Lesson 3: Understanding Native Applications, Tools, Mobility, and Remote Management and Assistance

# Learning Objectives

Students will learn to:

* Configure Internet Explorer
* Configure Microsoft Edge
* Configure Cortana
* Use accessory programs
* Support mobile access and data synchronization
* Access a computer remotely

# Objective Domain Skills

* Configuring native applications and tools 1.3
* Configuring applications 3.1
* Configuring mobility settings 1.4
* Understanding offline files 4.4
* Configuring and using management tools 1.5

# Lesson Summary — Lecture Notes

Lesson 3 covers Internet Explorer along with many different applications that are built-in or bundled with Windows 10. Students will learn about remote management and assistance features.

Begin the lecture by explaining that Windows 10 includes two browsers, Internet Explorer and Microsoft Edge. InternetExplorer is the traditional Microsoft browser that offers features to protect your security and privacy while you browse the web, including phishing filters, Protected Mode, Pop-up Blocker, Add-on Manager, download files or software notification, and the use of digital signatures and 128-bit secure (SSL) connections when using secure websites. A cookie is text stored by a user’s web browser. It can be used for a wide range of functions, including identifying you as a user, authenticating you as a user, and storing your site preferences and shopping cart contents.

To help manage Internet Explorer security when visiting websites, Internet Explorer divides your network connection into security zones based on four content types. For each zone, a security level is assigned.

Internet Explorer offers multiple security features to defend against malware and data theft, including dynamic security and protected mode. Dynamic security is a set of tools and technology that protects your computer as you browse the internet with Internet Explorer. It includes ActiveX opt-in, Security Status Bar, Phishing Filter, Address Bar Protection, and protected mode.

Next, you'll explain that phishing is a fraudulent technique based on social engineering. With phishing, users are enticed (usually through email or other websites) to go to illegitimate websites that look similar to legitimate websites in an effort to persuade users to supply personal information, such as passwords and account numbers.

For additional flexibility, Internet Explorer allows you to add add-onsto your browser, such as extra toolbars, animated mouse pointers, stock tickers, and pop-up blockers. Add-ons are downloaded from the internet and installed as executable programs.

The four basic types of add-ons supported by Internet Explorer are:

* **Toolbars and Extensions**: These enable the browser to open and manipulate websites or file types that Internet Explorer does not support natively. Some applications add their own toolbars to Internet Explorer, enabling you to work with their documents within an Internet Explorer session.
* **Search Providers**: These enable the user to perform searches directly from the Internet Explorer interface using search engines on the internet or the local network.
* **Accelerators**: These enable users to send text or other media they select in an Internet Explorer browser window to another application, such as an email client or an internet resource (such as a blog).
* **Tracking Protection**: This enables you to import and export XML files containing InPrivate filters.

Next, students will learn how to configure compatibility mode. Once you turn on Compatibility View, Internet Explorer automatically shows that site in Compatibility View each time you visit. You can turn it off by removing it from your compatibility list.

Secure Sockets Layer (SSL) uses a cryptographic system that uses two keys—one key to encrypt the data and another key to decrypt the data. The public key is known to everyone and a private or secret key is known only to the recipient of the message. The public key is published in a digital certificate, which also confirms the identity of the web server.

Then students will learn how to manage favorites, which allow you to keep track of websites that you visit frequently so that you can visit them quickly in the future. If you’re on a site that you want to make a favorite, click the Favorites (star) button and click Add to favorites. You can also save a favorite by pressing Ctrl+D. You will then be prompted to name the favorite and identify which folder the favorite will be stored in. The favorites are stored in the user’s profile folder (c:\Users\<Username>\Favorites).

Although Classless Inter-Domain Routing (CIDR) helped use the IPv4 addresses more efficiently, additional steps were necessary to prevent the exhaustion of IPv4 addresses. Network Address Translation (NAT) is used with masquerading to hide an entire address space behind a single IP address. In other words, it allows multiple computers on a network to connect to the internet through a single IP address.

