

Course Name: Microsoft Windows Server 2003

Course Overview:

Discover how to design and administer systems based on Windows Server 2003 whether you're coming from Windows NT 4.0, Windows 2000, or another environment. Because Windows Server 2003 hosts a superset of the functionality in Windows 2000 Server, the older version is still covered. Our course will introduce you to new aspects of Active Directory, Terminal Services, Group Policy, and IIS as well as give you tips on administering your Windows 2000 Servers. This course also incorporates the latest release of Server 2003 Release 2 (R2).

Hands-on labs illustrate how the Windows Server 2003 platform acts as a foundation for other services.

This class is part of the exclusive, Global Knowledge Course+ program.

Course Length: Self-Paced

Who should attend?

- Network technicians who configure and support internetworks
- Individuals seeking CCNA® certification
- IT professionals
- IT Managers

You will learn:

- Learn how to install, configure, and implement Windows Server 2003
- Microsoft Management Console
- Volume Shadow Copy and Previous Versions
- Introduction to Kerberos, Certificate Services, and Smart Cards
- Understand IIS 6.0 and Web Services
- Network Infrastructure with DHCP and DNS
- Implement Active Directory Services
- Integrate Legacy Systems
- Implement Terminal Server
- Assistance in preparing for Microsoft Exams 70-290 and 70-291

Prerequisites: None

Course Fees: Please contact a sales associate for pricing.

Customizable Course: No

Course Content:

Windows Server Features

- Windows Evolution
- Windows 2000 Family
- Windows Server 2003 Family
- Improvements from NT 4.0
- Windows Components
- Windows Server 2003 Hardware Requirements
- Microsoft Management Console
- File System Features
- Network Infrastructure
- Networking Features
- What is a Domain?
- Active Directory
- Group Policy
- IntelliMirror
- Security Features
- Command Prompt (cmd)
- Virtual DOS Machine (command)

Installing Windows Server

- Pre-installation Checklist
- Install Process
- Installation Methods
- Installing From Local CD ROM
- Installing Over the Network
- Add or Remove Programs
- Change or Remove Programs
- Add New Programs
- Windows Components Wizard
- Group Policy - Add or Remove Programs
- Group Policy - Software Restriction Policies

Configuration Basics

- Computer Management Tool
- Microsoft Management Console
- Adding a Snap-in
- Working With the MMC
- Saving a MMC Console
- Managing Another Computer
- Group Policy and the MMC
- MMC-Restricted/Permitted Snap-ins
- MMC vs. Control Panel
- Group Policy and Control Panel
- Administrative Tools
- Administrative Tools Package
- Resource Kit Support Tools
- Configure Your Server
- Date and Time Properties
- Licensing
- Power Options
- Taskbar Properties
- Start Menu Properties
- Customize Classic Start Menu
- Event Viewer
- System Applet
- Computer Name
- Configuring the DNS Suffix

Understanding Active Directory

- Directory Service Overview
- Benefits of Directory Services for Administration
- Objects and their Attributes
- User Object Attributes
- PrintQueue Object Attributes
- Object Class Schema
- Directory Schema
- Naming of Objects
- Default Containers
- Organizational Unit (OU)
- Naming Scheme of Objects

- Relative Distinguished Name (RDN)
- Distinguished Name (DN)
- Containment Attributes
- Partitions of Active Directory
- Domains as Partitions
- DNS Domain Components as Objects
- LDAP and Kerberos Protocols
- Locating a Domain Controller
- Changing Attributes
- Security Principals
- Properties of a Domain
- Domain Controller Functions
- One Domain or More
- Trust Basics
- Managing Manual Trusts
- Adding a Manual Trust
- Subordinate References
- Grouping Domains into a Tree
- Trust Between Domains
- Trust Differences from Windows NT 4.0
- Transitivity in a Tree or Forest
- Grouping Trees into a Forest
- Global Catalog
- Contents of the Global Catalog
- Dividing a Forest Into Sites
- Definitions Revisited
- User: Profile Properties
- What are Groups?
- Group Membership
- Groups are NOT Organizational Units
- Group Types and Scopes
- Group Membership vs. Resource Access
- Universal Groups
- Group Membership Rules
- Guidelines to Assigning Permissions
- Creating Groups
- Group Properties
- Adding Members to a Group
- Delegating Management in an Organizational Unit
- Specifying Delegated Tasks
- Advanced ACL View
- Computer Accounts
- Filtering Views
- Specifying Custom Filters
- Working with Filtered Views
- Searching
- Using Search Results

