

# 20409 Server Virtualization with Windows Server Hyper-V and System

## Overview

This five day course will provide you with the knowledge and skills required to design and implement Microsoft Server Virtualization solutions using Hyper-V and System Center.

## Course Objectives

After completing this course, students will be able to:

- Evaluate an organization's virtualization requirements and plan for server virtualization.
- Install and configure the Hyper-V server role.
- Create virtual machines, create and manage virtual hard disks and work with snapshots.
- Create and configure virtual machine networks in a Hyper-V environment.
- Implement virtual machine movement and Hyper-V Replica.
- Provide high availability for Hyper-V environment by implementing failover clustering.
- Manage virtual environment by using System Center 2012 R2 Virtual Machine Manager.
- Manage networking and storage infrastructure in Virtual Machine Manager.
- Configure and manage Virtual Machine Manager library and library objects.
- Create and manage virtual machines by using Virtual Machine Manager.
- Create and manage clouds by using System Center 2012 R2 Virtual Machine Manager.
- Create and manage services in System Center 2012 R2 Virtual Machine Manager.
- Protect virtualization infrastructure by using Windows Server Backup and Data Protection Manager.

## Duration

5 Days

## Who Should Attend

This course is intended for IT professionals who are responsible for designing, implementing, managing, and maintaining a virtualization infrastructure or are interested in learning about current Microsoft Virtualization technologies. The secondary audience for this course includes IT decision makers who will determine which virtualization product to implement in their data centers.

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## Course Topics

<p><b>Module 1</b></p>	<p><b>Evaluating the Environment for Virtualization Lessons</b></p> <ul style="list-style-type: none"> <li>• Overview of Microsoft Virtualization</li> <li>• Overview of System Center 2012 R2 Components</li> <li>• Evaluating Current Environment for Virtualization</li> <li>• Extending Virtualization to the Cloud Environment</li> </ul>
<p><b>Lab</b></p>	<p><b>Evaluating the Environment for Virtualization</b></p> <ul style="list-style-type: none"> <li>• Selecting the Appropriate Virtualization Method</li> <li>• Assessing the Environment by Using MAP</li> </ul>
<p><b>Module 2</b></p>	<p><b>Installing and Configuring the Hyper-V Role Lessons</b></p> <ul style="list-style-type: none"> <li>• Installing the Hyper-V Role</li> <li>• Managing Hyper-V</li> <li>• Configuring Hyper-V Settings</li> <li>• Hyper-V Host Storage and Networking</li> </ul>
<p><b>Lab</b></p>	<p><b>Installing and Configuring the Hyper-V Role</b></p> <ul style="list-style-type: none"> <li>• Installing the Hyper-V Server Role</li> <li>• Configuring Hyper-V Settings</li> <li>• Accessing and Managing Hyper-V Remotely</li> </ul>
<p><b>Module 3</b></p>	<p><b>Creating and Managing Virtual Hard Disks, Virtual Machines, and Checkpoints Lessons</b></p> <ul style="list-style-type: none"> <li>• Creating and Configuring Virtual Hard Disks</li> <li>• Creating and Configuring Virtual Machines</li> <li>• Installing and Importing Virtual Machines</li> <li>• Managing Virtual Machine Checkpoints</li> <li>• Monitoring Hyper-V</li> <li>• Designing Virtual Machines for Server Roles and Services</li> </ul>
<p><b>Lab</b></p>	<p><b>Creating and Managing Checkpoints and Monitoring Hyper-V</b></p> <ul style="list-style-type: none"> <li>• Importing Virtual Machines and Working with Checkpoints</li> <li>• Monitoring Hyper-V</li> </ul>
<p><b>Module 4</b></p>	<p><b>Creating and Configuring Virtual Machine Networks Lessons</b></p> <ul style="list-style-type: none"> <li>• Creating and Using Hyper-V Virtual Switches</li> <li>• Advanced Hyper-V Networking Features</li> <li>• Configuring and Using Hyper-V Network Virtualization</li> </ul>

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Lab	<b>Creating and Using Hyper-V Virtual Switches</b> <ul style="list-style-type: none"> <li>• Creating and Using Windows Server 2012 R2 Hyper-V Virtual Switches</li> </ul>
Lab	<b>Creating and Using Advanced Virtual Switch Features</b> <ul style="list-style-type: none"> <li>• Configuring and Using Advanced Virtual Switch Features</li> </ul>
Lab	<b>Configuring and Testing Hyper-V Network Virtualization</b> <ul style="list-style-type: none"> <li>• Configuring Hyper-V Network Virtualization</li> </ul>
Module 5	<b>Virtual Machine Movement and Hyper-V Replica Lessons</b> <ul style="list-style-type: none"> <li>• Providing High Availability and Redundancy for Virtualization</li> <li>• Implementing Virtual Machine Movement</li> <li>• Implementing and Managing Hyper-V Replica</li> </ul>
Lab	<b>Moving Virtual Machine and Configuring Constrained Delegation</b> <ul style="list-style-type: none"> <li>• Moving Hyper-V Storage and Virtual Machines</li> </ul>
Lab	<b>Configuring and Using Hyper-V Replica</b> <ul style="list-style-type: none"> <li>• Configuring and Managing Hyper-V Replica</li> </ul>
Module 6	<b>Implementing Failover Clustering with Hyper-V .Lessons</b> <ul style="list-style-type: none"> <li>• Overview of Failover Clustering</li> <li>• Configuring and Using Shared Storage</li> <li>• Implementing and Managing Failover Clustering with Hyper-V</li> </ul>
Lab	<b>Implementing Failover Clustering with Hyper-V</b> <ul style="list-style-type: none"> <li>• Creating a Hyper-V Failover Cluster</li> <li>• Managing a Hyper-V Failover Cluster</li> </ul>
Module 7	<b>Installing and Configuring System Center 2012 R2 Virtual Machine Manager Lessons</b> <ul style="list-style-type: none"> <li>• Integrating System Center and Server Virtualization</li> <li>• Overview of VMM</li> <li>• Installing VMM</li> <li>• Adding Hosts and Managing Host Groups?</li> </ul>

