



**CTREC  
HILTON**  
IT ACADEMY

BUILDING TRAINING SOLUTIONS  
FOR THE IT WORLD

## Designing a Windows Server 2008 Network Infrastructure

**Days:** 5  
**Format:** Instructor-Led  
**Class Code:** 6435  
**Certification Exams:** None  
**Certification Track:** None

### Recommended Course Sequence

Knowledge of prerequisites  
noted below.

*Course content is subject to change  
without notice.*

### Course Description:

This five-day course will provide students with an understanding of how to design a Windows Server 2008 Network Infrastructure that meets business and technical requirements for network services.

### Target Student:

The primary audience for this course is IT professionals, including Windows 2000 Server and Windows Server 2003 enterprise administrators interested in becoming a Windows Server 2008 Enterprise Administrator who focuses on network solutions.

### Prerequisites:

Before attending this course, students must have:

- Active Directory Technology Specialist level knowledge and concepts.
- Network Infrastructure Technology Specialist level knowledge and experience.
- Applications Infrastructure Technology Specialist level knowledge and experience.
- Windows Vista TS level of knowledge and experience.
- Intermediate understanding of networking concepts such as TCP/IP, name resolution, and connection methods.
- Intermediate understanding of security best practices for authentication and file permissions.
- Intermediate understanding of server and network hardware.

### At Course Completion:

After completing this course, students will be able to:

- Describe key components of network infrastructure design.
- Describe how to design a secure network.
- Design a plan for allocating IP addresses to workstations and servers.
- Design a network topology.
- Describe the internal considerations for network security and how they can be addressed.
- Design an appropriate name resolution system that incorporates Domain Name System (DNS).
- Optimize a name resolution system that incorporates DNS and Windows Internet Name Service
- Design a solution for network access.
- Design a Network Access Protection (NAP) solution.
- Design a solution for operating system deployment and maintenance.
- Design the deployment of file services.
- Design print services in Windows Server 2008.
- Design high availability for applications and services.

# Designing a Windows Server 2008 Network Infrastructure

---

## Course Outline

### Module 1: Overview of Network Infrastructure Design

This module describes the key components of network infrastructure design.

Lessons
<ul style="list-style-type: none"><li>■ Preparing for Network Infrastructure Design</li><li>■ Designing the Network Topology</li><li>■ Designing Network Infrastructure for Virtualization</li><li>■ Designing a Change Management Structure for a Network</li></ul>
Lab : Designing Network Infrastructure in Windows Server 2008
<ul style="list-style-type: none"><li>■ Preparing for the Network Infrastructure Design</li><li>■ Designing the Network Topology</li><li>■ Designing Network Infrastructure for Virtualization</li><li>■ Designing a Change Management plan</li><li>■ Lab Discussion</li></ul>

### Module 2: Designing Network Security

This module explains how to design a secure network.

Lessons
<ul style="list-style-type: none"><li>■ Overview of Network Security Design</li><li>■ Creating a Network Security Plan</li><li>■ Identifying Threats to Network Security</li><li>■ Analyzing Security Risks</li><li>■ Defense-in-Depth Model Overview</li></ul>
Lab : Designing a Network Security Plan
<ul style="list-style-type: none"><li>■ Identifying a Team for the Security Plan Scenario</li><li>■ Identifying Threats</li><li>■ Analyzing Risk</li><li>■ Discussion of Designing a Network Security Plan</li></ul>

# Designing a Windows Server 2008 Network Infrastructure

---

## Module 3: Designing IP Addressing

This module describes how to design a plan for allocating IP addresses to workstations and servers.

Lessons
<ul style="list-style-type: none"><li>■ Designing an IPv4 Addressing Scheme</li><li>■ Designing an IPv6 Addressing Scheme</li><li>■ Designing DHCP Implementation</li><li>■ Designing DHCP Configuration Options</li></ul>
Lab : Designing IP Addressing in Windows Server 2008
<ul style="list-style-type: none"><li>■ Designing an IPv4 Addressing Scheme</li><li>■ Designing an IPv6 Addressing Scheme</li><li>■ Designing a DHCP Implementation</li><li>■ Discussion of IP Address Allocation</li></ul>

## Module 4: Designing Routing and Switching

This module explains how to design a network topology.

Lessons
<ul style="list-style-type: none"><li>■ Preparing for Designing a Network Routing Topology</li><li>■ Selecting Network Devices</li><li>■ Designing Internet Connectivity and Perimeter Networks</li><li>■ Designing Routing Communications</li><li>■ Evaluating Network Performance</li></ul>
Lab : Designing a Network Routing Topology
<ul style="list-style-type: none"><li>■ Designing the Placement of Routers</li><li>■ Designing a Perimeter Network</li><li>■ Evaluating Network Performance</li><li>■ Discussion of Designing a Network Routing Topology</li></ul>

## Module 5: Designing Security for Internal Networks

This module explains the internal considerations for network security and how they can be addressed.

Lessons
<ul style="list-style-type: none"><li>■ Designing Windows Firewall Implementation</li><li>■ Overview of IPSec</li><li>■ Designing IPSec Implementation</li></ul>
Lab : Designing a Secure Internal Network
<ul style="list-style-type: none"><li>■ Designing a Windows Firewall Implementation</li><li>■ Designing an IPSec Implementation</li></ul>

# Designing a Windows Server 2008 Network Infrastructure

---

## Module 6: Designing Name Resolution

This module explains how to design an appropriate name resolution system that incorporates DNS.

