



MCSA: Windows Server 2012

**Solutions Associate**

# Exam Number 70-410

**Title-**Installing and Configuring Windows Server 2012

# Exam Number 70-411

**Title-**Administering Windows Server 2012

# Exam Number 70-412

**Title-**Configuring Advanced Windows Server 2012 Services

# About This Course

## Audience Profile

- 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.

# Student Prerequisites

This course requires that you meet the following prerequisites:

- A good understanding of networking fundamentals
- An understanding and experience 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
- Students would also benefit from having some previous Windows Server operating system experience.

# Course Objectives:70-410

After completing this course, students will be able to:

- Install and Configure Windows Server 2012.
- Describe AD DS.
- Manage AD DS objects.
- Automate AD DS administration.
- Implement TCP/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 to secure Windows Servers.
- Implement server virtualization using Hyper-V.

# Course Outline:70-410

This section provides an outline of the course:

Module 1-Deploying and Managing Windows Server 2012

Module 2-Introduction to Active Directory Domain Services

Module 3-Managing Active Directory Domain Services Objects

Module 4-Automating Active Directory Domain Services administration

Module 5-Implementing IPv4

Module 6-Implementing DHCP

Module 7-Implementing DNS

Module 8-Implementing IPv6

Module 9-Implementing Local Storage

Module 10-Implementing File and Print Services

Module 11-Implementing Group Policy

Module 12-Securing Windows Servers Using Group Policy Objects

Module 13-Implementing Server Virtualization with Hyper-V

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## Module 1: Deploying and Managing Windows Server 2012

Lesson 1: Windows Server 2012 Overview

Lesson 2: Overview of Windows Server 2012 Management

Lesson 3: Installing Windows Server 2012

Lesson 4: Post-Installation Configuration of Windows Server 2012

Lesson 5: Introduction to Windows PowerShell

Lab: Deploying and Managing Windows Server 2012

## Module 2: Introduction to Active Directory Domain Service

Lesson 1: Overview of AD DS

Lesson 2: Overview of Domain Controllers

Lesson 3: Installing a Domain Controller

Lab: Installing Domain Controllers

## Module 3: Managing Active Directory Domain Services Objects

Lesson 1: Managing User Accounts

Lesson 2: Managing Group Accounts

Lesson 3: Managing Computer Accounts

Lesson 4: Delegating Administration

Lab: Managing Active Directory Domain Services Objects

## Module 4: Automating Active Directory Domain Services Administration

Lesson 1: Using Command-line Tools for Administration

Lesson 2: Using Windows PowerShell for Administration

Lesson 3: Performing Bulk Operations with Windows PowerShell

Lab: Automating AD DS Administration by Using Windows PowerShell

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## Module 5: Implementing IPv4

Lesson 1: Overview of TCP/IP

Lesson 2: Understanding IPv4 Addressing

Lesson 3: Subnetting and Supernetting

Lesson 4: Configuring and Troubleshooting IPv4

Lab: Implementing IPv4

## Module 6: Implementing DHCP

Lesson 1: Installing a DHCP Server Role

Lesson 2: Configuring DHCP Scopes

Lesson 3: Managing a DHCP Database

Lesson 4: Securing and Monitoring DHCP

Lab: Implementing DHCP

## Module 7: Implementing DNS

Lesson 1: Name Resolution for Windows Clients and Servers

Lesson 2: Installing and Managing a DNS Server

Lesson 3: Managing DNS Zones

Lab: Implementing DNS

## Module 8: Implementing IPv6

Lesson 1: Overview of IPv6

Lesson 2: IPv6 Addressing

Lesson 3: Coexistence with IPv6

Lesson 4: IPv6 Transition Technologies

Lab: Implementing IPv6

## Module 9: Implementing Local Storage

Lesson 1: Overview of Storage

Lesson 2: Managing Disks and Volumes

Lesson 3: Implementing Storage Spaces

Lab: Implementing Local Storage

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## Module 10: Implementing File and Print Services

