Implementing an Advanced Server Infrastructure

Course Duration: 5 days

Overview:

Students will learn to plan, design and deploy a physical and logical Windows Server 2012 R2 enterprise infrastructure in this 5-day course. This course is part two 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 to plan and implement a highly available, secure infrastructure with focus on Active Directory Federation Service (AD FS), public key infrastructure (PKI), and Active Directory Rights Management Services (AD RMS). You will also learn the skills needed to plan and deploy virtual machines including self-service and automation of virtual machine deployments as well as planning and implementing a monitoring strategy that includes Microsoft System Centre 2012 R2-Operations Manager. This course maps directly to and is the preferred choice for hands-on preparation for Microsoft Certified Solutions Expert (MCSE): Exam 414: Implementing an Advanced Server Infrastructure, which is the fifth of five exams required for MCSE: Server Infrastructure certification. This course is designed for experienced IT professionals who support medium to large enterprises and have experience administering Windows Server 2012 R2 and have an MCSA: Windows Server 2012 certification or equivalent skills.

Audience Profile:

This course is intended for Information Technology (IT) professionals who are responsible for planning, designing and deploying a physical and logical Windows Server 2012 enterprise and Active Directory Domain Services (AD DS) infrastructures including the network services. Candidates would typically have experience of previous Windows Server operating systems and have Windows Server 2012 certification (MCSA) or equivalent skills.

The secondary audience for this course will be candidates are IT professionals who are looking to take the exam 70-414: Implementing an Advanced Enterprise Server Infrastructure, as a stand-alone, or as part of the requirement for the MCSE certification.

Prerequisites:

Before attending this course, students must have:

- An understanding of TCP/IP, networking concepts, scripts and batch files.

- An understanding of Windows Server 2012 and AD DS, including planning, designing and deploying.

- An understanding of security concepts such as authentication and authorization, as well as an understanding of deployment, packaging and imaging tools.

- Experience working in a team or a virtual team.

- Achieved the Windows Server 2012 MCSA certification as well as information in the course 20413C: Designing and Implementing an Enterprise Server Infrastructure.
Course information continues on next page:

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Course Objectives:

After completing this course, students will be able to:

- Describe an enterprise data center.

- Plan and implement a server virtualization strategy using System Center 2012.

- Plan and implement the network and storage infrastructure required to deploy a virtualized server infrastructure.

- Plan and deploy virtual machines on Windows Hyper-V.

- Plan and implement a virtualization administration solution by using System Center 2012.

- Plan and implement a server monitoring strategy using the Windows Server 2012 tools and using Microsoft System Center 2012 - Operations Manager.

- Plan and implement an application and a file services infrastructure that is highly available.

- Plan and implement a highly available server infrastructure by using the failover clustering features in Windows Server 2012.

- Plan and implement a business continuity strategy in a Windows Server 2012 environment.

- Plan and implement a PKI deployment, and plan and implement a certificate management solution.

- Plan and implement an AD FS server deployment and claims aware application access.

- Plan and implement Dynamic Access Control, Workplace Join and Work Folders.

- Plan and implement an AD RMS deployment, plan and manage AD RMS templates and access, and plan and implement external access to AD RMS services.

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Course Content

Module 1: Overview of Management in an Enterprise Data Centre
- Overview of the Enterprise Data Center
- Overview of the Microsoft System Center 2012 R2 Components
- Planning the Secure Implementation of Services Within an Enterprise Data Center

Module 2: Planning and Implementing a Server Virtualization Strategy
- Planning a VMM Deployment
- Planning and Implementing a Server Virtualization Host Environment
- Planning a Hyper-V Host Deployment
- Configuring Hyper-V Host Groups
- Configuring VMM Libraries

Module 3: Planning and Implementing Networks and Storage for Virtualization
- Planning a Storage Infrastructure for Virtualization
- Implementing a Storage Infrastructure for Virtualization
- Planning and Implementing a Network Infrastructure for Virtualization
- Planning and Implementing Network Virtualization
- Planning a Storage Infrastructure for Virtualization
- Planning a Network Infrastructure for Virtualization
- Implementing a Storage Infrastructure for Virtualization
- Implementing a Network Infrastructure for Virtualization

