



ଓଡ଼ିଶା ରାଜ୍ୟ ମୁକ୍ତ ବିଶ୍ୱବିଦ୍ୟାଳୟ, ସମ୍ବଲପୁର, ଓଡ଼ିଶା  
Odisha State Open University, Sambalpur, Odisha  
Established by an Act of Government of Odisha.

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## **DIPLOMA IN CYBER SECURITY**

**DCS-01**

**Operating System Basics**

**Block**

**1**

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**Unit -1**

**Windows Part-I**

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**Unit -2**

**Windows Part-II**

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## DIPLOMA IN CYBER SECURITY

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## **Unit -1**

### **Windows Part-I**

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#### **Learning objectives**

After the Completion of this unit you should be able to know

- 1) Types of OS
- 2) Operating System administration
- 3) Windows operating system
- 4) Components of Desktop
- 5) Common Operating Systems & their types.
- 6) Administrations of OS
- 7) Folder or Directory Management.
- 8) File management

#### **Structure**

- 1.1 Introduction
- 1.2 Types of OS
- 1.3 Operating System administration
- 1.4 My Computer
- 1.5 Recycle Bin
- 1.6 Desktop
- 1.7 Drives
- 1.8 How to create a directory/folder
- 1.9 How to change (Rename) to a directory/folder
- 1.10 Creating a file in a directory/folder
- 1.11 Make the file read only
- 1.12 Make the file hidden
- 1.13 Editing a file in a directory/folder
- 1.14 Renaming a file in a directory/folder
- 1.15 How to delete a file in a directory/folder
- 1.16 Let us sum up
- 1.17 Key words
- 1.18 References
- 1.19 Check your progress - possible answers

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## 1.1 Introduction

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Microsoft window is a graphical interface operating system developed by Microsoft Corporation on 20<sup>th</sup> November 1985. It is single user multitasking operating system. Windows is the area on the screen having the border on all four sides, to perform a specific work. It executes one computer program within one window. Therefore, several programs can be executed at the same time, each in its own window. The window can be sized and move to any part of the screen. Actually Windows are rectangular portion of the screen.

### Versions of MS-Windows

Versions of MS- Windows are:

- Windows 1.0
- Windows 3.1
- Windows NT
- Windows 95/98/2000
- Windows XP/Vista/7/8

The most recent client version of Windows is Windows 8.1 & 10.

**Windows within Windows:** A Window refers to a rectangular area of the screen, within which you may view program folders and files, or display file contents such as documents, spreadsheets, and graphic images. A window can occupy part of the screen, can be maximized to fill the entire screen, or can be minimized so that it is no longer visible but remains active and is easily reassessed.

### **Parts of Windows**

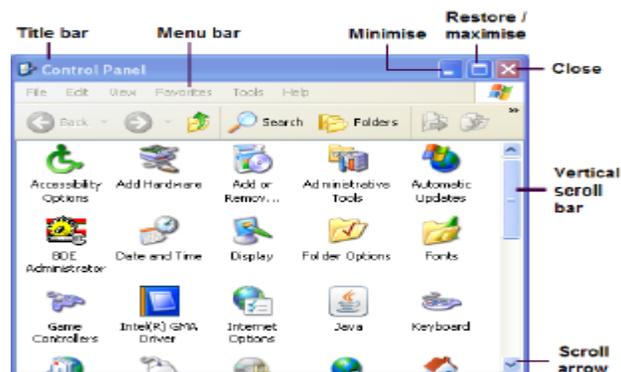
The following are just some of the terms used to describe the Windows desktop you are likely to run into. Most are indicated in the diagram below the list:

- ❖ **Desktop** refers to the background of your screen on which the various programs run. Think of your computer screen as your electronic desk.
- ❖ **Icons** are those small pictures on the desktop and inside folders that represent various programs and sometimes folders.

- ❖ **Folders** are containers that can contain icons, programs, data or other folders (sub-folders). The default folder icon looks like a Manila file folder.
- ❖ **Title bar** refers to the bar at the top of an open window that will tell you what the folder/window is (the title) and contains the minimize, maximize and close buttons. You can also use the title bar to move a window around.
- ❖ **Cursor** is the graphic which indicates where the mouse is and what sort of action it is performing. The cursor will change from the default arrow to various shapes according to the purpose it is serving at the time. For instance, it may form an I-beam shape when you are selecting text in a document or a double-arrow when you are resizing a window.
- ❖ **Task bar** refers to the bar usually at the bottom of your Windows screen (it can be moved) with the Start Button on the left and the clock on the right.
- ❖ The **Scroll Bar** appears when there is more information in the window than can be displayed. This is usually a vertical scroll bar, but a horizontal scroll bar may display if the width of the window is too narrow.
- ❖ The **Address Bar** allows you to navigate up and down a series of windows by double-clicking on a folder. The folder with the Back/Fwd. Buttons in Windows 7 would allow you to return to the previous folder.

## Working with Windows

Let's start by identifying the various components of a typical window, and how they are used.



## Title bar

The top line of the window is called the Title bar, and displays the name of the corresponding program or folder. You can move an open window to a different part of the screen by dragging its title bar. If more than one window is open on the screen, then clicking on the title bar (or inside the window) will make a window active - which is indicated by a darkened title bar.

There are three control buttons at the right end of the title bar, which are activated by clicking on them:

1. **Minimize** (on the left) keeps your program open, but reduces it to a rectangular icon on the taskbar.
2. **Restore / maximize** (in the middle) reduces the size of a full-screen window, or maximizes a window that is not full-screen.
3. **Close** (on the right) closes the window or program.

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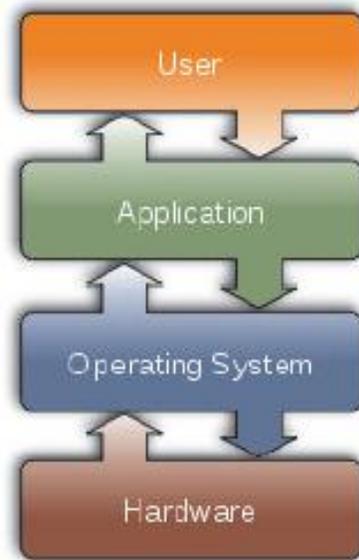
## 1.2 Types of OS

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An operating System is the most important program that runs on a computer. It is stored (installed) on the hard disk or any other external storage device. It is the first program to be executed on a computer after the BIOS. Every computer must have an operating system to operate all its components and run other programs.

An operating system is system software that provides an interface for a user to communicate with the computer, manages hardware devices (disk drives, keyboard, monitor, etc.), manages and maintains disk file systems and supports application programs. Some popular Operating systems are UNIX, Windows and Linux.

Operating system provides a software platform, on top of which, other programs, called application programs are run. The application programs must be written to run on the environment of a particular operating system. Our choice of operating system, therefore, depends to a great extent on the CPU and the other attached devices and the applications we want to run. For PCs, some of the most popular operating systems are Microsoft Windows, Linux, Mac OS, Solaris, BOSS, etc.



Operating system is a set of system programs that controls and coordinates the operations of a computer system. Operating systems perform all basic tasks, such as identifying basic input/output devices, accepting input from the input devices, sending results to the output devices, keeping track of files and directories on the disk, and controlling other peripheral devices such as disk drives and printers.

### Types of Operating system

Following types of operating system are generally available and used depending upon the primary purpose and application and the type of hardware attached to the computer:

1. **Single User:** Allows one user to operate the computer and run different programs on the computer. MS DOS is a common example of single user operating system.
2. **Multi-user:** Allows two or more users to run programs at the same time on a single computer system. UNIX, Linux, Windows are common examples of multi user operating system.
3. **Real time:** Responds to input instantly. Real-time operating systems are commonly found and used in robotics, complex multimedia and animation, communications and has various military and government uses. LYNX and Windows CE are examples of real time operating systems.
4. **Multiprocessing:** Supports allocating programs on more than one CPU processor

5. **Multitasking:** Allows more than one program (task) to run concurrently
6. **Multithreading:** Allows different parts of a single program to run simultaneously.

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### Check your progress 1

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Q.1 what are the parts of Windows?

A. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Q.2 what are the types of Operating System?

A. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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### Common Operating Systems

Originally the operating system was created by each company that manufactured a processor and motherboard. So each operating system was **proprietary**, that is, unique to each manufacturer. Problem: changing to a new computer meant your software had to be replaced! Not good marketing. So there was pressure early on to standardize things so that software could be transferred to the new (*and of course better!*) computer. This required more standardization in operating systems.



The winner in the PC market was **MS-DOS**, Microsoft's **Disk Operating System**, and its twin at IBM, PC-DOS, also written by Microsoft. Now it's hard to recall those days when each computer had its own unique operating system. More on DOS Commands



**Windows 95** and **Windows 98** are actual operating systems on their own. The previous versions of Windows use DOS as the operating system and adding a graphical user interface which will do multitasking. But with Windows 95 Microsoft released an operating system that can take advantage of the 32-bit processors.



**Windows Me** (Windows Millennium Edition) is an upgrade of Windows 98, release date Sept. 14, 2000. The system resources required for this operating system are significantly higher than previous versions of Windows.



**Windows NT** (the NT apparently came from New Technology) is an operating system for client-server type networks. The latest version of NT has a user interface that is practically identical to Windows 95. Since Windows NT is designed for the higher demands of networks, it has higher demands itself for disk space and memory.



**Windows 2000** is an upgrade of Windows NT rather than of Windows 98.

**Windows 2000 Professional** is the Windows operating system for business desktop and laptop systems. It is used to run software applications, connect to internet and intranet sites, and access files, printers, and network resources. Built on Windows NT@ technology and the easy-to-use, familiar Windows@ 98 user interface, Windows 2000 Professional gives business users increased flexibility.



**Windows XP** is an upgrade to Windows 2000. It comes in two versions - Home and Professional. The Professional version contains all the features of the Home version plus more business features, like networking and security features.

**Windows XP**, an operating system introduced in 2001 from Microsoft's Windows family of operating Systems, the previous version of Windows being Windows Me. Microsoft called the release its most- important product since Windows 95. Along with a redesigned look and feel to the user interface, the new operating system is built on the Windows 2000 kernel, giving the user a more stable and reliable environment than previous versions of Windows. Windows XP comes in two version, home and Professional. The company has focused on mobility for both editions, including plug and play features for connecting to wireless networks. The operating system also utilizes IEEE 802.11 x wireless security standard.



**Windows CE** is for small devices like palmtop and handheld computers. Lite versions of a number of major applications are available to run on these devices. You can link your small computer to a regular one to synchronize documents and data.



The **Apple Macintosh** is a multitasking operating system that was the first graphical interface to achieve commercial success. The Mac was an immediate success in the areas of graphics production, and still commands the lion's share of that market. Apple made a major marketing error when they decided to keep their hardware and software under tight control rather than licensing others to produce compatible devices and programs. While the Apple products were of high quality, they were always more expensive than comparable products that were compatible with Microsoft's DOS operating system. Apple's share of the computer market has dropped to an estimated 2.4% worldwide and 3.48% of the US market (MacWorld July 3, 2002). This is an example of how a near lock on a market can be lost in a twinkling. Mac OS X, Version 10.2 (Jaguar) is the current version. Since January 2002, all new Mac computers use Mac OS X.



IBM's 32-bit operating system is **OS/2**. This is a popular system for businesses with complex computer systems from IBM. It is powerful and has a nice graphical interface. Programs written for DOS and Windows can also run on this system. This system has never really caught on for PCs.

## UNIX

**UNIX** is an operating system developed by Bell Labs to handle complex scientific applications. University networks are likely to use UNIX, as are Internet Service Providers. A lot of people have experience with UNIX from their college work. Many computer old-timers love UNIX and its command line interface. But all those commands are not easy to remember for newcomers. X-Windows is a graphical interface for UNIX that some think is even easier to work with than Windows 98. **Unix** was created in the late 1960s, in an effort to provide a multi-user, multitasking system for use by programmers. The philosophy behind the design of UNIX was to provide simple, yet powerful utilities that could be pieced together in a flexible manner to perform a wide variety of tasks. The UNIX operating system comprises of three parts: The kernel, the standard utility programs and the system configuration files.



