KCMS 0840 MTA Computer Fundamentals

This MTA Training course helps you prepare for Microsoft Technology Associate Exam 98-349 and build an understanding of these topics:

- Operating System Configurations

- Installing and Upgrading Client Systems

- Managing Applications

- Managing Files and Folders

- Managing Devices

- Operating System Maintenance

The Microsoft Technology Associate (MTA) is Microsoft's newest suite of technology certification exams that validate fundamental knowledge needed to begin building a career using Microsoft technologies. This program provides an appropriate entry point to a future career in technology and assumes some hands-on experience or training but does not assume on-the-job experience.

Course Description

This course covers the basics of the Microsoft Windows 7 operating system and prepares you for Technology Associate Exam 98-349, Windows Operating System Fundamentals. This course will teach and walk you through such essentials as clean installs versus upgrades, configuration, security, file and device management, Group Policy, and more. Whether you're preparing for the exam or just brushing up, this is the solid grounding you need to be successful managing Windows Desktop environments.

You will learn these Windows operating system essentials:

- Windows OS basics—history, architecture, installation

- Using the desktop, gadgets, shortcuts, and the Aero interface

- Viewing configuration settings and managing the Control Panel

- Working with PowerShell navigation and cmdlets

- Using Group Policy and understanding virtualization

- Setting up devices, file sharing, security, and storage

- Handling troubleshooting, backup and recovery, and updates

Course Competencies

Upon completion of this course you will:

- Understanding Operating System Configurations

- Installing and Upgrading Client Systems

- Manage Applications

- Manage Files and Folders

- Manage Devices
- Understand Operating System Maintenance

Lesson 1 Objectives

- Identify Windows Operating System Editions
- Identify Upgrade Paths
- Identify Application Compatibility
- Understand Product Identification Keys
- Understand Installation Types

Chapter 1 Vocabulary

Lesson 1: Introducing, Installing, and Upgrading Windows 7

1. **32-bit computer** - A system with a 32-bit central processing unit (CPU). A 32-bit computer can address up to 4 gigabytes (GB) of random access memory (RAM). A 32-bit computer is also designated as x86.

2. **64-bit computer** - A system with a 64-bit CPU. The amount of RAM a 64-bit computer can address is limited by the computer's motherboard, but is generally from 8 to 192 GB. A 64-bit computer is also designated as x64.

3. **activation** - The process of verifying that a copy of Windows is genuine and that it is not in use on other computers other than the number for which the user owns a license.

4. **application compatibility** - Being able to run mostly error free in a certain operating system. The Windows 7 Compatibility Center and the Windows 7 Application Compatibility List for IT Professionals can help users identify and resolve application compatibility issues with Windows 7.

5. **cloud** - From a computing perspective, the Internet or a server accessible over the Internet.

6. **custom installation** - A Windows 7 installation option that replaces the current version of Windows with Windows 7 but overwrites the user's files, settings, and programs. Also referred to as a "clean" installation.

7. **High Touch Installation (HTI)** - An operating system installation method in which you use an installation DVD or USB drive and manually install the operating system on every computer. You must then also manually configure each system. HTI may include retail media or a standard image (ISO file).

8. **image** - An exact replica of a computer system.

9. **Lite Touch Installation (LTI)** - An operating system installation method that requires some human intervention in the early phase of the installation but is automated (or unattended) from that point on.

10. **product key** - A unique, alphanumeric code required by many software programs during installation. The purpose of a product key is to help avoid illegal product installations. Also called the product identification key or CD key.

11. **upgrade installation** - A type of Windows 7 installation that replaces the current version of Windows with Windows 7 while retaining the user's files, settings, and programs. Also called an "in-place" installation.

12. **upgrade path** - In the context of operating systems, the options for upgrading from one operating system to another. For example, there are two primary choices when upgrading to Windows 7 from Windows Vista: a standard upgrade or a custom installation.

13. **Windows 7** - A PC desktop operating system that is much improved over Windows Vista and Windows XP. Windows 7 is faster and easier to install and set up, it's more stable, and it has improved Start menu search functionality, and lots more. Windows 7 includes some unique features such as large and animated task thumbnails, homegroups, Jump Lists, libraries, and Windows XP Mode.

14. **Windows 7 Home Premium** - The edition that contains features aimed at the home market segment, such as Windows Aero, Windows Media Center, Remote Media Streaming, Internet TV, Backup and Restore, and multi-touch support. Windows 7 Home Premium provides adequate networking and security features to be useful in very small office environments.

15. **Windows 7 Professional** - The edition that's targeted mainly toward small business users but appeals to power users as well. Windows 7 Professional includes all the features of Windows 7 Home Premium and adds the ability to join a Windows domain. Additional features include location-aware printing, acting as a Remote Desktop host (especially useful for tech support), Encrypting File System, and Windows XP Mode.

16. **Windows 7 Ultimate** - The edition that contains all of the same features as Windows 7 Home Premium and Windows 7 Professional, and includes the security applications such as BitLocker and AppLocker

17. **Windows 7 Upgrade Advisor** - A utility that helps you determine if a computer can run Windows 7, which editions and features will work, and whether the computer has any compatibility issues.

18. **Windows Deployment Services** - A server role for Windows Server 2008 or Windows Server 2008 R2 that allows a user to press the F12 key, log on, and select an image for installation. After that, the installation can be automated.

19. **Window Easy Transfer** - A utility that enables a user to save files and settings on an external hard drive, and then "transfer" them to a new installation of Windows 7.

20. **Zero Touch Installation (ZTI)** - A fully automated, "touchless" method of installing Windows. An administrator uses System Center Configuration Manager (SCCM) to deploy and update servers, client computers, and all kinds of devices on a network.

98-349 Slides Lesson01

Introducing, Installing, and Upgrading Windows 7

Objectives

Objective Domain Matrix		
Technology Skill	**Objective Domain Description**	**Objective Domain Number**
Identifying System Requirements	Identifying System Requirements	2.1.1
Identifying Upgrade Paths from Windows XP, Windows Vista, and Other Operating Systems	Identifying Upgrade Paths from Windows XP, Windows Vista, and Other Operating Systems	2.2.1
Using Windows 7 Upgrade Advisor	Using Windows 7 Upgrade Advisor	2.1.2
Identifying Application Compatibility	Identifying Application Compatibility	2.2.2
Understanding Product Identification Keys	Understanding Product Identification Keys	2.3.3

Understanding Removable Media Installations (DVD, ZTI, LTI, and USB)	Understanding Removable Media Installations (DVD, ZTI, LTI, and USB)	2.3.1
Understanding Cloud and Network Installations	Understanding Cloud and Network Installations	2.3.2

Windows 7

- Windows 7 is a desktop operating system that improves on many aspects of its direct predecessors, Windows Vista and Windows XP
- Includes several new features, such as large and animated task thumbnails, homegroups, Jump Lists, libraries, and Windows XP Mode

Windows 7 Operating System Editions

- Windows 7 Starter
- Windows 7 Home Basic
- Windows 7 Home Premium
- Windows 7 Professional
- Windows 7 Enterprise
- Windows 7 Ultimate
- Windows 7 Home Premium, Professional, and Ultimate are widely available in the retail sector.
- Other Windows 7 editions are designed for certain types of computers or markets, or specifically for enterprise use.

Windows 7 Feature	Home Premium	Professional	Ultimate
Aero interface	Yes	Yes	Yes
Windows Media Center	Yes	Yes	Yes
Backup and Restore	Yes	Yes	Yes
Windows Anytime Upgrade	Yes	Yes	No
Back up to network	No	Yes	Yes
Location-aware printing	No	Yes	Yes
Remote Desktop Host	No	Yes	Yes
Encrypting File System	No	Yes	Yes
Windows XP Mode	No	Yes	Yes
Support for joining domains	No	Yes	Yes
BitLocker and AppLocker	No	No	Yes

32-bit and 64-bit Computing

- 32-bit and 64-bit refer to the way a computer's central processing unit (CPU) processes data
- 64-bit computer can use more random access memory (RAM) than 32-bit computer
- Operating systems come in 32-bit and 64-bit versions
    - Must match the correct operating system to the computer processor
- Enterprise environment with mix of 32-bit and 64-bit systems needs:
    - Both types of drivers for networked printers, scanners, projectors, and other shared devices
    - Multiple images—at least one image for the 32-bit computers and one for the 64-bit computers

Windows 7 System Requirements

- 1 gigahertz (GHz) or faster 32-bit (x86) or 64-bit (x64) processor
- 1 gigabyte (GB) RAM (32-bit) or 2 GB RAM (64-bit)
- 16 GB available hard disk space (32-bit) or 20 GB (64-bit)
- DirectX 9 graphics device with Windows Display Driver Model (WDDM) 1.0 or higher driver
- Internet access
- Additional memory and advanced graphics hardware for video playback, depending on the resolution required or desired
- A graphics card compatible with DirectX 10 or higher for certain games and programs
- A TV tuner and additional hardware for some Windows Media Center functionality
- Specific hardware for Windows Touch and Tablet PCs
- A network and PCs running Windows 7 for HomeGroup utilization
- A compatible optical drive to burn DVDs/CDs
- Trusted Platform Module (TPM) 1.2 for BitLocker
- A universal serial bus (USB) flash drive for BitLocker To Go
- An additional 1 GB of RAM and an additional 15 GB of available hard disk space for Windows XP Mode
- Audio output for music and sound

Upgrade Paths

- *Upgrade path* is set of options for upgrading from one Windows operating system to another
- *Upgrade installation* retains files, settings, and programs
    - Also called an *in-place installation*
- *Custom installation* overwrites files, settings, and programs
    - Also called a *clean installation*

Windows 7 Upgrade Paths for Home Premium, Professional, and Ultimate

Upgrading From	To Home Premium	To Professional	To Ultimate
Windows XP	Custom	Custom	Custom
Windows Vista Home Basic	Upgrade	Custom	Upgrade
Windows Vista Home Premium	Upgrade	Custom	Upgrade
Windows Vista Business	Custom	Upgrade	Upgrade
Windows Vista Ultimate	Custom	Custom	Upgrade

Upgrade Path from Windows XP

• Custom installation
• Back up data files first

Upgrade Paths from Windows Vista

• Upgrade installation if installing an equivalent or higher edition of Windows 7
• Custom installation if installing:
  – A "lesser" version of Windows 7
  – A different "bit" version (32- vs. 64-bit)
  – A different language than the current version

Upgrade Paths from Other Operating Systems

• Going from an old edition of Windows (Windows 95 or Windows 2000) to Windows 7 requires full version of Windows 7 and a custom installation
• Cannot "upgrade" from a non-Windows operating system such as UNIX, Linux, or Mac OS

Windows Anytime Upgrade Options

Upgrade From	To Home Premium	To Professional	To Ultimate

Windows 7 Starter	Yes	Yes	Yes
Windows 7 Home Premium	No	Yes	Yes
Windows 7 Professional	No	No	Yes

Windows Upgrade Advisor

- Helps you determine:
  - If your computer can run Windows 7
  - Which editions and features will work
  - Whether your computer has any compatibility issues

Application Compatibility

- Operating system upgrades can result in one or more programs not working properly or not working at all
- Resources:
  - Windows 7 Compatibility Center online
  - Windows 7 Application Compatibility List for IT Professionals:
    - http://www.microsoft.com/download/en/details.aspx?id=2394

Product Identification Keys

- A unique, alphanumeric code required by many software programs during installation
- Helps avoid illegal product installations
- Product key you enter during Windows 7 installation is checked by Microsoft for legitimacy and whether it is already being used on a different computer
- Similar to xxxxx-xxxxx-xxxxx-xxxxx-xxxxx but is composed of letters and numbers
- Usually located:
  - On the installation disc holder inside the Windows package
  - On a sticker on the back or bottom of your computer if the operating system came pre-installed on the computer
  - n a confirmation e-mail if you purchased and downloaded Windows 7 online

