Course 50374B:

Microsoft Server Virtualization and Management for the Experienced VMware IT Pro

Course Outline

Module 1: Course Orientation

This module presents a detailed view of the course content, lab scenario, and lab setup.

Lessons

- Review course modules
- Review the lab scenario: Describe phases (coexistence, transition, tuning); Describe end configuration
- Review the lab setup

After completing this module, students will be able to:

- Understand the course structure
- Understand the course lab scenario and setup

Module 2: Microsoft Hyper-V and System Center Comparison to vSphere and vCenter

This module presents a detailed view of Microsoft virtualization and management technology, and differentiates between Microsoft and VMware terminology and technology solutions.

Lessons

- Understanding Microsoft Virtualization Solutions
- Differentiating Microsoft and VMware Terminology and Solutions
- Microsoft Server Virtualization Deployment Options
- Microsoft Server Virtualization Architecture Solutions
- Reviewing the System Center Suite
- Understanding Licensing

Lab : Exploring the Hyper-V Lab Environment

After completing this module, students will be able to:

- Understand and contrast Microsoft server virtualization and management terminology and solutions with VMware vSphere and vCenter

- Understand Windows Server 2008 R2 with Hyper-V and System Center Suite features and functionality to design dynamic and robust end-to-end server virtualization and management solutions

Module 3: Managing and Protecting Storage in Hyper-V

This module provides an overview of storage technologies used with Hyper-V, explains the key storage issues when moving from VMware, and compares Hyper-V and VMware storage migration technologies.

Lessons

- Storage Technologies Overview
- iSCSI and Highly Available Storage
- HBAs and Virtual Drives
- VHDs and Pass-through disks
- Snapshots and Backups
- Storage Migration

Lab : Configuring Network and Storage for a Hyper-V R2 Failover Cluster

Lab : Performing Storage Migration

After completing this module, students will be able to:

- Describe storage technologies used with Hyper-V.
- Understand the differences in storage configurations in Hyper-V and VMware environments.
- Understand the highly available storage technologies that can be used with Hyper-V.
- Describe Hyper-V snapshots technologies.
- Understand and compare storage migration in Hyper-V and VMware.

Module 4: High Availability

This module describes the High Availability technologies and the virtual machine migration tools used in Hyper-V.

Lessons

- HA overview
- Failover Clusters
- Cluster Shared Volumes
- Business Continuity
- Migrating Virtual Machines

Lab : Creating and Configuring a Two-Node Hyper-V R2 Host-Based Failover Cluster

Lab : Configuration of System Center VMM 2008 R2

After completing this module, students will be able to:

- Understand High Availability for Hyper-V.

- Describe how Failover Clusters are used in Hyper-V environments.
- Describe how Cluster Shared Volumes are used in Hyper-V environments.
- Describe the technologies and configurations used to ensure Business Continuity.
- Understand how to migrate virtual machines in Hyper-V environments.

Module 5: Managing the Virtualized Server Infrastructure

This module will show students how to design a System Center-based management environment to support a heterogeneous virtualization infrastructure.

Lessons

- Managing Physical and Virtual Infrastructures using the System Center Suite
- Performing Host and Offline Virtual Machine Updates
- Designing a Backup and Recovery Solution with System Center Data Protection Manager 2010
- Monitoring and Managing a Heterogeneous Virtualization Infrastructure
- Designing a Business Continuity Solution

Lab : Managing Physical and Virtual Infrastructures Using System Center Virtual Machine Manager 2008 R2 (Heterogeneous Management Segment Recorded)

Lab : Creating Templates for Automated Deployment of Server Roles

Lab : Managing vMotion and Live Migration using System Center Virtual Machine Manager 2008 R2 (vMotion Management Segment Recorded)

Lab : Configuring and Performing Updates of Offline Virtual Machines and TemplatesLab : Implementing a Backup and Recovery Solution using System Center Data Protection Manager 2010 (ESX VM Backup and Recovery Segment Recorded)

Lab : Configuring and Using System Center Operations Manager 2008 R2 with PRO (Veeam nWorks Monitoring Segment Recorded)

After completing this module, students will be able to:

- Design System Center Management in a Heterogeneous Virtualization Environment
- Design Dynamic Resource Management using System Center Operations Manager and Virtual Machine Manager
- Design Business Continuity using Failover Clustering
- Design a Backup and Recovery using System Center Data Protection Manager
- Implement Host and Offline Virtual Machine Updates using System Center Configuration Manager, Windows Software Update Services, and Virtual Machine Servicing Tool 3.0

Module 6: Microsoft Server Consolidation

This module will describe how to plan and design a Microsoft-based Server Consolidation project.

Lessons

- Envisioning and Planning

- Assessment
- Architecture and Design
- Network and Storage Configuration
- Security
- High Availability and Business Continuity

Lab : Performing a MAP 5.0 Assessment

Lab : Performing a V2V Migration from vSphere to Hyper-V R2 (Recorded)

Lab : Configuring Access Control using AZMAN in System Center Virtual Machine Manager 2008 R2

Lab : Implementing a Disaster Recovery site with Hyper-V R2 and System Center

After completing this module, students will be able to:

- Understand the phases of a Server Consolidation project
- Use the MAP 5.0 Solution Accelerator Toolkit to perform assessments
- Understand best practices for Server Consolidation architecture and design

Module 7: Automating Processes for Virtualization Management

This module will describe how to design a virtualization management automation infrastructure using System Center Opalis and/or Service Manager.

Lessons

- System Center Opalis
- System Center Service Manager Architecture

Lab : Implementing System Center Service Manager for Change Management, Ticketing, and Workflow

After completing this module, students will be able to:

- Integrate System Center Opalis in a Virtualization Management Infrastructure
- Integrate System Center Service Manager in a Virtualization Management Infrastructure

Module 8: Building the Foundation for a Private Cloud

This module will describe private cloud infrastructure fundamentals and how the System Center Virtual Machine Manager Self-Service Portal 2.0 enables Infrastructure-as-a-Service (IaaS).

Lessons

- Private Cloud Fundamentals
- System Center Virtual Machine Manager Self-Service Portal 2.0

Lab : Using System Center Virtual Machine Manager Self-Service Portal 2.0 (Recorded)

After completing this module, students will be able to:

- Understand the architecture and benefits of a private cloud infrastructure
- Understand how to integrate the System Center Virtual Machine Manager Self-Service Portal 2.0 to automate provisioning in a private cloud infrastructure.

Module 9: Preparing for Exam 70-659 TS: Windows Server 2008 R2, Server Virtualization

This optional module will help students prepare for exam 70-659 TS: Windows Server 2008 R2, Server Virtualization. This module provides the exam objectives, and is designed to supplement the information presented in the rest of the course and student's existing knowledge of server virtualization; this module is not intended to provide a complete set of exam preparation resources.

Lessons

- Exam Preparation Overview
- Exam Objectives

After completing this module, students will be able to:

- Understand the objectives of exam 70-659 TS: Windows Server 2008 R2, Server Virtualization.
- Describe key topics and knowledge required for each exam objective.