**Linux** is an operating system similar to UNIX that is becoming more and more popular. (And it has the cutest logo!). It is an open-source program created by Linus Torvalds at the University of Finland, starting in 1991. Open source means that the underlying computer code is freely available to everyone. Programmers can work directly with the code and add features. They can sell their customized version of Linux, as long as the source code is still open to others. You can find more info at the Linux home site. **Linux** is a freely distributed UNIX operating system for the Intel architecture. Linux has all of the utilities to provide printer service, ftp service, network file service, web page service, mail service and Internet service to a host of computers. The current version of Linux is Red Hat Linux 7.0.

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## 1.3 Operating System administration

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System administration is the field of work in which someone manages one or more systems, be they software, hardware, servers or workstations. Its goal is ensuring the systems are running efficiently and effectively.

A **system administrator**, or **sysadmin**, is a person who is responsible for the upkeep, configuration, and reliable operation of computer systems; especially multi-user computers, such as servers.

The system administrator seeks to ensure that the uptime, performance, resources, and security of the computers he or she manages meet the needs of the users, without exceeding the budget.

### Administrator's responsibilities

A system administrator's responsibilities typically include:

- ✦ Morning checks of systems/software.
- ✦ Performing backups of data.
- ✦ Applying operating system updates, and configuration changes.
- ✦ Installing and configuring new hardware/software.
- ✦ Adding/deleting/creating/modifying user account information, resetting passwords, etc.
- ✦ Answering technical queries.
- ✦ Responsible for security.
- ✦ Responsible for documenting the configuration of the system.
- ✦ Troubleshooting any reported problems.
- ✦ System performance tuning.
- ✦ Keeping the network up and running.

### Access Elements

- **Logon information** – User name and password.
- **Groups** – A method for grouping individual users. You can manage users more easily by assigning them to groups. If you create groups, you can apply a role to the group, and this role is inherited by all the users in the group.
- **Roles** – A defined collection of privileges. Roles are a collection of defined privileges that control individual user or group access to particular objects.
- **Privileges** – A particular right corresponding to a set of operations or methods on a class of objects.

- **Permissions** – The combination of the role plus user or group name assigned to an object.

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## 1.4 My Computer

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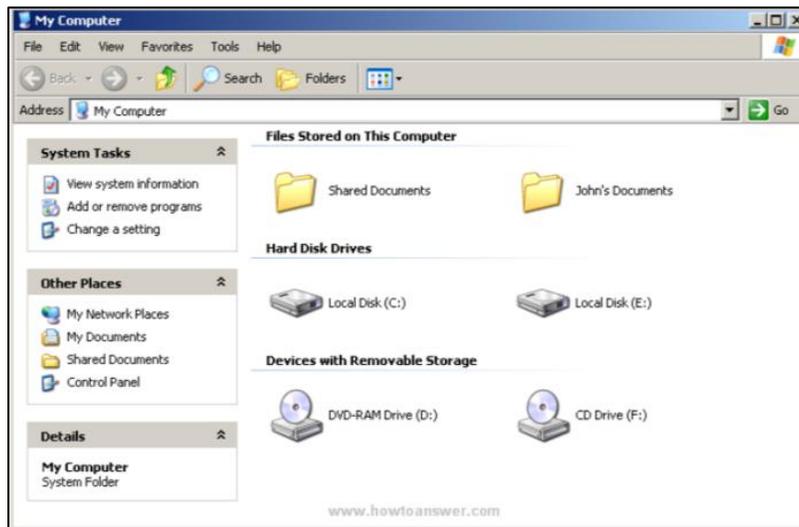
**My Computer** is a section of Microsoft Windows first found in Windows 95 and included with all later versions that allows you to explore and manage the contents of your computer drives. The picture to the right shows examples of the My Computer icon in Microsoft Windows XP, Vista and Windows 7, as well as the "This PC" icon in Windows 8 and in Windows 10. Although the name has changed, "This PC" still has the same functionality as "My Computer". In all versions of Windows, pressing Windows key + **E** opens My Computer (Explorer).

Or

1. Get to the Windows Desktop and open Start Menu, or navigate to the Start Screen if you are using Windows 8.
2. In earlier versions of Windows, after clicking Start, select My Computer. Or, on the Desktop, double-click the My Computer icon. In Windows Vista and Windows 7, select **Computer** from the Start menu. In Windows 8 and Windows 10, select **This PC** from the Windows Files Explorer.



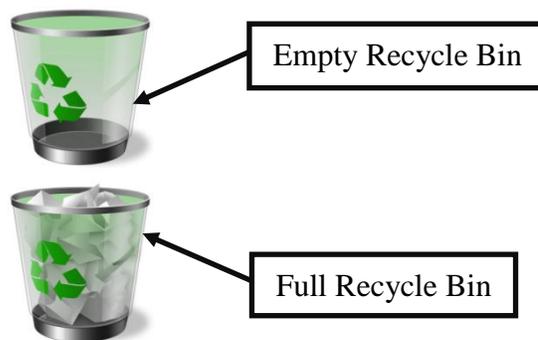
The following images show examples of the My Computer option in both new and old versions of Windows.



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## 1.5 Recycle Bin

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Most Windows environments have a '**Recycle Bin**' icon on their desktop. This is a place where old files no longer needed can be thrown away. Items in this repository are not permanently lost; the recycle bin is merely a place to put old files before they are permanently deleted. Here are two methods for deleting old files (sending them to the recycle bin).

1. Click on the icon and hold the button down, this will select the file or program to be moved.
2. Using the mouse, drag the item until it overlays the 'Recycle Bin'.

3. When the 'Recycle Bin' icon becomes highlighted, release the button on the mouse.
4. The file will now be in the 'Recycle Bin'.

OR

1. Right-click on an item; this will open a drop-down menu.
2. Drag the cursor over 'Delete' and then click.
3. The item will now be in the 'Recycle Bin'. Although the items are now in the Recycle Bin, they are not permanently lost. They are merely stored for the moment.

In order to empty your Recycle Bin, you must do the following:

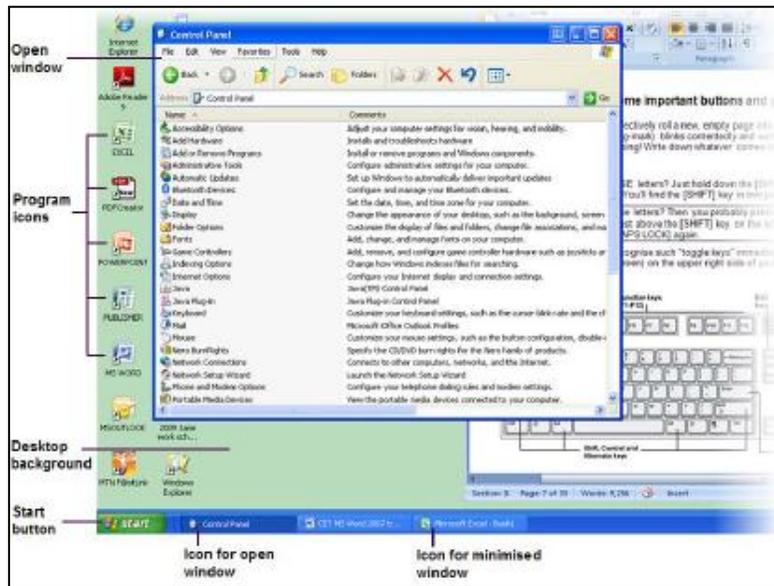
1. Double-click on the 'Recycle Bin' icon. This will open up a Recycle Bin window and show you all the files that have been placed here.
2. In the top menu bar, click on 'File', this opens a drop menu.
3. Select 'Empty Recycle Bin' and click.
4. The Recycle Bin is now empty. Remember that once this is done, files are permanently lost and are not recoverable unless you have some special recovery software. But don't let it get that far as the procedure is not always successful. If you discover that there is a file in the Recycle Bin that you want to keep after all and then perform the following:
  1. Double click on the 'Recycle Bin' icon, this opens the recycle bin window.
  2. Right-click on the item to be recovered, this opens a drop menu.
  3. Select and click 'Restore', this will replace the file to its original location.

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## 1.6 Desktop

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The Desktop gives you access to everything you need in Windows XP. It occupies the entire screen, and unlike a window, it can't be reduced in size. The desktop consists of a coloured or patterned background, containing small pictures called Icons that represent programs or data stores. Double-clicking on an icon opens the corresponding program or file inside a window.

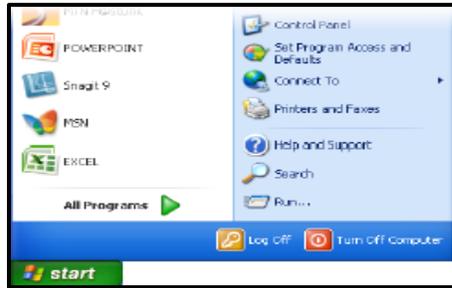


The icons that are visible on your desktop depend on choices made at installation; you will usually see icons for

- ❖ **My Computer** (the gateway to your computer's drives, or data storage areas)
- ❖ **Recycle Bin** (a temporary “trashcan” that holds files you want to delete)
- ❖ **The Taskbar** lies across the bottom edge of your screen. The Start button on the left provides access to all the programs, data files, and other features available on your computer. When you open a program or file, a corresponding rectangular icon will be displayed on your taskbar - even if the program has been minimized and is no longer visible on your screen. To access that program, you just need to click its icon on the taskbar!



- ❖ In this example, two windows are open; the Control Panel window (which is slightly darker in colour) is currently active.
- ❖ **The Start menu** : When you click on the Start button, a set of menu options is displayed. The contents will vary depending on your computer setup and most frequently accessed programs. If you click on the All Programs option, you'll see a list of all the programs installed on your computer – even those that don't have icons on the desktop.
- ❖ Press the [ESC] (escape) key to close the menu.



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## Check your progress 2

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Q.1 What are the system administrator responsibilities?