Activation and Registration

- *Activation* verifies that a copy of Windows is:
  - Genuine

–   Not in use on other computers than the number for which is licensed

• Activation is required within 30 days of installation

• *Registration* is optional; enables you to sign up for technical support and receive other benefits

Windows 7 Installation Types

• High Touch Installation (HTI)

• Lite Touch Installation (LTI)

• Zero Touch Installation (ZTI)

High Touch Installation (HTI)

• May include retail media or a standard image (ISO file)

• Uses an installation DVD or USB drive and manual installation of operating system on every computer

• Requires manual configuration of each system

High Touch Installation (HTI)—Steps for Larger Environment

1. Install Windows 7 on a clean hard disk.

2. Configure it with settings that apply to all computers.

3. Use the Sysprep utility to create an image of the installation.

4. Boot to the Windows Preinstallation Environment (WinPE) and use ImageX to save the image to media.

5. Install image on remaining computers.

Lite Touch Installation (LTI)

• Requires some human intervention in the early phase of the installation but is automated (or unattended) from that point on

• Works well in environments with more than 150 computers

• You need the Windows AIK, Windows Deployment Services, and the Microsoft Deployment Toolkit

Zero Touch Installation (ZTI)

• Fully automated, "touchless" method of installing Windows

• Requires System Center Configuration Manager (SCCM)

– Deploys and updates servers, client computers, and all kinds of devices on a network

• Fully automated, "touchless" method of installing Windows

• Requires System Center Configuration Manager (SCCM)

– Deploys and updates servers, client computers, and all kinds of devices on a network

• Geared for environments with more than 500 computers

• Involves a fairly steep learning curve

• Requires a considerable budget compared to HTIs

Windows Easy Transfer

• Helps you move files and settings from one computer running Windows to another

• "Move" can occur on the same computer if you're upgrading to a different version of Windows that requires a custom installation

• Uses a MIG file for files and settings

• Cannot transfer programs—you need original installation media to manually install them in Windows 7

Summary

• The six main editions of Windows 7 are Starter, Home Basic, Home Premium, Professional, Ultimate, and Enterprise.

• Common computer architectures are 32-bit and 64-bit.

• Windows 7 Upgrade Advisor helps you determine if your computer can run Windows 7.

• The upgrade path you must take from Windows Vista to Windows 7 depends on key factors, mainly your current operating system and the edition of Windows 7 you want to run.

• The three main types of Windows 7 installation methods are High Touch Installation (HTI), Lite Touch Installation (LTI), and Zero Touch Installation (ZTI).

• Windows Easy Transfer helps you move files and settings from one computer to another.

1.01 Upgrade Advisor - Lesson 1

Objective: Discover and Use System Requirement Utilities/programs.

Equipment: A computer running Windows. Internet Access.

Instructions: Follow the instructions below, and then copy and paste both questions and answers with your submission.

1. Following the instructions in Lesson 1, run Windows Upgrade advisor, and snip the results. Save to a word file.

2. Use the internet to see if there is an Upgrade Advisor for Windows 8. What is its name?

3. Run the Windows 8 program, and snip the results.

4. Finally, copy and paste the above questions, with the required SNIPS and/or answers online.

1.02 Lesson 1 Competency and Proficiency Assignment

Instructions

Review the following scenario(s), and using the concepts and principles in the Lesson 2 material, solve the problem

1.03 Lesson 1 Practice Test

Instructions

Take the following self test to measure how well you are understanding the information.

Lesson 2 Objectives

- Understand User Accounts and User Account Control (UAC)
- Configure Control Panel Options
- Configure Administrative Tools
- Configure Desktop Settings
- Configure Display Settings
- Understand Virtualized Clients
- Understand Application Virtualization

Chapter 2 Vocabulary

1. **Accessibility features** - Tools that help visually and hearing impaired users use Windows more easily and efficiently. In Windows 7, the primary tools include Magnifier, Narrator, On-Screen Keyboard, and High Contrast.

2. **Administrative Tools** - A set of utilities for managing advanced Windows features and diagnosing system problems.

3. **Administrator Account** - Account used for troubleshooting, installation, and similar tasks that require more rights and permissions.

4. **Aero** - The default theme in Windows 7. Aero offers a translucent "glass" design and provides a three-dimensional look.

5. **Aero Peek** - A Windows 7 feature that turns open windows transparent so a user can view the desktop through the open windows.

6. **Aero Shake** - A Windows 7 features that enables a user to quickly minimize all open windows except the active one.

7. **Aero Snap** - A Windows 7 feature that enables a user to quickly resize and arrange windows on the desktop. To use Aero Snap, drag the title bar of an open window to either side of the desktop to align it there, or drag it to the top of the desktop to maximize the window.

8. **Application Virtualization** - In Windows, the process that enables computer users to install and manage legacy applications and virtual machines centrally. This capability sometimes relies on additional Microsoft technologies, including a virtual desktop infrastructure (VDI) that runs a desktop OS within a virtual machine (VM) running on a server.

9. **Authentication** - The process of checking a user's credentials when allowing access to a system. In a domain, a server called a domain controller authenticates users at log on. Authentication means the domain controller checks the user's credentials, which are generally a user name and password. The user name entered must match the password on file.

10. **Cached credentials** - Credentials that are saved to the computer's hard disk.

11. **Color depth** - The number of bits that represents the color for each pixel on a computer screen. Color depths are generally 8 bits, 16 bits, 24 bits, and 32 bits; newer systems offer only 24 or 32 bits. The higher the color depth, the better photos and similar objects will look.

12. **Control Panel** - A Windows feature that provides access to the primary tools and utilities used to manage devices, settings, and system behaviors. Control Panel includes applets (small applications) for system administration, Windows Update, displays, and more.

13. **desktop settings** - A broad term that refers to many different settings you can configure to personalize Windows, such as the Windows theme, the desktop background, mouse clicks and pointer speeds, gadgets, shortcuts, and more.

14. **display settings** - Options in Windows that enable users to modify how text and graphics appear on screen, in addition to connecting an external monitor, a project, and so on. Three important display settings are resolution, color depth, and font size.

15. **Ease of Access Center** - A feature in Windows that enables users to configure accessibility options; also provides access to the speech recognition feature.

16. **Elevated permissions** - In Windows, generally refer to administrative-level permissions.

17. **Gadgets** - A small, single-purpose application that can be installed on the Windows 7 desktop. Many kinds of gadgets are available, such as calendars, clocks, games, newsfeeds, and weather reports and forecasts.

18. **Guest account** - A Windows account with few permissions and no password that allows a user to use a computer without requiring a unique user account.

19. **Guest operating system (guest OS)** - In a virtualized environment, the operating system in which a virtualized client runs as a VM.

20. **Jump List** - In Windows 7, a thumbnail preview of an open program, or of the documents open in the program, that appears after clicking its icon on the taskbar.

21. **Live preview** - In Windows 7, a preview of an open window, which may be a Web page, video, or other type of program, that appears when a user hovers the mouse pointer over a taskbar icon.

22. **Microsoft Enterprise Desktop Virtualization (Med-V or MED-V)** - The part of the Microsoft Desktop Optimization Pack (MDOP) that delivers legacy applications to Windows 7 users in the form of Windows-XP based virtual machine

23. **Microsoft Management Console (MMC) snap-ins** - A utility provided by Microsoft or a third party that's accessible through the MMC.

24. **Permissions** - Rules applied to users and groups to limit actions they can take on shared resources, such as files, folders, drives, network shares, and even printers.

25. **pin** - To attach program shortcuts to the Windows 7 taskbar. When a user pins a program, the icon for that program displays on the taskbar even when the program isn't running. This provides quick access to frequently used programs.

26. **Quick Start definitions** - Settings that pre-define Med-V virtual machines.

27. **resolution** - In regards to screen images, the number of pixels that create an image. Resolution has a horizontal value and a vertical value, such as 1200 x 768 or 1600 x 900.

28. **shortcuts** - An icon or link that gives you quick access to an original resource. Shortcuts commonly appear on the desktop in Windows 7; however, the links in Control Panel are also considered shortcuts.

29. **Standard user** - A type of Windows 7 account that is used for day-to-day work. A Standard user account has fewer permissions than an administrative-level account but enough permissions to be productive.

30. **user account** - A collection of information that defines the actions that can be taken on a computer and which files and folders can be accessed (rights, policies, and permissions).

31. **User Account Control (UAC)** - A Windows feature, first introduced in Windows Vista, that constantly monitors activity on a computer and notifies the user when changes are about to be made that affect the computer's security or that affect other user accounts on the computer.

32. **User profiles** - Settings that describe the Windows configuration for a specific user. The user profile contains the settings and configuration options specific to the user, such as installed applications, theme, desktop background, screen saver, and so on. The purpose of a user profile is to maintain user preferences so they appear each time a user logs on to Windows. User profiles can be local or roaming. A local profile is available only on the computer on which it was created. A roaming profile enables a user to use any computer to connect to a Windows domain and access his or her profile.

33. **Virtualization** - A technology that creates an abstract version of a complete operating environment, including a processor, memory, storage, network links, a display, and so forth, entirely in software.

34. **Virtual computer** - A completely isolated guest operating system that runs within a normal host operating system.

35. **Virtual desktop infrastructure (VDI)** - A desktop operating system running within a virtual machine (VM) running on a server.

36. **Virtualized client** - A virtual machine that's set up specifically to run some kind of application that typically runs in an older version of Windows (such as Windows 2000 or Windows XP). On a Windows 7 PC, a virtualized client runs as a VM inside a guest operating system within a virtual runtime environment (such as Windows Virtual PC or VMware Workstation).

37. **Windows XP Mode** - A virtual machine that Microsoft makes available as an extension to Windows Virtual PC. With Window XP Mode installed in Windows 7, users can run applications inside the virtual machine that won't work on Windows 7.

