



Designing and Implementing a Server Infrastructure 36 Contact Hours

Course Overview

This 5-day instructor-led course provides you with the skills and knowledge needed to plan, design, and deploy a physical and logical Windows Server 2012 Active Directory Domain Services (AD DS) infrastructure. The course also provides the skills to perform name resolution, application integration, optimization of automate remediation and maintenance of network services.

Audience Profile

Candidates for this course have good Windows client and server operating system knowledge and basic AD DS and networking experience in an enterprise/small business (SMB) environment together with application configuration experience. This course is intended for IT professionals who are responsible for planning, designing, and deploying a physical and a logical Windows Server 2012 enterprise Active Directory Domain Services (AD DS) infrastructure including the network services necessary. Students have experience of previous Windows Server operating systems and possess Windows Server 2012 certification (MCSA) or equivalent skills. This course is also intended for IT professionals who are looking to take the exam 70-413: Designing and Implementing a Server Infrastructure, as a stand-alone, or as part of the requirement for the MCSE: Server Infrastructure certification.

At Course Completion

After completing this course, students will be able to:

- Implement server upgrade and migration.
- Design an automated server installation strategy.
- Plan and implement a server deployment infrastructure.
- Plan and implement file and storage services.
- Design and implement a Dynamic Host Configuration Protocol (DHCP) solution.
- Design a name resolution solution strategy.
- Design and manage an IP address management solution.
- Design a VPN solution.
- Design a DirectAccess solution.
- Implement a scalable remote access solution.
- Design a network protection solution.
- Implement a network protection solution.
- Design a forest and domain infrastructure.
- Implement a forest and domain infrastructure.
- Design a Group Policy strategy.
- Design an Active Directory permission model.
- Design an Active Directory sites topology.
- Design a domain controller strategy.
- Design and implement a branch office infrastructure.



Prerequisites

Before attending this course, students must have one or more of the following:

A good understanding of Transmission Control Protocol/Internet Protocol (TCP/IP) fundamentals and networking concepts.

A good working knowledge of both Windows Server 2012 and Active Directory Domain Services (AD DS). For example, domain user accounts, domain vs. local user accounts, user profiles, and group membership.

A good understanding of both scripts and batch files.

A solid understanding of security concepts, such as authentication and authorization.

Familiarity with deployment, packaging, and imaging tools.

Ability to work in a team/virtual team.

Ability to produce good documentation and have the appropriate communication skills to create proposals and make budget recommendations.

Knowledge equivalent to Windows 2012 MCSA.

Course Outline

Module 1: Planning Server Upgrade and Migration

This module explains how to plan a server upgrade and migration strategy.

Lessons

Upgrade and Migration Considerations

Creating a Server Upgrade and Migration Plan

Planning for Virtualization

Lab : Planning Server Upgrade and Migration

Planning a Server Upgrade and Migration Strategy

After completing this module, students will be able to:

Analyze upgrade and migration considerations.

Create a server upgrade and migration plan.

Plan for virtualization.

Module 2: Planning and Implementing a Server Deployment Infrastructure

This module explains how to design an automated server installation strategy and plan and implement a server deployment infrastructure.

Lessons

Selecting an Appropriate Server Imaging Strategy

Selecting a Deployment Automation Strategy

Implementing an Automated Deployment Strategy

Lab : Planning and Implementing a Server Deployment Infrastructure

Planning an Automated Server Installation and Deployment Strategy

Preparing the Windows Server Image

Deploying Windows Server



After completing this module, students will be able to:

- Describe how to select an appropriate server imaging strategy.
- Describe how to select a deployment automation strategy.
- Implement an automated deployment strategy.

Module 3: Designing and Maintaining an IP Configuration and Address Management Solution

This module explains how to design and maintain IP address management (IPAM) and a Dynamic Host Configuration Protocol (DHCP) solution.

Lessons

- Designing and Implementing DHCP
- Planning and Implementing DHCP Scopes
- Planning and Implementing an IPAM Provisioning Strategy
- Lab : Designing and Maintaining an IP Configuration and IP Address Management Solution
- Designing an IP Addressing Scheme for Contoso (Optional)
- Planning DHCP to Support Your Proposed Scheme
- Planning an IPAM Deployment
- Implementing DHCP and IPAM

After completing this module, students will be able to:

- Design and implement DHCP.
- Plan DHCP scope configuration and options.
- Design and implement an IPAM provisioning strategy.

Module 4: Designing and Implementing Name Resolution

This module explains how to design a name resolution solution strategy.

Lessons

- Designing a DNS Server Implementation Strategy
- Designing the DNS Namespace
- Designing and Implementing DNS Zones
- Designing and Configuring DNS Zone Replication and Delegation
- Optimizing DNS Servers
- Designing DNS for High Availability and Security
- Lab : Designing and Implementing Name Resolution
- Designing a DNS Name Resolution Strategy
- Planning a DNS Server Placement Strategy
- Planning DNS Zones and DNS Zone Replication
- Implementing DNS

After completing this module, students will be able to:

- Design a Domain Name System (DNS) server implementation strategy.
- Design a DNS namespace.
- Design and implement a DNS zone strategy.
- Design and configure DNS zone replication.
- Optimize the DNS server configuration.



