

## Configuring and Troubleshooting Windows Server 2008 Active Directory Domain Services

### Introduction

This **five-day** instructor-led course provides in-depth training on configuring **Active Directory Domain Services (AD DS)** in a distributed environment, implementing **Group Policies**, performing **backup and restore**, and **monitoring and troubleshooting** Active Directory related issues.

### Audience Profile

This course is intended for **Active Directory Technology Specialists, Server Administrators, and Enterprise Administrators** who want to learn how to implement Active Directory in a distributed environment, secure domains by using Group Policies, back up, restore, monitor, and troubleshoot Active Directory configuration to ensure trouble-free operation.

### At Course Completion

After completing this course, students will be able to:

- Describe the features and functionality of Active Directory Domain Services.
- Perform secure and efficient administration of Active Directory.
- Manage users and service accounts.
- Manage groups.
- Manage computer accounts.
- Implement a Group Policy infrastructure.
- Manage enterprise security and configuration by using Group Policy settings.
- Secure administration.
- Improve the security of authentication in an AD DS Domain.
- Configure Domain Name System.
- Administer AD DS domain controllers.
- Manage sites and Active Directory.
- Monitor, maintain, and back up directory Service to ensure continuity.
- Manage multiple domains and forests.

### Pre-requisites

- Basic understanding of networking
- Intermediate understanding of network operating systems
- An awareness of security best practices
- Basic knowledge of server hardware
- Some experience creating objects in Active Directory

- Basic concepts of backup and recovery in a Windows Server environment

### Duration

- 5 days
- Includes lunch, refreshments and manuals

**Level:** 200

## Course Outline

### Module 1: Introducing Active Directory Domain Services

This module explains how to install and configure Active Directory Domain Services and install and configure a read-only domain controller.

#### Lessons

- Lesson 1: Overview of Active Directory, Identity, and Access
- Lesson 2: Active Directory Components and Concepts
- Lesson 3: Install Active Directory Domain Services

#### Lab : Install an AD DS DC to Create a Single Domain Forest

- Perform Post-Installation Configuration Tasks
- Install a New Windows Server 2008 Forest with the Windows Interface
- Raise Domain and Forest Functional Levels

**After completing this module, students will be able to:**

- Describe the functionality of AD DS in an enterprise in relation to identity and access.
- Describe the major components of AD DS.
- Install AD DS and configure it as a domain controller.

### Module 2: Administering Active Directory Securely and Efficiently

This module explains how to work securely and efficiently in Active Directory.

#### Lessons

- Work with Active Directory Administration Tools
- Custom Consoles and Least Privilege
- Find Objects in Active Directory
- Use Windows PowerShell to Administer Active Directory

#### Lab : Administer Active Directory Using Administrative Tools

- Perform Administrative Tasks by Using Administrative Tools
- Create a Custom Active Directory Administrative Console



- Perform Administrative Tasks with Least Privilege, Run As Administrator, and User Account Control

## Lab : Find Objects in Active Directory

- Find Objects in Active Directory
- Use Saved Queries

## Lab : Use Windows PowerShell to Administer Active Directory

- Use PowerShell Cmdlets to Administer Active Directory

### After completing this module, students will be able to:

- Describe and work with Active Directory administration tools.
- Describe the purpose and functionality of custom consoles and least privilege.
- Locate objects in Active Directory.
- Administer Active Directory by using Windows PowerShell.

## Module 3: Managing Users and Service Accounts

This module explains how to manage and support user accounts in Active Directory.

### Lessons

Create and Administer User Accounts  
Configure User Object Attributes  
Automate User Account Creation  
Create and Configure Managed Service Accounts

## Lab : Create and Administer User Accounts

- Create User Accounts
- Administer User Accounts

## Lab : Configure User Object Attributes

- Examine User Object Attributes
- Manage User Object Attributes
- Create Users from a Template

## Lab : Automate User Account Creation

- Export and Import Users with CSVDE
- Import Users with LDIFDE

## Lab : Create and Administer Managed Service Accounts

- Create and Associate a Managed Service Account

### After completing this module, students will be able to:

- Create and administer user accounts.
- Configure user object attributes.
- Automate user account creation.
- Create and configure managed service accounts.

## Module 4: Managing Groups

This module explains how to create, modify, delete, and support group objects in Active Directory.

### Lessons

- Overview of Groups
- Administer Groups
- Best Practices for Group Management

## Lab : Administer Groups

- Implement Role-Based Management by Using Groups
- (Advanced Optional) Explore Group Membership Reporting Tools
- (Advanced Optional) Understand "Account Unknown" Permissions

## Lab : Best Practices for Group Management

- Implement Best Practices for Group Management

### After completing this module, students will be able to:

- Describe the role of groups in managing an enterprise.
- Administer groups with by using the built-in tools in Windows Server 2008CSVDE and LDIFDE.
- Describe the best practices for managing groups.

## Module 5: Managing Computer Accounts

This module explains how to create and configure computer accounts.

