Configuring and Administering Hyper-V in Windows Server 2012

Längd: 2 Days    Kurskod: M55021

Sammanfattning:
Är du intresserad av att lära dig mer om System Center 2012 Virtual Machine Manager så rekommenderar vi istället kurs M20414.

Målsättning:

- Beskriva Microsofts virtualiserings-teknologier
- Implementera Hyper-V
- Designa och hantera virtual machine storage-lösningar
- Designa och hantera virtuella nätverk
- Designa Hyper-V host-arkitekturen
- Designa virtual machine-arkitekturen
- Designa en virtualiserings-infrastruktur med Windows Server 2012 Hyper-V
- Beskriva och hantera Hyper-V snapshots
- Beskriva Hyper-V host och virtual machine high availability
- Beskriva val av storage för virtuella maskiner
- Beskriva de olika typerna av virtuella hårdiskar
- Beskriva Hyper-V integration services
- Beskriva Live Migration
- Förstå Storage Migration
- Förstå Virtual Machine Import
- Förstå Storage Migration
- Förstå Virtual Machine Import
### Module 1: Planning for Virtualization

After completing this module, students will be able to describe virtualization, as it relates to server environments. Students will be able to plan for hardware requirements, storage, availability, and security.

#### Lessons
- Overview of Microsoft Virtualization
- Assessment of Virtualization Candidates
- Planning for Virtualization
- Implementing Hyper-V
- Managing Virtual Machine Storage
- Managing Virtual Networks
- Creating and Configuring Virtual Hard Disks
- Creating and Configuring Virtual Machines
- Managing Virtual Machine Snapshots
- Virtual Machine Import
- Advanced features of Virtual Network Adapters
- Hyper-V Network Virtualization
- Hyper-V Extensible Switch
- Overview of Scale-up options in Windows Server 201
- Non-uniform memory access (NUMA)
- Hyper-v Scale Comparison

#### Lab 1: Assessing the Environment for Virtualization

- Planning for the Hyper-V Server Role
- Assess the environment by using the Microsoft Assessment and Planning (MAP) Toolkit

After completing this module, students will be able to:
- Describe virtualization.
- Describe the options available for server virtualization.
- Design solutions using Hyper-V disks and storage.
- Design solutions using high availability for Hyper-V.
- Assess and environment using the Microsoft Assessment and Planning (MAP) toolkit.
- Describe the Hyper-V integration services.
- Install Hyper-V Server Role.
- Manage virtual machine storage.
- Manage virtual networks. Describe Hyper-V Extensible Switch.
- Describe Data Center Bridging (DCB)
- Describe Resource Metering in Hyper-V
- Describe storage options for virtual machines.
- Describe the new vhdx format.
- Attach physical disks to a virtual machine.

### Module 3: Creating and Configuring Virtual Hard Disks and Virtual Machines

After completing this module, students will be able to determine and configure the most appropriate virtual hard disk(s) format to use in their environment. Students also will be able to create and configure virtual machines.

#### Lessons
- Overview of Microsoft Virtualization
- Assessment of Virtualization Candidates
- Planning for Virtualization
- Implementing Hyper-V
- Managing Virtual Machine Storage
- Managing Virtual Networks
- Creating and Configuring Virtual Hard Disks
- Creating and Configuring Virtual Machines
- Managing Virtual Machine Snapshots
- Virtual Machine Import
- Advanced features of Virtual Network Adapters
- Hyper-V Network Virtualization
- Hyper-V Extensible Switch
- Overview of Scale-up options in Windows Server 201
- Non-uniform memory access (NUMA)
- Hyper-v Scale Comparison

#### Lab 1: Creating Virtual Hard Disks and Virtual Machines

- Creating Virtual Hard Disks
- Creating New Virtual Machines
- Modifying Virtual Machine Settings
- Creating and Modifying Virtual Machine Snapshots
- Import Virtual Machines into Hyper-V

After completing this module, students will be able to:
- Describe virtualization.
- Describe the options available for server virtualization.
- Describe requirements for Hyper-V sever role.
- Design solutions using Hyper-V disks and storage.
- Design solutions using high availability for Hyper-V.
- Assess and environment using the Microsoft Assessment and Planning (MAP) toolkit.
- Describe the Hyper-V integration services.
- Install Hyper-V Server Role.
- Manage virtual machine storage.
- Manage virtual networks. Describe

### Module 5: Scale-up Virtual Machines

This module explains how Windows Server 2012 can be used to scale-up your virtual machines. Students will learn the details around non-uniform memory access (NUMA) and the other scale-up options in Windows Server 2012. It also compares the scale-up options in Windows Server 2012 with the options that were available in previous versions of Windows Server.

