Red Hat OpenShift I: Containers & Kubernetes

Course Code: DO180; Course Duration: 3 days; Instructor-led

WHAT YOU WILL LEARN

Learn to build and manage containers for deployment on a Kubernetes and Red Hat OpenShift cluster

Introduction to Containers, Kubernetes, and Red Hat OpenShift (DO180) helps you build core knowledge in managing containers through hands-on experience with containers, Kubernetes, and the Red Hat® OpenShift® Container Platform. These skills are needed for multiple roles, including developers, administrators, and site reliability engineers.

This course is based on Red Hat OpenShift Container Platform 4.5.

Course content summary

- Understand container and OpenShift architecture.
- Create containerized services.
- Manage containers and container images.
- Create custom container images.
- Deploy containerized applications on Red Hat OpenShift.
- Deploy multi-container applications.

AUDIENCE

- Developers who wish to containerize software applications
- Administrators who are new to container technology and container orchestration
- Architects who are considering using container technologies in software architectures
- Site reliability engineers who are considering using Kubernetes and Red Hat OpenShift

PREREQUISITES

- Be able to use a Linux terminal session, issue operating system commands, and be familiar with shell scripting
- Have experience with web application architectures and their corresponding technologies
- Being a Red Hat Certified System Administrator (RHCSA®) is recommended, but not required

METHODOLOGY

This program will be conducted with interactive lectures, PowerPoint presentation, discussion, and practical exercise.

COURSE OBJECTIVES

Containers and Red Hat OpenShift have quickly become the de facto solution for agile development and application deployment. Administrators and developers are increasingly seeking ways to improve application time to market and improve maintainability.

This course provides the gateway to organizational and digital transformation by providing an understanding of the potential of DevOps using a container-based architecture. Orchestrating a container-based architecture with Kubernetes and Red Hat OpenShift improves application reliability and scalability; decreases developer overhead; and facilitates continuous integration and continuous deployment.

This course is the starting point for our Red Hat OpenShift curriculum, establishing the foundation needed to advance to Red Hat OpenShift development or administration.

As a result of attending this course, you should be able to perform these basic tasks in Red Hat OpenShift Container Platform:

- Create containerized services using Podman.
- Manage containers and container images.
- Create custom container images.
- Deploy containerized applications on Red Hat OpenShift.
- Deploy multi-container applications.

COURSE OUTLINES

Module 1: Introduce container technology

Describe how software can run in containers orchestrated by Red Hat OpenShift Container Platform.

Module 2: Create containerized services
Provision a server using container technology.

Module 3: Manage containers
Manipulate pre-built container images to create and manage containerized services.

Module 4: Manage container images
Govern the life cycle of a container image from creation to deletion.

Module 5: Create custom container images
Design and code a Docker file to build a custom container image.

Module 6: Deploy containerized applications on Red Hat OpenShift
Use single container applications on Red Hat OpenShift Container Platform.

Module 7: Deploy multi-container applications
Set up applications that are containerized using multiple container images.

Module 8: Troubleshoot containerized applications
Regulate a containerized application deployed on Red Hat OpenShift.

Module 9: Comprehensive review of curriculum
Demonstrate how to containerize a software application, test it with Podman, and deploy it on a Red Hat OpenShift cluster.