### Lessons

- Create Computers and Join the Domain
- Administer Computer Objects and Accounts
- Perform an Offline Domain Join

## Lab : Create Computers and Join the Domain

- Join a computer to the Domain with the Windows Interface
- Secure Computer Joins
- Manage Computer Account Creation

## Lab : Administer Computer Objects and Accounts

- Administer Computer Objects Through Their Life Cycle
- Administer and Troubleshoot Computer Accounts

## Lab : Configure an Offline Domain Join

- Configure an Offline Domain Join

### After completing this module, students will be able to:

- Create computer accounts and join them to a domain.
- Administer computer objects and accounts by using the Windows Interface and command-line tools.
- Describe and perform the Offline Domain Join process.



## Module 6: Implementing a Group Policy Infrastructure

This module explains what Group Policy is, how it works, and how best to implement Group Policy in your organization.

### Lessons

- Understand Group Policy
- Implement GPOs
- Deeper Look at Settings and GPOs
- Group Policy Preferences
- Manage Group Policy Scope
- Group Policy Processing
- Troubleshoot Policy Application

### Lab : Implement Group Policy

- Create, Edit, and Link GPOs

### Lab : Explore Group Policy Settings and Features

- Use Filtering and Commenting
- Manage Administrative Templates

### Lab : Managing Group Policy Preferences

- Configure Group Policy Preferences
- Verify the Application of Group Policy Preferences

### Lab : Manage Group Policy Scope

- Configure GPO Scope with Links
- Configure GPO Scope with Filtering
- Configure Loopback Processing

### Lab : Troubleshoot Policy Application

- Perform RSoP Analysis
- Use the Group Policy Modeling Wizard
- View Policy Events

### After completing this module, students will be able to:

- Describe the components and technologies that comprise the Group Policy framework.
- Implement GPOs.
- Configure and understand a variety of policy setting types.
- Understand and configure Group Policy preferences.
- Scope GPOs by using links, security groups, Windows Management Instrumentation filters, loopback processing, and preference targeting.
- Describe how GPOs are processed.
- Locate the event logs containing Group Policy–related events and troubleshoot Group Policy application.

## Module 7: Managing Enterprise Security and Configuration with Group Policy Settings

This module explains how to manage security and software installation and how to audit files and folders.

### Lessons

- Delegate the Support of Computers
- Manage Security Settings
- Manage Software with GPSI
- Auditing
- Software Restriction Policy and AppLocker

### Lab : Delegate the Support of Computers

- Configure the Membership of Administrators by Using Restricted Groups

### Lab : Manage Security Settings

- Manage Local Security Settings
- Create a Security Template

### Lab : Manage Software with GPSI

- Deploy Software with GPSI
- Upgrade Applications with GPSI

### Lab : Audit File System Access

- Configure Permissions and Audit Settings
- Configure Audit Policy
- Examine Audit Events

### Lab : Configure Application Control Policies

- Configure Application Control Policies

### After completing this module, students will be able to:

- Delegate the support of computers.
- Manage security settings.
- Manage software by using GPSI.
- Describe the purpose and functionality of auditing
- Describe the purpose of Software Restriction Policy and AppLocker.

## Module 8: Securing Administration

This module explains how to administer Active Directory Domain Services Securely.

### Lessons

- Delegate Administrative Permissions
- Audit Active Directory Administration

### Lab : Delegate Administration

- Delegate Permission to Create and Support User Accounts



- View Delegated Permissions
- Remove and Reset Permissions

## Lab : Audit Active Directory Changes

- Audit Changes to Active Directory Using Default Audit Policy
- Audit Changes to Active Directory Using Directory Service Changes Auditing

### After completing this module, students will be able to:

- Delegate administrative permissions.
- Audit Active Directory administration.

## Module 9: Improving the Security of Authentication in an AD DS Domain

This module explains the domain-side components of authentication, including the policies that specify password requirements and the auditing of authentication-related activities.

### Lessons

- Configure Password and Lockout Policies
- Audit Authentication
- Configure Read-Only Domain Controllers

### Lab : Configure Password and Account Lockout Policies

- Configure the Domain's Password and Lockout Policies
- Configure a Fine-Grained Password Policy

### Lab : Audit Authentication

- Audit Authentication

### Lab : Configure Read-Only Domain Controllers

- Exercise 1: Install an RODC
- Exercise 2: Configure Password Replication Policy
- Exercise 3: Manage Credential Caching

### After completing this module, students will be able to:

- Configure password and lockout policies.
- Audit authentication.
- Configure read-only domain controllers.

## Module 10: Configuring Domain Name System

This module explains how to implement DNS to support name resolution both within your AD DS domain and outside your domain and your intranet.

