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MCSA Windows Server 2012 Certification

Course Outline

70-412: Configuring Advanced Windows Server 2012 R2 Services

Module 01 - Network Services

Network Services
Demo - Navigation in Windows Server 2012
DHCP – Definition and Purpose
Components of DHCP Server
Components of Scopes
DHCP Lease Process
DHCP Options
DNS Integration
Super Scopes and Multinetting
Demo - Create a Super Scope
Multicast Scopes
DHCPv6
DHCPv6 Regional Registries
Demo - Configuring DHCP Scope
DHCP Name Protection
Demo - Enable DHCP Name Protection
DNS Solutions
Basics of DNS Permissions
DNS Logging
Demo - Configuring DNS Debug Logging
DNS Security
DNSSEC
DNSSEC Overview
Deploying DNSSEC
DNSSEC Zone Signing Wizard
Improving DNSSEC Windows Server 2012 R2
Resource Records
Signing the Zone
Demo - Deploying DNSSEC
DNS Cache Locking
Demo - DNS Cache Locking
DNS Socket Pool

Demo - DNS Socket Pool
DNS Aging and Scavenging
Maintaining DNS Database
Demo - Maintaining DNS Database
Name Resolution Optimization
Creating Stub Zones
Global Names Zone
Demo - Create Global Names Zone
Demo - Add Alias Global Names Zone
IPAM (IP Address Management)
IPAM and DHCP
Role Based Access Control
Role Based Access Control Roles Provided by Default
IPAM Monitoring
VMM and System Center 2012 Integration
IPAM Prerequisites
Hardware & Software Requirements Server 2012
Hardware & Software Requirements Server 2008/2008 R2
IPAM Abilities
IPAM Database Support
IPAM Users and Groups
IPAM Modules
IPAM Deployment Methods
IPAM Components
Provisioning for IPAM
Manual Provisioning for IPAM
Manual Provisioning for IPAM (Cont)
GPO Provisioning
Views of IP Address Space
Monitoring and Managing IPAM
Migrating IPAM to Windows Server 2012
Using PowerShell with IPAM

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Demo - Installing IPAM
Demo - Configuring IPAM
Adding Address Space to IPAM
Adding IP Address Block to IPAM
Adding IP Address Subnet to IPAM
Adding IP Address Range to IPAM
Adding IP Address to IPAM
Importing and Updating Address Spaces
Text File Examples
Module 01 Review

Module 02 - High Availability
High Availability
NLB – Network Load Balancing
NLB Uses
NLB Prerequisites
How NLB Works
Server Failures & NLB
NLB PowerShell Cmdlets
NLB Port Rules
Configuring NLB Networks
Using NLB with VMs
Upgrading NLB Clusters
Demo - Implementing NLB Clusters
Demo - Configuring NLB Affinity and Port Rules
Securing NLB
Server 2012 Failover Clustering
Windows Server 2012 R2 Failover Clustering
Clustering and High Availability
Depreciated Cluster Features
Storage Options
CSV – Cluster Shared Volumes
CSV – Clustered Shared Volumes
Network Considerations | CSV
Windows Requirements for Failover Cluster
Infrastructure Requirements
Failover Clustering - Quorum
Failover Clustering: Hardware Requirements
Clustering and Hyper-V Hardware Requirements
Quorum | Definitions
Quorum Witness
Quorum Configuration Options
Quorum Modes
Failover Cluster Networks
Cluster Networking
Demo - Create a Cluster
Multi-Site Failover Cluster
Configuring Multi-Site Failover Clusters
Configuring Applications and Services
Procedure Reference: Installing Clustering Server
Roles
Demo - Deploying Highly Available Servers
Cluster Aware Updating
Common Cluster Management Tasks
Management Tools
Backing up Clusters
Restoring a Cluster
DHCP Failover
Configuring DHCP Failover
DHCP Failover Modes
Demo - Configuring DHCP Failover

