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50273B: Planning and Designing Microsoft Virtualization Solutions

Course Outline

Module 1: Planning a Virtualization Strategy

This module will review key factors that must be considered when planning a data center or desktop virtualization strategy.

Lessons

- Understanding Virtualization Levels
- Defining the Case for Virtualization
- Reviewing Virtualization Technologies
- Reviewing the System Center Suite
- Understanding Licensing Options
- Reviewing Integration with Third-Party Products

Lab : Hyper-V Server 2008 R2 Installation

- Installing Hyper-V Server 2008 R2
- Configuring Hyper-V Server 2008 R2

Lab : Windows XP Mode Installation

- Installing Windows 7
- Install Windows Virtual PC
- Install Windows XP Mode
- Configuring and Launching a Virtual Application

Lab : Application Virtualization 4.6 Installation

- Installing Application Virtualization Management Server
- Configuring the Windows Firewall
- Installing Application Virtualization Desktop Client
- Configuring the Default Application
- Launching the Default Application

After completing this module, students will be able to:

- Understand the major factors to consider when they begin to architect a data center or desktop virtualization infrastructure.
- Envision a virtualization infrastructure strategy based on a set of basic business and technical requirements.

Module 2: Designing a Virtualization Platform Infrastructure and High-Availability Strategy

This module will explain how to design a highly-available server virtualization infrastructure using Windows Server 2008 R2 Hyper-V.

Lessons

- Defining Server Virtualization Scenarios
- Defining Hyper-V Base Architectures
- Performing a Pre-Design Discovery
- Designing a Server Virtualization Infrastructure
- Designing the Hyper-V Host Architecture
- Designing the Virtual Machine Architecture

- Sizing a Hyper-V Host Farm

Lab : Configuring and Using MAP 4.0

- Collecting Client Inventory Data
- Assessing Windows 7 Readiness
- Defining and Setting Custom Assessment Properties

Lab : Hyper-V Storage Design and Configuration

- Building a Large disk
- Duplicating a Disk
- Designing a Pass-through Disk
- Designing a Mobile Clustering Storage Solution

Lab : Hyper-V Virtual Network Design and Configuration

- Virtual Network Design For VM Isolation
- Virtual Network Design Between Virtual Machines Using VLANs
- Virtual Network Design Using VLANs

Lab : Hyper-V Platform Virtualization Design Exercise

- Collecting Performance Data
- Obtaining Inventory Data for the Design Exercise
- Design Exercise
- Server Consolidation Using Virtualization

Lab : Two-Node Virtual Machine Failover Cluster (Optional)

- Add and Configure Virtual Network Adapters
- Configuring the iSCSI Shared Disks
- Adding the Failover Clustering Feature to the Virtual Machines
- Configuring Failover Clustering on the Virtual Machines
- Using Failover Cluster Manager

Lab : Two-Node Hyper-V Host Failover Cluster with Live Migration (Optional)

- Prepare the Physical Machines
- Configure the iSCSI Target
- Configure the iSCSI Initiator
- Adding the Failover Clustering Feature to the Hyper-V Hosts
- Configuring Failover Clustering on the Hyper-V Hosts
- Configuring Cluster Shared Volumes
- Creating a New Virtual Machine
- Making a Virtual Machine Highly Available
- Configuring Cluster Networks for Live Migration
- Initiating a Live Migration
- Live Migration of a High-Availability Virtual Machine

After completing this module, students will be able to:

- Understand and design a Windows Server 2008 R2 Hyper-V Virtualization Infrastructure
- Understand Hyper-V storage options and design a storage environment
- Understand Hyper-V virtual networks options and design a virtual network environment
- Understand Hyper-V Snapshots and how to manage a Snapshot hierarchy
- Understand Hyper-V host and virtual machine failover cluster options for high-availability and how to design a high-availability environment

Module 3: Designing a Virtualized Desktop Infrastructure

This module will explain how to design a virtualized desktop infrastructure based on a local desktop or central VDI strategy.

Lessons

- Defining Desktop Virtualization Scenarios
- Designing a Local Desktop Infrastructure

- Designing a VDI Deployment using Windows Server 2008 R2 Hyper-V and RDS
- Designing an Application Strategy using RemoteApp
- Designing a VDI Deployment using Windows Server 2008 R2 Hyper-V and Citrix XenDesktop

Lab : VDI with Windows Server 2008 R2 Hyper-V and RDS Connection Broker

- Configuring the Hyper-V Host Server
- Configuring the Remote Desktop Session Host Role Service
- Configuring the Remote Desktop Virtualization Host Role Service
- Configuring the Remote Desktop Connection Broker Role Service
- Configuring the Remote Desktop Connection Web Access Role Service
- Configuring the Virtual Machines for RDS
- Configuring the Virtual Machines for Rollback
- Configuring the Virtual Desktop Pool
- Connecting to a Virtual Desktop Pool
- Configuring the Personal Virtual Desktop
- Connecting to a Personal Virtual Desktop