### Lessons

- Review of DNS Concepts, Components, and Processes
- Install and Configure DNS in an AD DS Domain
- Integration of AD DS, DNS, and Windows
- Advanced DNS Configuration and Administration

### Lab : Installing the DNS Service

- Add the DNS Server Role
- Configure Forward Lookup Zones and Resource Records

### Lab : Advanced Configuration of DNS

- Enable Scavenging of DNS Zones
- Create Reverse Lookup Zones
- Explore Domain Controller Location
- Configure Name Resolution for External Domains

### After completing this module, students will be able to:

- Describe DNS concepts, components, and processes.
- Install and configure DNS in an AD DS domain.
- Describe the integration of AD DS, DNS, and Windows.
- Describe advanced DNS configuration and administration tasks.

## Module 11: Administering AD DS Domain Controllers

This module explains how to add Windows Server 2008 domain controllers to a forest or domain, how to prepare a Microsoft Windows Server 2003 forest or domain for its first Windows Server 2008 DC, how to manage the roles performed by DCs, and how to migrate the replication of SYSVOL from the File Replication Service (FRS) used in previous versions of Windows to the Distributed File System Replication (DFS-R) mechanism that provides more robust and manageable replication.

### Lessons

- Domain Controller Installation Options
- Install a Server Core DC
- Manage Operations Masters
- Configure DFS-R Replication of SYSVOL

### Lab : Install Domain Controllers

- Create an Additional DC with the Active Directory Domain Services Installation Wizard
- Add a Domain Controller from the Command Line
- Remove a Domain Controller
- Create a Domain Controller from Installation Media

### Lab : Install a Server Core DC

- Perform Post-Installation Configuration on Server Core
- Create a Domain Controller with Server Core



## Lab : Transfer Operations Masters Roles

- Identify Operations Masters
- Transfer Operations Masters Roles

## Lab : Configure DFS-R Replication of SYSVOL

- Observe the Replication of SYSVOL
- Prepare to Migrate to DFS-R
- Migrate SYSVOL Replication to DFS-R
- Verify DFS-R Replication of SYSVOL

## After completing this module, students will be able to:

- Identify the domain controller installation options.
- Install a Server Core DC.
- Manage operations masters.
- Configure DFS-R replication of SYSVOL.

## Module 12: Managing Sites and Active Directory

This module explains how to create a distributed directory service that supports domain controllers in portions of your network that are separated by expensive, slow, or unreliable links.

### Lessons

- Configure Sites and Subnets
- Configure the Global Catalog and Application Partitions
- Configure Replication

### Lab : Configure Sites and Subnets

- Configure the Default Site
- Create Additional Sites

### Lab : Configure the Global Catalog and Application Partitions

- Configure a Global Catalog
- Configure Universal Group Membership
- Examine DNS and Application Directory Partitions

### Lab : Configure Replication

- Create a Connection Object
- Create Site Links
- Move Domain Controllers into Sites
- Designate a Preferred Bridgehead Server
- Configure Intersite Replication

## After completing this module, students will be able to:

- Configure sites and subnets.
- Configure the global catalog and application partitions.
- Configure replication.

## Module 13: Directory Service Continuity

This module explains about the technologies and tools that are available to help ensure the health and longevity of the directory service. You will explore tools that help you monitor performance in real time, and you will learn to log performance over time so that you can keep an eye on performance trends in order to spot potential problems.

### Lessons

- Monitor Active Directory
- Manage the Active Directory Database
- Active Directory Recycle Bin
- Back Up and Restore AD DS and Domain Controllers

### Lab : Monitor Active Directory

- Monitor Real-Time Performance Using Task Manager and Resource Monitor
- Use Reliability Monitor and Event Viewer to Identify Performance-Related Events
- Monitor Events on Remote Computers with Event Subscriptions
- Attach Tasks to Event Logs and Events
- Monitor AD DS with Performance Monitor
- Work with Data Collector Sets

### Lab : Manage the Active Directory Database

Perform Database Maintenance  
Work with Snapshots and Recovering a Deleted User

### Lab : Using Active Directory Recycle Bin

- Enable Active Directory Recycle Bin
- Restore Deleted Objects with Active Directory Recycle Bin

### Lab : Back Up and Restore Active Directory

- Back Up Active Directory
- Restore Active Directory and a Deleted OU

## After completing this module, students will be able to:

- Monitor Active Directory.
- Manage the Active Directory database.
- Describe the purpose of the Active Directory Recycle Bin.
- Back up and restore AD DS and domain controllers.

## Module 14: Managing Multiple Domains and Forests

This module explains how to raise the domain and forest functionality levels within your environment, how to design the optimal AD DS infrastructure for your enterprise, how to migrate objects between domains and forests, and how to enable



authentication and resources access across multiple domains and forests.

### Lessons

- Configure Domain and Forest Functional Levels
- Manage Multiple Domains and Trust Relationships
- Move Objects between Domains and Forests

### Lab : Administer a Trust Relationship

- Configure Functional Levels and DNS
- Create a Trust Relationship
- Validate a Trust Relationship
- Assign Permissions to Trusted Identities
- Implement Selective Authentication

### After completing this module, students will be able to:

- Configure domain and forest functional levels.
- Manage multiple domains and trust relationships.
- Move objects between domains and forests.