98-349 Slides Lesson02

Understanding Operating System Configurations

Objectives

Objective Domain Matrix		
Technology Skill	**Objective Domain Description**	**Objective Domain Number**
Understanding Standard User Versus Administrative User Accounts	Understanding Standard User Versus Administrative User Accounts	3.2.1
Understanding Types of UAC Prompts and Levels	Understanding Types of UAC Prompts and Levels	3.2.2
Configuring Administrative Tools	Configuring Administrative Tools	1.1.1
Configuring Accessibility Options	Configuring Accessibility Options	1.1.2
Exploring and Configuring the Aero Interface	Exploring and Configuring the Aero Interface	1.2.5
Configuring Display Settings	Configuring Display Settings	1.2.3
Creating and Managing Shortcuts	Creating and Managing Shortcuts	1.2.4
Configuring Gadgets	Configuring Gadgets	1.2.1

Configuring Profiles	Configuring Profiles	1.2.2
Understanding Windows XP Mode	Understanding Windows XP Mode	2.4.1
Understanding Med-V	Understanding Med-V	3.5.1
Understanding VDI and App-V	Understanding VDI and App-V	3.5.2

User Accounts

- A collection of information that defines:
    - Actions that can be taken on a computer
    - Files and folders can be accessed (rights, policies, and permissions)
- Keeps track of user preferences, such as the desktop background, window color, and screen saver
- Types of user accounts in Windows 7:
    - Administrator
    - Standard user
    - Guest
    - *Run as administrator* command enables a standard user to run programs with administrative-level permissions

User Account Control

- A feature in Windows Vista and Windows 7 that requires administrative-level permission to make changes to your computer that affect security or affect settings for other user accounts

User Account Control Prompts/Levels

- Always notify me
- Notify me only when programs try to make changes to my computer
- Notify me only when programs try to make changes to my computer (do not dim my desktop)
- Never notify me of installations or changes

Control Panel

- A utility that allows you to:
    - Configure operating system features
    - Set up hardware
    - Install and uninstall software
    - Create and modify users
    - Perform system maintenance

Administrative Tools

- A set of utilities for managing advanced Windows features and diagnosing system problems

- Roaming profile enables a user to use any computer to connect to a Windows domain and access his or her profile

Virtualization

- A technology that creates an abstract version of a complete operating environment (including a processor, memory, storage, network links, a display, and so forth) entirely in software
- Software produces a virtual computer or a virtual machine (VM)
- Has guest operating system

Microsoft Virtualization

- Windows Virtual PC
- Windows XP Mode
- Microsoft Enterprise Desktop Virtualization (Med-V or MED-V)
- Virtual Desktop Infrastructure (VDI)
- Application Virtualization (App-V)

Windows XP Mode

- An extension to Windows Virtual PC
- When installed in Windows 7, enables users to run applications inside the VM that won't work on Windows 7

Application Virtualization

- Adds the ability to install and manage legacy applications and virtual machines centrally
- Sometimes relies on additional Microsoft technologies, including a virtual desktop infrastructure (VDI)

Microsoft Enterprise Desktop Virtualization (Med-V or MED-V)

- A way to deliver legacy applications to end users, on centrally configured and managed VMs
- Allows administrators to manage master copies in the data center, while users work on copies of the master on their desktops

Virtual Desktop Infrastructure (VDI)

- Runs a desktop operating system within a VM running on a server
- Depends on a special, licensed access right that permits users to access a virtual machine running a Windows client

Application Virtualization (App-V)

- Permits users to launch and run applications on their desktops without installing or rebooting their machines

• Makes instant use available through System Center and special centralized configuration and management utilities

Summary

• Windows 7 includes the Administrator, Standard user, and Guest accounts by default.

• User Account Control (UAC) is a security feature in Windows Vista and Windows 7 that helps protect a computer from unauthorized changes.

• There are four levels of UAC control, which result in different types of alerts or notifications to the user.

• The Control Panel is a utility that allows you to configure operating system features, set up hardware, install and uninstall software, create and modify users, and perform system maintenance.

• The Ease of Access Center includes Magnifier, Narrator, On-Screen Keyboard, and High Contrast.

• Windows desktop settings enable you to configure the theme, desktop background, mouse click and pointer speed, gadgets, shortcuts, and more.

• Microsoft virtualization products include Virtual PC, Windows XP Mode, Microsoft Enterprise Desktop-Virtualization (Med-V), Application Virtualization (App-V), and Virtual Desktop Infrastructure (VDI).

2.01 User Accounts - Lesson 2

Objective: Discover User Account Options

Equipment: A computer running Windows. Internet Access.

Instructions: Follow the steps below, and then submit the questions and your answers in your submission.

 Copy the instructions below into a word document.

1.   Login to a computer using using an account with administrator rights.

2.   Using the steps in Lesson 2, create a user account using the name "L2 followed by your name" (L2Johnny, L2Susie).

3.   Make the user a standard user and do not set a password.

4.   SNIP IT and paste it below this question number.

5.   Change the picture for the user.

6.   SNIP IT and paste it below this question number.

7.   Save the file to your thumb drive.

8.   Logout as the administrator account and then login as the standard account that you just created.

9.   Re-open the file on your thumb drive

10.   Change "Choose when to be notified about changes to your computer" by lowering the bar if you are unable to snip on the next step.

11.   Try to create another user account. Snip the results.

12.   Save the snip and paste it below this question number.

13.   Save your assignment file.

14.   Log out as the user and back in using an account with administrator rights.

15.   Delete the user you created in step 3.

16. Show the results using Snipping Tool (as shown on page 31, Figure 2-2).

17. Submit online.

2.02 Lesson 2 Competency and Proficiency Assignment

Instructions

Review the following scenario(s), and using the concepts and principles in the Lesson 2 material, solve the problem.

2.03 Lesson 2 Practice Test

Instructions

Take the following self test to measure how well you are understanding the information.

2.04 Accessibility Options

Objective: Discover Accessibility Options

Equipment: A computer running Windows. Internet Access.

Instructions: Follow the instructions below, and then copy and paste both questions and answers with your submission.

1. Copy and paste the following instructions into a word program.

2. Plug in your headphones

3. Click the Windows start button.

4. Type the word "ease".

5. Select Ease of Access Center

6. Select "Start Narrator" button.

7. Open notepad and type the following: "Narrator would be helpful to some folks."

8. Can you hear narrator working?

9. Snip it and copy the results below this step.

10. Exit Narrator.

11. Return to Ease of Access Center and click the "On-Screen Keyboard" option.

12. In your document (step 11) type the words: "I am trying my new keyboard."

13. Snip the keyboard on your screen and paste it under this step.

14. Go to "Make the mouse easier to use".

15. Select Extra Large Black.

16. Try the mouse and do a snip of it.

17. Look at the other mouse settings and record any that you think would be especially beneficial.

18. Reset everything back to the way you found it.

19. Submit to me.

2.05 Configure Display Settings

Objective: Configure display setting

Equipment: A computer running Windows. Internet Access.

Instructions: Follow the instructions below, and then copy and paste both questions and answers with your submission.

1. Copy and paste the instruction below into a word document.

2. Using the steps in change Aero Settings on page 46, do the following:

*   On step 3, Uncheck the enable transparency check box and use snipping tool to capture the results.

*   Now enable transparency, and capture the results

*   On step 4, move the color intensity slider to about 3/4 to the right. Save changes and snip the results.

*   Finally create your own border color and use snipping tool to capture the results.

*   Did increasing the intensity help you (visually) in any way?

    *   Set all display setting back to their original settings.
    *   On page 48, Adjust Display Settings, follow the steps to display the screen resolution on your computer (step 1).
    *   When you can see the slider bar, which adjusts the resolution, hold the ALT key down and press PrintScreen. Paste this into the document under #5.
    *   Submit questions and snips to me.

Lesson 3 Objectives

*   Understand Windows Internet Explorer

*   Familiarize yourself with Accessory Programs

*   Use the Snipping Tool

*   Understand Sync Center

*   Use Windows Mobility Center

*   Understand Remote Desktop Services

*   Understand Remote Management and Assistance

Lesson 3 Vocabulary

1. **ActiveX Filtering** - Blocks ActiveX controls, which are created for interactivity on the Web and commonly used on sites that display animations or offer multimedia such as videos. ActiveX is meant to enhance the user experience on the Web, but it can slow your computer.

2. **Cookies -** Small text files that Web sites saveto a computer's hard disk that contain information about the user and his or her browsing preferences, temporary Internetfiles, user names, passwords, and other data for your convenience.

3. **Computer Management** - A popular snap-in that includes several tools such as Disk Management for configuring hard disks and their partitions and Event Viewer, which allows youto view computer event information such as program starting and stopping (including program crashes) and security problems.

4. **Cross-site scripting attack** - Occurs when you visit a compromised Web site that runs a script that installs a keylogger program on your computer. The installation occurs without your knowledge. After that, the keylogger records your keystrokes, including when you enter user names and passwords into other sites. The information is usually sent to a third party, who may access your accounts.

5. **Domain highlighting** - Shows you the true Web address of any Web site you visit by highlighting the domain in the Address bar.

6. **InPrivate Browsing -** Helps prevent personal information and browsing history from being stored by Internet Explorer 9. When you use InPrivate Browsing, a new tab appears in which you browse the Internet (see Figure 3-10). When you're finished and close the browser window, the session ends and any cookies or temporary files that were used during the session are cleared from your browsing history. A network Administrator, however, can view Internet traffic that's generated with InPrivate Browsing.

7. **Internet Explorer 9** – The latest Web browser from Microsoft. Faster and less cluttered that previous versions, and it includes several pirvacy, security, and interface features that enhance the user browsing experience with a focus on usability and safty.

8. **Microsoft Management Console (MMC) –** 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.

9. **New Tab page -** Part of Internet Explorer 9 apprears when you click the **New Tab** button or press **Ctrl + T.**

10. **New Tab page -** On Internet Explorer appears when you click the New Tab button or press Ctrl +T . This page initially provides some thumbnails of Web sites you might

11. **Notification bar** - A feature which displays at the bottom of the browser window. All notifications, such as blocked pop-up windows and error messages, display in the Notification bar rather than in pop-up windows. You can click the options in the Notification bar or ignore them, depending on your preference.

12. **Offline files** - After syncing is complete, you can access network files without being connected to the resource.

13. **One Box** - A feature that combines search functionality into the Address bar. One Box saves you time by using Auto Complete to help you complete Uniform Resource Locators (URLs), and allows you to enter search terms directly in the text box likeyou would in a search engine.

14. **Pinned site** - An Internet Explorer 9 Web site you "attach" to the Windows 7 taskbar.

15. **Playlist** - Lists of music composed of songs from different albums**.** These may be located on different areas of your computer or attached devices.

16. **Pop-up Blocker** - A check box (selected by default) automatically prevents pop-up windowsfrom appearing.

17. **Remote Desktop Connection** - Allows you to access another computer on a network or over the Internet, and use the computer as if you were sitting in front of it.

18. **Remote Desktop Services** - The technology that allows a computer (the client) to connect to a remote server (also called a host computer) and run applications from the server. Although the client computer may be running Windows 7, it doesn't run the actual application—the server handles all processing.

19. **Screen shot** - Refers to as a snip or screen grab, is a snapshot of whatever is displayed on the computer screen. You might take a screen shot of an error message to help troubleshoot a computer problem, you might capture screen shots of a process in a program to create a how-to guide, or you might capture a screen shot to saveas an image to use in a report or other document.

20. SmartScreen filter Detects threats on Web sites, such as phishing attacks and malware downloads, and prevents them from running. WhenInternet Explorer detects a malicious Web site, it blocks the entire site from being accessed.

21. Snipping Tool - An accessory program that comes with Windows 7 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 rectangular portion of the screen, or a free-form image.

22. Sync Center A feature in Windows 7 that allows you to sync files between your computer and a network location or with some mobile devices. Syncing allows you to keep two or more versions of the same file, stored on your computer and on a network folder identical to the other.

23. Tracking Protection Helps you control which Web sites can track your online browsing activity and receive that information.

24. Windows Media Center - A multi-faceted program that provides a complete entertainment system for your computer. Similar to Windows Media Player, you use Windows Media Center to play music, create playlists, watch videos, play recordedTV programs, and display pictures and slide shows.

25. 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, Videos, and Recorded TV libraries appear in the Windows Media Player file list by default. If you're connected to a network, you can stream digital media files—audio, video, or photos—for playback or viewing from another computer or a server that hosts Windows media files.

26. 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 WiFi 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.

27. 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.

28. Windows Remote Assistance - Allows one person to connect to another user's computer to provide"hands-on" help. For example, Albert is a traveling salesperson who is having trouble formatting a document in Microsoft Word. Maria, a technical support specialist at the main office, can set up a Remote Assistance connection with Albert's laptop, and then take control of his computer and show him how to fix the formatting issues.

