

Introduction to Docker Kubernetes and OKD

Learn to build, manage and orchestrate containers using Docker, Kubernetes and the OKD container platform.

5 Days

8 HOURS A DAY

8

MODULES

58

TOPICS

COURSE OVERVIEW

This course covers Docker administration, including installing Docker, working with images and containers, networking, data persistence and private registries. It then introduces Kubernetes core concepts and architecture, covering the master and node components, kubectl, replication controllers, kubelet, etcd and high availability, along with features such as pods, labels, services, namespaces and resource quotas. It continues with the OKD container platform, explaining its relationship to Kubernetes, installing CRC for the OpenShift console, and working with OKD concepts such as deployment configs and build configs. It closes with managing OKD resources using YAML, pods, init containers, labels and replication controllers.

WHO THIS COURSE IS FOR

Docker Administrators

Kubernetes Administrators

Container Platform Engineers

Systems Administrators

DevOps Engineers

Infrastructure Engineers

LEARNING OBJECTIVES

- Explain container concepts and Docker architecture
- Build and manage Docker images and containers
- Configure Docker networking and data persistence with volumes
- Describe Kubernetes core concepts and design principles
- Identify Kubernetes architecture components such as kubectl and etcd
- Apply Kubernetes features such as pods, labels and namespaces
- Compare OKD architecture with Kubernetes architecture
- Manage OKD pods, build configs and replication controllers

8 Modules, 58 Topics

01

Docker Administration

TOPICS

- Introduction to Containers
- Introduction to Docker
- Downloading and Installing Docker
- Docker Essential Commands
- Docker Engine
- Understanding Docker Images
- Building Docker Images
- Storing and Retrieving Docker Images from Docker Hub
- Private Registry
- Managing Cgroups
- Building Containers from Images
- Understand Storage Plugins
- Networking Docker Containers
- Data Persistence with Volumes
- Linux Capabilities
- Creating and Managing Certificates

02

Core Concepts of Kubernetes

TOPICS

Cluster Orchestration · Looking at K8S Origination at Google · Open Source · Benefits · Design Principles

03

Navigating Kubernetes Architecture

TOPICS

Master/Node · Kubectl · Replication Controller · Kubelet · Kube-Proxy · Persistent Volumes · Etcd · High Availability

04

Using Kubernetes Features

TOPICS

Pods · Labels · Services · Namespaces · Resource Quota

05

The OKD Container Platform

TOPICS

- The Role of Containers & Container Orchestration
- Introduction to OKD
- Kubernetes and OKD Architecture
- Installing CRC (Code Ready Container) for OpenShift Console

06

Introduction to Docker

TOPICS

Installation of Docker · Docker Essential Commands ·
Creating Containers · Managing Data in Docker ·
Docker Networking · Docker Repositories · Build
Images · Docker File

07

Core Concepts of OKD

TOPICS

Pods · Services · Replication Controllers · Persistent
Volume (PV) · Persistent Volume Claim (PVC) ·
Deployment Config · Build Config

08

Managing OKD

TOPICS

Introduction to YAML · Creating and Managing Pods · Init Containers · Labels & Selector · Managing
Replication Controllers

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

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