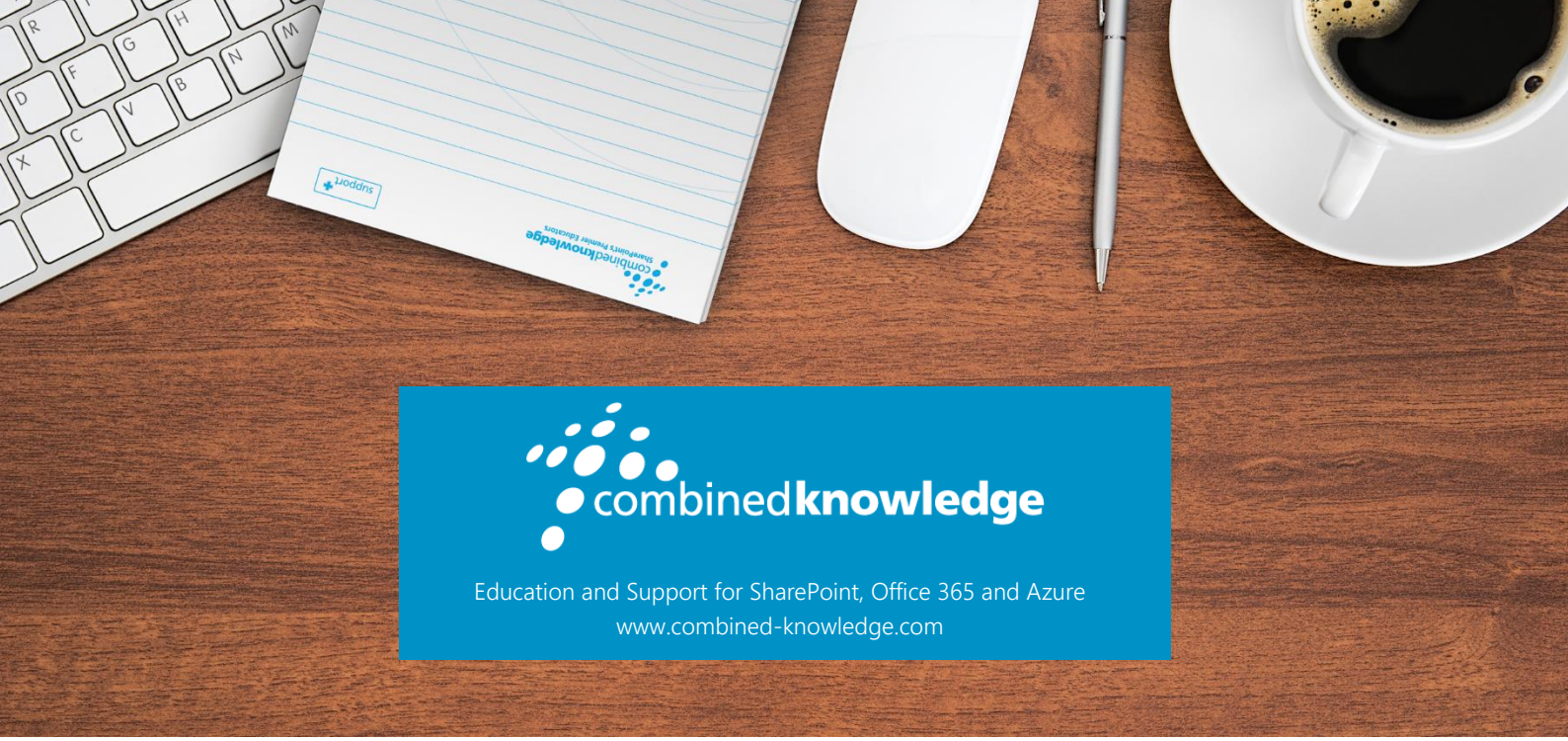

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COURSE OUTLINE

UPGRADING YOUR SKILLS TO MCSA WINDOWS SERVER® 2012

Microsoft Course Code 20417

About this course

Get hands-on instruction and practice configuring and implementing new features and functionality in Windows Server 2012, including Windows Server 2012 R2, in this five-day Microsoft Official Course. This course is designed for IT professionals who want to upgrade their existing Windows Server technical skills to Windows Server 2012 and Windows Server 2012 R2. It presumes a high level of knowledge about previous Windows Server technologies and skills equivalent to MCSA: Windows Server 2008 credential.

