TestOut®

# TestOut Client Pro - English 7.0.x

# LESSON PLAN

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# Table of Contents

# 1.0 Course Introduction

## 1.1: Course Introduction

This course is designed to prepare you for two certification programs:

- TestOut Client Pro - This certification verifies your ability to perform tasks necessary to support Windows 10.
- Microsoft 365 Certified: Modern Desktop Administrator Associate - This certification verifies your ability to deploy, configure, secure, manage, and monitor devices and client applications in an enterprise environment.

The following exams must be passed to earn this certification.

- Microsoft MD-100: Windows 10
- Microsoft MD-101: Managing Modern Desktops

### Lecture Focus Questions:

- Which certification can the Microsoft MD-100 and Microsoft MD-101 exams fulfill requirements for?
- Which Windows operating system does the Microsoft MD-100 exam focus on?
- What are the major differences between the TestOut Windows Client Pro exam and the Microsoft MD-100 and Microsoft MD-101 exams?

| Video/Demo | Time |
|---|---|
| 1.1.1 Course Introduction | 2:54 |
| **Total Video Time** | **2:54** |

### Fact Sheets

1.1.2 Exam Objectives Facts

### Total Time

*About 8 minutes*

# 1.2: TestOut Lab Simulator

The labs in this course use Windows 10 Enterprise desktop and laptop computers. They also use Windows Server 2019.
Most of the servers you will use run as virtual machines on a Hyper-V guest server. Depending on the lab, you will start on a workstation or a server. Some labs also require you to answer questions from within the lab.

### Lecture Focus Questions:

- What types of systems will be found in this course?
- What is the purpose of the Answer Questions tab?
- What must you do to complete a simulation lab?

In this section, you will learn to:

- Use the lab simulator
- Explore the lab interface

Key terms for this section include the following:

| Term | Definition |
|---|---|
| Hyper-V | A native hypervisor on which other virtual machines can run. |
| Score Lab | The button that must be pressed only after you have completed all lab tasks. |
| Task Summary | A list showing you the tasks that were successfully completed and the ones that were not successfully completed. |

| Video/Demo | Time |
|---|---|
| 1.2.1 Using the Lab Simulator | 6:24 |
| **Total Video Time** | **6:24** |

### Lab/Activity

- 1.2.2 Explore the Lab Interface

### Total Time

*About 19 minutes*

# 1.3: Windows User Interface Overview

## Lecture Focus Questions:

- What is the purpose of the Start menu?
- What are some of the major differences in the Start menu from the earlier version of Windows 10?
- What are several ways you can make applications easily accessible?
- What types of functions can you complete from the Windows taskbar?

In this section, you will learn to:

- Use the Windows 10 user interface

The key terms for this section include:

| Term | Definition |
|---|---|
| Desktop | The main view from which a user's work is performed. Multiple desktop can be enabled, letting you manage the programs that can be viewed from each desktop. |
| Start menu | The Windows icon found in the far left of the taskbar. It is used to start programs; to access utilities to configure and manage the system; to access the current user's files and folders; and to select power options, such as sign out, sleep, restart, and power off. |
| Taskbar | The bar that (by default) runs along the bottom of the screen. You can pin (as quick launch icons) frequently used applications such as Edge and File Explorer to the taskbar. It also contains links to network settings, sound settings, notifications, and more. |
| Tiles | Shortcuts to Windows 10 apps and other programs installed on the system. They are accessible from the Start menu. Programs and apps can be added or removed as desired. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 1.2 Configure Windows settings<br>1.2.1 Configure Windows desktop |
| Microsoft MD-100 | 1.2 Perform post-installation configuration<br>1.2.3 Customize the Windows desktop |

| Video/Demo | Time |
|---|---|
| 1.3.1 Navigating the Windows 10 User Interface (Part 1) | 8:29 |
| 1.3.2 Navigating the Windows 10 User Interface (Part 2) | 3:45 |
| 1.3.3 Exploring Windows 10 Versions | 5:04 |

**Total Video Time** **17:18**

## Lab/Activity

- 1.3.5 Use the Windows 10 User Interface

## Fact Sheets

- 1.3.4 Windows 10 User Interface Facts

## Number of Exam Questions

10 questions

## Total Time

*About 45 minutes*

# 1.4: Windows File and Folder Management

## Lecture Focus Questions:

- What are the different methods you can use to create files and folders?
- What are the different methods you can use to copy and move files and folders?
- What is the difference between moving a file/folder and copying a file/folder?
- In File Explorer, what is the OneDrive view used for?

In this section, you will learn to:

- Manage files
- Manage folders

The key terms for this section include:

| Term | Definition |
|---|---|
| File Explorer | A Windows tool used to manage files and folders |

| Video/Demo | Time |
|---|---|
| 1.4.1 Managing Files and Folders | 8:12 |
| **Total Video Time** | **8:12** |

## Lab/Activity

- 1.4.3 Manage Files
- 1.4.4 Manage Files and Folders

## Fact Sheets

- 1.4.2 File and Folder Management Facts

## Number of Exam Questions

10 questions

## Total Time

*About 48 minutes*

# Windows Installation

## 2.1: Windows Versions

### Lecture Focus Questions:

- What is the difference between the Windows 10 Pro edition and the Windows 10 Enterprise edition?
- What is a distribution channel?
- Which versions of Windows 10 can be purchased through the retail channel?
- What are some of the key characteristics of the Original Equipment Manufacturer (OEM) distribution channel?

The key terms for this section include:

| Term | Definition |
|---|---|
| Original Equipment Manufacturer | A company that produces equipment offered by a distributor who bundles software and parts with the original equipment. Among other things, the bundled software can be an edition of Windows 10. |
| Key Management Services (KMS) | A service that allows you to activate Windows systems using an internally hosted KMS server. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-100 | 1.1 Install Windows 10<br>1.1.3 Select the appropriate Windows edition |

| Video/Demo | Time |
|---|---|
| 2.1.1 Windows Versions and Editions | 5:28 |
| 2.1.3 Windows Distribution Channels | 6:56 |
| **Total Video Time** | **12:24** |

### Fact Sheets

- 2.1.2 Windows 10 System Requirement Facts
- 2.1.4 Windows Distribution Channels Facts

### Number of Exam Questions

10 questions

### Total Time

*About 33 minutes*

# 2.2: Windows Installation

## Lecture Focus Questions:

- Under what circumstances should you choose a clean Windows installation?
- What is the advantage of a dual-boot system?
- When would you choose a Windows upgrade rather than a clean installation?
- What are three types of media you can install Windows 10 from?
- What prerequisites must be met before you can use a USB flash storage device as an installation source?

In this section, you will learn to:

- Create Windows installation sources
- Install Windows 10
- Enable Windows features

The key terms for this section include:

| Term | Definition |
|---|---|
| Bootloader | Code on a hard disk used to boot an operating system. This code runs before any operating system starts. If multiple operating systems are on the same disk, it is typical to have a bootloader for each operating system. |
| Dual-boot | Two or more operating systems installed on the same disk that a computer boots from. Users are typically given the choice at start up to select the operating system to boot into. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-100 | 1.1 Install Windows 10<br>1.1.1 Perform a clean installation |

| Video/Demo | Time |
|---|---|
| 2.2.1 Clean Windows Installation | 8:22 |
| 2.2.4 Creating Windows Installation Sources | 3:33 |
| 2.2.5 Installing Windows | 8:12 |
| 2.2.6 Enabling Windows Features | 2:11 |
| **Total Video Time** | **22:18** |

## Fact Sheets

- 2.2.2 Windows Installation Facts
- 2.2.3 Windows Installation Source Facts

## Number of Exam Questions

10 questions

**Total Time**
*About 43 minutes*

# 2.3: Windows Activation

## Lecture Focus Questions:

- Which Windows activation mechanisms are available?
- Which components make up the Hardware Identification (HWID)?
- Which tool can you use to manage activation from the command line?
- What is volume licensing?
- What are some of the limitations of using Key Management Service (KMS) activation?

In this section, you will learn to:

- Manage activation from the command line
- Troubleshoot Windows activation

The key terms for this section include:

| Term | Definition |
|---|---|
| Product key | A series of numbers and letters used to activate Windows. |
| Digital license | A method of Windows activation that doesn't require a product key. Instead, the license is linked to a Microsoft account and, once used, is also linked to the hardware. |
| Key Management Service (KMS) | A service use by volume license customers to activate Windows through a KMS server. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-100 | 1.2. Perform post-installation configuration<br>1.2.4 Troubleshoot activation issues |

| Video/Demo | Time |
|---|---|
| 2.3.1 Windows Activation Overview | 9:32 |
| 2.3.2 Managing Activation from the Command Line | 5:24 |
| 2.3.3 Troubleshooting Windows Activation | 3:59 |
| **Total Video Time** | **18:55** |

## Fact Sheets

2.3.4 Windows Activation Facts

## Number of Exam Questions

10 questions

## Total Time

*About 34 minutes*

# 2.4: Windows Post-Installation Configuration

## Lecture Focus Questions:

- What five tasks are completed after a Windows installation?
- Which utility allows you to configure the Start menu, language and region settings, as well as keyboard settings?
- What type of accessibility options are available in Windows 10?
- How do you turn Windows features on or off?
- How do you configure Cortana?

In this section, you will learn to:

- Configure the user environment
- Configure Cortana
- Add Windows region and language support
- Configure accessibility options
- Configure the local registry

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-100 | 1.2 Perform post-installation configuration<br>1.2.3 Customize the Windows desktop<br>4.3. Monitor and manage Windows<br>4.3.4 Configure local registry |

| Video/Demo | Time |
|---|---|
| 2.4.1 Configuring the User Environment | 11:07 |
| 2.4.2 Configuring Cortana | 3:39 |
| 2.4.3 Adding Windows Region and Language Support | 3:09 |
| 2.4.4 Configuring Accessibility Options | 7:04 |
| 2.4.5 Configuring the Local Registry | 6:00 |
| **Total Video Time** | **30:59** |

## Fact Sheets

2.4.6 Windows Post-Installation Facts

## Number of Exam Questions

10 questions

## Total Time

*About 46 minutes*

# 2.5: Printer and External Devices

## Lecture Focus Questions:

- How can you allow computers to print to the printer attached to another computer?
- How do you access someone else's shared printer?
- When sharing printers, what should you know about the three network profiles: Private, Public, and All Networks?
- How do you configure a default printer? What are the ways a default printer can be selected?
- How do you install or add a new printer?
- Which methods can you use to perform print management? How does each method differ?

In this section, you will learn to:

- Install and configure a local printer
- Configure default printers
- Share a printer

The key terms for this section include:

| Term | Definition |
|---|---|
| Default printer | The printer all print jobs are sent to unless otherwise specified. |
| Cmdlet | A command used in the Windows PowerShell environment. PowerShell uses cmdlets (pronounced command-lets) to perform a variety of functions, including manage printers. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 4.1 Configure and manage local printers<br>4.1.1 Add a printer |
| MD-100 | 1.2. Perform post-installation configuration<br>1.2.5 Configure printers and external devices |

| Video/Demo | Time |
|---|---|
| 2.5.1 Installing a Printer | 6:19 |
| 2.5.2 Managing Printers | 8:34 |
| 2.5.6 Configure External Device | 2:07 |
| **Total Video Time** | **17:00** |

## Lab/Activity

- 2.5.3 Install and Configure a Local Printer
- 2.5.4 Configure Default Printers
- 2.5.5 Share a Printer

## Fact Sheets

- 2.5.7 Printer and External Devices Facts

## Number of Exam Questions

10 questions

## Total Time

*About 68 minutes*

# 2.6: Web Browser Configuration

## Lecture Focus Questions:

- What are the advantages and disadvantages of the Edge and Internet Explorer (IE) browsers?
- Are settings configured in Internet Options applied to other browsers, such as Edge?
- What types of restrictions are provided in the Security Level feature?
- How does the Protected Mode security feature increase system security?
- When would you add a website to the Restricted sites security zone?
- What is the purpose of using a compatibility view?
- How does compatibility view differ between Internet Explorer and Edge?
- What is the purpose of using SmartScreen filtering?

In this section, you will learn to:

- Configure IE Internet Options
- Clear the Browser Cache in IE
- Configure Enterprise Mode for IE and Edge

The key terms for this section include:

| Term | Definition |
|---|---|
| ActiveX | A software framework created by Microsoft that adapts its earlier Component Object Model (COM), and Object Linking and Embedding (OLE) technologies for content downloaded from a network, particularly from the world wide web. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 1.1 Configure Windows Internet settings<br>1.1.1 Configure Internet Explorer cookie settings<br>1.1.2 Configure the IE Popup Blocker |
| Microsoft MD-100 | 1.2. Perform post-installation configuration<br>1.2.1 Configure Edge and Internet Explorer |

| Video/Demo | Time |
|---|---|
| 2.6.1 Microsoft Web Browsers | 8:50 |
| 2.6.2 Configuring Edge | 8:04 |
| 2.6.4 Configuring Internet Explorer | 8:27 |
| 2.6.5 Configuring IE Internet Options | 12:27 |

| | |
|---|---|
| 2.6.9 Configuring Enterprise Mode for IE and Edge | 7:17 |
| **Total Video Time** | **45:05** |

## Lab/Activity

- 2.6.7 Configuring IE Internet Options
- 2.6.8 Clear the Browser Cache in IE
- 2.6.11 Configuring Enterprise Mode for IE and Edge

## Fact Sheets

- 2.6.3 Edge Facts
- 2.6.6 Internet Explorer Configuration Facts
- 2.6.10 Enterprise Mode for IE and Edge Facts

## Number of Exam Questions

10 questions

## Total Time

*About 107 minutes*

# 2.7: Windows Upgrade

## Lecture Focus Questions:

- What are the benefits of performing an in-place upgrade?
- Which operating systems do not support upgrading to Windows 10?
- Can you perform an in-place upgrade when upgrading from Windows 7 Enterprise to Windows 10 Professional?
- Do you need to perform a clean install when upgrading from Windows 8.1 Basic to Windows 10 Home?
- What is an edition upgrade?
- What are three methods used to perform an upgrade?

In this section, you will learn to:

- Upgrade to Windows 10
- Perform in-place upgrades and downgrades
- Plan app compatibility

The key terms for this section include:

| Term | Definition |
|---|---|
| Microsoft Deployment Toolkit (MDT) | A free tool from Microsoft that automates the deployment of Windows and Windows Server operating systems. |
| Windows Deployment Services (WDS) | A server role that enables the deployment of Windows operating systems remotely. |
| Windows Assessment and Deployment Kit (Windows ADK) | A collection of Microsoft tools and technologies designed to help deploy Microsoft Windows operating system images to target computers or to a virtual hard disk image in VHD format. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-100 | 1.1 Install Windows 10<br>1.1.2 Perform an in-place upgrade (using tools such as WDS, ADK, etc.)<br>1.1.3 Select the appropriate Windows edition |
| Microsoft MD-101 | 1.1 Plan a Windows 10 deployment<br>1.1.1 Assess infrastructure readiness<br>1.1.3 Plan upgrade and downgrade |

| | |
|---|---|
| | paths<br>1.1.4 Plan app compatibility |

| Video/Demo | Time |
|---|---|
| 2.7.1 Windows Upgrade and Downgrade | 11:32 |
| 2.7.2 Upgrading to Windows 10 | 4:40 |
| 2.7.3 Performing In-Place Upgrades and Downgrades | 9:30 |
| 2.7.4 Plan App Compatibility | 3:14 |
| 2.7.6 Desktop Analytics and Upgrade Readiness | 2:54 |
| **Total Video Time** | **31:50** |

## Fact Sheets

- 2.7.5 Windows Upgrade Facts
- 2.7.7 Desktop Analytics and Upgrade Readiness Facts

## Number of Exam Questions

10 questions

## Total Time

*About 52 minutes*

# 2.8: User Profile and Data Migration

## Lecture Focus Questions:

- What are the main differences between an in-place migration and a side-by-side migration?
- What types of files and data are moved by default during a migration?
- What is a wipe-and-load migration?
- Which three migration stores can the User State Migration Tool (USMT) create?
- In what order should USMT commands be executed during a migration?
- What is the role of the MigApp.xml file?
- How can you customize a USMT migration?
- What tool does Microsoft recommend when migrating profiles to Windows 10?

In this section, you will learn to:

- Use USMT to migrate user settings and profile information
- Use PCmover Express to migrate profiles and user data

The key terms for this section include:

| Term | Definition |
|---|---|
| User State Migration Tool | An advanced tool used to migrate user profiles and data from one computer to another. |
| Side-by-side migration | A migration method that uses two computers to migrate user data from the source computer to a new computer. |
| Wipe-and-load migration | A migration method that backs up the user data to an external destination. After reinstalling Windows on the source computer, it restores the data from the external destination. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-101 | 1.1. Plan a Windows 10 deployment<br>1.1.5 Plan for user state< |

| Video/Demo | Time |
|---|---|
| 2.8.1 Plan User Profile and Data Migration | 10:18 |
| 2.8.2 Using USMT | 9:40 |
| 2.8.3 Using PCmover Express | 7:42 |
| **Total Video Time** | **27:40** |

## Fact Sheets

2.8.4 USMT Migration Facts

## Number of Exam Questions

10 questions

**Total Time**
*About 43 minutes*

# 2.9: Windows Deployment

## Lecture Focus Questions:

- How does Dynamic Deployment save IT departments time?
- What versions of Windows 10 can be used with Dynamic Deployment?
- What information does the user need to provide when performing an Azure Active Directory join?
- How are provisioning packages (. ppkg) distributed?
- What important things do you need to be aware of when piloting a deployment?