Microsoft Edge is a new Microsoft lightweight web browser with a layout engine built around web standards designed to replace Internet Explorer as the default web browser. It integrates with Cortana, annotation tools, Adobe Flash Player, a PDF reader, and a reading mode. Extension support was developed and added to the Windows 10 Anniversary Update in July 2016.

Cortana is a search feature and personal assistant for Windows 10. It can help you find programs and files on your computer and manage your calendar events. It can also deliver sports scores, weather, news, navigation, reminders, and more. When you search, you can either type what you are looking for, or if you have a microphone, you can speak to Cortana.

Windows 10 comes bundled with many useful accessory programs, such as Calculator, Notepad, Paint, Snipping Tool, Windows Media Player, WordPad, and many more. The programs allow you to be productive in Windows without purchasing third-party programs.

Next, you'll explain that home and business users alike need to capture screen shots occasionally for many different reasons. Windows 10 includes the Snipping Tool, an easy-to-use screen capture program with a few editing features.

If you need to simply play back almost any type of multimedia file, Windows Media Player should be the program you use. It’s built in to Windows 10 (so it’s free), and its media burning and ripping features, along with the ability to stream multimedia to other networked computers, makes it a great choice at home and work.

Users who work across multiple devices want to be able to keep their address books, music, and document files in sync and accessible, regardless of the device they are using at the time. Windows 10 provides several ways to ensure that users have a consistent experience. Sync Center’s primary purpose is to synchronize files available on your network. When you set up an offline files sync partnership with a folder, any time you disconnect from the network, you can continue to work on the files.

Windows Mobility Center is a control panel of sorts that gives you access to several laptop settings, from volume to screen brightness to power options to Wi-Fi and Bluetooth settings—all in one place. Although the settings can be accessed from various icons and commands within Windows, you can make adjustments from a single window in Windows Mobility Center.

These days, large organizations may be located throughout the world, have a mobile work force, and offer work-from-home capability. As an administrator, you need a way to access these systems remotely. Microsoft includes multiple tools within Windows that allow you to access clients and servers remotely: Remote Desktop Connection, Remote Assistance, Microsoft Management Console (MMC), and Remote PowerShell.

The Remote Desktop Protocol (RDP) is a proprietary protocol that was developed by Microsoft to connect to another computer over a network connection using the same graphical interface that you would use if you were sitting in front of the physical server. RDP uses TCP port 3389. Typically, you would access computers remotely using the Remote Desktop Connection (RDC), which would allow you to connect to a Remote Desktop Session Host or to a Remote Application. Remote Assistance is a Windows 10 feature that enables an administrator, trainer, or support person to connect to a remote user’s computer, chat with the user, and either view all the user’s activities or take complete control of the system. Similar to Remote Desktop, it also uses TCP port 3389. The Microsoft Management Console (MMC) is a collection of administrative tools called snap-ins. An MMC snap-in is a utility provided by Microsoft or a third party that’s accessible through a common interface. Administrators use MMC tools for managing hardware, software, and network components on a computer. Administrative Tools is a popular collection of tools that use the MMC.

Windows Remote Management (WinRM) is a Windows 10 service that enables administrators to execute commands on remote computers using Windows PowerShell or the Windows Remote Shell (WinRS.exe) command-line program.

After you have configured the Remote Management service, you can execute commands on other computers that have been similarly configured. To execute a command from the Windows 10 command prompt, you must use the WinRS.exe program. Windows PowerShell is a command-line interface used mainly by IT professionals to run cmdlets (pronounced command-lets), complete background jobs (processes or programs that run in the background without a user interface), and run scripts to perform administrative tasks.

TAKE NOTE: In the OneNote portion of this course, we include a blank space between the backward slashes that indicate the beginning of a network path (\\) and a server address (such as server\share\folder), to prevent them from becoming live links. In actual usage, there would be no space after the slashes.

# Key Terms

**ActiveX control** – A small application that allows websites to provide content such as videos and games to allow you to interact with content such as those used in toolbars and stock tickers

**ActiveX Filtering** – A filter that prevents sites from installing and using ActiveX applications.

**add-on** – An extra toolbar, animated mouse pointer, stock ticker, or pop-up blocker for Internet Explorer. An add-on is downloaded from the internet and installed as an executable program.