Module 4: Planning and Deploying Virtual Machines
- Planning a Virtual Machine Configuration
- Preparing for Virtual Machine Deployments with VMM
- Deploying Virtual Machines
- Planning and Implementing Hyper-V Replica
- Planning Virtual Machine and Service Templates
- Configuring VMM Profiles and Templates
- Implementing Hyper-V Replica

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Module 5: Planning and Implementing a Virtualization Administration Solution

- Planning and Implementing Automation with System Center 2012
- Planning and Implementing System Center 2012 Administration
- Planning and Implementing Self-Service Options in System Center 2012
- Planning and Implementing Updates in a Server Virtualization Infrastructure
- Configuring Process Automation in System Center
- Planning Administrative Delegation and Self-Service in System Center 2012
- Configuring Delegated Administration and Self-Service in VMM
- Implementing Host Updating in VMM

Module 6: Planning and Implementing a Server Monitoring Strategy

- Planning Monitoring in Windows Server 2012
- Overview of Operations Manager
- Planning and Configuring Monitoring Components
- Configuring Integration with VMM
- Configuring Server Monitoring Using Windows Server 2012
- Implementing Operations Manager Monitoring
- Configuring the Operations Manager Monitoring Components

Module 7: Planning and Implementing High Availability for File Services and Applications

- Planning and Implementing Storage Spaces
- Planning and Implementing a DFS
- Planning and Implementing NLB
- Planning a High Availability Strategy for File Services
- Planning a High Availability Strategy for Web Applications
- Implementing a High Availability Solution for File Storage
- Implementing a High Availability Solution Using NLB

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Module 8: Planning and Implementing a High Availability Infrastructure Using Failover Clustering

- Planning an Infrastructure for Failover Clustering
- Implementing Failover Clustering
- Planning and Implementing Updates for Failover Clusters
- Integrating Failover Clustering with Server Virtualization
- Planning a Multisite Failover Cluster
- Designing Highly Available Server Roles
- Deploying a Failover Cluster
- Implementing a Scale-Out File Server
- Configuring Cluster-Aware Updating
- Implementing Highly Available Virtual Machines
- Implementing Operations Manager and VMM Integration

Module 9: Planning and Implementing a Business Continuity Strategy

- Overview of Business Continuity Planning
- Planning and Implementing Backup Strategies
- Planning and Implementing Recovery
- Planning and Implementing Backup and Recovery of Virtual Machines
- Configuring DPM
- Implementing Backup and Restore for Virtual Machine Data
- Implementing Virtual Machine Backup and Recovery using DPM

Module 10: Planning and Implementing an Public Key Infrastructure

- Planning and Implementing Deployment of a Certification Authority
- Planning and Implementing Certificate Templates
- Planning and Implementing Certificate Distribution and Revocation
- Planning and Implementing Key Archival and Recovery
- Planning the Active Directory Certificate Services Deployment
- Deploying the CA Infrastructure
- Implementing Certificate Templates
- Implementing Certificate Revocation and Distribution

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Module 11: Planning and Implementing an Identity Federation Infrastructure
- Planning and Implementing an AD FS Server Infrastructure
- Planning and Implementing AD FS Claim Providers and Relying Parties
- Planning and Implementing AD FS Claims and Claim Rules
- Planning and Implementing Web Application Proxy
- Designing the AD FS Deployment
- Configuring Prerequisite Components for AD FS
- Deploying AD FS for Internal Users
- Deploying AD FS for a Partner Organization
- Deploying the Web Application Proxy

Module 12: Planning and Implementing Data Access for Users and Devices
- Planning and Implementing DAC
- Planning Workplace Join
- Planning Work Folders
- Planning and Implementing DAC
- Preparing DAC Deployment
- Implementing DAC
- Validating and Remediating DAC
- Preparing and Implementing an Infrastructure for Work Folders
- Configuring AD FS and Web Application Proxy For Work Folders Publishing
- Validating Work Folders Functionality

Module 13: Planning and Implementing an Information Rights Management Infrastructure
- AD RMS Overview
- Planning and Implementing an AD RMS Cluster
- Planning and Implementing AD RMS Templates and Policies
- Planning and Implementing External Access to AD RMS Services
- Planning and Implementing AD RMS Integration with Dynamic Access Control
- Planning an AD RMS Deployment
- Deploying an AD RMS Infrastructure for Internal Users
- Implementing AD RMS Integration with Dynamic Access Control
- Implementing AD RMS Integration for External Users