

[DO180]: Red Hat OpenShift I: Containers & Kubernetes

Length : 3 days
Delivery Method : Instructor-led (Classroom / Virtual)

Course Overview

Introduction to building and managing containers for deployment on a Kubernetes and OpenShift 4 cluster

Red Hat OpenShift I: Containers & Kubernetes (DO180) introduces students to building and managing containers for deployment on a Kubernetes cluster. This course helps students build core knowledge and skills in managing containers through hands-on experience with containers, Kubernetes, and the Red Hat OpenShift Container Platform needed for multiple roles, including developers, administrators and site reliability engineers.

This course is based on Red Hat® Enterprise Linux® 8.2 and OpenShift® Container Platform 4.6.

Course content summary

- Container and OpenShift architecture
- Creating containerized services
- Managing containers and container images
- Creating custom container images
- Deploying containerized applications on OpenShift
- Deploying multi-container applications

Audience Profile

- Developers who want to containerize software applications.
- Administrators who are new to container technology and container orchestration.
- Architects who are looking to use container technologies in software architectures.
- Site Reliability Engineers who want to support their technology infrastructure using Kubernetes and OpenShift.

Prerequisites for this course

- Experience in the use of a Linux terminal session, issuing operating system commands, and familiarity with shell scripting. A Red Hat Certified System Administrator (RHCSA) certification is recommended but not required.
- Some experience with web application architectures and their corresponding technologies.

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At Course Completion

Impact on the organization

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

A container-based architecture, orchestrated with Kubernetes and OpenShift, improves application reliability, scalability, decreases developer overhead, and facilitates continuous integration and continuous deployment. DO180 is the starting point for OpenShift curriculum within GLS and provides the necessary foundation before advancing to OpenShift development or administration.

This course provides the gateway to organizational and digital transformation by providing a comprehensive look at the potential of DevOps using a container-based architecture.

Impact on the individual

As a result of attending this course, students should gain the skills needed to perform basic tasks in Red Hat OpenShift Container Platform (OCP). This includes the ability to:

***Red Hat has created this course in a way intended to benefit our customers, but each company and infrastructure is unique, and actual results or benefits may vary. ***

You should be able to demonstrate these skills:

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

Course Outline

Module 1: Introducing container technology

Lessons

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

Module 2: Creating containerized services

Lessons

- Provision a service using container technology..

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Module 3: Managing containers

Lessons

- Modify pre-build container images to create and manage containerized services.

Module 4: Managing container images

Lessons

- Manage the life cycle of a container image from creation to deletion.

Module 5: Creating custom container images

Lessons

- Design and code a Container file to build a custom container image.

Module 6: Deploying containerized applications on OpenShift

Lessons

- Deploy single container applications on OpenShift Container Platform.

Module 7: Deploying multi-container applications

Lessons

- Deploy applications that are containerized using multiple container images.

Module 8: Troubleshooting containerized applications

Lessons

- Troubleshoot a containerized application deployed on OpenShift.

Module 9: Comprehensive review of introduction to container, Kubernetes, and Red Hat OpenShift

Lessons

- Demonstrate how to containerize a software application, test it with Podman, and deploy it on an OpenShift cluster.

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