

# 20745: Implementing a Software-Defined Data Center

Duration: 5 Days

Method: Instructor-Led Training (ILT)

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**Certification:** Microsoft Certified Solutions Expert (MCSE): Cloud Platform and Infrastructure — **Exam:** 70-745 Implementing a Software-Defined Data centre

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## Course Description

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

## Target Audience

This course is intended for:

- IT professionals and administrators who are responsible for designing, implementing, and managing virtualization infrastructure in a software-defined data centre by using System Center 2016 Virtual Machine Manager.
- IT decision makers who want to determine which virtualization product to implement in their software-defined data centres and who want to become familiar with the System Center 2016 solution for managing virtualization infrastructure.
- Individuals who are interested in the certification exam.

## Prerequisites

In addition to their professional experience, participants should already have the following technical knowledge to attend:

- 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®
- The ability to work in a team/virtual team and possess good documentation and communication skills.



## Prerequisites *Continued*

**NOTE:** Participants who wish to attend this training can meet the prerequisites by attending the following courses, or obtaining equivalent knowledge and skills:

- 20740: *Storage & Compute with Windows Server 2016*
- 20741: *Networking with Windows Server 2016*

## Course Objectives

Upon successful completion of this course, attendees will be able to:

- 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 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 virtualization infrastructure by using System Center Operations Manager.
- Implement and manage Hyper-V Replica and Azure® Site Recovery.
- Protect virtualization infrastructure by using Data Protection Manager.

## Course Topics

### Module 1: Introduction to Server

#### Virtualization

- Overview of Microsoft Virtualization
- Introducing the Software-Defined Datacenter
- Extending Virtualization to the Cloud

### Module 2: Overview of Hyper-V

#### Virtualization

- 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

### Module 3: Installing and Configuring Virtual Machine Manager

- Overview of Virtual Machine Manager
- Installing Virtual Machine Manager
- Adding Hosts and Managing Host Groups

### Module 4: Managing Storage Fabric and Fabric Updates

- Overview of Server Virtualization Storage Technologies
- Managing Storage Fabric
- Managing Fabric Updates



## Course Topics *Continued*

### Module 5: Configuring and Managing the Virtual Machine Manager Library and Library Objects

- Overview of the Virtual Machine Manager Library
- Preparing Windows for Deployment in Virtual Machine Manager
- Working with Profiles
- Working with VM Templates

### Module 6: Managing the Networking Fabric

- Networking Concepts in Virtual Machine Manager
- Managing Software Defined Networking
- Understanding Network Function Virtualization

### Module 7: Creating and Managing Virtual Machines by using Virtual Machine (VM) Manager

- VM Management Tasks
- Creating, Cloning, and Converting VMs

### Module 8: Managing Clouds in Microsoft System Center Virtual Machine Manager

- Introduction to Clouds
- Creating and Managing a Cloud
- Creating User Roles in Virtual Machine Manager

### Module 9: Managing Services in Virtual Machine Manager

- Overview of Services in Virtual Machine Manager
- Creating and Managing Services in Virtual Machine Manager

### Module 10: Monitoring a Virtualization Infrastructure by Using System Center Operations Manager

- Operations Manager Architecture and Security
- Using Operations Manager for Monitoring and Reporting
- Integrating Operations Manager with Virtual Machine Manager and Data Protection Manager

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

- Implementing and Managing Hyper-V Replica
- Implementing and Managing Azure Site Recovery

### Module 12: Protecting a Virtualization Infrastructure by using Data Protection Manager

- Overview of Backup and Restore Options for VMs
- Configuring and Managing Data Protection Manager for Virtualization Infrastructure Protection

## LABS INCLUDED

