

Installing and Configuring Windows 7 Client

- **Course Number:** 6292A
- **Course Length:** 3 Days

Course Overview

In this instructor-led course, students learn how to install, upgrade, and migrate to the Windows 7 client. Students can then configure Windows 7 client for network connectivity, security, maintenance, and mobile computing.

Prerequisites

Before taking this course, students must have experience installing PC hardware and devices. It's also important to have a basic understanding of TCP/IP and networking concepts, basic Windows and Active Directory knowledge and the skills to map network file shares. Students should have experience working from a command prompt, basic knowledge of the fundamentals of applications (ex: How client computer applications communicate with a server), basic understanding of security concepts, and an understanding of the fundamental principles of using printers.

Audience

This course is intended for IT professionals who are interested in expanding their knowledge and technical skills for the Windows 7 Client.

Certification Exam

This course helps students prepare for the Microsoft Exam 70-680, TS: Windows 7, Configuring.

Course Outline

Course Introduction

4m

Course Introduction

Module 01 - Installing, Upgrading, and Migrating to Windows 7

59m

Preparing to Install Windows 7

Key Features of Windows 7

Editions of Windows 7

Minimum Hardware Requirements for Installing Windows 7

Advantages of Using 64-bit Editions of Windows 7

Options for Installing Windows 7

Performing a Clean Installation of Windows 7

Discussion: Considerations for a Clean Installation

Methods for Performing Clean Installation

Discussion: Common Installation Errors

Demo - Configuring the Computer Name and Domain/Workgroup Settings

Upgrading and Migrating to Windows 7

Considerations for Upgrading and Migrating to Windows 7

Identifying the Valid Upgrade Paths

Determining the Feasibility of an Upgrade Using Windows Upgrade Advisor

Process for Upgrading to Windows 7

Tools for Migrating User Data and Settings

Process for Migrating to Windows 7

Migrating User Settings and Data by Using WET

Performing Image-based Installation of Windows 7

What is Windows Imaging File Format?

Tools for Performing Image-based Installation

Image-based Installation Process

Building a Reference Installation by Using SysPrep

Capturing and Applying the Installation Image by Using ImageX

Migrating User Settings and Data by Using USMT 4.0

Configuring VHDs

Configuring Application Compatibility

Common Application Compatibility Problems

Common Mitigation Methods

Updating Shims

Module 01 - Review

Module 02 - Configuring Disks and Device Drivers

1h 8m

Partitioning Disks in Windows 7

What is an MBR Disk?

What is a GPT Disk?

Disk Management Tools

Demo - Converting an MBR Partition to a GPT Partition

Managing Disk Volumes

What is a Simple Volume?

Demo: Creating a Simple Volume

What are Spanned and Striped Volumes?

Demo - Creating Spanned Volumes

Demo - Creating Striped Volumes

Purpose of Resizing a Volume

Demo - Resizing a Volume

Maintaining Disks in Windows 7

What is Disk Fragmentation?

Defragment a Disk

What are Disk Quotas?

Demo - Configuring Disk Quotas

Installing and Configuring Device Drivers

Overview of Device Drivers in Windows 7

Installing Devices and Drivers

Device Driver Management Tools

Options for Updating Drivers

Managing Signed Drivers

Discussion: Options for Recovering from a Driver Problem

Demo - Managing Drivers by Using Device Manager

Module 02 - Review

Module 03 - Configuring File Access and Printers on Windows 7 Clients

1h 10m

Overview of Authentication and Authorization

What are Authentication and Authorization?

Authentication and Authorization Process

New Authentication Features in Windows 7

Managing File Access in Windows 7

What are NTFS Permissions?

What is Permission Inheritance?

Demo - Configuring NTFS Permissions for Files and Folders

Impact of Copying and Moving Files and Folders on set Permissions

What are Effective Permissions?

Discussion: Determining Effective Permissions

Managing Shared Folders

What are Shared Folders?

Methods of Sharing Folders

Discussion: Combining NTFS and Share Permissions

The Network and Sharing Center

Configuring File Compression

What is NTFS File Compression?

Discussion: Impact of Moving and Copying Compression Files and Folders

What are Compressed (zipped) Folders?

Demo - Compressing Files and Folders

Managing Printing

Printing Components in Windows 7

Demo - Installing and Sharing a Printer

Managing Client-Side Printing

Configuring Location-aware Printing

Module 03 - Review

Module 04 - Configuring Network Connectivity

1h 16m

Configuring IPv4 Network Connectivity

What is an IPv4 Address?

What is a Subnet Mask?

What is a Default Gateway?

What are Public and Private IPv4 Addresses?

Demo - Configuring an IPv4 Address

Types of Computer Names

Methods for Resolving Computer Names

Configuring IPv6 Network Connectivity

Benefits of Using IPv6

Windows 7 Support for IPv6

What is the IPv6 Address Space?

IPv6 Address Types

Demo - Configuring an IPv6 Address

Implementing Automatic IP Address Allocation

Automatic IPv4 Configuring Process

Automatic IPv6 Configuring Process

Demo - Configuring a Computer to Obtain an IPv4 Address Dynamically

Troubleshooting Client-Side DHCP Issues

Troubleshooting Network Issues

Tools for Troubleshooting Networks

Process for Troubleshooting Networks

Demo - How to Troubleshoot Network-Related Problems

Module 04 - Review

Module 05 - Configuring Wireless Network Connection

18m

Overview of Wireless Networks

What is a Wireless Network?

