Docker Container Technology

What is Docker?

Docker is a platform for developing, shipping, and running applications in containers. Containers package software with all dependencies, ensuring consistency across all environments from development to production.

Key Components

Docker Engine: The runtime that builds and runs containers. Docker Images: Templates containing application code and dependencies. Docker Containers: Running instances of images. Dockerfile: Script defining how to build an image.

Benefits

1. Portability - Run anywhere with Docker installed. 2. Consistency - Identical environment across dev, test, and prod. 3. Isolation - Applications run independently. 4. Efficiency - Lighter than virtual machines. 5. Speed - Start containers in seconds.

Common Commands

docker build -t myapp . - Build an image from Dockerfile. docker run myapp - Run a container. docker ps - List running containers. docker images - List available images. docker stop - Stop a container.