

MICROSOFT TECHNICAL

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The Art of Knowledge.

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Course Description: This five-day instructor-led course provides students with the knowledge and skills to manage accounts and resources in a Microsoft Windows Server 2003 environment. The course is intended for systems administrator and systems engineer candidates who are responsible for managing accounts and resources. These tasks include managing user, computer, and group accounts; managing access to network resources; managing printers; managing an organizational unit in a network based on Active Directory directory service; and implementing Group Policy to manage users and computers.

This is the first course in the Systems Administrator and Systems Engineer tracks for Windows Server 2003 and serves as the entry point for other courses in the Windows Server 2003 curriculum.

Who Should Attend: This course is intended for individuals who are employed as or seeking employment as a systems administrator or systems engineer.

Prerequisites: Before attending this course, students must have A+ certification, or equivalent knowledge and skills. Students must also have Network+ certification, or equivalent knowledge and skills.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Create and populate organizational units with user and computer accounts
- Manage user and computer accounts
- Create and manage groups
- Manage access to resources
- Implement printing
- Manage printing
- Manage access to objects in using organizational units
- Implement Group Policy
- Manage the user and computer environment by using Group Policy.
- Audit accounts and resources

Course Outline:

Introduction to Administering Accounts and Resources

Multimedia: Introduction to Administering Accounts and Resources

The Windows Server 2003 Environment
 Logging on to Windows Server 2003
 Using the Run As Feature for Administration
 Installing and Configuring Administrative Tools
 Creating an Organizational Unit
 Lab: Creating Organizational Units
 Creating an Organizational Unit

Managing User and Computer Accounts

Creating User Accounts
 Creating Computer Accounts
 Modifying User and Computer Account Properties
 Creating a User Account Template
 Managing User and Computer Accounts
 Using Queries to Locate User and Computer Accounts in Active Directory
 Lab: Managing User and Computer Accounts
 Creating User Accounts
 Creating Computer Accounts
 Using Queries to Locate Objects
 Modifying User and Computer Properties

Managing Groups

Creating groups
 Managing group membership
 Strategies for using groups
 Using default groups
 Lab: Creating and Managing Groups
 Creating Global and Domain Local Groups
 Managing Group Membership
 Managing Default Groups

Managing Access to Resources

Overview of Managing Access to Resources
 Managing Access to Shared Folders
 Managing Access to Files and Folders Using NTFS Permissions
 Determining Effective Permissions
 Managing Access to Shared Files Using Offline Caching
 Lab: Managing Access to Resources
 Creating and Sharing Folders
 Configuring NTFS Permissions
 Publishing Shared Folders
 Testing Permissions
 Configuring Automatic Caching

Implementing Printing

Multimedia: Introduction to Printing in the Windows Server 2003 Family
 Installing and Managing Access to Printers
 Managing Printer Drivers
 Implementing Printer Locations
 Lab A: Implementing Printing
 Installing Printers and Setting Printer Locations and Permissions
 Searching for Printers and Testing Permissions

Managing Printing

Changing the Location of the Print Spooler
 Setting Printer Priorities and Scheduling Printer Availability
 Configuring a Printing Pool and Redirecting Print Queues
 Lab: Managing Printing
 Installing Printers and Creating a Printing Pool
 Setting Printer Priorities and Availability

Managing Access to Objects in Organizational Units

Modifying Permissions for Active Directory Objects
 Delegating Control of Organizational Units
 Lab: Managing Access to Objects in Organizational Units
 Modifying the Delegation of Control Wizard and Delegating Permissions
 Testing the Delegated Permissions
 Granting Permissions to the Legal Organizational Unit and Creating a Taskpad
 Testing the Delegated Permissions

Implementing Group Policy

Implementing Group Policy Objects
 Implementing GPOs on a Domain
 Managing the Deployment of Group Policy
 Lab: Implementing a GPO
 Disabling and Deleting a GPO
 Creating and Linking Multiple GPOs
 Filtering the GPOs to Exempt Selected Users
 Backing Up and Importing GPO Settings

Managing the User Environment by Using Group Policy

Configuring Group Policy Settings
 Assigning Scripts with Group Policy
 Restricting Group Membership and Access to Software
 Configuring Folder Redirection
 Determining Applied GPOs
 Lab: Managing the User Environment by Using Group Policy
 Creating and Applying a GPO to the Graphics Organizational

Unit

Assigning a Logon Script to Connect to a Printer
 Using a GPO to Configure the Members of the Backup Operators Group
 Using the Group Policy Results Wizard to Verify the Policy Settings

Implementing Administrative Templates and Audit Policy

Overview of Security in Windows Server 2003
 Using Security Templates to Secure Computers
 Testing Computer Security Policy
 Configuring Auditing
 Managing Security Logs
 Lab: Managing Security Settings
 Creating a Custom Security Template
 Importing and Deploying the Custom Template

Course Description: This three-day instructor-led course provides students with the knowledge and skills that are needed to effectively maintain server resources, monitor server performance, and safeguard data on a computer running one of the operating systems in the Microsoft Windows Server 2003 family.

Who Should Attend: This course is intended for individuals who are employed as or seeking employment as a systems administrator or systems engineer.

Prerequisites: Before attending this course, students must have completed a course in Managing a Microsoft Windows Server 2003 Environment, or have equivalent knowledge and skills.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Prepare to administer server resources
- Configure a server to monitor system performance
- Monitor system performance
- Manage device drivers by configuring device driver signing and restoring a device driver
- Manage hard disks
- Manage data storage
- Manage disaster recovery.
- Maintain software by using Microsoft Software Update Services
- Maintain Windows Server 2003 security.

Course Outline:

Preparing to Administer a Server

Introduction to Administering a Server
 Configuring Remote Desktop to Administer a Server
 Managing Remote Desktop Connections
 Lab A: Preparing to Administer a Server
 Enabling Remote Desktop
 Creating a Shared Folder on a Remote Computer
 Connecting to a Remote Console Session
 Creating runas Shortcuts to Administration Tools

Preparing to Monitor Server Performance

Introduction to Monitoring Server Performance
 Performing Real-Time and Logged Monitoring
 Configuring and Managing Counter Logs
 Configuring Alerts
 Lab A: Preparing to Monitor Server Performance
 Selecting the Appropriate Monitoring Technique

Monitoring Server Performance

Multimedia: The Primary Server Subsystems
 Monitoring Server Memory
 Monitoring Processor Usage
 Monitoring Disks
 Monitoring Network Usage
 Monitoring Best Practices
 Lab A: Monitoring Server Performance
 Create and Configure Alerts
 Configure the Messaging Service
 Finding a High CPU Usage Process
 Finding a High Memory Usage Process

Maintaining Device Drivers

Configuring Device Driver Signing Options
 Using Device Driver Rollback

Managing Disks

Preparing Disks
 Managing Disk Properties
 Managing Mounted Drives
 Converting Disks
 Creating Volumes
 Creating Fault-Tolerant Volumes
 Importing a Foreign Disk
 Lab A: Managing Disks
 Recovering from a Failed Mirrored Drive

Managing Data Storage

Managing File Compression
 Configuring File Encryption
 Configuring EFS Recovery Agents
 Implementing Disk Quotas
 Lab A: Managing Data Storage
 Troubleshooting Disk-Quota Entries
 Recovering an Encrypted File

Managing Disaster Recovery

Preparing for Disaster Recovery
 Backing Up Data

Scheduling Backup Jobs
 Restoring Data
 Configuring Shadow Copies
 Recovering from Server Failure
 Lab A: Managing Disaster Recovery
 Backing Up the System State Data
 Recovering from a Corrupt Registry by Using Last Known Good Configuration
 Recovering from a Corrupt Registry by Restoring System State Data

Software Maintenance Using Windows Server Update Services

Introduction to Windows Server Update Services
 Installing and Configuring Windows Server Update Services
 Managing Windows Server Update Services
 Lab A: Software Maintenance Using Windows Server Update Services
 Create a Test Computer Group
 View the Status of Updates and Computers
 Back up WSUS

Software Maintenance Using Windows Server Update Services

Introduction to Securing Servers
 Implementing Core Server Security
 Hardening Servers
 Microsoft Baseline Security Analyzer
 Lab A: Software Maintenance Using Windows Server Update Services
 Using the Security Configuration Wizard
 Configuring a Group Policy Object for Member Servers
 Scanning a Range of Computers by Using MBSA

Course Description: This five-day, instructor-led course provides students with the knowledge and skills to implement, manage, and maintain a Microsoft Windows Server 2003 network infrastructure. The course is intended for systems administrator and systems engineer candidates who are responsible for implementing, managing, and maintaining server networking technologies. These tasks include implementing routing; implementing, managing, and maintaining Dynamic Host Configuration Protocol (DHCP), Domain Name System (DNS), and Windows Internet Name Service (WINS); securing Internet Protocol (IP) traffic with Internet Protocol security (IPSec) and certificates; implementing a network access infrastructure by configuring the connections for remote access clients; and managing and monitoring network access. This is the fourth course in the Systems Administrator and Systems Engineer track for Windows Server 2003, and it is the final course in the Systems Administrator track.

Who Should Attend: This course is intended for individuals who are employed as or seeking employment as a systems administrator or systems engineer.

Prerequisites: Before attending this course, students must have completed Implementing a Microsoft Windows Server 2003 Network Infrastructure: Network Hosts, or have equivalent knowledge and skills.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Allocate IP addressing by using DHCP
- Manage and monitor DHCP
- Resolve names
- Resolve host names by using DNS
- Manage the integration of Active Directory and DNS
- Manage and monitor DNS
- Resolve network basic input/output system (NetBIOS) names by using WINS
- Secure network traffic by using IPSec and certificates
- Configure routing by using the Routing and Remote Access service
- Configure network access
- Manage and monitor network access

Course Outline:

Allocating IP Addressing by Using Dynamic Host Configuration Protocol (DHCP)

Multimedia: The Role of DHCP in the Network Infrastructure
 Adding and Authorizing a DHCP Server Service
 Configuring a DHCP Scope
 Configuring DHCP Reservations and Options
 Configuring a DHCP Relay Agent
 Lab A: Identifying and Resolving Common Issues When Allocating IP Addressing by Using DHCP
 Identifying and Resolving Common Issues When Allocating IP Addressing by Using DHCP

Managing and Monitoring Dynamic Host Configuration Protocol (DHCP)

Managing a DHCP Database
 Monitoring DHCP
 Applying Security Guidelines for DHCP
 Lab A: Managing and Monitoring DHCP
 Managing and Monitoring DHCP

Resolving Names

Multimedia: Introduction to the Name Resolution Process
 Viewing Names on a Client
 Configuring Host Name Resolution
 Configuring NetBIOS Name Resolution
 Lab A: Resolving Names
 Troubleshooting Name Resolution

Resolving Host Names by Using Domain Name System (DNS)

Multimedia: The Role of DNS in the Network Infrastructure
 Installing the DNS Server Service
 Configuring the DNS Server Service
 Configuring the DNS Zones
 Configuring DNS Zone Transfers
 Configuring a DNS Client
 Lab A: Resolving Host Names by Using Domain Name System
 Implementing a DNS Infrastructure

Integrating Domain Name System and Active Directory

Configuring Active Directory Integrated Zones
 Configuring DNS Dynamic Updates
 Understanding How Active Directory Uses DNS
 Lab A: Integrating DNS and Active Directory
 Configuring Active Directory Integrated DNS Zones

Managing and Monitoring Domain Name System (DNS)

Managing DNS Records
 Testing the DNS Server Configuration
 Monitoring DNS Server Performance
 Lab A: Managing and Monitoring DNS

Managing and Monitoring DNS

Resolving NetBIOS Names by Using Windows Internet Name Service (WINS)

Multimedia: The Role of WINS in the Network Infrastructure
 Installing and Configuring a WINS Server
 Managing Records in WINS
 Configuring WINS Replication
 Managing the WINS database

Configuring Routing by Using Routing and Remote Access

Multimedia: The Role of Routing in the Network Infrastructure
 Enabling and Configuring the Routing and Remote Access Service
 Configuring Packet Filters
 Lab A: Configuring Routing by Using Routing and Remote Access
 Configure Routing and Remote Access
 Plan a Routing Topology

Securing Network Traffic by Using IPSec and Certificates

Implementing IPSec
 Understanding IPSec Deployment Scenarios
 Monitoring IPSec

Configuring Network Access

Introduction to a Network Access Infrastructure
 Configuring VPN Access
 Configuring Dial-up Access
 Configuring Wireless Access
 Controlling User Access to a Network
 Centralizing Network Access Authentication by Using IAS
 Protecting Remote Access by Using Network Access Quarantine

Managing and Monitoring Network Access

Managing the Network Access Services
 Configuring Logging on a Network Access Server
 Collecting and Monitoring Network Access Data
 Lab A: Managing and Monitoring Remote Access
 Monitoring a Remote Access Server

Course Description: This five-day instructor-led course includes self-paced and instructor-facilitated components. It provides students with the knowledge and skills to successfully plan, implement, and troubleshoot a Microsoft Windows Server 2003 Active Directory directory service infrastructure. The course focuses on a Windows Server 2003 directory service environment, including forest and domain structure, Domain Name System (DNS), site topology and replication, organizational unit structure and delegation of administration, Group Policy, and user, group, and computer account strategies.

Who Should Attend: This course is appropriate for individuals who are employed or seeking a position as a systems engineer. This course is also appropriate for individuals who currently support a competitive platform who want to enhance their skills using Windows Server 2003 Active Directory.

Professionals who take this course should be new to implementing Windows Server 2003 Active Directory and be preparing for MCP exam 70-294: Planning, Implementing, and Maintaining a Microsoft Windows Server 2003 Active Directory Infrastructure, which is a core requirement for the MCSE certification.

Prerequisites: Before attending this course, students must have completed a course in Planning and Maintaining a Windows Server 2003 Network Infrastructure, or have the equivalent knowledge and skills.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Describe the logical and physical components of Active Directory
- Create and configure a forest and domain structure by using an Active Directory infrastructure design
- Plan and implement an organizational unit structure
- Plan and implement Active Directory user, group, and computer accounts
- Plan and implement a Group Policy strategy to centrally manage users and computers in an enterprise
- Deploy, manage, and troubleshoot software that is deployed using Group Policy
- Implement sites to manage and monitor Active Directory replication
- Plan and implement the placement of domain controllers, global catalog servers, and DNS servers that are integrated with Active Directory
- Plan and manage operations masters
- Back up, restore, and maintain Active Directory

Course Outline:

Introduction to Active Directory Infrastructure

The Architecture of Active Directory
How Active Directory Works
Examining Active Directory
The Active Directory Design, Planning, and Implementation Processes

Implementing an Active Directory Forest and Domain Structure

Creating a Forest and Domain Structure
Examining and Configuring Active Directory Integrated DNS
Raising Forest and Domain Functional Levels
Creating Trust Relationships
Lab A: Implementing Active Directory

Implementing an Organizational Unit Structure

Creating and Managing Organizational Units
Delegating Administrative Control for Organizational Units
Planning an Organizational Unit Strategy
Lab A: Implementing an Organizational Unit Structure

Implementing User, Group, and Computer Accounts

Introduction to Accounts
Creating and Managing Multiple Accounts
Implementing User Principal Name Suffixes
Moving Objects in Active Directory
Planning an Account Strategy
Planning an Active Directory Audit Strategy
Lab A: Implementing an Account and Audit Strategy

Implementing Group Policy

Creating and Configuring Group Policy objects (GPOs)
Configuring Group Policy Refresh Rates and Group Policy Settings
Managing GPOs
Verifying and Troubleshooting Group Policy

Delegating Administrative Control of Group Policy
Planning a Group Policy Strategy for the Enterprise
Lab A: Implementing Group Policy

Deploying and Managing Software by Using Group Policy

Introduction to Managing Software Deployment
Deploying Software
Configuring Software Deployment
Maintaining Deployed Software
Troubleshooting Software Deployment
Planning a Software Deployment Strategy
Lab A: Deploying and Managing Software Using Group Policy

Implementing Sites to Manage Active Directory Replication

Introduction to Active Directory Replication
Creating and Configuring Sites
Managing Site Topology
Troubleshooting Replication Failures
Planning a Site
Lab A: Implementing Sites to Manage Active Directory Replication

Implementing the Placement of Domain Controllers

Implementing the Global Catalog in Active Directory
Determining the Placement of Domain Controllers in Active Directory
Planning the Placement of Domain Controllers
Lab A: Implementing the Placement of Domain Controllers

Managing Operations Masters

Introduction to Operations Master Roles
Transferring and Seizing Operations Master Roles
Planning the Placement of Operations Masters
Lab A: Managing Operations Masters

Maintaining Active Directory Availability

Introduction to Maintaining Active Directory
Moving and Defragmenting an Active Directory Database
Backing Up Active Directory
Restoring Active Directory
Planning for Monitoring Active Directory
Lab A: Maintaining Active Directory

Planning and Implementing an Active Directory Infrastructure

Creating an Active Directory Implementation Plan for Tailspin Toys
Implementing the Active Directory Infrastructure for Tailspin Toys
Lab A: Creating the Active Directory Implementation Plan for Tailspin Toys
Lab B: Implementing the Active Directory Infrastructure for Tailspin Toys

Course Description: This five-day instructor-led course provides students with the knowledge and skills to work with Network Infrastructure and Active Directory technologies in Windows Server 2008. This course is intended for individuals who already have experience with Network Infrastructure and Active Directory technologies in Windows Server 2000 or Windows Server 2003 to upgrade their skills to Windows Server 2008.

Who Should Attend: This course is intended for IT Professionals experienced on the technologies included in Windows Server 2000 or Windows Server 2003, and who hold an MCSE or MCSA certification and/or equivalent knowledge.

Prerequisites: Before attending this course, students must have experience planning, implementing, managing, maintaining, and securing Microsoft Windows Server 2000 or 2003, including Active Directory and Network Infrastructure server roles. Students should also have working knowledge of networking, for example, TCP/IP and Domain Name System (DNS). In addition, students should have experience installing, configuring, and administering Microsoft Windows 2000, Windows XP Professional, or Microsoft Vista. MCSA on Windows Server 2003 or MCSE on Windows Server 2003 is recommended.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Install and configure Windows Server 2008.
- Add and configure Windows Server Core roles.
- Explain the new backup infrastructure, including Volume Shadow Copy Service.
- Identify new and improved networking features with Windows Server 2008.
- Configure Hyper-V virtual machines.
- Identify considerations when upgrading from a Windows Server 2003 to a Windows Server 2008 Active Directory infrastructure.
- Install and configure Active Directory Federation Services, Active Directory Lightweight Directory Services, and Active Directory Rights Management Services.
- Use Read-Only Domain Controllers.
- Identify new features in AD DS auditing.
- Implement AD DS auditing.
- Configure Windows Server 2008 Failover Clustering.
- Configure Windows Server 2008 Network Load Balancing.

Course Outline:

Module 1: Installing and Configuring Windows Server 2008

Server Manager Roles
Windows Server 2008 Features
Active Directory Improvements
Lab : Configuring Windows Server 2008
Initial Configuration Tasks
Server Manager Console
Server Manager Wizards
Windows PowerShell

Module 2: Windows Deployment Services

Introducing Windows Deployment Services
WDS Components
Lab : Working With Windows Deployment Services
Install and Configure Windows Deployment Services
Working with Images
Creating Images
Using Unattend Files

Module 3: Windows Server 2008 Server Core

Server Core Introduction
Configuring and Managing Server Core
Lab : Server Core
Installing Windows Server Core
Configure Server Core
Add and Configure Server Roles
Add Backup Feature
Managing Server Core

Module 4: Windows Backup

Backup Infrastructure
Optical Media
Restore Utilities
Lab : Backup and Restore System Data
Perform Installation Tasks
Schedule a Backup
Create a Manual Backup
Schedule Daily AD DS Backup via Command Line
Backup and Recovery with Vista Client
Restore Files and Folders
Perform Windows RE Tasks

Module 5: Windows Server 2008 Updates to Networking

Networking with Windows Server 2008
New Networking Features
DNS with Windows Server 2008
Configuring Routing
Configuring Wireless Settings in Server 2008
Lab : Reviewing Networking Defaults and Settings
Review the Network Center
Creating Domain Isolation Policies
Create a Centralized QoS Policy
Communicate with Link-Local Addresses
Lab : DNS Management Settings
Creating Zones in Windows Server 2008
Create Resource Records
Configure Zone Transfers

Module 6: Network Policies and Access Protection

Network Policies Access Protection
Enforcement Options
Network Access Protection Scenarios
Routing and Remote Access
Lab : Using Network Access Protection
Configuring Network Access Protection for DHCP
Configuring Network Access Protection for VPN
Configuring Network Access Protection for IPsec

Module 7: Hyper-V

Introducing Hyper-V
Configuring Hyper-V
Lab : Configuring Hyper-V
Install and Configure Hyper-V
Configure Virtual Networks
Add Virtual Machines
Monitoring and Optimization

Module 8: Planning for Windows Server 2008 Active Directory Services

Planning for AD DS Deployment
Upgrade Considerations
Lab : Installing a Windows Server 2008 Forest
Install a New Forest
Lab : Installing Windows Server 2008 in an Existing Forest
Install a Windows Server 2008 DC in an Existing Forest
Verify Active Directory Installation

Module 9: Active Directory Domain Services

What's New in AD DS
Manageability and Reliability
Lab : Exploring Active Directory Domain Services
Create Accounts
Review Operations Masters Role
Review Sites
Working with Subnets
Working with Site-Links
AD DS and Group Policy
Review DNS Configuration

Module 10: Identity and Access Services in Windows Server 2008 Active Directory

Active Directory Federation Services for identity access solution.
Active Directory Lightweight Directory Services (replaces Active Directory Account Management with Windows Server 2003), providing directory services for applications.
Active Directory Right Management Services, enabling the creation of information-protection solutions.
Active Directory Federation Services
Active Directory Lightweight Directory Services
Active Directory Rights Management Services
Lab : Active Directory Federation Services
Install AD FS
Configure Certificates
Configure Web Server
Configure the Account Federation Server

Configure the Resource Federation Server
Access Application from Client Computer

Module 11: Read-Only Domain Controllers

Read-Only Domain Controllers
Read-Only Domain Controller Operation
Lab : Read-Only Domain Controllers
Deploying an RODC
Administering an RODC

Module 12: Auditing Active Directory Domain Services Changes

What's New in AD DS Auditing
Implementing AD DS Change Auditing
Lab : Using AD DS Auditing
Set-up AD DS Auditing
Create and View Auditing Events

Module 13: Enterprise PKI Active Directory Certificate Services (AD CS)

Certificate Authority
Lab : PKI Enhancements in Windows Vista and Windows Server 2008
Add a Certificate Server Role
Exploring New Enrollment UI
Introducing CA performance monitors UI
Exploring delegated enrollment UI
Introducing OCSP configuration UI
Explore Certificate Revocation

Module 14: High Availability Features

Failover Clustering
Network Load Balancing
Lab : High Availability Features
Installing a Two-Node File Server Cluster
Configure Network Load Balancing with IIS

Module 15: Performance Monitoring and Optimization

Windows Reliability and Performance Monitor
Microsoft Windows System Resource Manager
Monitoring Events
Lab : Performance Monitoring and Optimization
Reviewing Performance and Reliability Monitoring
Key Scenarios for Monitoring Performance and Reliability
Add Windows System Resource Manager Feature
Windows System Resource Manager Scenarios
Configure Windows System Resource Manager for Terminal Services

Module 16: Software Maintenance Using Windows Server Update Services

Introduction to Windows Server Update Services
Installing and Configuring Windows Server Update Services
Managing Windows Server Update Services
Lab : Installing and Configuring Windows Server Update Services
Install Prerequisites
Install WSUS
Restore a WSUS Installation
Create a Computer Group and Manage Updates

Course Description: This three day instructor led course provides students with an understanding of Applications Infrastructure technologies in Windows Server 2008. This course is intended to allow individuals who already have experience with Applications Infrastructure technologies in Windows 2000 Server or Windows Server 2003 to upgrade their skills to Windows Server 2008.

