



Implementing a Software-Defined Datacenter MCSE Core Infrastructure (Option)

DURATION: 5 DAYS

COURSE CODE: M20745

FORMAT: LECTURE/LAB

WHY FIREFLY

Firefly is trusted by customers, technology vendors and channel partners around the world to deliver highly effective, immersive educational experiences. Our innovative, role-based Microsoft training covers all of the latest certifications, from Azure to Server 2016 to SQL to the modern desktop, and is designed engineers the skills they need to remain relevant in today's multcloud world.

PREREQUISITES

- An understanding of TCP/IP and networking concepts
- An understanding of different storage technologies and concepts
- Familiarity with different types of virtualizations
- Familiarity with Windows Server and Windows Server administration
- An understanding of Windows PowerShell

WHO SHOULD ATTEND

This course is intended for IT professionals and administrators who are responsible for designing, implementing, and managing virtualization infrastructure in a software-defined datacenter by using System Center 2016 Virtual Machine Manager. The main focus of this course is on managing Hyper-V virtualization infrastructure in Windows Server 2016, although the course also covers other virtualization platforms that can be managed by using Virtual Machine Manager 2016.

This course is also intended for IT decision makers who want to determine which virtualization product to implement in their software-defined datacenters and who want to become familiar with the System Center 2016 solution for managing virtualization infrastructure.

LEARNING OBJECTIVES

- Explain the different virtualization options
- Install and manage Hyper-V on Windows Server 2016
- Install and configure System Center 2016 Virtual Machine Manager
- Manage storage fabric and fabric updates
- Configure and manage the Virtual Machine Manager library and library objects
- Manage the networking fabric
- Create and manage virtual machines by using Virtual

- Machine Manager
- Manage clouds in Virtual Machine Manager
- Manage services in Virtual Machine Manager
- Monitor a virtualization infrastructure by using System Center Operations Manager
- Implement and manage Microsoft Hyper-V Replica and Microsoft Azure Site Recovery
- Protect virtualization infrastructure by using Data Protection Manager

Deploying and Configuring Infrastructure

DESCRIPTION

This five-day course explains how to implement and manage virtualization infrastructure in a software-defined datacenter by using Microsoft System Center 2016 Virtual Machine Manager. The course also describes how to monitor the infrastructure by using Microsoft System Center Operations Manager and protect it by using Microsoft System Center Data Protection Manager.

COURSE OUTLINE

1. Introduction to server virtualization

This module explains the different virtualization solutions. It also describes the concepts of software-defined datacenter and Microsoft Azure.

Overview of Microsoft Virtualization

Introducing the software-defined datacenter

Extending virtualization to the cloud

Lab : Evaluating virtualization options

Selecting the appropriate virtualization method

Creating Azure virtual machines

2. Overview of Hyper-V virtualization

This module explains how to install and manage Hyper-V in Windows Server 2016.

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

3. Installing and configuring Virtual Machine Manager

This module explains how to install and configure Virtual Machine Manager for managing a virtualization environment.

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

4. Managing storage fabric and fabric updates

This module explains how to manage storage fabric and fabric updates in Virtual Machine Manager.

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

5. Configuring and managing the Virtual Machine Manager library and library objects

This module describes how to configure and manage the Virtual Machine Manager library and library objects. It also describes the differences between profiles and templates and how they are used.

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

6. Managing the networking fabric

This module explains how to manage networking fabric in Virtual Machine Manager.

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

COURSE OUTLINE

7. Creating and managing virtual machines by using Virtual Machine Manager

This module explains how to create and manage virtual machines by using Virtual Machine Manager.

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

8. Managing clouds in Microsoft System Center Virtual Machine Manager

This module explains how to create and manage clouds by using Virtual Machine Manager.

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

9. Managing services in Virtual Machine Manager

This module explains how to create and manage services in Virtual Machine Manager.

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

10. Monitoring a virtualization infrastructure by using System Center Operations Manager

This module explains how to use Operations Manager for monitoring virtualization infrastructure.

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

11. Implementing and managing Hyper-V Replica and Azure Site Recovery

This module explains how to implement and manage Hyper-V Replica and Azure Site Recovery.

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

12. Protecting a virtualization infrastructure by using Data Protection Manager

This module explains how to use Data Protection Manager for protecting virtualization infrastructure.

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