Lesson 1: Securing Files and Folders

Lesson 2: Protecting Shared Files and Folders using Shadow Copies

Lesson 3: Configuring Network Printing

Lab: Implementing File and Print Services

## Module 11: Implementing Group Policy

Lesson 1: Overview of Group Policy

Lesson 2: Group Policy Processing

Lesson 3: Implementing a Central Store for Administrative Templates

Lab: Implementing Group Policy

## Module 12: Securing Windows Servers Using Group Policy Objects

Lesson 1: Windows Security Overview

Lesson 2: Configuring Security Settings

Lab A: Increasing Security for Server Resources

Lesson 3: Restricting Software

Lesson 4: Configuring Windows Firewall with Advanced Security

Lab B: Configuring AppLocker and Windows Firewall

## Module 13: Implementing Server Virtualization Hyper-V

Lesson 1: Overview of Virtualization Technologies

Lesson 2: Implementing Hyper-V

Lesson 3: Managing Virtual Machine Storage

Lesson 4: Managing Virtual Networks

Lab: Implementing Server Virtualization with Hyper-V



# Course Timing:70-410

## Day-1

Start	End	Module
9.00	9.30	Introduction
9:30	10:30	Module 1: Deploying and Managing Windows Server 2012
10:30	10:45	Break
10:45	11:45	Module 1: Deploying and Managing Windows Server 2012 (continued)
11:45	12:00	Lab: Deploying and Managing Windows Server 2012
12:00	1:00	Lunch
1:00	2:15	Lab: Deploying and Managing Windows Server 2012 (continued)
2:15	2:30	Break
2:30	3:30	Module 2: Introduction to Active Directory Domain Services
3:30	4:00	Lab: Installing Domain Controllers

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# Course Timing:70-410

## Day-2

Start	End	Module
9.00	9.30	Day 1 review
9:30	10:30	Module 3: Managing Active Directory Domain Services Objects
10:30	10:45	Break
10:45	11:15	Module 3: Managing Active Directory Domain Services Objects (continued)
11:15	12:00	Lab: Managing Active Directory Domain Services Objects
12:00	1:00	Lunch
1:00	2:00	Module 4: Automating Active Directory Domain Services Administration
2:00	2:45	Lab: Automating AD DS Administration by Using Windows PowerShell
2:45	3:30	Break
3:00	4:30	Module 5: Implementing IPv4

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# Course Timing:70-410

## Day-3

Start	End	Module
9.00	9.30	Day 2 review
9:30	10:15	Lab: Implementing IPv4
10:15	10:30	Break
10:30	12:00	Module 6: Implementing DHCP
12:00	1:00	Lunch
1:00	1:45	Lab: Implementing DHCP
1:45	2:45	Module 7: Implementing DNS
2:45	3:00	Break
3:00	3:30	Lab: Implementing DNS
3:30	4:45	Module 8: Implementing IPv6

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# Course Timing:70-410

## Day-4

Start	End	Module
9.00	9.30	Day 3 review
9:30	10:00	Lab: Implementing IPv6
10:00	10:15	Break
10:15	11:15	Module 9: Implementing Local Storage
11:15	12:15	Lab: Implementing Local Storage
12:15	1:15	Lunch
1:15	2:30	Module 10: Implementing File and Print Services
2:30	2:45	Break
2:45	3:30	Lab: Implementing File and Print Services
3:30	4:45	Module 11: Implementing Group Policy

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# Course Timing:70-410

## Day-5

Start	End	Module
9.00	9.30	Day 4 review
9:30	10:00	Lab: Implementing Group Policy
10:00	10:30	Module 12: Securing Windows Servers Using Group Policy Objects
10:30	10:45	Break
10:45	11:30	Lab: Increasing Security for Server Resources
11:30	12:00	Module 12: Securing Windows Servers Using Group Policy Objects (continued)
12:00	1:00	Lunch
1:00	1:30	Lab: Configuring AppLocker and Windows Firewall
1:30	2:15	Module 13: Implementing Server Virtualization with Hyper-V
2:15	2:30	Break
2:30	3:00	Module 13: Implementing Server Virtualization with Hyper-V (continued)
3:00	4:00	Lab: Implementing Server Virtualization with Hyper-V

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## Course Objectives:70-411

After completing this course, students will be able to:

- Deploy, manage, and maintain servers.
- Configure file and print services.
- Configure network services and access.
- Configure a network policy server Infrastructure.
- Configure and manage Active Directory® Domain Services (AD DS).
- Configure and manage Group Policy.