Who Should Attend: This course is intended for IT Professionals experienced on the technologies included in Windows Server 2000 and Windows Server 2003, and who hold an MCSE or MCSA certification and/or equivalent knowledge.

Prerequisites: Before attending this course, students must have one or more of the following: On-the-job experience in planning, implementing, managing, or supporting Microsoft Windows Server 2000 or 2003, including Active Directory and Network Infrastructure; Working knowledge of networking, for example, TCP/IP and Domain Name System (DNS); Designed a Microsoft Windows Server 2003 Active Directory and Network Infrastructure; Designed Security for a Microsoft Windows Server 2003 Network; or Installed, Configured, and Administered Microsoft Windows 2000, Windows XP Professional, or Microsoft Vista.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Configure and use Windows Server as an application server with new Server Roles.
- Use new features in IIS 7.0 Application Server, including the new modular configuration system.
- Manage Web Applications with IIS 7.0.
- Troubleshoot IIS 7.0-based Web servers with automatic failed request tracing and other included features and tools.
- Plan for Windows SharePoint Services 3.0 implementation in a variety of network environments.
- Configure and manage Windows SharePoint Services 3.0 from initial setup through troubleshooting and day-to-day operation.
- Use new features in Terminal Services and describe Terminal Services Licensing.
- Use and manage Terminal Services remote programs and gateways, including troubleshooting and performance optimization.
- Configure disk storage in Windows Server 2008.

Course Outline:

Module 1: Server Roles and Initial Configuration Tasks

Application Server Roles
Application Server Features
Implement a Volume Licensing Strategy using KMS and MAK
Lab : Server Roles and Configuration Tasks
Perform Initial Configuration Tasks
Add Windows Features

Module 2: Overview of IIS 7.0 Application Server

Review SMTP in Windows Server 2008
Key Improvements in IIS 7.0
IIS 7.0 Configuration System
Adding the SMTP Feature
Lab : Introducing IIS 7.0
Adding the Web Server Role and Additional Services
Reviewing the IIS 7.0 Administration Interface
Add an ASP.NET Application

Module 3: Managing Web Applications with IIS 7.0

Managing IIS 7.0
Using Hierarchical Configuration Settings
Delegating Configuration to Non-Administrator Users
Lab : Managing Web Applications with IIS 7.0
Using IIS 7.0 Configuration Files to Control Delegation
Extending the User Interface with Custom Features
Controlling Delegation Using Locking
Using IIS 7.0 to Configure SSL

Module 4: Troubleshooting Web Servers

Troubleshooting IIS 7.0
Using the Runtime Control and Status API
Using Automatic Failed Request Tracing
Adding Trace Events to Managed Modules
Lab : Troubleshooting Web Servers
Tracing Failed Requests
Using RSCA to View Executing Requests
Using Managed APIs to Access RSCA Data
Using Trace Events in ASPX Pages
Adding Trace Events to Managed Modules

Module 5: Introduction to the Windows SharePoint Services 3.0 Platform

Overview of Windows SharePoint Services
Collaborative Technologies with WSS
Planning the WSS 3.0 Environment
Installing and Configuring WSS 3.0
Lab : Introduction to the Windows SharePoint Services 3.0 Platform
Installing and Configuring the Central Administration Site
Creating a Site Connection

Module 6: Configuring and Managing Windows SharePoint Services 3.0

Creating and Configuring Sites2
Managing Windows SharePoint Services 3.0
Lab : Configuring and Managing Windows SharePoint Services 3.0
Starting the Windows SharePoint Services Search Service
Configuring Alternate Access Mappings
Managing Site Settings
Troubleshooting WSS 3.0 Server Performance Issues

Module 7: Configuring Terminal Services

Terminal Services Overview
Terminal Services Core Functionality
Terminal Services Web Access
Terminal Services Licensing
Lab : Exploring Terminal Services
Installing Terminal Services
Remote Desktop Connection
Configure TS Web Access

Module 8: Managing Terminal Services

Terminal Services RemoteApp Programs
Terminal Services Gateway
Managing Terminal Services
Lab : Managing Terminal Services
Using Terminal Services RemoteApp Programs
Configuring Terminal Services Gateway
Managing TS Remote Programs
Managing Terminal Server
Optimizing Terminal Services Performance

Module 9: Configuring Storage

Preparing Disks
Managing Disk Properties
Managing Mounted Drives
Converting Disks
Creating Volumes
Creating Fault-Tolerant Volumes
Lab : Configuring Storage
Configure partitions and file systems
Configure Volumes

Course Description: This 3-day, instructor-led course provides students with an understanding of migrating and deploying Windows Server 2008, including installation, configuration, and upgrading. Special emphasis is given to upgrading common server configurations and using the Windows Server Deployment Solution Accelerator.

Who Should Attend: This course is intended for IT Professionals who are experienced with Windows 2000 Server and/or Windows Server 2003, who hold an MCSE or MCSA certification, or have equivalent knowledge.

Prerequisites: Before attending this course, students must have one or more of the following: on-the-job experience in planning, implementing, managing, or supporting Windows Server 2000 or Windows Server 2003, including Active Directory and Network Infrastructure, working knowledge of networking, for example, TCP/IP and Domain Name System (DNS), experience with a Microsoft Windows Server 2003 Active Directory and Network Infrastructure, experience with implementing security for a Microsoft Windows Server 2003 Network, or experience installing, configuring, and administering Microsoft Windows Server 2003, Windows XP, or Windows Vista.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Install Windows Server 2008.
- Perform initial configuration tasks for Windows Server 2008.
- Conduct an unattended install of Windows Server 2008.
- Configure Windows Server Core 2008.
- Use Windows Deployment Services to deploy Windows Server 2008.
- Utilize Windows Server Deployment.
- Upgrade to Windows Server 2008 from Windows Server 2003.
- Upgrade Active Directory to Windows Server 2008.
- Upgrade Windows Server 2003 File and Print servers to Windows Server 2008.
- Upgrade Windows Server 2003 Application and Web servers to Windows Server 2008.
- Upgrade Windows Server 2003 Branch Office servers to Windows Server 2008.
- Implement a Volume Licensing Strategy using KMS and MAK.

Course Outline:

Module 1: Windows Server 2008 Installation & Configuration

Improvements in setup from Windows 2003 to Windows Server 2008 and Windows 2008 installation requirements
Windows Server 2008 Server Core installation
Implement a volume license strategy using KMS and MAK
Lab 1: Install Windows Server 2008
Install Windows Server 2008
Install Windows Server Core 2008

Module 2: Windows Server Core 2008 Configuration

Basic Server Core command-line configuration tasks
Configuring the roles available on Server Core
Lab 1: Configure Windows Server Core 2008
Perform command-line configuration tasks
Configure Server Core roles

Module 3: Windows Server 2008 Unattended Installation

Unattended 2008 Install
Unattended deployment infrastructure
Unattended domain controller installation
Lab 1: Deploying Windows Server 2008 Using an Unattend File
Deploying Windows Server 2008 using an Unattend file
Lab 2: Install Active Directory on Server Core Using an Unattend file
Install Active Directory on Server Core using an Unattend file
Lab 3: Deploy an RODC in a Branch Office Using an Unattend File
Deploy an RODC in a branch office using an Unattend File
Configuring BitLocker on a branch office server

Module 4: Using Windows Deployment Services

Working with the WIM format
Windows Deployment Services
Lab 1: Working with Windows Deployment Services
Configure WDS
Create images with WDS
Associate a language pack with an image
Deploy an image with WDS
Using Unattend file with WDS to deploy images
Custom computer naming

Module 5: Windows Server Deployment (WSD) Solution Accelerator

Introduction to WSD Solution Accelerator
Creating Custom Windows Server 2008 builds
Guidance for Zero-Touch deployment using WSD
Lab 1: Working with WSD
WSD Overview
Configuring WSD for deployment
Creating and customizing a Windows Server 2008 build

Creating and sharing deploy points
Modifying the CustomSettings.ini file
Use the Deployment Workbench to build and capture the reference computer
Deploying Windows Server 2008 using WSD 2007 (includes procedures for custom computer naming)

Module 6: Upgrading and Migrating Active Directory

Windows Server 2008 upgrade overview
Upgrading Windows Server 2003 domain controllers to Windows Server 2008 Domain Controllers
Active Directory upgrade best practices
Lab 1: Upgrading Windows Server 2003 Domain Controllers to Windows Server 2008 Domain Controllers
Upgrading Windows Server 2003 domain controllers to Windows Server 2008 domain controllers
Lab 2: Using WSD to deploy an RODC to a branch office
Using WSD to deploy an RODC to a branch office

Module 7: Upgrading File and Print Servers

Upgrading file and print servers
Best practices for upgrading a Windows Server 2003 file and print server to Windows Server 2008
Lab 1: Upgrading a Windows Server 2003 File and Print Server to Windows Server 2008
Upgrading a Windows Server 2003 File and Print Server to Windows Server 2008

Module 8: Upgrading Application and Web Servers

Upgrading application and Web servers
Best practices for upgrading a Windows Server 2003 application and Web server to Windows Server 2008
Lab 1: Upgrading a Windows Server 2003 Web Server to Windows Server 2008 and IIS 7.0
Upgrading a Windows Server 2003 Web Server to Windows Server 2008 and IIS 7.0
Lab 2: Upgrading a Windows Server 2003 Terminal Server to Windows Server 2008
Upgrading a Windows Server 2003 terminal server to Windows Server 2008

Module 9: Upgrading Branch Office Servers

Migrating or upgrading a Windows Server 2003 branch office server to Windows Server 2008
Low-touch branch office server deployment
Lab 1: Upgrading a Windows Server 2003 Branch Office Server to Windows Server 2008
Upgrading a Windows Server 2003 branch office server to Windows Server 2008

Module 10: Migrating Workloads to Microsoft Virtual Machines

Microsoft Server Virtualization
Migrating Workloads to Microsoft Virtual Machines
Lab 1: Migrating Workloads to Microsoft Virtual Server Using VSMT
Migrate a Windows NT 4.0 server to a virtual machine

Course Description: This five-day instructor-led course provides students with the knowledge and skills to configure and troubleshoot a Windows Server 2008 network infrastructure. Students will learn to implement and configure secure network access and implement fault tolerant storage technologies. Students will gain an understanding of the network technologies most commonly used with Windows Server 2008 and IP-enabled networks. Students will also learn how to secure servers and maintain update compliance.

Who Should Attend: The primary audience for this course includes Active Directory technology specialists aspiring to be Enterprise Administrators (Tier 4 daily network operations) or Network Administrators (Tier 2). Experienced Server Administrators who aspire to be Enterprise Administrators will also benefit from this course. The secondary audience for this course includes Storage Area Network Administrators who need to understand this information to deploy or extend their current storage infrastructure. Operations Managers who need this information to support troubleshooting efforts and business decisions will also benefit from this course.

Prerequisites: Before attending this course, students must have working experience with Windows Server 2003, basic knowledge of Active Directory, an understanding of security concepts and methodologies (for example, corporate policies), and basic knowledge of DHCP and IPsec.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Install and configure servers.
- Configure and troubleshoot DNS.
- Configure and manage WINS.
- Configure and troubleshoot DHCP.
- Configure and troubleshoot IPv6 TCP/IP.
- Configure and troubleshoot Routing and Remote Access.
- Install, configure, and troubleshoot the Network Policy Server Role service.
- Configure Network Access Protection.
- Configure IPsec.
- Monitor and troubleshoot IPsec.
- Configure and manage Distributed File System.
- Configure and manage storage technologies.
- Configure availability of network resources and content.
- Configure server security compliance.

Course Outline:

Module 1: Installing and Configuring Servers

Installing Windows Server 2008
Managing Server Roles and Features
Overview of the Server Core Installation Option
Lab: Installing and Configuring Servers and Server Roles
Exercise 1: Identifying Server Types
Exercise 2: Installing and Configuring Server Roles and Features
Exercise 3: Configuring Server Core and Performing Basic Management Tasks

Module 2: Configuring and Troubleshooting DNS

Installing the DNS Server Role
Configuring the DNS Server Role
Configuring DNS Zones
Configuring DNS Zone Transfers
Managing and Troubleshooting DNS
Lab: Configuring and Verifying a DNS Solution
Exercise 1: Configuring a DNS Infrastructure
Exercise 2: Monitoring and Troubleshooting DNS

Module 3: Configuring and Managing WINS

Overview of the Windows Internet Name Service
Managing the WINS Server
Configuring WINS Replication
Migrating from WINS to DNS
Lab: Configuring a WINS Infrastructure
Exercise 1: Installing WINS
Exercise 2: Configuring WINS Burst Handling
Exercise 3: Configuring WINS Replication
Exercise 4: Migrating from WINS to DNS

Module 4: Configuring and Troubleshooting DHCP

Overview of the DHCP Server Role
Configuring DHCP Scopes and Options
Managing a DHCP Database
Monitoring and Troubleshooting DHCP
Securing DHCP
Lab: Configuring and Troubleshooting the DHCP Server Role
Exercise 1: Installing and Authorizing the DHCP Server Role
Exercise 2: Configuring a DHCP Scope
Exercise 3: Troubleshooting Common DHCP Issues

Module 5: Configuring and Troubleshooting IPv6 TCP/IP

Overview of IPv6
Coexistence with IPv6
IPv6 Tunneling Technologies
Transitioning from IPv4 to IPv6
Troubleshooting IPv6
Lab A: Configuring an ISATAP Router
Exercise 1: Configuring a New IPv6 Network and Client
Exercise 2: Configuring an ISATAP Router to Enable Communication Between an IPv4 Network and an IPv6 Network
Lab B: Converting the Network
Exercise 1: Transitioning to an IPv6-Only Network

Module 6: Configuring and Troubleshooting Routing and Remote Access

Configuring Network Access
Configuring VPN Access
Overview of Network Policies
Overview of the Connection Manager Administration Kit

Troubleshooting Routing and Remote Access

Lab: Configuring and Managing Network Access
Exercise 1: Configuring Routing and Remote Access as a VPN Remote Access Solution
Exercise 2: Configuring a Custom Network Policy
Exercise 3: Configuring Logging
Exercise 4: Configuring a Connection Profile

Module 7: Installing, Configuring, and Troubleshooting the Network Policy Server Role Service

Configuring RADIUS Clients and Servers
NPS Authentication Methods
Monitoring and Troubleshooting a Network Policy Server
Lab: Configuring and Managing Network Policy Server
Exercise 1: Installing and Configuring the Network Policy Server Role Service
Exercise 2: Configuring a RADIUS Client
Exercise 3: Configuring Certificate Auto-Enrollment

Module 8: Configuring Network Access Protection

Overview of Network Access Protection
How NAP Works
Configuring NAP
Monitoring and Troubleshooting NAP
Lab: Configuring NAP for DHCP and VPN
Exercise 1: Configuring NAP for DHCP Clients
Exercise 2: Configuring NAP for VPN Clients

Module 9: Configuring IPsec

Overview of IPsec
Configuring Connection Security Rules
Configuring IPsec NAP Enforcement
Lab: Configuring IPsec NAP Enforcement
Exercise 1: Preparing the Network Environment for IPsec NAP Enforcement
Exercise 2: Configuring and Testing IPsec NAP Enforcement

Module 10: Monitoring and Troubleshooting IPsec

Monitoring IPsec Activity
Troubleshooting IPsec
Lab: Monitoring and Troubleshooting IPsec
Exercise 1: Monitoring IPsec Connectivity
Exercise 2: Configuring Connection Security
Exercise 3: Troubleshooting IPsec

Module 11: Configuring and Managing Distributed File System

DFS Overview
Configuring DFS Namespaces
Configuring DFS Replication
Lab: Configuring DFS
Exercise 1: Installing the Distributed File System Role Service
Exercise 2: Creating a DFS Namespace
Exercise 3: Configuring Folder Targets and Folder Replication
Exercise 4: Viewing Diagnostic Reports for Replicated Folders

Module 12: Configuring and Managing Storage Technologies

Windows Server 2008 Storage Management Overview
Managing Storage Using File Server Resource Manager
Configuring Quota Management
Implementing File Screening

Managing Storage Reports

Lab: Configuring and Managing Storage Technologies
Exercise 1: Installing the FSRM Role Service
Exercise 2: Configuring Storage Quotas
Exercise 3: Configuring File Screening
Exercise 4: Generating Storage Reports

Module 13: Configuring Availability of Network Resources and Content

Backing Up Data
Configuring Shadow Copies
Providing Server and Service Availability
Lab: Configuring Availability of Network Resources
Exercise 1: Configuring Windows Server Backup and Restore
Exercise 2: Configuring Shadow Copying
Exercise 3: Configuring Network Load Balancing

Module 14: Configuring Server Security Compliance

Securing a Windows Infrastructure
Using Security Templates to Secure Servers
Configuring an Audit Policy
Overview of Windows Server Update Services
Managing Windows Server Update Services
Lab: Configuring Server Security Compliance
Exercise 1: Configuring and Analyzing Security
Exercise 2: Analyzing Security Templates
Exercise 3: Configuring Windows Software Update Services

Course Description: This five-day instructor-led course provides to teach Active Directory Technology Specialists with the knowledge and skills to configure Active Directory Domain Services in a distributed environment, implement Group Policies, perform backup and restore, and monitor and troubleshoot Active Directory related issues.

Who Should Attend: The primary audience for this course are AD Technology Specialists, Server Administrators, and Enterprise Administrators who want to learn how to implement AD in a distributed environment, secure domains using Group Policies, and perform backup, restore, and monitor and troubleshoot AD configuration to ensure trouble free operation.

Prerequisites: Before attending this course, students must have basic understanding of networking, intermediate understanding of network operating systems, an awareness of security best practices, basic knowledge of server hardware. A+ or equivalent knowledge, some experience creating objects in Active Directory, foundation course (6424A) or equivalent knowledge, and basic concepts of backup and recovery in a Windows Server Environment.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Implement and configure Active Directory domain services in their enterprise environment.

