Web: www.secureninja.com
Phone: 703.535.8600
Email: info@secureninja.com

MCITP: Windows Server 2008 R2, Virtualization Administrator

Course Description and Overview

Overview

SecureNinja's MCITP: Windows Server 2008 R2, Virtualization Administrator training and certification boot camp in Washington, DC will provide students a strong framework of technology solutions, architecture considerations, and management requirements that can be integrated to build a successful virtualization infrastructure. Students will learn how 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.

In addition students will receive the knowledge to the following (3) three Microsoft exams, 70-669 (MCTS: Windows Server 2008 R2, Desktop Virtualization), 70-659 (MCTS: Windows Server 2008 R2, Server Virtualization) and 70-693 (MCITP: Windows Server 2008 R2, Virtualization Administrator).

Topics Covered

Deploying and Managing an Enterprise Desktop Virtualization Environment

- Install and configure Windows Virtual PC.
    - This objective may include but it is not limited to: installing Windows Virtual PC on various platforms (32-bit, 64-bit), creating and managing virtual hard disks, configuring virtual machine resources including network resources, preparing host machines
- Enable and manage Windows XP Mode.
    - This objective may include but it is not limited to: enable Windows XP Mode for Windows 7; publish applications to a host OS through Windows XP Mode; configure the BIOS to support hardware virtualization; create, deploy, and maintain Windows XP Mode images
- Create a MED-V infrastructure.
    - This objective may include but it is not limited to: installing and managing server components (Image Repository, MED-V Instances), installing the MED-V client, configuring server settings
- Administer a MED-V environment.
    - This objective may include but it is not limited to: managing workspaces, creating policies, publishing applications and menus, configuring reporting, customizing user and device settings in a virtual machine
- Create and deploy virtual desktop images.
    - This objective may include but it is not limited to: using various tools to create or prepare images for deployment, deploying a workspace image by using a Web page, pre-staging images

Web: www.secureninja.com
Phone: 703.535.8600
Email: info@secureninja.com

Deploying and Managing a Presentation Virtualization Environment

- Prepare and manage remote applications.
    - This objective may include but it is not limited to: configuring application sharing, package applications for deployment by using RemoteApp, installing and configuring the RD Session Host Role Service on the server.
- Access published applications.
    - This objective may include but it is not limited to: configuring Remote Desktop Web Access, configuring internal and external application access, configuring role-based application provisioning, configuring Remote Desktop client connections
- Configure client settings to access virtualized desktops.
    - This objective may include but it is not limited to: configuring client settings, managing user home folders, identifying minimum client requirements

Deploying and Managing an Application Virtualization (App-V) Environment

- Prepare virtual applications.
    - This objective may include but is not limited to: sequencing applications, installing and configuring the sequencer, preparing applications for deployment in different environments, configuring virtual application interaction and sharing, choosing a method to deploy virtual applications
- Install and configure application virtualization environments.
    - This objective may include but is not limited to: configuring App-V modes (stand-alone, lightweight, enterprise); install an App-V infrastructure including servers, management consoles, and clients
- Manage application virtualization environments.
    - This objective may include but is not limited to: enabling and monitoring offline application usage, enabling and monitoring real-time sessions, managing application cache, configuring branch cache functionality

Managing a Virtual Desktop Infrastructure Environment

- Configure user state virtualization.
    - This objective may include but is not limited to: configuring roaming profiles, configuring folder redirection
- Manage virtual desktops remotely.
    - This objective may include but is not limited to: working with Virtual Machine Manager Self-Service Portal (SSP) to log in to, control, restart, or resume a desktop virtual machine, working with Remote Desktop Manager, working with Remote Desktop Licensing Manager, troubleshooting client Key Management Server (KMS) issues, configuring firewall exceptions on the client

Installing and Configuring Host and Parent Settings

Web: www.secureninja.com
Phone: 703.535.8600
Email: info@secureninja.com

- Add the Hyper-V role on Windows Server 2008 R2.
    - This objective may include but is not limited to: installing and configuring Hyper-V on Server Core, verifying BIOS settings (i.e. DEP), adding the Hyper-V role using Virtual Machine Manager, configuring Hyper-V Server R2, identifying hardware requirements
- Enable remote management.
    - This objective may include but is not limited to: deploying Virtual Machine Manager Agent, configuring firewall rules, configuring Virtual Network Manager settings
- Configure virtual networks and VLAN security.
    - This objective may include but is not limited to: configuring Media Access Control (MAC) address pools, configuring network locations, configuring VLAN tags, configuring VLAN security, configuring virtual networks
- Configure storage.
    - This objective may include but is not limited to: configuring Multi Path Input Output (MPIO), executing the mpiocpl.exe command, dynamic I/O redirection, iSCSI initiator, executing the iscsicli.exe command