The course covers the new features and functionality in Windows Server 2012 and Windows Server 2012 R2, including management, network infrastructure, storage, access control, virtualization, high availability, and identity federation. Specific technologies covered include Windows PowerShell, Storage Spaces and Internet Small Computer System interface (iSCSI), Active Directory, Hyper-V, implementation of Remote Access solutions such as DirectAccess, VPNs, and Web Application Proxy (WAP). The course also covers Failover Clustering, Federation Services as well as access and information provisioning and protection technologies such as Dynamic Access Control, and Web Application Proxy integration with Federation Services and Workplace Join.

This course is not a product upgrade course, detailing considerations for migrating and upgrading your specific environment to Windows Server 2012. Rather, this course will update your existing Windows Server knowledge and skills to Windows Server 2012, including Windows Server 2012 R2.

This course maps directly to and is the preferred choice for hands-on preparation for Microsoft Certified Solutions Associate (MCSA): Exam 417: Upgrading Your Skills to MCSA Windows Server 2012, which is the upgrade exam for certifications that have qualifying upgrade paths. Details of the various supported upgrade paths are available here https://www.microsoft.com/learning/en-au/windows-server-certification.aspx

Note: Labs in this course are based on Windows Server 2012 R2 and Windows 8.1.

Audience Profile

This course is intended for Information Technology (IT) Professionals who are experienced Windows Server system administrators who are familiar with carrying out day to day Windows Server management and maintenance tasks. The course will update their skill to Windows Server 2012 and Windows Server 2012 R2. Candidates suitable for this course would be:

- Experienced Windows Server Administrators who have real world experience working in a Windows Server enterprise environment.
- IT professionals who have obtained the MCSA: Windows Server 2008 , or a qualifying upgradeable certification, details of which are available here, or have equivalent knowledge.
- IT Professionals wanting to take the Microsoft Certified Solutions Expert (MCSE) exams in Data Center, Desktop Infrastructure, Messaging, Collaboration and Communication will also be interested in taking this course as they prepare for the Microsoft Certified Solutions Associate (MCSA) Windows Server 2012 credential, which is a pre-requisite for their individual specialities.

At course completion

After completing this course, students will be able to:

- Install and configure Windows Server 2012.
- Manage Windows Server 2012 by using Windows PowerShell®.
- Manage storage in Windows Server 2012.
- Implement network services.
- Implement Remote Access.
- Implement Failover Clustering.
- Implement Hyper-V™.
- Implement Failover Clustering with Hyper-V.
- Implementing secure data access for users and devices.
- Implement Active Directory® Domain Services (AD DS).

- Implement Active Directory Federation Services (AD FS).
- Monitor and maintain Windows Server 2012.

Course Outline

Module 1: Implementing Network Services

This module describes the new features in DNS and DHCP in Windows Server 2012. It also explains how to implement IP Address Management(IPAM) and Network Access Protection (NAP) with VPN, IPsec, DHCP, and 802.1x.

Lessons

- Implementing DNS and DHCP Enhancements
- Implementing IP Address Management
- NAP Overview
- Implementing NAP

Lab : Implementing Network Services

- Configuring New Features in DNS and DHCP
- Configuring IP Address Management
- Configuring NAP
- Verifying the NAP Deployment

After completing this module, students will be able to:

- Implement DHCP and DNS enhancements.
- Implement IP address management.
- Describe NAP.
- Implement NAP.

Module 2: Implementing DirectAccess

This module describes the new features and functionality with DirectAccess in Windows Server 2012. It also explains how to implement and configure various components of DirectAccess such as AD DS and DNS. It also discusses the Name Resolution Policy table (NRPT) and the client-side requirements for Windows 7 and Windows 8.

Lessons

- Overview of DirectAccess
- Installing and Configuring DirectAccess Components

Lab : Implementing DirectAccess

- Configuring the DirectAccess Infrastructure
- Configuring the DirectAccess Clients
- Verifying the DirectAccess Configuration

After completing this module, students will be able to:

- Describe the DirectAccess functionality in Windows Server 2012 and Windows 8.
- Install and configure DirectAccess in Windows Server 2012 and Windows 8.

Module 3: Implementing Failover Clustering

This module describes new features and functionality in Failover Clustering in Windows Server 2012. It also explains how to implement Failover Clustering and how to configure specific server roles in a cluster, such as a File Server. It also explains new maintenance features such as Cluster Aware Updating (CAU).

