



# 20497: Implementing and Managing Windows 10

## About this course

This course provides students with the knowledge and skills required to install and configure Windows 10 desktops and devices in a corporate Windows Server domain environment. The skills that this course details include learning how to install and customize Windows 10 operating systems and apps, and configure local and remote network connectivity and storage. Students also will learn how to configure security for data, devices, and networks, and maintain, update, and recover Windows 10.

## Audience profile

This course is for information technology (IT) professionals who administer and support Windows 10 desktops, devices, users, and associated network and security resources. The networks with which these professionals typically work are configured as Windows Server domain-based environments with managed access to the Internet and cloud services. Students who seek certification in the 70-697 Windows 10 Configuring exam also will benefit from this course. Additionally, this course builds skills for Enterprise Desktop/Device Support Technicians who provide Tier 2 support to users who are running Windows 10 desktops and devices within a Windows domain environment in medium-sized and larger organizations.

## At course completion

### After completing this course, students will be able to:

- Describe the important new features of Windows 10.
- Install Windows 10.
- Configure a device that is running Windows 10.
- Configure network connectivity for a Windows 10 device.
- Manage storage in Windows 10.
- Manage folders and printers.
- Manage apps.
- Manage data security.
- Manage device security.
- Implement Windows 10 features to improve network security.
- Restore files, roll back drivers, and recover Windows 10 devices.
- Monitor and update Windows 10 devices.



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## Course Outline

### Module 1: Overview of Windows 10

This module describes the Windows 10 operating system. It describes the new features in Windows 10, and the important changes since Windows 8.1. It describes the use, navigation, and customization of the enhanced Windows 10 user interface. Additionally, this module describes the Windows 10 features that make it beneficial for organizations of different sizes.

#### Lessons

Introducing Windows 10  
Navigating the Windows 10 User Interface

#### Lab : Navigating and Customizing the User Interface

Navigating the Windows 10 User Interface  
Configuring Start  
Configuring the Desktop

#### After completing this module, students will be able to:

Describe important new features of Windows 10.  
Navigate and customize the Windows 10 interface.

### Module 2: Installing Windows 10

This module introduces the different editions of Windows 10, and the differences between them. It describes the requirements and available options for installing Windows 10 on a device, and provides instructions for installing, or upgrading to, Windows 10. Additionally, this module provides points that you should consider when deciding between an upgrade or migration to Windows 10, and the supported upgrade paths from older versions of the Windows operating system.

#### Lessons

Installing Windows 10  
Upgrading to Windows 10



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## Lab : Installing Windows 10

Upgrading Windows 7 to Windows 10  
Migrating User Settings

After completing this module, students will be able to:  
Choose how to install Windows 10.  
Describe the process of upgrading to Windows 10.

## Module 3: Configuring Your Device

This module explains how to configure Windows 10 by using tools such as the Settings app, Control Panel, Windows PowerShell, Remote Server Administration Tools (RSAT), and Group Policy Objects (GPOs). It describes the different types of user accounts, and the benefits of using a Microsoft account. It also covers the common configuration options in Windows 10. Additionally, this module describes Microsoft OneDrive and its integration with Windows 10.

## Lessons

Overview of Tools You Can Use to Configure Windows 10  
Common Configuration Options  
Managing User Accounts  
Using OneDrive

## Lab : Configuring Windows 10

Using the Settings App  
Using Control Panel  
Using Windows PowerShell  
Using GPOs

## Lab : Synchronizing Settings with OneDrive

Connecting a Microsoft Account  
Synchronizing Settings between Devices



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**After completing this module, students will be able to:**

- Describe the different tools that they can use to configure Windows 10.
- Explain common configuration options.
- Manage user accounts.
- Use OneDrive with Windows 10.

## Module 4: Configuring Network Connectivity

This module explains the use of tools to configure network settings, including the Network and Sharing Center and Windows PowerShell. It describes the differences between Internet Protocol version 4 (IPv4) and Internet Protocol version 6 (IPv6) settings, and the benefits of IPv6. Additionally, it describes how to implement name resolution and provides an overview of the Domain Name System (DNS) service. Lastly, this module describes how you can configure wireless connectivity in Windows 10, and explains remote access methods that are available in Windows 10, such as virtual private networks (VPNs), DirectAccess, and Remote Desktop.

