

## Designing and Implementing Windows Server 2012 Network Infrastructure and Security

**Duration:** 5 Days

**Price:** CDN\$3275 \*Prices are subject to GST/HST

**Discounts:** We offer multiple discount options. [Click here](#) for more info.

**Delivery Options:** Attend face-to-face in the classroom or [remote-live attendance](#).

### Students Will Learn

- Creating and managing RODCs
- Performing Active Directory maintenance using the command prompt
- Using support tools to manage and monitor Active Directory
- Implementing basic Group Policy settings in a domain
- Configuring system tools
- Configuring Group Policy Preferences (GPP)
- How to backup and restore Group Policy Objects (GPOs)
- Planning GPO deployment with the Group Policy Modeling Wizard
- Installing and configuring DHCP
- Installing and configuring RRAS servers
- Installing and configuring VPN servers and clients
- Creating remote access policies
- Installing and configuring DNS in a domain environment
- Analyzing and understanding security configuration with MBSA
- Deploying server settings as a GPO
- Enabling Remote Desktop and Remote Assistance on Windows Server 2012
- Incorporating PKI-enabled applications into the network
- Creating and configuring a self-signed server certificate on a Certificate Authority (CA)
- Installing and configuring NAP services and policies
- Analyzing and understanding security configuration with MBSA
- Installing and configuring the Microsoft AD RMS server role

### 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 (ADDS), 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 unit (OUs). Upgrading and migrating the ADDS structure within or between forests, troubleshooting, backup and restore methods and additional maintenance tools will be explored. Attendees will investigate additional Active Directory roles and services. With ADDS 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.

## Course Prerequisites

Completion of [Windows Server 2012 R2 System Administration](#) course or equivalent knowledge.

## Course Overview

### Domain Name Service (DNS)

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

### Dynamic Host Configuration Protocol

- DHCP Lease Process
- Troubleshooting DHCP Clients
- Authorizing a DHCP Server in Active Directory
- Scopes
- Reservations
- DHCP Options

### Active Directory Schema

- Defining the Active Directory Schema
- Administering the Active Directory Schema
- Schema Modification
- Object Classes and Attributes
- Deactivating Schema Objects

### Active Directory Domain Services

- Active Directory DNS Naming Strategy
- DNS AD-Integrated Zones
- Active Directory Architecture
- AD Trust Relationships
- Domain and Forest Functional Levels
- Read-Only Domain Controller (RODC) Configuration

### AD Maintenance and Monitoring

- Server 2012 Monitoring Tools
- Flexible Single Master of Operations (FSMO) Roles
- Backing Up the AD Database
- Restore Methods
- Troubleshooting AD and Group Policy

### Group Policy Objects (GPO)

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

- Troubleshooting Conflicts and Inheritance

## GPO User Configuration

- Logon 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
- Application Control Policies

## GPO Administration

- Refreshing the Policy Manually
- Delegating GPO Administration
- Group Policy Management Console (GPMC)
- Combining Policies
- Disabling GPOs
- Block Inheritance
- Enforcement

## Group Policy Management Console

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

## 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 and Configuring Internet Information Server (IIS) 7.5
- Installing Active Directory Certificate Services
- Web-Based Certificate Request
- Granting and Revoking Certificates
- Publishing the Certificate Revocation List
- PKI Applications and Uses
- Certificate Authorities

## Routing and Remote Access

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

## Remote Desktop

- Remote Desktop Architecture
- Remote Desktop
- Remote Applications
- RD Web Access
- Mapping Local Resources
- Terminal Server Licensing
- RD Gateway Server

## Networking

- TCP/IP version 4 (IPv4)
- IPv4 Addressing
- TCP/IP version 6 (IPv6)
- Dynamic Host Configuration Protocol (DHCP)
- TCP/IP Diagnostic Tools
- Windows Firewall with Advanced

- RD Session Broker
- Remote Desktop Client
- Network Level Authentication

- Security
  - Network Troubleshooting

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