

Course Description

Active Directory provides a single administration point for sign-on, policies and authentication control. This hands on course provides experience configuring Active Directory and essential network security components such as AD Certificate Services, IPSec and virtual private networking (VPN).

Students will install Active Directory Domain Services (AD DS), integrate DNS for Active Directory and Internet name resolution , implement AD security for DNS, and configure logical AD components, such as forests, trees, domains and organizational units (OUs). Upgrading and migrating the AD DS structure within or between forests, troubleshooting, backup and restore methods and additional maintenance tools will be explored.

Attendees will investigate additional Active Directory roles, such as integrating applications with Lightweight Directory Services (AD LDS), controlling access with Rights Management Services (AD RMS) and enabling single sign-on across multiple forests with Federation Services (ADFS). With AD DS installed, we will monitor and maintain sites and replication to assure up-to-date information.

An administrator needs to control the user environment, so students will look at the architecture, scope, inheritance, replication and troubleshooting in group policy before learning to restrict and enable users with login scripts, rights, desktop policies and software deployment and control.

We'll also look at further controlling computers through security policies, loopback processing, and templates. Attendees will delegate administration of the configuration policies, control application and inheritance and explore tools to refine the user experience. Comprehensive labs and exercises give the students real experience installing and configuring Active Directory while securing the network.

Students Will Learn

- **Installing and Configuring DNS**
- **Optimizing Replication in Active Directory**
- **Network Security with IPSec**
- **Creating a Group Policy**
- **Filtering Group Policy with WMI**
- **Upgrading and Installing Active Directory**
- **Installing Additional Active Directory Roles**
- **Using AD Certificate Services**
- **Restricting Users and Computers with GPO**
- **Deploying Software with GPO**

Prerequisites

Completion of Windows Server 2008 Administration course or equivalent knowledge.

Course Outline

Domain Name Service (DNS)

- DNS Server Role Introduction
- DNS Architecture
- Creating and Managing DNS Zones
- DNS Zone Transfers
- Dynamic DNS
- Integration with Active Directory

Active Directory Domain Services

- Active Directory DNS Naming Strategy
- DNS AD-Integrated Zones
- Active Directory Architecture
- Scripting AD Object Configuration
- AD Trust Relationships
- Read-Only Domain Controller (RODC) Configuration

Upgrading Active Directory DS

- Legacy and Alternate Directory Structures
- Consolidating Forests, Trees and Domains
- Migrating Users, Computers and Resources
- Active Directory Migration Tool (ADMT)
- Preparing the Directory with ADPREP

AD DS Sites and Replication

- Creating and Managing AD Sites
- Site Topology
- DFS Replication Overview
- SYSVOL Replication
- Replication Monitoring and Troubleshooting
- Knowledge Consistency Checker (KCC)

AD DS Maintenance and Monitoring

- Server 2008 Monitoring Tools
- Flexible Single Master of Operations (FSMO) Roles
- Backing Up the AD Database
- Restore Methods
- Troubleshooting AD and Group Policy
- Cleaning Up AD with NTDSUTIL
- Global Catalog Servers

Active Directory Schema

- Defining the Active Directory Schema
- Administering the Active Directory Schema
- Schema Modification

- Object Classes and Attributes
- Deactivating Schema Objects

Active Directory in the Enterprise

- AD Lightweight Directory Services (AD LDS)
- Integrating AD LDS with Applications
- AD Rights Management Services (AD RMS)
- AD Federation Services (ADFS)
- Inter-site Authentication with ADFS

Group Policy Objects (GPO)

- Group Policy Overview
- Centralized Configuration
- Domain and Local Policies
- Policy Scope
- Policy Inheritance
- Security Configuration Wizard (SCW)
- GPO Replication
- Converting Legacy Policies
- Troubleshooting Conflicts and Inheritance

GPO User Configuration

- Login Scripts
- Folder Redirection
- User Rights
- Desktop Restrictions
- Application Limitations
- Deploying User Software with .msi Files

GPO Computer Configuration

- Assigning Applications to the Desktop
- Security Settings
- Policy Refresh Interval
- Loopback Processing

GPO Security

- Reducing Attack Surface through GPO
- Creating Security Policies
- Using Custom Templates
- Fine-Grained Password Policies
- Software Restrictions

GPO Administration

- Refreshing the Policy Manually
- Delegating GPO Administration
- Group Policy Management Console (GPMC)
- Combining Policies
- Disabling GPOs
- No Override
- Block Inheritance

Group Policy Management Console

- Analyzing Resultant Set of Policy (RSOP)
- Group Policy Modeling
- Importing Policies
- Backup and Restore GPOs

Windows Management Interface (WMI) Filters

- Filtering the Application of GPOs
- Introduction to Writing Filters
- WMI Query Language (WQL)

Group Policy Software Deployment

- Assigning Software to Users or Computers
- Publishing Applications to Users
- Upgrading and Removing Applications
- Customizing Distributed Software

Active Directory Certificate Services

- Public Key Infrastructure (PKI)
- Installing Active Directory Certificate Services
- Web-based Certificate Request
- Granting and Revoking Certificates
- Publishing the Certificate Revocation List
- Exporting Keys
- PKI Applications and Uses
- Certificate Authorities
- Certificate Templates

Remote Access

- Virtual Private Network (VPN) Configuration
- VPN and Authentication Protocols
- Remote Access Policies
- Network Policy Server (NPS) Introduction
- Configuring a RADIUS Server
- Troubleshooting

IPSec

- Securing Communication
- IPSec Protocols
- Planning Policies
- Configuring Authentication and Encryption
- Connection Rules
- Troubleshooting IPSec Implementations

Equipment Requirements

(This apply's to our hands-on courses only)

BTS always provides equipment to have a very successful Hands-On course. BTS also encourages all attendees to bring their own equipment to the course. This will provide attendees the opportunity to incorporate their own gear into the labs and gain valuable training using their specific equipment.

Course Length

5 Days