Managing Users in the Directory

- Creating Objects in the Directory
- Using LDIFDE
- Using Organizational Units (OUs)
- Contacts and Users
- User/Contact: General Properties
- Contact: Address
- Contact: Telephones
- OU: Managed By
- Contact: Organization
- User: Account Properties

Using Group Policy in the Enterprise

- Group Policy Objects
- Local Computer Policy
- Resultant Set of Policy (RSOP)
- Precedence Examples
- Group Policy Object Editor
- Computer Startup
- User Logon
- Relationship to Windows NT 4.0 System Policy
- What Can Group Policy be Used For?
- Configuring User Desktop
- Configuring Logon Scripts
- Security Policy
- Predefined Group Policies
- Apply Policy Across a Forest
- Scope of Group Policy

- How Multiple Policies are Applied
- Software Installation Service
- Configuring Software Installation
- Assigning Applications
- Publishing Applications
- Can Only Administrators Install Applications?

Managing File Systems

- Physical Storage Types
- Disk Partitioning
- Partitions and File System Hierarchies
- File System Types
- Dual Booting
- File System Properties
- Volume Checking Tools
- Storage Hardware
- File and Folder Attributes
- DOS-Style Attributes
- Advanced Attributes
- Customizing Folder Appearance
- Disk Management
- Volumes, Partitions, and Disks
- Defragmentation
- Junctions and Volume Mount Points
- Configuring User Disk Quotas
- Monitoring User Disk Quotas
- Centralized Quota Configuration
- Centralized Windows File Protection
- Volume ShadowCopy Service
- Shadow Copy Storage
- Configuring Shadow Copies

Security Fundamentals

- Authentication
- Log on Locally
- NTLM Authentication
- Kerberos Authentication
- Inter-Domain Authentication
- Referrals Follow Trust
- Symmetric Key Cryptography
- Public Key Cryptography
- What is a Certificate Authority?
- Certificate Server
- Smartcard Authentication
- Smartcards
- Programming the Smartcard
- Dial-In Authentication Levels
- Data Link Authentication
- Remote Authentication Dial-In User Service (RADIUS)
- NTFS Permissions
- Security Principals
- Access Control Entry (ACE)
- Each Permission Allowed/Denied
- Basic NTFS Permissions
- New NTFS Permissions
- Permissions on a File
- Shorthand Permissions
- Configuring Permissions
- Advanced Security - DACL
- Effective Permissions
- Centralized Permission Configuration
- Selecting a Folder and Inheritance
- Take Ownership

File and Print Sharing

- Sharing Folders
- Client for Microsoft Networks
- File and Printer Sharing
- NetBIOS over TCP/IP
- WINS Settings
- NetBIOS Computer Name

- Node Type
- Common Internet File System (CIFS)
- Managing Shared Folders
- Creating a Share
- Share Permissions
- Connecting to a Share
- Add Network Place
- Creating Shares in the Directory
- Viewing Published Shares
- Locating Shares in the Directory
- Folder Redirection
- Previous Versions Client
- Viewing a Previous Version
- Rolling Back (Restore)
- Adding a Printer
- Choose Local or Network Attachment
- Printers and Faxes Folder
- Configuring Printer Properties
- Setting Printer Permissions
- Advanced Print Permissions
- Advanced Printer Settings
- Sharing a Printer
- Printer in the Directory
- Where is the Printer in the Directory?
- Moving Objects
- Printer at Final Destination
- Modifying Printer Properties
- Centralizing Offline File Configuration
- Restricting Network Connections
- Printers in Active Directory
- Web Site Properties
- Web Site Identification
- Multiple Identities
- Web Site Log Rollover
- W3C Extended Log Format
- ODBC Logging
- Site Performance Options
- ISAPI Filters
- Home Folder
- Site Home Folder
- E-Mail Protocols and Services
- SMTP Domain Properties
- POP3 Service Configuration

Assigning IP Addresses Using DHCP

- Role of DHCP in a Network
- DHCP Lease Steps
- Client Chooses Server
- Lease Renewals
- DHCP Relay Agent
- Obtain an IP Address Automatically
- Obtain DNS Server Address
- Automatic Private IP Address
- Static Alternate Configuration
- Connection Repair
- Connection Details
- Confirming IP Address Assignment
- Troubleshooting DHCP Clients
- When the DHCP Server Fails
- Installing the DHCP Server Service
- Selecting the DHCP Service
- DHCP Server Configuration Program
- Authorizing a DHCP Server in the Directory
- Scopes
- Multiple Scopes Per Server
- Configuring a Scope
- Reservations

Internet Information Services (IIS)

