

# Docker Containerization Guide

Docker is a platform that uses containerization technology to package applications and their dependencies into portable containers. This enables applications to run consistently across different environments.

## Container Benefits:

- Isolation: Each container runs independently
- Portability: Containers work the same on any Docker-enabled system
- Efficiency: Containers share the host OS kernel
- Scalability: Easy to scale applications up or down
- Consistency: Same behavior in development, testing, and production

## Docker Basics:

- Dockerfile defines the container image
- Images are templates for containers
- Containers are running instances of images
- Docker Compose manages multi-container applications

## Common Commands:

`docker build` creates an image from a Dockerfile

`docker run` starts a container from an image

`docker ps` lists running containers

`docker stop` terminates a running container