### Lessons

- Configuring IP Network Connectivity
- Implementing Name Resolution
- Implementing Wireless Network Connectivity
- Overview of Remote Access

### Lab : Configuring Network Connectivity

- Verifying and Testing IPv4 Settings
- Configuring Automatic IPv4 Settings
- Configuring and Testing Name Resolution

**After completing this module, students will be able to:**

- Describe how to configure IP network connectivity.
- Implement name resolution.
- Implement wireless network connectivity.
- Describe options for remote access in Windows 10.



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## Module 5: Managing Storage

This module provides an overview of storage options, including hard disks, server-based storage, and virtual hard disks. It describes network storage options, including network-attached storage (NAS) and storage area networks (SANs), and cloud-based storage options, such as OneDrive and Microsoft Azure Storage. Additionally, this module describes the management and maintenance of disks, partitions, and volumes, and the configuration and use of the Storage Spaces feature.

### Lessons

- Overview of Storage Options
- Managing Disks, Partitions, and Volumes
- Maintaining Disks and Volumes
- Managing Storage Spaces

### Lab : Managing Storage

- Adding a Disk
- Creating a Simple Volume
- Compressing a Folder
- Enabling Disk Quotas
- Creating a Storage Space

### After completing this module, students will be able to:

- Explain the different storage options in Windows 10.
- Manage disks, partitions, and volumes.
- Maintain disks, partitions, and volumes.
- Manage storage spaces.

## Module 6: Managing Files and Printers

This module provides an overview of the file systems that Windows 10 supports. It explains how to configure file permissions, the effect of file permissions, how explicit and inherited permissions work, and how to include user and device claims in access permissions. This module also explains how to share folders, the tools that you can use to share folders, and the effective permissions when a user tries to access data in a shared folder that is protected by file permissions. Additionally, this module explains how to create and use Work Folders.



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The last lesson in this module describes how to add and share a printer, and how to manage client and server-side printing.

## Lessons

Overview of File Systems  
Configuring and Managing File Access  
Configuring and Managing Shared Folders  
Work Folders  
Managing Printers

## Lab : Configuring and Managing Permissions and Shares

Creating, Managing, and Sharing a Folder  
Using Conditions to Control Access and Effective Permissions

## Lab : Configuring and Using Work Folders

Configuring Work Folders

## Lab : Installing and Managing a Printer

Managing and Using a Printer

After completing this module, students will be able to:

- Describe and create file systems that Windows 10 supports.
- Configure file permissions.
- Explain how permission inheritance works.
- Implement conditions to limit access to files and folders.
- Create and manage shares.
- Create and use Work Folders.
- Configure and manage printers.

## Module 7: Managing Apps in Windows 10

This module describes how to install and configure desktop apps and Windows Store apps in Windows 10. It explains how to install apps manually and automatically, and how to use Microsoft System Center Configuration Manager and Microsoft Intune to deploy apps. Additionally, it describes the Windows Store and the way in which you can manage access



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to it. Lastly, this module describes the Internet Explorer 11 and Microsoft Edge browsers, and explains how to configure and manage both browsers.

## Lessons

Overview of Providing Apps to Users  
The Windows Store  
Web Browsers

## Lab : Installing and Updating Apps from the Windows Store

Sideload an App  
Signing In with a Microsoft Account  
Installing and Updating Windows Store Apps

## Lab : Configuring Windows 10 Web Browsers

Configuring and Using Microsoft Edge  
Configuring and Using Internet Explorer

After completing this module, students will be able to:

Describe the Windows 10 options for app deployment.  
Install and manage Windows Store apps.  
Configure Windows 10 web browsers.

