Fundamentals of a Windows Server® Infrastructure

Course ID#: 1410-801-12-W

35 Hrs

Course Content

Course Description:

This five day course covers the basic skills and knowledge that are required in order to build a Windows Server Infrastructure. It covers networking architecture and topologies, security considerations and best practices as well as basic Windows Server administration skills and technologies such as Windows Server 2012 Installation, configuration, maintenance and performance. Within that it will also cover specific areas such as Active Directory Domain Services (AD DS), Domain Name Services (DNS), Storage and many others.
This course is designed to provide foundational level knowledge needed to prepare students to start a career or cross train in Microsoft Windows Server technologies.

Prerequisites:

Candidates for this course are people who are starting out their career or looking to change careers into Windows Server Technologies and need the fundamental knowledge to help them achieve that. It would be of interest to home computer users, small business owners, academic students, information workers, developers, technical managers, help desk technicians or students who are looking to cross train from an alternative technology.
In addition to their professional experience, before attending this course, students must have:

- ·A good fundamental knowledge of general computing concepts.
- Knowledge equivalent to the MTA exam 98-349: Windows Operating System Fundamentals

Topics

Module 1: Installing and Configuring Windows Server 2012.

Lessons

- Installing Windows Server.
- Configuring Services.
- Configuring Peripherals and Devices.

Lab : Installing Windows Server

- Performing a Local Media-Based Installation.
- Configuring Windows Server.
- Converting Server Core.
- Configuring Services.
- Configuring Devices.

Module 2: Implementing Storage in Windows Server

Lessons

- Identifying Storage Technologies.
- Managing Disks and Volumes.
- Fault Tolerance.

Lab : Implementing Storage in Windows Server

- Creating and Mounting a VHD File.
- Creating a New Volume.
- Creating a Storage Pool Using VHDs.
- Implementing the Windows iSCSI Initiator.

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Module 3: Understanding Network Infrastructure

Lessons

- Network Architecture Standards.
- Local Area Networking.
- Wide Area Networking.
- Wireless Networking.
- Connecting to the Internet.
- Remote Access.

Lab : Selecting Network Infrastructure Components

- Determining Appropriate Network Components.

After completing this module, students will be able to:

- Describe physical network topologies and standards.
- Define LANs.
- Define WANs.
- Describe wireless networking technologies.
- Explain how to connect a network to the Internet.
- Describe how technologies connect remote access.

Module 4: Connecting Network Components

Lessons

- Understanding the OSI Model.
- Understanding Media Types.
- Understanding Adapters, Hubs, and Switches.
- Understanding Routing.

Lab : Connecting Network Components

- Determining the Appropriate Network Hardware.
- Selecting a Suitable Wiring Infrastructure.

Module 5: Implementing TCP/IP

Lessons

- Overview of TCP/IP.
- Understanding IPv4 Addressing.
- Configuring IPv4.
- Understanding IPv6.
- Name Resolution.

Lab : Implementing TCP/IP

- Determining an Appropriate IPv4 Addressing Scheme.
- Configuring IPv4 with Windows Server.
- Verifying the Configuration.
- Configuring and testing name resolution.
- Viewing the IPv6 Configuration.

Module 6: Implementing Windows Server Roles

Lessons

- Role Based Deployment.
- Deploying Role-Specific Services.
- Virtualizing Windows Server Roles.
- Best Practices for management of Windows Server Roles.

Lab : Implementing Server Roles

- Determining the Appropriate Roles to Deploy.

Lab : Implementing Virtualization

- Creating Virtual Hard Disks.
- Creating New Virtual Machines.
- Modifying Virtual Machine Settings.
- Deploying the Determined Server Roles Remotely on multiple Servers.

Module 7: Implementing Active Directory Domain Services

Lessons

- Introducing AD DS.
- Implementing AD DS.
- Managing Users, Groups, and Computers.

- Implementing Organizational Units.
- Implementing Group Policy.

Lab : Implementing AD DS

- Promoting a New Domain Controller.
- Creating an Organizational Unit.
- Configuring Accounts.
- Creating a GPO.

Module 8: Implementing IT Security Layers

Lessons

- Overview of Defense-in-Depth.
- Physical Security.
- Internet Security.

Lab : Implementing IT Security Layers

- Implementing Physical Security.
- Configuring Security Settings in Internet Explorer.

Module 9: Implementing Windows Server Security

Lessons

- Overview of Windows Security.
- Securing Files and Folders.
- Implementing Encryption.

Lab : Implementing Windows Security

- Configuring an Accounts Policy.
- Securing NTFS Files and Folders.
- Encrypting Files.

Module 10: Implementing Network Security

Lessons

- Overview of Network Security.
- Implementing Firewalls.

Lab : Implementing Network Security

- Configuring Windows Firewall with Advanced Security.
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Module 11: Implementing Security Software

Lessons

- Client Protection Features.
- E-Mail Protection.
- Server Protection.

Lab : Implementing Security Software

- Restricting Applications with AppLocker.
- Using the Security Configuration Wizard.
- Configure, Run and View Results from Best Practice Analyzer (BPA).

Module 12: Monitoring Server Performance

Lessons

- Windows Logs.
- Performance Monitoring.

Lab : Monitoring Server Performance

- Creating a Performance Baseline.
- Simulating a Server Load.
- Gathering Additional Performance Data.
- Determining Probable Performance Bottlenecks.

Module 13: Maintaining Windows Server

Lessons

- Troubleshooting Windows Server Startup.
- Server Availability and Data Recovery.
- Applying Updates to Windows Server.
- Troubleshooting Windows Server.

Lab : Maintaining Windows Server

- Troubleshooting the Startup Process.
- Configuring WSUS.
- Gathering Information to Start the Troubleshooting Process.