



Installing and Configuring Windows Server 2012 R2 (MOC 20410)

Microsoft Official Curriculum

Course Length: 5 days

Course Delivery: Traditional Classroom • Online Live • MOC On Demand

Course Overview

This 5-days course is part one of a three-part series that provides the skills and knowledge necessary to implement a core Windows Server 2012 infrastructure in an existing enterprise environment. The three courses collectively cover implementing, managing, maintaining, and provisioning services and infrastructure in a Windows Server 2012 environment. While there is some cross-over in skills and tasks across the courses, this course primarily covers the initial implementation and configuration of core services including Active Directory Domain Services (AD DS), networking services, and Microsoft Hyper-V Server 2012 configuration.

Step	Title	Required exam	Certification earned
1	Installing and Configuring Windows Server 2012	410	
2	Administering Windows Server 2012	411	
3	Configuring Advanced Windows Server 2012 Services	412	

Audience

This course is intended for Information Technology (IT) Professionals who have good Windows operating system knowledge and experience and want to acquire the skills and knowledge necessary to implement the core infrastructure services in an existing Windows Server 2012 environment.

The secondary audience consists of those seeking certification in the 70-410, *Installing and Configuring Windows Server 2012* exam.

Prerequisites

Before attending this course, students must have:

- A good understanding of networking fundamentals.
- An understanding of and experience with configuring security and administration tasks in an enterprise environment.
- Experience supporting or configuring Windows operating system clients.



- Good hands-on Windows client operating system experience with Windows Vista, Windows 7, or Windows 8.
- An understanding of basic Active Directory Domain Services (AD DS) concepts, such as the purpose of user accounts and computer accounts.

Students would also benefit from having some previous Windows Server operating system experience.

After completing this course, students will be able to:

- Install and Configure Windows Server 2012.
- Describe AD DS.
- Manage Active Directory objects.
- Automate Active Directory administration.
- Implement IPv4.
- Implement Dynamic Host Configuration Protocol (DHCP).
- Implement Domain Name System (DNS).
- Implement IPv6.
- Implement local storage.
- Share files and printers.
- Implement Group Policy.
- Use Group Policy Objects (GPOs) to secure Windows Servers.
- Implement server virtualization using Hyper-V.

Course Details

Module 1: Deploying and Managing Windows Server 2012

This module introduces the new Windows Server 2012 administrative interface, including roles and features that are available with the Windows Server 2012 operating system. It also discusses various Windows Server 2012 installation options and configuration steps performed during installation and after deployment, in addition to using Windows PowerShell to perform common administrative tasks in Windows Server 2012.

Lessons

- Windows Server 2012 R2 Overview
- Installing Windows Server 2012 R2
- Post-Installation Configuration of Windows Server 2012 R2
- Overview of Windows Server 2012 R2 Management
- Introduction to Windows PowerShell



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Lab : Deploying and Managing Windows Server 2012 R2

- Deploying Windows Server 2012 R2
- Configuring Windows Server 2012 R2 Server Core
- Managing Servers
- Using Windows PowerShell to Manage Servers

After completing this module, students will be able to:

- Describe Windows Server 2012 R2.
- Install Windows Server 2012 R2.
- Perform post-installation configuration of Windows Server 2012 R2.
- Describe the management tools available in Windows Server 2012 R2.
- Perform basic administrative tasks with Windows PowerShell.

Module 2: Introduction to Active Directory Domain Services

This module covers the structure of Active Directory Domain Services (AD DS) and its various components, such as forest, domain, and organizational units (OUs). It also gives an overview of Domain Controllers, in addition to choices that are available with Windows Server 2012 for installing AD DS on a server.

Lessons

- Overview of AD DS
- Overview of Domain Controllers
- Installing a Domain Controller

Lab : Installing Domain Controllers

- Installing a Domain Controller
- Installing a Domain Controller by Using IFM

After completing this module, students will be able to:

- Describe the structure of Active Directory Domain Services (AD DS).
- Describe the purpose of domain controllers.
- Install a domain controller.