- Web Application Services
- Internet Information Services
- World Wide Web Service
- Protocols: HTTP, FTP, SMTP
- Kernel Mode Web Listener
- IIS Manager

- Reserving Addresses for Clients
- Reserving the Whole Scope
- Exclusion Range
- Address Pool with Exclusion
- Viewing Address Leases
- DHCP Terminology: Option
- Viewing DHCP Options
- Configuring DHCP Options

Domain Name System (DNS)

- People Like Names
- Naming Scheme of The Internet
- Types of Name Translation
- Domain Name Resolution Process
- Client-side Caching
- Client Configuration
- NetBIOS Name Resolution
- DNS Name Resolution
- Overall Name Resolution
- Client Domain Name
- Zone Concepts
- Zone Database
- Viewing the Zone Database
- Using Aliases
- Locating Services with DNS
- Evolution of the SRV Record
- Anatomy of a SRV Record
- How LDAP and Kerberos are Found
- Reverse Queries
- Viewing a Reverse Lookup Zone
- Testing DNS with Nslookup
- DNS Manager Self-test
- Installing the DNS Service
- Configuring Root Server Location
- Zone Authority & SOA Record
- Start of Authority Record
- Primary vs. Secondary DNS Roles
- DNS Fault Tolerance

- DNS Load Sharing
- Zone Master
- Types and Roles of Zones
- Standard Zone Database
- Zone Transfer Operation
- Incremental Zone Transfer
- DNS Notify
- Adding Secondary Replicas
- Letting the Zone Know
- Zone Transfer Configuration
- Enabling Notify
- Zone Database Dynamic Update
- Updates Only at Primary
- Configuring a Zone to Allow Dynamic Update
- Securely Updating DNS Records
- DNS and DHCP Integration
- Configuring DHCP for Dynamic Update
- Active Directory Integrated Zone
- ADI Zone Database
- ForestDNSZones and DomainDNSZones
- ADI Replication Choices
- Integration with UNIX DNS Servers

DNS Infrastructure

- Subdomain Delegation
- Multiple Delegations
- Public vs. Private Root Zone
- Configuring Root Server Location
- Querying Root Servers
- Recursion
- Forwarding DNS Queries
- Following a Referral
- Forwarding Outside
- Conditional Forwarding
- Stub Zones
- Installing a Caching Server
- Non-Authoritative Answers

- Clearing Server Cache
- Classroom DNS Configuration

New Active Directory Domains

- Directory Design Considerations
- Forest Definition Revisited
- Example Forest
- One Domain Per Forest
- Upgrading with Structure
- One Domain Model
- Using Organizational Units
- OUs Can be Nested
- DNS Domain Components as Glue
- Design Phases
- Phase One - Draw Org. Charts
- Phase Two - Analysis
- Phase Three - Choose Model
- Phase Four - Partition into Domains
- One or Multiple Forests
- Installing the Active Directory Service
- Domain Controller Installation Requirements
- Windows Server 2003 dcpromo Command
- Creating a New Domain
- Mixed Domain Mode vs. Native Domain Mode
- Changing to Native Mode
- Windows Server 2003 Native Mode
- Raising Domain Functional Level (DFL)
- Domain and Forest Functional Levels
- Raising DFL in Domains and Trusts
- Changing Forest Functional Level (FFL)
- Domain Rename

Additional Domain Controllers

- Sites Revisited
- Presence of Several Domains
- Sites and Services Manager
- Subnets
- DC Server Objects
- Domain Controller Selection
- Sites and Site Links
- Site Coverage
- Reasons for Additional Domain Controllers
- Promoting Additional Domain Controllers
- Active Directory is Multimaster
- Flexible Single Master Operation (FSMO)
- Changing FSMO Roles
- Changing FSMO Roles using NTDSutil
- Active Directory Sites and Services
- Replication Partners and NTDS Settings
- Requesting Replication
- Making a Domain Controller a Global Catalog Server

Terminal Server

- Thin Clients: Remote Processing
- Telnet
- Terminal Services
- Architecture of Terminal Services
- Benefits of Terminal Server
- Hardware and Bandwidth Requirements
- Remote Desktop Connection
- Display Options and Full Screen Mode
- Mapping Local Resources
- Connecting Into a Terminal Server
- Client-Side Resources

- Logging in to Terminal Server
- Terminal Server Desktop
- Terminal Server vs. Remote Desktop
- Installing Terminal Server
- Terminal Server Licensing
- Terminal Services Configuration
- Terminal Server Network Security
- Setting Override Hierarchy
- Terminal Services Manager
- Session Connection Details
- Remote Control of Desktops
- Remote Control Acceptance
- Terminal Server Web Access
- Installing Remote Desktop Web Connection
- Secure Sockets Layer VPN

