

## Managing Virtual Machines with Red Hat OpenShift Virtualization with Exam (DO317),

Duration: 5 Days    Course Code: DO317

### Overview:

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

Managing Virtual Machines with OpenShift Virtualization 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.

#### 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.

### Target Audience:

#### - Virtual Machine Administrators interested in moving virtualized workloads from traditional Hypervisors to OpenShift Virtualization

- Kubernetes Administrators (Cluster Administrators, Clusters Engineers) interested in supporting containerized and virtualized workloads in the same OpenShift cluster
- Site Reliability Engineers interested in using GitOps and Ansible Automation to manage Virtual Machines on OpenShift

### Objectives:

- Create VMs from installation media and disk images
- Access text and graphical consoles of a VM
- Connect to VMs using Kubernetes networking (services, ingress, and routes)
- Provision storage to VMs using Kubernetes storage (PVC, PV, and storage classes)
- Start, pause, and stop VMs
- Clone and snapshot VMs
- Connect VMs to external and extra networks (outside of the Kubernetes pod and service networks)
- Provision load balancer services for VMs and then use the services to enable SSH access to VMs
- Connect VMs to host storage and external storage
- Create VMs from VM Templates
- Migrate VMs from compatible hypervisors

### Prerequisites:

- DO180 - Red Hat OpenShift Administration I: Operating a Production Cluster

## Follow-on-Courses:

- DO280 - Red Hat OpenShift Administration II: Configuring a Production Cluster
- DO316 - Managing Virtual Machines with Red Hat OpenShift Virtualization
- DO322 - Red Hat OpenShift Installation Lab
- DO370 - Enterprise Kubernetes Storage with Red Hat OpenShift Data Foundation
- DO380 - Red Hat OpenShift Administration III: Scaling Deployments in the Enterprise
- RH124 - Red Hat System Administration I (RHEL9)
- RH134 - Red Hat System Administration II (RHEL9)
- RH295 - Red Hat Enterprise Linux Automation with Ansible and exam

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## Content:

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|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Introduction to OpenShift Virtualization                                                                           | Connect Virtual Machines to external networks                                                    | Advanced Virtual Machine management                                                                |
| Describe the features and use cases of OpenShift Virtualization.                                                   | Configure node networking to connect virtual machines and nodes to networks outside the cluster. | Import, export, snapshot, clone, and live migrate a virtual machine and initiate node maintenance. |
| Run and access Virtual Machines                                                                                    |                                                                                                  |                                                                                                    |
| Create, manage, inspect, and monitor virtual machines in Red Hat OpenShift Virtualization.                         | Configure Kubernetes storage for Virtual Machines                                                | Configure Kubernetes high availability for Virtual Machines                                        |
| Configure Kubernetes network for Virtual Machines                                                                  | Manage storage and disks for VMs in Red Hat OpenShift.                                           | Configure Kubernetes resources to implement high availability for virtual machines.                |
| Configure standard Kubernetes network objects and external access for VMs and virtual machine-backed applications. | Virtual Machine template management                                                              |                                                                                                    |
|                                                                                                                    | Create and manage templates to provision virtual machines.                                       |                                                                                                    |

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## Additional Information:

### Technology considerations

All deliveries require access to ROLE for the remote classroom environment. There is no local ILT version of the DO316 classroom

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## Further Information:

For More information, or to book your course, please call us on 0800/84.009

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