you can stop and remove the container:

```
docker ps # to see running containers
```

```
docker stop <container-id>
```

```
docker rm <container-id>
```

```
suja1@HP-Victus MINGW64 ~/C
$ docker ps -a
CONTAINER ID   IMAGE
416596fa46a6   nginx-html-a

suja1@HP-Victus MINGW64 ~/C
$ docker stop 41659
41659

suja1@HP-Victus MINGW64 ~/C
$ docker rm 41659
41659
```