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 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 clustersSkills 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 containersSample architectures to manage High Availability (HA) of VMs using standard Kubernetes features and extensions from OpenShift VirtualizationStrategies 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 clusterSite 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:

Recommended training

- Red Hat OpenShift Administration I: Operating a Production Cluster (DO180) is recommended but not required.

Technology considerations

- All deliveries require access to ROLE for the remote classroom environment. There is no local ILT version of the DO316 classroom.
- DO180 - Red Hat OpenShift Administration I: Operating a Production Cluster

Testing and Certification

Red Hat Certified Specialist in OpenShift Virtualization (EX316) included

Follow-on-Courses:

VM Administrators using OpenShift Virtualization require deeper Kubernetes and OpenShift skills than provided by DO316, even if they do not intend to manage containerized, cloud-native applications, and these skills are provided by existing OpenShift Administration courses:

- Red Hat OpenShift Administration II: Configuring a Production Cluster (DO280) is also a recommended follow-up course for security and resource management of OpenShift projects
- Red Hat OpenShift Administration III: Scaling Deployments in the Enterprise (DO380) and Enterprise Kubernetes Storage with Red Hat OpenShift Data Foundation (DO370) are recommended follow-up courses for node, storage, and security management of OpenShift clusters
- Red Hat OpenShift Installation Lab (DO322) is a recommended follow-up course for installing and configuring OpenShift clusters

Linux skills are not required to managing 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
- Red Hat Linux Automation with Ansible and exam (RH295) for using Ansible to manage the OS inside a Linux VM
- 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
- RH134 - Red Hat System Administration II
- RH295 - Red Hat Enterprise Linux Automation with Ansible and exam

Content:

Introduction to OpenShift Virtualization

Describe the features and use cases of OpenShift Virtualization.

Run and access Virtual Machines

Create, manage, inspect, and monitor virtual machines in Red Hat OpenShift Virtualization.

Configure Kubernetes network for Virtual Machines

Configure standard Kubernetes network objects and external access for VMs and virtual machine-backed applications.

Connect Virtual Machines to external networks

Configure node networking to connect virtual machines and nodes to networks outside the cluster.

Configure Kubernetes storage for Virtual Machines

Manage storage and disks for VMs in Red Hat OpenShift.

Virtual Machine template management

Create and manage templates to provision virtual machines.

Advanced Virtual Machine management

Import, export, snapshot, clone, and live migrate a virtual machine and initiate node maintenance.

Configure Kubernetes high availability for Virtual Machines

Configure Kubernetes resources to implement high availability for virtual machines.

Additional Information:

Impact on the Organization OpenShift Virtualization allows organizations to realize operational savings by managing virtualized workloads and containerized workloads together using the same orchestration and clustering infrastructure provided by Red Hat OpenShift. Deploying Virtual Machines (VMs) on OpenShift also eases integration of traditional server-based applications with more modern cloud-native applications and their supporting practices such as CI/CD, DevOps, and SRE to take advantage of quicker time-to-market and other benefits from these practices, without having to first redesign virtualized workloads as container-native workloads.
Impact on the Individual IT professionals will learn to deploy and manage virtualized workloads on OpenShift

Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

info@globalknowledge.co.uk

www.globalknowledge.com/en-gb/

Global Knowledge, Mulberry Business Park, Fishponds Road, Wokingham Berkshire RG41 2GY UK