Wireless Network Technologies

Security Protocols for a Wireless Network

Configuring a Wireless Network

Configuring Hardware for Connecting to a Wireless Network

Wireless Network Settings

Improving the Wireless Signal Strength

Process for Troubleshooting a Wireless Network Connection

Module 05 - Review

Module 06 - Securing Windows 7 Desktops

2h 20m

Overview of Security Management in Windows 7

Key Security Features in Windows 7

What is Action Center?

Demo - Configuring Action Center Settings

Securing a Windows 7 Client Computer by Using Local Security Policy Settings

What is Group Policy?

How are Group Policy Objects Applied?

How Multiple Local Group Policies Work

Demo - Creating Multiple Local Group Policies

Demo - Configuring Local Security Policy Settings

Securing Data by Using EFS and BitLocker

What is EFS?
Demo - Encrypting and Decrypting Files and Folders by Using EFS
What is BitLocker?
BitLocker Requirements
BitLocker Modes
Group Policy Settings for BitLocker
Configuring BitLocker
Configuring BitLocker To Go
Recovering BitLocker Encrypted Drives
Configuring Application Restrictions
What is AppLocker?
AppLocker Rules
Demo - Configuring AppLocker
What are Software Restriction Policies?
Configuring User Account Control
What is UAC?
How UAC Works
Demo - Configuring Group Policy
Configuring UAC Notification Settings
Configuring Windows Firewall
Discussion: What is a Firewall?
Configuring the Basic Firewall Settings
Windows Firewall with Advanced Security Settings
Well-Known Ports Used by Applications
Demo - Configuring Inbound, Outbound, and Connection Security Rules
Configuring Security Settings in Internet Explorer 8
Discussion: Compatibility Features in Internet Explorer 8
Enhanced Privacy Features in Internet Explorer 8
The SmartScreen Feature in Internet Explorer 8
Other Security Features in Internet Explorer 8
Demo - Configuring Security in Internet Explorer 8
Configuring Windows Defender
What is Malicious Software?
What is Windows Defender?
Scanning Options in Windows Defender
Demo - Configuring Windows Defender Settings
Module 06 - Review

Module 07 - Optimizing and Maintaining Windows 7 Client Computers

52m

Maintaining Performance by Using the Windows 7 Performance Tools

Discussion: What Are Performance and Reliability Problems?
Performance Information and Tools
Performance Monitor and Data Collector Sets
Demo - Using the Resource Monitor
Demo - Analyzing System Performance by Using Data Collector Sets and Performance Monitor
Considerations for Monitoring System Performance in Windows 7

Maintaining Reliability by Using the Windows 7 Diagnostic Tools

Problems That Windows Diagnostic Tools Can Help Solve
The Windows Memory Diagnostics Tool
Windows Network Diagnostics Tools

Reliability Monitor and Problems Reports and Solutions Tool

Windows Startup and Recovery

Backing Up and Restoring Data by Using Windows Backup

Discussion: Need for Backing Up Data

Backup and Restore Tool

Demo - Perform a Backup

Restoring a Windows 7 System by Using System Restore Points

How System Restore works

What are Previous Versions of Files?

Configuring System Protection Settings

Demo - Restore a System

Configuring Windows Update

What is Windows Update?

Configuring Windows Update Settings

Windows Update Group Policy Settings

Module 07 – Review

Module 08 - Configuring Mobile Computers and Remote Access in Windows 7

34m

Configuring Mobile Computer and Device Settings

Discussion: Types of Mobile Computers and Devices

Tools for Configuring Mobile Computer and Device Settings

What are Mobile Device Sync Partnerships?

Power Plans and Power-Saving Options in Windows 7

Demo - How to Configure a Power Plan

Configuring Remote Desktop and Remote Assistance for Remote Access

What are Remote Desktop and Remote Assistance?

Configuring Remote Desktop

Configuring DirectAccess for Remote Access

What is a VPN?

Creating a VPN Connection

What is DirectAccess?

How DirectAccess Works

DirectAccess Requirements

Configuring BranchCache for Remote Access

What is BranchCache?

How BranchCache Works

BranchCache Requirements

Demo - Configuring BranchCache on a Windows 7 Client Computer

Module 08 - Review

Module 09 - Appendix A: Starting Out with Windows PowerShell 2.0

22m

Introduction to Windows PowerShell 2.0

Overview of Windows PowerShell

New Features in Windows PowerShell 2.0

Cmdlets in Windows PowerShell 2.0

What is Windows PowerShell Eventing?

Overview of Windows PowerShell 2.0 Integrated Scripting Environment (ISE)

Using the Windows PowerShell ISE Editor

Remoting with Windows PowerShell 2.0

Overview of Windows PowerShell Remoting

Connecting to a Remote Computer
How Remote Commands are Processed
Running Remote Commands
Using Windows PowerShell Cmdlets for Group Policy
New Cmdlets for Group Policy Administration
Group Policy Requirements and Settings for Windows PowerShell 2.0
Module 09 - Review
Course Closure

Total Duration: 9h 2m