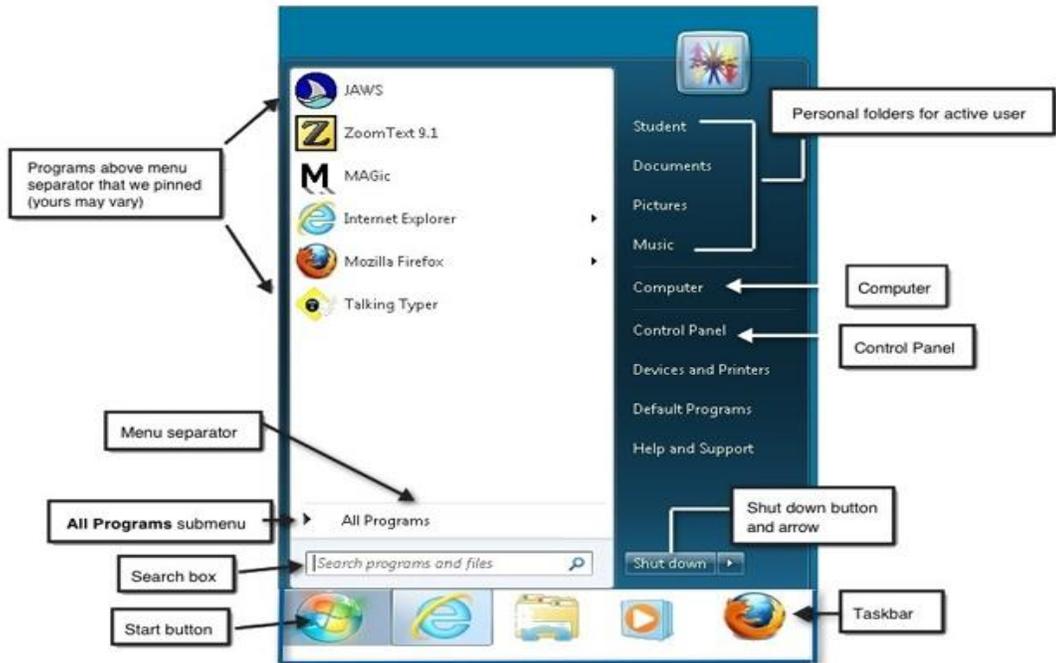
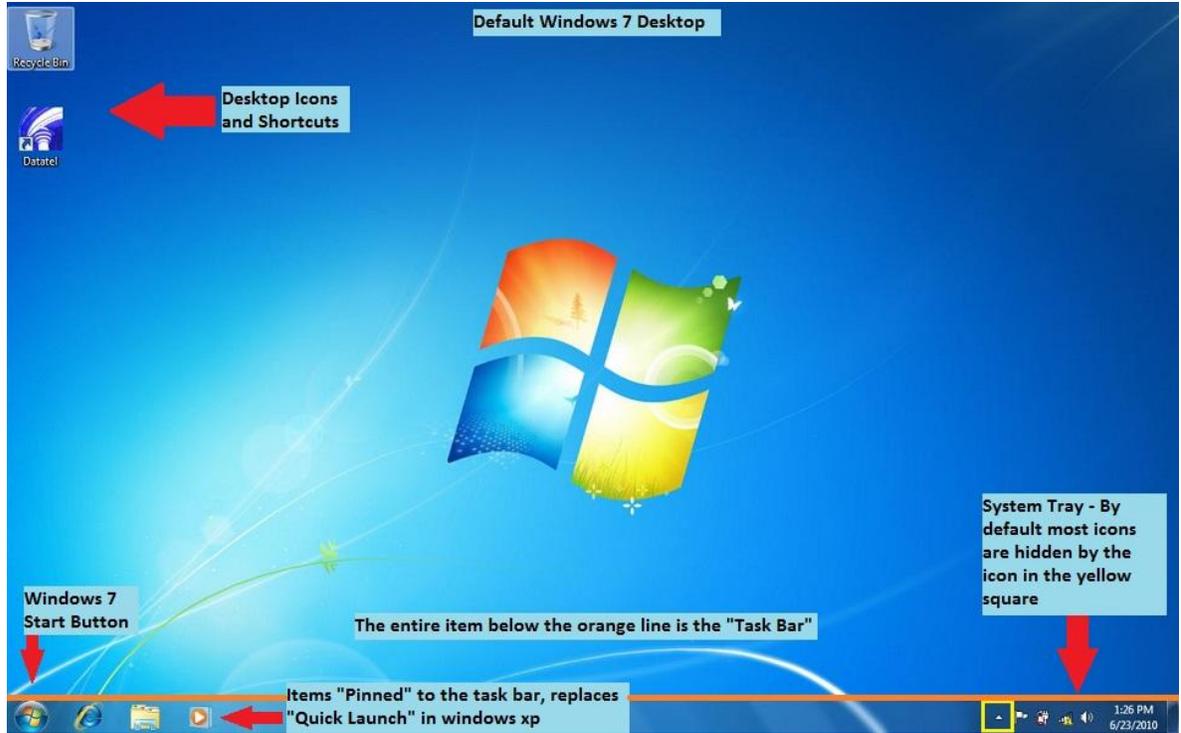
A. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Q.2 What is the role of recycle bin?

A. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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# Windows 7 Desktop



Upon clicking on start button we come across the following components

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## 1.7 Drives

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A drive is a medium that is capable of storing and reading information that is not easily removed like a disk. The picture is an example of different drives listed in Microsoft Windows My Computer.



In the example shown on this page, drive A: is the floppy drive, C: is the hard disk drive, D: and E: partitions of the hard drive, and F: is the CD-ROM drive. Typically the CD-ROM drive is the last drive so in most situations the hard drive is the C: drive and a CD-ROM or other disc drive is the D: drive.

Below are some examples of different drives you could have in a computer or that may be accessible by the computer.

The types of computer drive are.

1. Bernoulli drive
2. Disc drives: Blu-ray, CD-R, CD-ROM, CD-RW, and DVD.
3. Floppy disk drive
4. Hard drive
5. Local drive
6. LS120 drive aka SuperDisk
7. Network drive
8. RAM disk
9. SSD
10. Tape drive
11. Virtual drive
12. Zip drive

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### Check your progress 3

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Q.1 What are the components of Windows 7 Desktop?

A. \_\_\_\_\_

Q.2 What are the various drives that we have studied?

A. \_\_\_\_\_

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### 1.8 How to create a directory/folder

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1. Open My Computer or Windows Explorer
2. Open the drive or folder in which you'd like to create the new folder; for example, the C: drive. If you do not want to create a folder in the root directory, browse to the location of your choosing.
3. On the menu bar, select **File and** then **Folder**. You can also right-click with your mouse on a blank
4. portion of the folder, click **New** and then **Folder**, as shown in the image below.

**Note:** If you do not see the menu bar at the top of Windows Explorer, press the Alt key and it should become visible.



1. Navigate to the Windows Desktop.
2. Right-click with your mouse on any blank portion of the Desktop.
3. In the menu that appears (like that shown in the picture to the right), click **New** and then **Folder**.
4. A new folder will appear. Type the name of the folder you want to use and then press Enter.

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## 1.9 How to change (Rename) to a directory/folder

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If you decide to change the name of the file or folder, you can quickly rename it by either of the following two methods:

### Method 1:

To rename a file or folder through file menu

1. In a window, select the file want to rename.
2. On the file menu, click **Rename**
3. Type the new name, and then press enter.

To rename a file or folder through file menu

Renaming Files and Folders There are a number of ways to rename files and folders. You

can rename by using the FILE menu, left mouse button or right mouse button.

### **Method 1 - Using the FILE Menu**

1. Select the file or folder you wish to rename;
2. Click on the FILE menu and select RENAME;
3. Type in the new name.

**NOTE:** If you are renaming a file you must keep the same file extension (e.g. “.doc”) as it had, or the file will no longer be associated with the program that created it;

4. To finalize the renaming operation press enter or click away from the rectangle that surrounds the file or folder name.

### **Method 2 – Using the Right Mouse Button**

1. Select the file or folder you wish to rename;
2. Click the right mouse button while still pointing to the file;
3. Select RENAME from the shortcut menu;
4. Type in the new name (if renaming a file, remember to include the file extension

(e.g. “.doc”)

5. To finalize the renaming operation press enter or click away from the rectangle that

surrounds the file or folder name.

### **Method 3 – Using the Left Mouse Button**

1. Select the file or folder you wish to rename;
2. Wait a moment then click again (not in quick succession like a double click). A surrounding rectangle will appear around the name;
3. Type in the new name (if renaming a file, remember to include the file extension

(e.g. “.doc”)

4. To finalize the renaming operation press enter or click away from the rectangle that

surrounds the file or folder name

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## 1.10 Creating a file in a directory/folder

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1. First open Notepad. You can press **Windows + R** and type in "notepad" or you can find it in your desktop or start menu.
2. Click in Notepad's window and press Enter.
3. Click file and Save As.
4. For the 'save as' box, Chose your particular folder in drop down combo box then select Text document (.txt)
5. Write your file's name in the file name box.
6. Press Save.

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## 1.11 Make a file read only

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A **read-only file** is protected from accidental deletion and changes to its content.

### Method -1

1. Right-click the **file** that you want to set to **read-only**, and then
2. Click Properties.
3. Click the General tab, select the **Read-only** check box, and then
4. Click OK.

If you need to **make** changes to the **file** later, you can turn off the **read-only** setting by clearing the **Read-only** check box.

### Method -2

1. **Open file** that you want to set to **read-only**. (MS-word 2007 or MS-Excel etc...)
2. Click the Microsoft Office Button , and then click Save or Save As if you have previously saved the document.
3. Click Tools.
4. Click General Options.
5. Click the Read-only recommended check box.
6. Click OK.
7. Save the document. You might need to save it as another file name if you have already named the document.

### **Remove read only**

1. Open the read-only file. (MS-word 2007 or MS-Excel etc..)

2. Click the Microsoft Office Button  , and then click Save or Save As if you have previously saved the document.
3. Click Tools.
4. Click General Options.
5. Clear the Read-only recommended check box.
6. Click OK.
7. Save the document. You might need to save it as another file name if you have already named the document.

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## 1.12 Make the file hidden

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A **hidden** folder (sometimes **hidden** directory) or **hidden file** is a folder or **file** which file system utilities do not display by default when showing a directory listing.