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Understanding Native Applications, Tools, Mobility, and Remote Management and Assistance

Objectives

Objective Domain Matrix		
Technology Skill	**Objective Domain Description**	**Objective Domain Number**
Using Windows Internet Explorer 9 Operating System Configurations	Understanding Windows Internet Explorer	1.3.1
Using the Snipping Tool	Understanding the Snipping Tool	1.3.2
Using Windows Media Player	Understanding Windows Media Player	1.3.3

Using Windows Media Center	Understanding Windows Media Center	1.3.4
Using Sync Center	Understanding Sync Center	1.4.1
Understanding Offline Files	Understanding Offline Files	4.4.1
Using Windows Mobility Center	Understanding Windows Mobility Center	1.4.2
Understanding Remote Desktop Services	Understanding Remote Desktop Services	2.4.3
Using Remote Desktop Connection	Understanding Remote Desktop Connection	1.4.3
Understanding Remote Desktop Services	Understanding Remote Desktop Services	2.4.2
Using Microsoft Management Console (MMC)	Understanding Microsoft Management Console (MMC)	1.5.1
Using Windows PowerShell	Understanding Windows PowerShell	1.5.2

Internet Explorer 9

- New features:
    - New Tab page
    - One Box
    - Notification bar
    - Pinned sites

Cookies

- Small text files that Web sites save to a computer's hard disk that contain information about the user and his or her browsing preferences
- Can pose a security risk, especially if the user shares his or her computer with others

Deleting Browsing History

- Use Delete Browsing
- History to delete
- cookies, temporary
- Internet files,
- history, and other information

Other Internet Explorer 9 Security Features

- *InPrivate Browsing* prevents Internet Explorer 9 from storing personal information and browsing history.
- *Tracking Protection* controls which Web sites can track online browsing activity and receive that information.
- *ActiveX Filtering* blocks ActiveX controls.

Other Internet Explorer 9 Security Features

- *SmartScreen Filter* detects threats on Web sites, such as phishing attacks and malware downloads, and prevents them from running.

- The *Cross-site scripting (XSS) filter* prevents the keylogger script from running.

- *Domain highlighting* shows the true Web address of any Web site visited by highlighting the domain in the Address bar.

Windows 7 Accessory Programs

Program	Description
Calculator	Performs basic mathematical functions such as addition, subtraction, multiplication, division. Also includes scientific, programmer, and statistics functions, along with unit conversions, date calculations, and worksheets to determine mortgage payments, vehicle lease payments, and fuel economy.
Command Prompt	Opens a window in which you run MS DOS and other computer commands.
Connect to a Projector Connect to a Network Projector	Allows you to expand your screen to use another monitor or external projector.
Math Input Panel	Allows you to write and correct free-hand math equations using your mouse or other pointing device.
Notepad	Serves as a simple text editor.
Paint	Allows you to perform basic image editing.
Program	Description
Remote Desktop Connection	Connects two computers over a network or the Internet, allowing one computer to see and use the other computer's desktop. Remote Desktop Connection is covered later in this lesson.
Run	Allows you to run commands from the Start menu. Some commands require elevated or administrative privileges; to run these commands, use the Run as administrator command.
Snipping Tool	Allows you to capture, annotate, and save screen shots. Snipping Tools is covered later in this lesson.
Sound Recorder	Allows you to record sound from different audio devices, such as a microphone that's plugged into the sound card on your computer.
Sticky Notes	Allows you to keep notes on the desktop to help you remember important items. Available in different colors.
Program	Description

Remote Desktop Connection	Connects two computers over a network or the Internet, allowing one computer to see and use the other computer's desktop. Remote Desktop Connection is covered later in this lesson.
Run	Allows you to run commands from the Start menu. Some commands require elevated or administrative privileges; to run these commands, use the Run as administrator command.
Snipping Tool	Allows you to capture, annotate, and save screen shots. Snipping Tools is covered later in this lesson.
Sound Recorder	Allows you to record sound from different audio devices, such as a microphone that's plugged into the sound card on your computer.
Sticky Notes	Allows you to keep notes on the desktop to help you remember important items. Available in different colors.
Program	Description
Sync Center	Allows you to sync any folder in your computer with a folder on an external drive connected to your computers or a network drive. Sync Center is covered later in this lesson.
Windows Explorer	Allows you to access files and folders on your computer, copy and move items, search for items, and more. This graphical file management system is built in to many versions of Windows.
Windows Mobility Center	Allows you to control many different computer settings, such as screen brightness, volume, power/battery, WiFi, Bluetooth, sound, and so on. Windows Mobility Center is covered later in this lesson.
WordPad	Serves as a word processor, with many more features than Notepad.
Program	Description
Ease of Access	Allows you to open the Ease of Access Center to configure accessibility options, and gives you access to the speech recognition feature. See Lesson 2.
System Tools	Gives you access to Control Panel, Disk Cleanup, Disk Defragmenter, Resource Monitor, System Restore, and much more.
Tablet PC	Gives you access to tools to use a tablet PC's input device.
Windows PowerShell	Opens a command window useful for IT professionals. Windows PowerShell is covered later in this lesson.

Snipping Tool

- Allows you to take screen shots, annotate them, and save them
- Can capture the entire screen, a window, a rectangular portion of the screen, or a free-form image

Windows Media Player 12

- Plays back music and video files and view photos

- Stream digital files over a network

Windows Media Center

- Provides a complete entertainment system from your computer
- Similar to Windows Media Player but includes ability to:
    - Watch, pause, and record HDTV
    - Watch live TV and online programming
    - Listen to radio stations
- Requires extender to share media over a network

Sync Center

- Allows files to be synced between a computer and a network location or with some mobile devices
- Syncing keeps two or more versions of the same file, stored on a computer and on a network folder, identical to the other
- After syncing is complete, network files can be accessed without being connected to the resource; referred to as *offline files*

Windows Mobility Center

- A type of control panel that gives you access to several laptop settings

Remote Desktop Services

- The technology that allows a computer (the client) to connect to a remote server (also called a host computer) and run applications from the server
- Formerly known as Terminal Services
- Includes:
    - RemoteApp
    - Remote Desktop Web Access

Remote Desktop Connection

- Allows you to set up a computer for remote access, and then connect to that computer wherever you may be
- Requires an Internet connection
- Remote Desktop Services is the technology that allows Remote Desktop Connection to work.

Windows Remote Assistance

- Similar to Remote Desktop Connection but allows one person to connect to another user's computer to provide "hands-on" help

Administrative Tools

- A popular collection of tools that use the MMC

Windows PowerShell

- A command-line interface used mainly by IT professionals
- Enables you to:
    – Run *cmdlets* (pronounced command-lets)
    – Complete background jobs (processes or programs that run in the background without a user interface)
    – Run scripts to perform administrative tasks

Summary

- Internet Explorer 9 includes a large Back button, a combined Address bar and search box, One Box, the New Page tab, and the ability to pin sites to the Windows 7 taskbar.
- Internet Explorer 9 security and privacy features include ActiveX Filtering, SmartScreen Filter, a Cross-Site Scripting (XSS) Filter, InPrivate Browsing, Tracking Protection, and domain highlighting.
- Windows 7 native applications include accessory programs such as the Snipping Tool, Windows Media Player, and Windows Media Center.
- Sync Center syncs files between a computer and a network location.
- Windows Mobility Center is a control panel of sorts that gives you access to several laptop settings.
- Tools that an administrator can use to provide remote support are Windows 7 Remote Desktop Connection, Windows Remote Assistance, Administrative Tools from the Microsoft Management Console (MMC), and Windows PowerShell.

3.01 Lesson 3 Competency and Proficiency Assignment

Instructions

Review the following scenario(s), and using the concepts and principles in the Lesson 2 material, solve the problem.

PowerShell

What is PowerShell? (Links to an external site.)Links to an external site.

10 Cool Things (Links to an external site.)Links to an external site.

PowerShell Slide Show (Links to an external site.)Links to an external site.

3.02 Lesson 3 Practice Test

Instructions

Take the following self test to measure how well you are understanding the information.

3.03 Internet Explorer Options

Objective: Explore and Configure Internet Explorer 11

Equipment: A computer running Windows. Internet Access.

Instructions: Follow the instructions below, and then copy and paste both questions and answers with your submission.

1.   Copy and paste the following questions into a Word document.

2.   Review the information at the following Link (Links to an external site.)Links to an external site.(s), pages 1 and 2.

3.   Add the following addresses to the Homepage section:

   o   www.google.com (Links to an external site.)Links to an external site.

   o   http://www.slcc.edu/ (Links to an external site.)Links to an external site.

   o   http://www.testout.com/labsim5 (Links to an external site.)Links to an external site.

4.   Snip it and paste it below this step in the word document

5.   Save it.

6.   Select the Home button. Snip the results and paste below this step.

7.   Return your setting to what they were previously.

8.   Snip your work and submit on line.

3.04 Configure Internet Explorer 11 Security Features

Objective: Configure Internet Explorer Security Features

Equipment: A computer running Windows. Internet Access.

Instructions: Follow the instructions below, and then copy and paste both questions and answers with your submission.

1.   Copy the following directions into a Word document.

2.   Review the following information at the following LINK (Links to an external site.)Links to an external site..

3.   Follow the instructions on page 71, and snip the *Privacy Tab settings.* \

4.   Paste under step 3 in your document.

Lesson 4 Objectives

•   Install and Manage Applications

•   Remove or Uninstall an Application

•   Understand Group Policy and Network Application Installation

•   Understand Services

•   Use MSCONFIG (System Configuration utility)

•   Understand File Systems

- Explore and Manage Libraries
- Encrypt and Compress Files and Folders

Chapter 4 Vocabulary

Lesson 4: Managing Applications, Services, Folders, and Libraries

1. **Active Directory** - An infrastructure (directory) that stores information and objects.

2. **application** - A program that runs "on top" of the operating system or from a server and helps a user perform a specific task, such as word processing, appointment scheduling, or accounting.

3. **assign** - A method in Group Policy of installing software and making the application available to all users or computers in a designated site, domain, organizational unit (OU), or to a local, individual user or computer.

4. **BitLocker Drive Encryption** - A full disk encryption feature in Windows 7 Ultimate and Enterprise editions.

5. **Compression** - The process of decreasing the size of files or folders without affecting the files' content.

6. **EFS certificate** - The object that holds information used to decode a file's unique encryption key.

7. **Encrypting File System (EFS)** - A Windows feature that allows users to encrypt information on hard disks, external flash disks, CDs, DVDs, backup tapes, and other types of physical media.

8. **encryption** - A process that protects the contents of files and folders from unauthorized access. Encryption scrambles file and/or folder contents so that they can be read only by the original owner and the computer's designated recovery agent, or by an authorized user who has the proper key.

9. **Encryption key** - A large, random number used to scramble the contents of a file or folder.

10. **FAT** - A file system, no longer in popular use, with a maximum partition size of 2 gigabytes (GB) and a maximum file size of 2 GB.

11. **FAT32** - A file system with a maximum partition size of 32 gigabytes (GB) and a maximum file size of 4 GB.

12. **file system** - The overall structure a computer uses to name, store, and organize files and folders on a hard disk or partition. The file system provides a map of the clusters (the basic units of logical storage on a hard disk) that a file has been stored in.

13. **Group Policy** - A collection of settings (policies) stored in Active Directory on a Windows network.

14. **Group Policy object (GPO)** - Objects used by administrators to control users and computers on a Windows-based network and to deploy applications, software updates, and security.

15. **Install application** - The process of making applications available to users on local computers or on a network.

16. **Library** - In Windows 7, a virtual folder that can display content from different locations (folders, for example) on your computer or an external drive.

17. **Local application** - An application that is installed and runs on a user's computer.

18. **MSCONFIG** - A utility that lets a user enable or disable startup services, set boot options such as booting into Safe Mode, access tools like Action Center and Event Viewer, and more. Also known as the System Configuration utility.

19. **Multi-booting** - An environment in which two or more different operating systems are installed on a computer, enabling the user to choose which operating system starts upon system boot.

