

Docker with Kubernetes Administration

Course Summary

Description

This course combines the Docker and Kubernetes Administration courses.

Participants will first understand the core features of Docker including: container creation and management, interacting with Docker hub, using Dockerfile to create and manage custom images, advanced Docker networking (how to safely expose container services to the world, and link containers), the use of Docker volumes to manage persistent data, and Docker Compose to build multi-container applications. Emphasis is placed on best practices and how to secure Docker installations and containers.

The second part of the course introduces participants to the basic concepts and architecture of Kubernetes, its initial install and setup, Kubernetes Pods, deployments and services, persistent storage, networking, automating deployment, scaling and management of containerized applications, the Kubernetes Helm Package Manager and finally it's logging and monitoring facilities.

This course doesn't only prepare delegates for the daily administration of Docker and Kubernetes systems but also for the official Certified Kubernetes Administrator (CKA) exam of the Cloud Native Computing Foundation (CNCF).

The course structure is 50% theory and 50% hands-on lab exercises.

Topics

- Container Technology Overview
- Installing Docker
- Managing Containers
- Managing Images
- Creating Images with Dockerfile
- Docker Volumes
- Docker Compose/Swarm
- Docker Networking
- Docker Registry
- Kubernetes Intro and Concepts
- Kubernetes Architecture
- Kubernetes Installation and Initial Setup
- Working with Kubernetes Pods, Deployments and Services
- Working with Persistent Storage In Kubernetes
- Kubernetes Networking
- Automating Deployment, Scaling and Management of Containerized Applications Using Kubernetes
- Helm, the Kubernetes Package Manager
- Logging and Monitoring

Audience

This course is designed for system administrators and Devops professionals who want to understand and use Docker and Kubernetes in enterprise and cloud environments.

Prerequisites

Before taking this course, students should have proficiency with the Linux CLI. Students could gain this proficiency by taking the "Linux Fundamentals" course. Students should also have a broad understanding of Linux system administration, which could be provided by taking the "Enterprise Linux Systems Administration" course.

Duration

Five days