Course Outline

OCP (Red Hat Openshift) Administration

Course Summary

Description

This hands-on course with lab exercises will help learners to install and manage an OCP (Red Hat OpenShift) cluster. Throughout the course learners with understand the benefits and purpose of the platform, how to install the cluster, explore networking concepts, understand commands, manage OpenShift resources, configure storage, manage application deployments, and administer the cluster through logging and monitoring. This course is based on OCP 4.2 and Red Hat Enterprise Linux version 8 (RHEL8)

Topics

- Introduction to Red Hat Openshift Container Platform
- Install Openshift Container Platform
- Explore Openshift Networking Concepts
- Execute Commands - CLI (OC)
- Manage Openshift Resources
- Allocate Persistent Storage
- Manage Application Deployments
- Logging
- Metrics and Monitoring

Prerequisite

Learners will need a working knowledge of Linux systems administration skills or the equivalent knowledge of skills found in the GL120 - Linux Fundamentals and GL250 - Enterprise Linux Systems Administration courses. Learners will also benefit from an understanding of containerization as found in the GL340 - Docker course.

Duration

Three Days

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I. Introduction to Red Hat Openshift Container Platform
- A. About K8s
- B. OS, Deployment, and Scaling Benefits of Containerized Apps
- C. OCP Platform Overview
- D. RHCOS
- E. Key Features: OLM, Quay, SDN, auth, logs, Monitoring, Routing, Web Console, CLI
- F. OCP Lifecycle
- Lab Tasks

II. Install Openshift Container Platform
- A. Installer Provisioned Infrastructure
- B. User Provisioned Infrastructure
- C. Cloud vs. Bare Metal
- D. Disconnected
- Lab Tasks

III. Explore Openshift Networking Concepts
- A. OCP DNS
- B. Cluster Network Operator: config, logs, status, and CRs
- C. DNS Operator
- D. Ingress Operator
- E. Network Policy
- Lab Tasks

IV. Execute Commands - CLI (OC)
- A. Install, Login, and Basics
- B. Completion and Plug-ins
- C. Developer Commands
- D. Administrator Commands
- Lab Tasks

V. Manage Openshift Resources
- A. Pods: Create, View, Scale, Secrets, and Scheduling
- B. Nodes: List Status, Evacuate Nodes, Label, Taints, and Scale
- Lab Tasks

VI. Allocate Persistent Storage
- A. Concepts and Overview
- B. Static PV/PVC: Provision, Bind Claims, Use in Pod, Release, and Reclaim
- C. Dynamic: storage classes
- Lab Tasks

VII. Manage Application Deployments
- A. Projects
- B. Life Cycle
- C. Deployments
- Lab Tasks

VIII. Logging
- A. Components
- B. Deploying and Upgrading
- C. Viewing
- Lab Tasks

IX. Metrics and Monitoring
- A. Components
- B. Configuring Stack
- C. Setting Alerts
- D. Examining Metrics
- Lab Tasks