Course Outline:

Module 1: Implementing Active Directory Domain Services

Installing Active Directory Domain Services
Deploying Read-Only Domain Controllers
Configuring AD DS Domain Controller Roles
Lab: Implementing Read-Only Domain Controllers
Exercise 1: Evaluating Forest and Server Readiness for Installing an RODC
Exercise 2: Installing and Configuring an RODC
Exercise 3: Configuring AD DS Domain Controller Roles

Module 2: Configuring Domain Name Service for Active Directory Domain Services

Overview of Active Directory Domain Services and DNS Integration
Configuring Active Directory Integrated Zones
Configuring Read Only DNS Zones
Lab: Configuring AD DS and DNS Integration
Exercise 1: Configuring Active Directory Integrated Zones
Exercise 2: Configuring Read-Only DNS Zones

Module 3: Configuring Active Directory Objects and Trusts

Configuring Active Directory Objects
Strategies for Using Groups
Automating AD DS Object Management
Delegating Administrative Access to AD DS Objects
Configuring AD DS Trusts
Lab A: Configuring Active Directory Objects
Exercise 1: Configuring AD DS Objects
Exercise 2: Implementing an AD DS Group Strategy
Exercise 3: Automating the Management of AD DS Objects
Lab B: Configuring Active Directory Objects and Trusts
Exercise 1: Delegating Control of AD DS Objects
Exercise 2: Configuring AD DS Trusts

Module 4: Configuring Active Directory Sites and Replication

Overview of AD DS Replication
Overview of AD DS Sites and Replication
Configuring and Monitoring AD DS Replication
Lab: Configuring Active Directory Sites and Replication
Exercise 1: Configuring AD DS Sites and Subnets
Exercise 2: Configuring AD DS Replication
Exercise 3: Monitoring AD DS Replication

Module 5: Creating and Configuring Group Policy

Overview of Group Policy
Configuring the Scope of Group Policy Objects
Evaluating the Application of Group Policy Objects
Managing Group Policy Objects
Delegating Administrative Control of Group Policy
Lab: Creating and Configuring GPOs
Exercise 1: Creating Group Policy Objects

Exercise 2: Managing the Scope of GPO Application
Exercise 3: Verifying GPO Application
Exercise 4: Managing GPOs
Exercise 5: Delegating Administrative Control of GPOs

Module 6: Configuring User Environments Using Group Policy

Configuring Group Policy Settings
Configuring Scripts and Folder Redirection Using Group Policies
Configuring Administrative Templates
Group Policy Preferences
Deploying Software Using Group Policy
Lab: Configuring User Environments Using Group Policies
Exercise 1: Configuring Scripts and Folder Redirection
Exercise 2: Configuring Administrative Templates
Exercise 3: Configuring Preferences
Exercise 4: Verifying GPO Application

Module 7: Implementing Security Using Group Policy

Configuring Security Policies
Implementing Fine-Grained Password Policies
Restricting Group Membership and Access to Software
Managing Security Using Security Templates
Lab: Implementing Security Using Group Policies
Exercise 1: Configuring Account and Security Policy Settings
Exercise 2: Implementing Fine-Grained Password Policies
Exercise 3: Configuring Restricted Groups and Software Restriction Policies
Exercise 4: Configuring Security Templates
Exercise 5: Verifying the Security Configuration

Module 8: Implementing an Active Directory Domain Services Monitoring Plan

Monitoring AD DS Using Event Viewer
Monitoring Active Directory Domain Servers Using Reliability and Performance Monitor
Configuring AD DS Auditing
Lab: Monitoring Active Directory Domain Services
Exercise 1: Monitoring AD DS Using Event Viewer
Exercise 2: Monitoring AD DS Using Performance and Reliability Monitor
Exercise 3: Configuring AD DS Auditing

Module 9: Implementing an Active Directory Domain Services Maintenance Plan

Maintaining the AD DS Domain Controllers
Backing Up Active Directory Domain Services
Restoring Active Directory Domain Services
Lab: Implementing an Active Directory Domain Services Maintenance Plan
Exercise 1: Maintaining AD DS Domain Controllers
Exercise 2: Backing Up AD DS

Exercise 3: Performing an Authoritative Restore of the AD DS Database
Exercise 4: Restoring Data Using the AD DS Snapshot Viewer

Module 10: Troubleshooting Active Directory, DNS, and Replication Issues

Troubleshooting Active Directory Domain Services
Troubleshooting DNS Integration with AD DS
Troubleshooting AD DS Replication
Lab: Troubleshooting Active Directory, DNS, and Replication Issues
Exercise 1: Troubleshooting Authentication and Authorization Errors
Exercise 2: Troubleshooting the Integration of DNS and AD DS
Exercise 3: Troubleshooting AD DS Replication

Module 11: Troubleshooting Group Policy Issues

Introduction to Group Policy Troubleshooting
Troubleshooting Group Policy Application
Troubleshooting Group Policy Settings
Lab: Troubleshooting Group Policy Issues
Exercise 1: Troubleshooting Group Policy Scripts
Exercise 2: Troubleshooting GPO Lab11B
Exercise 3: Troubleshooting GPO Lab11C
Exercise 4: Troubleshooting GPO Lab11D

Module 12: Implementing an Active Directory Domain Services Infrastructure

Overview of the AD DS Deployment
Planning a Group Policy Strategy
Lab A: Deploying Active Directory Domain Services
Exercise 1: Installing a Read-only Domain Controller (RODC) onto a Server Core, and Creating a Branch Office Site
Exercise 2: Creating a Domain in a Separate Tree and Separate Site
Lab B: Configuring Forest Trust Relationships
Exercise: Upgrading the Fabrikam Domain, and Creating a Forest Trust with Woodgrove Bank
Lab C: Planning a Group Policy Strategy
Exercise 1: Planning Group Policy
Exercise 2: Creating a Domain in a Separate Tree and Separate Site
Exercise 3: Implementing the Corporate Desktop Policy

Course Description: This three-day instructor-led course provides the knowledge and skills that IT Professionals need to configure identity and access solutions with Windows Server 2008 Active Directory.

Who Should Attend: The audience for this course is IT Professionals interested in learning how to implement IDA solutions in an enterprise environment. Most students will be IT professionals who are responsible for integrating applications and platforms with enterprise directory and security services while increasing access to a growing number of customers and partners.

Prerequisites: Before attending this course, students must have technical knowledge equivalent to the course 6424: Fundamentals of Windows Server 2008 Active Directory, and technical background knowledge and hands-on experience of Active Directory Domain Services (AD DS from the AD TS foundation exam). This includes technical knowledge equivalent to the course 6425: Configuring and Troubleshooting Windows Server 2008 Active Directory Domain Services.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Describe identity and access solutions.
- Configure Active Directory Certificate Services.
- Deploy and manage certificates.
- Configure Active Directory Lightweight Directory Services.
- Configure Active Directory Federation Services.
- Configure Active Directory Rights Management Services.
- Maintain access management solutions.
- Troubleshoot identity and access solutions.

Course Outline:

Module 1: Exploring IDA Solutions

Overview of IDA Management
Active Directory Server Roles in IDA Management
Overview of ILM 2007
Lab 1: Exploring IDA Solutions
Explore how Active Directory Server Roles will provide IDA Management solutions

Module 2: Configuring AD CS

Overview of PKI
Deploying a CA Hierarchy
Installing AD CS
Managing CA
Lab 2: Configuring AD CS
Installing the AD CS Server Role
Issuing and Installing a Subordinate Certificate
Publishing the CRL

Module 3: Deploying and Managing Certificates

Deploying Certificates by Using AD CS
Deploying Certificates by Using Autoenrollment
Revoking Certificates
Configuring Certificate Templates
Configuring Certificate Recovery
Lab 3: Deploying and Managing Certificates
Configuring AD CS Web Enrollment
Configuring Certificate Enrollment
Configuring AD CS Certificate Revocation
Configuring AD CS Certificate Templates
Managing Key Archival and Recovery

Module 4: Configuring AD LDS

Installing and Configuring AD LDS
Configuring AD LDS Instances
Configuring AD LDS Replication
Configuring AD LDS Integration with AD DS
Lab 4: Configuring AD LDS
Configuring an AD LDS instance and an application partition
Configuring AD LDS Access Control
Configuring AD LDS Replication
Configuring AD DS and AD LDS synchronization

Module 5: Configuring AD FS

Overview of AD FS
AD FS Deployment Scenarios
Deploying AD FS
Implementing AD FS Claims
Lab 5A: Configuring AD FS for Federated Web SSO by Using Forest Trust Scenario
Installing the AD FS Server Role
Configuring Certificate Requirements
Configuring the AD FS Web Agent
Configuring the Web Server application on a virtual computer
Configuring the Forest Trust and the Federated Trust Policies
Configuring the Federation Service Within the Internal Network
Configuring the Federation Service Within the Extranet

Testing the AD FS Implementation
Lab 5B: Configuring Active Directory Federation Services by Using Federated Web SSO Scenario
Installing the AD FS Server Role
Configuring Certificate Requirements
Configuring the AD FS Web Agent
Configuring the Web Server application on a virtual computer
Configuring the Federation Trust Policies
Configuring the Account Partner Federation Service
Configuring the Resource Partner Federation Service
Testing the AD FS implementation

Module 6: Configuring AD RMS

Overview of AD RMS
Installing and Configuring AD RMS Server Components
Administering AD RMS
Implementing AD RMS Trust Policies
Lab 6: Configuring AD RMS
Installing the AD RMS Server Role
Managing AD RMS rights policy templates
Configuring Trust Policies
Testing AD RMS functionality

Module 7: Maintaining Access Management Solutions

Supporting AD CS
Maintaining AD LDS
Maintaining AD FS
Maintaining AD RMS
Lab 7: Maintaining Access Management Solutions
Configuring CA Event Auditing
Implementing role-based administration in AD CS
Backing up a CA
Reconfiguring AD RMS cluster settings
Generating AD RMS Reports
Configuring AD RMS logging

Module 8: Troubleshooting IDA Solutions

Troubleshooting AD CS
Troubleshooting AD LDS
Resolving AD FS Issues
Solving AD RMS Issues
Lab 8: Troubleshooting IDA Solutions
Identifying Tools and Troubleshooting Techniques of IDA Solutions

Course Description: In this 3-day instructor-led course, the students will learn to install, configure, maintain, and troubleshoot an Internet Information Services (IIS) 7.0 Web Server in Windows Server 2008.

Who Should Attend: The primary audience for this course is individuals who want to become a Web Server Administrator in an enterprise environment. Also, individuals who are assuming a new role requiring skills to manage content served by an IIS 7.0 Web Server over an intranet, extranet, and internet would be interested in this course. The secondary audience for this course is individuals who are Web-based application developers who also possess networking skills.

Prerequisites: Before attending this course, students must have taken course 6420 Foundational Series: Fundamentals of a Windows Server 2008 Network Infrastructure and Application Platform or a minimum of 1 year of experience administering and supporting a Web Server role using Windows Server 2003. Network + certification is also required.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Describe the IIS 7.0 modular architecture and workloads.
- Configure an IIS 7.0 Web Server.
- Secure Web sites and Web application pools.
- Troubleshoot Web servers, sites and applications.
- Use command line tools and scripting tools.
- Tune IIS to improve performance.
- Maintain Web sites.
- Enable integrated technologies to extend IIS 7.0 functionality.

Course Outline:

Module 1: Configuring an IIS 7.0 Web Server

Introducing Internet Information Services 7.0
 Installing the Web Server Role in Windows Server 2008
 Configuring Application Development, Health, and HTTP Features
 Configuring Performance, Security, and Server Component Features
 Lab: Configuring an IIS 7.0 Web Server
 Installing IIS using Role Manager
 Installing IIS using Unattend Setup
 Installing IIS on Server Core from Command Line
 Configuring IIS and Validate Functionality

Module 2: Configuring IIS 7.0 Web Sites and Application Pools

Introducing Web Sites and Application Pools
 Creating a Web Site
 Creating an Application Pool
 Maintaining an Application Pool
 Lab: Configuring IIS 7.0 Web Sites and Application Pools
 Configuring Authentication Types
 Creating a Web Site and Web Application
 Creating an Application Pool
 Configuring an Existing Application Pool

Module 3: Configuring IIS 7.0 Application Settings

Configuring Application Settings
 Configuring ASP.NET Security
 Lab: Configuring IIS 7.0 Application Settings
 Configuring ASP.NET
 Configuring ASP.NET Application Development Settings
 Configuring a Web Server to Host Multiple Web Applications with Separate Application Pools
 Configuring ASP.NET Security

Module 4: Configuring IIS 7.0 Modules

Configuring Native Modules
 Configuring Managed Modules
 Lab: Configuring IIS 7.0 Modules
 Configuring and Editing Native Modules
 Configuring and Edit Managed Modules

Module 5: Securing the IIS 7.0 Web Server and Web Sites

Configuring Secure Web Sites and Servers
 Configure Other Aspects of Web Server Security
 Configuring Logging for IIS 7.0
 Lab: Securing IIS 7.0 Web Server and Web Sites
 Configuring a Secure Web Server
 Configuring Authorization, Authentication, and Access
 Configuring Logging

Module 6: Configuring Delegation and Remote Administration

Configuring Remote Administration
 Configuring Delegated Administration
 Configuring Feature Delegation
 Lab: Configuring Delegation and Remote Administration
 Configuring Remote Administration
 Configuring Delegated Administration

Configuring Feature Delegation

Module 7: Using Command-line and Scripting for IIS 7.0 Administration

Tools for Running Administrative Tasks in IIS
 Executing Scripts for Administrative Tasks
 Managing IIS Tasks
 Lab: Using Command-line and Scripting for IIS 7.0 Administration
 Managing IIS Web Sites with PowerShell
 Executing a Script using WAP
 Automating IIS Administration using Scripts
 Navigating IIS tasks using WMI and Appcmd

Module 8: Tuning IIS 7.0 for Improved Performance

Implementing Best Practices for Improving IIS Performance
 Configuring Options to Improve IIS Performance
 Managing Application Pools to Improve IIS Performance
 Lab: Tuning IIS 7.0 for Performance
 Configuring IIS Performance Options
 Managing Application Pools to Improve Performance
 Deploying Applications

Module 9: Ensuring Web Site Availability with Web Farms

Backing Up and Restoring Web Sites
 Working with Shared Configurations
 Configuring Network Load Balancing for IIS
 Lab: Ensuring Web Site Availability with Web Farms
 Backing Up an IIS Web Site
 Restoring an IIS Web site
 Enabling Shared Configurations
 Configuring Network Load Balancing
 Ensure Web site availability using Network Load Balancing.

Module 10: Troubleshooting IIS 7.0 Web Servers

Using IIS 7.0 Logging for Troubleshooting
 Troubleshooting Authentication
 Troubleshooting Authorization
 Troubleshooting Communication
 Troubleshooting Configuration
 Lab: Troubleshooting IIS 7.0 Web Servers
 Troubleshooting Authentication
 Troubleshooting Authorization Types
 Troubleshooting Communication
 Troubleshooting Configuration

Course Description: This two-day instructor-led course provides students with the knowledge and skills to configure, manage, monitor, and troubleshoot a Terminal Services (TS) environment. The course focuses on configuring of TS core functionality, licensing, Gateway, and Web Access. This is the second course in the Windows Application Platform Services Technology Specialists Who Use Windows Server 2008 curriculum and will introduce the students to the Windows 2008 Terminal Services.

Who Should Attend: This course is intended for an individual whose primary role is a Technology Specialist in an enterprise environment. Also, individuals who are assuming a new role requiring skills to manage connections served by a terminal server session over the intranet, extranet, and Internet would be interested in this course.

Prerequisites: Before attending this course, students must have technical knowledge equivalent to Course 6420 Foundational Series: Fundamentals of a Windows Server 2008 Network Infrastructure and Application Platform or Windows Server 2003 Terminal Server experience in an enterprise environment, a minimum of one year of experience administering and supporting TS, a minimum of one year of experience administering and supporting Windows Server 2003 or Windows Server 2003 R2, a minimum of one year of administering certificate services, and Network+ certification.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Install and configure the TS role.
- Configure TS settings.
- Identify the appropriate licensing scope and configure forest, domain, and workgroup licensing.
- Identify when to use the per-user and per-device licensing modes.
- Install the TS Licensing Role.
- Configure TS licensing for per-user and device licenses.
- Manage the licensing lifecycle.
- Configure TS connection properties using TS console and Group Policy.
- Troubleshoot TS connection properties for a single user and multiple users.
- Identify the considerations for the types of applications that can be installed in a TS environment.
- Install applications on TS.
- Configure TS Web Access to make TS RemoteApp programs available through a Web site.
- Configure TS Easy Print.
- Install and configure TS Web Access role service.
- Configure a TS session broker for a load-balanced TS farm.
- Configure TS Gateway properties
- Monitor active connections using TS Gateway console.
- Troubleshoot a TS Gateway connectivity issue.
- Manage TS connections to ensure availability of the TS.
- Resolve client connectivity issues by verifying end-user configuration using Remote Desktop Connection (RDC).
- Monitor TS connections to determine when to force client disconnect.
- Identify monitoring methods for TS services role.

Course Outline:

Module 1: Configuring Terminal Services Core Functionality

Configuring TS Role
Configuring TS Settings
Lab : Configuring TS Core Functionality
Installing and Configuring TS Role
Configuring TS Settings

Module 2: Configuring and Managing Terminal Services Licensing

Configuring TS Licensing
Managing TS Licenses
Lab : Configuring and Managing TS Licensing
Installing the TS Licensing Role
Configuring TS Licensing
Managing TS Licensing

Module 3: Configuring and Troubleshooting Terminal Services Connections

Configuring TS Connection Properties
Configuring TS Properties Using Group Policy
Troubleshooting TS
Lab : Configuring and Troubleshooting TS Connections
Installing the TS Connection Properties
Troubleshooting Connectivity Issues

Module 4: Configuring Terminal Services Resources

Installing Applications
Configuring Remote Applications
Configuring Printers
Lab : Configuring TS Resources
Configuring and Deploying TS RemoteApp Programs
Configuring TS Easy Print

Module 5: Configuring Terminal Services Web Access

Installing the TS Web Access Role Service

Lab : Configuring TS Web Access
Configuring TS Web Access
Configuring TS RemoteApp Programs for TS Web Access

Module 6: Configuring Session Broker

Configuring a TS Session Broker for a Load-Balanced Farm
Lab : Configuring a Session Broker
Configuring a Session Broker to Manage Traffic to Servers

Module 7: Configuring and Troubleshooting Terminal Services Gateway

Configuring TS Gateway
Troubleshooting TS Gateway Connectivity Issues
Lab : Configuring and Troubleshooting TS Gateway
Configuring and Monitoring TS Gateway
Troubleshooting TS Gateway Connectivity

Module 8: Managing and Monitoring Terminal Services

Managing Current TS Connections
Monitoring TS Connections
Configuring WSRM for TS
Lab : Managing and Monitoring TS
Managing TS Connections
Monitoring TS Connections
Configuring WSRM for TS

Course Description: This instructor-led course provides students with product knowledge and skills needed to maintain a Microsoft SQL Server 2005 database. The course focuses on teaching individuals how to use SQL Server 2005 product features and tools related to maintaining a database.

Who Should Attend: This course is intended for IT Professionals wanting to become skilled on SQL Server 2005 product features and technologies for maintaining a database.

Prerequisites: Before attending this course, students must have basic knowledge of the Microsoft Windows operating system and its core functionality as well as working knowledge of Transact-SQL and relational databases.

Some experience with database design is also required. In addition, it is recommended, but not required, that students have completed courses in Writing Queries Using Microsoft SQL Server 2005 Transact-SQL and Implementing a Microsoft SQL Server 2005 Database.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Install and configure SQL Server 2005
- Manage database files
- Manage security
- Perform administrative tasks
- Back up databases
- Restore databases
- Monitor SQL Server
- Troubleshoot SQL Server
- Transfer data
- Maintain high availability.

Course Outline:

Installing and Configuring SQL Server 2005

Preparing to install SQL Server
Installing SQL Server.
Managing a SQL Server 2005 Installation
Lab 1: Installing SQL Server 2005
Performing an Installation
Managing SQL Server

Managing Databases and Files

Planning databases
Creating databases
Managing databases
Lab 2: Creating and Managing Databases
Creating a Database
Managing Filegroups
Viewing Metadata

Disaster Recovery

Planning a Backup Strategy
Backing Up User Databases
Restoring User Databases
Recovering Data from Database Snapshots
System Database and Disaster Recovery
Lab 4: Implementing a Disaster Recovery Strategy
Implementing a Backup Strategy
Restoring Databases
Rebuild The Master Database

Managing Security

Overview of SQL Server Security
Securing the Server Scope
Securing the Database Scope
Managing Keys and Certificates in SQL Server
Lab 3: Securing SQL Server
Creating Logins
Creating and Managing Users
Using a Certificate to Encrypt Data

Monitoring SQL Server

Viewing Current Activity
Using System Monitor
Using SQL Server Profiler
Using DDL Triggers
Using Event Notifications.
Lab 5: Monitoring SQL Server
Monitoring SQL Server Performance
Tracing SQL Server Activity
Implementing DDL Trigger

Transferring Data

Overview of Data Transfer
Introduction to SQL Server Integration Services
Using SQL Server Integration Services

Lab 6: Transferring Data with SQL Server Integration Services (SSIS)
Create an SSIS Package
Deploying an SSIS Package

Automating Administrative Tasks

Automating Administrative Tasks in SQL Server 2005
Configuring the SQL Server Agent.
Creating Jobs and Operators
Creating Alerts
Managing Multiple Servers
Managing SQL Server Agent Security
Lab 7: Automating Database Administration
Configuring the SQL Server Agent
Creating Operators and Jobs
Creating Alerts

Maintaining High Availability

Introduction to High Availability
Implementing Server Clustering
Implementing Database Mirroring
Implementing Log Shipping
Lab 8: Configuring Database Mirroring
Setting the Recovery Model
Backing Up and Restoring the Database
Starting Database Mirroring
Performing an Automatic and Manual Failover

Introduction to Replication

Overview of Replication
Replication Scenarios
Lab 9: Implementing Replication
Creating a Publication
Creating a Subscription

Course Description: This five-day instructor-led course provides students with product knowledge and skills needed to implement a Microsoft SQL Server 2005 database. The course focuses on teaching individuals how to use SQL Server 2005 product features and tools related to implementing a database.

Who Should Attend: This course is intended for IT Professionals wanting to become skilled on SQL Server 2005 product features and technologies for implementing a database.

Prerequisites: Before attending this course, students must have basic knowledge of the Microsoft Windows operating system and its core functionality, working knowledge of Transact-SQL and relational databases, and some experience with database design.

