Containers, Kubernetes, and Red Hat OpenShift Administration II (DO285) Training

Duration: **5 Day**

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Overview

Through an introduction to Docker, Kubernetes, and Red Hat OpenShift Platform, this course helps you understand one of the key tenets of the DevOps movement: 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, which allows enterprises to manage container deployments and scale their applications using Kubernetes.

In addition to gaining an understanding of these tools, you will build core administration skills through the installation, configuration, and management of an OpenShift cluster.

Target Audience

- Developers who want to containerize software applications
- Administrators who are new to container technology and container orchestration
- Architects who are considering using container technologies in software architectures
- System administrators who want to learn more about OpenShift
- System architects who want to learn more about OpenShift
- Architects and developers who want to install and configure OpenShift

Prerequisites

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

Please note: In order to provision you with your courseware and lab access for this course QA must share several items of basic personal information with our partner (usually your full name and email address). For more information on this please visit our QA Partner data sharing page. If you have any questions or concerns please contact your QA account manager.

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What You Will Learn

Course content summary

- Learn about container, Docker, and OpenShift architecture
- Create containerized services
- Manage containers and container images
- Create custom container images
- Deploy multi-container applications
- Install an OpenShift cluster
- Configure and manage masters and nodes
- Secure OpenShift
- Control access to resources on OpenShift
- Monitor and collect metrics on OpenShift
- Deploy applications on OpenShift using source-to-image (S2I)
- Manage storage on OpenShift

As a result of attending this course, you should be able to install, configure, and manage a Red Hat OpenShift Container Platform cluster and deploy applications on it.

You should be able to demonstrate these skills:

- Install OpenShift Container Platform to create a simple cluster
- Configure and manage OpenShift masters and nodes
- Secure OpenShift with a simple internal authentication mechanism
- Control access to resources on OpenShift
- Deploy applications on OpenShift using source-to-image (S2I)
- Configure and manage OpenShift pods, services, routes, secrets, and other resources

Impact on the organization

This course is intended to expose you to container and container orchestration technologies such as Docker, Kubernetes, and Red Hat OpenShift. You are taught how to containerize software applications and services. Containers are rapidly becoming a deployment technology of choice in organizations adopting DevOps principles and practices. Moving applications and services from traditional deployment platforms to container deployments make the applications deployable on a single clustered cloud architecture instead of many disparate sets of hardware configurations. Upon completion, you will have developed the skills needed to install, configure, and manage the Red Hat OpenShift Container Platform to deploy containerized applications that are highly available, resilient, and scalable. Red Hat OpenShift Container Platform enables rapid application development and deployment, as well as portability of an application across environments. The platform also offers simplified application scaling, administration, and maintenance of adapted or cloud-native applications.

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.

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Outline

Describe container technology
Describe how software can run in containers orchestrated by the 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
Manage the life cycle of a container image from creation to deletion.

Create custom container images
Design and code a Dockerfile to build a custom container image.

Deploy multi-container applications
Deploy applications that are containerized using multiple container images.

Install OpenShift Container Platform
Install OpenShift and configure the cluster.

Explore OpenShift networking concepts
Describe and explore OpenShift networking concepts.

Deploy containerized applications on OpenShift
Deploy single container applications on OpenShift Container Platform.

Deploy multi-container applications on OpenShift
Deploy applications that are containerized using multiple container images on an OpenShift cluster.

Execute commands
Execute commands using the command-line interface.

Control resource access
Control access to OpenShift resources.

Allocate persistent storage
Implement persistent storage.

Manage application deployments
Manipulate resources to manage deployed applications.

Install the metrics subsystem
Install and configure the metrics gathering system.

Manage OpenShift Container Platform
Manage and monitor OpenShift resources and software.

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