#### Lessons
- Overview of Microsoft Virtualization
- Assessment of Virtualization Candidates
- Planning for Virtualization
- Implementing Hyper-V
- Managing Virtual Machine Storage
- Managing Virtual Networks
- Creating and Configuring Virtual Hard Disks
- Creating and Configuring Virtual Machines
- Managing Virtual Machine Snapshots
- Virtual Machine Import
- Advanced features of Virtual Network Adapters
- Hyper-V Network Virtualization
- Hyper-V Extensible Switch
- Overview of Scale-up options in Windows Server 201
- Non-uniform memory access (NUMA)
- Hyper-v Scale Comparison

#### Module 6: Hyper-V Replica and Disaster Recovery

This module describes disaster recovery options for Hyper-V, including Hyper-V Replica and backup/restore options for Hyper-V. Students will learn how to plan and prepare for Hyper-V Replica, learn how to configure and enable replication, perform planned failovers, and how to respond to unplanned failovers. They will also learn how to backup and restore Hyper-V hosts and virtual machines.

#### Lessons
- Overview of Hyper-V Replica
- Configuring Hyper-V Replica
- Hyper-V Replica Failover Operations
Describe pass-through disks.
Create a new virtual hard disk using the new Virtual Hard Disk Wizard.
Describe considerations for creating new virtual machines.
Create a new virtual machine.
Configure virtual machine settings.
Creating and managing virtual machine snapshots.
Describe Virtual Fibre Channel HBAs.
Describe Multipath I/O (MPIO) functionality for Fibre Channel storage.
Describe the new Virtual Machine import features in Windows Server 2012.
Describe the P2V process.
Import Virtual machines without exports.
Describe the virtual machine compatibility report.
Describe the PowerShell commands for importing Virtual Machines.
Describe Hyper-V Extensible Switch.
Describe Hyper-V Network Virtualization.
Implement NIC Teaming.
Describe VLAN Tagging.
Understand MAC and ARP spoofing protections.
Describe SR-IOV networking.
Implement Network QoS.
Implement Network metering.
Describe Network monitor modes.
Describe IPsec task offload.
Describe VM Trunk Mode.

Module 2: Implementing Server Virtualization with Hyper-V

This module describes how to install and configure Hyper-V virtual machines, configuring virtual storage, and configuring virtual networks. Students will be able to design their Hyper-V environment and storage networks.

Lessons
Overview of Microsoft Virtualization
Assessment of Virtualization Candidates
Planning for Virtualization
Implementing Hyper-V
Managing Virtual Machine Storage
Managing Virtual Networks
Creating and Configuring Virtual Hard Disks
Creating and Configuring Virtual Machines
Managing Virtual Machine Snapshots
Virtual Machine Import
Advanced features of Virtual Network Adapters
Hyper-V Network Virtualization
Hyper-V Extensible Switch
Overview of Scale-up options in Windows Server 2011
Non-uniform memory access (NUMA)
Hyper-v Scale Comparison

Module 4: Configure Networking in Hyper-V

This module describes all of the new network features available in Hyper-V. Students will be able to describe Hyper-V Network Virtualization along with the Hyper-V Extensible Switch. Students will also be able to plan how to implement the new networking features available with Windows Server 2012 Hyper-V.

