

DO317

Managing Virtual Machines with Red Hat OpenShift Virtualization with Exam

Course Description

Create and manage virtual machines on OpenShift using the Red Hat OpenShift Virtualization operator.

Managing Virtual Machines with OpenShift Virtualization with exam teaches the essential skills required to create and manage virtual machines (VM) on OpenShift using the Red Hat OpenShift Virtualization operator. This course does not require previous knowledge of containers and Kubernetes. The [Red Hat Certified Specialist in OpenShift Virtualization \(EX316\)](#) is included in this offering.

This course provides:

- Skills required to create, access, and manage VMs on OpenShift clusters
- Skills required to control usage and access of cpu, memory, storage, and networking resources from VMs using the same Kubernetes features that would also control usage and access to these resources for containers
- Sample architectures to manage High Availability (HA) of VMs using standard Kubernetes features and extensions from OpenShift Virtualization
- Strategies to connect VMs on OpenShift to data center services outside of their OpenShift cluster, such as storage and databases
- Strategies to migrate VMs from compatible hypervisors to OpenShift Virtualization by using the Migration Toolkit for Virtualization operator

Recommended training

- [Take our free assessment](#) to gauge whether this offering is the best fit for your skills.

- [Red Hat OpenShift Administration I: Operating a Production Cluster \(DO180\)](#) is recommended but not required
- Linux skills are not required to manage OpenShift clusters and OpenShift Virtualization but managing individual Linux VMs requires Linux sysadmin skills provided by:
 - [Red Hat System Administration I \(RH124\)](#) and [Red Hat System Administration II \(RH134\)](#) for managing the OS inside a Linux VM
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Course Outline

- **Red Hat OpenShift Virtualization**
Distinguish Red Hat OpenShift Virtualization from container technologies and from traditional virtual machine technologies. Describe the features and use cases of OpenShift Virtualization. Deploy the OpenShift Virtualization operator in an existing Red Hat OpenShift environment.
- **Running and Accessing Virtual Machines**
Create, manage, inspect, and monitor virtual machines in Red Hat OpenShift Virtualization.
- **Configuring Kubernetes Networking for Virtual Machines**
Configure standard Kubernetes network objects and external access for VMs and virtual machine-backed applications.
- **Connecting Virtual Machines to External Networks**
Configure node networking to connect virtual machines and nodes to networks outside of the cluster by using Multus CNI plug-ins and the NMState operator.
- **Configuring Storage for Virtual Machines**
Manage storage and disks for virtual machines in Red Hat OpenShift by using Kubernetes.
- **Create and Restore Backups of Virtual Machines**
Create virtual machine snapshots and back up virtual machine components individually and by using the OpenShift APIs for Data Protection (OADP) operator.
- **Replicating Virtual Machines by Using Instance Types, Templates, and Clones**
Create and manage clones, templates, and instance types to provision virtual machines.
- **Advanced Virtual Machine Management**
Import, control the placement of, monitor the health of, and live migrate virtual machines.
- **Configuring Kubernetes High Availability for Virtual Machines**
Implement high availability virtual machines that are resilient to failures, planned maintenance, and cluster upgrades by configuring Kubernetes resources.