DO180 - Red Hat OpenShift Administration I: Containers & Kubernetes

Overview

Course Code	DO180	Duration	4.0 days

Introduction to Containers, Kubernetes, and Red Hat OpenShift (DO180) introduces building and managing Docker containers for deployment on a Kubernetes cluster. This course helps students build core knowledge and skills in managing containers through hands-on experience with Docker, Kubernetes, and Red Hat® OpenShift Container Platform.

This course is based on Red Hat® OpenShift Container Platform 3.9 and Red Hat® Enterprise Linux® 7.5.

As a result of attending this class, students should be able to containerize simple software applications and services; deploy them with Docker, Kubernetes, and Red Hat OpenShift; test the containerized version; and troubleshoot issues with deployment.

One of the key tenets of the DevOps movement is continuous integration and continuous deployment. Containers have become a key technology for the configuration and deployment of applications and microservices. Kubernetes is a container orchestration platform that provides foundational services in Red Hat OpenShift Container Platform.

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

Pre-Requisites

- Be able to use a Linux terminal session and issue operating system commands
- Be a Red Hat Certified System Administrator (RHCSA) , or demonstrate equivalent experience
- Have experience with web application architectures and their corresponding technologies

You learn about the benefits of containers, Docker, Kubernetes, and Red Hat OpenShift with our free offering, Deploying Containerized Applications Technical Overview (DO080).

Key Topics

Objectives

Impact on the organization

This course is intended to develop the skills needed to create microservices architectures using OpenShift. Microservices are a new alternative to designing modern applications, focused on working with less hardware resources and, therefore, reducing infrastructure costs. OpenShift is a cloud solution that leverages the usage of microservices running on containers.

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

Impact on the individual

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 Docker.
- Manage containers and container images.
- Create custom container images.
- Deploy containerized applications on OpenShift.
- Deploy multi-container applications.

- Understand container, Docker, and Red Hat 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.

Details

Course introduction

Introduce and review the course.

Get started with container technology

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

Create containerized services

Provision a server using container technology.

Manage containers

Manipulate pre-built container images to create and manage containerized services.

Manage container images

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

Create custom container images

Design and code a Docker file to build a custom container image.

Deploy containerized applications on Red Hat OpenShift

Deploy single container applications on Red Hat OpenShift Container Platform.

Deploy multi-container applications

Deploy applications that are containerized using multiple container images.

Troubleshoot containerized applications

Troubleshoot a containerized application deployed on Red Hat OpenShift.

Comprehensive review of Introduction to Container, Kubernetes, and Red Hat OpenShift

Demonstrate how to containerize a software application, test it with Docker, and deploy it on a Red Hat OpenShift cluster.