

**Placement Empowerment Program**

***Cloud Computing and DevOps Centre***

Build and Run a Custom Docker ImageCreate a Docker file to package your static website

into a Docker container and run it locally.

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# Objective

The goal of this PoC is to demonstrate how to create a Docker image for a static website using a Dockerfile, package the website into a Docker container, and run it locally.

**Prerequisites**

* Install Docker on your system ([Installation Guide)](https://docs.docker.com/get-docker/)
* Basic understanding of Docker commands
* A simple static website (HTML, CSS, JS files) ready to be containerized

**Step-by-Step Guide**

Step 1: Create Your Project Directory

1. Open a terminal or command prompt.
2. Create a directory for your static website and navigate into it:

**mkdir my-static-website && cd my-static-website**

1. Add your static website files (e.g., index.html, styles.css, etc.) inside this directory.

Step 2: Create a Dockerfile

1. Inside your project directory, create a file named Dockerfile (no file extension).
2. Open the Dockerfile in a text editor and add the following content:

# Use the official Nginx image as the base image

**FROM nginx:alpine**

# Copy static files to the default Nginx HTML directory

**COPY . /usr/share/nginx/html**

# Expose port 80

**EXPOSE 80**

# Start Nginx when the container runs

**CMD ["nginx", "-g", "daemon off;"]**

Step 3: Build the Docker Image

1. In the terminal, ensure you're inside the project directory.
2. Run the following command to build the Docker image:

**Ker docker build -t my-static-website** o -t my-static-website gives the image a name. o . refers to the current directory where the Dockerfile is located.

Step 4: Run the Docker Container

1. Use the following command to start a container from the image: **docker run -d -p 8080:80 my-static-website** o -d runs the container in detached mode.

o -p 8080:80 maps port 80 inside the container to port 8080 on your machine.

1. Open a web browser and go to http://localhost:8080 to view your static website.

Step 5: Verify and Manage the Container

* To list running containers: **docker ps**
* To stop the container:  **docker stop <container\_id>**
* To remove the container: **docker rm <container\_id>**
* To remove the Docker image:

**docker rmi my-static-website**

References

* [Dockerfile Reference](https://docs.docker.com/engine/reference/builder/)
* [Docker Build Guide](https://docs.docker.com/engine/reference/commandline/build/)