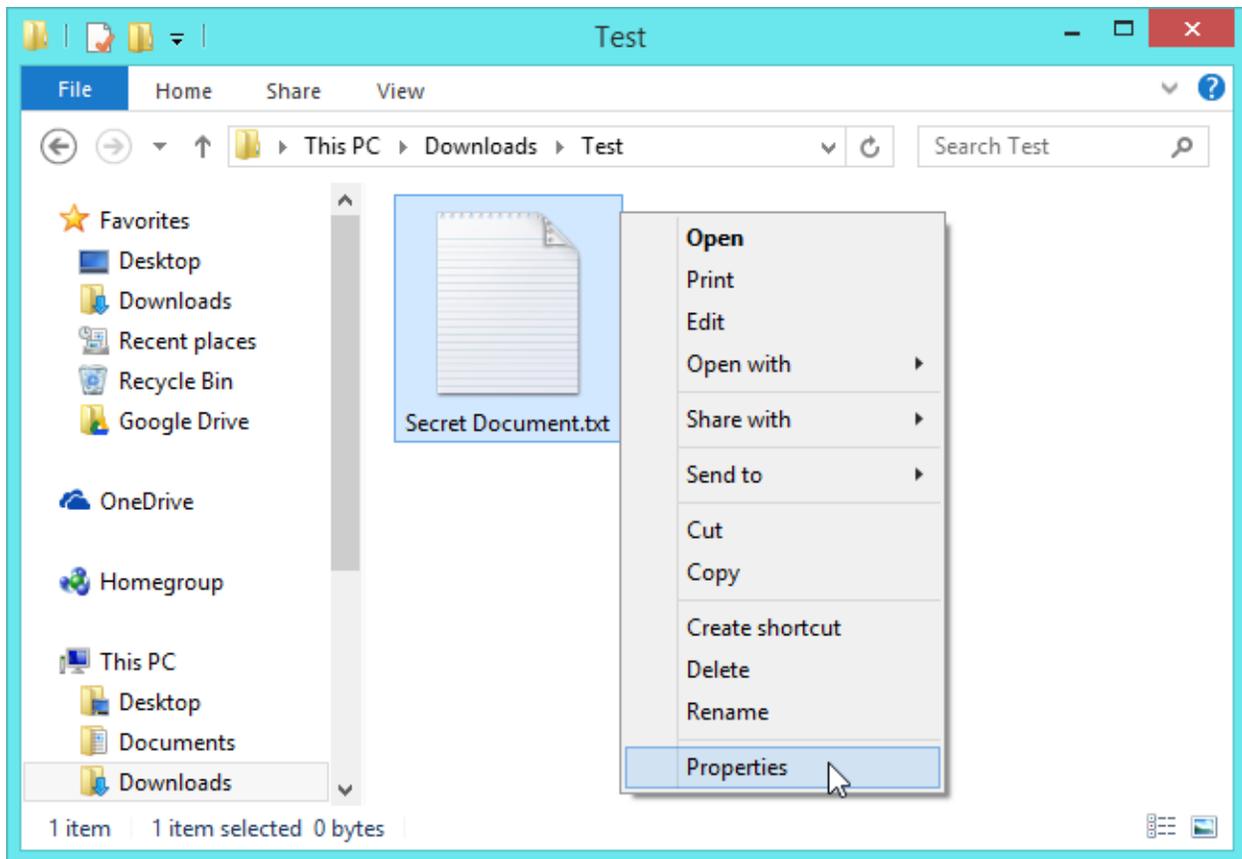
### Hide a File or Folder on Windows

#### Method-1

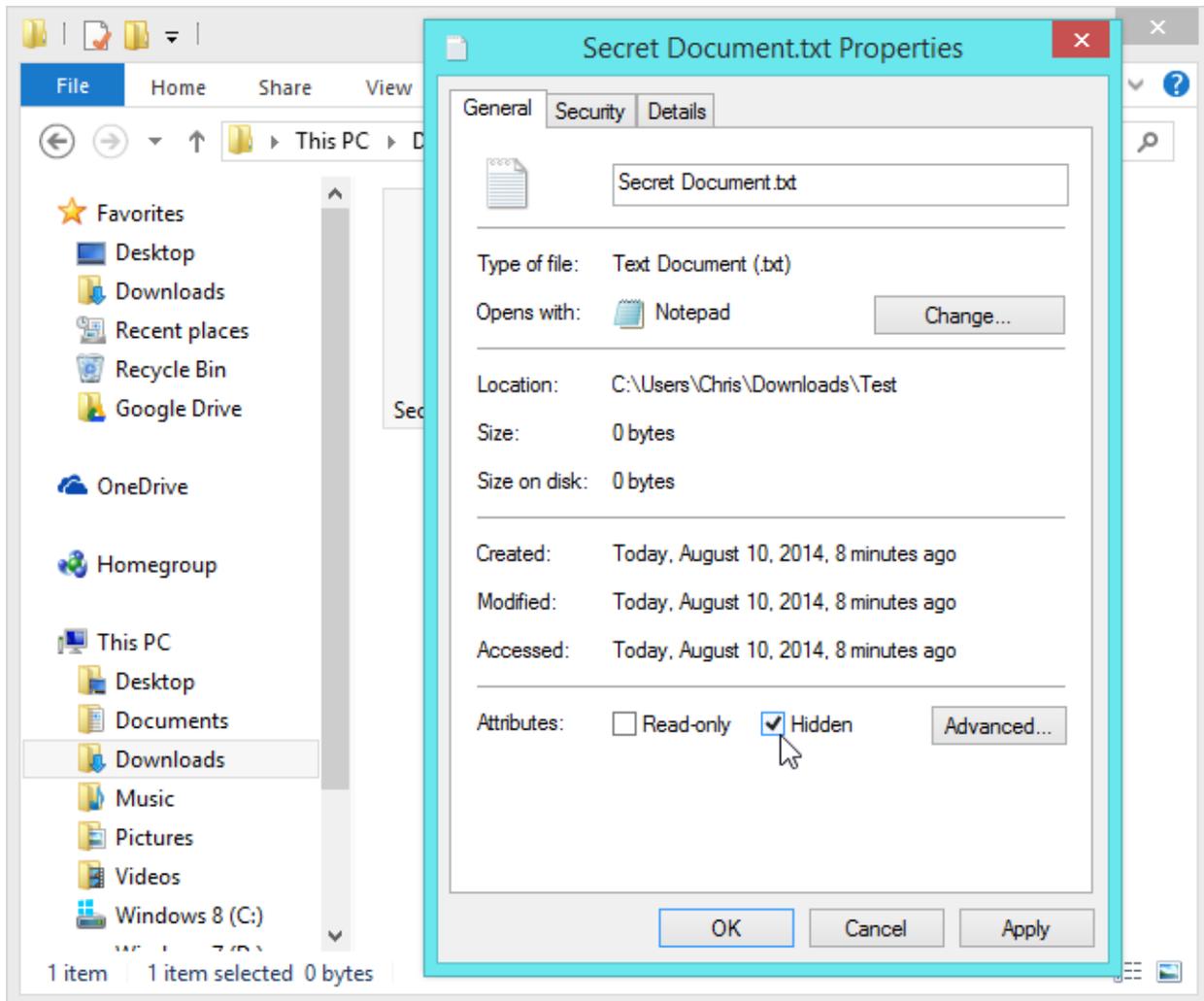
1. Select the files or folders you want to hide.
2. Right-click and choose Properties.
3. Click the General tab.
4. Click the checkbox next to Hidden in the Attributes section.
5. Click Apply.
6. Click ok

#### Method-2

To hide a file or folder on Windows, open a Windows Explorer or File Explorer window and locate the file or folder you want to hide. Right-click it and select Properties.



Enable the Hidden checkbox on the General pane of the Properties window. Click OK or Apply and your file or folder will be hidden.



To enable the viewing of Hidden files follow these steps. Please note a guide with images that shows the same steps can be found here:

### **How to show hidden files in Windows 7**

1. Close all programs so that you are at your desktop.
2. Click on the Start button. This is the small round button with the Windows flag in the lower left corner.
3. Click on the **Control Panel** menu option.
4. When the control panel opens click on the **Appearance and Personalization** link.
5. Under the Folder Options category, click on **Show Hidden Files or Folders**.
6. Under the **Hidden files and folders** section select the radio button labeled **Show hidden files, folders, or drives**.
7. Remove the checkmark from the checkbox labeled **Hide extensions for known file types**.

8. Remove the checkmark from the checkbox labeled **Hide protected operating system files (Recommended)**.
9. Press the **Apply** button and then the **OK** button..
10. Now Windows 7 is configured to show all hidden files.

### **How to show hidden files in Windows XP and Windows 2003**

To enable the viewing of Hidden files follow these steps:

1. Close all programs so that you are at your desktop.
2. Double-click on the My Computer icon.
3. Select the Tools menu and click Folder Options.
4. After the new window appears select the View tab.
5. Put a checkmark in the checkbox labeled Display the contents of system folders.
6. Under the Hidden files and folders section select the radio button labeled Show hidden files and folders.
7. Remove the checkmark from the checkbox labeled Hide file extensions for known file types.
8. Remove the checkmark from the checkbox labeled Hide protected operating system files.
9. Press the Apply button and then the OK button and shutdown My Computer.
10. Now your computer is configured to show all hidden files.

---

### **1.13 Editing a file in a directory/folder**

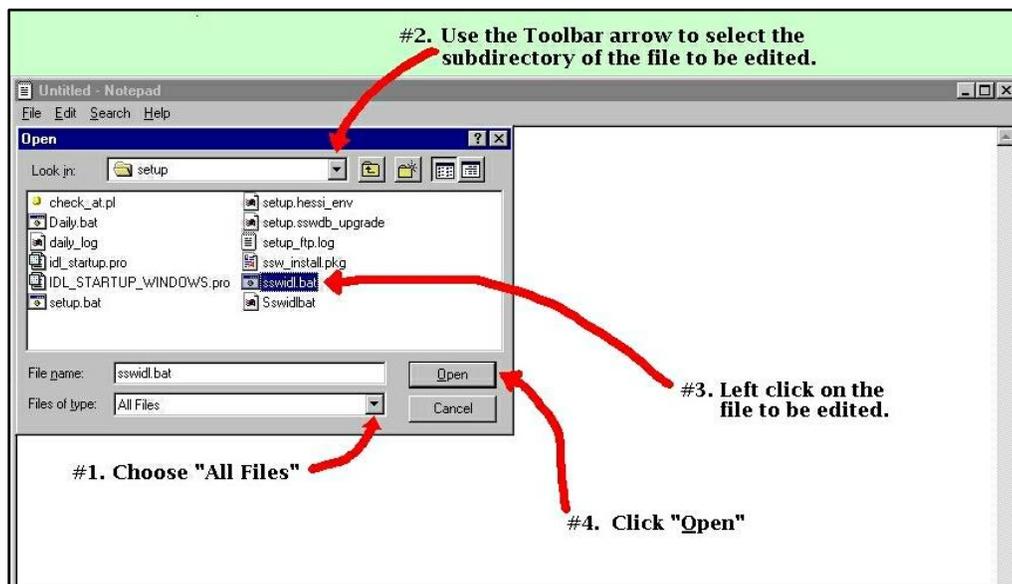
---

Editing a file means making changes in the text contained in a file. A text editor is a type of program used for editing plain text files. Such programs are sometimes known as "notepad" software.

#### **Steps of editing a File**

1. Left click the "Start" button in the lower left-hand edge of your screen.
2. Click "Programs".
3. Click "Accessories".
4. Click "Notepad".

5. When the Notepad editor appears, click "File" on the Notepad toolbar, then click "Open...". An "Open" panel will appear.
6. Refer to the steps in the picture below to choose a file for editing.
7. When you are finished editing the file, click "File" on the Notepad toolbar, then click "Save". Exit the Notepad editor.



---

## 1.14 Renaming a file in a directory/folder

---

**Rename** is a term used to describe the process of changing the name of an object. For example, you could **rename a file** called "Shan.txt" on a computer to "shreyas.txt" so it can be identified without having to open and read its contents.

### Steps of renaming a File

1. Start Windows Explorer. To do so, click Start, point to All Programs, point to Accessories, and then click Windows Explorer.
2. Select appropriate files in a folder. ...

3. After you select the files, press F2 key from the Keyboard.
4. Type the new name, and then press ENTER

---

### **1.15 How to delete a file in a directory/folder**

---

Delete is computer terminology for remove or erase. You can delete text from a document or delete entire files or folders from your hard drive. Delete or remove refers to the act of eliminating a file, or other object from the computer hard drive or other media.

Files and folders can be removed from your hard drive by dragging them to the Recycle Bin (Windows) or the Trash (Macintosh) and then emptying the trash.

#### **Method-1**

To delete a file or folder: -

Right-click the file or folder that you want to delete, and then click Delete.

---

### **1.16 Let us sum up**

---

In this particular unit we came to know about

1. What is an operating system and why do we need an operating system.
2. How an operating system is a necessity to run a computer.
3. The various operating systems of windows and how windows evolved.
4. Windows XP and Windows 7. The components of windows XP and 7.
5. what are drives and why do we use them
6. what is a folder and how to manage it
7. What is a file and how it is to be managed

---

## 1.17 Key words

---

- Operating System :- An operating system (OS) is system software that manages computer hardware and software resources and provides commonservices for computer programs. The operating system is a component of the system software in a computer system. Application programs usually require an operating system to function.
- Drive : A storage device is any computing hardware that is used for storing, porting and extracting data files and objects. It can hold and store information both temporarily and permanently, and can be internal or external to a computer, server or any similar computing device. Internal storage devices include hard disk drives. External storage devices include external hard disk drives, pen drives, DVD,CD.

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## 1.18 References

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1. Tutorialspoint.com
2. Google.com

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## 1.19 Check your progress –possible answers

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---

### Answers to check your progress 1

---

A.1. The parts of the windows are desktop, icons, folders, title bar, cursor, task bar, scroll bar, address bar

A.2 the types of operating system are single user, multi-user, real time, multiprocessing, Multitasking, multithreading.

---

### Answers to check your progress 2

---

#### A.1 The role of the system administrator are

- ✦ Morning checks of systems/software.
- ✦ Performing backups of data.
- ✦ Applying operating system updates, and configuration changes.
- ✦ Installing and configuring new hardware/software.
- ✦ Adding/deleting/creating/modifying user account information, resetting passwords, etc.

- ✦ Answering technical queries.
- ✦ Responsibility for security.
- ✦ Responsibility for documenting the configuration of the system.
- ✦ Troubleshooting any reported problems.
- ✦ System performance tuning.
- ✦ Keeping the network up and running.

## **A.2 The role of the recycle bin are**

1. Keep deleted files from the computer.
2. Restore deleted files from the computer
3. Permanently delete the files from the computer.

---

## **Answers to check your progress 3**

---

A.1 The components of the desktop are windows 7 start button, desktop icons and shortcuts,

system tray, task bar.

A.2 The various drives we have studied are

1. Bernoulli drive
2. Disc drives: Blu-ray, CD-R, CD-ROM, CD-RW, and DVD.
3. Floppy disk drive
4. Hard drive
5. Local drive
6. LS120 drive aka SuperDisk
7. Network drive
8. RAM disk
9. SSD
10. Tape drive
11. Virtual drive
12. Zip drive

---

## **Unit -2**

### **Windows Part-I**

---

#### **Learning objectives**

After the Completion of this unit you should be able to know about the following

- 1) List the files in the directory
- 2) Creating a file
- 3) Deleting all files from a directory/folder.
- 4) Deleting a directory/folder
- 5) Formatting a hard disk and loading Operating System
- 6) Domain, Workgroup, Active Directory
- 7) User Management
- 8) Network Setting
- 9) Services
- 10) IIS Configuration

#### **Structure**

- 2.1 Listing the files in the directory
- 2.2 Create a file
- 2.3 Copy a file from one directory /folder to the other
- 2.4 Deleting all files from a directory/folder
- 2.5 Deleting a directory/folder
- 2.6 Formatting a hard disk and loading Operating System
- 2.7 Domain, Workgroup, Active Directory
- 2.8 User Management
- 2.9 Network Setting
- 2.10 Services
- 2.11 IIS Configuration
- 2.12 Let us sum up
- 2.13 Keywords
- 2.14 References
- 2.15 Check your progress possible answers.