In this section, you will learn to:

- Use and troubleshoot Windows Autopilot
- Create deployment profiles
- Work with hardware IDs
- Import device information into Azure
- Pilot a Windows deployment

The key terms for this section include:

| Term | Definition |
|---|---|
| Windows Autopilot | A desktop provisioning tool provided with Windows 10 that allows IT professionals to automate image deployment of new desktops with preset configurations. |
| Deployment profiles | A group of settings that specify the exact behavior of a device when it deployed. |
| Hardware ID | A vendor-defined identification string that Windows uses to identify a device. |
| Provisioning package | A container for a collection of configuration settings. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-101 | 1.1 Plan a Windows 10 deployment<br>1.1.2 Evaluate and select appropriate deployment options (Endpoint Manger, MDT)<br>1.2. Plan and implement Windows 10 by using Windows Autopilot<br>1.2.1 Choose method based on requirements<br>1.2.2 Create, validate, and assign deployment profile<br>1.2.3 Extract device HW |

| | |
|---|---|
| | information to CSV file<br>1.2.4 Import device HW information to cloud service<br>1.2.5 Deploy Windows 10<br>1.2.6 Troubleshoot deployment |

| Video/Demo | Time |
|---|---|
| 2.9.1 Windows Dynamic Deployment | 4:38 |
| 2.9.3 Autopilot Deployment | 5:14 |
| 2.9.4 Using Deployment Profiles | 3:21 |
| 2.9.5 Extracting Device HW Info to a CSV | 3:52 |
| 2.9.6 Importing Device Info into Azure | 3:32 |
| 2.9.7 Deploy Windows with Autopilot | 2:14 |
| 2.9.8 Troubleshooting Autopilot | 4:35 |
| **Total Video Time** | **27:26** |

## Fact Sheets

- 2.9.2 Windows Dynamic Deployment Facts
- 2.9.9 Windows Autopilot Facts

## Number of Exam Questions

10 questions

## Total Time

*About 48 minutes*

# System Imaging

## 3.1: System Images

### Lecture Focus Questions:

- What are the benefits of using an image file?
- What data is included in a reference image?
- What does the SysPrep utility do and when should you use it?
- When would you use Deployment Image Servicing Management (DISM) to capture an image?
- What is Windows Pre-Installation Environment (WinPE)?

In this section, you will learn to:

- Prepare a system for imaging using the Microsoft Deployment Toolkit (MDT)
- Capture and deploy reference images Using DISM
- Capture images using the Microsoft Deployment Toolkit
- Create an answer file using Windows System Image Manager (SIM)

The key terms for this section include:

| Term | Definition |
|---|---|
| Image | A copy of the contents of a hard drive, DVD, or other media stored as a single file. |
| Unique Single Instance Storage Structure | A storage solution used with Windows Image (WIM) files. If a file is used by multiple images, only one copy will be saved, but it can be used across all images that require it. |
| Answer file | A file that contains pre-configured responses to the various questions that must be answered during a standard Windows installation. |
| Provisioning package | A special file that contains settings and updates to an image file. |
| Windows Pre-Installation Environment | A bare minimum version of Windows that can be used to troubleshoot or to provide an environment from which Windows images can be captured and deployed. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-101 | 1.1 Plan a Windows 10 deployment<br>1.1.2 Evaluate and select appropriate deployment options (Endpoint Manager, MDT)<br>1.3 Plan and implement Windows 10 using MDT |

| | |
|---|---|
| | 1.3.1 Choose configuration options based on requirements<br>1.3.2 Create and manage images |

| Video/Demo | Time |
|---|---|
| 3.1.1 System Image Overview | 8:13 |
| 3.1.3 Image Preparation | 10:00 |
| 3.1.4 MDT Image Preparation | 7:38 |
| 3.1.6 Image Capture | 8:42 |
| 3.1.7 Capture and Deploy Reference Images Using DISM | 8:48 |
| 3.1.8 Capturing Images with MDT | 5:24 |
| 3.1.9 Creating an Answer File | 10:20 |
| **Total Video Time** | **59:05** |

## Fact Sheets

- 3.1.2 System Image Facts
- 3.1.5 Image Preparation Facts
- 3.1.10 Image Capture Facts
- 3.1.11 Image Deployment Facts

## Number of Exam Questions

10 questions

## Total Time

*About 90 minutes*

# 3.2: Image Servicing

## Lecture Focus Questions:

- What does it mean to service an image? Why is it needed?
- What are two common methods of servicing an image?
- What is the purpose of audit mode?

In this section, you will learn to:

- Service a Windows image using the appropriate method

Key terms for this section include the following:

| Term | Definition |
|---|---|
| Image servicing | To make changes to or update a Windows image. |
| Online servicing | To make changes to a Windows image using audit mode. |
| Audit mode | A special mode used during Windows setup that allows you to make changes to a Windows image. |
| Offline servicing | The process of making changes to a Windows image without loading the image into a reference machine. |

| Video/Demo | Time |
|---|---|
| 3.2.1 Image Servicing | 3:13 |
| 3.2.2 Servicing Offline Images Using DISM | 7:03 |
| **Total Video Time** | **10:16** |

## Fact Sheets

3.2.3 Image Servicing Facts

## Number of Exam Questions

10 questions

## Total Time

*About 26 minutes*

# 3.3: Provisioning Packages

## Lecture Focus Questions:

- What is a provisioning package?
- What are the benefits of using provisioning packages?
- What methods can be used to create provisioning packages?

In this section, you will learn to:

- Create Windows provisioning packages

The key terms for this section include:

| Term | Definition |
|---|---|
| Provisioning package | A file that contains customizations for a Windows 10 installation. These can be applied to an already installed Windows system. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-100 | 1.2 Perform post-installation configuration<br>1.2.6 Configure Windows 10 by using provisioning packages |

| Video/Demo | Time |
|---|---|
| 3.3.1 Configure Windows with Provisioning Packages | 4:46 |
| 3.3.2 Basic Runtime Provisioning | 9:47 |
| 3.3.3 Advanced Runtime Provisioning | 9:06 |
| **Total Video Time** | **23:39** |

## Fact Sheets

3.3.4 Windows Provisioning Package Facts

## Number of Exam Questions

10 questions

## Total Time

*About 39 minutes*

# 3.4: Sideloaded Apps

## Lecture Focus Questions:

- What is the process for sideloading an app into Windows 10?
- What are the different methods for sideloading an app into a Windows 10 reference image?
- When would you need to install a root certificate?
- How do you verify the digital signature?

In this section, you will learn to:

- Sideload an app into Windows 10

The key terms for this section include:

| Term | Definition |
|---|---|
| Certificate authority | An organization that provides digital certificates that contain verified small data files with identifiable credentials as a third-party entity. |
| Root certificate | A public key certificate, digital certificate, or identity certificate that is a digital document that provides credentials through its certificate authority. Other certificates can be signed by a root certificate. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-101 | 4.1 Deploy and update applications<br>4.1.5 Enable sideloading of apps into images |

| Video/Demo | Time |
|---|---|
| 3.4.1 Sideloaded Apps | 5:05 |
| 3.4.2 Sideloading an App | 6:45 |
| **Total Video Time** | **11:50** |

## Fact Sheets

3.4.3 Sideloaded App Facts

## Number of Exam Questions

10 questions

## Total Time

*About 27 minutes*

# Windows Device and User Management

## 4.1: Device and User Management

### Lecture Focus Questions:

- What are the main differences between the workgroup network model and the domain network model?
- What might be a disadvantage of a large company using a peer-to-peer network model?
- What are the differences between the stand-alone model and client-server model?
- What are the disadvantages of the client-server model?
- When is it beneficial to use Azure Active Directory?

In this section, you will learn to:

- Use local user accounts for sign-in
- Join a workgroup
- Use online user accounts for sign-in
- Use domain user accounts for sign-in
- Manage users in Azure Active Directory
- Manage Groups in Azure Active Directory

The key terms for this section include:

| Term | Definition |
|---|---|
| Active Directory | A centralized database, developed by Microsoft, that contains user accounts and security information. It is included in most Windows Server operating systems as a set of processes and services. |
| Organizational unit (OU) | A container in Active Directory that provides a way to organize such things as users, groups, computers, etc. It is also referred to as a container object. |
| Domain objects | All network resources, such as users, groups, computers, and printers are stored as objects in Active Directory. |
| Azure Active Directory (Azure AD) | Microsoft's cloud-based identity and access management service. It helps employees sign in and access resources. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 2.1 Create and manage users and groups<br>2.1.2 Create Active Directory (AD) user accounts |

| | |
|---|---|
| Microsoft MD-100 | 2.1.5 Manage Active Directory (AD) user accounts<br>2.1 Manage users, groups, and devices<br>2.1.1 Manage local groups<br>2.1.2 Manage local users<br>2.1.4 Manage users, groups, and devices in Azure Active Directory<br>2.1.5 Configure sign-in options |

| Video/Demo | Time |
|---|---|
| 4.1.1 Windows Operating System Roles | 12:29 |
| 4.1.3 Using Local User Accounts for Sign-in | 5:27 |
| 4.1.4 Joining a Workgroup | 5:14 |
| 4.1.5 Using Online User Accounts for Sign-in | 4:32 |
| 4.1.6 Using Domain User Accounts for Sign-in | 4:38 |
| 4.1.7 Using Azure AD User Accounts for Sign-in | 0:00 |
| 4.1.8 Manage Groups in Azure Active Directory | 2:21 |
| **Total Video Time** | **34:41** |

## Fact Sheets

- 4.1.2 Windows Operating System Roles Facts
- 4.1.9 Windows User Management Facts

## Number of Exam Questions

10 questions

## Total Time

*About 55 minutes*

# 4.2: Active Directory

## Lecture Focus Questions:

- What are the benefits of Active Directory?
- What is a domain?
- What is an organizational unit (OU)?
- Which service does Active Directory use to locate and name objects?
- If a Group Policy Object (GPO) is applied to an organizational unit, how does it affect objects in the organizational unit?
- Which containers cannot have GPOs linked to them?

In this section, you will learn to:

- Join a domain
- Manage Active Directory objects
- Manage devices in Active Directory
- Create and delete organizational units
- Use Group Policies
- Troubleshoot group policies on devices

The key terms for this section include:

| Term | Definition |
|---|---|
| Trees and forests | A way to group domains in Active Directory. A tree is a group of related domains that share the same contiguous DNS namespace. A forest is a collection of related domain trees. The forest establishes the relationship between trees that have different DNS name spaces. |
| Domain | A domain is an administratively defined collection of network resources that share a common directory database and security policies. The domain is the basic administrative unit of an Active Directory structure. |
| Organizational unit | In Active Directory, a way to organize such things as users, groups, computers, and other organizational units. Also known as a container object. |
| Built-in containers | Generic built-in containers are used to organize Active Directory objects. Built-in container objects differ from an OU in that they are created by default and cannot be created, moved, renamed, or deleted. |
| Objects | Network resources in Active Directory. All network resources in Active Directory are stored as objects, such as a user, group, computer, and printer. |
| Domain controller | A Windows server that holds a copy of the Active Directory database. |

| | |
|---|---|
| Group Policy | A set of configuration settings applied to users or computers. Group policies allow the administrator to apply multiple settings to multiple objects within the Active Directory domain at one time. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-100 | 2.1 Manage users, groups, and devices<br>2.1.1 Manage local groups<br>2.1.2 Manage local users<br>2.1.3 Manage users, groups, and devices in Active Directory Domain Services<br>2.2 Configure devices by using local policies<br>2.2.1 Implement local policy<br>2.2.2 Troubleshoot group policies on devices<br>2.2.3 Configure Windows 10 settings by using group policy |

| Video/Demo | Time |
|---|---|
| 4.2.1 Active Directory Overview | 8:21 |
| 4.2.2 Joining a Domain | 7:49 |
| 4.2.3 Manage Active Directory Objects | 9:25 |
| 4.2.4 Manage Devices in Active Directory | 2:46 |
| 4.2.8 Group Policy | 8:51 |
| 4.2.9 Using Group Policy | 7:06 |
| 4.2.10 Troubleshoot Group Policies on Devices | 3:58 |
| **Total Video Time** | **48:16** |

## Lab/Activity

- 4.2.6 Create OUs
- 4.2.7 Delete OUs

## Fact Sheets

- 4.2.5 Active Directory Facts
- 4.2.11 Group Policy Facts

## Number of Exam Questions

10 questions

## Total Time

*About 93 minutes*

# 4.3: Virtual Private Network (VPN)

## Lecture Focus Questions:

- What is a virtual private network (VPN)?
- How does a VPN work?
- What are VPN auto-triggers?
- How is Always On VPN different from a regular VPN?

In this section, you will learn to:

- Create a VPN connection
- Configure a VPN connection

The key terms for this section include:

| Term | Definition |
|---|---|
| Virtual private network | A network that provides a secure connection to remote resources over the internet. It is often referred to as tunneling. |
| Wide area network (WAN) | A network spread over a large distance that consists of multiple local area networks (LANs). |
| VPN trigger | A rule that when configured automatically enables the VPN connection. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 3.1 Configure network settings<br>3.1.1 Configure and connect a virtual private network (VPN) |
| Microsoft MD-101 | 1.4 Manage accounts, VPN connections, and certificates on Windows<br>1.4.2 Configure VPN client |

| Video/Demo | Time |
|---|---|
| 4.3.1 Virtual Private Network (VPN) | 4:43 |
| 4.3.2 VPN Features | 3:05 |
| 4.3.3 Create a VPN Client | 3:17 |
| **Total Video Time** | **11:05** |

## Lab/Activity

- 4.3.6 Configure a VPN Connection

## Fact Sheets

- 4.3.4 VPN Facts
- 4.3.5 VPN Feature Facts

## Number of Exam Questions
10 questions

## Total Time
*About 44 minutes*

# 4.4: Secure Accounts and Certificates on Windows 10

## Lecture Focus Questions:

- What is a privileged account?
- What type of data is accessible to a privileged account?
- What are the types of privileged accounts?
- What are the methods of securing a privileged account?
- What is a digital certificate?
- How do digital certificates help protect data?
- What role does a certificate authority (CA) play in the digital certification process?

In this section, you will learn to:

- Secure user accounts on Windows
- Install a certificate on Windows 10

The key terms for this section include:

| Term | Definition |
|---|---|
| Digital certificate | A form of authentication that uses the public key infrastructure (PKI) to secure data exchanged over the internet. Digital certificates use asymmetric encryption and public key cryptography. |
| Certificate authority | An entity that is trusted to issue certificates. |
| Registration authority (RA) | A third-party entity authorized by a CA to collect and verify information needed for digital certificates. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-101 | 1.4 Manage accounts, VPN connections, and certificates on Windows 10<br>1.4.1 Secure privileged accounts on Windows 10<br>1.4.3 Configure and manage certificates on client devices |

| Video/Demo | Time |
|---|---|
| 4.4.1 Privileged Accounts on Windows 10 | 8:30 |
| 4.4.3 Secure User Accounts on Windows | 3:56 |
| 4.4.4 Manage and Configure Client Certificates | 7:22 |
| 4.4.6 Install Certificate on Windows 10 | 4:44 |
| **Total Video Time** | **24:32** |

## Fact Sheets

- 4.4.2 Privileged Accounts on Windows 10 Facts
- 4.4.5 Manage and Configure Client Certificates Facts

## Number of Exam Questions
10 questions

## Total Time
*About 45 minutes*

# Hardware Management

## 5.1: Devices and Drivers

### Lecture Focus Questions:

- What does it mean to stage a driver?
- What are the advantages of placing drivers in the driver store?
- What does Windows do when it cannot find a driver in the driver store?
- How can you make sure that a driver is stable and reliable?
- Which tool lists drivers that do not have a digital signature?
- Which tool troubleshoots printer problems?

In this section, you will learn to:

- Configure Device Manager
- Update a driver
- Manage device drivers
- Stage a driver
- Manage unsigned device drivers

The key terms for this section include:

| Term | Definition |
|---|---|
| Device driver | The software that enables interaction between a computer's operating system and a hardware component. |
| Driver store | A trusted collection of inbox and third-party driver packages. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 4.3 Configure and update device drivers<br>4.3.1 Configure driver updates<br>4.3.2 Roll back device drivers |

| Video/Demo | Time |
|---|---|
| 5.1.1 Device and Driver Configuration | 8:22 |
| 5.1.2 Managing Devices | 8:43 |
| 5.1.3 Configuring Device Manager | 1:55 |
| 5.1.5 Managing Device Drivers | 3:42 |
| 5.1.6 Staging a Driver | 6:56 |
| 5.1.7 Managing Unsigned Device Drivers | 2:42 |
| **Total Video Time** | **32:20** |

## Lab/Activity

- 5.1.4 Update a Driver
- 5.1.8 Manage Devices and Drivers

## Fact Sheets

- 5.1.9 Device Management Facts

## Number of Exam Questions

10 questions

## Total Time

*About 72 minutes*

# 5.2: Device Driver Troubleshooting

## Lecture Focus Questions:

- What steps can you take to troubleshoot a newly connected device that is not working properly?
- You have installed a new device and received a blue screen of death (BSOD). How would you resolve this?
- If you cannot boot in Safe Mode, which file can you open to identify the last driver that has loaded successfully?
- How can you use Device Manager to help in troubleshooting devices?

