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**LAB EXERCISE 4- 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
```

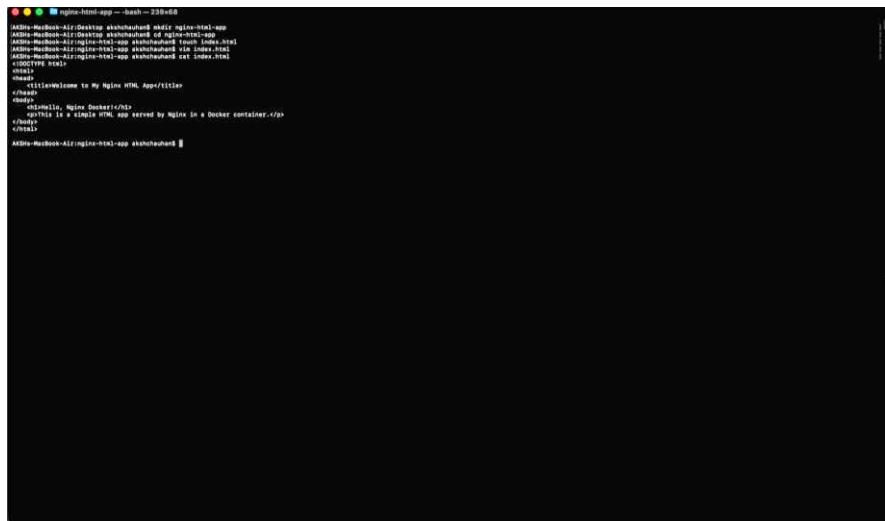
INSIDE THE NGINX-HTML-APP DIRECTORY, CREATE THE HTML FILE.

```
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>
```



```
[AK010-MacBook-Air:Desktop akashkumar] ~ % cd Desktop
[AK010-MacBook-Air:Desktop akashkumar] ~ % mkdir nginx-html-app
[AK010-MacBook-Air:nginx-html-app akashkumar] ~ % cd nginx-html-app
[AK010-MacBook-Air:nginx-html-app akashkumar] ~ % touch index.html
[AK010-MacBook-Air:nginx-html-app akashkumar] ~ % cat index.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>
[AK010-MacBook-Air:nginx-html-app akashkumar] ~ %
```

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
```

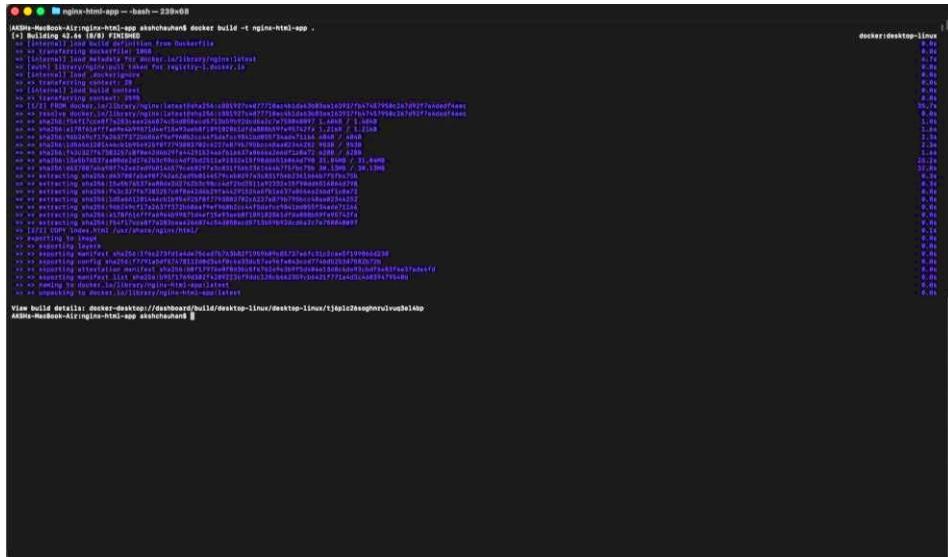
4. STEP 3: BUILD THE DOCKER IMAGE

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 .
```

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 8006:80 nginx-html-app
```

THIS COMMAND RUNS THE CONTAINER IN DETACHED MODE (-D) AND MAPS PORT 8006 ON YOUR HOST MACHINE TO PORT 80 INSIDE THE CONTAINER, WHERE NGINX IS SERVING YOUR HTML APP.

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6. STEP 5: VERIFY

OPEN A BROWSER AND GO TO `HTTP://LOCALHOST:8006`. 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>
```