---

## 2.1 Listing the files in the directory

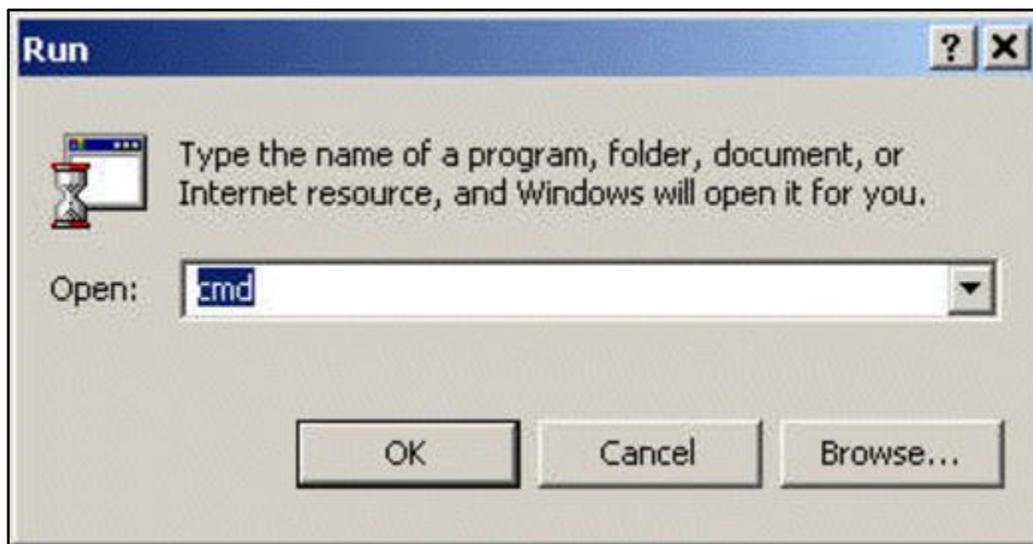
---

A directory is a location for storing files on your computer. Directories are found in a hierarchical file system, such as DOS, OS/2, UNIX, etc. or a directory or folder is nothing more than a location on a disk used for storing information about files.

A file is an object on a computer that stores data, information, settings, or commands that are used with a computer program. In a graphical user interface (GUI) such as Microsoft Windows. A collection of data or information that has a name, called the filename. Almost all information stored in a computer must be in a file. There are many different types of files: data files, text files, program files, directory files, and so on. Different types of files store different types of information.

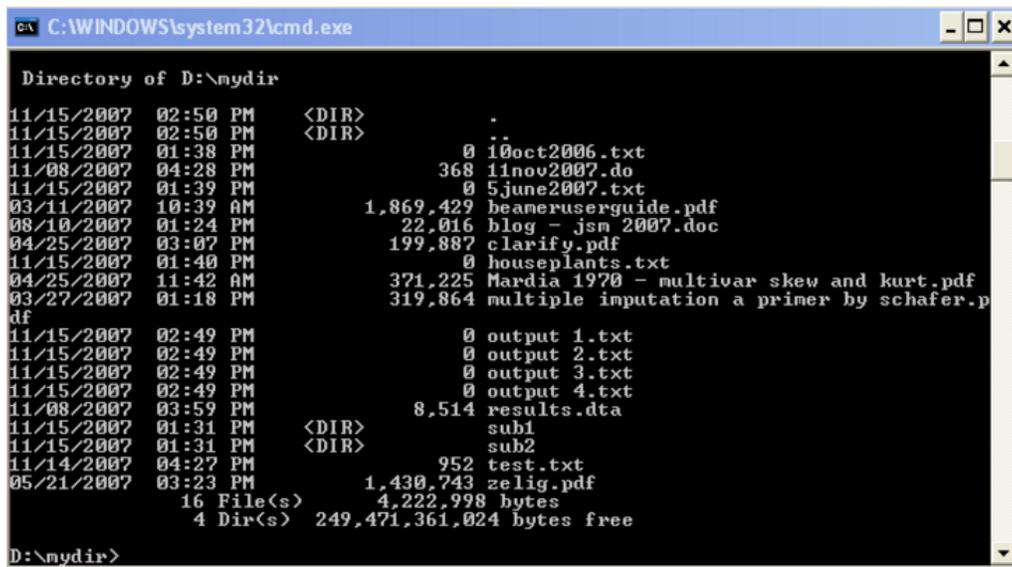
If you need a list of files in a given directory, on a windows based PC, you can use dos commands. First you'll need to get to the command prompt, you can do this by going to:

**Start -> Run -> Type in "cmd" ↵**



This will open the command window. Next I will have to move into the correct directory. On my computer, the default directory is on the C: drive, but the folder I want to list the files for is on the D: drive, the first thing I will see is the prompt "C:\>". The first command below (d:) changes to the D: drive. The second command moves to the directory **d:\mydir** which is the directory I want to list the files in. The final line asks for a listing of the directory, the resulting list of files is shown below.

```
d:↵
cd d:\mydir ↵
dir↵
```



```
C:\WINDOWS\system32\cmd.exe

Directory of D:\mydir

11/15/2007  02:50 PM  <DIR>          .
11/15/2007  02:50 PM  <DIR>          ..
11/15/2007  01:38 PM                0 10oct2006.txt
11/08/2007  04:28 PM            368 11nov2007.do
11/15/2007  01:39 PM                0 5june2007.txt
03/11/2007  10:39 AM    1,869,429 beameruserguide.pdf
08/10/2007  01:24 PM            22,016 blog - jsm 2007.doc
04/25/2007  03:07 PM    199,887 clarify.pdf
11/15/2007  01:40 PM                0 houseplants.txt
04/25/2007  11:42 AM    371,225 Mardia 1970 - multivar skew and kurt.pdf
03/27/2007  01:18 PM    319,864 multiple imputation a primer by schaf
df
11/15/2007  02:49 PM                0 output 1.txt
11/15/2007  02:49 PM                0 output 2.txt
11/15/2007  02:49 PM                0 output 3.txt
11/15/2007  02:49 PM                0 output 4.txt
11/08/2007  03:59 PM            8,514 results.dta
11/15/2007  01:31 PM  <DIR>          sub1
11/15/2007  01:31 PM  <DIR>          sub2
11/14/2007  04:27 PM            952 test.txt
05/21/2007  03:23 PM    1,430,743 zelig.pdf
          16 File(s)          4,222,998 bytes
          4 Dir(s)    249,471,361,024 bytes free

D:\mydir>
```

DIR :The **DIR** (Directory) command is used to display the list of files and sub directories under a current Directories stored in a disk in a particular Drive (e.g. C Drive or D Drive or Others ).

Example : C:\>dir↵

---

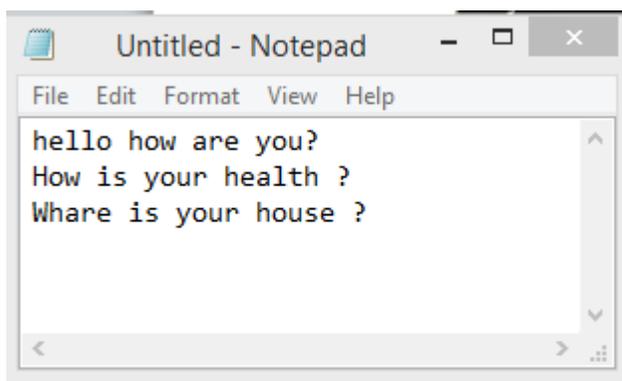
## 2.2 Create a file

---

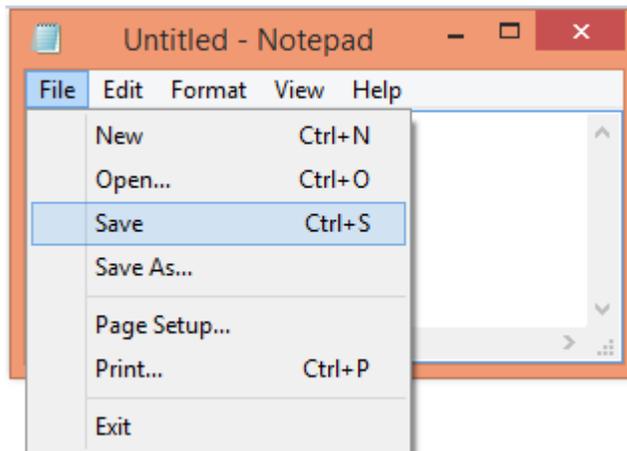
To create a file the command is notepad filename

Syntax:

C:\> notepad file name ↵



Now to save the file click on File - > save as shown below



---

### 2.3 Copy a file from one directory /folder to the other

---

The COPY command is one of the most versatile of Internal command in DOS . The COPY command can be used to make duplicate of the original files etc.

Syntax:

```
C:\> Copy old file name new file name ↵
```

Example:

```
C:\> Copy Dhruba.TXT Sreyash.TXT ↵
```

The above command makes a duplicate copy of a file called Dhruba.TXT as Sreyash.TXT.

```
C:\> Copy Dhruba.TXT \Pupuli\Sreyash.TXT ↵
```

The above command makes a duplicate copy of a file called Dhruba.TXT to the sub

directory Pupuli but with the new name Sreyash.TXT.

#### **Copy a file in Windows**

Below are the simple steps on how to copy a file or multiple files in Windows from one location to another.

1. Go to the files or folders you want to copy.
2. Select the file or files you want to copy. If you need to select more than one file, you can hold down the Shift keys on your keyboard or drag a box around the files you want to copy. To select arbitrary file press ctrl key and with left mouse click select file
3. Once selected or highlighted, right-click one of the highlighted files and select copy. Users may also press the CTRL + C shortcut key, or in Windows Explorer, click Edit at the top of the window and choose Copy.
4. Move to the drive, folder, or other location you want to copy the files to and either right-click in the folder and choose paste or click Edit from the File Menu and then click Paste.

---

## 2.4 Deleting all files from a directory/folder

---

### DEL Command

This command is used to delete one or more files from the current directory in DOS.

### Syntax

```
Del filename1 filename2 filename3 filename4....↵
```

Example: C:\> del Dhruba.txt shan.xls madhab.doc ↵

The above command Remove Dhruba.txt, shan.xls , and madhab.doc file from the location C:\> Drive.

Example: C:\> del \*.\* ↵

The above command delete all files form the location C :> Drive.

### Delete all files from a FolderinWindows

1. Start Windows Explorer. To do so, click Start, point to All Programs, point to Accessories, and then click Windows Explorer.
2. Open required folder. ...

3. After you open the folder, press **Ctrl+A** key from the keyboard which is selected all files in a folder.
4. Then press Delete Key from the keyboard.
5. To conform the Delete Files , Click Yes

---

## 2.5 Deleting a directory/folder

---

### **RD Command**

This command is used to delete directory or folders from a disk in DOS.

### **Syntax**

RD directory name↵

Example: C:\>RD Sreyash↵

In the above example will only delete an empty folder.

RD /S will delete subfolders even if they contain files.

