# Migrating Virtual Machines to Red Hat OpenShift Virtualization with Ansible Automation Platform (DO346) Training

Duration: **2 Day**

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## Migrating Virtualized Workloads to OpenShift Virtualization

**Migrating Virtual Machines to Red Hat OpenShift Virtualization with Ansible Automation Platform (DO346)** provides the essential knowledge and skills required to migrate virtual machines to Red Hat OpenShift Virtualization.

The course combines carefully selected content from **Managing Virtual Machines in Red Hat OpenShift Virtualization (DO316)** and **Automate and Manage Red Hat OpenShift Virtualization with Ansible (DO336)**, providing IT professionals with a shorter and more focused learning path for moving existing virtualized workloads to OpenShift Virtualization.

Throughout the course, participants are introduced to fundamental OpenShift and Kubernetes concepts such as nodes, pods, and operators. They learn how to deploy the OpenShift Virtualization operator and configure the networking and storage resources required by virtual machines.

The course also explores strategies for migrating virtual machines from another hypervisor to Red Hat OpenShift Virtualization by using Migration Toolkit for Virtualization and Ansible Automation Platform.

This course is based on **OpenShift Container Platform 4.16, OpenShift Virtualization 4.16, and Ansible Automation Platform 2.4**.

## Organizational Impact

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

Bringing different workload types onto a shared platform can help organizations adopt a more integrated approach to operating virtualization and container environments while contributing to potential operational savings.

The migration skills covered in DO346 also help establish the technical foundation required to move existing virtualized workloads into OpenShift Virtualization.

## Individual Impact

After completing DO346, IT professionals will have the foundational knowledge and skills required to migrate existing virtualized workloads to Red Hat OpenShift Virtualization.

Participants develop practical knowledge of deploying the OpenShift Virtualization operator, configuring networking and storage for VMs, and performing virtual machine migration activities with Migration Toolkit for Virtualization and Ansible Automation Platform.

## Recommended Next Courses

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After completing DO346, virtual machine administrators are encouraged to continue developing their OpenShift Virtualization and VM administration skills through the following courses:

- **Managing Virtual Machines with Red Hat OpenShift Virtualization (DO316)** – Provides more comprehensive training in virtual machine administration with OpenShift Virtualization.
- **Red Hat OpenShift Administration I: Operating a Production Cluster (DO180)** – Recommended for developing additional skills in deploying and managing Kubernetes applications through the OpenShift web console and command-line interfaces.
- **Red Hat OpenShift Administration II: Configuring a Production Cluster (DO280)** – Provides further skills in security and resource management for OpenShift projects.
- **Red Hat OpenShift Administration III: Scaling Kubernetes Deployments in the Enterprise (DO380)** – Develops advanced skills for managing and scaling Kubernetes deployments in enterprise OpenShift environments.
- **Enterprise Kubernetes Storage with Red Hat OpenShift Data Foundation (DO370)** – Provides additional skills for storage management within OpenShift clusters.

These follow-up courses provide the deeper Kubernetes, OpenShift, node, storage, and security administration skills that OpenShift Virtualization administrators may require for production environments.

## Prerequisites

Previous experience with containers, Kubernetes, OpenShift, or OpenShift Virtualization is not required to attend DO346.

However, participants are encouraged to consider the following training before taking the course:

- Take the Red Hat skills assessment to determine whether the course matches your current level of knowledge and experience
- **Containers, Kubernetes and Red Hat OpenShift Technical Overview (DO080)**
- **Red Hat OpenShift Virtualization Technical Overview (DO016)**
- **Ansible Basics: Automation Technical Overview (DO007)**

Linux skills are not required for administering OpenShift clusters and OpenShift Virtualization itself. However, managing the operating system inside individual Linux virtual machines requires Linux system administration knowledge.

The following courses provide the relevant Linux administration skills:

- **Red Hat System Administration I (RH124)**
- **Red Hat System Administration II (RH134)**

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## Who Should Attend

This course is particularly suitable for:

- Virtual machine administrators who want to migrate virtualized workloads from traditional hypervisors to OpenShift Virtualization
- Kubernetes administrators who need to support both containerized and virtualized workloads within the same OpenShift cluster
- Cluster administrators and cluster engineers responsible for supporting OpenShift environments

## What You Will Learn

The course covers the following key areas:

- Deploying the OpenShift Virtualization operator within an existing Red Hat OpenShift environment
- Configuring node networking to connect virtual machines and OpenShift nodes to networks outside the cluster
- Using Multus CNI plug-ins and the NMState operator to configure external network connectivity
- Managing storage resources and disks for virtual machines running on Red Hat OpenShift
- Migrating virtual machines from another hypervisor to OpenShift Virtualization by using the Migration Toolkit for Virtualization operator
- Using Ansible Automation Platform as part of virtual machine migration processes

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## Training Outline

### Red Hat OpenShift Virtualization

Explore the differences between Red Hat OpenShift Virtualization, container technologies, and traditional virtual machine technologies.

Learn about the primary features and use cases of OpenShift Virtualization and deploy the OpenShift Virtualization operator within an existing Red Hat OpenShift environment.

### Configuring Networking for Virtual Machines

Configure standard Kubernetes networking objects for virtual machines and applications backed by virtual machines.

Learn how to configure node networking with Multus CNI plug-ins and the NMState operator so that virtual machines and OpenShift nodes can communicate with networks outside the cluster.

### Configuring Storage for Virtual Machines

Use Kubernetes capabilities to manage storage resources and disks for virtual machines running within Red Hat OpenShift.

Develop the foundational skills required to provide and manage the storage resources used by virtualized workloads.

### Migrating Virtual Machines to Red Hat OpenShift Virtualization

Learn how to migrate virtual machines from a compatible hypervisor to Red Hat OpenShift Virtualization.

Use the **Migration Toolkit for Virtualization (MTV) operator** together with the **Ansible Automation Platform (AAP) operator** to support the migration of virtual machine workloads into an OpenShift Virtualization environment.