

MCSA Windows Server 2012 Certification



Course Outline

70-410: Installing and Configuring Windows Server 2012 R2

Module 01 - Server 2012 Overview

Server 2012 Overview
 On Premise vs. Cloud
 Common Cloud Computing
 Cloud Computing
 Local Resources Provided to Clients
 Windows Server 2012 Editions
 Server 2012 Server Roles
 Features with Windows Server 2012
 Server Core
 Installation Options
 Install Options Integrated
 Media Formats
 Windows DS
 Other Install Options
 Demo - Installing Windows 2012 Enterprise
 Windows Server Installation
 Server Upgrades
 Server Migration
 Minimum Hardware Requirements
 Installation Steps
 Post Server Installation Tasks – Round One
 Demo - Introduction to Server Manager
 Windows Activation
 Offline Domain Join
 Post Server Installation Tasks – Round Two
 Using PowerShell to Manage Servers
 Resources Utilization by Using Features on Demand
 Features on Demand – Order of Search
 How to Override Features on Demand (Default Behavior)
 Removing Feature Files
 Migrate Roles from Previous Versions of Windows Server
 Supported Operation Systems (Source)
 Module 01 Review

Module 02 - Windows Server 2012 Management

Windows Server 2012 Management
 Server Manager
 Demo - Add Roles Server Manager
 Demo - Event Viewer
 Demo - Best Practice Analyzer
 Administrative Tools Available
 Demo - Administrative Tools Available
 Enabling Remote Management
 Delegate Administration
 Delegation Planning
 Demo - Delegation of Domain Administration
 Advanced Services
 Configuring NIC Teaming
 Switch Dependent Teaming Modes
 802.11ac Support
 NetSh Commands with Windows Server 2012 R2
 Wired and Wireless Ethernet Access Passwords
 Module 02 Review

Module 03 - Working with Server Core

Working with Server Core
 Demo - Installing Server Core
 Introduction to PowerShell
 Demo - PowerShell
 Adding GUI to Server Core
 Removing GUI to Server Core
 To Install a Removed Role or Feature Using WIM Image
 Server Core Tools
 Demo - Recover from Closing Command Prompt
 Roles Available to Server Core
 Listing Roles on Server Core
 Enabling Remote Management
 Demo - Netsh-Firewall

Server Configuration - Core
 Demo - Sconfig on Server Core
 Features Not Supported by Server Core
 Installing Domain Controllers on Server Core - Options
 PowerShell Examples for User Management
 PowerShell Examples for Group Management
 PowerShell Examples for Computer Management
 PowerShell Examples for OU's
 Module 03 Review

Module 04 - Configuring Local Storage

Configuring Local Storage
 Key Features of Storage
 Disk Types and Performance
 Enhanced Integrated Drive Electronics (EIDE)
 Serial Advanced Technology Attachment (SATA)
 Small Computer System Interface (SCSI)
 Solid State Drives
 Direct Attached Storage (DAS)
 Network Attached Storage (NAS)
 Storage Area Network (SAN)
 Common RAID Levels
 Windows Server 2012 R2 Storage Features
 Storage Spaces
 Demo - Configuring Storage Spaces
 Work Folders
 Work Folder Limitations
 Work Folder Components
 Certificate Notes
 Work Folder Server Components
 Work Folder Server Configuration
 Work Folder Server Configuration PowerShell Commands
 Work Folders Client Configuration
 Demo - Configuring Work Folders
 Offload Data Transfers (ODX)
 SMB 3.0 Support
 File System Enhancements
 Storage Management
 Resilient File System (ReFS)
 Storage PowerShell Cmdlets
 Configure Basic Disks
 Configure Dynamic Disks
 Common Operations – Basic and Dynamic Disks
 Demo - Creating Volume Mount Points
 Configuring MBR Disks
 Configuring GPT Disks
 Installing And Configuring A New Disk
 eNotes: Types of Volumes / Pools
 Demo - Create VHDs
 Extending and Shrinking Volumes
 Utilities for Volumes
 BranchCache
 BranchCache Requirements
 BranchCache Server Settings
 BranchCache Client Settings
 Enabling Distributed Cache Mode or Hosted Cache Mode
 Module 04 Review

Module 05 - Configure File and Print Access

File Shares and Permissions
 Create and Configure Shares
 File Sharing Profiles
 Demo - Configure File Shares
 Configure Offline Files