## Module 8: Managing Data Security

This module explains how the technologies available with Windows 10 work together to protect against data-related security threats. It provides an overview of these threats, and discusses possible mitigations and best practices for dealing with them. It describes defense-in-depth and Encrypting File System (EFS), and how you can use those methods to counter security threats. Additionally, this module describes how to configure, administer, and monitor BitLocker drive encryption.

## Lessons

Overview of Data-Related Security Threats  
Securing Data with EFS  
Implementing and Managing BitLocker



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## Lab : Managing Data Security

Using EFS  
Using BitLocker

### After completing this module, students will be able to:

Understand data-related security threats.  
Secure data with Encrypting File System (EFS).  
Implement and manage BitLocker Drive Encryption.

## Module 9: Managing Device Security

This module explains how to mitigate security threats with the use of Security Compliance Manager, Enhanced Mitigation Experience Toolkit, and security settings in GPOs. It also describes User Account Control (UAC), and how to configure it. This module also explains the use of AppLocker to configure application usage and restrictions.

### Lessons

Using Security Settings to Mitigate Threats  
Configuring UAC  
Configuring Application Restrictions

## Lab : Managing Device Security

Creating Security Policies  
Testing Security Policies  
Configuring UAC Prompts  
Configuring and Testing AppLocker

### After completing this module, students will be able to:

Use security settings to mitigate threats.  
Configure UAC.  
Configure application restrictions

## Module 10: Managing Network Security

This module describes common network-related security threats, and describes options to mitigate them. It describes tools such as Windows Firewall, IPsec connection security rules,





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and Windows Defender, and how students can configure these tools to manage network security.

## Lessons

Overview of Network-Related Security Threats  
Windows Firewall  
Connection Security Rules  
Windows Defender

## Lab : Managing Network Security

Creating and Testing Inbound Rules  
Creating and Testing Outbound Rules  
Creating and Testing Connection Security Rules  
Configuring Windows Defender

## After completing this module, students will be able to:

Describe network-related security threats.  
Manage Windows Firewall.  
Configure connection security rules.  
Manage Windows Defender.

## Module 11: Troubleshooting and Recovery

This module describes device drivers, and how to use the Device Manager to view, configure, update, and roll back device drivers. It explains file-recovery methods in Windows 10, such as Backup and Restore, File History, and Previous Versions. This module also explains features such as System Restore, Startup Recovery, and System Image Recovery, and describes how to use restore points to roll back device configuration.

## Lessons

Managing Devices and Drivers  
Recovering Files  
Recovering Devices

## Lab : Troubleshooting and Recovery

Managing Device Drivers



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Using File History to Recover Files  
Using Previous Versions to Recover Files  
Recovering a Device with a Restore Point  
Using the Advanced Start-up Options to Recover a Device

**After completing this module, students will be able to:**

Describe and manage device drivers.  
Configure file recovery and revert to previous versions of files.  
Describe and use device recovery features in Windows 10

## Module 12: Maintaining Windows 10

This module describes Windows Update, and Windows Update for Business, and how to configure settings for updates. It describes how to use Windows Server Update Services (WSUS), Configuration Manager, or Intune to distribute updates within organizations. This module also explains how to use the Action Center, Event Viewer, and Performance Monitor in Windows 10.

### Lessons

Updating Windows  
Monitoring Windows 10  
Optimizing Performance  
Configuring Updates for a Single Device  
Configuring Updates with GPOs  
Monitoring Events  
Monitoring Reliability and Performance

**After completing this module, students will be able to:**

Explain how to keep Windows 10 up to date.  
Monitor Windows 10.  
Optimize performance of Windows 10.



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## Prerequisites

Before attending this course, students must have:

- Knowledge of networking fundamentals, including TCP/IP, User Datagram Protocol (UDP), and DNS.
- Knowledge of Active Directory Domain Services (AD DS) principles, and fundamentals of AD DS management.
- Understanding of certificate-based security.
- Understanding of Windows Server 2008 or Windows Server 2012 fundamentals.
- Understanding of Windows client operating system essentials, such as a working knowledge of Windows Vista, Windows 7, or Windows 8.