MOC 6331 Deploying and Managing Microsoft System Center Virtual Machine Manager

Course Summary

Description

This course teaches students how to implement a Microsoft System Center Virtual Machine Manager V2 solution in an organization. The course also discusses how to install, configure, and deploy VMM.

Objectives

At the end of this course, students will be able to:

- Identify installation prerequisites and requirements for VMM, select secure settings for VMM installations; and install VMM management packs.
- Describe prerequisites for installing the Administrator Console; configure the Windows Firewall for the VMM Administrator Console; and configure managed hosts.
- Describe prerequisites for the VMM Self-Service Portal; configure IIS to support the Self-Service Portal; and install the Self-Service Portal.
- Configure host server hardware to support VMs.
- Add VM hosts to VMM; install the VMM agent; add VMWare servers to VMM; and create filters.
- Configure delegated administration; set host or group permissions; and configure VMM settings to support a test environment.
- Configure access to the VMM Self-Service Portal; configure quotas on the VMM Self-Service Portal; and self-provision VMs using the VMM Self-Service Portal.
- Add a VMM library including library shares and library servers and manage the contents of VMM library shares.
- Deploy VMs using multiple methods; and use Intelligent Placement to deploy VMs.
- Identify considerations for SAN VM migrations; perform a Quick Migration; and use Intelligent Placement to move a VM.
- Convert a physical computer to a VM.
- Convert other VM formats to Hyper-V VMs using VMM.
- Describe considerations for configuring host clustering and describe procedures for configuring host clustering.
- Describe considerations for configuring guest clustering and describe procedures for configuring guest clustering.
- Identify scenarios where VMM Checkpoints may be used to meet operational requirements and create a VM Checkpoint.
- Describe considerations for patch management using System Center Configuration Manager (SCCM) and deploy patches using WSUS.
- Describe and configure SCOM reporting.
- Use SCOM to select potential virtualization targets based on workload and performance characteristics.
- Describe considerations for monitoring host server utilization; measure and analyze host server utilization; and identify important considerations in growth planning.
- Monitor and manage the progress of VMM jobs.
- Locate failed jobs and recover failed jobs.

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Course Summary (cont'd)

Topics

- Installing System Center Virtual Machine Manager
- Configuring VM Hardware, Hosts, and User Roles
- Configuring the VMM Self-Service Portal and Library
- Deploying and Managing VMs
- Converting from Physical or Virtual Platforms
- Deploying Highly Available VMs
- Managing Virtual Machine Checkpoints and Updates
- Implementing Monitoring and Reporting
- Monitoring and Troubleshooting Jobs

Audience

The audience for this class would be Consultants or Integrators planning on doing Enterprise VMM implementations and advanced VMM administrators.

Prerequisites

Before attending this course, students must have technical knowledge and skills in the following areas:

- Windows Server 2000/2003 System Administration
- Basic understanding of System Center Virtual Machine Manager (VMM) (optional)
- Server Virtualization using Virtual Server 2005, Virtual PC, or VMWare
- Operating knowledge of System Center Operations Manager 2007

Duration

Three days

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Course Outline

I. Installing System Center Virtual Machine Manager

Module 1 describes the installation prerequisites for VMM and describes the procedure for installing VMM. In addition, Module 1 describes the procedure to install the VMM Administrator Console and the VMM Self-Service Portal.

A. Installing System Center Virtual Machine Manager Server Components
B. Installing the VMM Administrator Console
C. Installing the VMM Self-Service Portal

Lab: Installing System Center Virtual Machine Manager

- Installing VMM Server
- Installing the VMM Administrator Console
- Installing the VMM Self-Service Portal and Configuring a DNS Record

After completing this module, students will be able to:

- Identify installation prerequisites and requirements for VMM.
- Select secure settings for VMM installations.
- Install VMM management packs.
- Describe prerequisites for installing the Administrator Console.
- Configure the Windows Firewall for the VMM Administrator Console.
- Configure managed hosts.
- Describe prerequisites for the VMM Self-Service Portal.
- Configure IIS to support the Self-Service Portal.
- Install the Self-Service Portal.

II. Configuring VM Hardware, Hosts, and User Roles

Module 2 describes host server hardware configuration considerations. In addition, Module 2 describes general host server configuration procedures including security configuration procedures.

A. Adding Hosts to VMM
B. Configuring Hardware
C. Configuring VMM Settings
D. Managing VMM Security

Lab: Configuring VM Hardware, Hosts, and User Roles

- Configuring Hosts
- Configuring VM Hardware
- Configuring User Roles

After completing this module, students will be able to:

- Configure host server hardware to support VMs.
- Add VM hosts to VMM.
- Install the VMM agent.
- Add VMWare servers to VMM.
- Create filters.
- Configure delegated administration.
- Set host or group permissions.
- Configure VMM settings to support a test environment.