In this section, you will learn to:

- Troubleshoot devices

The key terms for this section include:

| Term | Definition |
|---|---|
| Input device | Any hardware device that sends data to a computer, such as a mouse or keyboard. Input devices let you interact with and control the computer. |
| Basic Input/Output System (BIOS) | A set of computer instructions in firmware that controls input and output operations. Also known as the System BIOS, ROM BIOS, or PC BIOS. |
| Unified Extensible Firmware Interface (UEFI) | A specification that defines a software interface between an operating system and platform firmware. UEFI replaces the legacy BIOS. Most UEFI firmware implementations provide support for legacy BIOS services. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 4.3 Configure and update device drivers<br>4.3.2 Roll back device drivers |

| Video/Demo | Time |
|---|---|
| 5.2.1 Device Driver Troubleshooting | 10:47 |
| 5.2.2 Troubleshooting Devices | 6:33 |
| **Total Video Time** | **17:20** |

## Fact Sheets

5.2.3 Device Troubleshooting Facts

## Number of Exam Questions

10 questions

## Total Time

*About 33 minutes*

# 5.3: Display Management

## Lecture Focus Questions:

- You don't like the display themes that are offered. What are the options for configuring a theme?
- What display options are available for a desktop background?
- In the desktop background, how do you change the order that multiple pictures are displayed?
- In screen saver, what type of security does the On resume, display logon screen option provide?
- What type of desktop environment settings can you configure from the Personalization screen in the Settings app?
- How can you extend the desktop of one monitor to a second monitor?

In this section, you will learn to:

- Configure display settings on Windows 10
- Personalize Windows

The key terms for this section include:

| Term | Definition |
|---|---|
| Display | A hardware device (also referred to as a monitor) that shows data from a computer. |
| ClearType | A Windows setting that attempts to improve the appearance of text. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-100 | 4.3 Monitor and manage Windows<br>4.3.3 Manage Windows 10 environment |

| Video/Demo | Time |
|---|---|
| 5.3.1 Display Management | 8:56 |
| 5.3.2 Configuring Display Settings on Windows 10 | 6:05 |
| 5.3.3 Personalizing Windows | 4:12 |
| **Total Video Time** | **19:13** |

## Fact Sheets

5.3.4 Display Configuration Facts

## Number of Exam Questions

10 questions

## Total Time

*About 35 minutes*

# 5.4: Local Storage

## Lecture Focus Questions:

- What are some of the differences between a hard disk drive (HDD) and a solid-state drive (SDD)?
- What are the two main types of partitions used on Windows drives?
- What is the disk limitation of disks using MBR?
- Which utility is used to manage disks on a Windows system?
- What are the differences between storage spaces and storage pools?
- What are the types of storage pool configurations?

In this section, you will learn to:

- Manage and optimize storage
- Configure local storage

The key terms for this section include:

| Term | Definition |
|---|---|
| Hard disk drive | A physical device that stores computer data, applications, etc. An HDD is often one of the components included in desktop and laptop computers. An HDD is made up of metal disks that spin when powered on. |
| Solid-state drive | A physical device that stores computer data, applications, etc., on interconnected flash-memory chips that retain the information even when there is no power flowing through them. A solid-state drive has no moving parts. |
| Drive partition/volume | A section or region of a physical hard drive that you can use for a logical drive. |
| Storage Spaces | A Windows storage feature that groups two or more drives in a storage pool and acts as one drive to end users. |
| GUID Partition Table (GPT) | A table that defines the layout of the partitions on a disk (HDD or SSD) using universally unique identifiers, known as globally unique identifiers (GUIDs). It supports volumes larger than 2 TB. |
| Master Boot Record (MBR) | A boot sector found at the beginning of a drive. The MBR holds the information on how the logical partitions are organized on that drive. It is usually used on older 32-bit computers. It has a 2 TB drive size limit. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-100 | 3.2 Configure data access and protection<br>3.2.3 Configure local storage<br>3.2.4 Manage and optimize storage |

| Video/Demo | Time |
|---|---|
| 5.4.1 Local Storage | 10:53 |
| 5.4.2 Manage and Optimize Storage | 4:38 |
| 5.4.3 Configure Local Storage | 4:15 |
| **Total Video Time** | **19:46** |

## Fact Sheets

- 5.4.4 Local Storage Facts

## Number of Exam Questions

10 questions

## Total Time

*About 35 minutes*

# 5.5: OneDrive Storage

## Lecture Focus Questions:

- What methods can you use to access OneDrive?
- What type of files can you upload to OneDrive?
- What are the benefits of using OneDrive?
- How can you add space to a OneDrive account?
- What functions are provided by file and folder syncing in OneDrive?
- How can you remotely access files from a computer or device with the OneDrive app installed?
- What is difference between OneDrive and OneDrive for business?

In this section, you will learn to:

- Configure OneDrive storage
- Recover files from OneDrive

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 2.3 Configure file permissions and encryption<br>2.3.4 Configure offline files<br>3.2 Configure data access and protection<br>3.2.6 Configure OneDrive/OneDrive for Business |
| Microsoft MD-100 | 4.1 Configure system and data recovery<br>4.1.1 Perform file recovery |

| Video/Demo | Time |
|---|---|
| 5.5.1 OneDrive Storage | 10:54 |
| 5.5.3 OneDrive for Business | 6:24 |
| 5.5.5 Configuring OneDrive | 9:00 |
| 5.5.6 Recovering Files from OneDrive | 2:17 |
| **Total Video Time** | **28:35** |

## Lab/Activity

- 5.5.7 Configure OneDrive Storage

## Fact Sheets

- 5.5.2 OneDrive Facts
- 5.5.4 OneDrive for Business Facts

## Number of Exam Questions

10 questions

**Total Time**
*About 61 minutes*

# Network Configuration

## 6.1: IPv4

### Lecture Focus Questions:

- What is the function of a subnet mask?
- How can you divide a large network into smaller networks?
- How do Windows clients resolve host names into IP addresses?

The key terms for this section include:

| Term | Definition |
|---|---|
| Protocol | A set of rules that govern communications between two or more computer systems. |
| Subnet mask | A subnet mask identifies the network portion of an IP address. |
| Dynamic Host Configuration Protocol (DHCP) | DHCP assigns IP addresses and other configuration information to IP hosts on a network. |
| Network Address Translation (NAT) | A NAT router translates multiple private addresses into a single registered (public) IP address that can be used on the internet. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 3.1 Configure network settings<br>3.1.3 Configure the static IP address |
| Microsoft MD-100 | 3.1 Configure networking<br>3.1.1 Configure client IP settings |

| Video/Demo | Time |
|---|---|
| 6.1.1 IP Protocols | 6:07 |
| 6.1.2 IPv4 Addresses | 7:18 |
| 6.1.3 Subnet Masks and VLSM | 6:08 |
| **Total Video Time** | **19:33** |

### Fact Sheets

- 6.1.4 IPv4 Address Facts
- 6.1.5 Subnetting Facts

## Number of Exam Questions
10 questions

## Total Time
*About 40 minutes*

# 6.2: IPv6

## Lecture Focus Questions:

- Why doesn't IPv6 require NAT?
- Which portion of an IPv6 address represents the prefix? Which portion represents the interface ID?

Key terms for this section include the following:

| Term | Definition |
|---|---|
| Prefix | The first 64-bits of an IPv6 address. The prefix identifies the network and is the equivalent of an IPv4 subnet mask. |
| Interface ID | The last 64-bits of an IPv6 address. The interface ID identifies the host. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-100 | 3.1 Configure networking<br>3.1.1 Configure client IP settings |

| Video/Demo | Time |
|---|---|
| 6.2.1 IPv6 Addresses | 2:52 |
| **Total Video Time** | **2:52** |

## Fact Sheets

- 6.2.2 IPv6 Facts
- 6.2.3 IPv6 Addressing Facts
- 6.2.4 IPv4 to IPv6 Migration Facts

## Number of Exam Questions

10 questions

## Total Time

*About 28 minutes*

# 6.3: IP Configuration

## Lecture Focus Questions:

- When would you choose to manually assign IPv4 addressing to a network adapter?
- When would you choose to use Dynamic Host Configuration Protocol (DHCP) to assign an IPv4 address to a network adapter?

In this section, you will learn to:

- Configure IPv4 settings
- Configure IPv6 settings

Key terms for this section include the following:

| Term | Definition |
|---|---|
| Static IP addressing | A configuration method that manually assigns IP information (IP address, subnet mask, etc.) to a device. This IP assignment remains in effect until manually changed. |
| Dynamic IP addressing | A configuration method that uses the DHCP service to automatically assign a host's IP information. |
| Automatic Private IP Addressing (APIPA) | A configuration method that automatically configures IPv4 addresses for Windows hosts when a DHCP server isn't available. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 3.1 Configure network settings<br>3.1.3 Configure the static IP address |
| Microsoft MD-100 | 3.1 Configure networking<br>3.1.1 Configure client IP settings<br>3.1.2 Configure mobile networking<br>3.1.3 Configure the static IP address |

| Video/Demo | Time |
|---|---|
| 6.3.1 IP Address Configuration | 3:54 |
| 6.3.2 Configuring IPv4 | 7:43 |
| 6.3.5 Configuring IPv6 | 9:34 |
| **Total Video Time** | **21:11** |

## Lab/Activity

- 6.3.4 Configure IPv4 Settings
- 6.3.7 Configure IPv6 Settings

## Fact Sheets

- 6.3.3 IPv4 Addressing Methods
- 6.3.6 IPv6 Addressing Methods

## Number of Exam Questions

10 questions

## Total Time

*About 66 minutes*

# 6.4: IP Troubleshooting

## Lecture Focus Questions:

- What troubleshooting steps can you take to find and resolve IP configuration issues?
- What troubleshooting steps can you take to find and resolve network connection and configuration issues?

In this section, you will learn to:

- Use ping and tracert
- Use nslookup
- Use netstat
- Troubleshoot IP configurations

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 3.3 Troubleshoot networking<br>3.3.2 Troubleshoot TCP/IP configuration |
| Microsoft MD-100 | 3.1 Configure networking<br>3.1.3 Troubleshoot networking |

| Video/Demo | Time |
|---|---|
| 6.4.1 IP Configuration Troubleshooting | 3:45 |
| 6.4.2 Network Communication Troubleshooting | 5:31 |
| 6.4.3 Using Ping and Tracert | 9:24 |
| 6.4.4 Using Nslookup | 4:36 |
| 6.4.5 Using netstat | 8:16 |
| **Total Video Time** | **31:32** |

## Fact Sheets

- 6.4.6 IP Troubleshooting Tool Facts
- 6.4.7 Troubleshoot IP Configuration

## Number of Exam Questions

10 questions

## Total Time

*About 52 minutes*

# 6.5: Wireless Networking Overview

## Lecture Focus Questions:

- When would you use an ad hoc wireless network?
- When would you use a Wi-Fi Direct network?
- What are the advantages of using an infrastructure mode wireless network?
- How can you prevent someone from accessing a wireless network?

Key terms for this section include the following:

| Term | Definition |
|---|---|
| Ad hoc | A temporary network that works in peer-to-peer mode. |
| Infrastructure | A wireless network that uses an access point that functions like a hub on an Ethernet network. |
| Open authentication | An authentication method that requires all clients to provide a MAC address to connect to a wireless network. |
| Shared key authentication | An authentication method that requires all clients and access points to be configured with the same security key. |
| 802.1x authentication | An authentication standard that uses usernames and passwords; certificates; or smart cards to authenticate wireless clients. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-100 | 3.1 Configure networking<br>3.1.2 Configure mobile networking |

| Video/Demo | Time |
|---|---|
| 6.5.1 Wireless Networking | 5:04 |
| 6.5.3 Wireless Network Security | 6:01 |
| **Total Video Time** | **11:05** |

## Fact Sheets

- 6.5.2 Wireless Networking Facts
- 6.5.4 Wireless Security Facts

## Number of Exam Questions

10 questions

## Total Time

*About 32 minutes*

# 6.6: Wireless Networking Configuration

## Lecture Focus Questions:

- What steps do you take to connect to a wireless network in Windows 10?
- What are common configuration errors that interfere with wireless communication?
- What are some of the environmental factors that can affect the performance of a wireless network?

In this section, you will learn to:

- Manage wireless connections
- Configure Wi-Fi profiles
- Connect to a wireless network
- Troubleshoot a wireless network

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 3.1 Configure network settings<br>3.1.4 Connect to a wireless network |
| Microsoft MD-100 | 3.1 Configure networking<br>3.1.2 Configure mobile networking<br>3.1.3 Troubleshoot networking |

| Video/Demo | Time |
|---|---|
| 6.6.1 Managing Wireless Connections | 5:43 |
| 6.6.2 Configuring Wi-Fi Profiles | 9:48 |
| 6.6.5 Wireless Network Troubleshooting | 6:24 |
| **Total Video Time** | **21:55** |

## Lab/Activity

- 6.6.4 Connect to a Wireless Network

## Fact Sheets

- 6.6.3 Wireless Network Connection Facts
- 6.6.6 Wireless Network Considerations

## Number of Exam Questions

10 questions

## Total Time

*About 54 minutes*

# Application Management

## 7.1: Desktop Applications

### Lecture Focus Questions:

- What steps should you take before installing a desktop application in Windows 10?
- How can you manage a desktop application installed on a Windows system?
- How can you repair a desktop application that isn't functioning properly?

In this section, you will learn to:

- Modify file associations
- Repair desktop applications
- Manage startup applications on Windows 10
- Configure startup items
- Manage desktop applications

The key terms for this section include:

| Term | Definition |
|---|---|
| Restore point | A record of the settings and system files at a specific point of time. You can use System Restore to return a system to the state when the restore point was created. |
| Installer file | A program that installs applications, software, or drivers onto a system. |
| Registry key | A folder-like object that contains registry values on each application. Registry values can include display name, publisher, install date, version number, a help link from the publisher, and an uninstall string. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-100 | 1.2 Perform post-installation configuration<br>1.2.8 Configure application settings |

| Video/Demo | Time |
|---|---|
| 7.1.1 Desktop Applications | 5:07 |
| 7.1.2 Managing Desktop Applications | 9:30 |
| 7.1.3 Modifying File Associations | 6:19 |
| 7.1.4 Repairing Desktop Applications | 6:33 |
| 7.1.5 Managing Startup Applications on Windows 10 | 3:56 |
| **Total Video Time** | **31:25** |

## Lab/Activity

- 7.1.6 Configure Startup Items
- 7.1.8 Manage Desktop Applications

## Fact Sheets

- 7.1.7 Desktop Application Management Facts

## Number of Exam Questions

10 questions

## Total Time

*About 71 minutes*

# 7.2: User Account Control

## Lecture Focus Questions:

- How does UAC determine the types of actions that a user can perform on a system?
- What is the recommended UAC notification level setting?
- How does privilege elevation work?
- What is the purpose of Secure Desktop?
- How can you tell if Secure Desktop is activated?

In this section, you will learn to:

- Configure UAC Group Policy settings
- Configure UAC settings to prompt for changes
- Configure UAC settings to elevate automatically

The key terms for this section include:

| Term | Definition |
|---|---|
| Access token | A unique security key that contains credentials used by the system to determine the privilege level of the user. |
| Secure Desktop | A security mode in Windows 10 that prevents any tasks from being performed on the system until the user responds to the UAC prompt for consent. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 2.2 Configure local policies<br>2.2.2 Configure user account control (UAC) settings<br>2.2.3 Set user account control (UAC) to defaults |
| Microsoft MD-100 | 2.3 Manage Windows security<br>2.3.1 Configure user account control (UAC) |

| Video/Demo | Time |
|---|---|
| 7.2.1 User Account Control (UAC) | 5:03 |
| 7.2.2 Configuring UAC Settings | 6:59 |
| 7.2.4 Configuring UAC Group Policy Settings | 8:38 |
| **Total Video Time** | **20:40** |

## Lab/Activity

- 7.2.6 Configure UAC Settings to Prompt for Changes
- 7.2.7 Configure UAC Settings to Elevate Automatically

## Fact Sheets

- 7.2.3 UAC Facts
- 7.2.5 UAC Group Policy Settings

## Number of Exam Questions

10 questions

## Total Time

*About 65 minutes*

# 7.3: Windows Store Apps

## Lecture Focus Questions:

- How do you install an app from the Microsoft Store?
- How do you uninstall an app from the Microsoft Store?
- How can you restrict access to apps?