# Course Outline:70-411

This section provides an outline of the course:

Module 1-Implementing a Group Policy Infrastructure

Module 2-Managing User Desktops with Group Policy

Module 3-Managing User and Service Accounts

Module 4-Maintaining Active Directory Domain Services

Module 5-Configuring and Troubleshooting Domain Name System

Module 6-Configuring and Troubleshooting Remote Access

Module 7-Installing, Configuring, and Troubleshooting the Network  
Policy Server Role

Module 8-Implementing Network Access Protection

Module 9-Optimizing File Services

Module 10-Configuring Encryption and Advanced Auditing

Module 11-Deploying and Maintaining Server Images

Module 12-Implementing Update Management

Module 13-Monitoring Windows Server 2012

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## **Module 1: Implementing a Group Policy Infrastructure**

Lesson 1: Introducing Group Policy

Lesson 2: Implementing and Administering GPOs

Lesson 3: Managing Group Policy Scope

Lesson 4: Group Policy Processing

Lesson 5: Troubleshooting the Application of GPOs

Lab: Implementing a Group Policy Infrastructure

## **Module 2: Managing User Desktops with Group Policy**

Lesson 1: Implementing Administrative Templates

Lesson 2: Configuring Folder Redirection and Scripts

Lesson 3: Configuring Group Policy Preferences

Lesson 4: Managing Software with Group Policy

Lab: Managing User Desktops with Group Policy

## **Module 3: Managing User and Service Accounts**

Lesson 1: Automating User Account Management

Lesson 2: Configuring Password-Policy and User-Account Lockout  
Settings

Lesson 3: Configuring Managed Service Accounts

Lab: Managing User and Service Accounts

## **Module 4: Maintaining Active Directory Domain Services**

Lesson 1: Implementing Virtualized Domain Controllers

Lesson 2: Implementing Read-Only Domain Controllers

Lesson 3: Administering AD DS

Lesson 4: Managing the AD DS Database

Lab: Maintaining AD DS



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## **Module 5: Configuring & Troubleshoot Domain Name**

Lesson 1: Installing the DNS Server Role

Lesson 2: Configuring the DNS Server Role

Lesson 3: Configuring DNS Zones

Lesson 4: Configuring DNS Zone Transfers

Lesson 5: Managing and Troubleshooting DNS

Lab: Configuring and Troubleshooting DNS

## **Module 6: Configuring & Troubleshoot Remote Access**

Lesson 1: Configuring Network Access

Lesson 2: Configuring VPN Access

Lesson 3: Overview of Network Policies

Lesson 4: Troubleshooting Routing and Remote Access

Lab A: Configuring Remote Access

Lesson 5: Configuring DirectAccess

Lab B: Configuring DirectAccess

## **Module 7: Installing, Configuring, and Troubleshooting the Network Policy Server Role**

Lesson 1: Installing and Configuring a Network Policy Server

Lesson 2: Configuring RADIUS Clients and Servers

Lesson 3: NPS Authentication Methods

Lesson 4: Monitoring and Troubleshooting a Network Policy Server

Lab: Installing and Configuring a Network Policy Server

## **Module 8: Implementing Network Access Protection**

Lesson 1: Overview of Network Access Protection

Lesson 2: Overview of NAP Enforcement Processes

Lesson 3: Configuring NAP

Lesson 4: Monitoring and Troubleshooting NAP

Lab: Implementing NAP

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## **Module 9: Optimizing File Services**

Lesson 1: Overview of FSRM

Lesson 2: Using FSRM to Manage Quotas, File Screens & Storage re.

Lesson 3: Implementing Classification and File Management Tasks

Lab A: Configuring Quotas and File Screening Using FSRM

Lesson 4: Overview of DFS

Lesson 5: Configuring DFS Namespaces

Lesson 6: Configuring and Troubleshooting DFS-R

Lab B: Implementing DFS

## **Module 10: Configuring Encryption & Advanced Auditing**

Lesson 1: Encrypting Files by Using Encrypting File System

Lesson 2: Configuring Advanced Auditing

Lab: Configuring Encryption and Advanced Auditing

## **Module 11: Deploying and Maintaining Server Images**

Lesson 1: Overview of Windows Deployment Services

Lesson 2: Implementing Deployment with Windows Deployment

Lesson 3: Administering Windows Deployment Services

Lab: Using Windows Deployment Services to Deploy Windows Server

## **Module 12: Implementing Update Management**

Lesson 1: Overview of WSUS

Lesson 2: Deploying Updates with WSUS

Lab: Implementing Update Management

## **Module 13: Monitoring Windows Server 2012**

Lesson 1: Monitoring Tools

Lesson 2: Using Performance Monitor

Lesson 3: Monitoring Event Logs

Lab: Monitoring Windows Server 2012

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# Course Timing:70-411

## Day-1

Start	End	Module
9.00	9.30	Introduction
9:30	10:50	Module 1: Implementing a Group Policy Infrastructure
10:50	11:00	Break
11:00	12:30	Lab: Implementing a Group Policy Infrastructure
12:30	1:30	Lunch
1:30	2:30	Module 2: Managing User Desktops with Group Policy
2:30	2:40	Break
2:40	3:25	Lab: Managing User Desktops with Group Policy
3:25	4:25	Module 3: Managing User and Service Accounts