Troubleshooting

- The Nature of Troubleshooting
- Repairing the System
- System Backup and Recovery
- Enhanced Backup Utility
- Backup Type
- Restoring Files from Backup
- Restoring Active Directory
- Managing FSMO Roles with NTDSUtil
- Performance Monitor

Hands-On Labs

Lab 1: Install or Upgrade to Windows Server 2003

- Log on to Windows 2000 Advanced Server
- Initiate an upgrade to Windows Server 2003 - Enterprise Edition

- Wait for the upgrade to complete and troubleshoot any problems
- Log on to Windows Server 2003 - Enterprise Edition

Lab 2: Create Custom Consoles and Install Support Tools

- Test network connectivity with ping
- Join your computer to an Active Directory domain
- Learn some basics of the Microsoft Management Console (MMC)
- Become familiar with computer management
- Install the Administrative Tools Package
- Install the Windows Server 2003 support tools
- Configure date, time, and time zone
- Changing Computer Name
- Test network connectivity
- Modifying TCP/IP properties
- Joining an Active Directory domain

Lab 3: Import and Export Active Directory Objects

- Using Active Directory sites and services
- Using Active Directory domains and trusts
- Using Active Directory users and computers

Lab 4: Create Contacts, Users, and Groups in an Organizational Unit

- Create an organizational unit (OU)

- Place a new administrative user account in that OU
- Create two groups in the OU
- Delegate permissions for OU (departmental) management
- Configure a template user
- Make copies of the template user
- Search for other user accounts
- Create and connect to shared folders
- Publish shares in Active Directory
- Add printers and publish them in the directory
- Search for shared folders and printers in the directory
- Previous Versions and Shadow Copies

Lab 5: Construct Departmental Policy with Inherited Security Settings

- Move your server's computer account into a subordinate OU to isolate policy changes
- Create a departmental group policy administrator
- Establish a departmental logon script
- Redirect My Documents for users in a department

Lab 6: Add Dynamic Disk Volumes, Establish Quotas, and Mount Volumes

- Run the Disk Defragmenter
- Enable Volume Shadow Copy
- Create a folder for later sharing
- Using Disk Management
- Centrally configuring disk quotas

Lab 7: File Permissions

- Configure folder permissions
- Configure Dropbox Security
- Creating files
- Accessing files

Lab 8: Establish Shared Folders and Access Previous Versions

Lab 9: Establish a Web Site and Connect to a Web Printer

- Configure web site properties in IIS Manager
- Create a virtual folder within that site
- Test connectivity to these services
- Connect to a printer using a web browser

Lab 10: Configure and Test DHCP Services

- Configure a DHCP server to assign IP addresses
- Configure a DHCP client to receive automatically assigned addresses
- Use troubleshooting tools to confirm network connectivity

Lab 11: Install DNS and Configure Replication

- Install Domain Name System (DNS) Server
- Add a secondary replica of a reverse lookup zone
- Configure a primary forward lookup zone on one server
- Establish a secondary replica for the forward lookup zone on another DNS server

- Configure and test replication between the primary and secondary replicas
- Enable change notifications
- Enable dynamic update on the primary replica

Lab 12: Delegate DNS Authority and Establish Forwarding

- Set DNS servers to forward queries for unknown zones to an upper level DNS server
- Delegate authority for the sub-zone from the upper level DNS zone's servers to the new servers

Lab 13: Create a New Active Directory Domain

- Plan server roles and determine which server becomes the first domain controller, and which server(s) to promote later
- Promote one server to be the first domain controller for a new child domain in an existing Active Directory forest
- Confirm the creation of DNS SRV records

Lab 14: Add Additional Domain Controllers, FSMO Roles, and Site Coverage

- Confirm the existence of the Active Directory domain
- Promote a server to be an additional domain controller in an existing Active Directory domain
- Confirm the creation of new SRV records in DNS

- Determine which machines are operations masters
- Change operations master (FSMO) roles
- Create objects in the directory
- Investigate replication partnerships
- Initiate Active Directory replication
- Confirm replication
- Configure a Global Catalog Server (GCS)

Lab 15: Configure Terminal Server and Remote Desktop

- Modify the membership of the Remote Desktop Users group so those specific non-administrators may log on
- Configure specific groups of user accounts in Active Directory to have access to your server
- Install Terminal Services
- Enable the Themes service and select the Windows XP style theme for a particular user
- Examine the Users and Processes property sheets within Task Manager on the Terminal server