### **Delete Folders in Windows**

1. Right click on the folder and click delete
2. To conform the Delete Files , Click Yes

---

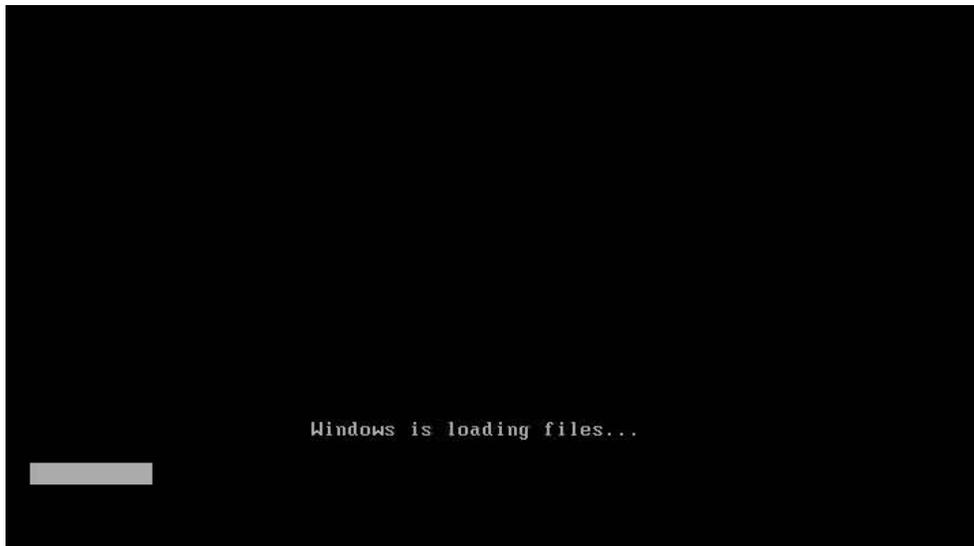
## 2.6 Formatting a hard disk and loading Operating System

---

This step-by-step guide demonstrates how to install Windows 7 Ultimate. The guide is similar for other versions of Windows 7 such as Home Premium. The best way to install Windows 7 is to do a clean install. It is not difficult to perform a clean installation. Before you start the installation process I recommend that you check Windows 7 System Requirements list to ensure that your hardware is supported by Windows 7. If you don't have Windows 7 drivers for all your hardware, it is a good idea to download all the drivers from the hardware manufacturer's website and save all the necessary drivers on a CD-R or a USB drive before you start the installation.

Windows 7 DVD is bootable. In order to boot from the DVD you need to set the boot sequence. Look for the boot sequence under your BIOS setup and make sure that the first boot device is set to CD-ROM/DVD-ROM.

**Step 1** - Place Windows 7 DVD in your dvd-rom drive and start your PC. Windows 7 will start to boot up and you will get the following progress bar.



**Step 2** - The next screen allows you to setup your language, time and currency format, keyboard or input method.

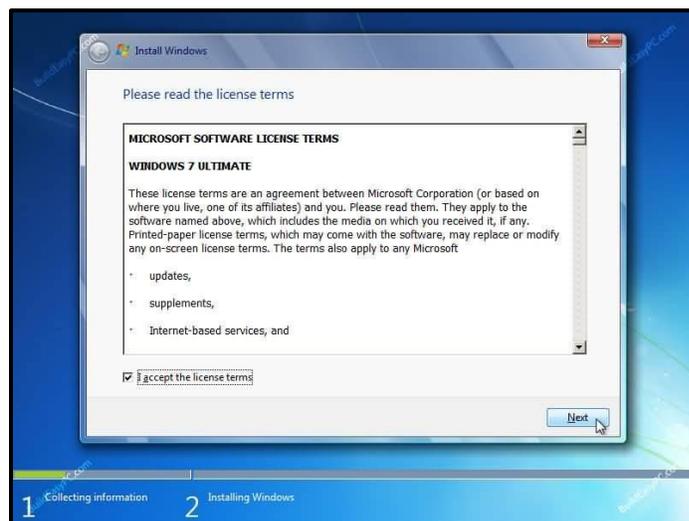
Choose your required settings and click next to continue.



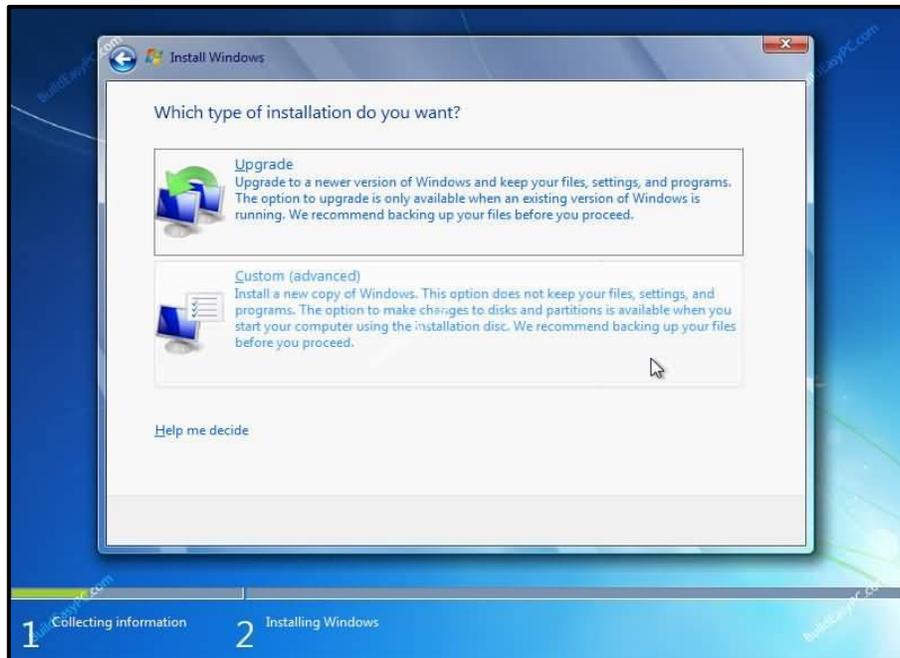
**Step 3** - The next screen allows you to install or repair Windows 7. Since we are doing a clean install we will click on "install now".



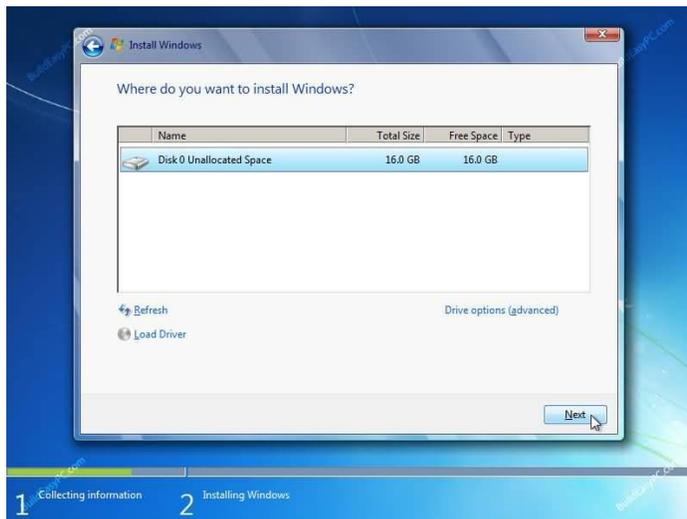
**Step 4** - Read the license terms and tick I accept license terms. Then click next to continue.



**Step 5** - You will now be presented with two options. Upgrade or Custom (Advanced). Since we are doing a clean install we will select Custom (Advanced).



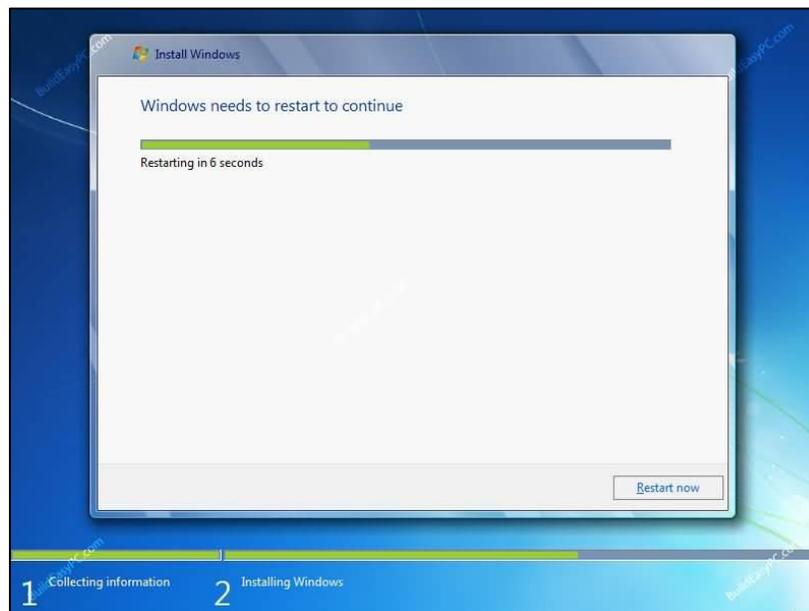
**Step 6** - Choose where you would like to install Windows 7. If you have one hard drive you will get a similar option to the image below. You can click next to continue. If you have more than one drive or partition then you need to select the appropriate drive and click next. If you need to format or partition a drive then click Drive options (advance) before clicking next.



**Step 7** - Windows 7 starts the installation process and starts copying all the necessary files to your hard drive as shown on the image below.



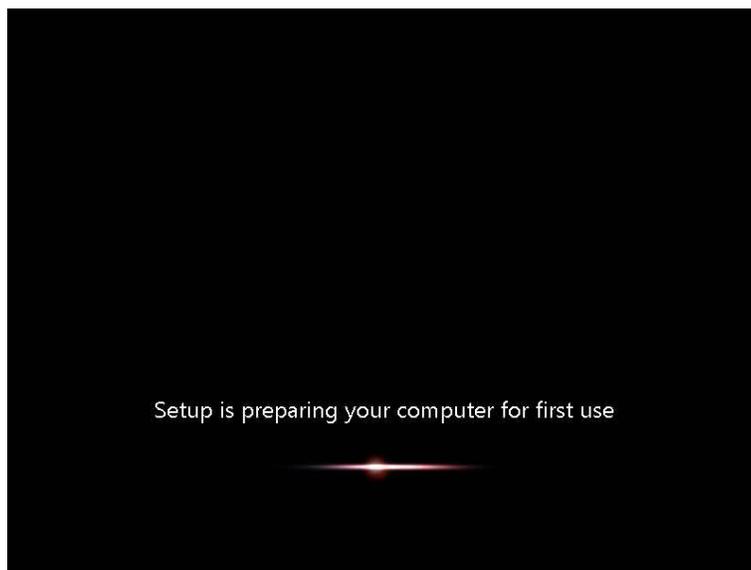
**Step 8** - It will go through various stages of the setup and will reboot your system few times.



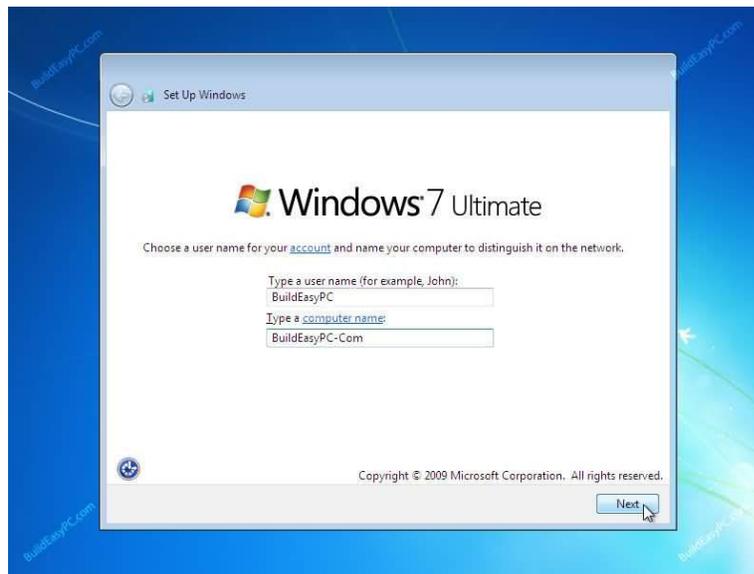
**Step 9** - When your PC reboots it attempts to boot from DVD as it is the first boot device. Do not press any key during the boot prompt so Windows 7 will continue with the installation by booting from the hard drive.