Lessons

- Overview of Failover Clustering
- Implementing a Failover Cluster
- Configuring Highly-Available Applications and Services on a Failover Cluster
- Maintaining a Failover Cluster
- Implementing a Multi-Site Failover Cluster

Lab : Implementing Failover Clustering

- Configuring a Failover Cluster
- Deploying and Configuring a Highly-Available File Server
- Validating the Deployment of the Highly-Available File Server
- Configuring Cluster-Aware Updating on the Failover Cluster

After completing this module, students will be able to:

- Describe Failover Clustering.
- Implement a failover cluster.
- Configure highly-available applications and services.
- Maintain a failover cluster.
- Implement a multi-site failover cluster.

Module 4: Installing and Configuring Servers Based on Windows Server 2012

This module covers the installation and initial configuration and management of Windows Server 2012. It also explains how to configure remote management in Windows Server 2012.

Lessons

- Installing Windows Server 2012
- Configuring Windows Server 2012
- Configuring Remote Management for Windows Server 2012 Servers

Lab : Installing and Configuring Servers Based on Windows Server 2012

- Install Windows Server 2012 Server Core
- Configure a Computer Running a Server Core Installation of Windows Server 2012
- Configure Remote Management for Servers Running Windows Server 2012

After completing this module, students will be able to:

- Install Windows Server 2012.
- Configure Windows Server 2012.
- Configure remote management for Windows Server 2012 servers.

Module 5: Monitoring and Maintaining Windows Server 2012

This module covers monitoring and maintenance tasks when managing Windows Server 2012. It also explains the options for backup in Windows Server 2012 including Windows Server Backup and Microsoft Online Backup. It also describes server and data recovery options.

Lessons

- Monitoring Windows Server 2012
- Implementing Windows Server Backup
- Implementing Server and Data Recovery

Lab : Monitoring and Maintaining Windows Server 2012

- Configuring Centralized Monitoring for Windows Server 2012 Servers
- Backing Up Windows Server 2012
- Restoring Files by Using Windows Server Backup
- Implementing Microsoft Online Backup and Restore

After completing this module, students will be able to:

- Monitor Windows Server 2012.
- Implement Windows Server Backup.
- Restore data and servers by using Windows Server Backup.

Module 6: Managing Windows Server 2012 by Using Windows PowerShell 3.0

This module explains the features and functionality of Windows PowerShell 3.0. It also describes managing Windows Server 2012 servers and AD DS with Windows PowerShell.

Lessons

- Overview of Windows PowerShell 3.0
- Using Windows PowerShell 3.0 to Manage AD DS
- Managing Servers by Using Windows PowerShell 3.0

Lab : Managing Servers Running Windows Server 2012 by Using Windows PowerShell 3.0

- Introduction to Windows PowerShell 3.0
- Managing AD DS by Using Windows PowerShell 3.0
- Managing Servers by Using Windows PowerShell 3.0

After completing this module, students will be able to:

- Describe the Windows PowerShell command-line interface.
- Use Windows PowerShell to manage Active Directory Domain Service (AD DS).
- Manage servers by using Windows PowerShell.

Module 7: Managing Storage for Windows Server 2012

This module describes new storage features in Windows Server 2012 such as data deduplication, thin provisioning and trim storage, File Server Resource Manager, and Resilient File System (ReFS). The module also describes iSCSI and storage spaces as well as how to implement BranchCache.

Lessons

- New Features in Windows Server 2012 Storage
- Configuring iSCSI Storage
- Configuring Storage Spaces in Windows Server 2012
- Configuring BranchCache in Windows Server 2012

Lab : Implementing BranchCache

- Configuring iSCSI Storage
- Configuring a Redundant Storage Space
- Performing Initial Configuration Tasks for BranchCache
- Configuring BranchCache Client Computers
- Configuring BranchCache on the Branch Server

Lab : Managing Storage for Servers Based on Windows Server 2012

- Configuring iSCSI Storage
- Configuring a Redundant Storage Space
- Performing Initial Configuration Tasks for BranchCache
- Configuring BranchCache Client Computers
- Configuring BranchCache on the Branch Server

After completing this module, students will be able to:

- Describe the new features in Windows Server 2012 storage.
- Configure iSCSI storage.
- Configure storage spaces.
- Configure BranchCache.

Module 8: Implementing Hyper-V

This module explains how to configure Hyper-V and Hyper-V storage options in Windows Server 2012. It also describes networking features and various feature options and requirements in Hyper-V 3.0 as well as how to configure virtual machines.

Lessons

- Configuring Hyper-V Servers
- Configuring Hyper-V Storage
- Configuring Hyper-V Networking
- Configuring Hyper-V Virtual Machines

Lab : Implementing Server Virtualization with Hyper-V

- Installing the Hyper-V Server Role
- Configuring Virtual Networking
- Creating and Configuring a Virtual Machine

After completing this module, students will be able to:

- Configure Hyper-V servers.
- Configure Hyper-V storage.
- Configure Hyper-V networking.