**cmdlet** – Pronounced *command-let*, a native command available in Windows PowerShell. Cmdlets follow a Verb-Noun naming pattern, such as get-process, get-service, get-help, set-date, or stop-process.

**Common Information Model (CIM)** – An industry standard to represent systems, applications, networks, devices, and other managed components.

**Compatibility** **View** – An Internet Explorer view that you can activate if a website seems to be incompatible with the browser. After you activate Compatibility View for a website, Internet Explorer automatically shows that site in Compatibility View each time you visit. You can turn it off by removing it from your compatibility list.

**Component Object Model (COM)** –A platform-independent, distributed, object-oriented system for creating software components. Software can call these components at will.

**Computer Management** – A popular snap-in that includes several tools such as Disk Management, which is used to configure hard disks and their partitions, and Event Viewer, which allows you to view computer event information, such as program starting and stopping (including program crashes) and security problems.

**cookie** – Text stored by a user’s web browser.

**dynamic security** – A set of tools and technology that protects your computer as you browse the internet with Internet Explorer. It includes ActiveX opt-in, Security Status Bar, Phishing Filter, Address Bar Protection, and protected mode.

**favorite** – A website that you visit frequently and that you want to keep track of, so that you can visit it quickly in the future.

**InPrivate Browsing** – A type of browsing that helps prevent anyone who might be using your computer from seeing where you visited and what you looked at on the web.

**Internet Explorer** – The traditional Microsoft browser that offers features to protect your security and privacy while you browse the web, including phishing filters, Protected Mode, Pop-up Blocker, Add-on Manager, download files or software notification, and the use of digital signatures and 128-bit secure (SSL) connections when using secure websites.

**Microsoft Edge** – A new Microsoft lightweight web browser with a layout engine built around web standards designed to replace Internet Explorer as the default web browser. It integrates with Cortana, annotation tools, Adobe Flash Player, a PDF reader, and a reading mode. Extension support was developed and added to the Windows 10 Anniversary Update in July 2016.

**Network Address Translation (NAT)** – A method used with masquerading to hide an entire address space behind a single IP address.

**one-way sync** – A type of sync in which data kept in a primary location is synchronized with data in another location.

**phishing** – A fraudulent technique based on social engineering. With phishing, users are enticed (usually through email or other websites) to go to illegitimate websites that look similar to legitimate websites in an effort to persuade users to supply personal information, such as passwords and account numbers.

**Pop-up Blocker** – A tool that suppresses some or all pop-ups.

**PowerShell Remoting** – A server-client application that allows you to securely connect to a remote PowerShell host and run script interactively. It allows you to run commands on a remote system as though you were sitting physically at its console.

**proxy server** – A server that acts as an intermediary for clients seeking resources outside their networks.

**Remote Assistance** – A Windows 10 feature that enables an administrator, trainer, or support person to connect to a remote user’s computer, chat with the user, and either view all of the user’s activities or take complete control of the system. Similar to Remote Desktop, it also uses TCP port 3389.

**Remote Desktop Connection (RDC)** – A tool that allows you to connect to a Remote Desktop Session Host or to a Remote Application.

**Remote Desktop Protocol (RDP)** – A proprietary protocol that was developed by Microsoft to connect to another computer over a network connection using the same graphical interface that you would use if you were sitting in front of the physical server. RDP uses TCP port 3389.

**Remote Desktop Services (RDS)** – A server role that allows users to access a remote computer just as if they were sitting in front of the computer.

**screen shot** – Also referred to as a snip or screen grab, a snapshot of whatever is displayed on the computer screen.

**Secure Sockets Layer (SSL)** – A security technology that uses a cryptographic system that uses two keys—one key to encrypt the data and another key to decrypt the data.

**security zones** – Zones used to help manage Internet Explorer security when you are visiting websites, Internet Explorer divides your network connection into security zones based on four content types. For each zone, a security level is assigned.

