

Docker Basics

Sheet 1

Objectives:

- Creating and running your first Docker container.
- Building Docker images using Dockerfiles.
- Working with Docker volumes.
- Docker networking and port mapping.

-
1. Create a Docker image from a Dockerfile that installs and runs a simple web application (such as Apache or Nginx) on port 80. Verify that the web application is accessible from a web browser on your host machine.
 2. Create a Docker image from a Dockerfile that installs and runs a database server (such as MySQL or PostgreSQL) and a web application (such as a Python Flask app) on different containers. Use Docker networking to enable communication between the two containers.
 3. Use Docker volumes to persist data for a container running a database server (such as MongoDB or Cassandra). Create a Docker volume for storing the data and mount it in the container so that the data is not lost when the container is stopped or restarted.
 4. Use Docker to run a legacy application that requires a specific version of an operating system or library. Create a Docker image that includes the required software and dependencies, and run the application in a container. Verify that the application works correctly in the container and can communicate with other containers in your Docker network.