



Windows Client, Enterprise Desktop Support Technician

Course 50331D: 3 days; Instructor-Led

Introduction

(Updated for Windows 10 and Windows Server 2016)

This three-day instructor-led course provides students with the knowledge and skills needed to isolate, document and resolve problems on Windows Desktops in a corporate domain. The material is geared towards corporate IT technicians that support Windows 7, 8 or 10 devices.

PowerShell scripts and support files are now included to allow students to perform classroom lab exercises on their own time using Azure Virtual Machines.

Audience Profile

This course is intended for technicians that support Windows 7, 8 or 10 devices. Tier 1 and 2 problems are the focus of this material. Windows PowerShell and Azure PowerShell tutorials and labs are now a part of the course.

At Course Completion

After completing this course, students will be able to:

- Manage and Maintain Windows devices locally or remotely
- Manage Windows devices using a GUI or a command-line interface
- Identify the Cause of and Resolve Networking Issues
- Identify the Cause of and Resolve Security Issues
- Manage Windows devices locally or remotely
- Manage Windows Clients with Windows PowerShell & Azure PowerShell

Prerequisites

Before attending this course, students must have:

- TCP/IP Troubleshooting skills
- Experience working in a corporate domain environment
- Experience using GUI and command-line troubleshooting tools
- Experience installing and troubleshooting applications

Course Outline

Module 1: Identify and Resolve New Software Installation Issues (Required)

This module explains how to fix problems that occur during the installation of new software.

Lessons

- Overview
- Planning New Software Deployment
- Multilingual Deployment
- Using Group Policy to install software
- Using Software Restriction Policies
- Digitally Signing Software
- Using WMI
- Using Applocker
- Using Virtualization for Testing
- Resolve Software Installation Issues
- Review

Lab : Identify and Resolve New Software Installation Issues

- Create a Repair Disk and Installation Partitions
- Install and Configure Windows
- Install Programs and test Applocker
- Configure Compatibility Settings

After completing this module, students will be able to:

- Understand the different installation options for Windows 7
- Understand the different installation options for Windows 7 applications
- Resolve Windows 7 installation problems
- Prevent users from running unapproved applications

Module 2: Resolve Software Configuration Issues (Required)

This module explains how to fix application install problems caused by older programs or new features and options.

Lessons

- Overview
- Change Default Settings on the Image
- Enable and Disable Features
- Pointing to a Network Resource
- Configuring Updates
- Resolve Configuration Issues with Group Policy
- Driver Updates
- Problem Steps Recorder
- Resolve Software Configuration Issues
- Review

Lab : Resolve Software Configuration Issues

- Install the Windows Automated Installation Kit
- Create a Windows PE bootable image
- Create a VHD disk
- Install Windows on a VHD
- Boot Windows from a VHD
- Use the Problem Steps Recorder

After completing this module, students will be able to:

- Create a Windows 7 VHD disk
- Configure operating system features
- Understand the impact of Driver Updates
- Fix software configuration problems
- Use the Problem Steps Recorder tool

Module 3: Resolve Software Failure (Required)

This module explains how to fix problems with applications that have problems after being installed.

Lessons

- Overview
- Event Viewer
- Event Forwarding
- Application Compatibility Toolkit
- Windows Troubleshooting Platform
- Windows Experience Index
- Testing Compatibility with Safe Mode
- System Restore
- Resolve Software Failure
- Review

Lab : Resolve Software Failure

- Install applications written for older versions of Windows
- Use the Program Compatibility Tool to configure settings for older applications
- Use PowerShell scripts to configure Network Adapters
- Use the Troubleshooter to enable the network adapter
- Install Windows SDK
- Create a Troubleshooting Pack with the SDK
- Configure Event Forwarding
- Use System Restore

After completing this module, students will be able to:

- Configure Event Forwarding
- Use System Restore to fix desktop problems.
- Create a Windows 7 Troubleshooter

Module 4: Identify and Resolve Logon Issues (Required)

This module explains how to fix logon problems and configure local and roaming logon profiles.

Lessons

- Overview
- Authentication Process
- Machine Accounts
- Trust Relationships
- Network Services

- User Account Properties
- User Profiles
- Resolve Logon Issues
- Review

Lab : Identify and Resolve Logon Issues

- Join a computer to the domain
- Install Remote Server Administration Tools (RSAT)
- Test and Verify Domain User Account Properties
- Create Logoff script using PowerShell
- Test the use of Roaming Profiles
- Test the use of Mandatory Profiles

After completing this module, students will be able to:

- Create Roaming and Mandatory User Profiles
- Configure Machine Accounts in Active Directory
- Configure User Account Properties in Active Directory

Module 5: Identify and Resolve Network Connectivity Issues (Required)

This module explains how to troubleshoot connectivity and network problems for client computers.