20. **NTFS** - The preferred file system for Windows 7. NTFS has a maximum partition size of 256 terabytes; the maximum file size is limited by the size of the volume on which it resides.

21. **Programs and Features** - A Control Panel applet that enables the user to uninstall or repair applications.

22. **services** - System programs that run in the background on a Windows system to help the operating system run other programs.

23. **System Configuration utility** - The graphical user interface version of MSCONFIG.

24. **Uninstall application** - The process of removing an application from a local user computer or server.

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Managing Applications, Services, Folders, and Libraries

Objectives

Objective Domain Matrix		
Technology Skill	**Objective Domain Description**	**Objective Domain Number**
Understanding Local versus Network Applications	Understanding Local versus Network Applications	3.1.1
Removing or Uninstalling an Application	Removing or Uninstalling Applications	3.1.3
Understanding Group Policy and Application Installation	Understanding Group Policy	3.1.2
Understanding Service Startup Types	Understanding Service Startup Types	3.4.1
Understanding Service Accounts	Understanding Service Accounts	3.4.2
Understanding Service Dependencies	Understanding Service Dependencies	3.4.3
Understanding MSCONFIG	Understanding MSCONFIG	1.3.5
Understanding FAT, FAT32, and NTFS	Understanding FAT, FAT32, and NTFS	4.1.1
Adding Multiple Local Locations to a Library	Adding Multiple Local Locations to a Library	4.4.2
Adding Networked Locations	Adding Networked Locations	4.4.3
Understanding Encrypting File System (EFS)	Understanding Encrypting File System (EFS)	4.3.2
Understanding Security (Encryption)	Understanding Security (Encryption)	5.2.2
Understanding Compression	Understanding Compression	4.3.3
Understanding BitLocker	Understanding BitLocker	4.3.1

Installing and Managing Applications

- An *application* is a program that:
    – Runs "on top" of the operating system or from a server
    – Helps a user perform a specific task, such as word processing, appointment scheduling, or accounting

Installing and Managing Applications

- Applications installed at the local level or the network level
    - Local installation = software files running directly from a computer
    - Network installation = software files are made available from an application server on a network

Applications Installed over a Network

- Group Policy
- Active Directory
- Group Policy objects (GPOs)

Assigning/Publishing Applications

- Windows 2008 R2 Active Directory Domain Services (AD DS) uses Group Policy to push applications to users or computers.
- Using Group Policy, you can *assign* or *publish* an application to all users or computers in a designated site, domain, organizational unit (OU), or to a local, individual user or computer.

Assigning Applications

- If Group Policy assigns software on each *computer*, the software is installed the next time the computer starts and any users with the correct permissions who log on to the computer may run the software.
- If Group Policy assigns software to *users*, the next time an authorized user clicks the Microsoft Office shortcut or menu item (for example), the software installs on the user's computer and Office opens.

Publishing Applications

- Group Policy can publish an application to users.
    - The next time a user logs on, he can choose to install the software from a dialog box that appears.

Services

- Run in the background on a Windows system to help the operating system run other programs
- Services console is the central management point of services in Windows Vista and Windows 7

MSCONFIG

- Also known as the System Configuration Utility
- Lets you:
    - Enable or disable startup services
    - Set boot options such as booting into Safe Mode
    - Access tools like Action Center and Event Viewer
    - More

File Systems

- FAT, FAT32, and NTFS
- NTFS-formatted disks best for Windows 7
- Can convert from one file system to another
- Some conversions destroy existing data

File System	Maximum Partition Size	Maximum File Size
FAT	2 GB	2 GB
FAT32	32 GB	4 GB
NTFS	256 TB	Limited by size of volume on which it resides

Windows 7 Libraries

- A virtual folder that can display content from different locations (folders, for example) on your computer or an external drive
- Looks like an ordinary folder but simply points to files and folders that are located elsewhere

Encryption

- Encrypted data is "scrambled" but still readable and usable by the user who encrypted the file
- That user and other authorized users can open and change the file as necessary
- Unauthorized users who try to open the file or copy it receive "Access Denied" message
- Only the original owner and the computer's designated recovery agent can access encrypted files
- Encryption uses:
    - Encryption keys
    - Certificates

Encrypting Files and Folders in Windows 7

- Encrypting File System (EFS)
    – Encrypts information on hard disks, external flash disks, CDs, DVDs, backup tapes, and other types of physical media
- Users can enforce encryption on data files, folders, and entire drives

Encrypting Files and Folders in Windows 7

- Advanced Attributes dialog box enables users to encrypt files and folders
- Encrypted (EFS) files and folders are displayed in green in Windows Explorer

Compression

- The process of decreasing the size of files or folders without affecting the files' content

- Decreases large files that would otherwise use a lot of storage space

- Compressing files replaces repeated data with pointers to the data; pointers take up much less space than the repeated data, so the size of the file is reduced

Compressing Files and Folders in Windows 7

- Advanced Attributes dialog box enables users to compress files and folders

BitLocker Drive Encryption

- Encrypts an entire fixed disk to prevent access by unauthorized users

- BitLocker To Go protects removable drives, such as external flash drives

- BitLocker is available in Windows Ultimate and Enterprise editions only

Summary

- You install applications, or programs, at the local level or the network level.

- Use Control Panel to uninstall a local application.

- Group Policy lets you control who can install software, and on which computers, and helps you push software updates and security configurations across the network.

- Services run in the background on a Windows system to help the operating system run other programs.

- Use MSCONFIG (System Configuration utility) to troubleshoot and diagnose startup problems.

- The three primary types of file systems for Windows are FAT, FAT32, and NTFS.

- A library is a virtual folder that points to resources.

- Encrypting files and folders protects them from unwanted access. Microsoft uses the Encrypting File System (EFS) and BitLocker.

- Compression reduces the size of files and folders without affecting their content.

4.01 Lesson 4 Competency and Proficiency Assignment

Instructions

Review the following scenario(s), and using the concepts and principles in the Lesson 2 material, solve the problem

4.02 Turn Windows features on or off

Objective: Explore and Configure Windows Features

Equipment: A computer running Windows. Internet Access.

Instructions: Follow the instructions below, and then copy and paste both questions and answers with your submission.

1. Consider the following scenario, and then copy it and the question below into a word document, including the correct answers and screen clips.

You are chatting with an elderly neighbor one day, when they complain that they wish Windows 7 had the game Solitaire like XP did. Write the instructions with screen clips (snipping tool clips) to show them how to enable games on their computer.

2. Reset the computer back to disable the feature.

3. Snip the reset results

4. Submit online.

4.03 Services Assignment

Objective: Explore accessing Windows Services

Equipment: A computer running Windows 7. Internet Access.

Instructions: Follow the instructions below, and then copy and paste both questions and answers with your submission.

1. Copy the instructions for this lab into a Word document.

2. Click the windows Start Orb and type Msconfig.

3. Snip the General Tab and paste below this step.

4. Snip the Services Tab and paste below this step.

5. Click the windows Start Orb and type services.

6. Snip the Services window and paste below this step.

7. Click the windows Start Orb, right click on computer and select Manage.

8. Snip the Computer Management Windows and use the snipping tool highlighter to highlight Services.

9. Open services and and find the Print Spooler. Snip it, and use the use the snipping tool highlighter to highlight the status of the service.

10. Paste below this step.

11. Start Task Manager by hold down Control+ALT+Delete.

12. Click the Services Tab. Snip the Services Tab and paste below this step.

13. Submit all of the above online.

4.04 Disabling Unnecessary Services

Objective: Understanding and Configuring Services

Equipment: A computer running Windows. Internet Access.

Instructions: Follow the instructions below, and then copy and paste both questions and answers with your submission.

1. Copy the following steps into a Word document.

2. Watch the following 1.5 minute video LINK (Links to an external site.)Links to an external site..

3. Bring up *Services* using the Msconfig method discussed in the chapter.

4. Hide all Microsoft services

5. Use Snipping Tool to capture the remaining services and paste below this step.

6. Next, use the internet to search a few of the remaining services, that are not necessary.

7. List the services you found that can be disabled.

8. Submit online.

4.05 Lesson 4 Practice Test

Instructions

Take the following self test to measure how well you are understanding the information.

Lesson 5 Objectives

Lesson 5: Managing Devices

- Understand Storage device types and volumes

- Understand Disk and Drive Types

- Use Disk Management

- Understand Printing Devices and processes

- Understand Device Manager

Chapter 5 Vocabulary

Lesson 5: Managing Devices

1. **basic disk** - A physical disk that contains primary partitions, extended partitions, or logical drives. Basic disks contain only simple volumes.

2. **Computer Management** - A collection of Windows management tools, such as Disk Management for configuring 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.

3. **Device Manager** - A snap-in that displays a list of all devices currently installed on the computer and their status. Device Manager requires administrative credentials for access.

4. **Disk Management** - A tool in the Computer Management snap-in that enables users to manage disks, partitions, and volumes.

5. **driver** - A small program that enables hardware to interact with the operating system.

6. **dual-boot environment** - A computer with two or more operating systems installed, enabling the user to choose which operating system to boot at startup.

7. **dynamic disk** - A physical disk that can contain simple, spanned, striped, or mirrored volumes.

8. **External Serial Advanced Technology Attachment (eSATA)** - An external interface for SATA technologies.

9. **fill and spill** - Another name for a spanned volume because all storage space on the first disk must be filled before data is stored on the second and subsequent disks.

10. **FireWire** - An interface standard for transferring information between digital devices. FireWire is used for many different types of high-speed data transfers, including audio and video, and serves the same purpose as USB. Also called IEEE 1394 and i.link.

11. **input device** - An item such as a keyboard, mouse, trackball, touchpad, digital pen, and joystick (for gaming) that sends data to a computer.

12. **infrared input device** - An input device, such as a wireless optical mouse, that uses infrared technology.

13. **Internet Small Computer System Interface (iSCSI)** - A standard for connecting enterprise network storage devices such as a storage area network (SAN).

14. **isochronous data transfer** - A constant data rate.

15. **local printer** - A printer that's directly attached to a computer via a cable, such as serial, parallel, USB, infrared, or other port type.

16. **mirrored volume** - A type of disk volume that duplicates data from one disk to a second disk for redundancy and fault tolerance; if one disk fails, data can be accessed from the second disk. A mirrored volume cannot be spanned—it must reside on a single disk. Mirroring is also referred to as RAID-1.

17. **network printer** - A printer that generally has a network adapter and is connected to a network. The printer receives an IP address and is a node on the network much like a networked computer.

18. **partition** - A logical storage unit on a disk. Partitioning divides a hard disk into multiple logical units (partitions), allowing the operating system to treat the physical disk drive as if it were multiple disks.

19. **plug-and-play (PnP) technology** - Devices that are automatically detected by the operating system when plugged into a computer.

20. **print queue** - A holding area in memory where a print job is stored until the printer is finished printing the entire document.

21. **spanned volume** - A type of disk volume that extends a simple volume across multiple disks, up to a maximum of 32.

22. **striped volume** - A type of disk volume that stores data across two or more physical disks. Data on a striped volume is written evenly to each of the physical disks in the volume. A striped volume cannot be mirrored or spanned. Striping is often referred to as RAID-0

23. **video device** - Primarily, the video adapter or card on a computer. Other types of video devices include webcams, video capture cards, and TV tuners.

24. **volume** - A segmented storage area on a dynamic disk. Free space on a dynamic disk is divided into volumes instead of partitions.

25. **Windows Live Mesh** - A part of the Windows Live Essentials suite. Windows Live Mesh enables users to keep data synchronized between computers (and some devices such as mobile phones) as well as some program settings

26. **Windows Live SkyDrive** - A reliable password-protected online service offering file storage that enables people to share files and photos. Each person receives 25 GB of free online storage.

