

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.

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

```
C:\Users\pk294>mkdir nginx-html-app  
A subdirectory or file nginx-html-app already exists.  
  
C:\Users\pk294>cd nginx-html-app
```

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

```
touch index.html
```

```
C:\Users\iamyo\nnginx-html-app>notepad 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>
```

```
<!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
```

Edit the Dockerfile and add the following content:

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

```
FROM nginx:latest

COPY index.html /Users/iamyo/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 .
```

```
C:\Users\iamyo\nnginx-html-app>docker build -t nginx-html-app .
[+] Building 0.0s (1/1) FINISHED                                docker:desktop-linux
=> [internal] load build definition from Dockerfile              0.0s
=> => transferring dockerfile: 2B                                0.0s
ERROR: failed to solve: failed to read dockerfile: open Dockerfile: no such file or directory
```

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
```

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!”.

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>
```