Lessons

- Overview
- Scope of the Problem
- Hardware Issues
- TCP/IP Configuration
- Network Routing
- IPSec Configuration
- Network Connectivity Tools
- Branch Cache
- Resolve Network Connectivity Issues
- Review

Lab : Identify and Resolve Network Connectivity Issues

- Use command-line tools to identify and fix network connectivity problems
- Fix connectivity problems caused by problem scripts

After completing this module, students will be able to:

- Use command-line tools to troubleshoot connectivity problems.
- Use the Windows Troubleshooters to fix configuration issues.
- Configure Advanced TCP/IP options on a client computer

Module 6: Identify and Resolve Name Resolution Issues (Required)

This module explains how to use network services and local computer files to resolve computer names.

Lessons

- Overview
- DNS Name Resolution
- Using a Hosts files
- WINS Configuration
- Using LMHOSTS files
- Name Resolution Order
- Manual vs DHCP Configuration
- Resolve Name Resolution Issues
- Review

Lab : Identify and Resolve Name Resolution Issues

- Configure and Test DNS Resolution
- Configure and Test Hosts File Resolution
- Configure and Test NetBIOS Resolution

After completing this module, students will be able to:

- Configure records on a DNS Server
- Configure HOSTS records
- Using command-line and scripting tools to configure TCP/IP settings

Module 7: Identify and Resolve Network Printer Issues (Optional)

This module explains how to configure printer settings and security.

Lessons

- Overview
- Connecting to a Network Printer
- Managing the Print Spooler
- Setting Printer Priorities
- Creating Printer Pools
- Configuring Drivers
- Printer Schedules
- Printer Permissions
- Manage Printers with Group Policy Settings
- Resolve Network Printer Issues
- Review

Lab : Identify and Resolve Network Printer Issues

- Install local and network printers
- Create and use a separator page
- Configure Printer Redirection and Printer Pooling
- Move the Print Spooler Directory

After completing this module, students will be able to:

- Optimize the performance of the Print Spooler
- Redirect Print Jobs from non-functioning Printers
- Manage Active Directory registration of Printers

- Manage Printer Permissions

Module 8: Identify and Resolve Performance Issues (Required)

This module explains how to improve the performance of a system by monitoring and controlling the use of resources by applications.

Lessons

- Overview
- Analyzing Event Logs
- Setting Power Management
- Optimize Processor Usage
- Optimizing Memory Usage
- Optimize Hard Drive Usage
- Optimize Network Usage
- Performance Tools
- Resolve Performance Issues
- Review

Lab : Identify and Resolve Performance Issues

- Schedule and Perform a Disk Defragmentation
- Using Task Manager
- Using Resource Monitor
- Display a message when a Service stops

After completing this module, students will be able to:

- Configure automatic responses to Service failure
- Manage the use of Processing resources by applications
- View and control active connections to a computer
- Optimize Hard-Disk performance.

Module 9: Identify and Resolve Hardware Failure Issues (Optional)

This module explains how to diagnose hardware problems on a computer.

Lessons

- Overview
- Diagnosing Memory Failure Issues
- Hard Drive Issues
- Network Card Issues
- Power Supply Issues
- Windows Hardware Diagnostic Tools
- Resolve Hardware Failure Issues
- Review

Lab : Identify and Resolve Hardware Failure Issues

- Use the Windows Memory Diagnostics Tool
- Fix Hard Disk Errors
- Use the Reliability Monitor
- Use Event Viewer to Find Hardware Information

After completing this module, students will be able to:

- Understand how to be proactive in dealing with hardware problems
- Use Windows 7 hardware diagnostic tools

Module 10: Identify and Resolve Wireless Connectivity Issues (Optional)

This module explains how to configure reliable and secure wireless connectivity for client computers.

Lessons

- Overview
- Signal Strength
- Wireless Security
- Wireless Profiles
- Management Options for Wireless Devices
- Resolve Wireless Connectivity Issues
- Review

Lab : Identify and Resolve Wireless Connectivity Issues

- No Lab Exercises

After completing this module, students will be able to:

- Understand the encryption options available for wireless networks
- Use Windows 7 Wireless security options
- Fix client connectivity problems

Module 11: Identify and Resolve Remote Access Issues (Optional)

This module explains how to configure remote network connections for client computers.

Lessons

- Overview
- Remote Access Methods
- Dial-up Configuration
- VPN Configuration
- DirectAccess Configuration
- Authentication Protocols
- Resolve Remote Access Issues
- Review

Lab : Identify and Resolve Remote Access Issues

- Configure Remote Access settings for a domain user account
- Create and Test a VPN Connection

After completing this module, students will be able to:

- Understand the security options available when creating remote access connections

- Understand the new capabilities of VPN connections that use DirectAccess
- Resolve connectivity problems for VPN and Dial-Up connections

Module 12: Manage File Synchronization (Required)

This module explains how to allow end-users to work with network files that are being synchronized on their local desktops or laptops.