In addition, it is recommended, but not required, that students have completed a course in Writing Queries Using Microsoft SQL Server 2005 Transact-SQL.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Create databases and database files
- Create data types and tables
- Use XML-related features in Microsoft SQL Server 2005
- Plan, create, and optimize indexes
- Implement data integrity in Microsoft SQL Server 2005 databases by using constraints, triggers, and XML schemas
- Implement views
- Implement stored procedures and functions
- Implement managed code in the database
- Use Service Broker to build a messaging-based solution

Course Outline:

Creating Databases and Database Files

Creating Databases
Creating Filegroups
Creating Schemas
Creating Database Snapshots
Lab 1: Creating a Database
Creating a Database
Creating Schemas

Creating Data Types and Tables

Creating Data Types
Creating Tables
Creating Partitioned Tables
Lab 2: Creating Data Types and Tables
Creating Data Types
Creating Tables
Creating Partitioned Tables

Using XML

Retrieving XML by Using FOR XML
Shredding XML by Using OPENXML
Using the xml Data Type
Lab 3: Working with XML
Mapping Relational Data and XML
Storing XML Natively in the Database

Creating and Tuning Indexes

Planning Indexes
Creating Indexes
Optimizing Indexes
Creating XML Indexes
Lab 4: Creating Indexes
Creating Indexes
Tuning Indexes
Creating XML Indexes

Implementing Data Integrity

Data Integrity Overview
Implementing Constraints
Implementing Triggers
Implementing XML Schemas
Lab 5: Implementing Data Integrity
Creating Constraints
Creating Triggers
Implementing XML Schemas

Implementing Views

Introduction to Views
Creating and Managing Views
Optimizing Performance by Using Views
Lab 6: Creating Views

Creating Views
Creating Indexed Views
Creating Partitioned Views

Implementing Stored Procedures and Functions

Implementing Stored Procedures
Creating Parameterized Stored Procedures
Creating Functions
Handling Errors
Controlling Execution Context
Lab 7: Creating Stored Procedures and Functions
Creating Stored Procedures
Creating Functions

Implementing Managed Code in the Database

Introduction to the SQL Server Common Language Runtime
Importing and Configuring Assemblies
Creating Managed Database Objects
Lab 8: Implementing Managed Code in the Database
Importing an Assembly
Creating Managed Database Objects

Using Service Broker

Service Broker Overview.
Creating Service Broker Objects
Sending and Receiving Messages
Lab 9: Using Service Broker
Creating Service Broker Objects
Implementing the Initiating Service
Implementing the Target Service

Course Description: This three-day instructor-led course teaches students how to implement a Reporting Services solution in an organization. The course discusses how to use the Reporting Services development tools to create reports, and how to use the Reporting Services management and administrative tools to manage a Reporting Services solution.

Who Should Attend: This course is intended for information technology (IT) professionals and developers who need to implement reporting solutions by using Microsoft SQL Server 2005 Reporting Services.

Prerequisites: Before attending this course, students must have exposure to creating reports in Microsoft Access or other third-party reporting products, such as Crystal Reports, conceptual understanding of the push and pull distribution/subscription paradigm, and experience navigating the Microsoft Windows Server environment.

Students must also have experience with Windows services (starting and stopping), creating service accounts and permissions, and Microsoft SQL Server.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Describe SQL Server Reporting Services and its components.
- Create a Reporting Services report.
- Enhance a Reporting Services report.
- Create and manipulate data sets.
- Use report models to implement reporting for business users.
- Configure report publishing and execution settings.
- Implement subscriptions for reports.
- Administer Reporting Services.
- Implement custom Reporting Services applications.

Course Outline:

Introduction to Microsoft SQL Server Reporting Services

Overview of SQL Server Reporting Services
Installing Reporting Services
Reporting Services Tools
Using Reporting Services Tools
Exploring Report Designer
Exploring Report Manager

Authoring Basic Reports

Creating a Basic Table Report
Formatting Report Pages
Calculating Values
Creating a Simple Report
Adding Calculated Values

Enhancing Basic Reports

Interactive Navigation
Displaying Data
Enhancing a Report
Using Dynamic Visibility
Using Document Maps
Initiating Actions
Using a List Data Region

Manipulating Data Sets

Defining Report Data
Using Parameters and Filters
Using Parameter Lists
Manipulating Data Sets
Using parameters to restrict query results
Using parameters to filter report data
Creating dynamic parameter lists
Using parameters with a stored procedure

Using Report Models

Creating Report Models
Using Report Builder
Working with Report Models
Using Report Builder to Create a Report

Publishing and Executing Reports

Publishing and Executing Reports
Creating Cached Instances
Creating Snapshots and Report History
Executing a Report On Demand
Configuring and Viewing a Cached Report
Configuring and Viewing a Snapshot Report

Using Subscriptions to Distribute Reports

Introduction to Report Subscriptions
Creating Report Subscriptions
Managing Report Subscriptions

Implementing Subscriptions
Creating a Standard Subscription
Creating a Data-Driven Subscription

Administering Reporting Services

Server Administration
Performance and Reliability Monitoring
Administering Report Server Databases
Security Administration
Administering Reporting Services
Using Reporting Services Configuration Manager
Securing a Reporting Services Site
Securing Items

Programming Reporting Services

Querying for Server Information Using a Web Service
Automating Report Management
Rendering Reports
Creating Custom Code
Programming Reporting Services
Using URL Access to Display a Report
Building a Reporting Services Web Service Client
Using the Report Viewer Control

Course Description: This three-day, instructor-led course offers Microsoft Exchange 2000 Server or Microsoft Exchange Server 2003 administrators with the skills they need to manage a Microsoft Exchange Server 2007 infrastructure. This course focuses on the new features and administrative tasks in Exchange Server 2007. The student will learn skills that enable them to deploy and manage an Exchange Server 2007 environment. This course's aim is not to provide detailed design skills, but will cover planning skills at a level sufficient to enable decision making during the implementation process.

Who Should Attend: This course is for people who operate in medium to very large computing environments, using Exchange 2000 Server or Exchange Server 2003. The typical environments in which they work have the following characteristics: supported users range from 200 to over 100,000; multiple physical locations; and typical products and technologies include Microsoft Windows 2000 or Windows 2003, Exchange 2000 Server or Exchange Server 2003, and network security products and technologies.

Prerequisites: Before attending this course, students must have working experience with Exchange 2000 Server or Exchange Server 2003, working experience with Windows Server 2003, working experience with Active Directory directory services in Windows Server 2003, and familiarity and experience with Windows scripting or command-line scripting.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Describe the new features and the deployment architecture in Exchange Server 2007.
- Plan and implement an Exchange Server 2007 deployment.
- Administer Exchange Server 2007.
- Implement client access services in Exchange Server 2007.
- Manage message routing in an Exchange Server 2007 organization.
- Configure messaging security with Exchange Server 2007.
- Implement messaging policies in Exchange Server 2007.
- Implement high availability and disaster recovery solutions in Exchange Server 2007.
- Implement Unified Messaging in Exchange Server 2007.

Course Outline:

Module 1: Introducing Exchange Server 2007

New Features in Exchange Server 2007
Introducing the Exchange Server 2007 Deployment Architecture
Discontinued and De-Emphasized Features

Module 2: Deploying Exchange Server 2007

Introduction to the Exchange Server 2007 Server Roles
Installing Exchange Server 2007
Upgrading to Exchange Server 2007
Optional Lab: Deploying Exchange Server 2007
Preparing for the Exchange Server 2007 Installation
Installing Exchange Server 2007
Verifying the Exchange Server 2007 Installation

Module 3: Administering Exchange Server 2007

Overview of Exchange Server 2007 Administration Tools
Administering Exchange Server 2007 Mailbox Servers
Managing Recipients in Exchange Server 2007
Lab: Administering Exchange Server 2007
Configuring the Mailbox Servers
Configuring Recipients
Performing Bulk Recipient Management Tasks

Module 4: Implementing Client Access Services in Exchange Server 2007

Implementing the Client Access Server Role
Implementing New Client Features in Exchange Server 2007
Implementing Outlook Web Access
Implementing Mobile Messaging
Lab: Implementing Client Access Services in Exchange Server 2007
Configuring Outlook Web Access Settings
Configuring Exchange ActiveSync Policies

Module 5: Managing Message Routing in an Exchange Server 2007 Organization

Understanding Message Routing in Exchange Server 2007
Managing Message Routing
Lab: Managing Message Routing in an Exchange Server 2007 Organization
Configuring Message Routing for a Branch Office
Troubleshooting Message Routing Between Sites

Module 6: Securing Messages with Exchange Server 2007

Implementing the Edge Transport Server Role
Implementing Antivirus and Anti-Spam Features
Configuring Security for Internet E-Mail

Lab: Securing Messages with Exchange Server 2007
Reviewing the Current Spam-Filtering Results
Discussion: Modifying the Spam-Filtering Settings
Modifying the Spam-Filtering Settings

Module 7: Implementing Messaging Policies in Exchange Server 2007

Introducing Messaging Policies
Implementing Transport Rules
Implementing Messaging Records Management
Lab: Implementing Messaging Policies in Exchange Server 2007
Implementing Transport and Journaling Rules
Implementing Messaging Records Management

Module 8: High Availability and Disaster Recovery in Exchange Server 2007

Overview of High Availability in Exchange Server 2007
Implementing High Availability in Exchange Server 2007
Implementing Disaster Recovery in Exchange Server 2007
Lab: High Availability and Disaster Recovery in Exchange Server 2007
Configuring Windows Server 2003 Cluster Services
Installing and Configuring Exchange Server 2007 Active and Passive Nodes
Moving Exchange Server 2007 Clustered Mailbox Servers Between Cluster Nodes

Module 9: Implementing Unified Messaging in Exchange Server 2007

Telephony Overview
Introducing Unified Messaging
Installing and Configuring Unified Messaging
Practice: Installing and Configuring Unified Messaging
Install the Unified Messaging server role
Create and configure a dial plan
Create an IP Gateway
Create a hunt group
Create a Unified Messaging mailbox policy
Enable a mailbox for Unified Messaging
Create an Automated Attendant

Course Description: This five-day, instructor-led course provides students with the knowledge and skills that are needed to update and support a reliable, secure messaging infrastructure. This infrastructure is used for creating, storing, and sharing information by using Microsoft Exchange Server 2003 in a medium-sized to large-sized (250 to 5,000 users) messaging environment. This course offers a significant number of hands-on practices, discussions, and assessments that assist students in becoming proficient in the skills that are needed to update and support Exchange Server 2003.

Who Should Attend: This course is for students who wish to become proficient in the skills that are needed to update and support Exchange Server 2003.

Prerequisites: Before attending this course, students must have working knowledge of Microsoft Windows Server 2003 and networking, including Transmission Control Protocol/Internet Protocol (TCP/IP), Domain Name System (DNS), and Internet Information Services (IIS). Students should also have working knowledge of Internet protocols, including Post Office Protocol 3 (POP3) or Internet Message Access Protocol 4 (IMAP4), Simple Mail Transfer Protocol (SMTP), Hypertext Transfer Protocol (HTTP), and Network News Transfer Protocols (NNTP).

In addition, it is recommended, but not required, that students have completed training in Managing a Microsoft Windows Server 2003 Environment, Maintaining a Microsoft Windows Server 2003 Environment, Implementing a Microsoft Windows Server 2003 Network Infrastructure: Network Hosts.

Knowledge of Exchange Server 5.5 or Exchange 2000 Server is beneficial but not necessary.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Perform a installation of Exchange Server 2003 and verify that the installation was successful
- Configure and manage Exchange Server 2003
- Secure Exchange Server 2003
- Manage recipients
- Manage public folders
- Manage address lists
- Implement and manage access to Exchange Server mailboxes for Internet protocol clients
- Manage client configuration and connectivity
- Manage routing
- Manage mobile devices with Exchange Server 2003
- Manage data storage and hardware resources
- Plan for disaster and disaster recovery
- Back up and restore Exchange Server
- Perform preventive maintenance
- Migrate users from Exchange Server 5.5 to a separate Exchange Server 2003 organization.

Course Outline:

Introduction to Exchange Server 2003

Introduction to the Exchange Server 2003 Architecture
Exchange Clients Overview
Discussion: Introduction to Exchange Server 2003

Installing Exchange Server 2003

Preparing to Install Exchange Server 2003
Exchange Server 2003 Installation Tasks
Exploring the Exchange Management Tools
Lab: Installing the Exchange System Manager on Windows XP SP2

Optional Lab: Installing the Exchange Server 2003 Messaging and Collaboration Services

Securing Exchange Server 2003

Reducing the Server Attack Surface
Maintaining Message Hygiene
Configuring Administrative Permissions
Lab: Securing Exchange Server 2003

Managing Recipients

Managing Exchange Recipients
Managing Mailboxes
Managing Mail-Enabled Groups
Lab: Managing Recipients

Managing Active Directory Integration

Understanding the Integration of Exchange and Active Directory
Configuring Exchange Server Communications with Active Directory
Configuring Recipient Policies and the Recipient Update Service
Managing Address Lists
Lab: Managing Active Directory Integration

Managing Public Folders

Managing Public Folder Data

Managing Access to Public Folders
Managing Public Folder Replication
Configuring Full-Text Indexing
Lab: Managing Public Folders

Implementing Outlook Web Access

Introducing Outlook Web Access
Securing Outlook Web Access
Lab: Implementing Outlook Web Access

Implementing a Front-End/Back-End Exchange Server Topology

Introducing Front-End and Back-End Servers
Implementing a Front-End and Back-End Server Topology
Securing a Front-End and Back-End Server Topology
Discussion: Implementing a Front-End/Back-End Exchange Server Topology

Managing Client Connections to Exchange Server 2003

Selecting an Exchange Server 2003 Client
Connecting to Exchange Server 2003
Using S/MIME to Secure E-Mail Content
Managing Mobile Services
Lab: Managing Client Connections to Exchange Server 2003

Managing Message Routing

Understanding Exchange Server Message Flow
Configuring SMTP Virtual Servers
Understanding Message Routing in Exchange Server
Configuring Routing in an Exchange Server Organization
Exploring Link State Information
Lab: Managing Message Routing

Managing Data Storage and Hardware Resources

Managing Stores and Storage Groups
Understanding Exchange Server Data Storage

Managing Disk Space
Optimizing Hardware Resources
Lab: Managing Data Storage and Hardware Resources

Planning for and Recovering from Disasters

Planning for Disaster Recovery
Backing Up Exchange Server 2003
Restoring Exchange Server 2003 Data
Restoring Exchange Server 2003 Servers
Discussion: Planning for and Recovering from Disasters

Performing Preventive Maintenance

Performing Daily Exchange Server 2003 Maintenance
Performing Scheduled Exchange Server 2003 Maintenance
Performing On-Demand Exchange Server 2003 Maintenance
Discussion: Performing Preventive Maintenance

Migrating Users from Exchange Server 5.5 to Exchange Server 2003

Identifying a Migration Strategy
Performing Pre-Migration Steps
Migrating Exchange Server Data
Lab A: Performing an Inter-Organization Migration
Lab B: Performing an Intra-Organization Migration

Course Description: At the end of this three-day course, students who are new to Microsoft Exchange Server will learn how to configure and manage a messaging environment in accordance with technical requirements. Students will learn how to install Microsoft Exchange Server 2007 and manage routing, client access, and the backup and restore of databases. They will also learn how to manage addressing and recipient objects such as mailboxes, distribution groups, and contacts.

Who Should Attend: IT Professionals, IT generalists, and help desk professionals who want to learn about Exchange Server 2007 are the audience for this course. IT Professionals, IT generalists and help desk professionals should have at least 3 years experience working in the IT field—typically in the areas of network administration, help desk, or system administration. No experience with Exchange Server is necessary.

Prerequisites: This course requires that students have working knowledge of Windows Server operating system, working knowledge of network technologies, working knowledge of Active Directory, and conceptual understanding of e-mail technologies.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Describe how Exchange Server 2007 and the Active Directory directory service work together.
- Install Exchange Server 2007.
- Configure Mailbox server roles.
- Manage recipient objects.
- Manage e-mail and address lists.
- Manage client access.
- Manage Messaging Transport.
- Manage availability, backup and recovery.
- Maintain the messaging system.

Course Outline:

Module 1: Overview of Exchange and Active Directory

Review of Active Directory
Introduction to the Integration of Active Directory and Exchange Server 2007
Lab : Overview of How Exchange Server 2007 and Active Directory Work Together
Discussion: Explaining How Exchange Server 2007 and Active Directory Work Together

Module 2: Installing Exchange Server 2007

Introduction to the Exchange Server 2007 Server Roles
Installing Exchange Server 2007
Completing the Exchange Server 2007 Installation
Lab : Installing Exchange Server 2007
Preparing the Environment for an Exchange Server 2007 Installation
Installing Exchange Server 2007 Client Access Server and Hub Transport Server Roles
Lab : Verifying an Exchange Server 2007 Installation
Verifying an Exchange Server 2007 Installation

Module 3: Configuring Mailbox Server Roles

Overview of Exchange Server 2007 Administration Tools
Implementing Mailbox Server Roles
Managing Public Folder Databases
Lab : Configuring Mailbox Servers
Configuring Storage Groups and Database Files
Configuring a Public Folder and Store Referrals

Module 4: Managing Recipient Objects

Managing Mailboxes
Managing Other Recipients
Overview of Managing Public Folders
Lab : Managing Recipient Objects
Modifying Existing User Mailboxes
Configuring New Mailboxes and Mail-Enabled Objects
Managing Resource Mailboxes
Managing Mailbox Removal

Module 5: Managing E-Mail Addresses and Address Lists

Configuring E-Mail Address Policies
Configuring Address Lists
Overview of Bulk Recipient Management Tasks
Lab : Managing E-Mail Addresses and Address Lists
Managing E-Mail Address Policies
Managing Address Lists
Performing Recipient Bulk Management Tasks

Module 6: Managing Client Access

Implementing Client Access Servers
Implementing Client Access Features
Implementing Outlook Web Access
Introduction to Implementing Mobile Messaging
Lab : Managing Client Access
Managing Mobile Device Connectivity
Managing Outlook Web Access

Module 7: Managing Message Transport

Introduction to Message Transport
Implementing Message Transport
Lab : Managing Message Transport and Handling
Troubleshooting Local Message Delivery
Troubleshooting Remote Message Delivery
Troubleshooting Message Transport

Module 8: Managing Availability, Backup and Recovery

Implementing High-Availability for Mailbox Servers
Managing a Backup Solution
Managing a Recovery Solution
Lab : Managing Backup and Recovery
Restoring Data using the Recovery Storage Group

Module 9: Maintaining the Messaging System

Overview of Implementing Change Management
Overview of Updating Exchange Servers
Lab : Maintaining the Messaging System
Determining the Information Necessary for Change Implementation

Course Description: This one-day instructor-led course provides messaging specialists with the knowledge and skills to manage messaging security and policies. Students will learn how to manage messaging and connection security. They will also learn how to manage spam, anti-virus, and content filtering. And finally they will learn how to install and configure a gateway server.

Who Should Attend: This course is intended for enterprise-level messaging administrators who have at least 3 years experience working in the Information Technology field, including administering Exchange Servers. Others who may take this course include IT generalists and help desk professionals who want to learn about Microsoft Exchange Server 2007. Administrators should have some experience with Exchange Server 2007.

Prerequisites: This course requires that students have working knowledge of malware, how Public Key Infrastructure (PKI) is managed in the directory, Windows server operating system, network technologies, Active Directory, and Exchange Server 2007. Students should also have a conceptual understanding of firewalls, and e-mail technologies and know how to configure and manage a messaging environment in accordance with technical requirements. Finally, students should have experience with NTBackup command, NSLookup command, Windows Explorer, Microsoft Management Console (MMC), Active Directory Users and Computers, Active Directory Sites and Services, Internet Information Services (IIS) Admin, and Outlook.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Manage anti-spam and antivirus features.
- Implement messaging policies.
- Configure edge transport servers.

Course Outline:

Module 1: Maintaining Antivirus and Anti-spam Systems

Introduction to Antivirus and Anti-Spam Management
Implementing Anti-spam Features
Implementing Antivirus Features
Lab : Maintaining Antivirus and Anti-Spam Systems
Reviewing the Contents of the Spam Quarantine
Discussion: Modifying Spam and Antivirus Settings
Modifying Spam and Antivirus Settings

Module 2: Configuring Edge Transport Servers

Deploying Edge Transport Servers
Configuring Internet Message Delivery
Configuring Security for Internet E-Mail
Lab : Configuring Edge Transport Servers
Configuring SMTP Connectors to Secure SMTP E-Mail
Implementing Secure/Multipurpose Internet Mail Extensions (S/MIME)

Module 3: Implementing Messaging Policies

Introducing Messaging Policy and Compliance
Implementing Messaging Records Management
Implementing Transport Rules
Lab : Implementing Messaging Policies
Configuring Domain Security

Course Description: This one-day course teaches messaging specialists to recover Exchange mailboxes and servers in a variety of disaster scenarios. Students will learn how to perform full and dial-tone recoveries of a mailbox server, as well as repair a mailbox database. They will also learn how to perform a full recovery of Client Access servers, Hub Transport servers, Unified Messaging servers, and Edge Transport servers.

Who Should Attend: The audience for this course includes people who have experience with Exchange Server 2007 or previous Exchange Server versions. These people will have experience installing and configuring Exchange Server, configuring recipients and mailboxes, and supporting Exchange Server clients. People beginning this course are expected to have at least three years experience working in the Information Technology field—typically in the areas of network administration or Windows Server administration—and one year of Exchange Server administration experience.