DHCP MCLT Parameters
Module 02 Review

Module 03 - Hyper-V and High Availability
Hyper-V and High Availability
High Availability | Host Clustering
New Features Server 2012 VM Host Clustering
Prerequisites for Hyper-V Clusters Server Hardware
and Software
Prerequisites: Network Infrastructure Requirements
Procedure Reference: Configuring Failover Clustering
Components of Hyper-V Clusters
High Availability | Guest Clustering
Windows Server 2012 R2 Shared Virtual Disk
Shared Virtual Disks in Guest Clusters
SMB 3.0 for Virtual Machines
Scale-Out File Server
High Availability | Network Load Balancing
Cluster Shared Volumes (CSVs)
Failover Process
VM Failover and Preference Settings
Virtual Machine Manager | System Center 2012
VMM Components
VMM 2012 Prerequisites
What is VMM?
Enhancements with Server 2012 R2
How to Deploy Virtual Machines with VMM
ODX Capable Storage for VM's
P2V Migration
V2V Migration
Migration Methods
Virtual Machine and Storage Migration
Live Migration
Quick Migration
Hyper-V Replica
Demo - Implementing Hyper-V Replica
Hyper-V Replica Components
Hyper-V Replica Prerequisites
Importing & Exporting
Demo - Importing Virtual Machines
Demo - Exporting Virtual Machines
Module 03 Review

Module 04 - Active Directory
Active Directory
AD DS
AD DS Domain Boundaries
AD DS Forest Boundary
Multi-Domain Configuration
Multiple Forest Configuration
DNS Recommendations
Demo - Install AD DS
Demo - Installing a New Domain in a New Forest
Domain Functional Levels
UPNs
Demo - Functional Levels and UPNs
Demo - Configuring Trusts
Upgrading Domain Controllers
Restructure and Migration
Pre-Migration Steps
SID-History Attribute

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Restructure & Migration Steps
Trust Relationships
SID Filtering | Selected Authentication
AD DS Partitions
AD DS Replication
AD Sites and Replication
Conflicts | Replication
Replication Topology
RODC Replication
RODC Replication Options
SYSVOL Replication
DFS Replication
AD DS Sites
Demo - Creating Additional Sites
Replication in Same Site
Site Replication in Between Sites
Demo - Moving Servers Between Sites
AD and SYSVOL Replication
ISTG - Intersite Topology Generator
AD DS Site Links
Demo - Site Links
Site Link Bridging
Site Link Costs
Demo - Configuring AD DS Intersite Replication
Universal Group Membership Caching
Demo - Configuring RODC Replication Policies
Managing Replication
Demo - Using Replication Tools: DC Diag
Demo - Using Replication Tools: Rep Admin
SRV Resource Records for Domain Controllers
SRV Record Contents
Service Record Example
Locating a Login Server
Integrating Cloud Services
Azure Considerations
Implementing Azure
Complex AD DS Environments
Module 04 Review

Module 05 - Active Directory Federation Services

Active Directory Federation Services
AD FS
Authentication Policies
Multi Factor Authentication
AD FS Claim Rules
Claims Provider Trusts
Claims Based Identity
Web Services
New Features to Server 2012
SSO within Organization
SSO Business to Business
Prerequisites for AD FS
Certificate Requirements
AD FS Components
Demo - Install AD Federation Services Role
Multi-Factor Access Control in AD FS
Multi-Factor Access Control in AD FS with Windows Server 2012 R2
Claim Types Available in AD FS with Windows Server 2012 R2

AD and Workplace Join
Device Registration Service
Accessing Web Application before Workplace Join your Device
Workplace Joining Your Windows Device
Workplace Joining Your iOS Device
Module 05 Review