- Configure Hyper-V virtual machines.

Module 9: Implementing Failover Clustering with Hyper-V

This module explains how to make virtual machines highly available and how to implement virtual machines in a failover cluster deployed on the host. It also explains the movement of virtual machines on virtual machine storage. It also provides a high level overview of System Center Virtual Machine Manager (SCVMM) 2012.

Lessons

- Overview of the Integration of Hyper-V with Failover Clustering
- Implementing Hyper-V Virtual Machines on Failover Clusters
- Implementing Hyper-V Virtual Machine Movement
- Managing Hyper-V Virtual Environments by Using System Center Virtual Machine Manager

Lab : Implementing Failover Clustering with Hyper-V

- Configuring Hyper-V Replicas
- Configuring a Failover Cluster for Hyper-V
- Configuring a Highly-Available Virtual Machine

After completing this module, students will be able to:

- Describe how Hyper-V integrates with failover clustering.
- Implement Hyper-V virtual machines on failover clusters.
- Implement Hyper-V virtual machine movement.
- Manage a Hyper-V virtual environment by using VMM.

Module 10: Implementing Dynamic Access Control

This module explains how to implement Dynamic Access Control (DAC) in Windows Server 2012. It also describes core DAC concepts such as claims, Central Access Rules, and policies and their implementation.

Lessons

- Overview of Dynamic Access Control
- Planning for a Dynamic Access Control Implementation
- Implementing and Configuring Dynamic Access Control

Lab : Implementing Dynamic Access Control

- Planning the Dynamic Access Control Implementation and Preparing AD DS for Dynamic Access Control
- Configuring User and Device Claims
- Configuring Resource Properties and File Classifications
- Configuring Central Access Rules and Policies
- Validating and Remediating Access Control

After completing this module, students will be able to:

- Describe Dynamic Access Control and its components.
- Plan for Dynamic Access Control implementation.
- Configure Dynamic Access Control.

Module 11: Implementing Active Directory Domain Services

This module explains the advanced implementation of Active Directory domain controllers in Windows Server 2012 such as server core deployments, read-only domain controllers (RODCs), and cloning. It also explains domain controller configuration, managed service accounts, Group Policy implementation, and maintenance tasks for AD DS.

Lessons

- Deploying AD DS Domain Controllers
- Configuring AD DS Domain Controllers
- Implementing Service Accounts
- Implementing Group Policy in AD DS
- Maintaining AD DS

Lab : Implementing AD DS

- Deploying a Read-Only Domain Controller
- Troubleshooting Group Policy
- Implementing Service Accounts in AD DS
- Maintaining AD DS

After completing this module, students will be able to:

- Deploy domain controllers.
- Configure domain controllers.
- Implement service accounts.
- Implement Group Policy.
- Maintain AD DS.

Module 12: Implementing Active Directory Federation Services

This module explains Active Directory Federation Services (AD FS) and how it can be used to address various organizational and business identity federation services and scenarios. It also describes configuration of prerequisites and the deployment of the AD FS services. It also explain implementing AD FS to enable internal single sign on (SSO) in an organization and implementing AD FS to enable SSO between federated partners.

Lessons

- Overview of Active Directory Federation Services
- Deploying Active Directory Federation Services
- Implementing AD FS for a Single Organization
- Deploying AD FS in a Business to Business Federation Scenario

Lab : Implementing AD FS

- Configuring AD FS Prerequisites
- Installing and Configuring AD FS
- Configuring AD FS for a Single Organization
- Configuring AD FS for Federated Business Partners

After completing this module, students will be able to:

- Describe the identity-federation business scenarios, and how you can use AD FS to address the scenarios.
- Configure the AD FS prerequisites, and deploy the AD FS services.
- Implement AD FS to enable SSO in a single organization.
- Implement AD FS to enable SSO between federated partners.

Prerequisites

Before attending this course, students must have:

- Experience with day-to-day Windows Server system administration, management and maintenance tasks in an Enterprise environment
- Obtained a certification that qualifies to take the 70-417 upgrade exam, as listed here, https://www.microsoft.com/learning/en-us/windows-server-certification.aspx, or have equivalent knowledge

Note: It is possible to take this course without having the qualifying upgradeable certification once the criteria of equivalent knowledge is met. However, subsequent taking and passing of

the 70-417 upgrade exam will not provide the exam taker with the MCSA: Windows Server 2012 credential. This credential upgrade is exclusively for holder the holders of existing qualifying upgradeable certification, details of which are available in the URL listed above.