

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

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.

```
binary_bard@LAPTOP-3GPGDP89:~/lab5$ mkdir nginx-html-app
binary_bard@LAPTOP-3GPGDP89:~/lab5$ cd nginx-html-app
binary_bard@LAPTOP-3GPGDP89:~/lab5/nginx-html-app$ touch index.html
```

Edit the index.html file with the following content:

```
<!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.

```
binary_bard@LAPTOP-3GPGDP89:~/lab5/nginx-html-app$ touch Dockerfile
```

```
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):

```
binary_bard@LAPTOP-3GPGDP89:~/lab5/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/
--> 497aa9b10d81
Step 3/3 : EXPOSE 80
--> Running in f445146f3e6c
Removing intermediate container f445146f3e6c
--> 1efa9d80e6b0
Successfully built 1efa9d80e6b0
Successfully tagged nginx-html-app:latest
```

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

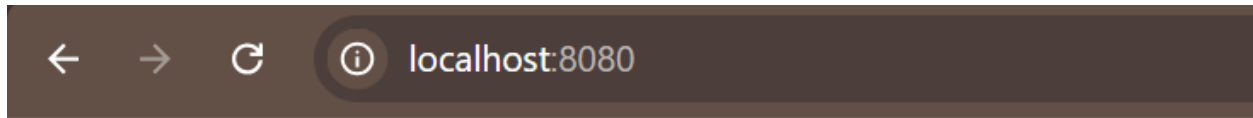
5. Step 4: Run the Docker Container

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

```
binary_bard@LAPTOP-3GPGDP89:~/lab5/nginx-html-app$ docker run -d -p 8080:80 nginx-html-app
6df10fe4cd1ea4179098e7b53c6fff4deb0abb1eb49995786629247ea812580b
```

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:

```
binary_bard@LAPTOP-3GPGDP89:~/lab5/nginx-html-app$ docker ps #
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS
6df10fe4cd1e   nginx-html-app "/docker-entrypoint..." 10 minutes ago Up 10 minutes 0.0.0.0:8080->80/tcp,
:::8080->80/tcp
```

```
binary_bard@LAPTOP-3GPGDP89:~/lab5/nginx-html-app$ docker stop 6df10fe4cd1e
6df10fe4cd1e
binary_bard@LAPTOP-3GPGDP89:~/lab5/nginx-html-app$ docker rm 6df10fe4cd1e
6df10fe4cd1e
```