III. Configuring the VMM Self-Service Portal and Library

Module 3 describes considerations and procedures for configuring the VMM Self-Service Portal and Library. This includes enabling user- or group-level access to the Self-Service Portal, configuring quotas, and using the Self-Service Portal to self-provision VMs. In addition, Module 3 describes procedures for maintaining VMM library servers and shares and the contents of library shares.

A. Configuring the VMM Self-Service Portal
B. Maintaining a VMM Library
C. Managing Library Files

Lab: Configuring the VMM Self-Service Portal and Library

- Configuring the VMM Self-Service Portal
- Maintaining a VMM Library

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Course Outline (cont'd)

After completing this module, students will be able to:

- Configure access to the VMM Self-Service Portal.
- Configure quotas on the VMM Self-Service Portal.
- Self-provision VMs using the VMM Self-Service Portal.
- Add a VMM library including library shares and library servers.
- Manage the contents of VMM library shares.

IV. Deploying and Managing VMs

Module 4 describes VM deployment and management tasks. This includes using VMM Intelligent Placement, VM Templates, and other automated VM deployment tools. In addition, Module 4 describes using VMM to move VMs between available hosts.

A. Deploying VMs
B. Moving VMs Between Hosts

Lab: Deploying and Managing VMs

- Deploying VMs
- Using Intelligent Placement

After completing this module, students will be able to:

- Deploy VMs using multiple methods.
- Use Intelligent Placement to deploy VMs.
- Identify considerations for SAN VM migrations.
- Perform a Quick Migration.
- Use Intelligent Placement to move a VM.

V. Converting from Physical or Virtual Platforms

Module 5 describes important considerations for converting physical and virtual computers to Microsoft VMs. This includes procedures for using deployment agents to execute conversions to Microsoft VMs as well as converting from third-party formats.

A. Converting Physical Computers to Virtual Machines
B. Migrating Virtual Machines to Hyper-V

Lab: Converting Virtual Machines Using VMM

- Converting a Microsoft Virtual Server VM
- Converting a VMWare Virtual Machine

After completing this module, students will be able to:

- Convert a physical computer to a VM.
- Convert other VM formats to Hyper-V VMs using VMM.

VI. Deploying Highly Available VMs

Module 6 describes considerations and procedures for deploying clustered VMs.

A. Introducing Virtual Machine High Availability
B. Deploying Host Clustering
C. Deploying Guest Clustering

Lab: Planning for Highly Available Virtual Machines

- Designing Host Clustering Hardware
- Selecting Guest Clustering Type

After completing this module, students will be able to:

- Describe considerations for configuring host clustering.
- Describe procedures for configuring host clustering.
- Describe considerations for configuring guest clustering.
- Describe procedures for configuring guest clustering.

VII. Managing Virtual Machine Checkpoints and Updates

Module 7 describes procedures for managing VMs using checkpoints and updates. This includes identifying scenarios for using VMM VM Checkpoints and procedures for creating VM Checkpoints.

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Course Outline (cont'd)

In addition, Module 7 describes update deployment using WSUS and SCCM tools.

A. Managing Virtual Machine Checkpoints
B. Managing Virtual Machine Updates

Lab: Managing Virtual Machine Checkpoints and Updates

- Managing Virtual Machine Checkpoints
- Managing Virtual Machine Updates

After completing this module, students will be able to:

- Identify scenarios where VMM Checkpoints may be used to meet operational requirements.
- Create a VM Checkpoint.
- Describe considerations for update management using System Center Configuration Manager (SCCM).
- Deploy updates using WSUS.

VIII. Implementing Monitoring and Reporting

Module 8 describes procedures for integrating System Center Operations Manager with VMM to extend the capabilities of VMM. This includes using SCOM reporting with VMM. In addition, Module 8 describes using SCOM to select potential virtualization targets and to monitor and plan host server utilization.

A. Integrating System Center Operations Manager
B. Performance and Resource Optimization
C. Planning and Managing Hyper-V

Lab: Configuring VMM and Operations Manager for Reporting

- Setting Up VMM for Reporting and PRO
- Enabling PRO
- Viewing Reports

After completing this module, students will be able to:

- Describe and configure SCOM reporting.
- Use SCOM to select potential virtualization targets based on workload and performance characteristics.
- Describe considerations for monitoring host server utilization.
- Measure and analyze host server utilization.
- Identify important considerations in growth planning.

IX. Monitoring and Troubleshooting Jobs

Module 9 describes procedures for monitoring and troubleshooting VMM jobs. This includes monitoring and verifying multiple job types as well as recovering from failed jobs.

A. Monitoring Jobs
B. Troubleshooting and Repairing Jobs

Lab: Troubleshooting Jobs

- Using PowerShell to View Jobs
- Running PowerShell Script to Generate Jobs
- Managing Jobs
- Troubleshooting Failed Jobs

After completing this module, students will be able to:

- Monitor and manage the progress of VMM jobs.
- Locate failed jobs and recover failed jobs.

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