Module 06 - File and Storage Services

File and Storage Services
Work Folders
Work Folder Functionality
BranchCache
SMB Server 2012 R2 Enhancements
BranchCache Requirements
BranchCache Server Settings
BranchCache Client Settings
Demo - Configure Client Firewall Rules
Demo - Implementing BranchCache
Demo - Simulate Slow Link to Branch Office
Enabling Distributed Cache Mode or Hosted Cache Mode
Discretionary Access Control
DAC Scenarios
DAC Claims
Resource Properties
Accessing Resources with DAC
DAC Requirements
Enabling Support in AD DS KDC
Creating Claims
Creating Resource Properties
Central Access Control Rules
Demo - Enable File Share for BranchCache
Demo - Configure BranchCache for Branch Office
File Server Resource Manager
Demo - Installing FSRM
File Classification
File Classification Properties
File Classification Rules Properties
Demo - Implementing DAC
Demo - Resource Property Definitions
Demo - Configure Central Access Rules and Policies
Demo - Configure Central Access Denied
Demo - Manual Classification
Demo - Publish Central Group Policy
Optimizing Classification Management
Storage Optimization Features
iSCSI
iSCSI Components
iSCSI Security Components
Demo - Configure iSCSI
Demo - iSCSI Powershell
Demo - Bring a New Volume Online
Module 06 Review

Module 07 - Business Continuity and Disaster Recovery

Business Continuity and Disaster Recovery
Disaster Recovery Requirements
Service Level Agreements
Recovery Plans

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Data Recovery
Service Recovery
Full Server Recovery
Site Recovery
Backup Types
Backup Technologies
VSS Admin
Backup Planning
Backup Security
Windows Server Backup
Demo - Installing and Using Windows Server Backup
Demo - Create a Scheduled Backup
Options | Windows Backup
Options | Recovery Wizard
System Restore
Demo - Restoring Files Using Windows Server Backup
Windows Azure Online Backup
Demo - Windows Azure Backup
Data Protection Manager (DPM)
Installing DPM
Demo - Installing DPM
Single Instance Storage
Windows RE
Windows RE Entry Points
Windows Setup and Windows RE
Demo - Windows RE Entry Points
Safe Boot
Demo - Safe Boot
Boot Configuration Data Store
Module 07 Review

Module 08 - Active Directory Certificate Services

Active Directory Certificate Services
AD CS
SSL Certificates
Configuring SSL Certificates
SSL Certificate Issued from Internal CA
Purchasing SSL Certificate
Using Certificates for Digital Signatures
Certificates and EFS
Certificates for Authentication
PKI Definitions
Certificate Services Infrastructure
AD CS Server Role
New Features AD CS Server 2012
Private CA
Public CA
CA Hierarchies
Standalone CA
Demo - Deploying Standalone Root CA
Enterprise CA
Demo - Deploying an Enterprise Root CA
Root CA Considerations
Offline Root CA Considerations
Demo - Deploying Root CA Servers

Subordinate CA Deployment
Demo - Subordinate CA Deployment
CAPolicy.inf
AIA | CDP
Certificate Templates
Template Settings | Users
Template Settings | Computers
Template Permissions
Certificate Template Versions Available in Server 2012
Demo - Modify and Enable Certificate Templates
Demo - Configure Certificate Templates
Certificate AutoEnrollment
Demo - Configure AutoEnrollment
Demo - Verify AutoEnrollment
Manual Enrollment
CA Web Enrollment
Enrollment on Behalf
Demo - Restricted Enrollment Agent
Credential Roaming
Network Device Enrollment Service
Certificate Revocation
Demo - Certificate Revocation Location
Online Responders
Demo - Configuring Online Responder
Demo - Updating Web Server Certificates
Losing Recovery Keys
Key Recovery Agents (KRA)
Demo - Key Recovery
New Functionality with Certificates in Windows Server 2012
CA Administration
Policy Module and Exit Module
Module 08 Review

Module 09 - Active Directory Rights Management Services

Active Directory Rights Management Services
AD RMS
RMS Examples
AD RMS Client Requirements
AD RMS Licensing Requirements
Demo - Installing AD RMS
Components
Temporary RAC's
RMS Process
Creating AD RMS Cluster
Policy Rights Templates
Demo - AD RMS Templates
Template Offline Use
Super Users Group
Enabling External Users and AD RMS Access
Back up AD RMS
Decommission AD RMS
Module 09 Review
Course Closure