Lessons
<ul style="list-style-type: none"><li>■ Collecting Information for a Name Resolution Design</li><li>■ Designing a DNS Server Strategy</li><li>■ Designing a DNS Namespace</li><li>■ Designing DNS Zone Implementation</li><li>■ Designing Zone Replication and Delegation</li></ul>
Lab : Designing a Name Resolution Strategy in Windows Server 2008
<ul style="list-style-type: none"><li>■ Designing a DNS Server Strategy</li><li>■ Designing a DNS Namespace</li><li>■ Designing a DNS Zone and Replication Strategy</li><li>■ Discuss the Design of Name Resolution</li><li>■ Implement a DNS Zone and Replication Strategy</li></ul>

## Module 7: Designing Advanced Name Resolution

This module explains an appropriate name resolution system that incorporates DNS and WINS.

Lessons
<ul style="list-style-type: none"><li>■ Optimizing DNS Queries</li><li>■ Designing DNS for High Availability</li><li>■ Designing a WINS Name Resolution Strategy</li></ul>
Lab : Designing a Name Resolution Strategy in Windows Server 2008
<ul style="list-style-type: none"><li>■ Optimize DNS Resolution</li><li>■ Designing and Configuring WINS Name Resolution</li><li>■ Integrating DNS and WINS Name Resolution</li></ul>

## Module 8: Planning and Deploying the Application Virtualization Management System

This module explains how to design a solution for network access.

Lessons
<ul style="list-style-type: none"><li>■ Gathering Data for Designing Network Access Solutions</li><li>■ Securing and Controlling Network Access</li><li>■ Designing Remote Access Services</li><li>■ Designing RADIUS Authentication with Network Policy Services</li><li>■ Designing Wireless Access</li></ul>
Lab : Designing a Network Access Solution
<ul style="list-style-type: none"><li>■ Designing a Remote Access Solution</li><li>■ Designing Network Policy Services</li><li>■ Designing a Wireless Connection Solution</li><li>■ Discuss the Design of Network Access</li><li>■ Deploying an SSTP VPN Solution</li></ul>

# Designing a Windows Server 2008 Network Infrastructure

---

## Module 9: Designing Network Access Protection

This module explains how to design a NAP solution.

Lessons
<ul style="list-style-type: none"><li>■ Designing the NAP Platform Architecture</li><li>■ NAP Architecture</li><li>■ NAP Enforcement</li><li>■ Designing NAP Policy</li><li>■ Designing NAP Enforcement and Remediation</li></ul>
Lab : Designing Network Access Protection
<ul style="list-style-type: none"><li>■ Analyzing Enforcement Methods</li><li>■ Designing DHCP Enforcement</li><li>■ Designing IPSec Enforcement</li><li>■ Implementing DHCP Enforcement</li></ul>

## Module 10: Designing Operating System Deployment and Maintenance

This module explains how to design a solution for operating system deployment and maintenance.

Lessons
<ul style="list-style-type: none"><li>■ Determining Operating System Deployment Requirements</li><li>■ Deploying an Operating System by Using WDS</li><li>■ Planning for the Creation and Modification of Images</li><li>■ Designing Multicast Transmission of Images</li></ul>
Lab : Designing Operating System Deployment and Maintenance
<ul style="list-style-type: none"><li>■ Designing an Operating System Deployment Solution</li><li>■ Designing WDS Deployment</li><li>■ Designing WDS Images</li><li>■ Designing a WSUS Deployment</li><li>■ Discussing Operating System Deployment and Maintenance</li></ul>

# Designing a Windows Server 2008 Network Infrastructure

---

## Module 11: Designing File Services and DFS in Windows Server 2008

This module explains how to design the deployment of file services and DFS.

Lessons
<ul style="list-style-type: none"><li>■ Designing File Services</li><li>■ Designing DFS</li><li>■ Designing the FSRM Configuration</li></ul>
Lab : Designing File Services and DFS in Windows Server 2008
<ul style="list-style-type: none"><li>■ Selecting File Services Components</li><li>■ Designing DFS</li><li>■ Designing FSRM</li><li>■ Implementing DFS</li><li>■ Implementing FSRM</li></ul>

## Module 12: Designing High Availability in Windows Server 2008

This module explains how to design high availability for applications and services.

Lessons
<ul style="list-style-type: none"><li>■ Overview of High Availability</li><li>■ Designing Network Load Balancing for High Availability</li><li>■ Designing Failover Clustering for High Availability</li><li>■ Designing Geographically Dispersed Failover Clusters</li></ul>
Lab : Designing High Availability in Windows Server 2008
<ul style="list-style-type: none"><li>■ Designing High Availability</li><li>■ Implementing an NLB Design</li><li>■ Implementing a Failover Cluster Design</li></ul>

## Module 13: Designing Print Services in Windows Server 2008

This module explains how to design print services in Windows Server 2008.

Lessons
<ul style="list-style-type: none"><li>■ Overview of a Print Services Design</li><li>■ Windows Server 2008 Printing Features</li><li>■ Designing Print Services</li></ul>
Lab : Designing Shared Resources in Windows Server 2008
<ul style="list-style-type: none"><li>■ Analyzing the Components of a Print Services Design</li><li>■ Designing a Shared Printer Deployment</li></ul>