**SmartScreen Filter** – A filter that examines traffic for evidence of phishing activity and displays a warning to the user if it finds any.

**snap-in** – An administrative tool that functions as part of a larger program. The Microsoft Management Console (MMC) is a collection of snap-ins. An MMC snap-in is a utility provided by Microsoft or a third party that’s accessible through a common interface. Administrators use MMC tools for managing hardware, software, and network components on a computer. Administrative Tools is a popular collection of tools that use the MMC.

**Snipping Tool** – An accessory program that comes with Windows 10 that allows you to take screen shots, annotate them, and save them. When using Snipping Tool, you can capture the entire screen, a window, a

**Sync Center** – An accessory program that enables you to sync certain mobile devices as well as files stored in folders on network servers (offline files).

**sync conflict** – A conflict that occurs when you have two copies of a file stored in different locations (e.g., locally and in a network folder) that have both changed since the last sync.

**Tracking Protection** – A type of add-on that blocks specified websites from gathering information about which pages you visit on the internet. Tracking Protection blocks this content from websites that appear on Tracking Protection Lists.

**two-way sync** – A type of sync in which data is transferred in both directions.

**Web Services for Management** – Structures the packets and requires a port to be made accessible via your firewall.

**Windows** **Management Instrumentation (WMI)** – The Microsoft implementation of Web-Based Enterprise Management (WBEM) that allows accessing management information in an enterprise environment.

**Windows Media Player 12** – A program that allows you to play back music and video files and view photos. Files stored in your Music, Pictures, and Videos libraries appear in the Windows Media Player file list by default.

**Windows Mobility Center** – A control panel of sorts that gives you access to several laptop settings, from volume to screen brightness to power options to Wi-Fi and Bluetooth settings—all in one place.

**Windows PowerShell** – A command-line interface used mainly by IT professionals to run cmdlets (pronounced command-lets), complete background jobs (processes or programs that run in the background without a user interface), and run scripts to perform administrative tasks.

**Windows PowerShell Integrated Scripting Environment (ISE)** – Helps you create Windows PowerShell scripts.

**Windows Remote Management (WinRM)** – A Windows 10 service that enables administrators to execute commands on remote computers using Windows PowerShell or the Windows Remote Shell (WinRS.exe) command-line program.

**WinRS.exe** – Used to execute a command from the Windows 10 command prompt.

# Knowledge Assessment

## Multiple Choice

**Select the correct answer(s) for each of the following questions.**

1. Which of the following tools are available in Administrative Tools? (Choose all that apply.)

a. Print Management

b. System Information

c. Computer Management

d. Event Viewer

2. Which of the following actions can be performed with the Snipping Tool?

a. Annotate an image with the pen tool

b. Change the color of a captured image

c. Add typed callouts

d. Save in PDF format

3. When you right-click a program you want to run that requires elevated or administrative privileges, which of the following commands can be chosen from the shortcut menu?

a. Run elevated

b. Run protected

c. Run with permission

d. Run as administrator

4. Which of the following actions can be performed with Windows Media Player 12? (Choose all that apply.)

a. Stream video files over the internet

b. Rip music from a CD

c. Play a slide show

d. Create playlists

5. Which of the following locations allows you to configure security zones in Internet Explorer 11?

a. Internet Options Security tab

b. Internet Options Privacy tab

c. Safety menu

d. Tracking Protection window

6. Which of the following utilities runs the ps cmdlet?

a. MS-DOS command window

b. Windows Remote Assistance

c. Windows PowerShell

d. Computer Management

7. Which of the following tools are accessible from the Computer Management window? (Choose all that apply.)

a. Event Viewer

b. Performance Monitor

c. Remote Desktop Connection

d. Disk Management

8. Which of the following tools can be used when you want to access your home computer from work to get a file you worked on last night?