Lessons

- Overview
- Configuring Offline File Access
- Synchronization Settings
- Transparent Caching
- Roaming Profiles
- Restoring Network Files
- Resolve File Synchronization Problems
- Review

Lab : Manage File Synchronization

- Configure and Test Offline Files
- Restore the Previous Version of a File

After completing this module, students will be able to:

- Configure Transparent Caching
- Restore deleted network files

Module 13: Identify and Resolve Internet Explorer Security Issues (Optional)

This module explains how to configure the security features in Internet Explorer to protect user information and privacy.

Lessons

- Overview
- Configure Security Zone
- Configure Security Levels
- Configure Privacy Settings
- Managing Add-ons
- Configure Smart Screen Filter
- Other Security Issues
- Resolve Internet Explorer Security Issues
- Review

Lab : Identify and Resolve Internet Explorer Security Issues

- Configure Trusted Security Zone
- Configure the Security and Privacy Features in IE
- Configure Group Policy Settings for Internet Explorer

After completing this module, students will be able to:

- How to use new security features like Smart Screen Filtering

- Manage Internet Explorer Add-ons
- Use IE features to warn the user about potential security problems
- Understand new features in Internet Explorer 9

Module 14: Identify and Resolve Firewall Issues (Optional)

This module explains how to configure Windows Firewall to secure network traffic and applications on a computer.

Lessons

- Overview
- Securing Network Applications and Features
- Program and Port Exceptions
- Configuring Notifications and Logging
- Network Security Tools
- Resolve Firewall Issues
- Review

Lab : Identify and Resolve Firewall Issues

- Configure and Test Firewall Rules for an application
- Fix Application Problems Caused by Firewall Rules

After completing this module, students will be able to:

- Block applications from communicating over the network
- Record and setup notifications of unapproved network communication
- Fix problems caused by improper configuration of Windows Firewall

Module 15: Identify and Resolve Issues Due To Malicious Software (Optional)

This module explains how to restore a computer system after an attack by viruses or other malicious software.

Lessons

- Overview
- Proactive Malware Protection
- Protecting Internet Explorer
- Windows and Anti-Virus Updates
- Recovering From Malware Infection
- Resolve Issues Due To Malicious Software
- Review

Lab : Identify and Resolve Issues Due To Malicious Software

- Use the Action Center to manage UAC settings
- Use System File Checker
- Use the Malicious Software Removal Tool
- Install Microsoft Security Essentials

After completing this module, students will be able to:

- Identify problems caused by viruses and other malware.
- How to protect Internet Explorer and E-mail applications from malware attack
- How to prevent data loss and fix a computer after a malware attack
- Install and configure Microsoft Security Essentials

Module 16: Identify and Resolve Encryption Issues (Optional)

This module explains how to fix problems caused by using encryption on a Windows computer.

Lessons

- Overview
- Configuring a Recovery Agent
- Using EFS
- Using BitLocker
- Encryption Tools
- Resolve Encryption Issues
- Review

Lab : Identify and Resolve Encryption Issues

- Encrypt Files using EFS
- Configure EFS Sharing
- Configure a Recovery Agent

After completing this module, students will be able to:

- Recover from lost encryption keys
- How to encrypt individual files using EFS
- Use BitLocker to protect laptops and insecure computers

Module 17: Identify and Resolve Software Update Issues (Optional)

This module explains how to configure and use the operating system and application update features available on Windows devices.

Lessons

- Overview
- Types of Windows Updates
- Using Windows Update
- Using Microsoft Update
- Resolve Software Update Issues
- Review

Lab : Identify and Resolve Software Update Issues

- Configure Windows Updates using desktop settings
- Configure Windows Updates using Group Policy settings

After completing this module, students will be able to:

- Configure client computers to get updates from the local network instead of the Internet

- Understand the different options available when updating the operating system
- Understand how to configure automatic updates for Microsoft applications

Module 18: PowerShell for Desktop Support Technicians (Appendix B)

This module explains how to use PowerShell for information gathering and troubleshooting tasks.

Lessons

- Overview
- Compared to other Scripting Languages
- Creating and Running Scripts
- Administering Local Resources
- Administering Network Resources
- Connect to Microsoft Azure with PowerShell
- Review

Lab : PowerShell for Desktop Support Technicians

- Use PowerShell to get System Information and change Computer Settings
- Use PowerShell documentation to understand and use Cmdlets
- Create and Execute Scripts
- Configure and Test remote device configuration
- Create an Azure VM with Azure PowerShell

After completing this module, students will be able to:

- Extract system information and modify computer settings using PowerShell
- Use PowerShell help features to learn cmdlet options
- Create and execute PowerShell scripts
- Remotely administer Windows devices using PowerShell
- Create Microsoft Azure Virtual Machines with Azure PowerShell

Additional Reading

- Classroom Training: Course 20697-1B