Lessons
Overview of Microsoft Virtualization
Assessment of Virtualization Candidates
Planning for Virtualization
Implementing Hyper-V
Managing Virtual Machine Storage
Managing Virtual Networks
Creating and Configuring Virtual Hard

Hyper-V Extensible Switch
Describe Data Center Bridging (DCB)
Describe Resource Metering in Hyper-V
Describe storage options for virtual machines.
Describe the new vhdx format.
Attach physical disks to a virtual machine.
Describe pass-through disks.
Create a new virtual hard disk using the new Virtual Hard Disk Wizard.
Describe considerations for creating new virtual machines.
Create a new virtual machine.
Configure virtual machine settings.
Creating and managing virtual machine snapshots.
Describe Virtual Fibre Channel HBAs.
Describe Multipath I/O (MPIO) functionality for Fibre Channel storage.
Describe the new Virtual Machine import features in Windows Server 2012.
Describe the P2V process.
Import Virtual machines without exports.
Describe the virtual machine compatibility report.
Describe the PowerShell commands for importing Virtual Machines.
Describe Hyper-V Extensible Switch.
Describe Hyper-V Network Virtualization.
Implement NIC Teaming.
Describe VLAN Tagging.
Understand MAC and ARP spoofing protections.
Describe SR-IOV networking.
Implement Network QoS.
Implement Network metering.
Describe Network monitor modes.
Describe IPsec task offload.
Describe VM Trunk Mode.
Lab 1: Installing and Configuring the Hyper-V Server Role

- Installing the Hyper-V Server Role
- Plan for Virtual Switch Configuration
- Configuring Virtual Networking

After completing this module, students will be able to:

- Describe virtualization.
- Describe the options available for server virtualization.
- Describe requirements for Hyper-V server role.
- Design solutions using Hyper-V disks and storage.
- Design solutions using high availability for Hyper-V.
- Assess and environment using the Microsoft Assessment and Planning (MAP) toolkit.
- Describe the Hyper-V integration services.
- Install Hyper-V Server Role.
- Manage virtual machine storage.
- Manage virtual networks. Describe Hyper-V Extensible Switch.
- Describe Data Center Bridging (DCB)
- Describe Resource Metering in Hyper-V
- Describe storage options for virtual machines.
- Describe the new vhdx format.
- Attach physical disks to a virtual machine.
- Describe pass-through disks.
- Create a new virtual hard disk using the new Virtual Hard Disk Wizard.
- Describe considerations for creating new virtual machines.
- Create a new virtual machine.
- Configure virtual machine settings.
- Creating and managing virtual machine snapshots.
- Describe Virtual Fibre Channel HBAs.
- Describe Multipath I/O (MPIO) functionality for Fibre Channel storage
- Describe the new Virtual Machine import features in Windows Server 2012
- Describe the P2V process
- Import Virtual machines without exports
- Plan for importing Virtual Machine from Windows Server 2008 R2
- Describe the virtual machine compatibility report
- Describe the PowerShell commands for importing Virtual Machines
- Describe Hyper-V Extensible Switch.
- Describe Hyper-V Network Virtualization.
- Implement NIC Teaming.
- Describe VLAN Tagging.
- Understand MAC and ARP spoofing protections.
- Describe SR-IOV networking
- Implement Network QoS
- Implement Network metering
- Describe Network monitor modes
- Describe IPsec task offload
- Disks
  - Creating and Configuring Virtual Machines
  - Managing Virtual Machine Snapshots
  - Virtual Machine Import
  - Advanced features of Virtual Network Adapters
  - Hyper-V Network Virtualization
  - Hyper-V Extensible Switch
  - Overview of Scale-up options in Windows Server 201
  - Non-uniform memory access (NUMA)
  - Hyper-v Scale Comparison

Lab 1: Configuring Network Settings

- Configure NIC Teaming
- Configure Advanced Network Settings

After completing this module, students will be able to:

- Describe virtualization.
- Describe the options available for server virtualization.
- Describe requirements for Hyper-V server role.
- Design solutions using Hyper-V disks and storage.
- Design solutions using high availability for Hyper-V.
- Assess and environment using the Microsoft Assessment and Planning (MAP) toolkit.
- Describe the Hyper-V integration services.
- Install Hyper-V Server Role.
- Manage virtual machine storage.
- Manage virtual networks. Describe Hyper-V Extensible Switch.
- Describe Data Center Bridging (DCB)
- Describe Resource Metering in Hyper-V
- Describe storage options for virtual machines.
- Describe the new vhdx format.
- Attach physical disks to a virtual machine.
- Describe pass-through disks.
- Create a new virtual hard disk using the new Virtual Hard Disk Wizard.
- Describe considerations for creating new virtual machines.
- Create a new virtual machine.
- Configure virtual machine settings.
- Creating and managing virtual machine snapshots.
- Describe Virtual Fibre Channel HBAs.
- Describe Multipath I/O (MPIO) functionality for Fibre Channel storage
- Describe the new Virtual Machine import features in Windows Server 2012
- Describe the P2V process
- Import Virtual machines without exports
- Plan for importing Virtual Machine from Windows Server 2008 R2
- Describe the virtual machine compatibility report
- Describe the PowerShell commands for importing Virtual Machines
- Describe Hyper-V Extensible Switch.
- Describe Hyper-V Network Virtualization.
- Implement NIC Teaming.
- Describe VLAN Tagging.
- Understand MAC and ARP spoofing protections.
- Describe SR-IOV networking
- Implement Network QoS
- Implement Network metering
- Describe Network monitor modes
- Describe IPsec task offload
- Disks
  - Creating and Configuring Virtual Machines
  - Managing Virtual Machine Snapshots
  - Virtual Machine Import
  - Advanced features of Virtual Network Adapters
  - Hyper-V Network Virtualization
  - Hyper-V Extensible Switch
  - Overview of Scale-up options in Windows Server 201
  - Non-uniform memory access (NUMA)
  - Hyper-v Scale Comparison

Lab 1: Configuring Network Settings

- Configure NIC Teaming
- Configure Advanced Network Settings

After completing this module, students will be able to:

- Describe virtualization.
- Describe the options available for server virtualization.
- Describe requirements for Hyper-V server role.
- Design solutions using Hyper-V disks and storage.
- Design solutions using high availability for Hyper-V.
- Assess and environment using the Microsoft Assessment and Planning (MAP) toolkit.
- Describe the Hyper-V integration services.
- Install Hyper-V Server Role.
- Manage virtual machine storage.
- Manage virtual networks. Describe Hyper-V Extensible Switch.
- Describe Data Center Bridging (DCB)
- Describe Resource Metering in Hyper-V
- Describe storage options for virtual machines.
- Describe the new vhdx format.
- Attach physical disks to a virtual machine.
- Describe pass-through disks.
- Create a new virtual hard disk using the new Virtual Hard Disk Wizard.
- Describe considerations for creating new virtual machines.
- Create a new virtual machine.
- Configure virtual machine settings.
- Creating and managing virtual machine snapshots.
- Describe Virtual Fibre Channel HBAs.
- Describe Multipath I/O (MPIO) functionality for Fibre Channel storage
- Describe the new Virtual Machine import features in Windows Server 2012
- Describe the P2V process
- Import Virtual machines without exports
- Plan for importing Virtual Machine from Windows Server 2008 R2
- Describe the virtual machine compatibility report
- Describe the PowerShell commands for importing Virtual Machines
- Describe Hyper-V Extensible Switch.
- Describe Hyper-V Network Virtualization.
- Implement NIC Teaming.
- Describe VLAN Tagging.
- Understand MAC and ARP spoofing protections.
- Describe SR-IOV networking
- Implement Network QoS
- Implement Network metering
- Describe Network monitor modes
- Describe IPsec task offload
- Disks
  - Creating and Configuring Virtual Machines
  - Managing Virtual Machine Snapshots
  - Virtual Machine Import
  - Advanced features of Virtual Network Adapters
  - Hyper-V Network Virtualization
  - Hyper-V Extensible Switch
  - Overview of Scale-up options in Windows Server 201
  - Non-uniform memory access (NUMA)
  - Hyper-v Scale Comparison
Övrig information:

För mer information eller kursbokning, vänligen kontakta oss på telefon. 020-73 73 73
info@globalknowledge.se
www.globalknowledge.se

Vretenvägen 13, plan 3, 171 54 Solna