Offline Files Settings
 Configure NTFS Permissions
 NTFS Permissions
 eNotes: NTFS Permission Examples
 Access Based Enumeration (ABE)
 Configure Volume Shadow Copy Service (VSS)
 Demo - Shadow Copies
 Configure Print and Document Services
 Demo - Install Print and Document Services Role
 Easy Print - Print Driver
 Network Printing Security Options
 Demo - Create a Shared Printer
 Printer Pooling
 Demo - Creating a Printer Pool
 Branch Office Direct Printing
 Options to Deploy Printers
 Printer Migration for Web Services for Devices (WSD Print Devices)
 Server 2012 R2 New and Updated
 Module 05 Review

Module 06 - Remote Management and Virtualization

Remote Management
 Demo - Enable Remote Management
 Remote Management - MISC
 Remote Desktop
 Remote Desktop Services Role Services
 Server 2012 R2 Improvements and Additions
 Demo - Remote Desktop
 Multi-Server Management
 Demo - Server Groups
 Virtualization
 Presentation Virtualization
 Remote Desktop Gateway
 Virtualization
 Hyper-V
 Application Virtualization (App-V)
 Microsoft Enterprise Desktop Virtualization (MED-V)
 Simulated Hardware for VM's
 Demo - Create a VM
 Demo - Hyper-V Settings
 Dynamic Memory
 Integration Services
 Start and Stop Actions
 Resource Metering
 Virtual Hard Disk
 Virtual Disk Types
 Shrinking Fixed Virtual Hard Disks
 VHD's vs. VHDX
 Demo - Managing VHD's
 Differencing Disks
 Virtual Hard Disk Operations/Maintenance Operations
 Methods of Creating Virtual Hard Disk
 VHD's and File Shares
 Differencing Disks
 Virtual Networks
 Virtual Network Extensions
 Demo - Hyper-V Network Settings
 Virtual Adapters
 Legacy Network Adapters
 Demo - Creating Network Adapters
 Considerations for VM Network Configuration
 Important Note – External Virtual Networks
 Virtual Machine MAC Address

Using Snapshots
 Module 06 Review

Module 07 - TCP/IP Protocol Suite

TCP/IP Protocol Suite
 Components of Network Infrastructure
 TCP/IP Protocol
 Architecture
 TCP/IP Applications
 Sockets
 Ports
 IPv4 Addressing
 IP Configuration
 Public vs. Private IPv4 Addresses
 Relating to Binary
 IP Address Classes
 CIDR Notations / VLSM
 eNotes: CIDR
 Configuring IP Addresses Using Server Manager
 Configuring IP Address Using a Command Line
 Configure IP Address Using PowerShell
 Demo - Configure IP Address Using PowerShell
 TCP/IP Troubleshooting with PowerShell
 TCP/IP Diagnostics
 Network Card Teaming
 Supernetting
 Supernetting Examples
 Overview Of IPv6
 IPv4 vs IPv6
 Comparing IPv4 and IPv6
 IPv6 Benefits
 Equivalents
 IPv6 Addressing
 Link Local Unicast Addresses
 Host Private Address
 Zone ID's
 Hexadecimal Numbering System
 Converting Binary to Hex
 Binary To Hex Examples
 Things to Know About TCP/IPv6
 Global Unicast Addresses
 Global Unicast Addresses Structure
 Unique Local Unicast Address
 Zone ID
 Format Prefixes
 IPv6 Address Structure
 Demo - Configuring IPv6 Client
 Autoconfiguration IPv6 Addresses
 Autoconfiguration Address States
 Autoconfiguration Process
 IPv6 Over IPv4 Tunneling
 Defining Capabilities: Node Types
 Configure ISATAP
 Host Configuration
 6to4
 Teredo
 PortProxy
 Transition Process
 Module 07 Review