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# Course Timing:70-411

## Day-2

Start	End	Module
9:00	9:30	Day 1 review
9:30	10:30	Lab: Managing User and Service Accounts
10:30	10:45	Break
11:45	12:45	Module 4: Maintaining Active Directory Domain Services
12:45	1:45	Lunch
1:45	3:00	Lab: Maintaining AD DS
3:00	3:15	Break
3:15	4:45	Module 5: Configuring and Troubleshooting Domain Name System

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# Course Timing:70-411

## Day-3

Start	End	Module
9:00	9:30	Introduction
10:30	11:30	Lab: Configuring and Troubleshooting DNS
11:30	12:30	Lunch
12:30	1:30	Module 6: Configuring and Troubleshooting Remote Access
1:30	2:30	Lab: Configuring Remote Access
2:30	2:40	Break
2:40	3:40	Module 6: Configuring and Troubleshooting Remote Access (continued)
3:40	4:00	Break
4:00	5:00	Lab: Configuring DirectAccess

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# Course Timing:70-411

## Day-4

Start	End	Module
9:00	9:30	Introduction
9:30	10:30	Module 7: Installing, Configuring, and Troubleshooting the Network Policy Server Role
10:30	10:40	Break
10:40	11:40	Lab: Installing and Configuring a Network Policy Server
11:40	12:40	Module 8: Implementing Network Access Protection
12:40	1:40	Lunch
1:40	2:40	Lab: Installing and Configuring a Network Policy Server
2:40	2:50	Break
2:50	3:50	Module 9: Optimizing File Services
3:50	4:50	Lab: Implementing DFS

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# Course Timing:70-411

## Day-5

Start	End	Module
9:00	9:30	Day 4 review
9:30	10:00	Lab: Implementing Group Policy
10:00	10:30	Module 12: Securing Windows Servers Using Group Policy Objects
10:30	10:45	Break
10:45	11:30	Lab: Increasing Security for Server Resources
11:30	12:00	Module 12: Securing Windows Servers Using Group Policy Objects (continued)
12:00	1:00	Lunch
1:00	1:30	Lab: Configuring AppLocker and Windows Firewall
1:30	2:15	Module 13: Implementing Server Virtualization with Hyper-V
2:15	2:30	Break
2:30	3:00	Module 13: Implementing Server Virtualization with Hyper-V (continued)
3:00	4:00	Lab: Implementing Server Virtualization with Hyper-V

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# Course Objectives:70-412

After completing this course, students will be able to:

- Configure advanced features for DHCP and DNS, and configure IP Address Management (IPAM).
- Configure file services to meet advanced business requirements.
- Configure Dynamic Access Control (DAC) to manage and audit access to shared files.
- Provide high availability and load balancing for web-based applications by implementing Network
- Load Balancing (NLB).
- Provide high availability for network services and applications by implementing failover clustering.
- Deploy and manage Hyper-V virtual machines in a failover cluster.
- Implement a backup and disaster recovery solution based on business and technical requirements.
- Plan and implement an AD DS deployment that includes multiple domains and forests.
- Plan and implement an AD DS deployment that includes multiple locations.
- Implement an Active Directory Certificate Services (AD CS) deployment.
- Implement an Active Directory Rights Management Services (AD RMS) deployment.
- Implement an Active Directory Federation Services (AD FS) deployment.

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# Course Objectives:70-412

This section provides an outline of the course:

Module 1-Implementing Advanced Network Services" describes how to configure advanced DHCP features and DNS settings, and implement IPAM, which is a new Windows Server 2012 feature.

Module 2-Implementing Advanced File Services" describes how to configure Internet Small Computer System Interface (iSCSI) storage and Windows BranchCache®. The module also describes how to implement Windows Server 2012 features that optimize storage utilization.

Module 3-Implementing Dynamic Access Control" describes DAC, which is a new Windows Server 2012 feature. It also explains how to plan for a DAC implementation, and how to configure DAC.

Module 4, "Implementing Network Load Balancing" describes the features and working of network load balancing (NLB). It also explains how to configure an NLB cluster and plan an NLB implementation.