Lab : Using RemoteApp for Hyper-V to Deliver Applications in a VDI

- Configuring the Virtual Machine Guest Operating System
- Creating an RDP File
- Connecting to the Notepad Application using RemoteApp

Lab : Scenario-Based Virtualization Desktop Infrastructure Design Exercise

- Design a Virtualization Desktop Infrastructure

After completing this module, students will be able to:

- Select and design a virtualized desktop infrastructure
- Design a VDI based on Windows Server 2008 R2 Hyper-V and RDS
- Design an application delivery strategy using RemoteApp

Module 4: Designing an Application Virtualization Infrastructure

This module will explain how to design an application delivery infrastructure for virtualized desktops using Application Virtualization 4.6.

Lessons

- Planning an Application Virtualization 4.6 Infrastructure
- Designing an Application Virtualization 4.6 Infrastructure
- Using Application Virtualization 4.6 with System Center Configuration Manager 2007 R2
- Using Application Virtualization 4.6 with RDS

Lab : Using Application Virtualization 4.6 to Deliver Applications in a VDI Scenario

- Installing Application Virtualization Sequencer
- Sequencing Word Viewer 2003
- Launching the Word Viewer 2003 Application From a Personal Virtual Desktop

After completing this module, students will be able to:

- Understand the Application Virtualization 4.6 architecture
- Design an Application Virtualization 4.6 Infrastructure for application delivery in a VDI environment

Module 5: Designing a Virtualization Infrastructure Management Strategy

This module will explain the factors to consider and Microsoft suite of applications available to design a management infrastructure.

Lessons

- Developing a Virtualization Infrastructure Management Environment with the System Center Suite
- Developing a Virtual Machine Deployment Strategy
- Developing a Virtual Machine Conversion Strategy
- Developing an Administrative Strategy
- Developing a Virtual Machine Migration Strategy

- Developing a Disaster Recovery Strategy
- Developing a Maintenance Strategy

Lab : Configuring and Using a System Center VMM Self-Service Portal

- Configuring Self-Service User Policy
- Logging into a VMM 2008 R2 Self-Service Portal
- Creating a Virtual Machine using the Self-Service Portal

Lab : Performing a P2V Conversion using System Center VMM 2008 R2

- Performing a P2V Conversion

Lab : Configuration and Use of the Remote Server Administration Toolkit

- Windows 7 RSAT Installation
- Adding an RSAT Administration Tool for Hyper-V
- Managing a Hyper-V Server using RSAT

Lab : Performing a Virtual Machine Export/Import using System Center VMM

- Exporting a Virtual Machine Using VMM 2008 R2
- Importing a Virtual Machine Using VMM 2008 R2

Lab : Performing a Virtual Machine Backup Using System Center DPM

- Configuring Storage for Use with DPM 2007 SP1
- Installing a DPM Agent in a Virtual Machine
- Creating a Protection Group to Backup a Virtual Machine
- Recovering a Directory to a Virtual Machine

Lab : Offline Virtual Machine Update using System Center ConfigMgr 2007 SP2

- Configuring the Hyper-V Host Server
- Installing OVMST 2.1 on the VMM Server
- Adding the Hyper-V Host Server as a Managed VMM host
- Configuring the Client Virtual Machine Firewall Settings
- Configuring System Center ConfigMgr 2007 SP2
- Storing the Client Virtual Machine in the VMM Library
- Configuring OVMST 2.1 to Perform an Offline Virtual Machine Update
- Monitoring an Offline Virtual Machine Update using OVMST 2.1

After completing this module, students will be able to:

- Understand the critical areas of management for a virtualization infrastructure
- Understand the System Center Suite and how it can be used to design a virtualization infrastructure management strategy
- Identify applications and utilities available to perform virtualization infrastructure management tasks

About this Course

Course retirement date: November 30, 2012

For a complete list of courseware retirements, see:

www.microsoft.com/learning/en/us/training/retired-courseware.aspx

This five-day instructor-led course provides students with the knowledge and skills to design a complex data center and desktop architecture using Microsoft Windows Server 2008 R2 with Hyper-V or Hyper-V Server 2008 R2, Remote Desktop Services (RDS), System Center Suite, Microsoft Enterprise Desktop Virtualization (MED-V), Application Virtualization 4.6 (APP-V), as well as supporting applications and utilities. The information included in this class will provide students with a solid baseline of technology solutions, architecture considerations, and management requirements that can be integrated to build a successful virtualization infrastructure.

Audience Profile

This course is intended for Infrastructure Architects and Virtualization Specialists who are responsible for designing, deploying, and managing one or more data center or desktop virtualization environments.



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