

# 70-647: Windows Server Enterprise Administration

## Course Overview

Windows Server Enterprise Administration teaches the student how to maintain the Windows Server 2008 R2 environment. Students will learn about such topics as planning for active directory, network infrastructure, active directory issues, active directory administration, deploying windows 2008 to the small and medium sized offices, using remote desktop services and application setup. Students will then learn about securing the network, how to support PKI, discuss various virtualization solutions, windows updates and how to protect the environment by making data secure yet still available to the user.

## Course Outline

### Course Introduction

7m

Course Introduction

### Chapter 01 - Planning for Active Directory

2h 4m

#### **Lesson 1: Logical Design**

The Forest

How Will AD DS be Used?

Requirements

How Many Forests are Needed?

Forest Model

Domains

Requirements (Cont.)

The Domain Model

How Many Domains?

Upgrade or Create New Domains

The First Domain

Functional Levels

Domain Functional Level Features

Functional Levels (Cont.)

Forest Functional Level Features

Schema

Working with Trusts

Demo - Creating a New Forest

Demo - Creating a New Tree

#### **Lesson 2: Physical Topology**

Physical Networks

Review of Domain Controller Replication

Site Design Options

Site Replication Design

Site Links

Site Link Bridging

Site Replication Example

Domain Controller Placement

Printer Location Policies

Demo - Creating Sites and IP Subnets

Demo - Creating Site Link Bridges

**Chapter 02 - Network Infrastructure**

1h 51m

**Lesson 1: DNS**

DNS Considerations

DNS Record Types

Using DNS with Windows 2008 Server

The Stub Zone

DNS Options

Managing DNS

New DNS Features with Windows 2008 Server

Replacing WINS

IPv6 Support

Background Zone Loading

RODC

Designing the DNS Infrastructure

Choosing a Zone Type

Miscellaneous DNS Options

Demo - Exploring DNS

Demo - Creating GlobalNames Zone

**Lesson 2: Planning IP Distribution**

Introducing IPv6

Examples of IPv6 Abbreviation

Introducing IPv6 (Cont.)

The IPv6 Multicast

Advantages of IPv6

IPv4 to IPv6 Compatibility

Transitioning to IPv6

IPv6 Tools

Configure IPv6

Verifying IPv6

Troubleshooting

Designing an IPv6 Network

Demo - Configuring IPv6

Demo - Testing IPv6

Chapter 02 Review

**Chapter 03 - Advanced Active Directory Issues**

32m

**Lesson 1: Migration Strategies**

Planning and Preparing to Move to Windows 2008 Server

Domain Upgrade

Preparing for the Upgrade

Domain Restructure

Upgrade then Restructure

Cross Forest Trust

Demo - Raising Domain Functional Level

**Lesson 2: Working with Other Forests**

One Solution: AD FS

What is AD FS?

AD FS Roles

AD FS Example  
MS Identity Lifecycle Manager 2007 FP1  
Working with UNIX  
Imitating UNIX  
Migration of UNIX NIS to Windows NIS  
Imitating UNIX Continued  
Working with NFS  
Chapter 03 Review

## **Chapter 04 - Active Directory Administration**

1h 46m

### **Lesson 1: Active Directory Administration**

Delegation of Control  
Delegating Active Directory  
Data Management  
Service Management  
Scope of Delegated Administration  
Administration Models  
Using Groups for Delegation  
Management Roles  
Service Management (Cont.)  
Data Roles  
Types of Trusts  
Delegation of Data Management  
Starter GPOs  
Group Policy Modeling  
Auditing AD DS  
AD Auditing  
Looking at the Organizational Structure  
Demo - Delegation of Control  
Demo - AD Auditing

### **Lesson 2: Using Group Policies**

Understanding the Group Policy Infrastructure  
Guidelines for Planning GPOs  
GPOs and Active Directory  
Understanding Domains  
Domain Services Store  
Controlling Hardware Installation with GPOs  
Which GPO Settings Control Hardware Installation?  
AAA  
Stronger Authentication  
Fine-Grained Password Policies  
How to Use PSOs  
Demo - Creating PSO  
Chapter 04 Review

## **Chapter 05 - Deploying Windows 2008 to the Small/Medium Office**

1h 28m

### **Lesson 1: Small/Medium Office**

Services Needed in the Small/Medium Office  
The DSMGMT Service  
Components Often Needed in the ROBO

Optional Components Used for the ROBO

More on the Server Core

Should You Install a Domain Controller?