# Course Objectives:70-412

Module 5, "Implementing Failover Clustering" describes failover clustering features in Windows Server 2012. The module also describes how to implement and maintain failover clusters, and how to configure highly available applications and services on a failover cluster.

Module 6, "Implementing Failover Clustering with Hyper-V" describes options to make virtual machines highly available, and covers the implementation of Hyper-V virtual machines on failover clusters and Hyper-V virtual machine movement.

Module 7, "Implementing Disaster Recovery" describes disaster recovery, server and data recovery, and the planning and implementation of a backup solution for Windows Server 2012.

Module 8, "Implementing Distributed Active Directory Domain Services Deployments" provides an overview of distributed AD DS deployments and the process of implementation for the same. It also describes how to configure AD DS trusts, and implement complex AD DS deployments.

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## Course Objectives:70-412

Module 9, "Implementing Active Directory Domain Services Sites and Replication" describes how replication works in AD DS in a Windows Server 2012 AD DS environment, and how to configure AD DS sites to optimize AD DS network traffic. It also shows how to configure and monitor AD DS replication.

Module 10, "Implementing Active Directory Certificate Services" provides an overview of Public Key Infrastructure (PKI), and describes how to deploy certification authorities (CAs) and certificate templates. It also covers certificate distribution and revocation, and management of certificate recovery.

Module 11, "Implementing Active Directory Rights Management Services" describes AD RMS and how you can use it to achieve content protection. It also explains how to deploy and manage an AD RMS infrastructure, and configure AD RMS content protection and external access to AD RMS.

Module 12, "Implementing Active Directory Federation Services" describes the identity federation business scenarios, and how you can use AD FS to address the scenarios. It also describes how to deploy AD FS, and how to implement it for a single organization, and in a business-to-business

# Course Timing:70-412

## Day-1

Start	End	Module
9:00	9:30	Introduction
9:30	10:45	Module 1: Implementing Advanced Network Services
10:45	11:00	Break
11:00	12:00	Lab: Implementing Advanced Network Services
12:00	1:00	Lunch
1:00	2:00	Module 2: Implementing Advanced File Services
2:00	3:15	Lab: Implementing Advanced File Services
3:15	3:30	Break
3:30	4:00	Lab: Implementing BranchCache
4:00	5:00	Module 3: Implementing Dynamic Access Control

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# Course Timing:70-412

## Day-2

Start	End	Module
9:00	9:30	Day 1 review
9:30	10:00	Module 3: Implementing Dynamic Access Control (continued)
10:00	11:30	Lab: Implementing Dynamic Access Control
11:30	11:45	Break
11:45	12:45	Module 4: Implementing Network Load Balancing
12:45	1:45	Lunch
1:45	2:45	Lab: Implementing Network Load Balancing Break
2:45	3:00	Break
3:00	4:00	Module 5: Implementing Failover Clustering
4:00	5:15	Lab: Implementing Failover Clustering

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# Course Timing:70-412

## Day-3

Start	End	Module
9:00	9:30	Day 2 review
9:30	10:45	Module 6: Implementing Failover Clustering with Hyper-V
10:45	11:00	Break
11:00	12:15	Lab: Implementing Failover Clustering with Hyper-V
12:15	1:00	Lunch
1:00	2:00	Module 7: Implementing Disaster Recovery
2:00	3:00	Lab: Implementing Windows Server Backup and Restore
3:00	3:15	Break
3:15	4:15	Module 8: Implementing Distributed Active Directory Domain Services Deployments
4:15	5:00	Lab: Implementing Complex AD DS Deployments

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# Course Timing:70-412

## Day-4

Start	End	Module
9:00	9:30	Day 3 review
9:30	10:30	Module 9: Implementing Active Directory Domain Services Sites and Replication
10:30	10:45	Break
10:45	11:45	Lab: Implementing AD DS Sites and Replication
11:45	12:45	Lunch
12:45	3:15	Module 10: Implementing Active Directory Certificate Services
3:15	3:30	Break
3:30	5:00	Lab: Implementing Active Directory Certificate Services

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# Course Timing:70-412

## Day-5

Start	End	Module
9:00	9:30	Day 4 review
9:30	10:30	Module 11: Implementing Active Directory Rights Management Services
10:30	10:45	Break
10:45	11:45	Lab: Configuring AD RMS
11:45	12:45	Lunch
12:45	2:00	Module 12: Implementing Active Directory Federation Services
2:00	3:30	Lab: Implementing AD FS
3:30	3:45	Break
3:45	4:45	Course Review

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