Prerequisites: This course requires that students have working knowledge of malware, how PKI is managed in the directory, Windows Server 2003 operating system, network technologies, Active Directory directory service, and Exchange Server 2007. Students should also have conceptual understanding of firewalls and e-mail technologies. Finally, students should have experience NT Backup, NSLookup, Microsoft Windows Explorer, Microsoft Management Console (MMC), Active Directory Users and Computers, Active Directory Sites and Services, Internet Information Services (IIS) Admin, and Microsoft Office Outlook. Students should have also completed course 5047A: Introduction to Installing and Managing Microsoft Exchange Server 2007 or have equivalent experience.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Recover messaging databases.
- Prepare for and recover from Mailbox server failures.
- Prepare for and recover from non-Mailbox server failures.

Course Outline:

Module 1: Recovering Messaging Databases

Overview of Database Recovery Scenarios
Recovering a Messaging Database Using Dial-Tone Recovery
Lab: Recovering Messaging Databases in Exchange Server 2007
Performing a Storage Group Backup
Performing a Dial-Tone Recovery
Repairing a Damaged Database

Module 2: Preparing for and Recovering from Mailbox Server Failures

Preparing for a Mailbox Server Recovery
Recovering Mailbox Servers Overview
Lab: Preparing for and Recovering from Mailbox Server Failures
Performing a Mailbox Server Backup
Recovering a Mailbox Server
Recovering Mailbox Server Data

Module 3: Preparing for and Recovering from Non-Mailbox Server Failures

Preparing for a Non-Mailbox Server Recovery
Recovering Non-Mailbox Servers
Lab: Preparing for and Recovering from Non-Mailbox Server Failures
Performing a Non-Mailbox Server Backup
Restoring a Client Access Server Certificate
Restoring a Hub Transport Server
Restoring an Edge Transport Server

Course Description: This two-day workshop teaches messaging specialists to monitor and troubleshoot an Exchange Server 2007 messaging system. Students will learn how to correlate client and server issues and resolve those issues. They will also learn how to monitor systems and create reports from the monitoring data.

Who Should Attend: The audience for this course includes people with experience with Exchange Server 2007 or previous versions of Exchange Server. These people will have experience installing and configuring Exchange Server, configuring recipients and mailboxes, and supporting Exchange Server clients. People coming into the course are expected to have at least three years experience working in the Information Technology field—typically in the areas of network administration or Windows Server administration—and one year of Exchange Server administration experience.

Prerequisites: This workshop requires that students have experience with Windows Server 2003 operating system, Active Directory directory service in Windows Server 2003, and managing backup and restore on Windows Servers. Students should also have experience administering Exchange Server 2007. Students should have fundamental knowledge of network technologies including DNS and firewall technologies, and experience using Windows management and monitoring tools such as Microsoft Management Console, Active Directory Users and Computers, Performance Monitor, Event Viewer, and IIS Administrator. Finally, students should have experience using Windows networking and troubleshooting tools such as Network Monitor, Telnet, and NSLookup.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Use the Microsoft Exchange Server 2007 Management Pack for Microsoft Operations Manager (MOM) 2005 to monitor Exchange servers.
- Monitor and troubleshoot client performance and connectivity.
- Identify and resolve issues related to access of resources and messages.
- Monitor and troubleshoot mail flow.
- Monitor and troubleshoot Mailbox servers.
- Monitor and troubleshoot external and additional services.
- Identify trends in a messaging system.

Course Outline:

Session 1: Unit 1: Introduction to Exchange Server Monitoring and Troubleshooting

Overview

Introduction to Microsoft Operations Manager
Introduction to Troubleshooting Exchange Server 2007
Demonstration: Using MOM to Monitor Exchange Servers
Lab : Introduction to Exchange Server Monitoring and Troubleshooting
Developing a Monitoring and Troubleshooting Process

Session 2: Unit 2: Monitoring and Troubleshooting Client Performance and Connectivity

Overview

Tools for Monitoring Client Performance and Connectivity
Process for Troubleshooting MAPI Clients
Process for Troubleshooting Client Access Server Clients
Lab : Monitoring and Troubleshooting Client Performance and Connectivity
Monitoring Client Connectivity
Troubleshooting AutoDiscover Issues
Troubleshooting a Client Access Server Issue

Session 3: Unit 3: Troubleshooting Access to Resources and Messages

Overview

How Public Folder Access Works
How Calendaring Works
Process for Troubleshooting Client Access Server Issues
Lab : Troubleshooting Access to Messaging Contents
Troubleshooting a Public Folder Access Issue
Troubleshooting a Calendaring Issue
Troubleshooting an Outlook Web Access Issue

Session 4: Unit 4: Monitoring and Troubleshooting Mail Flow

Overview

Discussion: Tools for Monitoring Mail Flow
Demonstration: Troubleshooting Message Transport Using Exchange Server 2007 Tools
Process for Troubleshooting Internal Mail Flow
Process for Troubleshooting External Mail Flow
Lab : Monitoring and Troubleshooting Mail Flow
Configuring MOM to Monitor Message Flow
Troubleshooting Internet E-Mail Delivery
Troubleshooting Spam Filtering
Troubleshooting Outbound Internet E-mail Delivery

Session 5: Unit 5: Monitoring and Troubleshooting Mailbox Servers

Overview

Tools for Monitoring and Troubleshooting Mailbox Servers

Process for Troubleshooting Mailbox Servers
Demonstration: Troubleshooting Mailbox Server Performance Issues
Lab : Monitoring and Troubleshooting Mailbox Servers
Configuring the monitoring of Mailbox servers
Troubleshooting a Mailbox Logon Issue
Troubleshooting a Hard Disk Failure
Troubleshooting a Mailbox Database Mounting Issue

Session 6: Unit 6: Monitoring and Troubleshooting External and Additional Services

Overview

Discussion: External and Additional Services Required by Exchange Server 2007
External Services Required for Unified Messaging in Exchange Server 2007
Monitoring External Services with MOM 2005
Lab : Monitoring and Troubleshooting External and Additional Services
Configuring the Monitoring of External Services
Troubleshooting an External Services Dependency for Exchange Server 2007
Discussion: Impact of External and Additional Services on Exchange Environments

Session 7: Unit 7: Identifying Trends in a Messaging System

Overview

Tools for Identifying Trends in a Messaging System
Exchange Server 2007 Management Pack MOM Reports
Discussion: Information Required to Identify and Resolve Trends
Lab : Identifying Trends in a Messaging System
Evaluating Messaging Reports
Recommending Configuration Changes

Course Description: This five-day, instructor-led course will provide you with the knowledge and skills to configure and manage an Exchange Server 2010 messaging environment. This course does not require previous Exchange Server experience, but does require that students have significant experience in managing Windows Server and Active Directory directory services or Active Directory Domain Services (AD DS). This course will teach you how to configure Exchange Server 2010, as well as provide guidelines, best practices, and considerations that will help you optimize your Exchange Server deployment.

Who Should Attend: This course is intended for people aspiring to be enterprise-level messaging administrators. Others who may take this course include IT generalists and help desk professionals who want to learn about Exchange Server 2010. People coming into the course are expected to have at least three years experience working in the IT field, typically in the areas of network administration, help desk, or system administration. They are not expected to have experience with previous Exchange Server versions.

Prerequisites: In addition to their professional experience, students who attend this training should have the following prerequisite knowledge: fundamental knowledge of network technologies including Domain Name System (DNS) and firewall technologies; experience with the Windows Server 2003 and Microsoft Windows Server 2008 operating systems; experience with Active Directory directory services in Windows Server 2003 or AD DS Windows Server 2008; experience managing backup and restore on Windows Servers; experience using Windows management and monitoring tools such as Microsoft Management Console, Active Directory Users and Computers, Performance Monitor, Event Viewer, and Internet Information Services (IIS) Administrator; experience using Windows networking and troubleshooting tools such as Network Monitor, Telnet, and NSLookup; fundamental knowledge of certificates and Public Key Infrastructure (PKI); and basic experience with Windows Mobile.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Install and deploy Exchange Server 2010.
- Configure Mailbox servers and Mailbox server components.
- Manage recipient objects.
- Configure the Client Access server role.
- Manage message transport.
- Configure the secure flow of messages between the Exchange Server organization and the Internet.
- Implement a high availability solution for Mailbox servers and other server roles.
- Plan and implement backup and restore for the server roles.
- Plan and configure messaging policy and compliance.
- Configure Exchange Server permissions and security for internal and external access.
- Monitor and maintain the messaging system.
- Transition an Exchange Server 2003 or Exchange Server 2007 organization to Exchange Server 2010.
- Configure the Unified Messaging server role and Unified Messaging components.
- Implement High Availability across multiple sites and implement Federated Sharing.

Course Outline:

Module 1: Deploying Microsoft Exchange Server 2010

This module describes how to prepare for, and perform, an Exchange Server 2010 installation. It also provides details on the Exchange Server 2010 deployment. **Lessons**
Overview of Exchange Server 2010 Requirements
Installing Exchange Server 2010 Server Roles
Completing an Exchange Server 2010 Installation
Lab : Installing Exchange Server 2010 Evaluating Requirements for an Exchange Server Installation
Preparing for an Exchange Server 2010 Installation
Installing Exchange Server 2010
Lab : Verifying an Exchange Server 2010 Installation
Verifying an Exchange Server 2010 Installation

Module 2: Configuring Mailbox Servers This module describes the management tools that you can use to manage Exchange Server 2010. It also describes the Mailbox server role, some of the new Exchange Server 2010 features, the most common Mailbox server role post-installation tasks, and public folders. **Lessons**
Overview of Exchange Server 2010 Administrative Tools
Configuring Mailbox Server Roles

Configuring Public Folders
Lab : Configuring Mailbox Servers
Configuring Mailbox Databases
Configuring Public Folders

Module 3: Managing Recipient Objects This module describes how you can manage recipient objects, address policies, and address lists in Exchange Server 2010. It also describes procedures for performing bulk management tasks in Exchange Management Shell. **Lessons**
Managing Mailboxes
Managing Other Recipients
Configuring E-Mail Address Policies
Configuring Address Lists
Performing Bulk Recipient Management Tasks
Lab : Managing Recipient Objects
Managing Recipients
Configuring E-Mail Address Policies
Configuring Address Lists
Performing Bulk Recipient Management Tasks

Module 4: Managing Client Access This module provides details on how to implement the Client Access server role in Exchange Server 2010. **Lessons**
Configuring the Client Access Server Role
Configuring Client Access Services for Outlook Clients
Configuring Outlook Web App
Configuring Mobile Messaging
Lab : Configuring Client Access

Servers for Outlook Anywhere Access
Configuring Client Access Servers
Configuring Outlook Anywhere
Lab : Configuring Client Access Servers for Outlook Web App and Exchange ActiveSync
Configuring Outlook Web App
Configuring Exchange ActiveSync

Module 5: Managing Message Transport This module details how to manage message transport in Exchange Server 2010. It also describes how to deploy and configure the Hub Transport server. **Lessons**
Overview of Message Transport
Configuring Message Transport
Lab : Managing Message Transport
Configuring Internet Message Transport
Troubleshooting Message Transport
Troubleshooting Internet Message Delivery

Module 6: Implementing Messaging Security This module describes how to plan for and deploy the Edge Transport server role and the security issues related to the deployment. It also describes how to configure secure SMTP messaging as well as Domain Security. **Lessons**
Deploying Edge Transport Servers
Deploying an Antivirus Solution
Configuring an Anti-Spam Solution
Configuring Secure SMTP Messaging

Lab : Configuring Edge Transport Servers and Forefront Protection 2010
Configuring Edge Transport Servers
Configuring ForeFront Protection 2010 for Exchange Servers
Lab : Implementing Anti-Spam Solutions
Configuring an Anti-Spam Solution on Edge Transport Servers

Module 7: Implementing High Availability This module describes the high availability technology built into Exchange Server 2010 and some of the outside factors that affect highly available solutions. **Lessons**
Overview of High Availability Options
Configuring Highly Available Mailbox Databases
Deploying Highly Available Non-Mailbox Servers
Lab : Implementing High Availability
Deploying a DAG
Deploying Highly Available Hub Transport and Client Access Servers
Testing the High Availability Configuration

Module 8: Implementing Backup and Recovery This module describes the backup and restore features built into Exchange Server 2010 and considerations for creating a suitable backup plan. **Lessons**
Planning Backup and Recovery
Backing Up Exchange Server 2010
Restoring Exchange Server 2010

Lab : Implementing Backup and Recovery
Backing Up Exchange Server 2010
Restoring Exchange Server Data
Restoring Exchange Servers (optional)

Module 9: Configuring Messaging Policy and Compliance This module describes how to configure the Exchange Server 2010 messaging policy and compliance features. **Lessons**
Introducing Messaging Policy and Compliance
Configuring Transport Rules
Configuring Journaling and Multi-Mailbox Search
Configuring Messaging Records Management
Configuring Personal Archives
Lab : Configuring Transport Rules, Journal Rules, and Multi-Mailbox Search
Configuring Transport Rules
Configuring Journal Rules and Multi-Mailbox Search
Lab : Configuring Messaging Records Management and Personal Archives
Configuring Messaging Records Management
Configuring Personal Archives

Module 10: Securing Microsoft Exchange Server 2010 This module describes how to configure administrative permissions with Role Based Access Control and how to secure the Exchange Server configuration. **Lessons**
Configuring Role Based Access Control
Configuring Security for Server Roles in Exchange Server 2010
Configuring Secure Internet Access
Lab : Securing Exchange Server 2010
Configuring Exchange Server Permissions
Configuring a Reverse Proxy for Exchange Server Access

Module 11: Maintaining Microsoft Exchange Server 2010 This module describes how to monitor and maintain Exchange Server 2010. It also describes how to troubleshoot Exchange Server when problems arise. **Lessons**
Monitoring Exchange Server 2010
Maintaining Exchange Server 2010
Troubleshooting Exchange Server 2010
Lab : Maintaining Exchange Server 2010
Monitoring Exchange Server 2010
Troubleshooting Database Availability
Troubleshooting Client Access Servers

Module 12: Upgrading from Exchange Server 2003 or Exchange Server 2007 to Exchange Server 2010This module describes how to upgrade an existing Exchange Server 2003 or Exchange Server 2007 organization to an Exchange Server 2010 organization. It also describes the various considerations for implementing coexistence between the two messaging systems after an Exchange Server 2010 deployment.**Lessons**

Overview of Upgrading to Exchange Server 2010

Upgrading from Exchange Server 2003 to Exchange Server 2010

Upgrading from Exchange Server 2007 to Exchange Server 2010

Module 13: Implementing Unified MessagingThis appendix describes how Unified Messaging integrates Exchange Server with telephony networks. It also describes how to configure Unified Messaging.**Lessons**

Overview of Telephony

Introducing Unified Messaging

Configuring Unified Messaging

Lab : Implementing Unified

Messaging

Installing and Configuring Unified

Messaging Features

Module 14: Advanced Topics in Exchange Server 2010

This appendix provides an overview of how to implement a highly available Exchange Server 2010 deployment across multiple data centers. It also describes how to deploy Federated Sharing.

Lessons

Deploying Highly Available Solutions for Multiple Sites

Implementing Federated Sharing

Course Description:

Who Should Attend:

Prerequisites:

Course Description: In this course, you will explore the core components of SharePoint Services 3.0 as well as the types of solutions that it provides. In addition, you will learn about the administrative tools and security model of SharePoint 3.0.

Who Should Attend: This course is for SharePoint Site Administrators and Site Contributors and others wishing to learn about SharePoint Services 3.0.

Prerequisites: Students should have experience implementing, managing, and supporting Microsoft Windows Server 2003, including Internet Information Services (IIS). They should also have working knowledge of networking, for example, TCP/IP and Domain Name System (DNS). It is also recommended that students have on-the-job experience implementing, managing, and supporting Windows SharePoint Services 2.0.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Describe the design goals, solutions, and core components of SharePoint Services 3.0.
- Describe the solutions provided by integrating SharePoint Services 3.0 with Office 2007 client applications, Exchange Server 2007, and other technologies.
- Describe the administrative considerations, administration model, tools, and tasks, and the security model of SharePoint Services 3.0.

Course Outline:

Introduction to Windows SharePoint Services

Understanding the Components of Site Collections

Introduction to a Site Collection Administration

Security
Creating Subsites
Creating and Managing Lists and Libraries
Announcements
Contacts
Discussion Boards
Tasks
Links
Calendar
Survey

Using with SharePoint Sites

Navigation
Working with a Document Library
Using Workflows in a Document Library
SharePoint Lists

Introduction to Web Parts

Course Description: This class builds on the lessons taught in SharePoint Services 3.0 Introduction and teaches more advanced topics.

Who Should Attend: This course is for SharePoint Site Administrators and Site Contributors and for students who have a need to set up and use a collaborative environment using a web based environment.

Prerequisites: Students should have taken Windows SharePoint Services 3.0 Introduction, and have working knowledge of web skills (i.e. using links, typing in URL's) and Microsoft Office Applications, especially Outlook.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Use the more advanced features of SharePoint Services 3.0.

Course Outline:

Lists – Additional Topics

List Advanced Options
Additional Column Types
Additional Views and View Features
Working with Excel 2007
Working with Access 2207
Sending an E-Mail to a SharePoint List

Libraries – Additional Topics

Creating a Form Library
Document Libraries

Document Workspaces

Creating in SharePoint
Creating within Office 2007
Accessing a Document Workspace
Using Office 2007 Document Management Task Pane
Publishing a Document Back to a Document Library

Meeting Workspaces

Creating a Meeting Workspace
Adding Items
Creating a Meeting Workspace from Outlook 2007

Discussion Boards

Enabling for E-Mail
Viewing in Outlook 2007

Managing Site Content Syndication (RSS)

Using RSS
Using RSS with a Blog
Configuring an RSS Feed

Workflows

Work with Workflow in Outlook 2007

Permissions

Library-Level Permissions (Securing a Library)
Item-Level Permissions
Creating Groups with Unique Permissions

Sites

Creating a New Part Page by Using a Browser
Managing Site Features (specifically Team Collaboration Lists)
Saving and Using a Site Template

Course Description: This two-day instructor-led course provides students with the knowledge and skills to successfully implement Microsoft Windows SharePoint Services (WSS) version 3.0 in their organizations. It emphasizes that students should think about the architecture of their entire environment, including business and application needs, during the planning and deployment phases. The course covers how to perform a clean installation of WSS 3.0 and also describes all the prerequisites required to select the most appropriate method for upgrading WSS from 2.0 to 3.0 in a specific scenario. In addition, the course focuses on how to manage WSS after it is configured.

Who Should Attend: This course is intended for Business Application Administrators (BAAs) who are engaged in the planning, design, and selection of Line of Business (LOB) applications, including Microsoft Office SharePoint Server (MOSS), in conjunction with internal business customers. Their primary responsibility is the deployment, customization, management, and support of LOB applications. They routinely monitor application status and troubleshoot application problems. The audience is expected to have at least two years of experience in implementing, managing, and supporting Microsoft Windows Server 2003, including Internet Information Services (IIS).

Prerequisites: Before attending this course, students must have on-the-job experience in implementing, managing, and supporting Microsoft Windows Server 2003, including IIS; working knowledge of networking; and basic knowledge of key benefits of Microsoft Office SharePoint Server (MOSS), new features and functionality of MOSS, and WSS acting as a platform for MOSS.

In addition, it is recommended, but not required, that students have completed a clinic on getting started with Windows SharePoint Service 3.0.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Describe how the Windows SharePoint Services 3.0 platform helps address collaboration challenges.
- Plan the Windows SharePoint Services 3.0 environment.
- Install Windows SharePoint Services 3.0.
- Identify the most appropriate method to upgrade Windows SharePoint Services from 2.0 to 3.0 in a given scenario.
- Manage Windows SharePoint Services 3.0.

Course Outline:

Introduction to the Windows SharePoint Services 3.0 Platform

Overview of Windows SharePoint Services 3.0
Collaboration Technologies Offered by Windows SharePoint Services 3.0
Lab: Identifying How WSS Helps Address Collaboration Challenges
Identifying the Collaboration Challenges in Your Organization
Identifying the Windows SharePoint Services 3.0 Features that Help Address Collaboration Challenges

Planning the Windows SharePoint Services 3.0 Environment

Determining Organizational and User Needs
Planning Site Creation, Maintenance, and Security
Planning Server Requirements and Topologies
Lab: Planning the Topology for WSS Installation
Determining Disk Space Requirements
Determining Peak Throughput
Identifying the Topology for a Windows SharePoint Services 3.0 Installation
Justifying Your Topology Plan

Installing Windows SharePoint Services 3.0

Performing a Clean Installation of Windows SharePoint Services 3.0
Installing and Configuring the Central Administration Site
Creating and Configuring Sites
Lab: Installing and Configuring the Central Administration Site
Installing the Central Administration Site
Configuring the Services on the Windows SharePoint Services 3.0 Server
Lab: Creating a Web Application and Site Collection
Creating a Web Application
Creating a Site Collection
Starting the Windows SharePoint Services Search Service
Configuring the Alternate Access Mappings

Upgrading from Windows SharePoint Services 2.0 to 3.0

Planning for an Upgrade of Windows SharePoint Services
Preparing to Perform an Upgrade
Lab: Determining Upgrade Methods and Remedies to Possible Upgrade Issues
Identifying the Appropriate Upgrade Method
Identifying the Solutions to Possible Upgrade Issues

Managing Windows SharePoint Services 3.0

Managing Windows SharePoint Services 3.0 Sites
Managing the Windows SharePoint Services 3.0 Server
Lab: Managing Windows SharePoint Services 3.0
Managing Site Settings
Troubleshooting Windows SharePoint Services 3.0 Server Performance Issues

Course Description: This three-day instructor-led course provides students with the knowledge and skills required to implement Microsoft Office 2007 SharePoint Server successfully in their organization

Who Should Attend: The audience for this course is Business Application Administrators (BAAs), Web Administrators and Server Administrators who are engaged in the planning, design, and selection of line-of-business (LOB) applications (including Office SharePoint Server) in conjunction with internal business customers. Their primary responsibility is the deployment, customization, management, and support of LOB applications. They routinely monitor application status and troubleshoot application problems.