98-349 Slides Lesson05

Managing Devices

Objectives

Objective Domain Matrix		

Technology Skill	Objective Domain Description	Objective Domain Number
Connecting Plug-and-Play Devices	Connecting Plug-and-Play Devices	5.1.1
Connecting and Disconnecting Printers	Connecting and Disconnecting Printers	5.1.2
Installing Third-Party Software for Devices	Installing Third-Party Software for Devices	5.1.3
Understanding Disk Types	Understanding Disk Types	5.2.1
Understanding Storage Device Types	Understanding Storage Device Types	5.2.3
Understanding Storage Drive Types (Basic, Primary, Extended, Logical, Dynamic Disk, VHDs)	Understanding Storage Drive Types (Basic, Primary, Extended, Logical, Dynamic Disk, VHDs)	5.2.4
Understanding Cloud Storage	Understanding Cloud Storage	5.2.5
Understanding Local Printers	Understanding Local Printers	5.3.1
Understanding Network Printers	Understanding Network Printers	5.3.2
Understanding Print Queues	Understanding Print Queues	5.3.3
Understanding Print-to-File	Understanding Print-to-File	5.3.4
Understanding Internet Printing	Understanding Internet Printing	5.3.5
Understanding Video	Understanding Video	5.4.1
Understanding Audio	Understanding Audio	5.4.2
Understanding Infrared Input Devices	Understanding Infrared Input Devices	5.4.3
Understanding Device Manager	Understanding Device Manager	5.4.4

Disk and Drive Types in Windows 7

- *Basic disks*
    - Contain only simple volumes
    - Use partitions and logical drives
    - Partition styles: master boot record (MBR) and GUID partition table (GPT)

- *Dynamic disks*
    - Divided into volumes instead of partitions
    - Contain simple, spanned, striped, and mirrored volumes

Disk Management

- Part of the Computer Management MMC snap-in
- Use Disk Management to:
    - Add a new disk

- Modify the configuration of an installed disk
- Convert a disk

Volumes

- **Simple volume:** Uses free space available on a single disk
- **Spanned volume:** Extends a simple volume across multiple disks, to a maximum of 32
- **Mirrored volume:** Duplicates data from one disk to a second disk for redundancy and fault tolerance
- **Striped volume:** Stores data across two or more physical disks; RAID-0 or RAID-5

Other Types of Storage

- eSATA
- USB and USB 2.0
- IEEE 1394 (FireWire)
- iSCSI

Cloud Storage

- Remote data storage with backups but can also include application hosting
- In this course, cloud storage includes:
    - Windows Live SkyDrive
    - OneNote to SkyDrive
    - Windows Live Mesh

Printing

- Printing devices are local or networked; also available over the Internet
- Local printer
    - Connected directly to a computer via a cable (serial, parallel, USB, infrared, or other port type)
- Network printer
    - Usually has a network adapter
    - Receives an IP address

Print Queue

- A holding area in memory for a document until the printer is finished printing the entire document

Print-to-File

- Enables you to print to a file rather than a printer
- Adds a .prn extension to the file name

- Useful for enabling a coworker to view a file's contents if he/she doesn't have the native application

Internet Printing

- Need Windows Server 2008 R2
- Create a Web site hosted by Internet Information Services (IIS) using the Internet Printing role service
- Clients can use a Web browser to connect and print to shared printers on the server using the Internet Printing Protocol (IPP)
- Users must have Internet Printing Client enabled on their computers to use IPP

Video Devices

- Main video device on a computer is the video adapter or card
    - Internal circuit board that's either in the form of a physical card inserted into a slot on the motherboard or is manufactured as part of the motherboard
- Other types of video devices include webcams, video capture cards, and TV tuners

Video Devices

- Main video device on a computer is the video adapter or card
    - Internal circuit board that's either in the form of a physical card inserted into a slot on the motherboard or is manufactured as part of the motherboard
- Other types of video devices include webcams, video capture cards, and TV tuners

Audio Devices

- Main audio device in a computer is a sound card
    - A circuit board that's inserted into a motherboard slot or hard-wired into the motherboard
- Additional audio devices include microphones, headsets, and speakers

Input Devices

- Keyboards, mice, trackballs, touchpads, digital pens, and joysticks (for gaming)
- Desktop computers
    - Input devices are almost always external devices that plug into different ports on the computer
- Laptop computer
    - Keyboards and touchpads are built in; can connect external input devices as well

Wireless and Infrared Devices

- Wireless keyboard or mouse comes with a small Bluetooth receiver that plugs into a USB port on the computer
- Many wireless mice use infrared technology, are referred to as optical mice
    - Infrared light-emitting diode (LED) inside the mouse detects the surface over which it is moved

Plug-and-Play

- Nearly all modern devices that you attach to a computer port are automatically detected by the operating system. This is part of plug-and-play (PnP) technology. As long as a PnP device is plugged into your computer and powered on (if the device requires power, like a printer), Windows detects the device and automatically installs the drivers.

- The first time you connect a device, you should see a bubble message on the status bar that states Installing device driver software. When it installs the device driver successfully, you'll see Your device is ready to use. The device has now been added to Device Manager. You can unplug the device and plug it in again, but the device driver installs only one time.

Device Manager

- Displays a list of all devices currently installed on the computer and their status

- Must be an administrator or have administrative credentials to use Device Manager

Summary

- Windows 7 supports basic and dynamic disks.

- Disk Management enables you to manage drives, disks, and partitions.

- The two types of partitions styles are master boot record (MBR) and GUID partition table.

- The four main types of volumes are simple, spanned, striped, and mirrored.

- Windows 7 supports several types of storage: USB, IEEE 1394, network storage, and iSCSI.

- Windows Live SkyDrive, OneNote to SkyDrive, and Windows Live Mesh are cloud storage and services available to Windows users.

- Printing devices can be local or networked, or even available over the Internet. You can perform most printer support from Devices and Printers.

- When you connect a Plug-and-Play (PnP) device to a computer, Windows detects the device and automatically installs the drivers.

- Device Manager helps you manage system devices such as audio, video, processors, and many more.

5.01 Lesson 5 Competency and Proficency Assignment

Instructions

Review the following scenario(s), and using the concepts and principles in the Lesson 5 material, solve the problem.

5.02 Lesson 5 Practice Test

Instructions

Take the following self test to measure how well you are understanding the information.

5.03 Create A Simple, Spanned and Striped Volume - In Class

Objective: Create a Simple, Spanned and Striped Volume

Equipment: Classroom RAID computer. A thumb drive. Internet Access.

Instructions: Follow the instructions below, and then copy and paste both questions and answers with your submission.

1.   Copy and Paste the following steps into a Word document.

2.   Follow the steps beginning on page 144 and snip your work on each volume type.

3.   Paste the Simple Volume, The Spanned volume and the Striped Volume and paste into this document.

4.   Submit On-line.

5.04 Device Manger Assignment - In Class

Objective: Explore Device Manager

Equipment: A computer running Windows. StarTech USB Ethernet Adapter. Internet Access.

Instructions: Follow the instructions below, and then copy and paste both questions and answers with your submission.

1.   Copy the instructions below to a Word Document.

2.   Open Device Manager on your computer and expand the Network adapter section. Use Snipping Tool to capture it.

3.   Plug the StarTech USB Ethernet Adapter into a USB port on your computer.

     o   Note that Windows did not automatically detect the device.

 4. Insert the CD that came with the device into your CDROM drive.

     o   AutoPlay may automatically launch and display all of the folders on the CD IF NOT

     o   Browse to the folders on the CD

5. Navigate to the folder for your operating system version.

6. Click the file Setup.exe. Accept if User Account Control if asked.

7. Install Using the Wizard (may take several minutes). If asked to reboot, do so.

8. Open Device Manager, and expand the Network adapter section. Use Snipping Tool to capture it.

9. What changed?

10. Right click on the new Lan Driver in the subsection of Network adapters.

11. Update the driver, searching on-line.

12. Snip the results.

13. Right click again, and uninstall the driver.

14. Return the CD and drive to the case. Return to instructor.

14. Submit all of the snips and answers to me.

Lesson 6 Objectives

Lesson 6: Understanding File and Print Sharing

- Understanding File and Printer Sharing Basics
- Understanding HomeGroup
- Creating Public, Basic, and Advanced Shares
- Map drives
- Understand Permissions
- Set Up Printer Sharing
- Understanding Print Drivers
- Troubleshoot Printers

Lesson 6 Vocabulary

advanced sharing - A Windows feature that enables users to control who may access specific files and folders located in the user's libraries. Advanced sharing offers more options than basic sharing and is therefore the best choice for protecting confidential information.

basic sharing - A Windows feature that enables users to control who may access specific files and folders located in the user's libraries.

effective permissions - Permissions for an object, such as a folder, granted to a user or group based on the permissions granted through group membership and any permissions inherited from the parent object. Windows does not include share permissions as part of the effective permissions.

HomeGroup - A Windows 7 feature that enables sharing of files and printers across a small office/home office network.

inherit - To method of gaining permissions in a file system. A folder with subfolders is considered the parent folder. The subfolders are considered child folders. After permissions are set on a parent folder, new files and subfolders that are created in the folder inherit these permissions.

mapping a drive - A method of creating a logical drive letter that allows easy access to a shared folder or drive on a computer.

network discovery - A Windows feature that enables a computer to find other computers and devices (such as printers) on a connected network. Network discovery also lets a user control whether other computers can see the user's computer on the same network.

network location - A collection of security settings that's appropriate for the type of network a user wants to connect to. Windows 7 offers three broad categories of network locations: Home, Work, and Public.

NTFS permissions - Permissions that apply to users who log on locally or from across a network. NTFS file permissions are set using the options on the Security tab in the Properties dialog box.

permissions - Rules applied to users and groups to limit actions they can take on shared resources, such as files, folders, drives, network shares, and even printers.

printer driver - A small software program that prepares application data to print to a specific printer.

printer sharing - The process of allowing a computer user to share his or her attached printer with other users on a network. The Devices and Printers applet in Windows 7 helps a user manage and share printers.

Public folder - A Windows folder that's set up for sharing files and folders with other users on an attached network. Windows 7 Public folders include Public Documents, Public Music, and others.

share permissions - In Windows, permissions that apply to users who connect to a shared folder over a network.

troubleshooter - In Windows, a wizard-driven tool that walks a user through a software or hardware issue to help the user resolve it.

workgroup - A logical grouping of networked computers that can "see" each other on a network.

98-349 Slides Lesson06

Introducing, Installing, and Upgrading Windows 7

Objectives

Objective Domain Matrix		
Technology Skill	**Objective Domain Description**	**Objective Domain Number**
Understanding HomeGroup	Understanding HomeGroup	4.2.2
Creating Public, Basic, and Advanced Shares	Creating Public, Basic, and Advanced Shares	4.2.4
Mapping Drives	Mapping Drives	4.2.5
Understanding NTFS and Share Permissions	Understanding NTFS and Share Permissions	4.2.1
Understanding Print Drivers	Understanding Print Drivers	4.2.3

File and Printer Sharing Basics

- Basic sharing
- Advanced sharing
- Public folders
- HomeGroup
- Workgroups
- Domains

What Should You Use?