Module 3: Managing Active Directory Domain Services Objects



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This module describes how to manage user accounts and computer accounts, including how to manage various consumer devices that employees use. The module also covers how to manage an enterprise network by managing groups, and how to delegate administrative tasks to designated users or groups.

Lessons

- Managing User Accounts
- Managing Groups
- Managing Computer Accounts
- Delegating Administration

Lab : Managing Active Directory Domain Services Objects

- Delegating Administration for a Branch Office
- Creating and Configuring User Accounts in AD DS
- Managing Computer Objects in AD DS

After completing this module, students will be able to:

- Manage user accounts with graphical tools.
- Manage group accounts with graphical tools.
- Manage computer accounts.
- Delegate permissions to perform AD DS administration.

Module 4: Automating Active Directory Domain Services Administration

This module describes how to use command-line tools and Windows PowerShell to automate AD DS administration. It discusses various command-line tools and Windows PowerShell commands, and then describes how to use these tools and commands to modify objects individually and in bulk operations.

Lessons

- Using Command-line Tools for AD DS Administration
- Using Windows PowerShell for AD DS Administration
- Performing Bulk Operations with Windows PowerShell

Lab : Automating AD DS Administration by Using Windows PowerShell

- Creating User Accounts and Groups by Using Windows PowerShell



- Using Windows PowerShell to Create User Accounts in Bulk
 - Using Windows PowerShell to Modify User Accounts in Bulk
- After completing this module, students will be able to:
- Use command-line tools for AD DS administration.
 - Use Windows PowerShell cmdlets for AD DS administration.
 - Perform bulk operations by using Windows PowerShell.

Module 5: Implementing IPv4

In this module, students see how to implement an IPv4 addressing scheme. This module discusses using IPv4, which is the network protocol used on the Internet and on local area networks, to troubleshoot network communication. It also covers determining and troubleshooting network-related problems.

Lessons

- Overview of TCP/IP
- Understanding IPv4 Addressing
- Subnetting and Supernetting
- Configuring and Troubleshooting IPv4

Lab : Implementing IPv4

- Identifying Appropriate Subnets
 - Troubleshooting IPv4
- After completing this module, students will be able to:
- Describe the TCP/IP protocol suite.
 - Describe IPv4 addressing.
 - Determine a subnet mask necessary for supernetting or subnetting.
 - Configure IPv4 and troubleshoot IPv4 communication.

Module 6: Implementing Dynamic Host Configuration Protocol

This module covers supporting and troubleshooting a Windows Server–based network infrastructure by deploying, configuring, and troubleshooting the Dynamic Host Configuration Protocol (DHCP) server role.

Lessons

- Installing a DHCP Server Role
- Configuring DHCP Scopes
- Managing a DHCP Database



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- Securing and Monitoring DHCP

Lab : Implementing DHCP

- Implementing DHCP
 - Implementing a DHCP Relay Agent (Optional Exercise)
- After completing this module, students will be able to:
- Install the Dynamic Host Configuration Protocol (DHCP) server role.
 - Configure DHCP scopes.
 - Manage a DHCP database.
 - Secure and monitor the DHCP server role.

Module 7: Implementing DNS

This module describes name resolution for Windows operating system clients and Windows Server servers. It also covers installing and configuring a DNS Server service and its components.

Lessons

- Name Resolution for Windows Clients and Servers
- Installing a DNS Server
- Managing DNS Zones

Lab : Implementing DNS

- Installing and Configuring DNS
 - Creating Host Records in DNS
 - Managing the DNS Server Cache
- After completing this module students will be able to:
- Describe name resolution for Windows operating system clients and Windows Server servers.
 - Install and manage a DNS Server.
 - Manage DNS zones.

Module 8: Implementing IPv6

This module discusses the features and benefits of IPv6, how IPv6 affects IPv4 networks, and how to integrate IPv6 into IPv4 networks by using various transition technologies.

