Red Hat OpenShift Virtualization Technical Overview

Course Duration: 8 Hours **Course code: DO316**

1. Course Overview

The Red Hat OpenShift Virtualization Technical Overview course provides a comprehensive introduction to deploying and managing virtual machines (VMs) within Red Hat OpenShift Container Platform using OpenShift Virtualization. This course explains how to integrate virtualization with containerized applications, enabling organizations to modernize workloads and optimize resources. You will explore concepts, architecture, and basic operations through demonstrations and guided exercises, making it ideal for IT professionals transitioning from traditional virtualization to Kubernetes-based platforms.

2. What you'll learn?

This course aims to provide participants with a solid technical foundation in Red Hat OpenShift Virtualization, enabling them to understand how to run and manage virtual machines alongside container workloads within a single Kubernetes-based platform. Learners will explore the architecture, deployment options, and operational benefits of integrating traditional virtualization with modern container orchestration to achieve a unified, flexible infrastructure strategy.

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3. Target Audience

- System administrators and infrastructure engineers
- IT operations and DevOps professionals
- Platform and cluster administrators
- Virtualization administrators seeking container-based solutions
- Cloud architects and solution designers
- Technical professionals involved in hybrid cloud environments

4. Pre-Requisites

Participants should have:

To make the most of this technical overview, participants should have a basic familiarity with Linux system administration and container technologies. Prior knowledge of Red Hat OpenShift fundamentals will further support participants in connecting virtualization concepts with the OpenShift ecosystem.

- Basic understanding of Linux operating system concepts
- Familiarity with containers and Kubernetes fundamentals
- Experience with virtualization technologies (helpful but not mandatory)

5. Course content

Module 1: Introduction to OpenShift Virtualization

- Overview of OpenShift Container Platform
- What is OpenShift Virtualization?
- Benefits of running VMs on Kubernetes

Module 2: Architecture and Components

- Key components of OpenShift Virtualization
- KubeVirt and its role in virtualization
- Networking, storage, and security considerations

Module 3: Installing OpenShift Virtualization

- Prerequisites and installation steps
- Enabling virtualization operators
- Verifying and managing the installation

Module 4: Creating and Managing Virtual Machines

- VM templates and configurations
- Attaching storage and network interfaces
- Running and monitoring VMs in OpenShift

Module 5: Migrating Workloads

- Importing VMs from traditional virtualization platforms
- Live migration and VM scaling
- Best practices for workload migration

Module 6: Integrating VMs and Containers

- Hybrid application scenarios
- Connecting VMs with container-based services
- Use cases for modernization

Module 7: Security and Resource Management

- Securing VM workloads
- Resource quotas and limits for virtualization
- Troubleshooting and performance optimization

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