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](#))
- 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

3. 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

- ○ -t my-static-website gives the image a name.
- ○ . 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

- ○ -d runs the container in detached mode.
- ○ -p 8080:80 maps port 80 inside the container to port 8080 on your machine.

2. 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](#)
- [Docker Build Guide](#)