In this section, you will learn to:

- Manage Windows Store applications
- Configure Microsoft Store settings
- Deploy Apps using ITunes and Google Play

The key terms for this section include:

| Term | Definition |
|---|---|
| Desktop application | An application that runs on an operating system running on a personal computer. |
| Microsoft Store application | An application available for users to download from the Microsoft Store. Microsoft Store applications are verified as safe by Microsoft. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-100 | 1.2 Perform post-installation configuration<br>1.2.7 Configure Microsoft Store settings |
| Microsoft MD-101 | 4.1 Deploy and update applications<br>4.1.3 Deploy apps by using Microsoft Store for Business/iTunes/Google Play |

| Video/Demo | Time |
|---|---|
| 7.3.1 Managing Windows Store Applications | 5:31 |
| 7.3.3 Windows Store for Business | 4:18 |
| 7.3.4 Deploy Apps using ITunes and Google Play | 1:54 |
| **Total Video Time** | **11:43** |

## Fact Sheets

- 7.3.2 Windows Store Apps Facts
- 7.3.5 Windows Store for Business Facts

## Number of Exam Questions
10 questions

## Total Time
*About 32 minutes*

# 7.4: Cloud-based Applications

## Lecture Focus Questions:

- What are the benefits of implementing a cloud-based computing system?
- How do you determine if a device is compatible with Office 365 ProPlus?
- How can you control which apps the end user can install?
- What tasks can be performed in the Office 365 Admin Center?

In this section, you will learn to:

- Gather readiness data
- Deploy Microsoft 365 Apps for Enterprise with Intune
- Deploy Office 365 ProPlus

The key terms for this section include:

| Term | Definition |
|---|---|
| User self-provisioning | The process that allows end users to install Office 365 applications to their own devices. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-101 | 4.1 Deploy and update applications<br>4.1.4 Deploy Microsoft 365 Apps for enterprise using Microsoft Intune<br>4.1.6 Gather Microsoft 365 Apps readiness data |

| Video/Demo | Time |
|---|---|
| 7.4.1 Microsoft Office 365 | 3:31 |
| 7.4.2 Gathering Readiness Data | 5:58 |
| 7.4.3 Deploy Microsoft 365 Apps for Enterprise with Intune | 3:23 |
| 7.4.4 Deploying Office 365 ProPlus | 3:28 |
| **Total Video Time** | **16:20** |

## Fact Sheets

7.4.5 Office 365 Facts

## Number of Exam Questions

10 questions

## Total Time

*About 32 minutes*

# System Access

## 8.1: Authentication and Authorization

### Lecture Focus Questions:

- What is the difference between identification, authentication, and authorization?
- What are the five categories of authentication factors?
- What is multi-factor authentication and why is it important?
- How do security groups help manage authorization levels?

Key terms for this section include the following:

| Term | Definition |
|---|---|
| Access control | Security features that restrict or allow user access to resources on the system. |
| Access token | An object that contains security credentials. In Windows, it includes the user's security ID (SID) as well as the SID for each security group the user is a member. |
| Authorization | The level of permissions that have been granted to a user who has been authenticated to a system. |
| Identification | Verifying that an entity requesting credentials is the entity associated with the credentials. It is also called identity proofing. |
| Mutual authentication | The security process in which the client authenticates to the server and, before data is exchanged, the server authenticates back to the client. |
| One-way authentication | The security process in which the client authenticates to the server before the server will send data back to the client. |
| Permission | A permission uses an allow or deny statement to control user access to resources. |
| Policy | A setting or group of settings applied to a user or computer. Polices are configured using Group Policy on the local computer or in the domain. |
| Right | An action a user can perform on a system. Group Policy provides a set of predefined rights. |
| Role | A collection of access rights, usually connected with an employee's responsibilities in an organization. |

| Video/Demo | Time |
|---|---|
| 8.1.1 Authentication and Authorization | 9:17 |
| **Total Video Time** | **9:17** |

## Fact Sheets

- 8.1.2 Authentication Facts

## Number of Exam Questions

10 questions

## Total Time

*About 25 minutes*

# 8.2: Authentication Management

## Lecture Focus Questions:

- Is it better to use local authentication, domain authentication, or online authentication?
- How does creating user groups help save time and make account privilege management more consistent?
- What are the default groups that Windows automatically creates during installation?
- What is the principle of least privilege?

In this section, you will learn to:

- Create a new user
- Manage user passwords
- Create user accounts
- Create a group
- Manage user accounts

Key terms for this section include the following:

| Term | Definition |
|---|---|
| Local authentication | A method of authentication that stores on the local system the usernames and passwords for each user. |
| Domain authentication | A method of authentication that stores the usernames and passwords on a remote computer within the network that is configured as a domain controller. |
| Online authentication | A method of authentication for which the user creates an online user account with Microsoft. Each time the user signs into the local system, Windows submits the credentials over the internet to Microsoft for authentication. |
| Administrators group | A group of users who have complete and unrestricted access to the system and accounts. |
| User group | A collection of users that, by default, has very minimal access to the system. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 2.1 Create and manage users and groups<br>2.1.1 Create a local user account<br>2.1.2 Create Active Directory (AD) user accounts<br>2.1.3 Create and manage groups<br>2.1.4 Manage user account types<br>2.1.5 Manage Active Directory (AD) user accounts |

| 2.1 Manage local users, local groups, and devices | |
|---|---|
| Microsoft MD-100 | 2.1.1 Manage local groups<br>2.1.2 Manage local users |

| Video/Demo | Time |
|---|---|
| 8.2.1 Authentication Management | 11:05 |
| 8.2.3 Managing User Accounts | 7:54 |
| **Total Video Time** | **18:59** |

## Lab/Activity

- 8.2.4 Create a New User
- 8.2.5 Manage User Passwords
- 8.2.6 Create User Accounts
- 8.2.7 Create a Group
- 8.2.8 Manage User Accounts

## Fact Sheets

- 8.2.2 Account Management Facts
- 8.2.9 Authentication Management Facts

## Number of Exam Questions

10 questions

## Total Time

*About 99 minutes*

# 8.3: User Rights and Account Policies

## Lecture Focus Questions:

- What are user accounts and how are they used in access management?
- What are logon rights?
- What are some common user privileges that can be assigned?

In this section, you will learn to:

- Manage user rights and account policies

Key terms for this section include the following:

| Term | Definition |
|---|---|
| User account | An account created for an individual. The account is accessed through credentials and is assigned rights and privileges within the system. |
| Sign in | Process of authenticating to the computer through a username and a password, or another authentication factor. Also known as log in. |
| Rights | The authority assigned to users and groups to perform an action in a Windows system. |
| Permissions | Actions that users can perform on objects. For example, access files, delete folders, and connect to a printer. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 2.1 Create and manage users and groups<br>2.1.1 Create a local user account<br>2.1.2 Create Active Directory (AD) user accounts<br>2.1.4 Manage user account types<br>2.1.5 Manage Active Directory (AD) user accounts<br>2.2 Configure local policies<br>2.2.1 Configure a password policy |
| Microsoft MD-100 | 2.1 Manage users, groups, and devices<br>2.1.1 Manage local groups<br>2.1.2 Manage local users<br>2.1.3 Manage users, groups, and devices in Active Directory Domain Services |

| Video/Demo | Time |
|---|---|
| 8.3.1 Managing User Rights and Account Policies | 12:16 |
| **Total Video Time** | **12:16** |

## Lab/Activity

- 8.3.2 Manage Account Policies

## Fact Sheets

- 8.3.3 Account Policy and User Rights Facts

## Number of Exam Questions

10 questions

## Total Time

*About 40 minutes*

# 8.4: Credential Management

## Lecture Focus Questions:

- What vulnerability is Windows Defender Credential Guard designed to protect against?
- How does Credential Guard work?
- What are the requirements for implementing Credential Guard?

In this section, you will learn to:

- Use Credential Manager
- Run applications as other users

Key terms for this section include the following:

| Term | Definition |
|---|---|
| Virtual Secure Mode (VSM) | A Windows feature that uses virtualization extensions of the central processing unit. It is used to protect data in memory from malicious attacks. |
| Local Security Authority (LSA) | A Windows sub-security process that authenticates to the local system, stores security-related information, and creates access tokens. |
| Hyper-V | Microsoft's virtualization machine creation software that can create software-based virtual computers within a Windows system. |
| Windows Secure Boot | A component of the Windows operating system that helps protect the system during the start-up or boot process. |

| Video/Demo | Time |
|---|---|
| 8.4.1 Credential Management | 8:51 |
| 8.4.2 Using Credential Manager | 5:04 |
| 8.4.3 Running Applications as Other Users | 9:45 |
| **Total Video Time** | **23:40** |

## Fact Sheets

8.4.4 Credential Management Facts

## Number of Exam Questions

10 questions

## Total Time

*About 39 minutes*

# 8.5: Alternative Authentication Options

## Lecture Focus Questions:

- What are the different sign-in options for Windows 10?
- What is Windows Hello and how is it used?
- What are the security risks with using a username and password for authentication?
- What is Dynamic Lock?

In this section, you will learn to:

- Use alternative authentication options
- Use Windows Hello
- Configure online user authentication
- Create a new online user account

The key terms for this section include:

| Term | Definition |
|---|---|
| Windows Hello | A biometric logon system incorporated into Windows 10 sign-in settings. |
| Security keys | A device you can buy from a retailer for authentication. It can be configured in Windows for use as an additional sign-in option. |
| Dynamic Lock | A security feature that can be configured in the Windows sign-in settings to automatically lock a computer when the user walks away. It requires a Bluetooth device (typically a smartphone) that can be connected to the workstation. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 1.2 Configure Windows settings<br>1.2.3 Create and configure an online account |
| Microsoft MD-100 | 2.1 Manage users, groups, and devices<br>2.1.5 Configure sign-in options |
| Microsoft MD-101 | 2.3 Manage user profiles<br>2.3.3 Configure sync settings |

| Video/Demo | Time |
|---|---|
| 8.5.1 Alternative Authentication Options-Windows Hello | 4:40 |
| 8.5.2 Using Alternative Authentication Options | 5:12 |
| 8.5.3 Using Windows Hello | 2:50 |

| | |
|---|---|
| 8.5.5 Configuring Online User Authentication | 5:09 |
| **Total Video Time** | **17:51** |

## Lab/Activity

- 8.5.6 Create a New Online User Account

## Fact Sheets

- 8.5.4 Alternative Authentication and Windows Hello Facts
- 8.5.7 Authentication and Sync Settings Facts

## Number of Exam Questions

10 questions

## Total Time

*About 50 minutes*

# 8.6: NTFS Permissions

## Lecture Focus Questions:

- How do NTFS permissions work?
- What are the basic NTFS permissions and how are they applied at the file and folder level?
- How does inheritance work with NTFS permissions?
- When do Deny permissions override Allow permissions? When do Allow permissions override Deny permissions?
- What are Advanced permissions?

In this section, you will learn to:

- Configure basic NTFS permissions
- Configure advanced permissions

The key terms for this section include:

| Term | Definition |
|---|---|
| Access control list (ACL) | A list of permissions granted to users and groups. The permissions are associated with an NTFS file or folder. |
| Access control entries | Permissions listed on an access control list (ACL) that are granted to a user. ACEs can be Allow or Deny. They can be assigned explicitly or inherited. |
| Inheritance | Permissions granted to files or subfolders based on the permissions assigned to a parent folder. |
| Owner | The creator of a file or folder who, by default, has full access. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 2.3 Configure file permissions and encryption<br>2.3.3 Configure NTFS file permissions |
| Microsoft MD-100 | 3.2 Configure data access and protection<br>3.2.1 Configure NTFS permissions<br>3.2.2 Configure shared permissions |

| Video/Demo | Time |
|---|---|
| 8.6.1 Basic NTFS Permissions | 8:59 |
| 8.6.2 Configuring Basic NTFS Permissions | 9:39 |
| 8.6.3 NTFS Permission Troubleshooting | 7:50 |
| 8.6.6 Advanced Permissions | 4:13 |

| | |
|---|---|
| 8.6.7 Configuring Advanced Permissions | 8:25 |
| **Total Video Time** | **39:06** |

## Lab/Activity

- 8.6.5 Configure NTFS Permissions

## Fact Sheets

- 8.6.4 Basic NTFS Permission Facts
- 8.6.8 Advanced Permission Facts

## Number of Exam Questions

10 questions

## Total Time

*About 72 minutes*

# 8.7: Auditing

## Lecture Focus Questions:

- What is the purpose of auditing?
- What are the standard auditing categories?
- What are the advanced auditing categories?
- What is the danger of auditing too much or too long?

In this section, you will learn to:

- Configure auditing

Key terms for this section include the following:

| Term | Definition |
|---|---|
| Audit | In Windows, the ability to set policies that will provide feedback on specified events within a host or network. |
| Enable | In Windows auditing, a setting in an auditing policy that turns on the logging of events in a host or network. |
| Disable | In Windows auditing, a setting that turns off an auditing policy. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-100 | 2.2 Configure devices by using local policies<br>2.2.3 Configure Windows 10 settings by using group policy<br>4.3 Monitor and manage Windows<br>4.3.1 Configure and analyze event logs |

| Video/Demo | Time |
|---|---|
| 8.7.1 Auditing | 3:55 |
| 8.7.2 Configuring Auditing | 11:07 |
| **Total Video Time** | **15:02** |

## Fact Sheets

8.7.3 Auditing Facts

## Number of Exam Questions

10 questions

## Total Time

*About 31 minutes*

# 8.8: Dynamic Access Control (DAC)

## Lecture Focus Questions:

- What is Dynamic Access Control (DAC)?
- What are the components of DAC implementation?
- What is the best way to manage NTFS and DAC conflicts?

In this section, you will learn to:

- Implement DAC policies

The key terms for this section include:

| Term | Definition |
|---|---|
| Dynamic Access Control | A feature of Windows server systems that allows the system administrator to centralize control of access to files and folders based on file and folder attributes in combination with the attributes of the user. |
| Classification rules | A text string or regular expression used to scan files for matches. |
| Central access rules | Rules that include a condition that must be matched for permission assignments to be made. |
| Central access policies | A list of central access rules that define the level of access a user has to data managed by DAC. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-100 | 3.2 Configure data access and protection<br>3.2.1 Configure NTFS permissions |

| Video/Demo | Time |
|---|---|
| 8.8.1 DAC Overview | 8:41 |
| 8.8.2 Implementing DAC Policies | 8:12 |
| **Total Video Time** | **16:53** |

## Fact Sheets

8.8.3 DAC Facts

## Number of Exam Questions

10 questions

## Total Time

*About 32 minutes*

# 8.9: Encryption

## Lecture Focus Questions:

- How does the Encryption File System (EFS) work?
- What is best practice for encryption methods?
- What is important to understand in EFS management?
- What security issues should you keep in mind when working with EFS?

In this section, you will learn to:

- Implement EFS
- Configure an EFS recovery agent
- Encrypt files

The key terms for this section include:

| Term | Definition |
|---|---|
| Encryption | A process of translating data into an unreadable format or code to prevent unauthorized access to the data. |
| Public key | The generally accessible key in a cryptographic system. It is used to encrypt data and is stored within a certificate. It cannot be used to decrypt the data. |
| Private key | The key that is used to decrypt data in a cryptographic system. It is stored in a private certificate store and should be protected and not shared. |
| BitLocker | A Windows encryption feature that is used on full volumes and cannot be used on individual files or folders. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 2.3 Configure file permissions and encryption<br>2.3.2 Configure encryption |
| Microsoft MD-100 | 2.3 Manage Windows security<br>2.3.3 Implement encryption |

| Video/Demo | Time |
|---|---|
| 8.9.1 Encrypting File System (EFS) | 8:34 |
| 8.9.2 Implementing EFS | 8:37 |
| 8.9.3 Configuring an EFS Recovery Agent | 11:35 |
| **Total Video Time** | **28:46** |

## Lab/Activity

- 8.9.5 Encrypt Files

## Fact Sheets

- 8.9.4 EFS Facts

## Number of Exam Questions

10 questions

## Total Time

*About 56 minutes*

# Resource Sharing

## 9.1: File and Folder Sharing

### Lecture Focus Questions:

- Under what circumstances would you choose to enable public folder sharing?
- When using public folder sharing, where are the public folders located?
- What are the differences between domain, public, private, and network profiles?
- How can you create an administrative share?
- How do share permissions relate to NTFS permissions?

