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EXPERIMENT—5

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
```

```
[(base) aryanbansal@Aryans-MacBook-Air-10 ~ % mkdir nginx-html-app  
[(base) aryanbansal@Aryans-MacBook-Air-10 ~ % cd nginx-html-app  
(base) aryanbansal@Aryans-MacBook-Air-10 nginx-html-app %
```

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

```
touch index.html
```

```
[(base) aryanbansal@Aryans-MacBook-Air-10 nginx-html-app % touch index.html  
(base) aryanbansal@Aryans-MacBook-Air-10 nginx-html-app %
```

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>
```

UW PICO 5.09	File: index.html	Modified
<pre><!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></pre>		

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

```
(base) arianbansal@Aryans-MacBook-Air-10 nginx-html-app % touch DockerFile
(base) arianbansal@Aryans-MacBook-Air-10 nginx-html-app % cat DockerFile
(base) arianbansal@Aryans-MacBook-Air-10 nginx-html-app % nano DockerFile
(base) arianbansal@Aryans-MacBook-Air-10 nginx-html-app %
```

Edit the Dockerfile and add the following content:

FROM nginx:latest

COPY index.html /usr/share/nginx/html/

EXPOSE

UW PICO 5.09	File: DockerFile	Modified
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):

```
(base) arianbansal@Aryans-MacBook-Air-10 nginx-html-app %
[docker build -t nginx-html-app .
[+] Building 0.1s (7/7) FINISHED
=> [internal] load .dockerignore                                0.0s
=> => transferring context: 2B                                  0.0s
=> [internal] load build definition from Dockerfile             0.0s
=> => transferring dockerfile: 109B                             0.0s
=> [internal] load metadata for docker.io/library/nginx:latest 0.0s
=> [internal] load build context                                0.0s
=> => transferring context: 259B                                 0.0s
=> [1/2] FROM docker.io/library/nginx:latest                   0.0s
=> [2/2] COPY index.html /usr/share/nginx/html/                0.0s
=> exporting to image                                           0.0s
=> => exporting layers                                           0.0s
=> => writing image sha256:6a2182b9a4eb3e45ad7e938680c66e28b1695c7470f78f4b83dbbb543d753c1e 0.0s
=> => naming to docker.io/library/nginx-html-app:latest        0.0s
(base) arianbansal@Aryans-MacBook-Air-10 nginx-html-app %
```

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

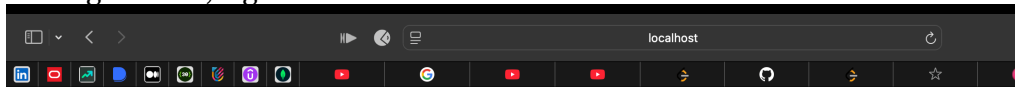
After building the image, you can run the container with the following command:

```
(base) arianbansal@Aryans-MacBook-Air-10 nginx-html-app % docker run -d -p 8080:80 nginx-html-app
57f58ef6e69b6a2565b21a5fe8c5f20b1b7ca2c44071d3206fc58b7ac2a58785
(base) arianbansal@Aryans-MacBook-Air-10 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!”.



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>`

```
(base) arianbansal@Aryans-MacBook-Air-10 nginx-html-app % docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS
57f58ef6e69b   nginx-html-app  "/docker-entrypoint..." 2 minutes ago  Up 2 minutes  0.0.0.0:8080
->80/tcp      infallible_sanderson
(base) arianbansal@Aryans-MacBook-Air-10 nginx-html-app % docker stop 57f58ef6e69b
57f58ef6e69b
(base) arianbansal@Aryans-MacBook-Air-10 nginx-html-app % docker rm 57f58ef6e69b
57f58ef6e69b
(base) arianbansal@Aryans-MacBook-Air-10 nginx-html-app % docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS
NAMES
(base) arianbansal@Aryans-MacBook-Air-10 nginx-html-app %
```