Module 08 - DHCP and DNS

DNS
 DNS for Name Resolution
 eNotes: How Names are Resolved – Iterative Queries

Link-Local Multicast Name Resolution
 WINS
 Single Label Names - WINS
 Tools and Commands
 Demo - Tools and Commands
 DNS Terms to Know
 DNS Zones
 DNS Registration Enhancements Windows Server 2012 R2
 Demo - Installing the DNS Server Role
 Enhanced Zone Level Statistics Windows Server 2012 R2
 Enhanced PowerShell Support Server 2012 R2
 Dynamic Updates
 DNS Server Cache and Forwarding
 DNS Cache
 DNS Records Required for IPv6 Coexistence
 Troubleshooting Name Resolution
 eNotes: Troubleshooting Name Resolution
 DHCP
 Dynamic Host Configuration Protocol (DHCP) Service
 Lease Generation
 DHCP Relay Agent
 DHCP on Server Core
 DHCP Installation
 Demo - Install DHCP
 Create and Configure Scopes IPv4
 Create and Configure Scopes IPv6
 DHCP Reservation
 Common DHCP Options
 Order Options are Assigned
 Managing DHCP Database
 Move DHCP Database
 Securing DHCP and Unauthorized Computers
 Improved PowerShell Commands for DHCP in Server 2012 R2
 New PowerShell Commands for DHCP
 Configure Client and Server for PXE Boot
 DHCP Audit Logging
 Common Event Codes
 DHCP Issues - Discussion
 Module 08 Review

Module 09 - Overview of Active Directory Domain Services

Overview of Active Directory Domain Services
 Physical Components of Active Directory
 Logical Components of Active Directory
 Domain Structures - Domain and Forest
 Domain Structure - Forest
 Domain Structure - Schema
 Domain Structures - Logical
 Default Containers and OU's
 Domain Structures - Sites (Physical)
 Components of Site Structure
 Domain - Wide Scope
 Overview of Domain Controllers
 What Domain Controllers Do
 Deprecated Features Server 2012 Related to AD DS
 Server 2012 R2 Enhancements
 AD and Workplace Join
 Global Catalog
 Demo - Global Catalog
 Operations Master Roles
 Best Practices - FSMO and GC
 Forest and Domain Functional Levels

Guidelines for Raising Domain and Forest Functional Levels
 Functional Level Options
 Functional Levels and Recycle Bin
 Demo - Functional Levels and FSMO
 Forest Functional Levels
 ADPrep Commands
 RODC
 How DC's are Found and Used
 Demo - SRV Records DNS
 The AD DS Logon Process
 Install Domain Controllers
 DC Install Questions and Required Information
 Required Information to Collect Pre-Install
 Demo - Install Domain Controllers
 Upgrading Domain Controllers
 Clean Installation of Windows Server 2012 Domain Controllers
 Install Domain Controller Using IFM
 Demo - Remove A Domain Controller From A Domain
 Active Directory Management Tools
 User Accounts
 Uniqueness of Accounts
 Attributes of Users
 Creating Account Templates
 Locking vs. Disabled
 Directory Service Command Line Tools
 Groups
 Group Scopes
 Helpful Acronyms
 E-Notes
 Default Groups
 Protected Users Security Group
 Protected Users Security Group User Limitations
 Special Identities
 Computer Accounts
 Troubleshooting Computer Accounts
 Troubleshooting Steps
 Listing Group Membership
 Delegate Management of Active Directory Objects
 CSVDE for Exporting
 CSVDE for Importing
 Ldifde
 Ldifde - Export
 Ldifde - Import

Managing AD DS with PowerShell
 Module 09 Review

Module 10 - Windows Security

Windows Security
 Windows Security – Defense in Depth
 Security Templates
 Methods to Distribute Security Templates
 User Rights
 Demo - Local Security Policy
 Auditing
 Restricted Groups
 Account Policies
 Security Compliance Manager (SCM)
 Group Policy
 GPO Locations - Content
 Components of Group Policy
 Group Policy Structure
 Administrative Templates
 ADM Files
 Group Policy Central Store
 Multiple Local Group Policies
 Notes: Local Group Policies
 Group Policy Preferences
 Common Preferences
 Starter GPO
 GPO Permissions
 Group Policy Processing
 Inheritance
 Default GPO's
 Demo - Create a GPO
 Authentication Policies – Server 2012 R2
 Software Restriction Policies
 Basics: Software Restriction Policies
 AppLocker
 AppLocker Rules
 Windows Firewall
 Windows Firewall with Advanced Security
 Enhancements Over Standard Windows Firewall
 Firewall Profiles
 Connection Security Rules
 Deploy Firewall Rules
 Configure Authenticated Firewall Exceptions
 Module 10 Review
 Course Closure