In this section, you will learn to:

- Implement shared folders
- Configure public folder sharing
- Use advanced sharing options
- Share OneDrive files
- Share and secure folders

The key terms for this section include:

| Term | Definition |
|---|---|
| Shared folder | A folder in the local file system that is made accessible to other users through a network connection instead of requiring them to log on to the computer locally. |
| Media streaming | A process that lets you stream (or share) media files, such as videos, to other devices. |
| OneDrive sharing | The ability to share a file or folder stored in OneDrive with another user. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 2.3 Configure file permissions and encryption<br>2.3.2 Configure encryption<br>2.3.3 Configure NTFS file permissions |
| Microsoft MD-100 | 3.2 Configure data access and protection<br>.2.2 Configure shared permissions<br>3.2.5 Configure file and folder permissions |

**Video/Demo** **Time**

| | |
|---|---|
| 9.1.1 Folder Sharing and Permissions - Part 1 | 8:39 |
| 9.1.2 Folder Sharing and Permissions - Part 2 | 7:02 |
| 9.1.3 Implementing Shared Folders | 6:17 |
| 9.1.4 Configuring Public Folder Sharing | 4:16 |
| 9.1.5 Using Advanced Sharing Options | 10:12 |
| 9.1.6 Sharing OneDrive Files | 3:37 |
| **Total Video Time** | **40:03** |

## Lab/Activity

- 9.1.8 Share and Secure Folders

## Fact Sheets

- 9.1.7 File Sharing Facts

## Number of Exam Questions

10 questions

## Total Time

*About 68 minutes*

# 9.2: Shared Resource Troubleshooting

## Lecture Focus Questions:

- How would you troubleshoot a correctly shared folder that users cannot see or find the computer hosting the share?
- What information is required to access a remote share when a domain is not used?
- When working with network profiles, what effect does Network Discovery and File and Printer Sharing have on access to shared folders?

In this section, you will learn to:

- Configure share and NTFS permissions

The key terms for this section include:

| Term | Definition |
|---|---|
| Shared folder | A folder in the local file system that is made accessible to other users through a network connection. It eliminates the need for the users to log on to the computer locally. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-100 | 3.2 Configure data access and protection<br>3.2.1 Configure NTFS permissions<br>3.2.2 Configure shared permissions<br>3.2.5 Configure file and folder permissions |

| Video/Demo | Time |
|---|---|
| 9.2.1 Shared Folder Troubleshooting | 10:35 |
| 9.2.2 Configuring Share and NTFS Permissions | 4:54 |
| **Total Video Time** | **15:29** |

## Fact Sheets

9.2.3 Share Troubleshooting Facts

## Number of Exam Questions

10 questions

## Total Time

*About 31 minutes*

# Mobile Computing

## 10.1: Co-Management

### Lecture Focus Questions:

- Why would a company choose to implement co-management?
- What are the benefits of integrating Intune in an environment?
- How does modern management differ from traditional management?
- How are traditional Group Polices different from policies in the cloud using Intune?

In this section, you will learn to:

- Implement co-management
- Migrate group policies to mobile device management (MDM) policies

The key terms for this section include:

| Term | Definition |
|---|---|
| Microsoft Azure | Microsoft's cloud-based platform that delivers application creation and network services solutions to businesses with a myriad of tools like Intune. |
| Configuration Manager | A powerful on-premises management tool designed for complex enterprise security, updates, and compliance tasks, as well as application deployment, management, and updates. It was formerly known as System Center Configuration Manager (SCCM). |
| Intune | A cloud-based service that delivers MDM and Mobile Application Management (MAM). |

| Video/Demo | Time |
|---|---|
| 10.1.1 Co-Management | 7:14 |
| 10.1.2 Implementing Co-Management | 3:51 |
| 10.1.3 Migrating Group Policy to MDM Policy | 6:20 |
| **Total Video Time** | **17:25** |

### Fact Sheets

10.1.4 Co-Management Facts

### Number of Exam Questions

10 questions

### Total Time

*About 33 minutes*

# 10.2: Mobile Device Management - Intune Enrollment

## Lecture Focus Questions:

- What are four methods of mobile device management (MDM)?
- What access does enterprise mobility management (EMM) give system administrators to a mobile device?
- Identify key differences in EMM and unified endpoint management (UEM).

In this section, you will learn to:

- Provision Microsoft Intune user accounts
- Configure enrollment in Microsoft Intune
- Enroll devices with Microsoft Intune
- Configure automatic enrollment
- Enroll non-Windows devices

The key terms for this section include:

| Term | Definition |
|---|---|
| MDM | Allows IT administration to remotely manage a mobile device. Generally allows for tracking devices; pushing apps and updates; managing security settings; and remotely wiping the device. |
| Mobile application management (MAM) | Focuses on managing the applications on a mobile device, not the device itself. This allows a system administrator to remotely install or remove organizational apps and also disable certain functions within the apps. |
| EMM | Allows a system administrator to remotely manage a mobile device's hardware and applications. It is a combination of MDM and MAM solutions in one package. |
| UEM | Allows a system administrator to manage local and mobile devices, including Internet of Things devices. It is an all-in-one device management solution. |
| Bring your own device (BYOD) | Allows employees to use their own personal mobile devices for business related tasks. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-101 | 3.2 Manage Microsoft Intune devices<br>3.2.1 Configure enrollment settings in Microsoft Intune<br>3.2.2 Configure Microsoft Intune automatic and bulk enrollment |

3.2.3 Enroll non-Windows devices
3.2.3 Enroll Windows devices

| Video/Demo | Time |
|---|---|
| 10.2.1 Enterprise Mobility Management | 4:46 |
| 10.2.3 Intune Enrollment | 10:46 |
| 10.2.4 Provisioning Microsoft Intune User Accounts | 5:17 |
| 10.2.5 Configuring Enrollment in Microsoft Intune | 6:05 |
| 10.2.6 Enrolling Devices with Azure AD and Intune | 10:58 |
| 10.2.7 Configuring Automatic Enrollment | 3:03 |
| 10.2.8 Enrolling Non-Windows Devices | 3:01 |
| **Total Video Time** | **43:56** |

## Fact Sheets

- 10.2.2 Enterprise Mobility Management Facts
- 10.2.9 MDM Intune Enrollment Facts

## Number of Exam Questions

10 questions

## Total Time

*About 64 minutes*

# 10.3: Mobile Device Management - Intune Policies and Profiles

## Lecture Focus Questions:

- Why would a company use Enterprise State Roaming available in Intune?
- What are the different types of user profiles? When would you use each?
- How do conditional policies work with compliance policies?
- What are two main goals of mobile device management (MDM)?
- Which conditional access policies would you employ in an organization's environment?

In this section, you will learn to:

- Use Intune device profiles
- Use Enterprise State Roaming user profiles
- Create Intune conditional access policies
- Create Intune device compliance policies
- Configure Intune reports and alerts

The key terms for this section include:

| Term | Definition |
|---|---|
| User profile | A collection of settings for a user that includes display settings, network settings, application settings, and registry settings. It is loaded when a user logs in. It can be stored locally, on a server, or in the cloud. |
| Conditional access | Conditional access polices manage device compliance using rules. The device is allowed or blocked from access to company resources based on compliance to rules. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-101 | 2.1 Implement compliance policies for devices<br>2.1.1 Implement device compliance policies<br>2.1.2 Manage device compliance policies<br>2.1.3 Plan device compliance policies<br>2.2 Configure device profiles<br>2.2.1 Implement device profiles; Manage device profiles<br>2.2.2 Plan device profiles, Control policy conflicts<br>2.3 Manage user profiles<br>2.3.1 Configure user profiles<br>2.3.2 Configure Enterprise State Roaming in Azure AD |

# 3.2 Manage Microsoft Intune devices

## 3.2.5 Review device inventory

| Video/Demo | Time |
|---|---|
| 10.3.1 Intune Policies and Profiles | 9:57 |
| 10.3.2 Using Intune Device Profiles | 3:10 |
| 10.3.3 Enterprise State Roaming User Profiles | 3:04 |
| 10.3.4 Creating Intune Conditional Access Policies | 4:55 |
| 10.3.5 Creating Intune Device Compliance Policies | 3:46 |
| 10.3.6 Configuring Intune Inventory Reports and Alerts | 4:27 |
| **Total Video Time** | **29:19** |

### Fact Sheets

- 10.3.7 MDM Intune Policies and Profiles Facts

### Number of Exam Questions

10 questions

### Total Time

*About 45 minutes*

# 10.4: BitLocker

## Lecture Focus Questions:

- What is encryption and how is it beneficial?
- How do symmetric and asymmetric encryption methods differ?
- What are the differences between Encrypting File System (EFS) and BitLocker?
- What is the purpose of a Trusted Platform Module (TPM) chip?
- How are BitLocker policies managed?

In this section, you will learn to:

- Implement BitLocker
- Configure BitLocker
- Implement BitLocker To Go

Key terms for this section include the following:

| Term | Definition |
|---|---|
| Encryption | The process of encoding or hiding data so only authorized users can read it. |
| BitLocker | A powerful encrypting tool that is used to encrypt an entire volume. |
| Symmetric key | An encryption method that uses the same key to encrypt and decrypt data. |
| Asymmetric key | An encryption method that uses a public key to encrypt data and a private key to decrypt the data. |
| Encrypting File System | A Windows feature that encrypts individual files and folders. It is included in the NTFS file system. |
| Trusted Platform Module (TPM) | A specialized chip built on the motherboard. This chip generates and stores encryption keys to protect boot files. |
| Recovery key | A randomly generated key that can be used to recover a BitLocker encrypted volume. |
| Data Recovery Agent (DRA) | A special user account that is created to decrypt any encrypted volume. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 2.3 Configure file permissions and encryption<br>2.3.1 Configure and start BitLocker<br>2.3.2 Configure encryption |
| Microsoft MD-100 | 2.3 Manage Windows security |

# 2.3.3 Implement encryption

| Video/Demo | Time |
|---|---|
| 10.4.1 BitLocker | 7:23 |
| 10.4.3 Implementing BitLocker | 6:00 |
| 10.4.4 Configuring BitLocker Recovery Agents | 4:47 |
| 10.4.7 BitLocker To Go | 4:38 |
| 10.4.8 Implementing BitLocker To Go | 4:55 |
| **Total Video Time** | **27:43** |

## Lab/Activity

- 10.4.5 Configure BitLocker

## Fact Sheets

- 10.4.2 BitLocker Facts
- 10.4.6 BitLocker Configuration Facts
- 10.4.9 BitLocker To Go Facts

## Number of Exam Questions

10 questions

## Total Time

*About 65 minutes*

# 10.5: Mobile Device Security

## Lecture Focus Questions:

- What important items should a bring your own device (BYOD) policy include?
- Mobile device management (MDM) and mobile application management (MAM) solutions are combined into what solution?
- What is Microsoft Defender Advanced Threat Protection (ATP)?
- What are the requirements for Device Health Attestation (DHA)?

In this section, you will learn to:

- Configure Microsoft Intune security policies
- Configure privacy settings

The key terms for this section include:

| Term | Definition |
|---|---|
| Microsoft Defender ATP | A enterprise security product that helps organizations detect and respond to security threats. |
| DHA | A Windows 10 feature that assesses the health of a device during boot, based on policies defined by the system administrator. DHA requires a TPM chip version 1.2 or 2.0. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-101 | 2.4 Configure and manage Windows Defender<br>2.4.4 Configure Windows Security<br>3.3. Monitor devices<br>3.3.1 Monitor devices using Azure Monitor and Desktop Analytics<br>3.3.2 Monitor device inventory reports using Endpoint Manager Admin Center |

| Video/Demo | Time |
|---|---|
| 10.5.1 Mobile Device Security and Health | 6:13 |
| 10.5.2 Configuring Microsoft Intune Security Policies | 3:59 |
| **Total Video Time** | **10:12** |

## Lab/Activity

- 10.5.3 Configure Privacy Settings

## Fact Sheets

10.5.4 Mobile Windows Device Security Facts

## Number of Exam Questions
10 questions

## Total Time
*About 38 minutes*

# 10.6: Power Management

## Lecture Focus Questions:

- What are the factors in power management for mobile devices?
- How does Advanced Configuration and Power Interface (ACPI) work?
- What are the ACPI power states?
- How can you use power plans to manage power for mobile devices?

In this section, you will learn to:

- Edit power options
- Create a power plan

The key terms for this section include:

| Term | Definition |
|---|---|
| ACPI | An industry specification used by Windows to communicate with the hardware components to configure, monitor, and manage the power used. |
| Operating System-Directed Configuration (OSPM) | A technology that allows the management of power states. The configuration settings are controlled by the operating system using ACPI. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 1.2 Configure Windows settings<br>1.2.2 Create a power plan |
| Microsoft MD-100 | 1.2 Perform post-installation configuration<br>1.2.2 Configure mobility settings |

| Video/Demo | Time |
|---|---|
| 10.6.1 Power Management | 5:40 |
| 10.6.2 Configuring Power Plans | 6:59 |
| 10.6.3 Using powercfg to Configure Power Settings | 4:10 |
| 10.6.4 Use Windows Mobility Center | 6:58 |
| **Total Video Time** | **23:47** |

## Lab/Activity

- 10.6.6 Edit Power Options
- 10.6.7 Create a Power Plan

## Fact Sheets

- 10.6.5 Power Plan Facts

## Number of Exam Questions
10 questions

## Total Time
*About 63 minutes*

# 10.7: Mobility Options

## Lecture Focus Questions:

- Which tools are useful for managing mobile devices?
- What is tablet mode in Windows 10?
- What features does presentation mode offer in Windows 10?
- What is the quickest way to access mobile settings in Windows 10?
- What options are there for working with remote files when not connected to the network?

In this section, you will learn to:

- Configure work folders
- Configure offline files
- Configure offline settings

Key terms for this section include the following:

| Term | Definition |
|---|---|
| Pinch to zoom | A technique using two fingers to zoom in or out on a mobile device screen. |
| Stylus | A pen that can be used to interface with a mobile device screen. |
| Hotspot | A feature to share a device's internet access with other mobile devices. |
| Miracast | Microsoft's screen casting technology. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 1.1 Configure Windows Internet settings<br>1.1.3 Configure offline settings<br>2.3 Configure file permissions and encryption<br>2.3.4 Configure offline files |
| Microsoft MD-100 | 1.2 Perform post-installation configuration<br>1.2.2 Configure mobility settings |

| Video/Demo | Time |
|---|---|
| 10.7.1 Mobility Tools | 5:13 |
| 10.7.3 Configuring Work Folders | 3:36 |
| 10.7.5 Offline Files | 3:54 |
| 10.7.6 Configuring Offline Files | 8:35 |
| **Total Video Time** | **21:18** |

## Lab/Activity

- 10.7.8 Configure Offline Settings

## Fact Sheets

- 10.7.2 Mobile Tool Facts
- 10.7.4 Work Folders Facts
- 10.7.7 Offline Files Facts

## Number of Exam Questions

10 questions

## Total Time

*About 59 minutes*

# 10.8: Mobile Networking

## Lecture Focus Questions:

- What information is needed to connect to a wireless network?
- Which wireless security protocol and encryption standard provides the best protection?
- How does Wi-Fi Protected Setup work?
- Why would a user need to delete a Wi-Fi profile?
- Which type of connection does Wi-Fi Direct replace?
- When would you use broadband wireless (cellular) connections?
- What are the requirements for using broadband wireless connections?

In this section, you will learn to:

- Configure a Wi-Fi Direct connection

The key terms for this section include:

| Term | Definition |
|---|---|
| Service set identifier (SSID) | Name of a wireless network. |
| Wi-Fi Direct | A wireless connection standard that can replace common cabled connections. Wi-Fi Direct allows devices such as a cell phone to wirelessly connect to a Windows computer. |
| Global System for Mobile Communication (GSM) | Most used standard for cellular communication. |
| Subscriber identification module (SIM) | A card that stores all information on the user including the service subscription, network identification, and address book information. A SIM card is generally used in GSM networks. |
| Code Division Multiple Access (CDMA) | Cellular network standard that is mainly used in the United States and Russia. CDMA networks do not use SIM cards. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 3.1 Configure network settings<br>3.1.4 Connect to a wireless network |
| Microsoft MD-100 | 3.1 Configure networking<br>3.1.2 Configure mobile networking |

**Video/Demo** **Time**

| | |
|---|---|
| 10.8.1 Wi-Fi Direct | 5:00 |
| 10.8.2 Configuring a Wi-Fi Direct Connection | 3:19 |
| 10.8.3 Broadband Wireless Connections | 4:49 |
| **Total Video Time** | **13:08** |

## Fact Sheets

- 10.8.4 Mobile Networking Facts

## Number of Exam Questions

10 questions

## Total Time

*About 29 minutes*

# 10.9: Mobile Apps

## Lecture Focus Questions:

- What are the requirements for accessing published applications?
- What are the two Intune application publishing policies?
- When would you use the Managed iOS App from the App Store option?
- How do you restrict access to apps for specific users or devices?
- What does it mean to deep link an app?

In this section, you will learn to:

- Deploy applications with Intune
- Deep link an app with Intune
- Use groups with Azure Active Directory
- Implement assigned access or public devices

The key terms for this section include:

| Term | Definition |
|---|---|
| Deep linking an application | Publishing an external link for an app from the Windows Store to managed devices such as a desktop, notebook, tablet, or phone. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-100 | 2.1 Manage users, groups, and devices<br>2.1.4 Manage users; groups, and devices in Azure Active Directory<br>2.2 Configure device profiles<br>2.2.3 Configure and implement assigned access or public devices |
| Microsoft MD-101 | 4.1 Deploy and update applications<br>4.1.1 Assign apps to groups<br>4.1.2 Deploy apps by using Microsoft Intune |

| Video/Demo | Time |
|---|---|
| 10.9.1 Intune Application Deployment | 6:39 |
| 10.9.2 Deploying Applications with Intune | 7:00 |
| 10.9.3 Deep Linking an App with Intune | 4:27 |
| 10.9.4 Using Groups with Azure Active Directory | 7:05 |
| 10.9.5 Implementing Assigned Access or Public Devices | 6:41 |
| **Total Video Time** | **31:52** |

## Fact Sheets

- 10.9.6 Intune Application Deployment Facts

## Number of Exam Questions

10 questions

## Total Time

*About 47 minutes*

# 10.10: Mobile Application Management with Intune

## Lecture Focus Questions:

- What are the benefits of implementing mobile application management (MAM)?
- What do Windows Information Protection (WIP) policies provide?
- How does Intune help you to secure a company's and a user's data?
- How does an administrator wipe only company data from a user's device and not harm the device itself?
- Why would a company implement Intune app protection policies?

