

## **Exam 70-413/Course 20413C**

# **Designing and Implementing a Server Infrastructure**

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.

In addition to their professional experience, students who attend this training should already have the following technical knowledge:

- A good understanding of Transmission Control Protocol/Internet Protocol (TCP/IP) fundamentals and networking concepts.
- A good working knowledge of both Windows Server 2012 R2 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 R2 MCSA.

### **Course Outline**

#### **Module 1: Planning Server Upgrade and Migration**

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

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

Lab : Planning a Server Upgrade and Migration

After completing this module, students will be able to:

- Describe the factors to consider when performing a server upgrade and migration.
- Create a plan for a server upgrade and migration.
- Plan for server virtualization.

## **Module 2: Planning and Implementing a Server Deployment Strategy**

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

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

Lab : Planning and Implementing a Server Deployment Infrastructure

After completing this module, students will be able to:

- Select an appropriate server deployment strategy.
- Implement an automated deployment strategy.

## **Module 3: Planning and Deploying Servers Using Virtual Machine Manager**

This module explains how to plan and deploy a Virtual Machine Manager (VMM) infrastructure for deploying servers.

System Center 2012 R2 Virtual Machine Manager Overview

- Implementing a Virtual Machine Manager Library and Profiles
- Planning and Deploying Virtual Machine Manager Services

Lab : Planning and Deploying Virtual Machines by Using Virtual Machine Manager

After completing this module, students will be able to:

- Describe the core VMM architecture and components.
- Implement VMM libraries and profiles.
- Plan and deploy VMM services.

## **Module 4: 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.

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

Lab : Designing and Maintaining an IP Configuration and IP Address Management Solution

After completing this module, students will be able to:

- Design a DHCP server implementation.
- Plan DHCP scope configuration and options.
- Design an IPAM provisioning strategy.

- Manage servers and address spaces by using IPAM.

### **Module 5: Designing and Implementing Name Resolution**

This module explains how to design a name resolution strategy.

- 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

Lab : Designing and Implementing Name Resolution

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 and delegation.
- Optimize the DNS server configuration.
- Design DNS for high availability and security.

### **Module 6: 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.

- 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

Lab : Designing and Implementing an Active Directory Domain Services Forest Infrastructure

Lab : Designing and Implementing an Active Directory Domain Infrastructure

After completing this module, students will be able to:

- Design an Active Directory forest.
- Design and implement Active Directory forest trusts.
- Design Active Directory integration with Windows Azure Active Directory.
- Design and implement Active Directory domains.
- Design DNS namespaces in an Active Directory environment.
- Design and implement Active Directory domain trusts.

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

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

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

Lab : Designing and Implementing an Active Directory OU Infrastructure and Delegation Model

After completing this module, students will be able to:

- Plan an Active Directory administrative tasks delegation model.
- Design an OU structure.
- Design and implement an AD DS group strategy.

### **Module 8: Designing and Implementing a Group Policy Object Strategy**

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

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

Lab : Designing and Implementing a Group Policy Object Strategy

After completing this module, students will be able to:

- Collect and analyze the information required to facilitate a GPO design.
- Create a GPO design and implement it.
- Create a GPO processing design.
- Plan GPO management.

### **Module 9: 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.

- 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

Lab : Designing and Implementing an Active Directory Domain Services Physical Topology

After completing this module, students will be able to:

- Design and implement Active Directory sites.

- Design and configure Active Directory replication.
- Design domain controller placement.
- Plan for virtualization of the domain controller role.
- Design domain controller deployments for high availability.

### **Module 10: Planning and Implementing Storage and File Services**

This module explains how to plan and implement storage and file services.

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

Lab : Planning and Implementing Storage

After completing this module, students will be able to:

- Plan and implement an Internet Small Computer System Interface (iSCSI) SAN.
- Plan and implement storage spaces.
- Optimize file services for branch offices.

### **Module 11: Designing and Implementing Network Protection**

This module explains how to design and implement network protection.

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

Lab : Designing and Implementing Network Protection

After completing this module, students will be able to:

- Describe the design process for network security.
- Design and implement a Windows Firewall strategy.
- Design and implement Network Access Protection (NAP).

### **Module 12: Designing and Implementing Remote Access Services**

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

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

Lab : Designing and Implementing Network Access Services

After completing this module, students will be able to:

- Plan and implement DirectAccess.



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- Plan and implement a virtual private network (VPN).
- Plan and implement a Web Application Proxy.
- Plan a complex remote access infrastructure.