Implementing a Software-Defined Data Center Using System Center Virtual Machine Manager

Course Outline

Module 1: Introduction to server virtualization

Lessons
- Overview of Microsoft Virtualization
- Introducing the software-defined datacenter
- Extending virtualization to the cloud
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Lab: Evaluating virtualization options
- Selecting the appropriate virtualization method
- Creating Azure virtual machines

Module 2: Overview of Hyper-V virtualization

Lessons
- Installing and configuring the Hyper-V role
- Creating and managing virtual hard disks and virtual machines
- Creating and using Hyper-V virtual switches
- Implementing failover clustering with Hyper-V

Lab : Creating and managing virtual hard disks and virtual machines
- Installing and configuring the Hyper-V server role
- Configuring virtual machines and virtual hard disks

Lab : Implementing failover clustering with Hyper-V
- Creating a Hyper-V failover cluster
- Managing a Hyper-V failover cluster

Module 3: Installing and configuring Virtual Machine Manager

Lessons
- Overview of Virtual Machine Manager
- Installing Virtual Machine Manager
- Adding hosts and managing host groups

Lab : Installing and configuring Virtual Machine Manager
- Installing and configuring Virtual Machine Manager
- Managing hosts and host groups
- Managing an Azure subscription by using Virtual Machine Manager

Module 4: Managing storage fabric and fabric updates

Lessons
- Overview of server virtualization storage technologies
- Managing storage fabric
- Managing fabric updates

Lab : Managing storage fabric and fabric updates
- Implementing a storage infrastructure
- Creating a file server cluster and a storage QoS policy
- Managing fabric updates

Module 5: Configuring and managing the Virtual Machine Manager library and library objects

.**Lessons**
- Overview of the Virtual Machine Manager library
- Preparing Windows for deployment in Virtual Machine Manager
- Working with profiles
- Working with VM templates

Lab : Configuring and managing the Virtual Machine Manager library and library objects

- Configuring and managing a Virtual Machine Manager library
- Creating a Windows image for the Virtual Machine Manager library
- Creating and managing profiles and templates

Module 6: Managing the networking fabric

Lessons
- Networking concepts in Virtual Machine Manager
- Managing Software Defined Networking
- Understanding network function virtualization

Lab : Creating and configuring the networking fabric
- Associating virtual network adapters of Hyper-V hosts with the management logical network
- Deploying Network Controller

Lab : Configuring and testing Hyper-V Network Virtualization
- Configuring Hyper-V Network Virtualization
- Provisioning and testing tenant VM networks

Module 7: Creating and managing virtual machines by using Virtual Machine Manager

Lessons
- VM management tasks
- Creating, cloning, and converting VMs

Lab : Creating and managing VMs by using System Center VM Manager
- Creating a VM and modifying its properties
- Creating and managing checkpoints
- Cloning and migrating a VM

Module 8: Managing clouds in Microsoft System Center Virtual Machine Manager

Lessons
- Introduction to clouds
- Creating and managing a cloud
- Creating user roles in Virtual Machine Manager

Lab : Managing clouds in Virtual Machine Manager
- Creating a private cloud
- Creating user roles

Module 9: Managing services in Virtual Machine Manager

Lessons
- Overview of services in Virtual Machine Manager
- Creating and managing services in Virtual Machine Manager

Lab : Managing services in Virtual Machine Manager
- Creating a service template
- Deploying a service and updating service template
- Scaling out a service and updating the service

Module 10: Monitoring a virtualization infrastructure by using System Center Operations Manager

Lessons
- Operations Manager architecture and security
- Using Operations Manager for monitoring and reporting
- Integrating Operations Manager with Virtual Machine Manager and Data Protection Manager

Lab : Monitoring a virtualization infrastructure by using Operations Manager
- Implementing Operations Manager agents
- Integrating Operations Manager with Virtual Machine Manager

Module 11: Implementing and managing Hyper-V Replica and Azure Site Recovery

Lessons
- Implementing and managing Hyper-V Replica
- Implementing and managing Azure Site Recovery

Lab : Implementing and managing Hyper-V Replica and Azure Site Recovery
- Configuring and managing Hyper-V Replica
- Configuring and managing Azure Site Recovery

Module 12: Protecting a virtualization infrastructure by using Data Protection Manager

Lessons
- Overview of backup and restore options for VMs
- Configuring and managing Data Protection Manager for virtualization infrastructure protection

Lab : Protecting virtualization infrastructure by using Data Protection Manager
- Configuring a DPM server and installing DPM protection agents
- Creating and configuring protection groups
- Recovering VMs and other data
- Providing online protection with DPM