a. Disk Management

b. Remote Desktop Connection

c. Windows Remote Assistance

d. Sync Center

9. Which Remote Assistance method uses Peer Name Resolution to allow for quick and easy connection?

a. Invitation via files

b. Invitations via email

c. Easy Connection

d. Auto Connect

10. Which programming environment can be used to create complicated PowerShell scripts?

a. PowerShell Dev Center

b. Windows PowerShell Integrated Scripting Environment

c. Remote PowerShell

d. Windows Management Instrumentation

## Fill in the Blank

**Complete the following sentences by writing the correct word or words in the blanks provided.**

1. Microsoft’s newest browser is Microsoft Edge.

2. Remote Desktop Connections and Remote Assistance use TCP port 3389.

3. InPrivate Browsing helps prevent personal information and browsing history from being stored by Internet Explorer 11.

4. The SmartScreen Filter detects threats on websites, such as phishing attacks and malware downloads, and prevents them from running.

5. Snipping Tool is an accessory program included with Windows 10 that allows you to take screen shots, annotate them, and save them.

6. Tracking Protection is a feature of Internet Explorer 11 that helps you control which websites can track your online browsing activity.

7. After you synchronize files between your computer and a network location, the files you use on your computer are referred to as offline files.

8. Remote Desktop Connection allows you to set up a computer for remote access and then connect to that computer wherever you are located.

9. An MMC snap-in is a utility provided by Microsoft or a third party that’s accessible through a common interface, such as Administrative Tools.

10. Windows PowerShell is a command-line interface used mainly by IT professionals to run cmdlets, background jobs, and scripts to perform administrative tasks.

## True / False

**Circle T if the statement is true or F if the statement is false.**

**T F** 1. WindowsMobility Center is found on all editions of Windows 10 Professional.

**T F** 2. Remote Desktop Connection and Windows Remote Assistance refer to the same program used in different ways.

**T F** 3. Windows Remote Assistance sessions are encrypted for safety.

**T F** 4. Remote Desktop comes with all editions of Windows 10; however, you can only connect to computers running the Professional, Enterprise, or Education editions.

**T F** 5. Windows Mobility Center includes access to power plans and screen brightness.

# Business Case Scenarios

## Scenario 3-1: Securing Internet Explorer 11

Your co-worker is finalizing a big project for a medical client and has many sensitive client files on her computer. She asks you to help her make her computer as safe as possible while accessing the internet. Describe your recommended solution.

In Internet Explorer 11 on her computer, you should increase her internet zone security level to High (Tools > Internet options > Security tab). Ensure that Pop-up Blocker, ActiveX Filtering, and the SmartScreen Filter are enabled. Download and install at least one Tracking Protection list. Finally, instruct her to use InPrivate Browsing when she accesses any websites by selecting Tools > Safety > InPrivate Browsing.

## Scenario 3-2: Offering Remote Assistance

The sales staff travels extensively and often needs technical assistance with configuration settings on their Windows 10 laptops. Which feature or program is used to provide remote support for these employees?

You should show the sales staff how to initiate a Windows Remote Assistance session. With this program, you can view their desktop and watch while they perform an action, giving them advice over the phone or through a chat session. You can also take control of their desktop to show them how to perform an action.

## Scenario 3-3: Viewing Logs Remotely

Joe has been having problems with his system and you have been assigned a ticket to investigate those problems. However, Joe is a very busy person who always needs to use his machine. Therefore, you don’t have access to the machine to look through the system logs. Describe how you can look at the Event Viewer logs without interrupting Joe?

You can use a Computer Management console (or Event Viewer console) on your machine to remotely connect to Joe’s computer and access the logs.

## Scenario 3-4: Creating a Playlist

You provide technical support to a small dental practice. The office manager hands you several company-owned music CDs. She wants the music piped to the lobby area where patients wait to be seen for their appointments. The computer used at the receptionist’s desk is running Windows 10 and has wireless speakers that can be set up in the waiting area. Describe how you can provide the requested music without investing in further resources?

You can use Windows Media Player to rip the music to the receptionist’s hard drive (or attached storage). Then you can set up a playlist in Windows Media Player. Show the office manager and the receptionist how to launch Windows Media Player and start the playlist.