

## **DO296: Containers, Kubernetes, and Red Hat OpenShift Development II with exam**

Course Code: DO296

Duration: 5 days

Instructor-led Training (ILT) | Virtual Instructor-led Training (VILT)

### **OVERVIEW**

Accelerated hands-on training to boost developer productivity powered by Red Hat OpenShift. Containers, Kubernetes, and Red Hat OpenShift Development II with exam (DO296) teaches you how to design, build, and deploy containerized software applications to an OpenShift® cluster. Whether you are tasked with writing container-native applications or migrating existing brownfield applications, this offering provides hands-on training to boost developer productivity powered by Red Hat OpenShift.

The Red Hat Certified Specialist in OpenShift Application Development exam (EX288) is included in this offering.

### **SKILLS COVERED**

- Explore container and OpenShift architecture
- Create containerized services
- Manage containers and container images
- Build custom container images
- Manage and trigger application builds
- Customize an existing source-to-image base image
- Develop an OpenShift template
- Generate health checks to monitor and improve application reliability

### **WHO SHOULD ATTEND?**

- 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 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

### **MODULES**

#### **Module 1: Introduction to 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 prebuilt container images to create and manage containerized services.

**Module 4: Manage Container Images**

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

**Module 5: Create Custom Container Images**

- Design and code a Dockerfile to build a custom container image.

**Module 6: Deploy Containerized Applications on OpenShift**

- Deploy single container applications on OpenShift Container Platform.

**Module 7: Troubleshoot Containerized Applications**

- Troubleshoot a containerized application deployed on OpenShift.

**Module 8: Deploy and Manage Applications on an OpenShift Cluster**

- Use various application packaging methods to deploy applications to an OpenShift cluster, then manage their resources.

**Module 9: Design Containerized Applications for OpenShift**

- Select a containerization method for an application and create a container to run on an OpenShift cluster.

**Module 10: Publish Enterprise Container Images**

- Create an enterprise registry and publish container images to it.

**Module 11: Build Applications**

- Describe the OpenShift build process, then trigger and manage builds.

**Module 12: Customize Source-To-Image (S2I) Builds**

- Customize an existing S2I base image and create a new one.

**Module 13: Create Applications from OpenShift Templates**

- Describe the elements of a template and create a multicontainer application template.

**Module 14: Manage Application Deployments**

- Monitor application health and implement various deployment methods for cloud-native applications.

**Module 15: Perform Comprehensive Review**

- Create and deploy cloudnative applications on OpenShift.

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