MS 20413
Designing and Implementing a Server Infrastructure

Course Description 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.

The two courses collectively cover designing, planning, deploying, securing, monitoring, automating, and virtualizing an enterprise server infrastructure.

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.

You will also learn the skills necessary to provide enterprise networking solutions such as DHCP, IPAM, VPN, and DirectAccess. You will also learn the skills necessary to design and implement a forest and domain infrastructure including multi domains/forest and branch office scenarios.

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.

They have experience of previous Windows Server operating systems and possess Windows Server 2012 certification Microsoft Certified Solutions Associate (MCSA) or equivalent skills.

The 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 Microsoft Certified Solutions Expert (MCSE): Server Infrastructure Certification.

Duration: Instructor-led, group-paced, classroom-delivery learning model with structured hands-on activities
35 hours (5 days)

Objectives: After completing this course, students 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.

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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.

- 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.
- Students who attend this training can meet the prerequisites by attending the following courses, or obtaining equivalent knowledge and skills:
- 20410D: Installing and Configuring Windows Server 2012
- 20411D: Administering Windows Server 2012
- 20412D: Configuring Advanced Windows Server 2012 Services
- 20417D: Upgrading Your Skills to MCSA Windows Server 2012

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Course Outline

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

Planning and Implementing a Server Deployment Strategy
- Selecting an Appropriate Server Deployment Strategy
- Implementing an Automated Deployment Strategy

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

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

Designing and Maintaining 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

Designing and Implementing an Active Directory Domain Services Forest and Domain
- 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

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

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

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

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

3Designing and Implementing Network Protection
- Overview of Network Security Design
- Designing and Implementing a Windows Firewall Strategy
- Designing and Implementing a NAP Infrastructure

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