Prerequisites: Before attending this course, students must have experience in implementing, managing, and supporting a Microsoft Windows SharePoint Services 3.0 environment. They must also have basic knowledge of Windows SharePoint Services and Microsoft Office 2007 SharePoint Server interoperability; at least two years of experience implementing, managing, and supporting Microsoft Windows Server 2003 and implementing, managing, and supporting Internet Information Services (IIS). Students should also have working knowledge of networking.

In addition, it is recommended, but not required, that students have completed Implementing Windows SharePoint Services 3.0., First Look: Getting Started with Microsoft Office 2007 SharePoint Server, and Administering Microsoft SharePoint Portal Server 2003.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Describe Microsoft Office 2007 SharePoint Server.
- Plan for and design a Microsoft Office 2007 SharePoint Server implementation.
- Deploy Microsoft Office 2007 SharePoint Server.
- Administer Microsoft Office 2007 SharePoint Server.
- Implement a portal solution with Microsoft Office 2007 SharePoint Server.
- Implement a content management solution with Microsoft Office 2007 SharePoint Server.
- Implement a business intelligence solution with Microsoft Office 2007 SharePoint Server.
- Implement a search and indexing solution with Microsoft Office 2007 SharePoint Server.
- Maintain and optimize Microsoft Office 2007 SharePoint Server.

Course Outline:

Overview of Microsoft Office 2007 SharePoint Server

Introduction to Microsoft Office 2007 SharePoint Server
Integrating Microsoft Office 2007 SharePoint Server in the Enterprise
Microsoft Office 2007 SharePoint Server Architecture

Planning and Designing for Microsoft Office 2007 SharePoint Server

Preparing for a Microsoft Office 2007 SharePoint Server Implementation
Planning and Designing for Non-Functional Requirements
Lab: Documenting Non-Functional Requirements for Microsoft Office 2007 SharePoint Server Solutions
Preparing for a Microsoft Office 2007 SharePoint Server Implementation
Defining Non-Functional Requirements for Microsoft Office 2007 SharePoint Server

Deploying Microsoft Office 2007 SharePoint Server

Microsoft Office 2007 SharePoint Server Deployment Architecture
Installing Microsoft Office 2007 SharePoint Server
Managing Shared Service Providers
Lab: Planning for and Deploying Microsoft Office 2007 SharePoint Server
Creating Deployment Plans for Microsoft Office 2007 SharePoint Server
Installing Microsoft Office 2007 SharePoint Server

Administering Microsoft Office 2007 SharePoint Server

Creating Microsoft Office 2007 SharePoint Server Sites
Managing Microsoft Office 2007 SharePoint Server Features
Lab: Managing Sites and Features
Creating and Managing Microsoft Office 2007 SharePoint Server Sites
Activating and Deactivating Microsoft Office 2007 SharePoint Server Features

Implementing Portal Solutions

Creating Portal Sites
Implementing Collaborative Features
Implementing Users Profiles and Audiences
Lab: Implementing Collaborative Features in Portal Sites
Creating and Managing Portal Sites
Managing Personal Sites
Managing User Profiles and Targeting

Implementing Content Management Solutions

Overview of Content Management
Managing Documents and Content with Microsoft Office 2007 SharePoint Server
Implementing Content Management Processes
Implementing Content Management Policies
Lab: Implementing Content Management Sites and Processes

Creating Content Management Sites
Managing Authoring Workflows and Processes
Lab: Implementing Auditing and Policies
Planning Records Management Solutions
Implementing Records Management Solutions
Creating Records Management Solutions

Implementing Business Intelligence Solutions

Configuring and Incorporating Business Data Catalog Applications into Portal Solutions
Implementing Microsoft Office 2007 SharePoint Server Excel Services
Implementing Business Intelligence Dashboards
Creating Report Center Web Sites
Implementing Microsoft Office 2007 SharePoint Server Forms Server
Lab: Implementing Business Intelligence Solutions with Microsoft Office 2007 SharePoint Server
Creating Business Data Catalog Applications
Implementing Excel Services
Creating Business Intelligence Dashboards
Creating Server-Side InfoPath Forms
Deploying Server-Side InfoPath Forms

Implementing Search and Indexing

Overview of Implementing Microsoft Office 2007 SharePoint Server Search and Indexing
Implementing Search
Lab: Implementing Microsoft Office 2007 SharePoint Server Search and Indexing
Defining Content Sources and Scopes
Building Indexes
Performing Searches

Maintaining and Optimizing Microsoft Office 2007 SharePoint Server

Implementing Microsoft Office 2007 SharePoint Server Backup and Restore
Monitoring Microsoft Office 2007 SharePoint Server
Performance Tuning and Optimization of Microsoft Office 2007 SharePoint Server Solutions
Lab: Backing Up and Restoring Microsoft Office 2007 SharePoint Server Configurations and Data
Performing Backups Operations
Performing Restore Operations
Lab: Monitoring and Optimizing Microsoft Office 2007 SharePoint Server Solutions
Monitoring Microsoft Office 2007 SharePoint Server
Optimizing Microsoft Office 2007 SharePoint Server

Course Description: In this course, students will learn the core features and functions of SharePoint Designer 2007.

Who Should Attend: This course is for anyone interested in learning the basics of SharePoint Designer 2007.

Prerequisites: Students should have Windows XP: Basic or equivalent experience.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Create and apply templates
- Control layout and spacing
- Create and apply style sheets
- Create tables and forms
- Fix typical website problems

Course Outline:

Getting started

Internet basics
The SharePoint Designer workspace
Page editing
HTML

Web sites

Site planning basics
Creating a Web site
Templates

Text formatting

Text basics
Structural formatting SharePoint Designer 2007: Basic Activity-Level Outline
Cascading Style Sheets

Web page layout

Basic CSS layout
Basic layout techniques

Images

Image formats and properties
Working with images

Hyperlinks

Basic hyperlinks
Link styles
Image maps

Tables

Working with tables
Table-based layouts

Publishing

Proofing tools
Web site publishing

Course Description: The course uses a combination of lecture, hands-on practice, and independent exercises to build on the skills and concepts taught in SharePoint Designer 2007: Basic. Students learn how to create dynamic components, work with multimedia files, create interactive content, design with layers, and create tables and forms. Students also learn the basics of data-driven Web sites, and how to fix typical Web site problems.

This SharePoint Designer course teaches you how to build web pages with SharePoint Designer software. Web pages can be used on SharePoint sites and other web sites as well. This course does not teach you how to use SharePoint.

Who Should Attend: This course is intended for persons familiar SharePoint Designer.

Prerequisites: Students should have taken SharePoint Designer 2007: Basic or have equivalent experience.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Create a dynamic date and time stamp, create a site map, insert Flash animations, Windows Media Player files, and QuickTime movies, and set their display properties
- Create basic rollovers, apply behaviors, specify the events and actions that comprise behaviors, create custom rollovers, and apply the Swap Images behavior to create rollovers and disjoint rollovers.
- Create layers and assign IDs, position layers, control the stacking order of layers, set specific values to position a layer precisely, control layer visibility, and create dynamic layers.
- Create layout tables and layout cells to build a page layout, draw layout cells, create a fluid layout, and apply basic formatting options to layout tables and cells.
- Create forms and insert and modify a variety of input fields, apply validation rules to text fields and option buttons, and test the validations to verify their functionality.
- Identify the functionality and advantages of dynamic Web sites, discuss the basics of database connectivity and Web Parts, identify basic concepts regarding the applications students can create by using Web Parts, and apply an XML data source to a Web page.

Course Outline:

Web Components and Multimedia

Web components
Multimedia

Interactive Content

Interactive buttons
Behaviors
Rollovers

Layers

Creating layers
Layer visibility

Layout Tables

Creating layout tables
Working with layout tables

Web Forms

Creating forms
Input validation

Data-Driven pages

Introduction to dynamic pages
Web Parts
Data Views

Site Management

Basic search engine optimization
Compatibility testing
Reports
Accessibility

Course Description: This 4-day class combines 'Site Member' and 'Site Owner' courses, to provide comprehensive training that will present students with a ground-up understanding for how to use, operate and build sites in a Microsoft Office SharePoint Server 2007 environment. Students first learn about site navigation, data storage and retrieval through instructor-led modules covering navigation, search and effective use of lists and libraries. Building on this information, students then take a deeper dive into site administration, learning how to create and manage sites, lists, libraries, views and workflows. Security and rights administration are also covered. Functional concepts and best practices are interwoven into the material, providing a framework for the topics discussed. This course is oriented to Microsoft Office SharePoint Server, but is also applicable to Windows SharePoint Services 3.0.

Purpose

Who Should Attend: This course combines focus and understanding for those contributing to, building, or managing MOSS 2007 sites, MOSS 2007 users who want to develop a better understanding of how to efficiently find content, use and contribute to collaborative sites, MOSS 2007 users who are responsible for managing one or more sites or site components, such as lists and libraries, and Help Desk personnel who provide support to end users that use or manage MOSS 2007 sites.

Prerequisites: Students taking this course should have basic knowledge of Microsoft Office 2007 products and be familiar with Internet Explorer.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Understand the use, creation and management of Microsoft Office SharePoint Server 2007 sites.
- Effectively navigate and contribute content within the framework of a collaborative environment.
- Build and manage site components, structured around efficient maintenance and consumption.
- Understand core best practices provide students with context for employment of the functionality taught.

Course Outline:**Module 1: Introduction to Microsoft Office SharePoint Server 2007**

Overview of SharePoint
Get Started in SharePoint
Search for Content
Use Alerts
Welcome User Links
Personalize SharePoint Page

Module 2: Work with Lists

How to add and modify content
Overview of Default Lists and List Templates
Add, Modify and Delete Content in SharePoint Lists
Sort and Filter Content
Advanced List Features
Use Default and Custom Views
Connect a List to Microsoft Outlook

Module 3: Work with Document Libraries

Overview of Document Libraries
Create and Upload Documents
View and Edit Documents and Document Properties
Document Management Features
Use Workflows in a Document Library

Module 4: Lists and Libraries

Create Lists and Libraries
Manage List and Library settings
Create and manage individual list and library columns and Site Columns
Create and manage of Views

Module 5: Customize SharePoint Sites Using Web Parts

Introduction to Web Parts
Add, close, and delete Web Parts
Customize Web Part properties
Web Parts that allow content targeting

Module 6: Create Sites and Web Pages

Create new sites
Create Basic and Web Part Pages

Module 7: Secure SharePoint Sites

Introduction to SharePoint Security
Manage User Access to SharePoint Sites
Manage SharePoint Groups and Users
Best practices for assigning permissions in SharePoint

Module 8: Manage the Look and Feel of Sites

Customize the site title, description, and icon
Configure navigation settings
Left Navigation Panel Options
Apply site themes
Create site templates

Module 9: Manage Workflows

Overview of workflows
Workflow administration
Build custom workflows

Module 10: Content Types

Overview of Content Types
Create New Content Types
Add Columns to Content Types
Associate Content Types with Workflows

Module 11: Site Administration

Introduction to site administration settings
Manage regional settings
View site usage data
Manage user alerts
Manage RSS Usage
Manage sites and workspaces
Site Features

Module 12: Use Collaborative Sites

Document Workspaces
Meeting Workspaces
Wiki Sites
Blog Sites

Module 13: Effective Use of My Sites

Benefits and creation of a My Site
Navigation and modification of a My Site
Use a My Site to advertise information about yourself
Collaborate with colleagues
Keep track of content
Use a My Site to store personal and public files
Office 2007 integration with a My Site
Using Outlook Web Access Web Parts
Best practices for using a My Site

Course Description: This 5-day deep-dive will guide individuals through the process of architecting and setting up SharePoint 2007 applications and customizations from an Operations viewpoint.

Who Should Attend: This course is intended for individuals who access information on a Windows SharePoint team site or SharePoint site owners who are responsible for creating and managing a team website. This includes managers, developers, designers, and every day knowledge workers, anyone that uses SharePoint sites and lists on an everyday basis.

Prerequisites: Before attending this course, students must have experience managing windows server environments and an understanding of database and web application architecture fundamentals.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Understand every aspect of managing a SharePoint 2007 Server farm.
- Integrate with applications such as IRM, ForeFront, and Performance Point.
- Understand the many ways to back up and restore SharePoint environments.

Course Outline:

Module 1: OverviewLessons

What Is SharePoint?
Why SharePoint 2007?
SharePoint 2007 Benefits

Module 2: InstallingLessons

Installing SharePoint
SharePoint Farms
Lab : Installing
Install WSS
Install MOSS
Detach/Attach to SharePoint Farm

Module 3: SharePoint ArchitectureThis module contains only labs.Lab : Site Definitions

Create One of Each WSS/MOSS Site Definition
Lab : SharePoint Architecture 1
Explore a SharePoint config file
Lab : SharePoint Architecture 2
Learn Content Database structure
Use SQL Profiler to reverse engineer the web front end and stsadm
Lab : SharePoint Architecture 3
Create a Customized Page
Analyze a Customized Page
Lab : 12 Hive
Explore the 12 Hive

Module 4: StsAdmLessons

Overview
Commands
Extending
Lab : Stsadm
Use StsAdm command line tool
Lab : Extend Stsadm
Review the stsadmcommands.xml file
Extend StsAdm

Module 5: SharePoint ServicesLessons

Document Conversions Launcher
Document Conversions Load Balancer
Excel Calculation Services
Officer SharePoint Server Search
Windows SharePoint Services Search
Windows SharePoint Services Web Application
Lab : SharePoint Services
Explore the SharePoint Services

Module 6: PowerShellLessons

Commandlets
PowerShell variables
Using With SharePoint
Lab : Install PowerShell
PowerShell Basics – Command Lets
Create An Object
Static Properties
Lab : PowerShell With SharePoint
Load SharePoint Dll into PowerShell
Set PowerShell Execution Policy
Enumerate Webs
Create a site with PowerShell
Create/Update an item with PowerShell
Backup SharePoint with PowerShell

Module 7: General Operations

TasksLessons
Email Settings
Migrating File Shares
Master Site Directory
Alternate Access Mappings
External Service Connections
Language Packs
Features & Solutions
Lab : Email Settings
Configure the Outgoing Email Settings
Load balance Email Load
Configure the Incoming Email Settings
Lab : Distribution Groups

Create Active Directory Distribution Groups

Lab : Migration File Shares
Migrate a File Share
Blocked File Types
NTFS Permissions
Lab : Master Site Directory
Setup the Master Site Directory
Lab : Alternate Access Mappings
Configure Alternate Access Mappings
Test Alternate Access Mappings
Lab : External Service Connections
Records Center
Document Conversion
Lab : Features and Solutions
Features
Solutions

Module 8: Information Rights ManagementLessons

Information Rights Management
SharePoint IRM
Lab : Information Rights Management
Install Information Rights Management (IRM)
Configure IRM
Use IRM

Module 9: AntiVirusLessons

Microsoft ForeFront
ForeFront for SharePoint
Installing
Configuring SharePoint
Configuring ForeFront
Lab : Forefront
Install Microsoft Forefront
Configure Microsoft ForeFront

Module 10: Information Management PolicyLessons

There are only labs in this module.
Lab : Information Management Policy
Create a basic policy (Manual)
Use a policy

Module 11: Single Sign OnLessons

Setup
Configuring
Using
Applications Scenarios
Lab : Single Sign On
Learn how to Configure Single Sign On
Program web parts to use Single Sign On

Module 12: Logging SettingsLessons

There is only a lab in this module.
Lab : Logging Settings
Learn to Debug SharePoint via Log Files

Module 13: Usage Analysis ProcessingLessons

Configuring
Architecture
Reports
Troubleshooting
Custom Log Processing
Lab : Usage Analysis Processing
Enable Usage Analysis Processing (UAP)
Use UAP

Module 14: Content DeploymentLessons

There is only a lab in this module.
Lab : Content Deployment
Setup Content Deployment Path and Jobs
Quick Deployment
Debug Content Deployment

Module 15: Back Up and RestoreLessons

Backup Techniques
Disaster Recover Techniques
Restore Techniques

Lab : Backup Central Administration
Use Central Administration to Back up and Restore (Farm)
Lab : Back up SQL Server
Use SQL Server to Back up SharePoint
Lab : Backup Stsadm
Use Stsadm to back up and restore a Farm
Use Stsadm to export a site collection
Use Stsadm to export a single site
Lab : Back up SiteList Template
Create a List Template
Create a Site Template
Create a Site from the new Site Template
Create a List from the new List Template
Lab : Back up SharePoint Designer
SharePoint Designer Backup (Web Package)
SharePoint Designer Backup (Content Migration)
SharePoint Designer Backup (Site Template)

Module 16: Timer JobsLessons

Timer Service
Timer Job
SP.JobDefinition Class
WSS Timer Jobs
MOSS Timer Jobs
Lab : TimerJobs
Explore SharePoint Timer Jobs
Disable a job
Disable the Timer Service

Module 17: Shared Services ProviderLessons

Shared Services Overview
Shared Services Components
Shared Services Features
Life with and without SSP
Installing
Lab : Shared Services Provider
Create an Shared Service Provider
Configure multiple SSPs
Configure global "My Sites"

Module 18: Application SecurityLessons

SharePoint Security
Custom Authentication
Code Access Security
Securing Communications
Lab : Application Security
Application Pools
Web Application Security
SiteList/Item level Security
SSL Security
Lab : Custom Authentication
Change the default Authentication Method of SharePoint to use a custom Membership Provider (ASP.NET 2.0)

Module 19: InfoPath ServicesLessons

InfoPath 2007
InfoPath and Windows Workflow
InfoPath Forms Services
Best Practices
Lab : InfoPath Services
Review MOSS Forms
Publish/Upload a Form to Forms Library
Verify/Upload/Activate a Form with IFS

Module 20: Business Data CatalogLessons

Business Data Catalog Overview
Lab : Business Data Catalog
Import an application definition file
Utilize BDC web parts
Utilize Filter web parts
Lab : BDC Application Definition Files
Review BDC Schema
Create a BDC File (manually)
Create a BDC File (Code Gen)
Lab : BDC Permissions
DataSource Permission Errors
Application Permission Errors

Entity Permission Errors
Lab : BDC Authentication
Modify BCD to Use Database Credentials
Modify BCD to Use Single Sign On
Custom Single Sign On Solution
Lab : BDC Profiles
Search and BDC Integration
BDC Entity Profile

Module 21: SearchLessons

Search Overview
Performing Searches
Tuning Search
Extending Search
Lab : Search
Create Content Source
Create Crawl Schedules
Crawl All Scopes
Create Crawl Rule
Create Search Scopes
Add a File Type
Set Default Access Account
Query Crawl Logs
Lab : Tuning Search
Relevance
Keyword and Best Bets
Thesaurus
Noise Words
Lab : Customizing Search
Customize Search Results

Module 22: Excel ServicesLessons

Excel Services Trusted Locations
Shared Data Connections
User Defined Functions
Excel Services Web Parts
Excel Services Object Model/Web Service
Lab : Excel Services
Learn to use Excel Services
Create/Publish to Excel Services
Configure Excel Services
Shared Data Connections
Single Sign On Data Connections

Module 23: User Profiles My SitesLessons

User Profile Overview
User Profile Settings
My Sites
Lab : User Profiles
Configure User Profiles (Active Directory)
Configure Import Connections
Configure Profile Properties
Lab : My Sites
Create your My Site
Your Profile
Colleagues
Colleagues - Tracking Changes
Explore Memberships
Explore in Common With
Documents
Configuring My Calendar Web Part
RSS Viewer
Personal vs Shared Views
My Links

Module 24: Performance OptimizationLessons

Capacity Planning
Performance Optimization Techniques
Lab : Performance Optimization
Database Tuning (Recovery Mode)
Database Tuning (TempDB)
Database Tuning (Indexes)
Warm-up Scripts and Application Pool Timeout

Course Description: This in-depth, two-day, instructor-led course provides students with the knowledge of using Windows SharePoint Services 3.0 to create reusable and modular Web sites for use in intranet, extranet, or Internet scenarios. Students will learn how to manage access to information stored within a SharePoint environment, how to perform common object model tasks, and how to create Web parts to customize user interfaces. Participants will also learn how to use Web services for data requests transactions, how to create and deploy event receivers, and how to utilize Windows Workflow Foundation.

Who Should Attend: This course is intended for Developers and IT Professionals.

