Server Virtualization with Windows Server Hyper-V and System Center

Exam 74-409

Microsoft offers a number of virtualization technologies that can be used to create and administer a Virtual environment. This Course offers you Hands-on Virtualization and Cloud Computing techniques to build an effective Provider and Tenant Network Virtualized Environment solution.

Configure Hyper-V (35–40%)

- Create and configure virtual machine (VM) settings
  - Configure dynamic memory, configure smart paging, configure Resource Metering, configure guest integration services, create and configure Generation 1 and 2 virtual machines, configure and use extended session mode, and configure RemoteFX
- Create and configure virtual machine storage
  - Create VHDs and VHDx, configure differencing drives, modify VHDs, configure pass-through disks, manage checkpoints, implement a virtual Fibre Channel adapter, configure storage Quality of Service
- Create and configure virtual networks
  - Configure Hyper-V virtual switches, optimize network performance, configure MAC addresses, configure network isolation, configure synthetic and legacy virtual network adapters, configure NIC teaming in virtual machines

Configure and manage virtual machine high availability (15–20%)

- Configure failover clustering with Hyper-V
  - Configure shared storage, configure Quorum, configure cluster networking, restore single node or cluster configuration, implement Cluster Aware Updating, upgrade a cluster, configure and optimize clustered shared volumes, and configure clusters without network names
- Manage failover clustering roles
  - Configure role-specific settings, including continuously available shares, configure VM monitoring, configure failover and preference settings, and configure guest clustering
- Manage virtual machine movement
  - Perform Live Migration, perform quick migration, perform storage migration, import, export, and copy VMs; configure virtual machine

network health protection, configure drain on shutdown, manage virtual-to-virtual (V2V) migrations, and implement virtual machine migration between clouds

Implement a server virtualization infrastructure (35–40%)

- Implement virtualization hosts
  - Implement delegation of virtualization environment (hosts, services, and virtual machines), including self-service capabilities; implement multi-host libraries, including equivalent objects; implement host resource optimization; integrate third-party virtualization platforms; and deploy Hyper-V hosts to bare metal
- Implement virtual machines
  - Implement highly available VMs; implement guest resource optimization, including shared VHDx, configure placement rules, create a Virtual Machine Manager template
- Implement virtualization networking
  - Configure Virtual Machine Manager logical networks, including virtual switch extensions and logical switches; configure IP address and MAC address settings across multiple Hyper-V hosts, including network virtualization; configure virtual network optimization; plan and implement Windows Server Gateway; implement VLANs and pVLANs; plan and implement virtual machine networks; and implement converged networks
- Implement virtualization storage
  - Configure Hyper-V host clustered storage; configure Hyper-V virtual machine storage, including virtual Fibre Channel, Internet SCSI (iSCSI), and shared VHDx; plan for storage optimization; and plan and implement storage by using SMB 3.0 file shares
- Manage and maintain a server virtualization infrastructure
  - Manage dynamic optimization and resource optimization, integrate Operations Manager with System Center Virtual Machine Manager and System Center Service Manager, update virtual machine images in libraries, implement backup and recovery of a virtualization infrastructure by using System Center Data Protection Manager (DPM)

Monitor and maintain a server virtualization infrastructure (15–20%)

- Plan and implement a monitoring strategy
  - Planning considerations, including monitoring servers using Audit Collection Services (ACS) and System Center Global Service Monitor, performance monitoring, application monitoring, centralized monitoring, and centralized reporting; implement and optimize System Center 2012 Operations Manager management packs; and plan for monitoring Active Directory

- Plan and implement a business continuity and disaster recovery solution
    - Plan a backup and recovery strategy; planning considerations, including Active Directory domain and forest recovery, Hyper-V replica, including using Windows Azure Hyper-V Recovery Manager, domain controller restore and cloning, and Active Directory object and container restore using authoritative restore and Recycle Bin; and plan for and implement backup and recovery by using System Center DPM