**Step 10** - After the reboot your computer will be prepared for first use.

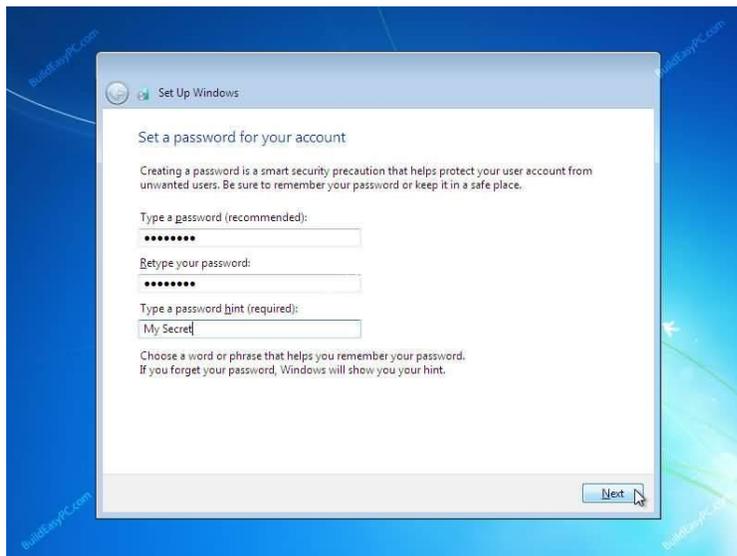


**Step 11** - At this stage you need to choose a user name and computer name. Click next to continue. The user account you create here is the



Administrator account which is the main account for your Windows 7 that has all the privileges.

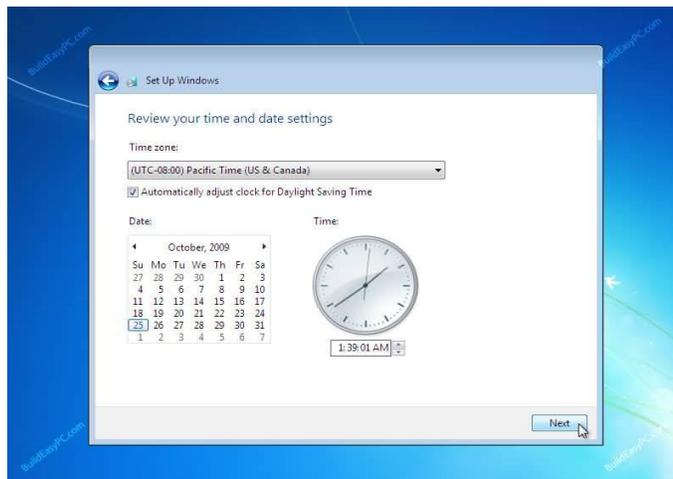
**Step 12** - Choose your password and password hint just in case you forget your password and need to jog your memory.



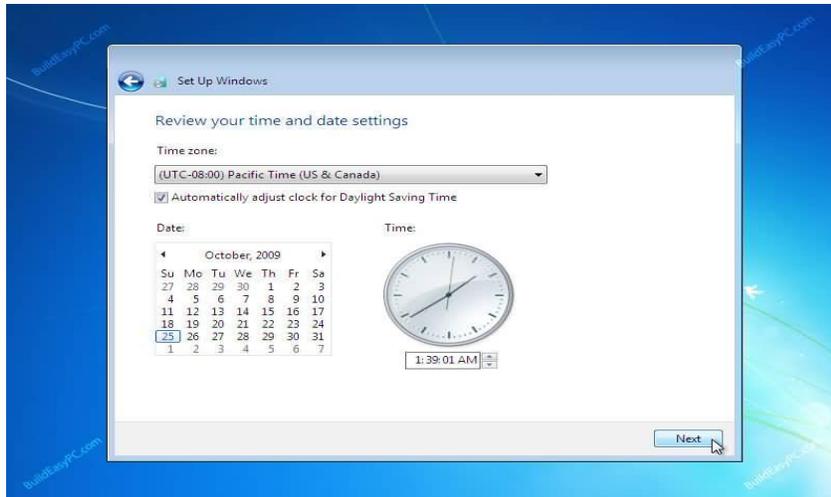
**Step 13** - You can now type the product key that came with Windows 7 and click next. If you do not enter the product key you can still proceed to the next stage. However Windows 7 will run in trial mode for 30 days. You must therefore activate Windows within 30 days otherwise you cannot access your computer after 30 days.



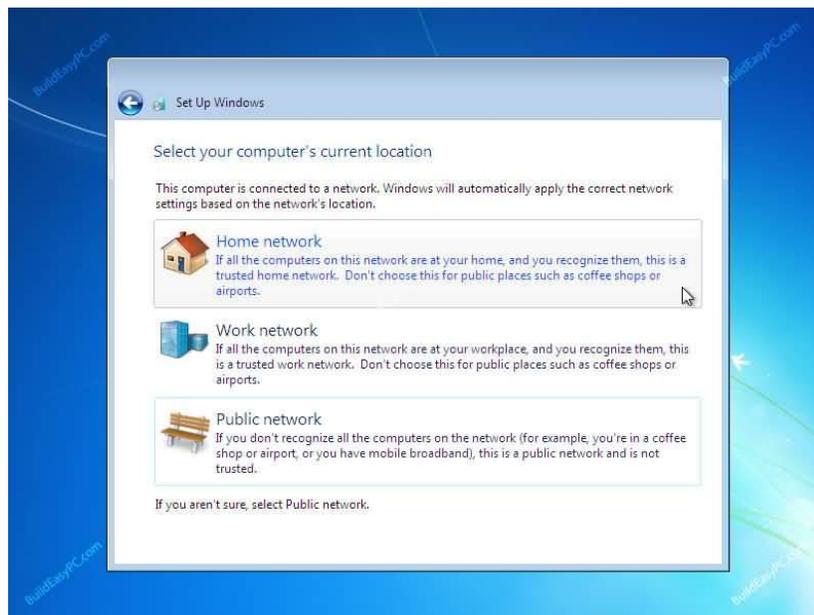
**Step 14** - Help protect your computer and improve Windows automatically. Choose use recommended settings.



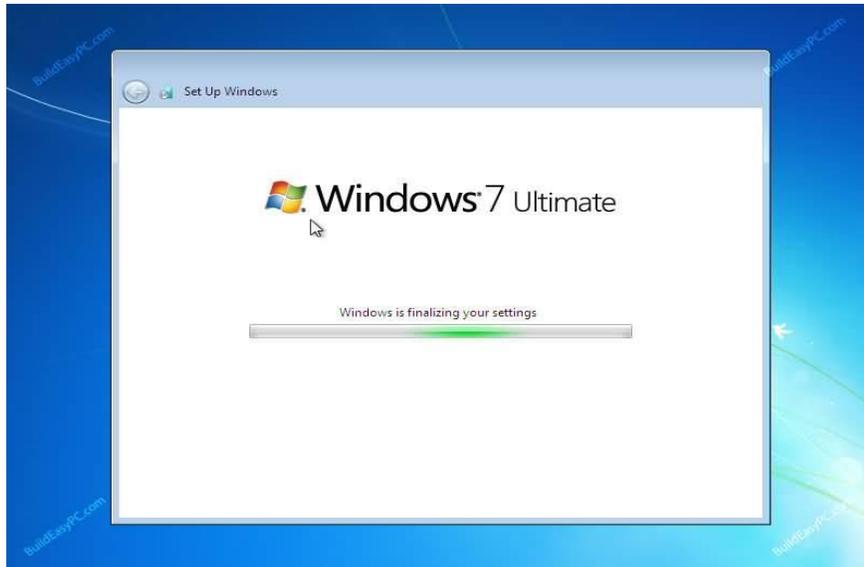
**Step 15** - Review your time and date settings. Select your time zone, correct the date and time and click next to continue.



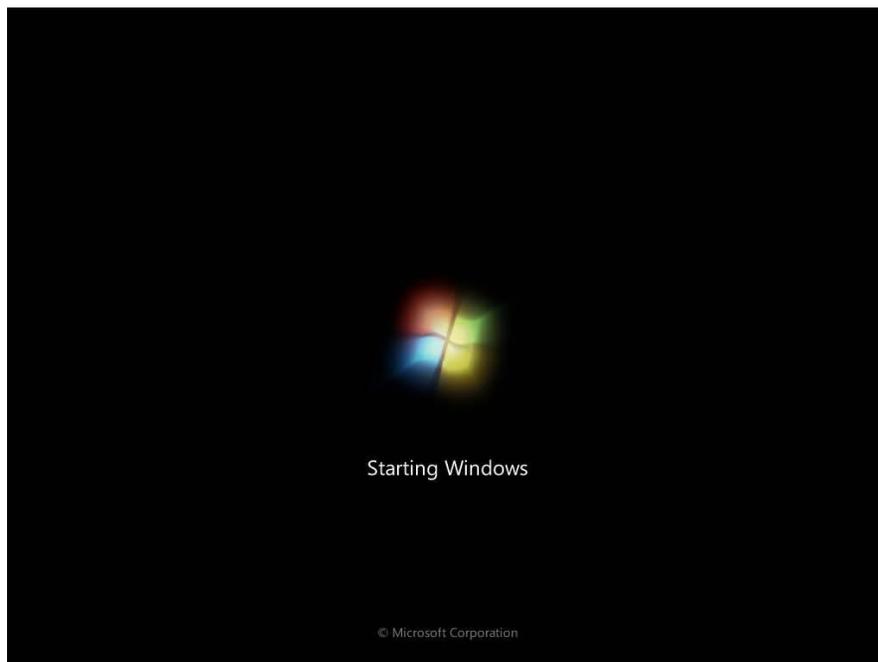
**Step 16** - Select your computer's current location. If you are a home user then choose Home network otherwise select the appropriate option.



**Step 17** - Windows will now finalize the settings for your computer and restart.



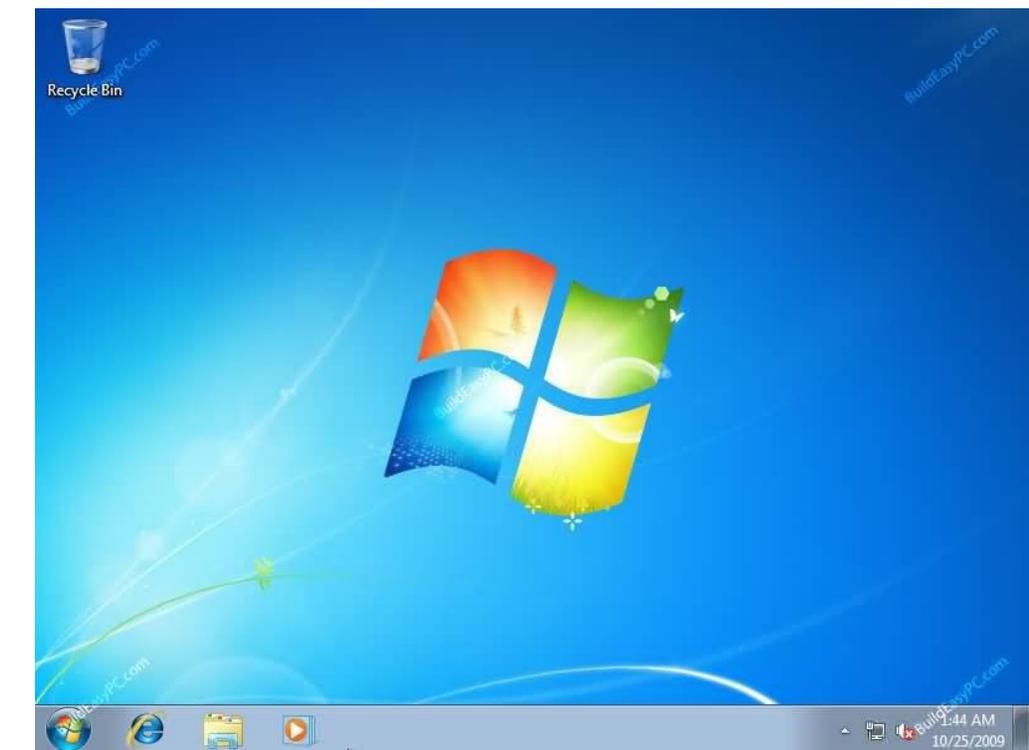
**Step 18** - After the final restart Windows 7 will start to boot up.



**Step 19** - Finally you have the logon screen. Just type your password and press enter or click on the arrow to logon to Windows 7 for the first time.