Configuring Child Settings

- Configure child resources.
    - This objective may include but is not limited to: configuring disks, networks, CPU, and memory
- Configure child storage.
    - This objective may include but is not limited to: configuring Dynamic VM storage, creating differencing disks, configuring pass-through disks, taking snapshots, managing GUIDs, managing logical unit numbers (LUNs), editing VHDs, copying physical disks to VHDs
- Configure child network adapters.
    - This objective may include but is not limited to: creating synthetic and emulated network adapters, configuring MAC spoofing, configuring VLAN ID, configuring Jumbo frame, configuring TCP Offloading Engine (TOE)
- Create and deploy virtual machines.
    - This objective may include but is not limited to: creating, cloning, deploying, and saving virtual machines using Virtual Machine Manager; creating virtual machines using Hyper-V Manager, configuring Self-Service Portal, scripting and deploying virtual machines using Windows PowerShell

Managing and Monitoring Virtual Environments

- Solve performance and resource issues.
    - This objective may include but is not limited to: configuring Performance and Resource Optimization (PRO), monitoring the environment by using System Center Operations Manager 2007 R2, configuring event triggers, allocating resources by using Virtual Machine Manager, monitoring performance and diagnosing issues by using Performance Monitor or Resource Monitor
- Configure delegation of rights.

Web: www.secureninja.com
Phone: 703.535.8600
Email: info@secureninja.com

    - This objective may include but is not limited to: creating user policies for Self Service Portal, creating and managing templates, managing and replicating libraries in Virtual Machine Manager
- Create roles and configure authorization rights.
    - This objective may include but is not limited to: creating roles and delegating rights using Authorization Manager (AzMan), delegating rights manually
- Manage non-Hyper-V-aware virtualization hosts.
    - This objective may include but is not limited to: managing ESX/VI3 VMware hosts by using Virtual Machine Manager, managing Virtual Server 2005 R2 hosts using Virtual Machine Manager

Ensuring High Availability and Recoverability

- Manage snapshots.
    - This objective may include but is not limited to: taking, reverting, merging, deleting, and applying snapshots; configuring storage locations
- Manage backups.
    - This objective may include but is not limited to: managing online and offline backups by using DPM, Windows Server Backup, or Volume Shadow Copy Service (VSS)
- Perform non-clustered migrations.
    - This objective may include but is not limited to: performing a SAN migration of child partitions, performing a network migration of child partitions
- Configure quick and live migrations.
    - This objective may include but is not limited to: configuring network and storage for clustered Hyper-V setup, enabling Cluster Shared Volumes (CSV), configuring dynamic I/0 redirection

Performing Migration

- Perform physical-to-virtual (P2V) migration.
    - This objective may include but is not limited to: configuring Virtual Machine Manager Intelligent Placement, performing online and offline migrations
- Perform virtual-to-virtual (V2V) migration.
    - This objective may include but is not limited to: configuring Virtual Machine Manager Intelligent Placement, performing online and offline migrations
- Perform import/export migration.
    - This objective may include but is not limited to: migrating virtual machines between Hyper-V hosts using the Export/Import feature in Hyper-V

Configuring Remote Desktop (RD) Role Services Infrastructure

- Configure RD session host.
    - This objective may include but is not limited to: configuring session host settings, network-level authentication settings, license settings; restricting users to single remote session; allowing time zone redirection; configuring

Web: www.secureninja.com
Phone: 703.535.8600
Email: info@secureninja.com

resource redirection, configuring encryption, configuring multi-monitor support
- Configure RD licensing.
    - This objective may include but is not limited to: activating and deactivating Remote Desktop License Service, installing and revoking client access licenses (CALs), reporting on CAL usage
- Configure RD Connection Broker.
    - This objective may include but is not limited to: installing the RD Connection Broker, configuring DNS for Connection Broker, configuring Connection Broker farms, integrating with RD Virtualization Host role service
- Configure RD Gateway.
    - This objective may include but is not limited to: configuring RD Gateway, integrating RD Gateway with network access protection (NAP), configuring authentication authorization
- Configure RD Web Access.
    - This objective may include but is not limited to: configuring RD Web Access, configuring authentication options (forms, single sign-on), configuring per-user RemoteApp program filtering, configuring public and private computer options