Lessons

- Overview of IPv6



- IPv6 Addressing
- Coexistence with IPv4
- IPv6 Transition Technologies

Lab : Implementing IPv6

- Configuring an IPv6 Network
- Configuring an ISATAP Router

After completing this module students will be able to:

- Describe the features and benefits of IPv6.
- Describe IPv6 addressing.
- Describe IPv6 coexistence with IPv4.
- Describe IPv6 transition technologies.

Module 9: Implementing Local Storage

This module gives an overview of different storage technologies, including managing disks and volumes. It also discusses how to implement the storage solutions in Windows Server 2012, and how to use Storage Spaces, a new feature that you can use to combine disks into pools that are then managed automatically.

Lessons

- Overview of Storage
- Managing Disks and Volumes
- Implementing Storage Spaces

Lab : Implementing Local Storage

- Installing and Configuring a New Disk
 - Resizing Volumes
 - Configuring a Redundant Storage Space
- After completing this module, students will be able to:
- Describe various storage technologies.
 - Explain how to manage disks and volumes.
 - Explain how to implement Storage Spaces.

Module 10: Implementing File and Print Services



This module discusses how to enable and configure File and Print Services in Windows Server 2012, including securing files and folders on Windows Server 2012 and using shadow copies. It also describes configuring the new Work Folders role service, in addition to important considerations and best practices for working with File and Print Services.

Lessons

- Securing Files and Folders
- Protecting Shared Files and Folders by Using Shadow Copies
- Configuring Work Folders
- Configuring Network Printing

Lab : Implementing File and Print Services

- Creating and Configuring a File Share
- Configuring Shadow Copies
- Enabling and Configuring Work Folders
- Creating and Configuring a Printer Pool

After completing this module students will be able to:

- Secure files and folders.
- Protect shared files and folders by using shadow copies.
- Configure the Work Folders role service.
- Configure network printing.

Module 11: Implementing Group Policy

This module provides an overview of Group Policy and provides details about how to implement Group Policy, including creating and managing Group Policy Objects and implementing a Central Store for administrative templates.

Lessons

- Overview of Group Policy
- Group Policy Processing
- Implementing a Central Store for Administrative Templates

Lab : Implementing Group Policy

- Configuring a Central Store
- Creating GPOs



After completing this module students will be able to:

- Create and manage Group Policy Objects (GPOs).
- Describe Group Policy processing.
- Implement a Central Store for administrative templates.

Module 12: Securing Windows Servers Using Group Policy Objects

This module describes Windows Server 2012 operating system security, and how to configure security settings by using Group Policy and Security Compliance Manager. It also covers how to identify security threats, restrict unauthorized software, and secure a Windows Server 2012 infrastructure by configuring Windows Firewall with Advanced Security.

Lessons

- Windows Operating Systems Security Overview
- Configuring Security Settings
- Restricting Software
- Configuring Windows Firewall with Advanced Security

Lab : Increasing Security for Server Resources

- Using Group Policy to Secure Member Servers
- Auditing File System Access
- Auditing Domain Logons

Lab : Configuring AppLocker and Windows Firewall

- Configuring AppLocker Policies
- Configuring Windows Firewall

After completing this module, students will be able to:

- Describe WindowsServer operating system security.
- Configure security settings by using Group Policy.
- Increase security for server resources.
- Restrict unauthorized software from running on servers and clients.
- Configure Windows Firewall with Advanced Security.

Module 13: Implementing Server Virtualization with Hyper-V



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This module describes virtualization technologies available on Windows, specifically focusing on server Virtualization with Hyper-V. It covers how to install and configure Hyper-V and how to configure and manage key components of a Hyper-V implementation, such as Storage and Networking.

Lessons

- Overview of Virtualization Technologies
- Implementing Hyper-V
- Managing Virtual Machine Storage
- Managing Virtual Networks

Lab : Implementing Server Virtualization with Hyper-V

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

After completing this module, students will be able to:

- Describe the Microsoft virtualization technologies.
- Implement Hyper-V.
- Manage virtual machine storage.
- Manage virtual networks.



To register or for more information call our office **(208) 898-9036** or email register@leapfoxlearning.com



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