# Red Hat OpenShift Virtualization Administration I: Operating Virtual Machines (DO156) Training

Duration: **3 Day**

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## Creating and Managing Virtual Machines on OpenShift

**Red Hat OpenShift Virtualization Administration I: Operating Virtual Machines (DO156)** provides the fundamental skills required to create and manage virtual machines (VMs) on OpenShift by using the Red Hat OpenShift Virtualization operator.

Throughout the course, participants become familiar with the Kubernetes architecture that supports OpenShift, deploy the OpenShift Virtualization operator, and learn the essential processes for creating, managing, and monitoring virtual machines.

The course also introduces important OpenShift Virtualization administration tasks, including configuring networking and persistent storage for VMs, protecting virtual machine data with snapshots, importing and exporting VM images, and creating reusable golden images through cloning.

## Organizational Impact

OpenShift Virtualization enables organizations to manage virtualized and containerized workloads through the same orchestration and clustering infrastructure provided by **Red Hat OpenShift**.

By bringing different workload types onto a common platform, organizations can simplify operational management and potentially reduce the operational costs associated with maintaining separate virtualization and container environments.

## Individual Impact

After completing DO156, IT professionals will have the foundational skills required to deploy and manage virtualized workloads on Red Hat OpenShift.

Participants learn essential administrative tasks such as deploying the OpenShift Virtualization operator, creating and managing VMs, configuring virtual machine networking and storage, monitoring VM operations, and protecting virtual machine data.

## Recommended Next Course or Exam

After completing DO156, participants can continue with the following certification exam and training courses:

- **Red Hat Certified Technologist in OpenShift Virtualization (EX156)** – Recommended for validating OpenShift Virtualization knowledge and skills.
- **Red Hat OpenShift Virtualization Administration II: Configuring Production Virtual Machines (DO256)** – Provides deeper Kubernetes, OpenShift, and virtualization skills required to configure production-ready virtual machines.
- **Red Hat OpenShift Administration I: Operating a Production Cluster (DO180)** – Recommended for developing additional skills in deploying and managing workloads in OpenShift clusters.
- **Red Hat OpenShift Administration II: Configuring a Production Cluster (DO280)** – Provides

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further knowledge of security and resource management for OpenShift projects.

- **Red Hat OpenShift Administration III: Scaling Kubernetes Deployments in the Enterprise (DO380)** and **Enterprise Kubernetes Storage with Red Hat OpenShift Data Foundation (DO370)** – Recommended for developing additional skills in node, storage, and security management for OpenShift clusters.
- **Red Hat OpenShift Installation Lab (DO322)** – Recommended for participants who want additional hands-on experience with installing and configuring OpenShift clusters.

## Prerequisites

Previous experience with containers, Kubernetes, or OpenShift is not required to attend DO156.

However, participants are encouraged to consider the following training and skills:

- Taking the Red Hat skills assessment is recommended to determine whether the course matches your current skill level
- Participants are encouraged to complete **Containers, Kubernetes and Red Hat OpenShift Technical Overview (DO080)** before attending DO156
- Linux skills are not required for managing OpenShift clusters or OpenShift Virtualization itself. However, operating individual Linux virtual machines requires Linux system administration knowledge. These skills are covered by **Red Hat System Administration I (RH124)** and **Red Hat System Administration II (RH134)**
- Participants are also encouraged to complete **Red Hat OpenShift Virtualization Technical Overview (DO016)** before attending DO156

## Who Should Attend

This course is particularly suitable for:

- Virtual machine administrators who want to move virtualized workloads from traditional hypervisors to OpenShift Virtualization
- Platform engineers and cloud administrators interested in supporting virtualized workloads
- System administrators who need to manage virtualized workloads independently or alongside containerized workloads within the same OpenShift cluster

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## What You Will Learn

The course covers the following key areas:

- Understanding the Kubernetes architecture that supports OpenShift and accessing important OpenShift cluster services through both the web console and command-line tools
- Deploying the OpenShift Virtualization operator and exploring its available configuration options
- Creating, managing, and monitoring virtual machines with Red Hat OpenShift Virtualization
- Using flexible networking capabilities for virtual machines within an OpenShift environment
- Configuring and managing persistent storage for virtual machines
- Protecting VM data by using snapshots
- Exporting and importing virtual machine images
- Efficiently creating golden images for virtual machines through cloning

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## Training Outline

### Introduction to Kubernetes and OpenShift

Explore the underlying Kubernetes architecture that supports OpenShift. Learn how to access and identify essential OpenShift cluster services by using both the web console and command-line utilities.

### Introduction to Red Hat OpenShift Virtualization

Deploy the OpenShift Virtualization operator and explore the primary configuration options available for managing the operator.

### Creating, Managing, and Monitoring Virtual Machines in Red Hat OpenShift Virtualization

Learn how to create virtual machines in an OpenShift Virtualization environment, perform common VM management operations, and monitor their status and operation.

### Managing Virtual Machine Networking in Red Hat OpenShift Virtualization

Explore the comprehensive and flexible networking capabilities available for connecting and operating virtual machines within an OpenShift environment.

### Managing Storage for Virtual Machines in Red Hat OpenShift Virtualization

Configure and manage persistent storage resources for virtual machines. Learn how to protect VM data with snapshots, export and import virtual machine images, and efficiently create reusable golden images through cloning.