Designing a Virtualization Strategy

- Recommend a virtualization technology.
    - This objective may include but is not limited to: server virtualization, Application Virtualization (App-V), virtual desktop infrastructure (VDI), Remote Desktop Services (RDS), Microsoft Enterprise Desktop Virtualization (MED-V), Microsoft Virtual PC
- Plan capacity.
- Plan licensing.
    - This objective may include but is not limited to: operating system editions
- Design solutions for integration with third-party products.
    - This objective may include but is not limited to: hypervisors, VDIs, and management tools

Designing the Physical and Virtual Infrastructure

- Plan hardware and virtual resource requirements.
    - This objective may include but is not limited to: CPUs, memory, disk, host, parent, child, performance, networking, Second Level Address Translation (SLAT), CPU Core Parking
- Design storage.
    - This objective may include but is not limited to: dynamic, fixed, differential, pass-through; logical unit number (LUN) considerations
- Design networking.
    - This objective may include but is not limited to: virtual network type, host

Web: www.secureninja.com
Phone: 703.535.8600
Email: info@secureninja.com

NIC configuration, VLAN, TCP chimney, jumbo frames, Virtual Machine Queue (VMQ)
- Plan snapshots and checkpoints.

Designing a Highly Available Virtual Environment

- Design parent for high availability.
  - This objective may include but is not limited to: Windows Server 2008 Failover Clustering, migration types, Cluster Shared Volumes (CSV)
- Design child for high availability.
  - This objective may include but is not limited to: Windows Server 2008 Failover Clustering, Network Load Balancing (NLB), shared storage
- Design for migration type.
  - This objective may include but is not limited to: quick migration, live migration, storage area network (SAN) migration, network migration

Designing a Deployment Strategy

- Design a virtual machine deployment.
  - This objective may include but is not limited to: Virtual Machine Manager, Self-Service Portal (SSP), Windows PowerShell, scripting, Configuration Manager
- Plan a virtual machine conversion.
  - This objective may include but is not limited to: physical to virtual (P2V), virtual to virtual (V2V)
- Design a virtual desktop infrastructure (VDI) deployment.
  - This objective may include but is not limited to: broker, profile management, applications, methods of access, static and dynamic deployment
- Design an App-V deployment.
  - This objective may include but is not limited to: server roles, server role placement, application compatibility

Designing a Management Strategy

- Plan backup and recovery for parent and child partitions.
- Design a monitoring strategy.
  - This objective may include but is not limited to: design for a parent, design for a child; integration with Operations Manager
- Plan updates and maintenance.
  - This objective may include but is not limited to: offline image maintenance, hardware maintenance, integration services
- Design an administrative strategy.
  - This objective may include but is not limited to: management networks, remote administration, Virtual Machine Manager, Authorization Manager

Who Would Benefit

Web: www.secureninja.com
Phone: 703.535.8600
Email: info@secureninja.com

Infrastructure Architects and Virtualization Specialists who design, deploy and manage data center or desktop virtualization environments.

Prerequisites

Candidates should have more than one and a half years of experience working with Windows Server 2008, including Windows Server 2008 R2 environments, Microsoft Hyper-V Server 2008, and Hyper-V Server 2008 R2 as virtualization administrators. Additionally, candidates have experience with server virtualization products and technologies, including Hyper-V, System Center Virtual Machine Manager 2008, Virtual Machine Manager 2008 R2, System Center Operations Manager 2007 R2, Windows PowerShell 2.0, and System Center Data Protection Manager (DPM) 2007.

Required Exams

- 70-669 (MCTS: Windows Server 2008 R2, Desktop Virtualization),
- 70-659 (MCTS: Windows Server 2008 R2, Server Virtualization)
- 70-693 (MCITP: Windows Server 2008 R2, Virtualization Administrator)

Credit Toward Certification

Credit Toward CertificationExam 70-693: Pro: Windows Server 2008 R2, Virtualization Administrator: counts as credit toward the following certification(s):

Microsoft Certified IT Professional: Windows Server 2008 R2, Virtualization Administrator

Course Length

56 hours