

Lab Exercise 4- Building a Docker Image for an HTML App Using Nginx

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Batch:- DevOps B1

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1. Setup

You will need:

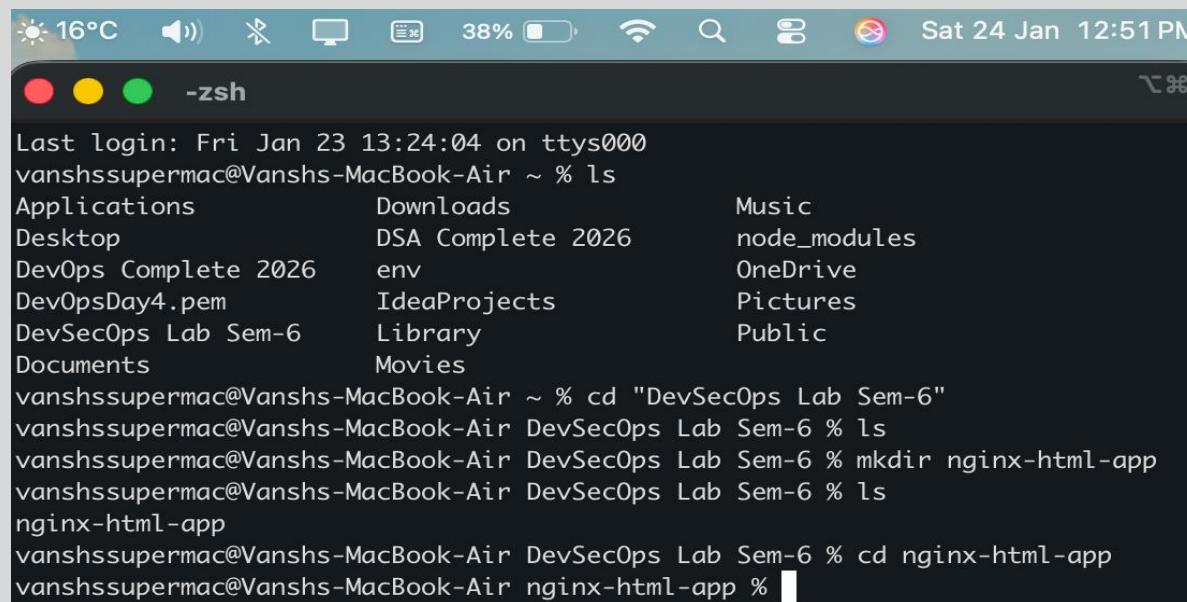
- Docker installed on your machine.
- A simple HTML file for the app.

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
```



The screenshot shows a Mac OS X desktop environment with a terminal window open. The terminal window title is "-zsh". The system status bar at the top indicates the date and time (Sat 24 Jan 12:51 PM), battery level (38%), and signal strength. The terminal history shows the following commands:

```
Last login: Fri Jan 23 13:24:04 on ttys000
vanshssupermac@Vanshs-MacBook-Air ~ % ls
Applications           Downloads          Music
Desktop               DSA Complete 2026   node_modules
DevOps Complete 2026  env                OneDrive
DevOpsDay4.pem        IdeaProjects      Pictures
DevSecOps Lab Sem-6  Library           Public
Documents             Movies