In this section, you will learn to:

- Configure Windows Information Protection
- Configure Azure Information Protection templates
- Secure data with Intune

The key terms for this section include:

| Term | Definition |
|---|---|
| Windows Information Protection | A Windows 10 feature that helps protect against data leakage on company-owned and personal devices without disrupting the user experience. It was previously known as enterprise data protection (EDP). |
| Network fencing | Location compliance, known as network fencing, lets you keep devices outside a corporate network from accessing enterprise resources. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-101 | 2.1 Implement compliance policies for devices<br>2.1.1 Implement device compliance policies<br>2.1.2 Manage device compliance policies<br>2.1.3 Plan device compliance policies<br>3.2 Manage Microsoft Intune devices<br>3.2.1 Configure enrollment settings in Microsoft Intune<br>3.2.2 Configure Microsoft Intune automatic and bulk enrollment<br>3.2.3 Enroll non-Windows devices<br>3.2.4 Enroll Windows devices |

| Video/Demo | Time |
|---|---|
| 10.10.1 Intune Mobile Application Management (MAM) | 4:03 |
| 10.10.2 Mobile Application Management Plans | 4:25 |

| | |
|---|---|
| 10.10.3 Implement and Manage MAM | 7:10 |
| 10.10.4 Configuring Windows Information Protection | 5:43 |
| 10.10.5 Configuring Azure Information Protection Templates | 5:23 |
| 10.10.6 Securing Data with Intune | 4:14 |
| **Total Video Time** | **30:58** |

## Fact Sheets

- 10.10.7 Mobile Application Management with Intune Facts

## Number of Exam Questions

10 questions

## Total Time

*About 46 minutes*

# System Monitoring and Maintenance

## 11.1: System Configuration Tools

### Lecture Focus Questions:

- A computer is experiencing signs of defective memory. What steps can you take to confirm that it has defective memory?
- What types of network problems can you troubleshoot using the Windows Network Diagnostics tool?
- A system is having difficulties starting. How can you access the debugging information that Windows records and maintains regarding this type of problem?
- How can you troubleshoot technical computer issues and optimize the startup process?
- A system is running very slowly. Which tools can you use to view the programs that are running?

In this section, you will learn to:

- View system information
- Use the System Configuration utility
- Configure and manage services
- Use management consoles
- Use Task Scheduler

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 4.4 Configure and start Window services<br>4.4.1 Configure Windows services<br>4.4.2 Start Windows services |
| Microsoft MD-100 | 1.2 Perform post-installation configuration<br>1.2.9 Configure and manage services<br>4.3 Monitor and manage Windows<br>4.3.5 Schedule tasks |

| Video/Demo | Time |
|---|---|
| 11.1.1 Viewing System Information | 5:47 |
| 11.1.2 Using the System Configuration Utility | 5:45 |
| 11.1.3 Configure and Manage Services | 5:08 |
| 11.1.5 Using Management Consoles | 6:50 |

| | |
|---|---|
| 11.1.6 Using Task Scheduler | 4:10 |
| **Total Video Time** | **27:40** |

## Lab/Activity

- 11.1.4 Manage Services

## Fact Sheets

- 11.1.7 System Configuration Tool Facts

## Number of Exam Questions

10 questions

## Total Time

*About 55 minutes*

# 11.2: System Events

## Lecture Focus Questions:

- For what purpose would you use the Event Viewer app?
- For what purpose would you use Event subscription?

In this section, you will learn to:

- Use Event Viewer
- Configure collector-initiated subscriptions
- Configure source-initiated subscriptions

The key terms for this section include:

| Term | Definition |
|---|---|
| Event Viewer | A utility used to view Windows log files. |
| Windows Event Forwarding (WEF) | A tool that gathers events from other computers and forwards them to a single computer. |
| Event Subscription | A tool that allows you to see events across multiple Windows systems. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-100 | 4.3 Monitor and manage Windows<br>4.3.1 Configure and analyze event logs |

| Video/Demo | Time |
|---|---|
| 11.2.1 Event Viewer | 5:22 |
| 11.2.2 Using Event Viewer | 10:12 |
| 11.2.4 Event Subscriptions | 5:48 |
| 11.2.5 Configuring Collector-initiated Subscriptions | 6:01 |
| 11.2.6 Configuring Source-Initiated Subscriptions | 7:46 |
| **Total Video Time** | **35:09** |

## Fact Sheets

- 11.2.3 Event Viewer Facts
- 11.2.7 Event Subscription Facts

## Number of Exam Questions

10 questions

## Total Time

*About 56 minutes*

# 11.3: Performance Management

## Lecture Focus Questions:

- Why is performance monitoring important?
- For what purpose is the Windows Performance Toolkit (WPT) used?

In this section, you will learn to:

- Monitor performance

The key terms for this section include:

| Term | Definition |
|---|---|
| Object | A statistic group that often corresponds to a specific type of hardware device or software process. |
| Counter | A specific statistic you can monitor. For example, for the PhysicalDisk object, you can monitor counters such as %Disk Read Time or %Idle Time. |
| Windows Performance Toolkit | A tool that analyzes a wide range of performance issues. |
| Windows Performance Analyzer (WPA) | A tool that reviews various aspects of performance on Windows. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-100 | 4.3 Monitor and manage Windows<br>4.3.2 Manage performance |

| Video/Demo | Time |
|---|---|
| 11.3.1 Performance Monitoring | 9:52 |
| 11.3.2 Monitoring Performance | 6:24 |
| 11.3.4 Windows Performance Toolkit (WPT) | 3:04 |
| **Total Video Time** | **19:20** |

## Fact Sheets

- 11.3.3 Performance Tools Facts
- 11.3.5 Windows Performance Toolkit Facts

## Number of Exam Questions

10 questions

## Total Time

*About 40 minutes*

# 11.4: Resource Monitoring

## Lecture Focus Questions:

- How are the Resource Monitor and the Process Explorer tools useful?
- What's the difference between Resource Monitor and Process Explorer?

In this section, you will learn to:

- Use Task Manager
- Monitor resources

The key terms for this section include:

| Term | Definition |
|---|---|
| Resource Monitor | A utility you can use to view real-time information about the way resources are used by the system hardware and software. |
| Process Explorer | A utility that shows the process a particular file or folder has open. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-100 | 4.3 Monitor and manage Windows<br>4.3.2 Manage performance |

| Video/Demo | Time |
|---|---|
| 11.4.1 Resource Monitor and Process Explorer | 4:14 |
| 11.4.2 Using Task Manager | 11:58 |
| 11.4.3 Monitoring Resources | 7:15 |
| **Total Video Time** | **23:27** |

## Fact Sheets

11.4.4 Resource Monitoring Tools Facts

## Number of Exam Questions

10 questions

## Total Time

*About 39 minutes*

# 11.5: Reliability and Performance Maintenance

## Lecture Focus Questions:

- What's the difference between the Reliability Monitor and the Action Center?
- Why is it better to be a proactive administrator instead of a reactive one?

In this section, you will learn to:

- Use the Reliability Monitor
- Use the Action Center

The key terms for this section include:

| Term | Definition |
|---|---|
| Reliability Monitor | A tool that tracks the overall stability of a Windows system. |
| Action Center | A central location for managing system messages and resolving issues within a Windows system. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-100 | 4.3 Monitor and manage Windows<br>4.3.2 Manage performance<br>4.3.3 Manage Windows 10 environment |

| Video/Demo | Time |
|---|---|
| 11.5.1 Reliability Monitor and Action Center | 5:54 |
| 11.5.2 Using Reliability Monitor | 4:09 |
| 11.5.3 Using the Action Center | 3:10 |
| **Total Video Time** | **13:13** |

## Fact Sheets

11.5.4 Reliability Monitor and Action Center Facts

## Number of Exam Questions

10 questions

## Total Time

*About 29 minutes*

# 11.6: Windows Optimization

## Lecture Focus Questions:

- How does virtual memory work on Windows 10 systems?
- How can virtual memory be beneficial to an operating system?

In this section, you will learn to:

- Configure indexing
- Configure virtual memory

The key terms for this section include:

| Term | Definition |
|---|---|
| Page file | A file on the hard disk into which inactive data from RAM is moved. This makes more physical RAM available for active applications or data. A page file is also referred to as a swap file, pagefile, or paging file. |
| Swapping | When the CPU moves data from virtual memory to a page file or vice versa. |
| Disk thrashing | When the CPU spends most of its time swapping data between the system RAM and the page file on disk. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-100 | 4.3 Monitor and manage Windows<br>4.3.3 Manage Windows 10 environment |

| Video/Demo | Time |
|---|---|
| 11.6.1 Windows Virtual Memory | 5:40 |
| 11.6.2 Configuring Indexing | 5:03 |
| **Total Video Time** | **10:43** |

## Lab/Activity

- 11.6.3 Configuring Virtual Memory

## Fact Sheets

- 11.6.4 Windows Optimization Facts

## Number of Exam Questions

10 questions

## Total Time

*About 38 minutes*

# 11.7: Remote Management

## Lecture Focus Questions:

- What are some of the tools used to remotely manage systems?
- Why is it helpful to remotely manage Windows client systems?
- How is remote management authentication configured when working in a domain?

In this section, you will learn to:

- Use the Computer Management Console (MMC)
- Use PowerShell remoting
- Use Windows Admin Center

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-100 | 4.4 Configure remote connectivity<br>4.4.1 Manage Windows 10 remotely by using Windows Admin Center<br>4.4.3 Manage Windows remotely by using Windows Remote Management and PS remoting |

| Video/Demo | Time |
|---|---|
| 11.7.1 Remote Management Tools | 7:12 |
| 11.7.2 Using Remote MMC | 5:22 |
| 11.7.3 Using PowerShell Remoting | 6:40 |
| 11.7.5 Use Windows Admin Center | 5:03 |
| **Total Video Time** | **24:17** |

## Lab/Activity

- 11.7.4 PowerShell Remoting

## Fact Sheets

- 11.7.6 Remote Management Facts

## Number of Exam Questions

10 questions

## Total Time

*About 52 minutes*

# 11.8: Remote Desktop and Remote Assistance

## Lecture Focus Questions:

- What are security issues related to Remote Desktop?
- How are tools such as Remote Desktop and Remote Assistance beneficial for a system administrator?
- What is the difference between Remote Desktop and Remote Assistance?
- What are some precautions to be observed related to Remote Assistance?

In this section, you will learn to:

- Configure Remote Desktop
- Use Remote Desktop
- Configure Remote Assistance
- Use Remote Assistance

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 3.2 Enable and configure remote desktop<br>3.2.1 Configure remote assistance<br>3.2.2 Enable remote desktop<br>4.4 Configure remote connectivity |
| Microsoft MD-100 | 4.4.2 Configure remote assistance tools including Remote Assist and Quick Assist<br>4.4.4 Configure remote desktop access |

| Video/Demo | Time |
|---|---|
| 11.8.1 Remote Desktop | 6:25 |
| 11.8.2 Using Remote Desktop | 10:17 |
| 11.8.5 Remote Assistance | 4:28 |
| 11.8.7 Use Quick Assist | 2:38 |
| 11.8.8 Using Remote Assistance | 7:14 |
| **Total Video Time** | **31:02** |

## Lab/Activity

- 11.8.4 Configure Remote Desktop
- 11.8.9 Configure Remote Assistance

## Fact Sheets

- 11.8.3 Remote Desktop Facts

11.8.6 Remote Assistance Facts

**Number of Exam Questions**
10 questions

**Total Time**
*About 76 minutes*

# 11.9: System Troubleshooting Tools

## Lecture Focus Questions:

- What are some of the most used configuration tools?
- How do you use configuration tools to troubleshoot issues?
- What utilities can help you troubleshoot Windows problems?

In this section, you will learn to:

- Optimize and troubleshoot the Windows startup process
- Monitor device health with Intune
- Monitor device security with Intune
- Create scripts using PowerShell

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 4.4 Configure and start Window services<br>4.4.2 Start Windows services<br>4.1 Configure system and data recovery<br>4.1.3 Troubleshoot startup/boot process<br>4.3 Monitor and Manage Windows<br>4.3.1 Configure and analyze event logs<br>4.3.2 Manage performance<br>4.4 Configure remote connectivity<br>4.4.3 Manage Windows remotely by using Windows Remote Management and PS remoting |
| Microsoft MD-100 | |
| Microsoft MD-101 | 3.3 Monitor devices<br>3.3.1 Monitor devices using Azure Monitor and Desktop Analytics<br>3.3.2 Monitor device inventory reports using Endpoint Manager Admin Center |

| Video/Demo | Time |
|---|---|
| 11.9.1 System Troubleshooting Tools | 5:23 |
| 11.9.2 Troubleshooting Startup | 4:25 |

| | |
|---|---|
| 11.9.5 Monitoring Device Health with Intune | 6:55 |
| 11.9.6 Monitoring Device Security with Intune | 3:14 |
| 11.9.8 Using PowerShell Scripts | 8:33 |
| **Total Video Time** | **28:30** |

## Lab/Activity

- 11.9.3 Troubleshoot Startup

## Fact Sheets

- 11.9.4 System Troubleshooting Tool Facts
- 11.9.7 Monitoring Device Health and Security with Intune Facts
- 11.9.9 PowerShell Scripting Facts

## Number of Exam Questions

10 questions

## Total Time

*About 66 minutes*

# System Protection

## 12.1: Windows Updates

### Lecture Focus Questions:

- What are two types of operating system updates?
- What is the frequency of updates for each update type?
- What types of locations can you obtain updates from?
- When working with updates, what are the benefits of using a servicing channel?
- What are the major update differences between the servicing channels?
- What is the process used to uninstall an update?
- When troubleshooting updates, what are things to check?
- How can you configure Windows Update? What are some of the major options?

In this section, you will learn to:

- Configure Windows Update on Windows 10
- Update Windows Store applications
- Deploy Windows Updates using Microsoft Intune

The key terms for this section include:

| Term | Definition |
|---|---|
| Microsoft Knowledge Base (KB) | A collection of articles written by Microsoft support professionals describing how an issue can be or has been resolved. The Microsoft Knowledge Base is regularly updated, expanded, and refined to ensure that customers have access to the latest support information. Microsoft quality updates reference these KB articles. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-100 | 1.2 Perform post-installation configuration<br>1.2.7 Configure Microsoft Store settings<br>4.2 Manage updates<br>4.2.1 Troubleshoot updates<br>4.2.2 Select the appropriate servicing channel<br>4.2.3 Configure Windows update options<br>4.2.4 Plan for Windows updates |
| Microsoft MD-101 | 3.4 Manage updates |

| | |
|---|---|
| | 3.4.1 Configure Windows 10 delivery optimization<br>3.4.2 Deploy Windows updates using Microsoft Intune<br>3.4.3 Monitor Windows 10 updates |

| Video/Demo | Time |
|---|---|
| 12.1.1 Windows Updates | 7:27 |
| 12.1.2 Windows Servicing Options | 5:38 |
| 12.1.3 Configure Windows Update on Windows | 6:21 |
| 12.1.5 Configure and Update Windows Store Applications | 1:21 |
| 12.1.6 Deploy Windows Updates using Microsoft Intune | 2:48 |
| **Total Video Time** | **23:35** |

## Lab/Activity

- 12.1.4 Configure Windows Update

## Fact Sheets

- 12.1.7 Windows 10 Update Facts

## Number of Exam Questions

10 questions

## Total Time

*About 51 minutes*

# 12.2: Advanced Windows Updates

## Lecture Focus Questions:

- What are update rings and how can you use them?
- What are the options to update Windows 10?
- What is Windows Server Update Services (WSUS)? How do you use it?
- How do you integrate Intune in the update process?
- Where can you troubleshoot Windows updates?
- What tools are available to troubleshoot Windows updates?
- Where can you find the log file to resolve problems with Windows update?