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Lab	<b>Installing and Configuring System Center 2012 R2 Virtual Machine Manager</b> <ul style="list-style-type: none"> <li>Installing and Configuring System Center 2012 R2 VMM</li> <li>Managing Hosts and Host Groups</li> </ul>
Module 8	<b>Managing the Networking and Storage Infrastructure in System Center 2012 R2 Virtual Machine Manager Lessons</b> <ul style="list-style-type: none"> <li>Managing Networking Infrastructure</li> <li>Managing Storage Infrastructure</li> <li>Managing Infrastructure Updates</li> </ul>
Lab	<b>Network Infrastructure Management</b> <ul style="list-style-type: none"> <li>Implementing a Network Infrastructure</li> </ul>
Lab	<b>Managing Infrastructure Storage</b> <ul style="list-style-type: none"> <li>Implementing a Storage Infrastructure</li> </ul>
Lab	<b>Infrastructure Updates Management</b> <ul style="list-style-type: none"> <li>Managing Infrastructure Updates</li> </ul>
Module 9	<b>Creating and Managing Virtual Machines by Using Microsoft System Center 2012 R2 Virtual Machine Manager Lessons</b> <ul style="list-style-type: none"> <li>Virtual Machine Management Tasks in VMM</li> <li>Creating, Cloning, and Converting Virtual Machines</li> <li>Overview of Virtual Machine Updating</li> </ul>
Lab	<b>Creating and Managing Virtual Machines by Using System Center 2012 R2 Virtual Machine Manager</b> <ul style="list-style-type: none"> <li>Creating a Virtual Machine and Modifying Its Properties</li> <li>Cloning a Virtual Machine</li> </ul>
Module 10	<b>Configuring and Managing the Microsoft System Center 2012 R2 Virtual Machine Manager Library and Library Objects Lessons</b> <ul style="list-style-type: none"> <li>Overview of the Virtual Machine Manager Library</li> <li>Working With Profiles and Templates</li> </ul>
Lab	<b>Configuring and Managing the Microsoft System Center 2012 R2 Virtual Machine Manager Library and Library Objects</b> <ul style="list-style-type: none"> <li>Configuring and Managing the Virtual Machine Manager Library</li> <li>Creating and Managing Profiles and Templates</li> </ul>

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<b>Module 11</b>	<p><b>Managing Clouds in Microsoft System Center 2012 R2 Virtual Machine Manager Lessons</b></p> <ul style="list-style-type: none"> <li>• Introduction to Clouds</li> <li>• Creating and Managing a Cloud</li> <li>• Working With User Roles in Virtual Machine Manager</li> </ul>
<b>Lab</b>	<p><b>Managing Clouds in Microsoft System Center 2012 R2 Virtual Machine Manager</b></p> <ul style="list-style-type: none"> <li>• Creating a Cloud</li> <li>• Working With User Roles</li> <li>• Deploying Virtual Machines to a Private Cloud</li> </ul>
<b>Module 12</b>	<p><b>Managing Services in Microsoft System Center 2012 R2 Virtual Machine Manager and App Controller Lessons</b></p> <ul style="list-style-type: none"> <li>• Understanding Services in VMM</li> <li>• Creating and Managing Services in VMM</li> <li>• Using App Controller</li> </ul>
<b>Lab</b>	<p><b>Managing Services in System Center 2012 R2 VMM and App Controller</b></p> <ul style="list-style-type: none"> <li>• Creating a Service Template</li> <li>• Deploying a Service and Updating a Service Template</li> <li>• Configuring App Controller</li> <li>• Deploying a Virtual Machine in App Controller</li> </ul>
<b>Module 13</b>	<p><b>Protecting and Monitoring Virtualization Infrastructure Lessons</b></p> <ul style="list-style-type: none"> <li>• Overview of Backup and Restore Options for Virtual Machines</li> <li>• Protecting Virtualization Infrastructure by Using DPM</li> <li>• Using Operations Manager for Monitoring and Reporting</li> <li>• Integrating VMM with Operations Manager</li> </ul>
<b>Lab</b>	<p><b>Monitoring and Reporting Virtualization Infrastructure</b></p> <ul style="list-style-type: none"> <li>• Implementing Microsoft System Center 2012 R2 Operations Manager Agents</li> <li>• Configuring Operations Manager Monitoring Components</li> <li>• Configuring Operations Manager Integration with System Center 2012 R2 Virtual Machine Manager (VMM)</li> </ul>