Other DC Options

Services to Consider at the ROBO

Communication Options

WAN Connections

Securing Traffic

Tunnel Diagram Example

## **Lesson 2: Small/Medium Server Security**

Overview of Security

Security Training

Security at the Branch

Server Hardening

Secure Options for the ROBO

RODC

RODC Password Replication Policy

RODC Operation

Securing Data

EFS

BitLocker

NAP

Demo - Creating an RODC

Demo - Using SCW

Chapter 05 Review

## **Chapter 06 - Using Remote Desktop Services and Application Setup**

1h 3m

### **Lesson 1: Planning for Remote Desktop Services**

Planning and Deploying Remote Desktop Services

RDS Components

Demo - Installing Remote Desktop Services

### **Lesson 2: License Server**

Licensing

Types of Licenses

Maintaining the License Server

License Server Deployment

### **Lesson 3: Deploying Applications**

RDS Web Access

RemoteApp

RemoteApp Deployment

RDS Load Balancing

Planning RDS Gateway Servers

RDS Gateway Server Connection

Using GPO to Deploy Applications

Publishing Software

Assigning Software with GPOs

Installing Software by GPO

Deploying Software with SC Essentials

SCCM 2007

SCCM 2007 Architecture  
SCCM 2007 Client  
SCCM 2007 Application Deployment  
Demo - Accessing RDS Web Access  
Chapter 06 Review

## **Chapter 07 - Securing the Network**

1h 34m

### **Lesson 1: Designing a Secure Perimeter**

Designing the Perimeter  
The Border Network  
Perimeter Network  
Internal Network  
Perimeter Firewall  
Firewall Options  
ISA Server  
ISA Server Deployment  
What Else Can Be Found in the Perimeter?  
Web Servers in the Perimeter  
Setting Up Remote Access  
VPN Tunneling Protocols  
PPTP  
L2TP  
SSTP  
Authenticating Connections  
Securing VPN Servers  
Authentication using RADIUS  
Microsoft RADIUS  
RADIUS Security  
RADIUS Proxy Options

### **Lesson 2: Introducing NAP**

Network Access Protection  
Where Do You Find NAP?  
NAP Considerations  
NAP Provides Another Layer of Security With IPSec  
Disadvantages of NAP  
NAP IPSec Enforcement  
More NAP Component Needs  
NAP VPN Enforcement  
802.1X NAP Enforcement  
802.1X Enforcement  
NAP and DHCP  
DHCP/NAP Considerations  
NAP Illustrated

### **Lesson 3: Domain and Server Isolation**

Isolation  
Domain Isolation  
Comparing Server and Domain Isolation  
Chapter 07 Review

## **Chapter 08 - Supporting PKI**

1h 24m

### **Lesson 1: What is PKI?**

Concepts

Applications Use of PKI

Certificate Use Illustration

Who is Issued a Certificate

PKI Security

Security Policies

Business Requirements

External Needs

AD Needs

### **Lesson 2: The CA Hierarchy**

The CA Infrastructure

CA Hierarchy Illustration

When to Use an Internal CA

When to Use an External CA

MS ADCS

Enterprise vs. Standalone

How Many CAs are Needed

Demo - Installing CA

### **Lesson 3: Managing Certificates**

Enrollment Methods

Enrollment Policies

Improving Control over Certificate Issuance

Automatic vs. Manual Certificate Approval

How to Do Enrollment

Certificate Renewal Strategies

Certificate Revocation Policy

Issues with CRLs

Publication Points

Demo - Working with Certificates

Chapter 08 Review

## **Chapter 09 - Virtualization Solutions**

51m

### **Lesson 1: Using Virtualization**

Benefits to Virtualization

Virtualization Solutions

Choosing What to Virtualize

Managing Virtualized Servers

What Can Be Virtualized

Migrating P2V

The Power of SCVMM

SCVMM Components

SCVMM Illustrated

Managing VMs at the Branch Office

Demo - Working With Hyper-V

Demo - Creating a Virtual Windows 2008 Server

### **Lesson 2: Planning Virtualization for Applications**

Microsoft SoftGrid

When Should You Use SoftGrid

Designing Application Virtualization  
Branch Office Deployments  
Chapter 09 Review

**Chapter 10 - Windows Updates**

1h 2m

**Lesson 1: WSUS**

The Windows Server Update Services Infrastructure

Consider WSUS

Managing WSUS

WSUS Design

WSUS Administration

Update Deployment

WSUS Hierarchy Illustrated

Policies for Updates

Planning Automatic Approvals

SC Essentials

SCCM 2007

Demo - Installing WSUS

Demo - Exploring WSUS

**Lesson 2: Software Update Compliance**

MBSA

WSUS Reports

SCCM 2007 Compliance and Reporting

SCW

SCWCMD

Best Practices of Role Based Security Policies

Demo - Using MBSA

Chapter 10 Review

**Chapter 11 - Making Data Secure and Available**

1h 38m

**Lesson 1: Sharing and Collaborating Your Data**

DFS

Advanced DFS

DFS Replication, Settings, and Features

DFS Design Checklist

Collaboration

WSS Feature Set

WSS Deployment

MOSS 2007

Demo - Installing WSS

Demo - Exploring WSS

**Lesson 2: Protecting Data at Rest**

BitLocker

BitLocker Authentication

BitLocker Design Thoughts

EFS

EFS Best Practices

AD RMS

Using RMS

RMS Policy Elements

RMS Illustrated

Demo - Using EFS

**Lesson 3: System Recoverability and Availability**

AD DS Backup

AD DS Backup Utilities

AD DS Recovery

Authoritative Restore

Authoritative Restore Illustrated

AD DS Service

Working with FSMOs

Scalability

NLB

NLB Illustrated

Failover Clustering

Cluster Prerequisites

Demo - AD DS Backup

Chapter 11 Review

Course Closure

**Total Duration: 15hrs 19m**