Prerequisites: There are no prerequisites.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Discuss the Windows SharePoint Services 3.0 architecture and the key elements in Windows SharePoint Services 3.0, such as site collections, Webs, lists, and Web Parts.
- Understand the new Windows SharePoint Services 3.0 features, such as galleries, master pages, site columns, content types, and workflow.
- Understand the new features available only through Microsoft Office SharePoint Server 2007.
- Extend an existing Web application with the ASP.NET 2.0 pluggable authentication.
- Configure user access to a Windows SharePoint Services 3.0 environment and configure user permissions, and implement security with Users/Groups, SharePoint objects, and permission levels.
- Understand the ASP.NET 2.0 and Windows SharePoint Services 3.0 Web Part infrastructure, and the SharePoint Page and Web Part life cycles.
- Use the Microsoft Visual Studio Extensions for Windows SharePoint Services Framework to build a custom Web Part.
- Understand the advantages and limitations of Web service orientation in SharePoint technologies.
- Use Windows SharePoint Services 3.0 Web services in development projects.
- Create an application that uses SharePoint's Web services to extend SharePoint functionality.

Course Outline:

Module 1: SharePoint Primer: Overview and Enhancements from Earlier Versions

Windows SharePoint Services 3.0 Architecture
Key Elements in Windows SharePoint Services 3.0
New Features in Windows SharePoint Services 3.0
New Features in Office SharePoint Server

Module 2: Authentication and Authorization

Background
IIS Built-In Authentication
ASP.NET 2.0 Pluggable Authentication
Windows SharePoint Services Authorization
Advanced Authorization
Lab : Configure Multiple Authentication Providers in C#
Exercise 1: Extend Existing Web Application
Exercise 2: Prepare Membership Provider
Exercise 3: Modify Web.Config
Exercise 4: Establish Central Administration Settings
Exercise 5: Test Dual Authentication
Lab : Configure Multiple Authentication Providers in Visual Basic
Exercise 1: Extend Existing Web Application
Exercise 2: Prepare Membership Provider
Exercise 3: Modify Web.Config
Exercise 4: Establish Central Administration Settings
Exercise 5: Test Dual Authentication

Module 3: Fundamentals of the Object Model and Web Parts

Overview of ASP.NET 2.0 and Windows SharePoint Services 3.0 Object Model
Windows SharePoint Services 3.0 Web Part Infrastructure
Page and Web Part Life Cycles
Custom Web Part Development
Visual Studio Extensions for Windows SharePoint Services 3.0
10 Steps to Creating Custom Web Parts
Lab : Create a Web Part Using VSeWSS in C#

Exercise 1: Create a Custom Web Part Using VSeWSS
Exercise 2: Modify a Custom Web Part Using VSeWSS
Exercise 3: Sharpen the Logic and Rendering of the Web Part
Lab : Create a Web Part Using VSeWSS in Visual Basic
Exercise 1: Create a Custom Web Part Using VSeWSS
Exercise 2: Modify a Custom Web Part Using VSeWSS
Exercise 3: Sharpen the Logic and Rendering of the Web Part

Module 4: Web Services

Advantages and Limitations of Web Services Orientation in Windows SharePoint Services
Introduction to Web Services Provided in Windows SharePoint Services 3.0
Windows SharePoint Services 3.0 Web Services in Development Projects
Lab : C# Coding with Lists.aspx Web Service
Exercise 1: Build the Windows Central Application
Exercise 2: Add Controls to the Form
Exercise 3: Add the Code Behind
Exercise 4: Run the Application
Lab : Visual Basic Coding with Lists.aspx Web Service
Exercise 1: Build the Windows client application
Exercise 2: Add Controls to the Form
Exercise 3: Add the Code Behind
Exercise 4: Run the Application

Module 5: Events

Event Receiver Basics
SharePoint Objects that Support Event Receivers
Steps to Create an Event Receiver
Deploying Event Receivers
Lab : Creating and Deploying a Preprocess Web Event Receiver in C#
Exercise 1: Create Event Receiver
Exercise 2: Building and Deploying Event Receiver
Exercise 3: Activate Event Receiver through Object Model
Exercise 4: Test Event Receiver

Lab : Creating and Deploying a Preprocess Web Event Receiver in Visual Basic

Exercise 1: Event Receiver Creation
Exercise 2: Building and Deploying Event Receiver
Exercise 3: Activate Event Receiver through Object Model
Exercise 4: Test Event Receiver

Module 6: Workflow

Implementation in Windows SharePoint Services 3.0
Create Workflows with SharePoint Designer 2007
Lab : Creating a Workflow Using SharePoint Designer
Exercise 1: Author Bug Testing Workflow
Exercise 2: Set Up Conditions and Actions
Exercise 3: Process Bug Test Result
Exercise 4: Create Instance of Submission Approval Workflow
Exercise 5: Review Workflow Objects Created in SharePoint Designer

Course Description: This two-day instructor-led course provides students with the knowledge and skills to successfully deploy Windows Vista business desktops throughout their organization. Students are introduced to the deployment life cycle, which consists of planning for the deployment, building and customizing the deployment method, and then implementing the actual deployment. Students are introduced to the tools and guidance to be used throughout various stages of the deployment life cycle.

Who Should Attend: This course is intended for IT Professionals, Desktop Configuration Administrators, and technical decision makers with the skills to successfully plan and deploy desktop operating systems, provision desktop computers, and deploy service packs and updates to computer systems. The intended audience is also involved in setting the strategic direction for the desktop operating system and applications.

Prerequisites: Students must have experience deploying Windows client systems and at least one year of experience managing a Microsoft Windows desktop operating system environment. Students must also have familiarity with standard client and application deployment methods such as Group Policy, disk imaging, and Systems Management Server (SMS) as well as Business Desktop Deployment (BDD) Solution Accelerator.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Describe the challenges, techniques, and processes that take place throughout the Microsoft Windows Vista desktop deployment life cycle
- Inventory, analyze, and mitigate application compatibility when planning a Microsoft Windows Vista desktop deployment
- Capture and restore user state information during a workstation deployment task
- Create a custom image of a desktop computer that runs the Microsoft Windows Vista operating system
- Deploy a Microsoft Windows Vista image using a Lite Touch methodology
- Secure a desktop running Microsoft Windows Vista using Windows Vista technology.

Course Outline:

Preparing to Deploy Windows Vista Business Desktops

Overview of the Windows Vista Desktop Deployment Process
Tools and Technologies Used in the Desktop Deployment Life Cycle
Process and Team Guidance Using Business Desktop Deployment 2007

Application Compatibility Remediation

Resolving Application Compatibility Issues
Introduction to the Application Compatibility Toolkit 5.0
Lab: Evaluating Application Compatibility Using the Microsoft Application Compatibility Toolkit

User State Migration

Overview of the User State Migration Task
Introduction to the User State Migration Tool 3.0
Lab: Migrating User State Using the User State Migration Tool

Computer Imaging Technologies for Windows Vista

Overview of Windows Vista Installation Architecture
Implementing a Windows Vista Imaging System
Lab: Customizing and Imaging a Windows Vista Business Desktop
Architecture of the Windows Vista imaging system

Deploying Windows Vista Using Lite Touch and Zero Touch

Overview of Lite Touch and Zero Touch Deployment Methods
Deploying a Lite Touch Scenario Using BDD 2007
Lab: Performing a Lite Touch Upgrade Using BDD 2007

Securing a Windows Vista Desktop

Overview of Desktop Security
Security Enhancements in Windows Vista
Lab: Securing a Windows Vista Desktop

Course Description: This three-day instructor-led course provides students with the knowledge and skills to install and configure Windows Vista desktops. It will focus on four main areas: installing, securing, networking, and browsing. By the end of the course, the student will have installed and configured a Windows Vista desktop that is secure, on the network, and ready for browsing. This is the first course in the Windows Vista curriculum and will serve as the entry point for other Windows Vista Technology Specialist courses.

Who Should Attend: The primary audience for this course is IT Professionals wishing to become technology specialists. A Windows Vista technology specialist is defined as a technology specialist interested in learning about, assessing skills, using reference products, or taking exams to prove his or her knowledge/skills/experience related to Microsoft's Windows Vista technologies.

Prerequisites: Students need to be familiar with computer hardware and devices and have basic TCP/IP knowledge and basic Microsoft Windows® and Active Directory® knowledge. In addition, students must also have experience with mapping network file shares and running commands from a command window, such as the DOS command prompt. Experience with reviewing BIOS settings is also required.

In addition, it is recommended, but not required, that students have completed the following: First Look: Getting Started with Windows Vista for IT Professionals and First Look: Getting Started with Windows Vista for IT Professionals.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Install Windows Vista.
- Upgrade to Windows Vista Ultimate Edition.
- Configure post-installation system settings.
- Configure basic networking.
- Configure advanced networking.
- Configure user account security.
- Configure Microsoft® Internet Explorer® 7.0.
- Configure network security.

Course Outline:

Module 1: Installing Windows Vista

Introduction to Windows Vista
Performing a Clean Installation of Windows Vista
Installing and Configuring Windows Vista Device Drivers
Lab: Installing Windows Vista
Verifying Hardware Requirements
Installing Windows Vista from DVD
Managing Device Drivers

Module 2: Upgrading and Migrating to Windows Vista Ultimate Edition

Upgrading and Migrating to Windows Vista from a Previous Version of Windows
Upgrading Between Windows Vista Editions
Lab: Upgrading and Migrating to Windows Vista Ultimate Edition
Running USMT to Scan a User's Settings
Upgrading from Windows XP to Windows Vista Ultimate
Upgrading from Windows Vista Business to Windows Vista Ultimate
Running USMT to Load a User's Settings

Module 3: Configuring Post-Installation System Settings

Configuring the Windows Aero Experience
Configuring Accessibility Features
Configuring Parental Controls
Lab: Configuring Post-Installation Options
Configuring Aero
Configuring Accessibility Features

Module 4: Sharing Files by Using Windows Vista

Sharing Data with Others
Managing Windows Vista Files
Lab: Sharing Files by Using Windows Vista
Sharing Data with Others
Managing Files

Module 5: Configuring Advanced Networking

Configuring Network Connectivity
Configuring Remote Access
Lab: Configuring Advanced Networking
Troubleshooting Network Connectivity
Configuring Remote Access
Troubleshooting Remote Access Connections

Module 6: Configuring User Account Security

Configuring User Account Control
Troubleshooting User Account Control
Lab: Configuring User Account Security
Requesting an Application to Run Elevated One Time
Making an Application to Always Run Elevated

Configuring User Account Control Panel

Module 7: Configuring Network Security

Configuring Windows Defender in Windows Vista
Configuring Windows Firewall Settings
Lab: Configuring Network Security
Configuring Windows Defender
Configuring Windows Firewall

Module 8: Configuring Internet Explorer 7.0

Configuring Internet Explorer 7.0
Configuring Dynamic Security for Internet Explorer 7.0
Lab: Configuring Internet Explorer 7.0
Customizing Internet Explorer 7.0
Troubleshooting Internet Explorer Security Settings

Course Description: This three-day instructor-led course provides students with the knowledge and skills to successfully maintain and troubleshoot Windows Vista computers. It will provide them with the knowledge and skills necessary to identify technical problems that can occur in an organization's client computers. The course will focus on five main troubleshooting areas: operating system, hardware, networking, security, and applications. It will also provide the knowledge and skills necessary to monitor and maintain Windows Vista client computers.

Who Should Attend: The audience for this course is experienced enterprise-level IT Professionals who focus on a broad range of desktop operating system, desktop application, mobile device, networking, and hardware support issues. As working professionals, students must quickly resolve support issues by combining technical expertise with problem solving and decision making skills and a deep understanding of their business and technical environments. They must consider all variables, justify resolutions with a logical troubleshooting approach, and relate tradeoffs to business and technical requirements and constraints.

Prerequisites: Before attending this course, students must have experience supporting previous versions of the Windows operating system, familiarity with an IT helpdesk ticketing system, experience researching online and local knowledge bases, experience running commands from a command window, such as the DOS command prompt, familiarity with computer hardware and devices, such as the ability to use Windows device manager and look for unsupported devices, basic TCP/IP knowledge, such as knowing why you need to have a valid IP address, basic Windows and Active Directory knowledge, such as knowledge about domain user accounts, domain vs. local user accounts, user profiles, and group membership, fundamentals of applications, such as how a client communicates with the server in client/server applications, and experience reviewing logs, such as understanding chronology, sequential order, severity, etc. In addition, it is recommended, but not required, that students have completed the following courses: Installing and Configuring the Windows Vista Operating System and Configuring Windows Vista Mobile Computing and Applications.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Plan and apply a troubleshooting methodology for an organization.
- Describe how the Windows Vista platform helps address troubleshooting requirements for important technical areas.
- Identify the most appropriate method to troubleshoot Windows Vista computers.
- Identify Windows Vista tools that can be used to help in the troubleshooting process.
- Identify important maintenance tools that will be used as part of IT operations for their organizations.
- Describe how monitoring and optimization tools in Windows Vista can be used to assist in troubleshooting and keeping computers performing optimally.

Course Outline:

A Troubleshooting Methodology

Overview of a Troubleshooting Methodology
 Overview of Troubleshooting Stages
 Troubleshooting Component Areas
 Lab: Preparing for Remote Troubleshooting
 Obtaining Information Remotely from Windows Vista
 Using the System Information Tool Remotely

Troubleshooting Operating Systems

Overview of the Windows Vista Startup Process
 Troubleshooting the Windows Vista Startup Process with Windows RE
 Troubleshooting Operating System Services
 Lab: Troubleshooting the Operating System
 Gathering System Information and Developing a Plan of Action
 Implementing the Proposed Plan of Action
 Clean-Booting Windows Vista

Troubleshooting Hardware

Overview of Troubleshooting Hardware
 Dealing with Physical Failures
 Dealing with Device Driver Failures
 Troubleshooting Printing in Windows Vista
 Troubleshooting Microsoft BitLocker Protected Computers
 Lab : Troubleshooting Hardware
 Gathering Customer Information and Developing a Plan of Action
 Resolving Printing Problems
 Checking for Signed Device Drivers

Troubleshooting Networks

Determining Network Settings
 Troubleshooting Network Connections
 Lab : Troubleshooting Networks
 Gathering Customer Information
 Gathering Relevant Computer Information
 Resolving the Problem

Troubleshooting Security Issues

Overview of User Account Control
 Troubleshooting User Account Control
 Implementing Windows Firewall
 Implementing Windows Defender
 Lab : Troubleshooting Security Related Issues
 Gathering Customer and System Information and Developing a Plan of Action
 Implementing a Plan of Action
 Additional Security Checks

Troubleshooting Applications

Windows Application Troubleshooting
 Web Application Troubleshooting
 Lab : Troubleshooting Applications
 Analyzing Collected Information and Identifying Probable Causes of a Web Application Problem
 Implementing a Plan of Action

Maintaining and Optimizing Windows Vista

Maintaining Windows Vista
 Optimizing Windows Vista Performance
 Monitoring Windows Vista
 Lab : Maintaining and Optimizing Windows Vista
 Analyzing Collected Information and Identifying Probable Causes of a Computer Performance Problem
 Implementing a Plan of Action
 View and Interpret Reports in Performance Monitor

Course Description: This five-day instructor-led course enables developers who are migrating from a different development language, an earlier version of Visual Basic .NET or Visual C#, or who have completed entry-level training and experience using Microsoft Visual Studio 2005, to gain in-depth guidance on programming the Microsoft .NET Framework versions 2.0 and 3.0 with Visual Studio 2005.

Who Should Attend: The target audience for this course is developers who already have professional programming experience in C, C++, earlier versions of Visual Basic .NET or Visual C#, Java, or another programming language, and who plan to use Visual Studio 2005 to develop enterprise business solutions.

Prerequisites: Before attending this course, students must have professional experience with programming in C, C++, earlier versions of Visual Basic or C#, Java, or another programming language. Students must also have familiarity with the Microsoft .NET Framework strategy and the .NET Framework versions 2.0 and 3.0.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Describe the .NET Framework.
- Create applications with Visual Studio 2005.
- Describe Visual Basic .NET and Visual C# language and syntax features.
- Use essential object-oriented programming features.
- Use advanced object-oriented programming features.
- Explain security in the .NET Framework.
- Access data by using ADO.NET.
- Build Windows Presentation Foundation applications.
- Describe distributed applications, and create distributed applications with Windows Communication Foundation.
- Monitor .NET Framework applications by using instrumentation.
- Compile, test, and deploy .NET Framework applications.
- Interoperate with unmanaged code (optional).
- Describe software design and development (optional).

Course Outline:

Overview of the Microsoft .NET Framework

Introduction to the .NET Framework
 .NET Framework 3.0 Technologies
 Lab 1: (There is no lab for this module)

Creating Applications with Visual Studio 2005

Introduction to Visual Studio 2005
 Managing Solutions and Projects
 Managing the Integrated Development Environment
 Writing Code with Visual Studio 2005
 Lab 2: Creating Applications with Visual Studio 2005
 Creating a Windows Forms Application by Using Visual Studio 2005
 Locating and Fixing Errors by Using the Error List Window
 Creating and Using Code Snippets

Examining Language and Syntax Features

Syntax Basics
 Language Enhancements
 Lab 3: Examining Language and Syntax Features
 Using Essential Language Constructs
 Handling Run-Time Errors
 Using Generic Collection Classes

Essentials of Object-Oriented Programming

Object-Oriented Programming Concepts
 Defining a Class
 Creating a Class Instance
 Lab 4: Essentials of Object-Oriented Programming
 Creating a SalesPerson Class
 Creating and Using a SalesPerson Instance

Advanced Object-Oriented Programming

Advanced Object-Oriented Programming Concepts
 Implementing Inheritance
 Defining and Implementing Interfaces
 Creating and Using Delegates and Events
 Lab 5: Advanced Object-Oriented Programming
 Creating a Base Class
 Creating Derived Classes
 Implementing an Interface
 Defining and Using Delegates and Events

Security in the .NET Framework

Security Overview
 Implementing Code Access Security
 Implementing Role-Based Security

Using Cryptographic Services
 Lab 6: Security in the .NET Framework
 Implementing Code Access Security
 Implementing Role-Based Security

Accessing Data by Using ADO.NET

Overview of Data Access
 Reading and Writing Relational Data
 Reading and Writing XML Data
 Lab 7: Accessing Data by Using ADO.NET
 Creating and Running Simple Commands
 Creating and Running Query Commands
 Binding Data to Controls in a Form
 Reading and Writing a DataSet as XML Data

Building Windows Presentation Foundation Applications

Introduction to Windows Presentation Foundation
 Introduction to XAML
 Programming Windows Presentation Foundation Applications
 Lab 8: Building Windows Presentation Foundation Applications
 Creating a Windows Presentation Foundation Application
 Implementing the Code-Behind for the Application
 Testing the Application

Creating Distributed Applications

Overview of Distributed Applications
 Creating and Consuming XML Web Services
 Building Windows Communication Foundation Services and Clients
 Lab 9: Creating Distributed Applications
 Creating and Consuming an XML Web Service
 Building a Windows Communication Foundation Service
 Building a Client for a Windows Communication Foundation Service

Monitoring .NET Framework Applications by Using Instrumentation

Introduction to Instrumentation
 Code Tracing and Debugging
 Performance Counters
 Event Logs
 Lab 10: Monitoring .NET Framework Applications by Using Instrumentation
 Adding Tracing to an Application
 Testing the Tracing Statements
 Adding Event Logging to an Application

Compiling, Testing, and Deploying .NET Framework Applications

Introduction to Assemblies
 Overview of the Microsoft Build Engine (MSBuild)
 Testing .NET Framework Applications
 Deploying .NET Framework Applications by Using ClickOnce
 Deploying .NET Framework Applications by Using Windows Installer
 Lab 11: Compiling, Testing, and Deploying .NET Framework Applications
 Delay Signing a Component Assembly
 Creating a Merge Module Project
 Deploying an Application by Using Windows Installer
 Installing and Testing the Application

Interoperating with Unmanaged Code (Optional)

Overview of Interoperability
 Calling Unmanaged Functions by Using Platform Invoke
 Calling COM Objects from Managed Code
 Lab 12: Interoperating with Unmanaged Code
 Calling a Windows API from Managed Code
 Calling a COM Object from Managed Code

Software Design and Development (Optional)

Introduction to the Software Development Life Cycle
 Introducing the Microsoft Solutions Framework
 Developing Applications with the Capability Maturity Model Integration
 Introducing Agile Software Development
 Lab 13: Software Design and Development
 Managing a Software Development Process
 Discussion

Course Description: In this course, you'll learn how to use features of Visual Studio 2008 and Visual Basic 2008 to build ASP.NET 3.5 Web pages. You'll gain an understanding of the architecture behind ASP.NET and how to use the various ASP.NET server controls. You'll learn to create consistent web sites using Master Pages, add membership features and configure-deploy ASP.NET applications, to authenticate users and limit their access to resources, direct users using Site Navigation tools, debug .NET, and to display/edit data using ASP.NET and ADO.NET. In addition, you'll learn new ASP.NET 3.5 features, such as support for LINQ (Language Integrated Query), CSS tools, and will become familiar with the tracing features in Visual Studio that help you quickly troubleshoot issues. You will also learn how to work with ASP.NET Profile features, ASP.NET Web Parts, and how to take advantage of creating your own user-defined control. As you progress through the course you will learn about optimizing your sites, the new support ASP.NET AJAX, the new ListView control, and so much more.

Who Should Attend: This course is for students who wish to use Visual Studio 2008 and Visual Basic 2008 to build ASP.NET 3.5 Web pages and XML Web services.

