# Docker

## Introduction

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# Docker

## Brief Agenda

- What is Docker?

- Key Docker Concepts

- Basic Docker Commands

- Docker Compose

- Hands-on: Dockerizing a Node.js app

# Docker

## Key benefits

- **Consistency** across environments, no more "it works on my machine"

- **Lightweight** compared to virtual machines

- **Faster** setup for development and testing

# Docker

## Key Docker Concepts

- **Dockerfile**: A file with instructions to build a Docker image.

- **Image**: A blueprint for your container (like a class in OOP).

- **Container**: A running instance of an image.

- **Docker Hub**: A registry for Docker images (like GitHub for code).

- **Volumes**: Mechanism to persist data outside containers.

Docker File —> Image —> Container

# Docker

## Basic Docker Commands

- docker **pull:** Download an image from Docker Hub.

- docker **run:** Run a container from an image.

- docker **ps:** List running containers.

- docker **stop:** Stop a running container.

- docker **build:** Build an image from a Dockerfile.

- docker **exec:** Run a command in a running container.

# Docker

**Dockerize a Simple Node.js App**

- Simple Node Server

- Node Server with MongoDb