In this section, you will learn to:

- Configure Windows Update for Business (WUfB)
- Validate and troubleshoot updates
- Deliver updates using Intune

The key terms for this section include:

| Term | Definition |
|---|---|
| Windows Server Update Services | A server role available in Windows Server that provides a single source for updates within an organization. |
| Windows Update for Business | A deployment service that allows you to keep Windows 10 devices in your organization current with the latest security upgrades and features. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 4.3 Configure and update device drivers<br>4.3.1 Configure driver updates<br>4.2 Manage updates |
| Microsoft MD-100 | 4.2.1 Troubleshoot updates<br>4.2.3 Configure Windows update options<br>4.2.5 Configure updates by using Windows Update for Business<br>3.4 Manage updates |
| Microsoft MD-101 | 3.4.1 Configure Windows 10 delivery optimization<br>3.4.2 Deploy Windows updates using Microsoft Intune<br>3.4.3 Monitor Windows 10 updates |

| Video/Demo | Time |
|---|---|
| 12.2.1 Configuring Windows Update for Business | 5:26 |
| 12.2.2 Validating and Troubleshooting Updates - Part 1 | 6:03 |
| 12.2.3 Validating and Troubleshooting Updates - Part 2 | 5:37 |
| 12.2.4 Delivering Updates Using Intune | 3:25 |
| **Total Video Time** | **20:31** |

## Fact Sheets

- 12.2.5 Advanced Windows Update Facts
- 12.2.6 Windows Update Group Policy Settings

## Number of Exam Questions

10 questions

## Total Time

*About 41 minutes*

# 12.3: System Restore

## Lecture Focus Questions:

- Which tools are used to protect a Windows system?
- Which types of partitions can use System Restore and Previous Versions?
- How do System Restore and Previous Versions function differently?
- How can you delete an existing restore point?

In this section, you will learn to:

- Configure System Restore
- Create a Restore Point

The key terms for this section include:

| Term | Definition |
|---|---|
| Restore point | A stored snapshot of a system's data and configuration at a set point of time. You can revert the system to the restore point. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 4.2 Configure and perform file system backup and recovery<br>4.2.2 Create a Windows restore point |
| Microsoft MD-100 | 4.1 Configure system and data recovery<br>4.1.2 Recover Windows 10<br>4.1.4 Create and manage system restore points |

| Video/Demo | Time |
|---|---|
| 12.3.1 System Restore | 6:54 |
| 12.3.2 Configuring System Restore | 8:28 |
| **Total Video Time** | **15:22** |

## Lab/Activity

12.3.3 Create a Restore Point

## Fact Sheets

12.3.4 System Restore Facts

## Number of Exam Questions

10 questions

## Total Time

*About 43 minutes*

# 12.4: Backup

## Lecture Focus Questions:

- What types of backup are available in Windows 10?
- What methods can be used to restore data backed up using File History?
- What are the differences between a system image backup and a file backup?
- Which file system is required on the destination device when backing up a system image?
- What is the preferred mechanism for backing up user account files?
- What are the differences between File History backups and using the Backup and Restore (Windows 7) tool?
- What are the requirements for using the Backup and Restore tool?
- Under what circumstances would you use the WBAdmin backup tool?

In this section, you will learn to:

- Implement file backups
- Back up data using Backup and Restore
- Back up data using WBAdmin

The key terms for this section include:

| Term | Definition |
|---|---|
| Backup | An archived data copy that can be used to restore corrupt or lost data. |
| System image backup | A system image backup consists of an entire volume backed up to .vhd files. It contains everything on the system volume, including the operating system, installed programs, drivers, and user data files. |
| File backup | A file backup includes specified files and folders backed up to a compressed file. File backups do not include operating system files, program files, encrypted files (including EFS-encrypted files), files in the Recycle Bin, user profile settings, or temporary files. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 4.2 Configure and perform file system backup and recovery<br>4.2.3 Enable and configure file history<br>4.2.4 Restore backup files |
| Microsoft MD-100 | 4.1 Configure system and data recovery<br>4.1.1 Perform file recovery<br>4.1.2 Recover Windows 10 |

| Video/Demo | Time |
|---|---|
| 12.4.1 Windows File Backup | 12:56 |
| 12.4.2 Implementing File Backups | 3:35 |
| 12.4.5 Backing Up Data with WBAdmin | 7:15 |
| **Total Video Time** | **23:46** |

## Lab/Activity

- 12.4.4 Back Up Files with File History

## Fact Sheets

- 12.4.3 File History Facts
- 12.4.6 Data Backup Facts

## Number of Exam Questions

10 questions

## Total Time

*About 56 minutes*

# 12.5: Recovery

## Lecture Focus Questions:

- Which tools allow you to restore individual files?
- When attempting to restore a file to a location where a file with the same name already exists, what options are available?
- What is a restore point?
- What types of files can be protected with File History?

In this section, you will learn to:

- Recover files from a backup
- Recover files from File History
- Recover files from previous versions

The key terms for this section include:

| Term | Definition |
|---|---|
| Virtual Hard Disk (VHD) | A file that represents a virtual hard disk. It is used with Microsoft's Hyper-V virtual machines. When used with Hyper-V, the VHD looks and acts like a physical drive to the virtual machines. |
| Hyper-V virtual machine | A hardware virtualization product that functions as if it is a complete computer running within a computer, including a running operating system. Also known as a VM. |
| Image file | A system backup option. It is a copy of the operating system, including the boot sector and partitions. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 4.2 Configure and perform file system backup and recovery<br>4.2.3 Enable and configure file history<br>4.2.4 Restore backup files<br>4.2.5 Restore a previous version |
| Microsoft MD-100 | 4.1 Configure system and data recovery<br>4.1.1 Perform file recovery |

| Video/Demo | Time |
|---|---|
| 12.5.1 Recovering Files from Backup | 7:56 |
| 12.5.4 Recovering the System from Backup | 5:19 |
| **Total Video Time** | **13:15** |

## Lab/Activity

- 12.5.2 Recover a File from File History
- 12.5.3 Recover a File from Previous Versions

## Fact Sheets

- 12.5.5 Data Recovery Facts

## Number of Exam Questions

10 questions

## Total Time

*About 53 minutes*

# 12.6: Recovery Environment

## Lecture Focus Questions:

- When a system is having significant problems, what alternate boot mode options can you use?
- How do you access the recovery environment on Windows 10?
- What types of drivers and services are loaded when you boot into safe mode?
- When would you choose to use the last known good configuration?
- How can you get a system running as quickly as possible after a disk holding the operating system fails?
- Under what circumstances would you need to use a system repair disc?
- What are the differences between a system repair disc and a recovery drive?

In this section, you will learn to:

- Create recovery media
- Use the recovery environment options
- Refresh the operating system
- Reset the operating system
- Prepare a system for recycling
- Use BootRec to troubleshoot system boot issues

The key terms for this section include:

| | Definition |
|---|---|
| Boot Configuration Data (BCD) | A database that identifies possible operating systems and their locations on a disk. BCD enables administrators to assign rights for managing boot options. You can use the BCDEdit tool to troubleshoot this database. |
| Fresh Start | A Windows 10 tool used to reset a Windows system. It can reinstall the Windows OS while keeping the users and the user data. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-100 | 4.1 Configure system and data recovery<br>4.1.2 Recover Windows 10<br>4.1.3 Troubleshoot startup/boot process |

| Video/Demo | Time |
|---|---|
| 12.6.1 Windows System Recovery | 10:53 |
| 12.6.2 Creating Recovery Media | 3:27 |
| 12.6.3 Using Recovery Environment Options | 6:51 |

| | |
|---|---|
| 12.6.4 Refreshing the Operating System | 4:45 |
| 12.6.5 Resetting the Operating System | 6:20 |
| 12.6.6 Preparing the System for Recycling | 4:16 |
| 12.6.7 Using BootRec | 4:04 |
| **Total Video Time** | **40:36** |

## Fact Sheets

- 12.6.8 Recovery Environment Facts
- 12.6.9 Advanced Startup Option Facts

## Number of Exam Questions

10 questions

## Total Time

*About 61 minutes*

# Threat Protection

## 13.1: Malware Protection

### Lecture Focus Questions:

- What is malicious code?
- How can malware be detected?
- Which updates are required to ensure the best possible malware detection?
- What is the suggested procedure for remediating a system with a malware infection?
- What is a hoax virus?
- What are the three types of scans that you can schedule in Windows Security?

The key terms for this section include:

| Term | Definition |
|---|---|
| Malware | Software written to cause undesired results. A virus and adware are examples of malware. |
| Adware | Software that displays ads, usually associated with free programs. |
| Virus | Software that often causes systems to execute malicious code that can comprise system integrity. |
| Spyware | Software that is installed in a computer, typically without the user's knowledge. Spyware transmits information about the user's computer activities back to the source. |
| Anti-malware (antimalware) | A software program designed to prevent, detect, and remove malicious software (malware) on IT systems, as well as individual computing devices. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 2.4 Configure and manage Windows Defender<br>2.4.4 Configure Windows Security |

| Video/Demo | Time |
|---|---|
| 13.1.1 Malware | 11:52 |
| 13.1.3 Malware Protection | 11:23 |
| **Total Video Time** | **23:15** |

### Fact Sheets

- 13.1.2 Malware Facts
- 13.1.4 Malware Protection Facts

## Number of Exam Questions
10 questions

## Total Time
*About 44 minutes*

# 13.2: Endpoint Security

## Lecture Focus Questions:

- What common scans are available with Windows 10?
- What types of account protection tools are available with Windows 10?
- What does Windows Defender SmartScreen help protect a device against?
- What feature prevents attacks from inserting malicious code into high-security processes?
- What utility lets you view status information about a device's performance health?
- What feature protects files, folders, and memory areas on a device from unauthorized changes by unfriendly applications?

In this section, you will learn to:

- Configure Windows security
- Configure Windows Defender Antivirus with Intune
- Configure enterprise-level disk encryption with Intune
- Create security baselines in Microsoft Intune

The key terms for this section include:

| Term | Definition |
|---|---|
| Threat protection | Policies and tools that protect networks and computer systems. |
| Virus scan | The process of using antivirus software to scan and identify viruses in a computing device. |
| Quarantine | To take a spyware- or virus-infected file out of the file system by stripping its rights or by moving it to a folder that is not easily accessible by the computer. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 2.4 Configure and manage Windows Defender<br>2.4.4 Configure Windows Security |
| Microsoft MD-100 | 2.3 Manage Windows security<br>2.3.2 Configure Windows Defender Firewall<br>2.3.4 Configure Windows Defender Antivirus |
| Microsoft MD-101 | 3.1 Manage Windows Defender<br>3.1.6 Protect devices using Endpoint Security |

| | |
|---|---|
| | 3.1.7 Manage enterprise-level disk encryption<br>3.1.8 Implement and manage security baselines in Microsoft Intune |

| Video/Demo | Time |
|---|---|
| 13.2.1 Manage Windows Security | 6:14 |
| 13.2.3 Introduction to Using Endpoint Security with Intune | 1:43 |
| 13.2.4 Configure Windows Defender Antivirus with Intune | 2:58 |
| 13.2.5 Enterprise-level Disk Encryption with Intune | 2:11 |
| 13.2.6 Security Baselines in Microsoft Intune | 2:20 |
| **Total Video Time** | **15:26** |

## Lab/Activity

- 13.2.2 Configure Windows Security

## Fact Sheets

- 13.2.7 Windows Security Facts

## Number of Exam Questions

10 questions

## Total Time

*About 43 minutes*

# 13.3: Windows Defender Credential Guard

## Lecture Focus Questions:

- Which Windows 10 feature is designed to protect user authentication credentials?
- How do you implement Credential Guard on a Windows system?

In this section, you will learn to:

- Configure and use Windows Defender Credential Guard

Key terms for this section include the following:

| Term | Definition |
|---|---|
| Credential Guard | A virtualization-based isolation technology for Local Security Authority Subsystem Service (LSASS) that prevents attackers from stealing credentials. |
| Virtual Secure Mode (VSM) | VSM provides added security to data stored in physical RAM. VSM is able to tag processes on the system as belonging to a virtual machine that is running within Hyper-V. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 2.4 Configure and manage Windows Defender<br>2.4.2 Configure Windows Defender Credential Guard |
| Microsoft MD-101 | 3.1 Manage Windows Defender<br>3.1.2 Implement and manage Windows Defender Credential Guard |

| Video/Demo | Time |
|---|---|
| 13.3.1 Windows Defender Credential Guard | 4:46 |
| 13.3.2 Use Windows Credential Guard | 2:52 |
| **Total Video Time** | **7:38** |

## Lab/Activity

- 13.3.4 Configure Windows Defender Credential Guard

## Fact Sheets

- 13.3.3 Windows Defender Credential Guard Facts

## Number of Exam Questions

10 questions

**Total Time**
*About 35 minutes*

# 13.4: Windows Defender Exploit Guard

## Lecture Focus Questions:

- What is used to help reduce the attack surface of user apps?
- How can you mitigate exploit techniques used against an organization's apps?
- How can you prevent access to internet domains that may host phishing scams, exploits, and other malicious content?
- What is used to protect against ransomware and malware by preventing changes to files in protected folders?

In this section, you will learn to:

- Configure and use Windows Defender Exploit Guard

The key terms for this section include:

| Term | Definition |
|---|---|
| Exploit Guard | A part of Windows Defender Security Center. It provides a defense against common attacks of known vulnerabilities. |
| Attack surface reduction | Offering attackers fewer ways to perform attacks. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 2.4 Configure and manage Windows Defender<br>2.4.3 Configure Windows Defender Exploit Guard |
| Microsoft MD-101 | 3.1 Mange Windows Defender<br>3.1.3 Implement and manage Windows Defender Exploit Guard |

| Video/Demo | Time |
|---|---|
| 13.4.1 Windows Defender Exploit Guard | 11:46 |
| 13.4.2 Use Windows Exploit Guard | 4:25 |
| **Total Video Time** | **16:11** |

## Lab/Activity

- 13.4.4 Configure Windows Defender Exploit Guard

## Fact Sheets

- 13.4.3 Windows Defender Exploit Guard Facts

## Number of Exam Questions

10 questions

**Total Time**
*About 44 minutes*

# 13.5: Windows Defender Advanced Threat Protection

## Lecture Focus Questions:

- Which Windows feature is designed to help enterprise networks prevent, detect, investigate, and respond to advanced threats?
- What can be used to ensure configuration settings are properly set and exploit mitigation techniques are applied?
- What can be used to help you dynamically assess the security state of your enterprise network?
- What are the requirements of Microsoft Defender Advanced Threat Protection?

In this section, you will learn to:

- Use Windows Defender Advanced Threat Protection

The key terms for this section include:

| Term | Definition |
|---|---|
| Attack surface | A point in a software environment where an attacker can try to enter data into or extract data from an environment. |
| Configuration score | Shows the collective security configuration state of your machines across applications, operating system, network, accounts, and security controls. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-101 | 3.1 Manage Windows Defender<br>3.1.4 Plan and Implement Microsoft Defender Advanced Threat Protection for Windows 10 |

| Video/Demo | Time |
|---|---|
| 13.5.1 Windows Defender Advanced Threat Protection | 12:22 |
| 13.5.2 Use Windows Defender Advanced Threat Protection | 4:39 |
| **Total Video Time** | **17:01** |

## Fact Sheets

13.5.3 Windows Defender Advanced Threat Protection Facts

## Number of Exam Questions

10 questions

## Total Time

*About 33 minutes*

# 13.6: Windows Defender Application Control

## Lecture Focus Questions:

- Which feature determines the drivers and applications that are allowed to run on a Windows 10 client?
- Which versions of Windows 10 can utilize Windows Defender Application Control policies?

In this section, you will learn to:

- Configure and use Windows Defender Application Control

The key terms for this section include:

| Term | Definition |
|---|---|
| Code signing | Uses the process of digitally signing executables and scripts to confirm the software author and guarantee that the code has not been altered or corrupted since it was signed. |
| Code integrity | Checks drivers and system files on your device for signs of corruption or malicious software. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 2.4 Configure and manage Windows Defender<br>2.4.1 Configure Windows Defender Application Control |
| Microsoft MD-101 | 3.1 Manage Windows Defender<br>3.1.5 Integrate Windows Defender Application Control |

| Video/Demo | Time |
|---|---|
| 13.6.1 Windows Defender Application Control | 13:54 |
| 13.6.2 Using Windows Defender Application Control | 5:38 |
| **Total Video Time** | **19:32** |

## Lab/Activity

- 13.6.4 Configure Windows Defender Application Control

## Fact Sheets

- 13.6.3 Windows Defender Application Control Facts

## Number of Exam Questions

10 questions

## Total Time

*About 47 minutes*

# 13.7: Windows Defender Application Guard

## Lecture Focus Questions:

- How can users safely browse the internet?
- What will happen if users browse a website that has malicious code embedded?
- Which solutions has Microsoft developed to help prevent malicious code from infecting workstations?

In this section, you will learn to:

- Use Windows Defender Application Guard

The key terms for this section include:

| Term | Definition |
|---|---|
| Persistence | Refers to an object and process characteristic that continues to exist even after the process that created it ceases or the machine it is running on is powered off. |
| Untrusted site | A website that is not approved or has a certificate from an unknown issuer. |
| Input-output memory management unit (IOMMU) | A memory management unit (MMU) that connects a direct-memory-access-capable (DMA-capable) I/O bus to the main memory. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| Microsoft MD-101 | 3.1 Manage Windows Defender<br>3.1.1 Implement and manage Windows Defender Application Guard |

| Video/Demo | Time |
|---|---|
| 13.7.1 Windows Defender Application Guard | 6:12 |
| 13.7.2 Using Windows Defender Application Guard | 3:36 |
| **Total Video Time** | **9:48** |

## Fact Sheets

13.7.3 Windows Defender Application Guard Facts

## Number of Exam Questions

10 questions

## Total Time

*About 25 minutes*

# 13.8: Windows Defender Firewall

## Lecture Focus Questions:

- What is the difference between a network firewall and a host-based firewall?
- What is the role of the access control list (ACL)?
- How does Windows Defender Firewall protect users from intrusion attempts?
- Why does Windows Defender Firewall provide a list of predefined firewall exceptions?

