20413: Designing and Implementing a Server Infrastructure

Duration: 5 Days

Method: Instructor-Led Training (ILT) | Live Online Training

Course Description

This course covers the knowledge and skills needed to provide an enterprise solution that supports manual and automated server installations in a physical and virtual environment including the supporting file and storage services. Participants will also learn the skills necessary to provide enterprise networking solutions such as DHCP, IPAM, VPN, and DirectAccess. They will also learn the skills necessary to design and implement a forest and domain infrastructure including multi domains/forest and branch office scenarios. **NOTE:** *This course is part* **one** *in a series of two courses that provides the skills and knowledge necessary to design and implement a Windows Server® 2012 R2 infrastructure in an enterprise environment.*

Target Audience

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.

Prerequisites

To attend this course, candidates must have:

- Knowledge of Windows® client and server operating system and AD DS
- Networking experience in an enterprise/small business (SMB) environment together with application configuration experience.

NOTE: *In addition to the professional experience listed above, candidates must already have the following technical knowledge as well:*

- A good understanding of Transmission Control Protocol/Internet Protocol (TCP/IP) fundamentals and networking concepts.
- Good working knowledge of both Windows Server 2012 R2 and AD DS.
- 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.
- Achieved the *Windows 2012 R2 MCSA* or have the equivalent knowledge.

Course Objectives

Upon successful completion of this course, attendees will be able to:

- Plan server upgrade and migration.
- Plan and implement a server deployment strategy.
- Plan and deploy servers by using System Center 2012 R2 Virtual Machine Manager (VMM).
- Design and maintain an IP configuration and address management solution.
- Design and implement name resolution.
- Design and implement an AD DS forest and domain infrastructure.
- Design and implement an AD DS organizational unit (OU) infrastructure.
- Design and implement a Group Policy Object (GPO) strategy.
- Design and implement an AD DS physical topology.
- Plan and implement storage and file services.
- Design and implement network protection.
- Design and implement remote access services.

Course Topics

Module 1: Planning Server Upgrade and Migration

- Considerations for Upgrades and Migrations
- Creating a Server Upgrade and Migration Plan
- Planning for Virtualization

Module 2: Planning and Implementing a Server Deployment Strategy

- Selecting an Appropriate Server Deployment Strategy
- Implementing an Automated Deployment Strategy

Module 3: Planning and Deploying Servers Using Virtual Machine Manager

- System Center 2012 R2 Virtual Machine Manager Overview
- Implementing a Virtual Machine Manager Library and Profiles
- Planning and Deploying Virtual Machine Manager Services

Module 4: Designing and Maintaining an IP Configuration and Address Management Solution

- Designing DHCP Servers
- Planning DHCP Scopes
- Designing an IPAM Provisioning Strategy
- Managing Servers and Address Spaces by Using IPAM

Module 5: Designing and Implementing Name Resolution

- Designing a DNS Server Implementation Strategy
- Designing the DNS Namespace
- Designing DNS Zones
- Designing DNS Zone Replication and Delegation
- Optimizing DNS Servers
- Designing DNS for High Availability and Security

Course Topics *Continued*

Module 6: Designing and Implementing an Active Directory Domain Services Forest and Domain Infrastructure

- Designing an Active Directory Forest
- Designing and Implementing Active Directory Forest Trusts
- Designing Active Directory Integration with Windows Azure Active Directory
- Designing and Implementing Active Directory Domains
- Designing DNS Namespaces in Active Directory Environments
- Designing Active Directory Domain Trusts

Module 7: Designing and Implementing an AD DS Organizational Unit Infrastructure

- Planning the Active Directory Administrative Tasks Delegation Model
- Designing an OU Structure
- Designing and Implementing an AD DS Group Strategy

Module 8: Designing and Implementing a Group Policy Object Strategy

- Collecting the Information Required for a GPO Design
- Designing and Implementing GPOs
- Designing GPO Processing
- Planning Group Policy Management

Module 9: Designing and Implementing an AD DS Physical Topology

- Designing and Implementing Active Directory Sites
- Designing Active Directory Replication
- Designing the Placement of Domain Controllers
- Virtualization Considerations for Domain Controllers
- Designing Highly Available Domain Controllers

Module 10: Planning and Implementing Storage and File Services

- Planning and Implementing iSCSI SANs
- Planning and Implementing Storage Spaces
- Optimizing File Services for Branch Offices

Module 11: Designing and Implementing Network Protection

- Overview of Network Security Design
- Designing and Implementing a Windows Firewall Strategy
- Designing and Implementing a NAP Infrastructure

Module 12: Designing and Implementing Remote Access Services

- Planning and Implementing DirectAccess
- Planning and Implementing VPN
- Planning and Implementing Web Application Proxy
- Planning a Complex Remote Access Infrastructure

LABS INCLUDED