Prerequisites: This course assumes that you are familiar with Microsoft Windows 2000 or higher, the Internet and building basic Web sites. Some prior experience with Visual Studio will be helpful.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Use ASP.NET server controls to generate HTML and to execute event procedures.
- Configure and deploy ASP.NET applications.
- Promote consistency within your Web site through the use of Master Pages.
- Use Membership features to manage your Web users.
- Use Site Navigation controls to direct users within your site.
- Add scalability and reliability by setting up an out-of-process session state server.
- Use ASP.NET's new CSS tools to create consistent and maintainable sites.
- Debug .NET code that runs on the server to generate Web pages and interact with the user.
- Find problems in JavaScript code and learn about other debugging tools in Visual Studio.
- Use tracing to find problems in a Web site and monitor performance.
- Cache all or portions of a Web page to enhance performance and lighten the load on Web and database servers.
- Make Web pages more responsive to users and avoid unnecessary page flashing with AJAX.
- Display and edit data using the databound DataList, Repeater, and ListView controls.

Course Outline:

Introduction

A Review of Classic ASP
ASP.NET Web Applications
Rendering HTML with Server Controls
Data Binding in ASP.NET
Web Development Using Visual Studio

Working with Controls

Introduction to Web Controls
Simple Input Controls
HyperLink and Button Controls
List Controls
Controlling Focus

Using Rich Server Controls

Introduction to Rich Controls
The Calendar Control
The AdRotator Control
The XML Control

Accessing Data

Overview of ADO.NET
Connecting to Data
Executing Commands
Working with Data
Choosing an ADO.NET Provider

LINQ

Language Integrated Query
LINQ Syntax
LINQ to SQL
LINQ to DataSets
LINQ to XML

Configuration

Configuration Overview
Using the Web Site Administration Tool
Programming Configuration Files
Encrypting Configuration Sections

Data Binding

Introducing Data Source Controls
Reading and Write Data Using the SqlDataSource Control
Displaying and Editing Middle-Tier Data using the ObjectDataSource Control
Displaying XML Data Using the XmlDataSource Control

Validating User Input

Overview of ASP.NET Validation Controls
Using the Simple Validators
Using the Complex Validators
Summarizing Results with the ValidationSummary Control
Separating Validation into Validation Groups

CSS

Introducing Cascading Style Sheets
Investigating Styles
Using Visual Studio 2008's Tools for Working with Styles

Themes and Master Pages

Creating a Consistent Web Site
ASP.NET 2.0 Themes
Master Pages

Site Navigation

ASP.NET Web Site Navigation
Creating an XML Site Map File
Site Navigation Controls
Using the Site Navigation API
URL Mapping
Security Trimming

Displaying Data with the GridView Control

Introducing the GridView Control
Filter Data in the GridView Control
Allow Users to Select from a DropDownList in the Grid
Add a Hyperlink to the Grid
Deleting a Row and Handling Errors

Managing State

Preserving State in Web Applications
Page-Level State
Using Cookies to Preserve State
ASP.NET Session State
Storing Objects in Session State
Configuring Session State
Setting Up an Out-of-Process State Server
Storing Session State in SQL Server
Using Cookieless Session IDs
Application State

Managing Users with ASP.NET's Membership Features

Introduction to Membership and Roles
Using Membership Controls
Writing Code to Interact with Membership and Roles

Server Debugging

Server-Side Code Debugging in ASP.NET
Using the Visual Debugger
Debugging Exceptions and Handling Errors
Debugging Stored Procedures

Client-Side and Advanced Debugging

Client-side Code Debugging in ASP.NET

Debugging Client-Side JavaScript
Custom Data Visualizers
Debugging .NET Framework Source Code

ASP.NET Tracing

Page-level Tracing
Programmatic Tracing
Web.config
System.Diagnostics.Trace
Trace Viewer
TraceListeners and TraceSwitches
WebPageTraceListener
Monitor Application Health

Creating New Controls

User-defined Controls
User Controls
Custom Controls

Improving Performance with Output Caching

Output Caching
Declarative Output Caching
Cache Page Fragments with User Controls
Dynamic Content in Cached Pages
Set Caching Configuration Options

Advanced Caching Techniques

Caching Features in ASP.NET
Configure Output Caching
Expiration Policies
Database Changes
SQL Notifications for Cache Expiration

AJAX

Introduction to AJAX
Server-side AJAX Works
Controls in the AJAX Control Toolkit
Explore Client-Side AJAX

Using Data List and Repeater Controls

Repeater and DataList Controls
Templates and Styles
Bind Data to the Repeater and DataList Controls

Creating and Consuming Web Services

XML Web Service in Visual Studio
Test and Run Your Web Service
Web Service From a .NET Client
Explore the Windows Communication Foundation (WCF)

Using the List View and Database Controls

ListView Features
ListView Design Support in Visual Studio
Convert Static Pages to Dynamic Pages
Implementing Paging in the ListView Control

Reading and Writing XML Using the XML DOM

Reading and Writing XML Programmatically
Important Classes in the System.Xml Namespace
Create XML Documents

ASP.NET Profile Features

Introduction to ASP.NET's Profile Features
Create Profile Schema in Web.config
Work With ASP.NET's Profile Object Programmatically
Manage Anonymous Users and Their Profiles
Build and Use a Custom Profile Provider

Empowering User With Web Parts

Personalization Features
Web Part Server Controls
Code to Control Web Parts
Create Web Parts Controls

ASP.NET Extensions

Features of ASP.NET Extensions
Deploy Web Applications
Enable the Browser's Back Button With AJAX Pages
ASP.NET Dynamic Data

Course Description: In this five-day instructor-led course, developers learn the fundamental skills that are required to design and develop object-oriented applications for the Web and Microsoft Windows by using Microsoft Visual C# .NET and the Microsoft Visual Studio .NET development environment. This course provides an alternative entry point for less experienced programmers who are not familiar with object-oriented design and programming with Windows or the Web.

Who Should Attend: This course is intended for developers who are not familiar with object-oriented programming and developers who understand computer programming, but may have learned programming by using a non-graphical language in a university. These developers want to build highly functional Web and Windows solutions and Web Services by using Microsoft Visual C# .NET and the Microsoft .NET Framework.

Prerequisites: Experience with object-oriented programming and concepts is not required for this course. Before attending this course, students must be familiar and comfortable with basic operating system functions such as file manipulation. They should also have an understanding of the basics of structured programming, including concepts such as flow control, variables and parameters, and function calls. At least three months experience developing applications in either a graphical or non-graphical environment, or equivalent knowledge is also required.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Explain the .NET platform.
- Configure and use Visual Studio .NET.
- Program with C#.
- Implement methods.
- Implement encapsulation, inheritance, and polymorphism in C#.
- Use C# within the .NET Framework.
- Use Microsoft ADO.NET to access and manipulate data in a database.
- Create feature-rich Windows-based applications.
- Create a Web application by using Web Forms.
- Use XML Web services in a C# application.
- Experiment with more advanced features of C#.

Course Outline:

Module 1: Getting Started

Introduction to .NET and the .NET Framework
Exploring Visual Studio .NET
Creating a Windows Application Project

Module 2: Understanding C# Language Fundamentals

Understanding the Fundamentals of a C# Program
Using C# Predefined Types
Writing Expressions
Creating Conditional Statements
Creating Iteration Statements
Lab 2.1: Writing a Savings Account Calculator
Write a Savings Calculator
Extending the Savings Calculator

Module 3: Creating Objects in C#

Defining a Class
Declaring Methods
Using Constructors
Using Static Class Members
Lab 3.1: Creating Classes in C#
Creating the Bank Account Objects

Module 4: Implementing Object-Oriented Programming Techniques in C#

Designing Objects
Using Inheritance
Using Polymorphism
Lab 4.1: Creating Classes in C#
Creating the Bank Account Objects

Module 5: Programming with C#

Using Arrays
Using Collections
Using Interfaces
Using Exception Handling
Using Delegates and Events
Lab 5.1: Using Arrays
Sorting Numbers in an Array
Lab 5.2 (optional): Using Indexers and Interfaces
Writing the Check Pick-up Application
Using Interfaces
Lab 5.3 (optional): Using Delegates and Events
Working with Events and Delegates

Module 6: Building .NET-based Applications with C#

Examining the .NET Framework Class Library

Overriding Methods from System.Object
Formatting Strings and Numbers
Using Streams and Files
Lab 6.1: Using Streams
Converting a Binary File to a Text File

Module 7: Using ADO.NET to Access Data

ADO.NET Architecture
Creating an Application That Uses ADO.NET to Access Data
Changing Database Records
Lab 7.1: Creating a Data Access Application with ADO.NET
Creating a Simple Database Table Viewer
Writing a Simple Database Table Viewer
(If time permits): Creating a Simple Database Table Viewer
Lab 7.2 (optional): Creating a Windows Application That Uses ADO.NET
Creating a Windows Application That Uses ADO.NET
(If time permits): Writing an ADO.NET Application with Windows Forms

Module 8: Creating Windows-based Applications

Creating the Main Menu
Creating and Using Common Dialog Boxes
Creating and Using Custom Dialog Boxes
Creating and Using Toolbars
Creating the Status Bar
Creating and Using Combo Boxes
Lab 8.1: Building Windows Applications
Adding Common Dialog Boxes to an Application
Creating and Using Custom Dialog Boxes
Creating a Status Bar
(If Time Permits): Using ComboBox Controls

Module 9: Using XML Web Services in a C# Program

Consuming an XML Web Service
Building an XML Web Service
Lab 9.1: Using XML Web Services
Writing the Office Building Estimation Application

Module 10: Creating a Web Application with Web Forms

Creating a Web Forms Application
Accessing Data by Using a Web Forms Application
Configuring ASP.NET Application Settings
Lab 10.1: Developing an ASP.NET Web Application
Completing the User Authentication Validation Code

Completing the Code for the Master.aspx Form
Testing the Application

Module 11: Application Settings and Deployment

Working with Application Settings
Deploying Applications
Lab 11.1: Deploying an Application
Adding a Setup Project to an Existing Application
Installing and Testing the Setup Application
Lab 11.2 (optional): Working with Application Settings
Adding the UserPreferences Class
Adding User Preferences to the Form Load Event
Adding User Preferences to the loadItem_Click Event
Declaring an Instance of the UserPreferences Class in the Options Form
Setting the Checkbox Controls to the Values Contained in the Registry
Save the Checkbox Controls Values to the Registry
Testing the Zoo Information Application

Module 12: Exploring Future Learning

Exploring Additional Features of C#

Course Description: This five-day instructor-led course enables introductory-level developers who are not familiar with the Microsoft .NET Framework or Microsoft Visual Studio 2005 to gain familiarity with the Visual Studio 2005 development environment. Students will also learn basic skills using either Microsoft Visual Basic or Microsoft Visual C# as a programming language.

Who Should Attend: The target audience for this course includes both novice programmers who have a minimum of three months' programming experience and intermediate-level programmers who are otherwise new to .NET Framework development, and want to learn how to use Visual Basic or C#.

Prerequisites: Before attending this course, students must have exposure to developing applications in either a graphical or a non-graphical environment. They also should have the ability to understand and apply the basics of structured programming, including concepts such as flow control, variables, parameters, and function calls. In addition, it is recommended, but not required, that students have completed an introductory programming course.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Describe the key features of the .NET Framework and Visual Studio 2005.
- Create a simple Windows Forms application.
- Explain programming fundamentals.
- Create and use data types and variables.
- Control program execution by using conditional statements and loops.
- Explain the fundamentals of object-oriented programming.
- Create simple object-oriented applications.
- Develop the user interface in a Visual Studio 2005 application.
- Validate user input on a Windows form.
- Implement debugging and exception handling in a Visual Studio 2005 application.
- Access data in a Visual Studio 2005 application.
- Create simple Web applications and XML Web services.
- Explain the key features of the .NET Framework version 3.0 technologies.
- Test and deploy Microsoft .NET Framework applications.

Course Outline:

Module 1: Getting Started

Introduction to Microsoft .NET and the .NET Framework
Introduction to the Software Development Life Cycle
Exploring Visual Studio 2005
Lab 1: Getting Started
Working in the Development Environment

Module 2: Creating a Simple Windows Forms Application

Creating a Windows Forms Project
Adding Controls to a Windows Forms Project
Compiling and Running a Windows Forms Project
Lab 2: Creating a Simple Windows Forms Application
Creating a Windows Forms Application
Adding Controls to the Main Form
Compiling and Testing the Application

Module 3: Programming Fundamentals

Understanding Programming Concepts
Defining Program Structure and Flow
Styling and Writing Code
Lab 3: Programming Fundamentals
Displaying the Current Date on a Form
Adding a New Form to the Application
Adding Controls to the New Form

Module 4: Data Types and Variables

Introduction to Data Types
Defining and Using Variables
Defining and Using Collections
Converting Data Types
Lab 4: Data Types and Variables
Implementing Variables and Constants
Implementing Arrays and Enumerations

Module 5: Controlling Program Execution

Writing Expressions
Creating Conditional Statements
Creating Iteration Statements
Lab 5: Controlling Program Execution
Checking User Input
Enabling and Disabling Controls

Module 6: Fundamentals of Object-Oriented Programming

Introduction to Object-Oriented Programming
Defining a Class

Creating a Class Instance
Lab 6: Fundamentals of Object-Oriented Programming
Creating a SalesPerson Class
Creating and Using a SalesPerson Object

Module 7: Creating Object-Oriented Applications

Designing Classes with the Class Designer Tool
Implementing Inheritance
Defining and Implementing Interfaces
Lab 7: Creating Object-Oriented Applications
Creating a Base Class
Creating Derived Classes

Module 8: Building a User Interface

Managing Forms and Dialog Boxes
Creating Menus and Toolbars
Providing User Assistance
Lab 8: Building a User Interface
Adding a Menu and a Toolbar to an Application
Adding a Status Bar and Tooltips to an Application

Module 9: Validating User Input

Restricting User Input
Implementing Field-Level Validation
Implementing Form-Level Validation
Lab 9: Validating User Input
Adding an ErrorProvider Component to a Form
Providing Visual Cues to the User by Enabling an OK Button

Module 10: Debugging and Exception Handling

Types of Errors
Debugging Applications
Handling Exceptions in Applications
Lab 10: Debugging and Exception Handling
Detecting Logic Errors
Handling Run-Time Errors

Module 11: Accessing Data

Overview of Data Access
Accessing Data by Using the Visual Studio 2005 Integrated Development Environment
Programmatic Access to Data
Lab 11: Accessing Data
Displaying Data by Using a DataGridView Control
Access Data Programmatically by Using ADO.NET

Module 12: Creating Web Applications and XML Web Services

Creating Web Applications
Creating and Using XML Web Services
Lab 12: Creating Web Applications and XML Web Services
Creating a Web Application
Creating and Using an XML Web Service

Module 13: Exploring .NET Framework 3.0 Technologies

Introduction to the .NET Framework 3.0 Technologies
Introduction to Windows Presentation Foundation
Introduction to Windows Communication Foundation
Lab 13: Exploring .NET Framework 3.0 Technologies
Building a Windows Presentation Foundation Application
Building a Windows Communication Foundation Service
Accessing a Windows Communication Foundation Service from a Windows Presentation Foundation Client

Module 14: Testing and Deploying Microsoft .NET Framework Applications

Overview of Testing
Creating Object Test Bench Objects
Deploying Microsoft .NET Framework Applications
Lab 14: Testing and Deploying Microsoft .NET Framework Applications
Testing an Application
Deploying an Application by Using ClickOnce
Deploying an Application by Using Windows Installer

Course Description: This two-day instructor-led course provides students with the knowledge and skills to access and modify data by using ADO.NET 3.5.

Who Should Attend: This course is intended for application developers who know how to create applications in Visual Studio 2005 or 2008.

Prerequisites: Before attending this course, students should have intermediate experience developing applications by using previous versions of Microsoft Visual Studio at level 200.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Describe the purpose and structure of ADO.NET 3.5.
- Explain the role of data providers in ADO.NET 3.5.
- List the technologies and techniques available for managing data with ADO.NET 3.5.
- Insert, update, and delete data by using ADO.NET Command objects.
- Implement transactions to control data integrity and concurrency.
- Define and use a DataSet for retrieving data.
- Use a DataSet to update a database.
- Use a DataSet as a local cache in an occasionally connected environment.
- Define LINQ queries for selecting data from an in-memory data structure.
- Use LINQ to SQL to query data in a database.
- Use LINQ to SQL to modify data and save changes to the database.
- Explain how to use the ADO.NET Entity Framework to map a database schema to a logical business model.
- Use the ADO.NET Entity Framework to query and manage data.

Course Outline:

Module 1: Getting Started with ADO.NET 3.5

The Structure of ADO.NET 3.5
 Connecting to a Database and Retrieving Data
 Best Practices for Managing Connections and Performing Queries
 Lab: Connecting to a Database and Retrieving Data
 Connecting to a Database
 Executing a Simple Query
 Executing a Query That Returns a Result Set
 Executing a Query That Requires Parameters

Module 2: Modifying Data by Using ADO.NET Commands

Inserting, Updating, and Deleting Data
 Managing Data Integrity and Concurrency
 Lab: Modifying Data by Using ADO.NET Commands
 Inserting, Updating, and Deleting Data in a Database
 Implementing Transactional Updates
 Executing Commands Asynchronously

Module 3: Querying and Maintaining Data by Using DataSets

Creating and Using a DataSet to Retrieve Data
 Updating a Database by Using a DataSet
 Using a DataSet in an Occasionally Connected Environment
 Lab: Using a DataSet to Retrieve and Modify Data
 Creating a Typed DataSet
 Retrieving Data into a DataSet
 Modifying Data in a DataSet
 Saving a DataSet and Resolving Conflicts

Module 4: Querying and Maintaining Data by Using LINQ

Querying In-Memory Data by Using LINQ Query Expressions
 Retrieving Data by Using LINQ to SQL
 Modifying Data by Using LINQ to SQL
 Lab: Using LINQ to SQL to Retrieve and Modify Data
 Querying Data by Using LINQ to SQL Query Expressions
 Retrieving Data by Using LINQ to SQL Entity Classes
 Modifying Data by Using LINQ to SQL

Module 5: Implementing an Entity Model by Using the ADO.NET Entity Framework

Creating an Entity Data Model by Using the ADO.NET Entity Framework
 Querying and Modifying Data by Using the ADO.NET Entity Framework
 Lab: Using the ADO.NET Entity Framework to Implement an Entity Data Model
 Creating an Entity Data Model
 Querying and Modifying Data in an Entity Data Model
 Instantiating and Manipulating Entities by Using Object Services

Module 6: Building Occasionally Connected Solutions by Using Synchronization Services

Understanding Microsoft Synchronization Services
 Downloading Data by Using Synchronization Services
 Uploading Data by Using Synchronization Services

Lab: Building Occasionally Connected Solutions by Using Synchronization Services
 Modifying a Database Schema to Support Synchronization
 Downloading Data to a Client Computer
 Uploading Data Changes to the Database

Course Description: This two-day instructor-led course provides students with the knowledge and skills to create a fully functional Web application by using ASP.NET 3.5.

Who Should Attend: This course is intended for application developers who know how to create applications in Visual Studio 2005 or 2008.

Prerequisites: Before attending this course, students should have intermediate experience developing applications by using previous versions of Microsoft Visual Studio at level 200.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Explain how to create dynamic Web pages by using ASP.NET.
- Manage state, handle requests, and improve accessibility by using the features of ASP.NET.
- Configure an ASP.NET application by using .config files
- Create a user interface on an ASP.NET page by using standard Web server controls.
- Create a user control and a custom server control and add them to an ASP.NET page.
- Access and manipulate data from different sources by using ADO.NET 3.5.
- Access and manipulate data from Windows Communication Foundation services or Web services.
- Present data to the user by placing data-bound controls on an ASP.NET page.
- Improve page responsiveness by using the ASP.NET AJAX controls.
- Interact with the user, access services, and access the AJAX client-side library by using client scripts.
- Find and eliminate bugs in an ASP.NET application.

Course Outline:

Module 1: Getting Started with ASP.NET 3.5

Building Dynamic Web Pages with ASP.NET 3.5

ASP.NET 3.5 Features

Configuring ASP.NET Applications

Lab: Creating and Configuring an ASP.NET 3.5 Application

Creating an ASP.NET Application

Configuring Session State

Configuring Caching

Module 2: Implementing a User Interface with ASP.NET Server Controls

Consuming Controls to Interact with Users

Creating Custom Controls

Lab: Consuming and Creating ASP.NET Server Controls

Creating a User Interface by Using Web Server Controls in an ASP.NET Form

Creating User Controls and Custom Server Controls

Module 3: Displaying and Manipulating Data in ASP.NET 3.5

Accessing Data by Using ADO.NET 3.5

Accessing Data from Services

Rendering Data in Web Controls

Lab: Displaying and Manipulating Data in ASP.NET 3.5

Accessing Data from an XML File as a Data Source

Consuming Data from a Web Service

Displaying and Updating Data by Using Data-Bound Controls

Module 4: Creating Responsive Pages by Using Client-Side Technologies

Creating Partial Page Updates by Using AJAX

Scripting Actions on the Web Client

Lab: Creating Responsive Pages by Using Client-Side Technologies

Implementing Partial Page Updates by Using AJAX Controls

Accessing a Web Service by Using a Client-Side Script

Module 5: Debugging and Deploying ASP.NET Applications

Troubleshooting and Debugging ASP.NET Applications

Deploying Completed ASP.NET Applications

Lab: Debugging and Deploying ASP.NET Applications

Debugging an ASP.NET Application

Deploying an ASP.NET Application

Module 6: Writing ASP.NET Applications for Mobile Devices

This module explains how to ensure that mobile device users can access all the functionality of a Web site.

Lessons

Rendering Pages According to Device Capabilities

Creating Pages with Mobile Web Controls

Lab: Adding Support for Mobile Devices

Adding a Mobile Web Form to Your Application

Displaying Data by Using Mobile Web Controls