vanshssupermac@Vanshs-MacBook-Air ~ % cd "DevSecOps Lab Sem-6"
vanshssupermac@Vanshs-MacBook-Air DevSecOps Lab Sem-6 % ls
vanshssupermac@Vanshs-MacBook-Air DevSecOps Lab Sem-6 % mkdir nginx-html-app
vanshssupermac@Vanshs-MacBook-Air DevSecOps Lab Sem-6 % ls
nginx-html-app
vanshssupermac@Vanshs-MacBook-Air DevSecOps Lab Sem-6 % cd nginx-html-app
vanshssupermac@Vanshs-MacBook-Air nginx-html-app % █
```

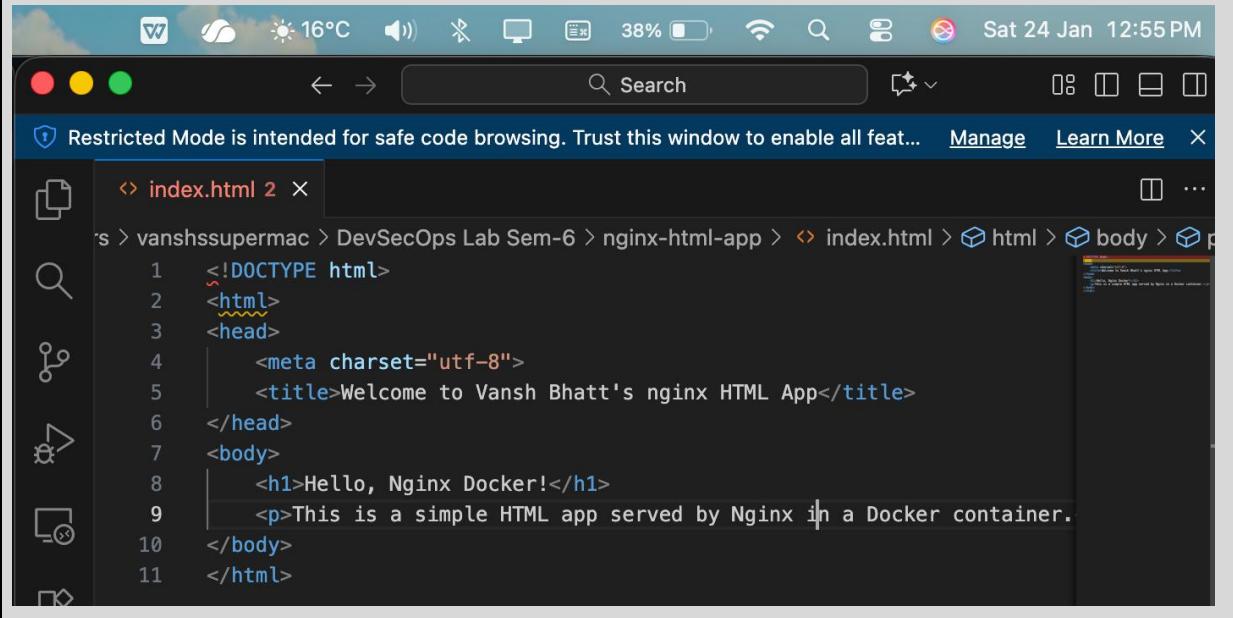
Inside the nginx-html-app directory, create the HTML file.

