



Designing and Implementing a Server Infrastructure

Course ID#: 1410-830-12-W

35 Hrs

Course Content

Course Description:

This 5-day instructor-led Designing and Implementing a Server Infrastructure 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, and optimization of automate remediation and maintenance of network services.

Prerequisites:

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.

Before attending this course, students must have:

- 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.



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Topics:

Module 1: Planning Server Upgrade and Migration

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

Module 2: Planning and Implementing 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

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

Module 4: Designing and Implementing Name Resolution

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



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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

Module 5: Designing and Implementing an Active Directory Domain Services 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

Module 6: Designing and Implementing an 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

Module 7: Designing and Implementing a Group Policy Object 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

Module 8: Designing and Implementing an AD DS Physical Topology

Lessons

- Designing and Implementing AD DS Sites



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- 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

Module 9: Planning and Implementing Storage

Lessons

- Storage Considerations
- Planning and Implementing iSCSI SANs

Lab: Planning and Implementing Storage

- Planning a Storage Solution
- Implementing Storage Services

Module 10: Planning and Implementing 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

Module 11: Designing and Implementing 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

Module 12: Designing and Implementing 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



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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