Design DNS for high availability and security.

Module 5: Designing and Implementing an Active Directory Domain Services Forest and Domain Infrastructure

This module explains how to design and implement an AD DS forest and domain infrastructure.

Lessons

Designing an AD DS Forest

Designing and Implementing AD DS Forest Trusts

Designing and Implementing AD DS Domains

Designing DNS Namespaces in AD DS Environments

Designing AD DS Domain Trusts

Lab : Designing and Implementing an AD DS Forest Infrastructure

Designing an AD DS Forest Infrastructure

Implementing AD DS Forest Trusts

Lab : Designing and Implementing an AD DS Domain Infrastructure

Designing an AD DS Domain Infrastructure

Implementing an AD DS Domain Infrastructure

After completing this module, students will be able to:

Design an AD DS forest.

Design and implement AD DS forest trusts.

Design and implement AD DS domains.

Design DNS namespaces in an AD DS environment.

Design and implement AD DS domain trusts.

Module 6: Designing and Implementing an OU Infrastructure and AD DS Permissions Model

This module explains how to design and implement an organizational unit (OU) infrastructure and AD DS permissions model.

Lessons

Planning the AD DS Administrative Tasks Delegation Model

Designing the OU Structure

Designing and Implementing an AD DS Group Strategy

Lab : Designing and Implementing an AD DS OU Infrastructure and AD DS Delegation Model

Designing an OU Infrastructure

Implementing the OU Design

Designing and Implementing an AD DS Permissions Model

After completing this module, students will be able to:

Plan an AD DS administrative tasks delegation model.

Design an OU structure.

Design and implement an AD DS group strategy.

Module 7: Designing and Implementing a Group Policy Object Strategy

This module explains how to design and implement a Group Policy Object (GPO) strategy.



Lessons

Gathering the Information Required for a GPO Design

Designing and Implementing GPOs

Designing GPO Processing

Planning Group Policy Management

Lab : Designing and Implementing Group Policy Object Strategy

Designing a GPO Strategy

Implementing the GPO Design

After completing this module, students will be able to:

Gather information required for a GPO design.

Design and implement GPOs.

Design GPO processing.

Plan Group Policy management.

Module 8: Designing and Implementing an AD DS Physical Topology

This module explains how to design an AD DS sites topology and a domain controller placement strategy.

Lessons

Designing and Implementing AD DS Sites

Designing AD DS Replication

Designing the Placement of Domain Controllers

Virtualization Considerations for Domain Controllers

Designing Highly-Available Domain Controllers

Lab : Designing and Implementing an AD DS Physical Topology

Designing AD DS Sites and AD DS Replication

Planning the Placement of Domain Controllers

Implementing AD DS Sites and Domain Controllers

After completing this module, students will be able to:

Design and implement AD DS sites.

Design and configure AD DS replication.

Design domain controller placement.

Plan for virtualization of the domain controller role.

Design domain controller deployments for high availability.

Module 9: Planning and Implementing Storage

This module explains how to plan and implement storage.

Lessons

Storage Considerations

Planning and Implementing iSCSI SANs

Lab : Planning and Implementing Storage

Planning a Storage Solution

Implementing Storage Services



After completing this module, students will be able to:
Plan for efficient storage.
Plan and implement an iSCSI storage area network.

Module 10: Planning and Implementing File Services

This module explains how to plan and implement file services.

Lessons

Planning and Implementing a Distributed File System

Planning and Implementing BranchCache

Planning and Implementing Dynamic Access Control

Lab : Designing and Implementing File Services

Planning Data Access

Planning and Implementing Dynamic Access Control

After completing this module, students will be able to:

Plan and implement DFS.

Plan and implement BranchCache.

Plan and implement dynamic access control.

Module 11: Designing and Implementing Network Access Services

This module explains how to design and implement network access services.

Lessons

Designing and Implementing Remote Access Services

Designing RADIUS Authentication by Using a Network Policy Server

Designing a Perimeter Network

Planning and Implementing DirectAccess

Lab : Designing and Implementing Network Access Services

Planning and Implementing a VPN Solution

Planning and Implementing a DirectAccess Solution

After completing this module, students will be able to:

Design and implement remote access services.

Design a Remote Authentication Dial-In User Service (RADIUS) solution.

Design a perimeter network.

Plan and implement DirectAccess.

Module 12: Designing and Implementing Network Protection

This module explains how to design and implement network protection.

Lessons

Overview of Network Security Design

Identifying and Mitigating Common Network Security Threats

Designing and Implementing a Windows Firewall Strategy

Designing and Implementing a Network Access Protection Infrastructure

Lab : Designing and Implementing Network Protection



Designing a Windows Firewall Solution
Implementing a Windows Firewall Solution
Designing a NAP Solution
Implementing NAP with VPN Enforcement
After completing this module, students will be able to:
Describe the network security design process.
Describe how to identify and analyze network security threats.
Describe a Windows Firewall implementation.
Design Network Access Protection (NAP).