```
touch index.html
```

```
vanshssupermac@Vanshs-MacBook-Air nginx-html-app % touch index.html
vanshssupermac@Vanshs-MacBook-Air nginx-html-app % ls
index.html
vanshssupermac@Vanshs-MacBook-Air nginx-html-app %
```

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

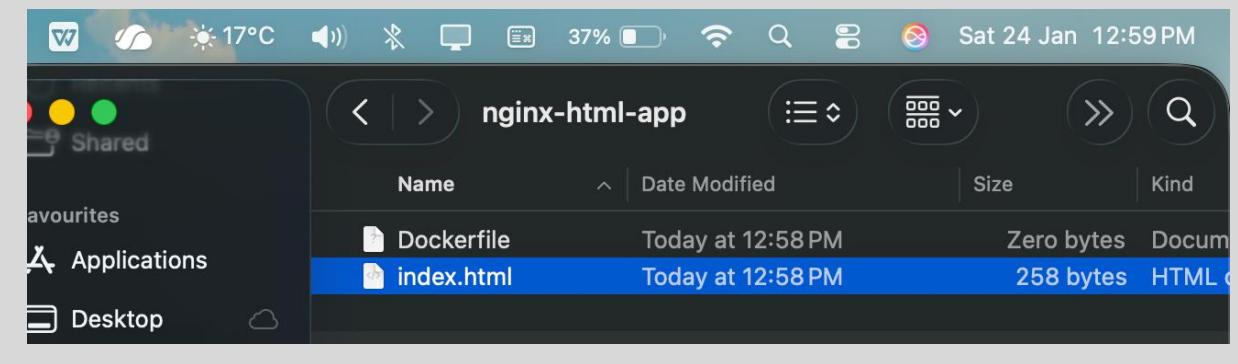
```
<!DOCTYPE html>
<html>
<head>
<title>Welcome to My Nginx HTML App</title>
</head>
<body>
<h1>Hello, Nginx Docker!</h1>
<p>This is a simple HTML app served by Nginx in a Docker container.</p>
</body>
</html>
```



3. Step 2: Create a Dockerfile

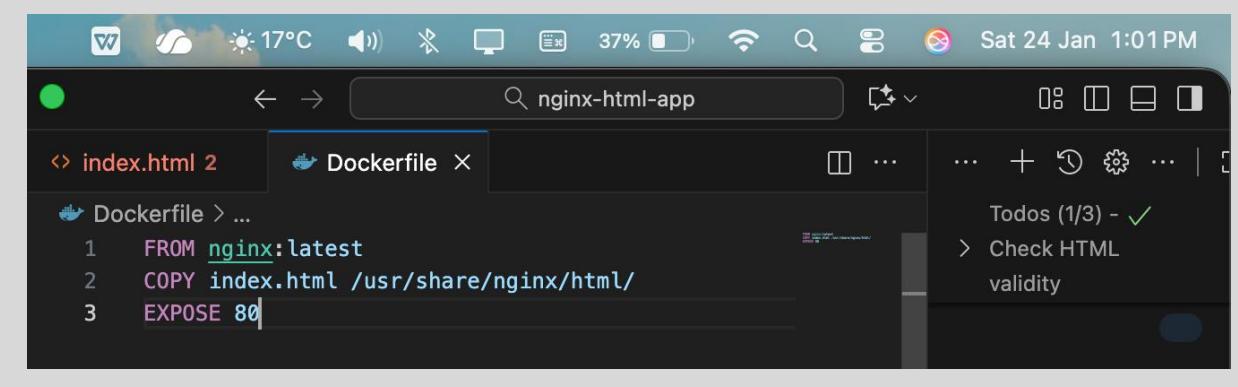
In the same directory, create a Dockerfile. This file will define how to build the Docker image using Nginx as the base image.

```
touch Dockerfile
```



Edit the Dockerfile and add the following content:

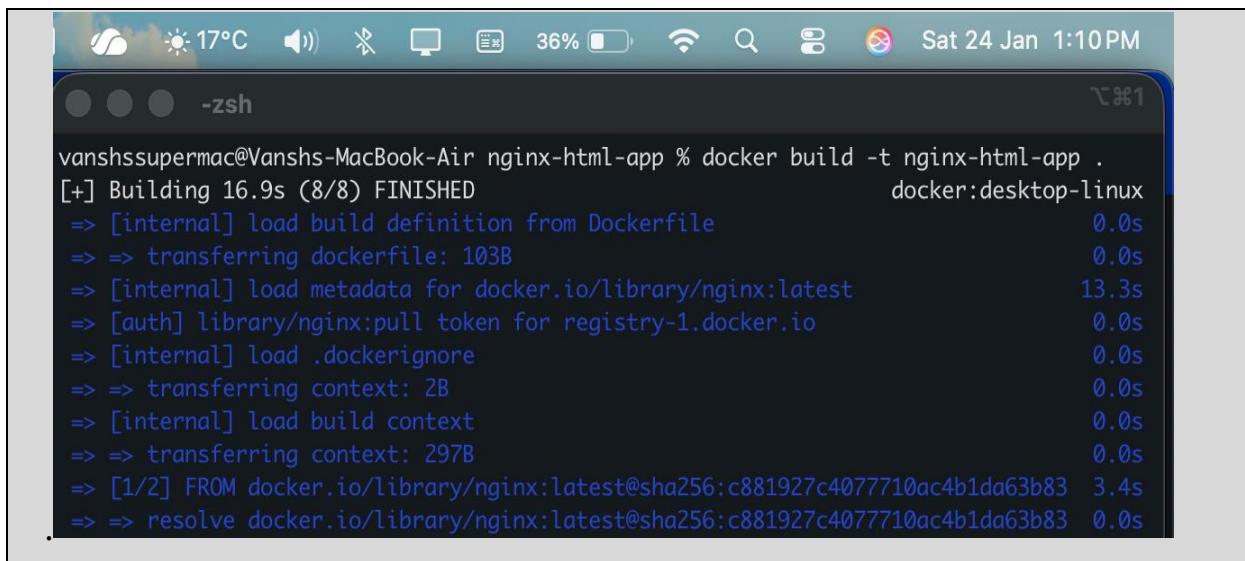
```
FROM nginx:latest
COPY index.html /usr/share/nginx/html/
EXPOSE 80
```



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
```



