



DOCKER

AGES . CONTAINERS . REGISTRY
DOCKERFILE . COMPOSE . VOLUMES
WORKING . SECURITY . SLIM

DURATION

30 Hours

LEVEL

**Beginner to
Advanced**

MODULES

8

MODE

**Classroom ·
Online · Hybrid**

01 COURSE OVERVIEW

A container fundamentals course on building, running and shipping application images with Docker.

Learners containerise real applications rather than samples: a web service, a database-backed API and a background worker, learning image layering, caching, multi-stage builds, volumes, networks and registries along the way.

The course closes with a Compose stack and a hardened, slim production image.

WHO IT IS FOR

Developers packaging applications

System administrators and DevOps engineers

QA engineers building test environments

Anyone moving to Kubernetes next

PREREQUISITES

Basic Linux command line and familiarity with one application stack.

02 LEARNING OUTCOMES

01 Explain the difference between images, containers and layers.

03 Reduce image size with multi-stage builds.

05 Connect containers over user-defined networks.

07 Push, tag and scan images in a registry.

02 Write efficient, cache-friendly Dockerfiles.

04 Persist data with volumes and bind mounts.

06 Run multi-service stacks with Compose.

03 MODULE STRUCTURE

8 MODULES

01 CONTAINERS AND ARCHITECTURE

Virtualisation vs containers

Images and layers

Container lifecycle

Docker engine

Registries

Docker Desktop and CLI

02 RUNNING CONTAINERS

run, exec, logs, inspect

Environment variables

Resource limits

Ports

Restart policies

Cleanup

LAB

RUN AND INSPECT SERVICES

03 BUILDING IMAGES

Dockerfile instructions

Layer caching

Tags

Build context

.dockerignore

Build arguments

LAB

CONTAINERISE AN APPLICATION

04 MULTI-STAGE AND SLIM IMAGES

Multi-stage builds

Dependency pruning

Health checks

Distroless and Alpine bases

Non-root users

LAB

PRODUCTION IMAGE UNDER 100 MB

05 DATA AND VOLUMES

Volumes

tmpfs

Permissions

Bind mounts

Backup and restore

Database containers

LAB

PERSISTENT DATABASE

06 NETWORKING

Bridge, host and none

DNS between containers

Overlay basics

User-defined networks

Published ports

LAB

API AND DATABASE ON ONE NETWORK

07 DOCKER COMPOSE

Compose file structure

Profiles

Scaling

Services and dependencies

Environment files

Override files

LAB

THREE-SERVICE STACK

08 REGISTRIES AND SECURITY

Docker Hub

Image signing

Secrets handling

Private registries

Vulnerability scanning

CI integration

PROJECT

BUILT, SCANNED AND PUBLISHED IMAGE SET

04 ASSESSMENT & CERTIFICATION

Module assignments and labs	25%
Mini projects	20%
Internal assessments	15%
Final project and review	40%

CERTIFICATION

Learners who complete all modules, submit the final project and clear the review receive a course completion certificate from Kaizen Infinities Private Limited. Project work is documented for the learner's portfolio, and interview preparation is included in the closing sessions.

05 CAREER OUTCOMES

ROLES THIS PROGRAMME PREPARES FOR

DEVOPS ENGINEER

CLOUD ENGINEER

BACKEND DEVELOPER

BUILD AND RELEASE ENGINEER

PLATFORM ENGINEER

CALL US

+91 73051 33996

EMAIL US

apply@kaizeninfinities.com

VISIT OUR WEBSITE

www.kaizeninfinities.com