- Use *HomeGroup* or *Public folders* if you have a small office/home office, all computers running Windows 7
- Use a *workgroup* if you have a peer-to-peer network that includes a mix of computers running Windows 7 and Windows Vista or Windows XP, and you want to share files between the computers
- Use *domains and Active Directory* in larger business environments

HomeGroup

- The file and printer sharing solution built in to Window 7

- Once you set up a homegroup on one computer, other networked computers running Windows 7 can join the homegroup and automatically see the shared libraries and printers

HomeGroup Caveats

- Can only join (not create) a homegroup in Windows 7 Home Basic and Starter editions
- Can join only one homegroup at a time; if computer is already joined to a homegroup, must leave that homegroup to join another
- Can't limit access to shared items to individual users; anyone using a computer that's a member of the homegroup can access the shared content
- Non-Windows 7 computers (Windows Vista, Windows XP, Mac OS, or Linux) require additional setup steps to access shared items in a homegroup
- Must already have a network set up (either wired or wireless)
- To create or join a homegroup, computer's network location must be set to "Home network" (in the Network and Sharing Center)

Public Folders

- Public folder sharing in Windows 7 turned off by default (except on a homegroup)
- When Public folder sharing is turned on, anyone on computer or network can access these folders
- Can't limit which files or folders are shared in a Public folder—everything is shared; anyone with network access can read and write files in Public folders

Basic and Advanced Shares

- Allow you to control who may access specific files and folders located in your libraries
- *Advanced sharing* offers the most options and is the best choice for protecting confidential information
- File sharing and network discovery must be turned on
- Best practice is to turn on password-protected sharing

Drive Mapping

- An easy way for users to get to a shared item
- Mapped drive is a shortcut to a shared folder or drive on another computer across a network
- In Windows 7, network drive letters start from Z: and work down
- Select any drive letter that's not already in use

Permissions

- Rules applied to users and groups to limit actions they can take on shared resources

Permission Level	Description

Full control	Allows users to view and change files and folders, to create new files and folders, and to run programs in a folder.
Modify	Allows users to change files and folders but they cannot create new ones.
Read & execute	Allows users to view the contents of files and folders and to run programs in a folder.
Read	Allows users to view the contents of a folder and to open files and folders.
Write	Allows users to create new files and folders and to change files and folders.

NTFS and Share Permissions

- Share permissions
    - Apply to users who connect to a shared folder over a network
- NTFS permissions
    - Apply to users who log on locally or from across a network

The More Restrictive Permissions Apply

- If you set share permissions and NTFS permissions on a shared folder, the more restrictive permissions apply to users who access the shared folder.
- For example, you grant a user named Stacie the Read permission on a network share. However, her account has the Full Control NTFS permission on the same folder. Read is more restrictive, so Stacie has only Read access when connecting over the network.

Effective Permissions

- Granted to a user or group based on the permissions granted through group membership and any permissions inherited from the parent object

Printer Sharing

- Allows a computer user to share his or her attached printer with other users on a network. Use the Devices and Printers applet to manage and share printers. To share any printer, you must ensure that file and printer sharing is turned on in the Advanced sharing settings page (accessed from the Network and Sharing Center).
- You have two primary ways to work with a printer: Device Stage and the Properties dialog box. Device Stage is a window that's unique to each device in Devices and Printers. Just double-click a printer's icon to open its Device Stage window. Demonstrate how to share an attached printer.

Summary

- Windows 7 networking methods include basic and advanced sharing, HomeGroup, Public folders, workgroups, and domains and Active Directory.
- Using HomeGroup, you may share libraries and printers, but you don't have a lot of control over which users may share the items.
- Public folders are an easy way to share files with network users and between users on a computer.

- Basic sharing and advanced sharing allow you to control who may access specific files and folders located in your libraries.

- Drive mapping allows you to create a shortcut to a shared folder across a network.

- Permissions allow you to restrict the actions other users may take on shared items.

- Windows 7 includes share and NTFS permissions.

- Printer sharing allows a computer user to share an attached printer with other users on a network.

- The Devices and Printers applet gives you access to utilities for viewing print driver information and updating drivers.

6.01 Lesson 6 Competency and Proficency Assignment

Instructions

Review the following scenario(s), and using the concepts and principles in the Lesson 6 material, solve the problem.

6.02 Lesson 6 Practice Test

Instructions

Take the Self Test to help evaluate your understanding of the concepts contained in the lesson.

6.03 Home Group Assignment

Objective: Discover HomeGroups

Equipment: A computer running Windows 7. Internet Access. USB thumb drive.

Instructions: Follow the instructions below, and then copy and paste both questions and answers with your submission.

1.   Copy the instructions below into a Word document.

2.   Right click computer and select properties.

3.   Use Snipping Tool and use Snipping Tool highlighter to show the HomeGroup.

4.   Paste this below step 4 in your Word document.

5.   According to the information in the *Create A Homegroup* on page 189, what must this be set to in order to create a Homegroup?

6.   Open the location shown in Figure 6-5 on page 190. Snip it

- Highlight the option for creating a homegroup.

- Highlight any warnings

- Paste it below step 6 in your Word document.

- Was there a warning symbol in the >ControlPanel>All Control Panel Items>HomeGroup window? If yes, what did it say?

- According to the manual, what items can be shared in Homegroup?

- What is required for other people to become part of the Homegroup?

- Is the password Case Sensitive?

- Those wishing to join the home group must go to Network and Internet in Control panel, and choose homegroup and sharing options and then click which option?

- Is it possible to stream media files like music using HomeGroup?

- Submit the snips and answers online.

6.04 Public Folder Assignment

Objective: Discover Public folder Groups and Settings

Equipment: A computer running Windows 7. Internet Access. USB thumb drive.

Instructions: Follow the instructions below, and then copy and paste both questions and answers with your submission.

1. Copy and paste the steps below into a Word document.

2. Login to a Windows 7 class computer.

3. Expand the Documents folder.

4. Click on the Public document folder and expand it.

5. Snip it and paste below this step.

6. Return to the Document folder and right click on the Public Documents folder and select properties

7. Select the Sharing Tab.

8. Snip the window that opens and paste below this step.

9. Click the *Share* button. Snip it and paste below this step.

10. What is it asking you for?

11. What options are shown in the bottom half of the screen?

12. Cancel and close.

13. right click on the Public documents folder.

14. Select *Share With --> Advanced Sharing Settings*

15. Snip the window that opens and paste below this step.

16. What does the Network Discover option used for?

17. What is the File and Printer Sharing option used for?

18. What will selecting Public Folder settings accomplish?

19. Cancel.

20. Submit the above answers and snips online.

6.05 Map Network Drive Assignment - In Class

Objective: Map a Network Drive

Equipment: A computer running Windows 7 in TB518. Internet Access. USB thumb drive.

Instructions: Follow the instructions below, and then copy and paste both questions and answers with your submission.

1. Copy the instructions below into a Word document.

2. Open Windows Explorer. Press the **ALT** key to display the Explorer menu bar.

3. Click the **Tools** menu, and choose **Map network drive.**

4. Map Drive <u>U</u> to RM127LABIMAGES\Utility Disk, then **OK.**

5. Use Snipping tool to show the results of Map Network Drive. Paste below this step.

6. Select **Finish.**

7. Open **COMPUTER** and expand Drive U to show Subfolders.

8. Use Snipping tool to show the results. Paste below this step.

9. Find the Wordpad file with the name "*Map a Drive Lab", open it.*

10. Add your name.

11. Use Snipping tool to show the results. Paste below this step.

12. Save and close the file.

13. Open explorer again.

14. Right click on the "U" drive.

15. Select Disconnect.

16. Use Snipping tool to show the results (drive mapping is gone). Paste below this step.

17. Submit on line.

6.06 Setup Printers Assignment

Objective: Setup and configure Printer Sharing

Equipment: A computer running Windows 7. Internet Access. USB thumb drive.

Instructions: Follow the instructions below, and then copy and paste both questions and answers with your submission.

1. Copy and paste the steps below into a Word document.

2. Under the direction of the lab aid, install a local printer and share it (follow the steps beginning on page 211).

3. Submit clips of the following:

- Printer properties dialog box with General tab.

- Printer properties dialog box with Sharing tab.

- Print driver property box (similar to Figure 6-41).

After installing and sharing it. Complete the following

- Capture the Print Driver Selection screen using Snipping Tool.

- Update the Print driver

- Uninstall the Print driver (submit a snip showing it is gone).

 4. How did the assignment go? Was it easier or more difficult than you thought.

5. Submit the above online.

Lesson 7 Objectives

- Explore Built-in Maintenance Tools
- Maintain the Windows Registry
- Update the System
- Defend Your System from Malicious Software

Lesson 7 Vocabulary

Action Center - Provides a single interface in which you can view the status of security and maintenance features.

Disk Cleanup - A utility that removes many different kinds of unnecessary files from your computer.

Disk Defragmenter - A utility that helps improve your computer's performance by moving sectors of data on the hard disk, so that files are stored sequentially.

Endpoint - Microsoft Forefront Endpoint Protection is a combination of antivirus/anti-malware and management software for desktops, laptops, and other client endpoints in a business environment.

Firewall - a software program or device that monitors traffic entering and leaving a computer.

Fragmented - spread across sectors on different parts of the disk

Hotfix - a patch that typically fixes a bug in software.

Malicious software (malware)- different viruses and worms ready to attack any connected computer to the Internet.

Microsoft Forefront Endpoint Protection - A combination of antivirus/anti-malware and management software for desktops, laptops, and other client endpoints in a business environment.

Microsoft Security Essentials - protects you computer from viruses and many other forms of malware.

Microsoft Update - When this option is selected, Microsoft delivers updates for additional Microsoft software, not just the Windows operating system.

Microsoft Windows Malicious Software Removal Tool - This utility scans your computer for dangerous malware and attempts to remove it immediately.

Service pack - a collection of updates and hotfixes since the product was released.

Signature - a sequence of text or code that's programmed into a virus and uniquely identifies it.

Spyware - a type of program that installs on your computer without your permission, monitors your computing activities, and reports the activity back to the spyware writer or a third party.

Task Scheduler - This enables you to schedule and automate a variety of actions, such starting programs, displaying messages, and even sending e-mails.

Trigger - An event that causes a task to run.

Windows Defender - A free anti-spyware program by Microsoft.

Windows Firewall - Microsoft provides Windows Firewall with Windows 7, Windows Vista, and Windows XP operating systems.

Windows registry - database in Windows that stores user preferences, file locations, program configuration settings, startup information, hardware settings, and more.

Windows Update - When this option is selected, Microsoft delivers updates for additional Microsoft software, not just the Windows operating system. You view all of the updates that have been applied to your computer by returning to the main Windows Update page.

98-349 Slides Lesson07

Introducing, Installing, and Upgrading Windows 7

Objectives

Objective Domain Matrix		
Technology Skill	**Objective Domain Description**	**Objective Domain Number**
Understanding Disk Defragmenter	Understanding Disk Defragmenter	6.2.1
Understanding Disk Cleanup	Understanding Disk Cleanup	6.2.2
Understanding Task Scheduler	Understanding Task Scheduler	6.2.3
Understanding Action Center	Understanding Action Center	6.2.4
Understanding System Information	Understanding System Information	6.2.5
Understanding the Windows Registry	Understanding the Windows Registry	3.3.4
Understanding Windows Updates	Understanding Windows Updates	6.3.1
Understanding Microsoft Updates	Understanding Microsoft Updates	6.3.2
Understanding Hotfixes	Understanding Hotfixes	6.3.3
Understanding Action Center	Understanding Action Center	3.3.2
Understanding Windows Defender	Understanding Windows Defender	3.3.1
Using the Malicious Software Removal Tool	Using the Malicious Software Removal Tool	3.3.3
Understanding Windows Forefront Endpoint Protection	Understanding Windows Forefront Endpoint Protection	3.3.5

Disk Defragmenter

- A utility that helps improve a computer's performance by moving sectors of data on the hard disk, so that files are stored sequentially

- Minimizes the movement a hard disk's arm must make to read all of the sectors that make up a file or program

- Set to automatically run once a week

Disk Cleanup

- Helps users remove unnecessary files from their computers:
    - Downloaded program files
    - Temporary Internet files
    - Offline Web pages
    - Files left after running software

- More

Task Scheduler

- Enables a user to schedule and automate a variety of actions, such starting programs, displaying messages, and even sending e-mails

- Tasks scheduled by specifying a *trigger*, which is an event that causes a task to run, and an *action*, which is the action taken when the task runs

- Two primary task-creating commands: Create Basic Task and Create Task

System Information

- Displays a wealth of information about a computer's hardware, drivers, and system software

- Check System Information for possible clues as to the source of system-related issues

Microsoft Forefront Endpoint Protection

- Antivirus/anti-malware and management software for desktops, laptops, and other client endpoints in a business environment

- Designed for environments with more than 10 client computers

- Built on System Center Configuration Manager

  - Provides centralized management and security of client computers; supports WSUS

Summary

- Disk Defragmenter can speed up your computer's performance by defragmenting data on your hard disk.