A screenshot of a macOS terminal window titled "-zsh". The window shows the command "vanshssupermac@Vanshs-MacBook-Air nginx-html-app % docker build -t nginx-html-app ." followed by the build logs. The logs indicate a successful build of 16.9s, with 8/8 steps finished. It shows the process of loading the Dockerfile, transferring files, pulling the Nginx image from Docker Hub, and finally building the container. The terminal also shows the date and time as Sat 24 Jan 1:10PM.

```
vanshssupermac@Vanshs-MacBook-Air nginx-html-app % docker build -t nginx-html-app .
[+] Building 16.9s (8/8) FINISHED
   docker:desktop-linux
    => [internal] load build definition from Dockerfile          0.0s
    => => transferring dockerfile: 103B                         0.0s
    => [internal] load metadata for docker.io/library/nginx:latest 13.3s
    => [auth] library/nginx:pull token for registry-1.docker.io    0.0s
    => [internal] load .dockerignore                            0.0s
    => => transferring context: 2B                           0.0s
    => [internal] load build context                          0.0s
    => => transferring context: 297B                         0.0s
    => [1/2] FROM docker.io/library/nginx:latest@sha256:c881927c4077710ac4b1da63b83 3.4s
    => => resolve docker.io/library/nginx:latest@sha256:c881927c4077710ac4b1da63b83 0.0s
```

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:

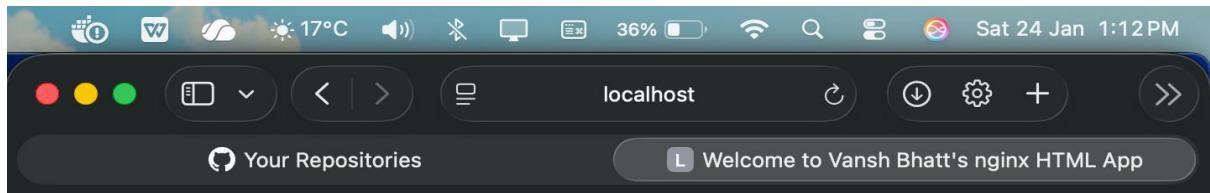
```
docker run -d -p 8006:80 nginx-html-app
```

```
View build details: docker-desktop://dashboard/build/desktop-linux/desktop-linux/dhg2i1hxrua
vanshssupermac@Vanshs-MacBook-Air nginx-html-app % docker run -d -p 8006:80 nginx-html-app
32916fc68453e365c3e7aa2159efc72636d269d7583d195ddf25f4d48d6acbca
vanshssupermac@Vanshs-MacBook-Air 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.

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>
```

```
vanshssupermac@Vanshs-MacBook-Air nginx-html-app % docker ps
CONTAINER ID        IMAGE               COMMAND                  CREATED             STATUS              PORTS
PORTS
32916fc68453      nginx-html-app    "/docker-entrypoint..."   About a minute ago   Up About a minute   0.0.0.0:8006->80/tcp, [::]:8006->80/tcp   busy_khayyam
vanshssupermac@Vanshs-MacBook-Air nginx-html-app % docker stop 32916fc68453
32916fc68453
vanshssupermac@Vanshs-MacBook-Air nginx-html-app % docker rm 32916fc68453
```

Thank You