



# Containers, Kubernetes, and Red Hat OpenShift Administration I (DO285)

#### **COURSE OVERVIEW**

Learn to build and manage container images, administrate an OpenShift cluster, and troubleshoot applications running on Kubernetes

Containers, Kubernetes, and Red Hat OpenShift Administration II (D0285) helps you gain core knowledge in building and in configuring and managing Red Hat® OpenShift® Container Platform. This immersive and intensive, hands-on course shows you how to deploy applications to a local container engines and OpenShift clusters, manage the cluster on a day-to-day basis, and troubleshoot the deployment of containerized applications.

This course is based on Red Hat OpenShift Container Platform 4.6 and combines the content from Red Hat OpenShift I: Containers & Kubernetes (DO180) and Red Hat OpenShift Administration II: Operating a Production Kubernetes Cluster (DO280).

# WHO WILL BENEFIT FROM THIS COURSE?

- System and software architects interested in understanding features and functionality of an OpenShift cluster
- System administrators who are interested in the ongoing management of clusters and containerized applications
- Cluster operators who are interested in managing access to cluster resources by users and applications
- Site reliability engineers interested in the ongoing maintenance and troubleshooting of a cluster

# **PREREQUISITES**

Become a Red Hat Certified System Administrator (RHCSA), or demonstrate equivalent Red Hat Enterprise Linux system administration experience

# **COURSE OBJECTIVES**

After completing this course, you should be able to demonstrate the skills necessary to execute and build local containers, establish the health of a new OpenShift cluster, grant users and developers access to the cluster, and manage the cluster on a day-to-day basis. One major focus of the course is troubleshooting common problems that will be encountered beyond day one as users and applications use cluster resources.





# **COURSE OUTLINE**

Introduction to container technology

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

Create containerized services

Provision a service using container technology.

Manage containers

Modify prebuilt 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 containerized applications on OpenShift

• Use OpenShift Container Platform to deploy single container applications.

Deploy multicontainer applications

Deploy applications that are containerized using multiple container images.

Explore Red Hat OpenShift Container Platform

• Describe the architecture of OpenShift Container Platform.

Verify the health of a cluster

• Describe OpenShift installation methods and verify the health of a newly installed cluster.

Configure authentication and authorization

 Configure authentication with the HTPasswd identity provider and assign roles to users and groups.

Configuring application security

 Restrict permissions of applications using security context constraints and protect access credentials using secrets.

Configure OpenShift networking for applications

Troubleshoot OpenShift software-defined networking (SDN) and configure network policies.

Control pod scheduling

• Control the nodes on which a pod runs.

Scale an OpenShift cluster

Control the size of an OpenShift cluster.

Describe cluster updates

Describe how to perform a cluster update.

Manage a cluster with the web console

• Use the web console to manage a Red Hat OpenShift cluster.

Execute a comprehensive review

Verify, manage, and troubleshoot an OpenShift cluster for enterprise use.





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