- Disk Cleanup helps you remove unnecessary files from your computer.

- Task Scheduler enables you to automate tasks that don't have scheduling features built in.

- Windows 7 Action Center tracks maintenance and security utilities, issues, and so on.

- System Information displays a wealth of information about your computer's hardware, drivers, and system software.

- The Windows Registry is a database of configuration settings for your computer.

- Windows Update and Microsoft Update are the primary update tools for Windows 7.

- Windows Firewall is the native firewall in Windows 7 and many other versions of Windows.

- Windows Defender is a free program that protects your computer from spyware.

- Microsoft Security Essentials provides real-time protection from viruses and other malware.

- If your anti-malware software cannot remove a virus or worm from a computer, try the Microsoft Windows Malicious Software Removal Tool.

- Microsoft Forefront Endpoint Protection works with System Center Configuration Manager 2007 to provide security for network-connected computers in the enterprise.

7.01 Lesson 7 Competency and Proficiency Assignment

**SCHOOL OF APPLIED TECHNOLOGY &
TECHNICAL SPECIALTIES
COMPUTER SUPPORT SPECIALIST (KCMS)**

Instructions

Review the following scenario, and using the concepts and principles in the Lesson 7 material, solve the problem.

7.02 Lesson 7 Practice Test

Instructions

Take the Self Test Quiz to help evaluate your understanding of the concepts contained in the lesson.

7.03 Disk Defragmenter and Disk Cleanup

Objective: Use disk utility tools including disk defragment, Disk Cleanup.and Action Center

Equipment: A computer running Windows 7. Internet Access. USB thumb drive.

Instructions: Follow the instructions below, and then copy and paste both questions and answers with your submission.

1.   Following the step on page 222-226, complete and submit the following (including all steps):
     o   Run Disk Defragmenter and submit a capture the process using Snipping Tool.
     o   Change the Disk Defragmenter schedule and capture your work using Snipping Tool.
     o   Run Disk Cleanup and submit a capture the process using Snipping Tool.
     o   Use task Scheduler to enable Disk Cleanup to run every Sunday at 2:00am., and capture your work using Snipping Tool.
     o   Open Action Center and capture the window using Snipping Tool.
          ▪   In windows 10 this is under Security and maintenance.
     o   Did you see any issues needing your attention?
  2. Submit the steps and your answers and snips online.

7.04 Browse and Backup the Registry Assignment

Objective: Browse and backup the registry

Equipment: A computer running Windows 7. Internet Access. USB thumb drive.

Instructions: Follow the instructions below, and then copy and paste both questions and answers with your submission.

1.   Copy the following steps into a Word document.
2.   Follow the 5 steps at the top of page 240 and submit the following online:
     o   Capture the Registry Editor including the 5 keys.
     o   Capture the HKEY-LOCAL-MACHINE--> SOFTWARE (SUBKEYS).
     o   Capture the results of step 3 in the lesson at the top of page 240.
     o   After hitting the File>Export in number 5, record the screen using Snipping Tool.
     o   Do a backup of the registry, and record the time it took to back it up.

3. Submit the steps, questions and Snips, online.

7.05 Windows Updates Assignment

Objective: Explore Windows Updates settings

Equipment: A computer running Windows 7. Internet Access. USB thumb drive.

Instructions: Follow the instructions below, and then copy and paste both questions and answers with your submission.

1. Copy and paste the following steps into a Word document.

2. Open the Windows Update pane, as show in Figure 7-26 on page 241.

3. Capture the current settings using Snipping Tool and paste below this step.

4. According to the following LINK, (Links to an external site.)Links to an external site. or your own internet research, what is a hotfix?

5. Open the Windows Update history as shown in Figure 7-27.

6. Capture the pane and snip below this step.

7. When was the last update?

8. What is a Service Pack?

9. Do you see any in the Snip that you took of the Windows Update History? Explain.

10. Are there any Optional Updates? If yes, snip them and place below this step.

11. Submit the above online.

Lesson 8 Objectives

*   Understand Local, Network, and Automated Backup Methods

*   Create a System Image

*   Create a Repair Disc

*   Understand System Restore

*   Use System Restore

*   Restore Your System Using System Restores

*   Understand Recovery Boot Options

Lesson 8 Vocabulary

backup - A properly secured copy of files and folders—and sometimes settings—usually saved in a compressed format. A backup is created so a user can restore the files and settings in the event of data loss from a hard disk failure, accidental erasure or disk formatting, or natural events.

image - An exact replica of a computer at the time the image was taken.

recovery boot options - Tools that help a user repair a broken Windows 7 installation. Also referred to as advanced startup options.

system repair disc - A bootable disc a user creates in Windows 7 that contains Windows system recovery tools. The user can use the repair disc to attempt to start a failed computer, or to restore a computer from a system image.

restore - The process of returning a computer, or select files and folders, to a previous state, usually after some type of failure. A backup is created so a user can restore the files and settings in the event of data loss from a hard disk failure, accidental erasure or disk formatting, or natural events.

restore point - A snapshot of a computer system at some point in time. In Windows 7, System Restore uses the System Protection feature to create restore points. Restore points can be used to roll back a system to an earlier point in time.

system image - An image of an entire hard drive that includes all files needed to restore an operating system. By default in Windows 7, a system image includes the Windows folder, all system settings, programs, and files.

System Restore - A Windows system protection feature that allows a user to create and manage restore points.

Volume Shadow Copy service - A Windows service that allows users to create restore points and backups of their systems.

Windows Backup – A properly secured copy of files and folders and sometimes settings—usually in compressed format. Used to restore the files and settings in the event of data loss from a hard disk failure, accidental erasure or disk formatting or natural events.

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Understanding Backup and Recovery Methods

Objectives

Objective Domain Matrix		
Technology Skill	**Objective Domain Description**	**Objective Domain Number**
Understanding Local, Online, and Automated Backup Methods	Understanding Local, Online, and Automated Backup Methods	6.1.1
Understanding Backup Options	Understanding Backup Options	6.1.2
Understanding System Restore	Understanding System Restore	6.1.3
Understanding Recovery Boot Options	Understanding Recovery Boot Options	6.1.4
Understanding Safe Mode Options	Understanding Safe Mode Options	6.1.5

File Backup and Restore

- A *backup* is a properly secured copy of files and folders—and sometimes settings—usually saved in a compressed format.
- A backup is created so you can *restore* the files and settings in the event of data loss from a hard disk failure, accidental erasure or disk formatting, or natural events.

File Backup and Restore

- Windows Backup uses the Backup and Restore utility to back up and recover files.
- You can automatic backups by scheduling them to run daily, weekly, or monthly.

- You can store backups on CD/DVD, to another internal disk, to an external drive, or to a network drive.
  - Only Windows 7 Professional, Ultimate, and Enterprise editions enable file backups to a network.

Previous Versions

- Each time a file is saved with changes, a previous version is created so you can roll back to an earlier version of a document if needed.
- Right-click the file in Windows Explorer and choose **Restore previous version**.
- The document will be restored to its original location.

System Images

- An image of an entire hard drive that includes all files needed to restore your operating system
- By default, includes the Windows folder, all system settings, programs, and files
- System image storage:
  - CD/DVD
  - Hard drive
  - USB drive
  - Network location
- Two methods for creating a system image:
  - Creating a system image as part of the automatic Windows Backup process
  - Creating a system image manually, which involves running the backup wizard and selecting the drives you want to include in the image

Repairing a Windows Installation

- System repair disc: A bootable disc you create in Windows 7 that contains Windows system recovery tools
- Use the repair disc to attempt to start a failed computer, or to restore a computer from a system image
- Create a system repair disc or use the recovery tools on the Windows installation media

Restoring an Image

- Three methods for restoring a system image:
  - Restoring a system image using the Recovery applet in Control Panel
  - Restoring a system image using preinstalled recovery options
  - Restoring a system image using a Windows installation or system repair disc

System Restore

- Uses the System Protection feature to create restore points
- *Restore points* can be used to roll back your system to an earlier point in time

- Restore points are created automatically on a weekly basis and any time you make a change to your computer (such as installing a new application or device driver)
- Can create restore points manually

Advanced Recovery

- Two primary options:
  – Use a system image you created earlier to recover your computer
  – Reinstall Windows (requires Windows installation disc)
- Two primary options:
  – Use a system image you created earlier to recover your computer
  – Reinstall Windows (requires Windows installation disc)

Recovery Boot Options

- Also called advanced startup options
- Provide tools to help you repair a broken Windows 7 installation
- Options are found on the Advanced Boot Options page, which you access when the computer first begins to boot by pressing the F8 key.
  – Tip: Press and hold the **F8** key as soon as the computer begins to boot.

Summary

- A backup is a properly secured copy of files and folders—and sometimes settings—usually saved in a compressed format.
- A backup is created so you can restore the files and settings in the event of data loss.
- Windows Backup uses the built-in Backup and Restore utility to enable you to back up and recover files.
- A system image is an image of an entire hard drive that includes all files needed to restore your operating system.
- A system repair disc is a bootable disc you create in Windows 7 that contains Windows system recovery tools. You can use the repair disc to attempt to start a failed computer, or to restore a computer from a system image.
- You can use System Restore to roll back your system files and applications to a time when the PC was working properly.
- System Restore uses the System Protection feature to create restore points. Restore points can be used to roll back your system to an earlier point in time.
- Recovery boot options, also referred to as advanced startup options, provide you with tools to help you repair a broken Windows 7 installation. The options are found on the Advanced Boot Options menu, which you access when the computer first begins to boot by pressing the F8 key.

8.01 Lesson 8 Competency and Proficency Assignment

8.02 Lesson 8 Practice Test

Instructions

Take the Self Test Quiz to help evaluate your understanding of the concepts contained in the lesson.

8.03 Create and Restore a Computer

Objective: Create a System Restore Point and Launch the Restore System Wizard

Equipment: A computer running Windows 7. Internet Access. USB thumb drive. A word processing program like Word.

Instructions: Follow the instructions below, and then copy and paste both questions and answers with your submission.

1. Copy and paste the following steps into a Word document.

2. Review the material on pages 281-285.

3. Under the direction of the Lab Aid, create a System Restore Point.

4. Snip the System Properties screen, highlighting whether System Protection is turned on or off.

5. Create a System Restore Point and name it, your first initial and your last name followed by restore point.

6. Capture the screen showing that you are creating it.

7. How long did the process take?

8. Now follow the directions for *Restoring your System Using System Restores.*

9. *Capture the screen showing the restore points available.*

10. *Select the restore point that you created.*

11. *Restore the system.*

12. *Confirm that this was done with the lab aid, and write their name, the date and time on this step.*

13. *Submit the answers and snips to the above steps online.*