In this section, you will learn to:

- Configure the Windows Defender Firewall

The key terms for this section include:

| Term | Definition |
|---|---|
| Access control list (ACL) | Composed of access control entries, an access control list permits or denies network traffic through a firewall. |
| Transmission Control Protocol (TCP) | A connection-oriented protocol that ensures data is reliably exchanged between the source and the destination. |
| User Datagram Protocol (UDP) | UDP functions similarly to TCP in that its function is to reliably exchange data between the source and destination. However, UDP does not acknowledge the receipt of the packets. |
| Internet Control Messaging Protocol (ICMP) | ICMP is used to test and verify network communication between hosts. |
| Network Location Awareness (NLA) | A service that identifies the logical network to which a host is connected. |
| Internet Protocol Security (IPSec) | A suite of network protocols designed to secure network communication through authentication, integrity, and encryption. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 2.4 Configure and manage Windows Defender<br>2.4.5 Enable and manage Windows Defender Firewall |
| Microsoft MD-100 | 2.3 Manage Windows security<br>2.3.2 Configure Windows Defender Firewall |

| Video/Demo | Time |
| --- | --- |
| 13.8.1 Windows Defender Firewall | 8:42 |
| 13.8.2 Configuring Windows Defender Firewall | 4:29 |
| **Total Video Time** | **13:11** |

## Lab/Activity

- 13.8.4 Configure the Windows Firewall

## Fact Sheets

- 13.8.3 Windows Defender Firewall Facts

## Number of Exam Questions

10 questions

## Total Time

*About 41 minutes*

# 13.9: Windows Defender Firewall with Advanced Security

## Lecture Focus Questions:

- When would you choose to use the Windows Firewall with Advanced Security snap-in over the Windows Firewall in Control Panel?
- Which type of connection security rule protects traffic based on IP addresses?
- What types of action options are available for firewall rules?

In this section, you will learn to:

- Configuring WDFAS
- Configuring an IPsec Connection in WDFAS
- Configuring Windows Defender Firewall using PowerShell

The key terms for this section include:

| Term | Definition |
|---|---|
| Port | A communication endpoint with a number from 1-65535. It acts as an interface between the computer and another device and defines the type of traffic on an IP network. |

This section helps you prepare for the following certification exam objectives:

| Exam | Objective |
|---|---|
| TestOut Client Pro | 2.4 Configure and manage Windows Defender<br>2.4.5 Enable and manage Windows Defender Firewall |
| Microsoft MD-100 | 2.3 Manage Windows security<br>2.3.2 Configure Windows Defender Firewall |

| Video/Demo | Time |
|---|---|
| 13.9.1 Configuring WDFAS | 8:51 |
| 13.9.2 Configuring an IPsec Connection in WDFAS | 8:53 |
| 13.9.4 Configuring Windows Defender Firewall Using PowerShell | 7:22 |
| **Total Video Time** | **25:06** |

## Fact Sheets

- 13.9.3 WDFAS Facts
- 13.9.5 Firewall Configuration with PowerShell Facts

## Number of Exam Questions

10 questions

## Total Time

*About 46 minutes*

# Practice Exams

## Practice Exams

### A.0: TestOut Client Pro - Practice Exams

TestOut Client Pro Certification Practice Exam (68 questions)

### B.0: Microsoft MD-100 - Practice Exams

Microsoft MD-100 Certification Practice Exam (694 questions)

### C.0: Microsoft MD-101 - Practice Exams

Microsoft MD-101 Certification Practice Exam (577 questions)

# Appendix

## Appendix A: Approximate Time for the Course

The total time for the LabSim for TestOut Client Pro course is approximately **63 hours and 44 minutes**. Time is calculated by adding the approximate time for each section which is calculated using the following elements:

- Video/demo times
- Text Lessons (5 minutes assigned per text lesson)
- Simulations (12 minutes assigned per simulation)
- Questions (1 minute per question)

Additionally, there are approximately another **35 hours and 05 minutes** of Practice Test material at the end of the course.

The breakdown for this course is as follows:

| Module | Sections | Time (hh:mm) | Videos (hh:mm) | Labs (hh:mm) | Text (hh:mm) | Exams (hh:mm) |
|---|---|---|---|---|---|---|
| **1.0: Course Introduction** | | | | | | |
| | 1.1: Course Introduction | 0:08 | 0:03 | 0:00 | 0:05 | 0:00 |
| | 1.2: TestOut Lab Simulator | 0:19 | 0:07 | 0:12 | 0:00 | 0:00 |
| | 1.3: Windows User Interface Overview | 0:45 | 0:18 | 0:12 | 0:05 | 0:10 |
| | 1.4: Windows File and Folder Management | 0:48 | 0:09 | 0:24 | 0:05 | 0:10 |
| | **Total** | **2:00** | **0:37** | **0:48** | **0:15** | **0:20** |
| **2.0: Windows Installation** | | | | | | |
| | 2.1: Windows Versions | 0:33 | 0:13 | 0:00 | 0:10 | 0:10 |
| | 2.2: Windows Installation | 0:43 | 0:23 | 0:00 | 0:10 | 0:10 |
| | 2.3: Windows Activation | 0:34 | 0:19 | 0:00 | 0:05 | 0:10 |
| | 2.4: Windows Post-Installation Configuration | 0:46 | 0:31 | 0:00 | 0:05 | 0:10 |
| | 2.5: Printer and External Devices | 1:08 | 0:17 | 0:36 | 0:05 | 0:10 |
| | 2.6: Web Browser Configuration | 1:47 | 0:46 | 0:36 | 0:15 | 0:10 |
| | 2.7: Windows Upgrade | 0:52 | 0:32 | 0:00 | 0:10 | 0:10 |
| | 2.8: User Profile and Data Migration | 0:43 | 0:28 | 0:00 | 0:05 | 0:10 |
| | 2.9: Windows Deployment | 0:48 | 0:28 | 0:00 | 0:10 | 0:10 |
| | **Total** | **7:54** | **3:57** | **1:12** | **1:15** | **1:30** |
| **3.0: System Imaging** | | | | | | |
| | 3.1: System Images | 1:30 | 1:00 | 0:00 | 0:20 | 0:10 |
| | 3.2: Image Servicing | 0:26 | 0:11 | 0:00 | 0:05 | 0:10 |
| | 3.3: Provisioning Packages | 0:39 | 0:24 | 0:00 | 0:05 | 0:10 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 3.4: Sideloaded Apps | 0:27 | 0:12 | 0:00 | 0:05 | 0:10 |
| **Total** | **3:02** | **1:47** | **0:00** | **0:35** | **0:40** |
| **4.0: Windows Device and User Management** | | | | | |
| 4.1: Device and User Management | 0:55 | 0:35 | 0:00 | 0:10 | 0:10 |
| 4.2: Active Directory | 1:33 | 0:49 | 0:24 | 0:10 | 0:10 |
| 4.3: Virtual Private Network (VPN) | 0:44 | 0:12 | 0:12 | 0:10 | 0:10 |
| 4.4: Secure Accounts and Certificates on Windows 10 | 0:45 | 0:25 | 0:00 | 0:10 | 0:10 |
| **Total** | **3:57** | **2:01** | **0:36** | **0:40** | **0:40** |
| **5.0: Hardware Management** | | | | | |
| 5.1: Devices and Drivers | 1:12 | 0:33 | 0:24 | 0:05 | 0:10 |
| 5.2: Device Driver Troubleshooting | 0:33 | 0:18 | 0:00 | 0:05 | 0:10 |
| 5.3: Display Management | 0:35 | 0:20 | 0:00 | 0:05 | 0:10 |
| 5.4: Local Storage | 0:35 | 0:20 | 0:00 | 0:05 | 0:10 |
| 5.5: OneDrive Storage | 1:01 | 0:29 | 0:12 | 0:10 | 0:10 |
| **Total** | **3:56** | **2:00** | **0:36** | **0:30** | **0:50** |
| **6.0: Network Configuration** | | | | | |
| 6.1: IPv4 | 0:40 | 0:20 | 0:00 | 0:10 | 0:10 |
| 6.2: IPv6 | 0:28 | 0:03 | 0:00 | 0:15 | 0:10 |
| 6.3: IP Configuration | 1:06 | 0:22 | 0:24 | 0:10 | 0:10 |
| 6.4: IP Troubleshooting | 0:52 | 0:32 | 0:00 | 0:10 | 0:10 |
| 6.5: Wireless Networking Overview | 0:32 | 0:12 | 0:00 | 0:10 | 0:10 |
| 6.6: Wireless Networking Configuration | 0:54 | 0:22 | 0:12 | 0:10 | 0:10 |
| **Total** | **4:32** | **1:51** | **0:36** | **1:05** | **1:00** |
| **7.0: Application Management** | | | | | |
| 7.1: Desktop Applications | 1:11 | 0:32 | 0:24 | 0:05 | 0:10 |
| 7.2: User Account Control | 1:05 | 0:21 | 0:24 | 0:10 | 0:10 |
| 7.3: Windows Store Apps | 0:32 | 0:12 | 0:00 | 0:10 | 0:10 |
| 7.4: Cloud-based Applications | 0:32 | 0:17 | 0:00 | 0:05 | 0:10 |
| **Total** | **3:20** | **1:22** | **0:48** | **0:30** | **0:40** |
| **8.0: System Access** | | | | | |
| 8.1: Authentication and Authorization | 0:25 | 0:10 | 0:00 | 0:05 | 0:10 |
| 8.2: Authentication Management | 1:39 | 0:19 | 1:00 | 0:10 | 0:10 |
| 8.3: User Rights and Account Policies | 0:40 | 0:13 | 0:12 | 0:05 | 0:10 |
| 8.4: Credential Management | 0:39 | 0:24 | 0:00 | 0:05 | 0:10 |
| 8.5: Alternative Authentication Options | 0:50 | 0:18 | 0:12 | 0:10 | 0:10 |
| 8.6: NTFS Permissions | 1:02 | 0:40 | 0:12 | 0:10 | 0:10 |
| 8.7: Auditing | 0:31 | 0:16 | 0:00 | 0:05 | 0:10 |
| 8.8: Dynamic Access Control (DAC) | 0:32 | 0:17 | 0:00 | 0:05 | 0:10 |
| 8.9: Encryption | 0:56 | 0:29 | 0:12 | 0:05 | 0:10 |
| **Total** | **7:24** | **3:06** | **1:48** | **1:00** | **1:30** |
| **9.0: Resource Sharing** | | | | | |
| 9.1: File and Folder Sharing | 1:08 | 0:41 | 0:12 | 0:05 | 0:10 |
| 9.2: Shared Resource Troubleshooting | 0:31 | 0:16 | 0:00 | 0:05 | 0:10 |
| **Total** | **1:39** | **0:57** | **0:12** | **0:10** | **0:20** |
| **10.0: Mobile Computing** | | | | | |
| 10.1: Co-Management | 0:33 | 0:18 | 0:00 | 0:05 | 0:10 |

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|---|---|---|---|---|---|
| 10.2: Mobile Device Management - Intune Enrollment | 1:04 | 0:44 | 0:00 | 10 | 0:10 |
| 10.3: Mobile Device Management - Intune Policies and Profiles | 0:45 | 0:30 | 0:00 | 0:05 | 0:10 |
| 10.4: BitLocker | 1:05 | 0:28 | 0:12 | 0:15 | 0:10 |
| 10.5: Mobile Device Security | 0:38 | 0:11 | 0:12 | 0:05 | 0:10 |
| 10.6: Power Management | 1:03 | 0:24 | 0:24 | 0:05 | 0:10 |
| 10.7: Mobility Options | 0:59 | 0:22 | 0:12 | 0:15 | 0:10 |
| 10.8: Mobile Networking | 0:29 | 0:14 | 0:00 | 0:05 | 0:10 |
| 10.9: Mobile Apps | 0:47 | 0:32 | 0:00 | 0:05 | 0:10 |
| 10.10: Mobile Application Management with Intune | 0:46 | 0:31 | 0:00 | 0:05 | 0:10 |
| **Total** | **8:09** | **4:14** | **1:00** | **1:15** | **1:40** |
| **11.0: System Monitoring and Maintenance** | | | | | |
| 11.1: System Configuration Tools | 0:55 | 0:28 | 0:12 | 0:05 | 0:10 |
| 11.2: System Events | 0:56 | 0:36 | 0:00 | 0:10 | 0:10 |
| 11.3: Performance Management | 0:40 | 0:20 | 0:00 | 0:10 | 0:10 |
| 11.4: Resource Monitoring | 0:39 | 0:24 | 0:00 | 0:05 | 0:10 |
| 11.5: Reliability and Performance Maintenance | 0:29 | 0:14 | 0:00 | 0:05 | 0:10 |
| 11.6: Windows Optimization | 0:38 | 0:11 | 0:12 | 0:05 | 0:10 |
| 11.7: Remote Management | 0:52 | 0:25 | 0:12 | 0:05 | 0:10 |
| 11.8: Remote Desktop and Remote Assistance | 1:16 | 0:32 | 0:24 | 0:10 | 0:10 |
| 11.9: System Troubleshooting Tools | 1:06 | 0:29 | 0:12 | 0:15 | 0:10 |
| **Total** | **7:31** | **3:39** | **1:12** | **1:10** | **1:30** |
| **12.0: System Protection** | | | | | |
| 12.1: Windows Updates | 0:51 | 0:24 | 0:12 | 0:05 | 0:10 |
| 12.2: Advanced Windows Updates | 0:41 | 0:21 | 0:0 | 0:10 | 0:10 |
| 12.3: System Restore | 0:43 | 0:16 | 0:12 | 0:05 | 0:10 |
| 12.4: Backup | 0:56 | 0:24 | 0:12 | 0:10 | 0:10 |
| 12.5: Recovery | 0:53 | 0:14 | 0:24 | 0:05 | 0:10 |
| 12.6: Recovery Environment | 1:01 | 0:41 | 0:00 | 0:10 | 0:10 |
| **Total** | **5:05** | **2:20** | **1:00** | **0:45** | **1:00** |
| **13.0: Threat Protection** | | | | | |
| 13.1: Malware Protection | 0:44 | 0:24 | 0:00 | 0:10 | 0:10 |
| 13.2: Endpoint Security | 0:43 | 0:16 | 0:12 | 0:05 | 0:10 |
| 13.3: Windows Defender Credential Guard | 0:35 | 0:08 | 0:12 | 0:05 | 0:10 |
| 13.4: Windows Defender Exploit Guard | 0:44 | 0:17 | 0:12 | 0:05 | 0:10 |
| 13.5: Windows Defender Advanced Threat Protection | 0:33 | 0:18 | 0:00 | 0:05 | 0:10 |
| 13.6: Windows Defender Application Control | 0:47 | 0:20 | 0:12 | 0:05 | 0:10 |
| 13.7: Windows Defender Application Guard | 0:25 | 0:10 | 0:00 | 0:05 | 0:10 |
| 13.8: Windows Defender Firewall | 0:41 | 0:14 | 0:12 | 0:05 | 0:10 |
| 13.9: Windows Defender Firewall with Advanced Security | 0:46 | 0:26 | 0:00 | 0:10 | 0:10 |

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|---|---|---|---|---|---|
| **Total** | **5:58** | **2:33** | **1:00** | **0:55** | **1:30** |
| **Total Course Time 63:44 (hh:mm)** | | | | | |
| **Practice Exams** | | | | | |
| **A.0: TestOut Client Pro - Practice Exams** | **Num Questions** | | | **Time (hh:mm)** | |
| A.2: TestOut Client Pro Domain Review | 52 | | | 10:24 | |
| A.3: TestOut Client Pro Certification Practice Exam | 16 | | | 2:00 | |
| **Total** | **68** | | | **12:24** | |
| **B.0: Microsoft MD-100 - Practice Exams** | **Num Questions** | | | **Time (hh:mm)** | |
| B.2: Microsoft MD-100 Domain Review | 80 | | | 1:20 | |
| B.3: Microsoft MD-100 Domain Review (All Questions) | 554 | | | 9:14 | |
| B.4: Microsoft MD-100 Certification Practice Exam | 60 | | | 2:30 | |
| **Total** | **694** | | | **13:04** | |
| **C.0: Microsoft MD-101 - Practice Exams** | **Num Questions** | | | **Time (hh:mm)** | |
| C.2: Microsoft MD-101 Question Review | 80 | | | 1:20 | |
| | 437 | | | 7:17 | |
| C.4: Microsoft MD-101 Certification Practice Exam | 60 | | | 1:00 | |
| **Total** | **577** | | | **9:37** | |
| **Total Practice Exam Time 35:05 (hh:mm)** | | | | | |