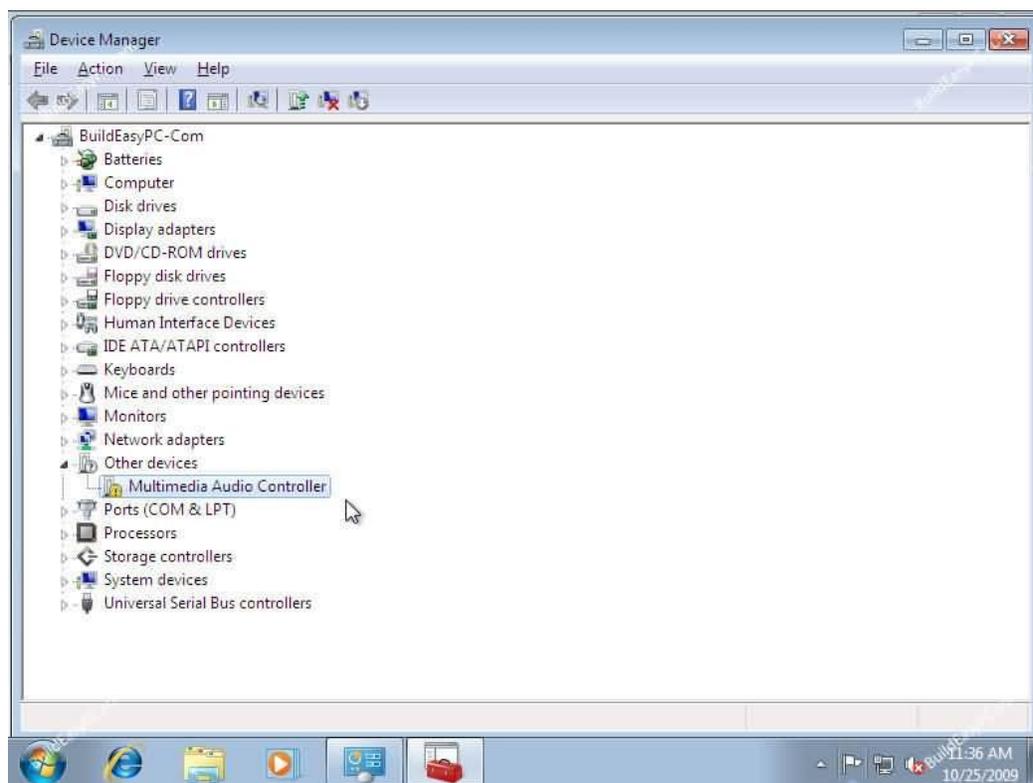
**Step 20** - After you have logged on to Windows 7 for the first time, you will see similar desktop to the image below. At this point you can start using your computer. However it may not be fully configured. You need to make sure that all the hardware is detected correctly and the necessary



device drivers are installed. This can be done from the device manager.

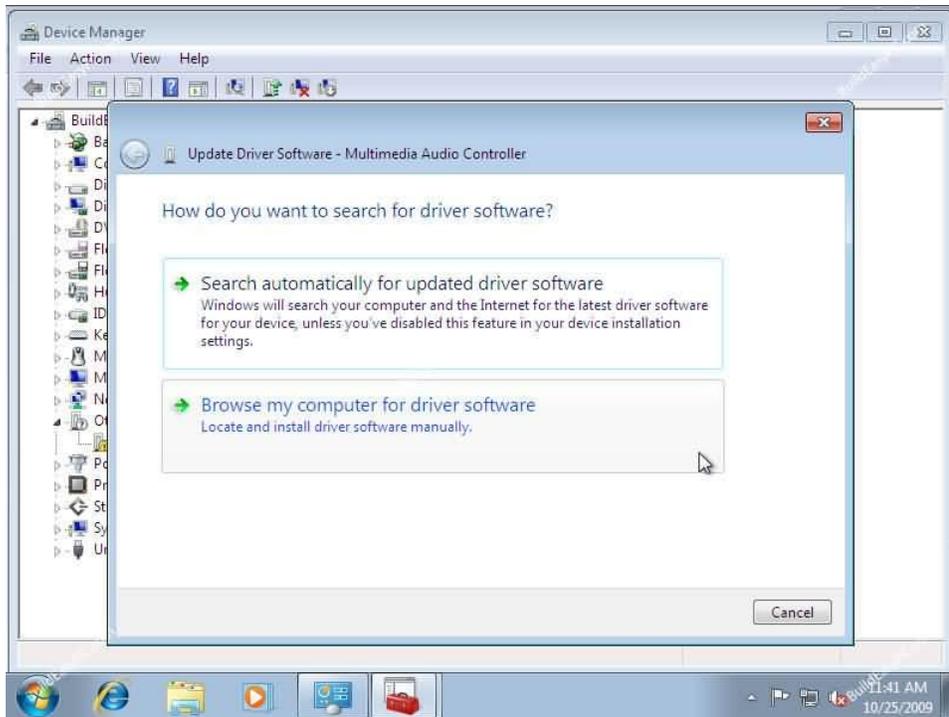
**Step 21** - To go to device manager click - *Start Menu -> Control Panel -> System and Security -> System -> Device Manager*. You will see all your hardware listed as shown on the image below. You need to check if you have any yellow exclamation marks next to the name of the devices, similar to "Multimedia Audio Controller" on the image below. This indicates that the driver has not been installed for this device.

At this stage you can install the driver for this device. To do so, *Right Mouse click on Multimedia Audio Controller -> Update Driver software*

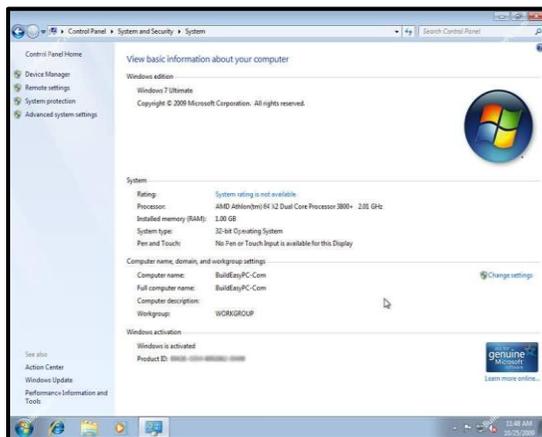


**Step 22** - You can choose to "Search automatically for updated driver software" or "Browse my computer for driver software". If you have the driver CD or if the driver is on a USB drive then choose "browse my computer for driver software". Windows 7 will search and install the driver from the CD or you can locate the driver manually.

Once you have removed all the yellow exclamation marks from the device manager your Windows 7 configuration would be fully complete.



**Step 23** - Finally check if you have successfully activated Windows 7. Click *Start Menu -> Control Panel -> System and Security -> System*. You will get a window similar to the image below. Towards the bottom you will see Windows is activated followed by your product ID. This shows that your copy of Windows 7 is fully activated.



---

## Check your progress 1

---

Q.1 To open the command window we use \_\_\_\_\_ command

Q.2 To delete a file we use \_\_\_\_\_ command and to copy a file we use \_\_\_\_\_ command.

Q.3 To Remove a directory we use the \_\_\_\_\_ command.

---

---

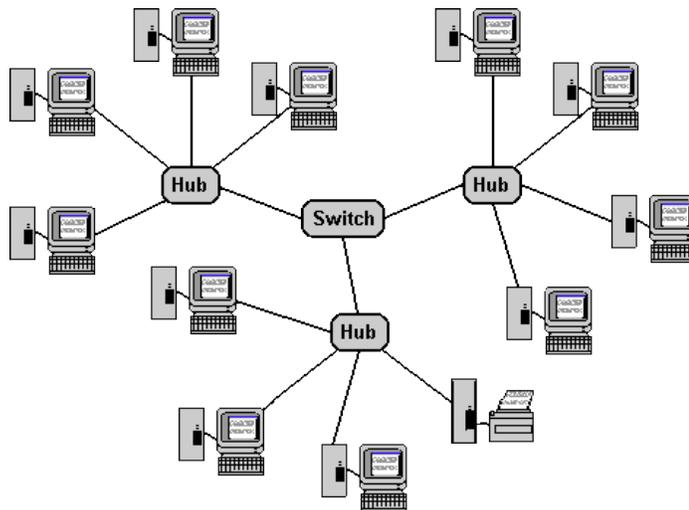
## 2.7 Domain, Workgroup, Active Directory

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### 2.7.1 Domain

---



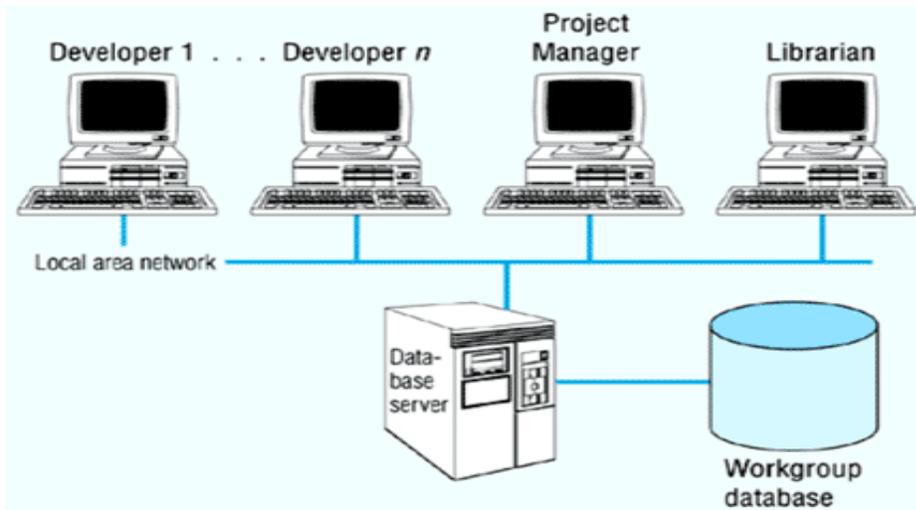
A **domain** is a collection of servers and clients that are managed by a central security system. A group of computers and devices on a network that are administered as a unit with common rules and procedures. Within the Internet, domains are defined by the *IP address*. All devices sharing a common part of the IP address are said to be in the same domain,

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## 2.7.2 Workgroup

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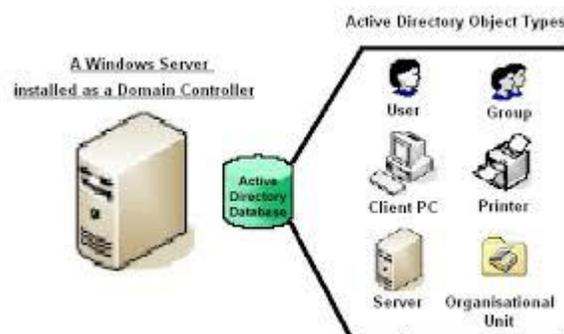
In computer networking, a **workgroup** is a collection of computers on a local area network (LAN) that share common resources and responsibilities. Workgroups provide easy sharing of files, printers and other network resources.



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## 2.7.3 Active Directory

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In Windows, this central security system is known as **Active Directory**. The domain controllers in the network maintain Active Directory. Active Directory controls what computers can communicate within the domain and which users can access shared resources. A **workstation** does not

have a central control, every system is a peer and no security information is shared or enforced outside of each individual box.

---

## 2.8 User management

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**User management** is an authentication feature that provides administrators with the ability to identify and control the state of **users** logged into the network.

The User Management service enables you to create and manage login credentials for each user. You can also limit the merchant accounts that each user can access, together with the available functionality. Only one username and password is required to access all applications that are available to the user.

You can control, for example:

- The applications a user can access
- Whether access is read-only
- If a user can update information
- The features a user can access within the Merchant Interface, if applicable
- The merchant codes that each user can access, if you have multiple accounts

User Management:

- Contributes to the overall security of your business
- Makes it easier for your users to access the pages they need
- Simplifies deployment of our services within your organization

For example, accounting staff need access to the parts of the Merchant Interface that are used to manage payments, while system administrators want to configure the way in which the payment services work.

### **Account Types**

Before you start creating new users on your Windows 7 computer, you should understand the difference between the two main account types. Administrators have full control over the system. They can install software programs and hardware drivers, and they can create and modify new users and groups. Additionally, they can reset passwords, set policies, and edit the Registry. The OS identifies tasks that require administrator permissions with a Windows security icon. Standard users are permitted to log on to the computer, run programs, customize their

accounts, and save files in their user folders. Users are restricted from making systemwide changes.

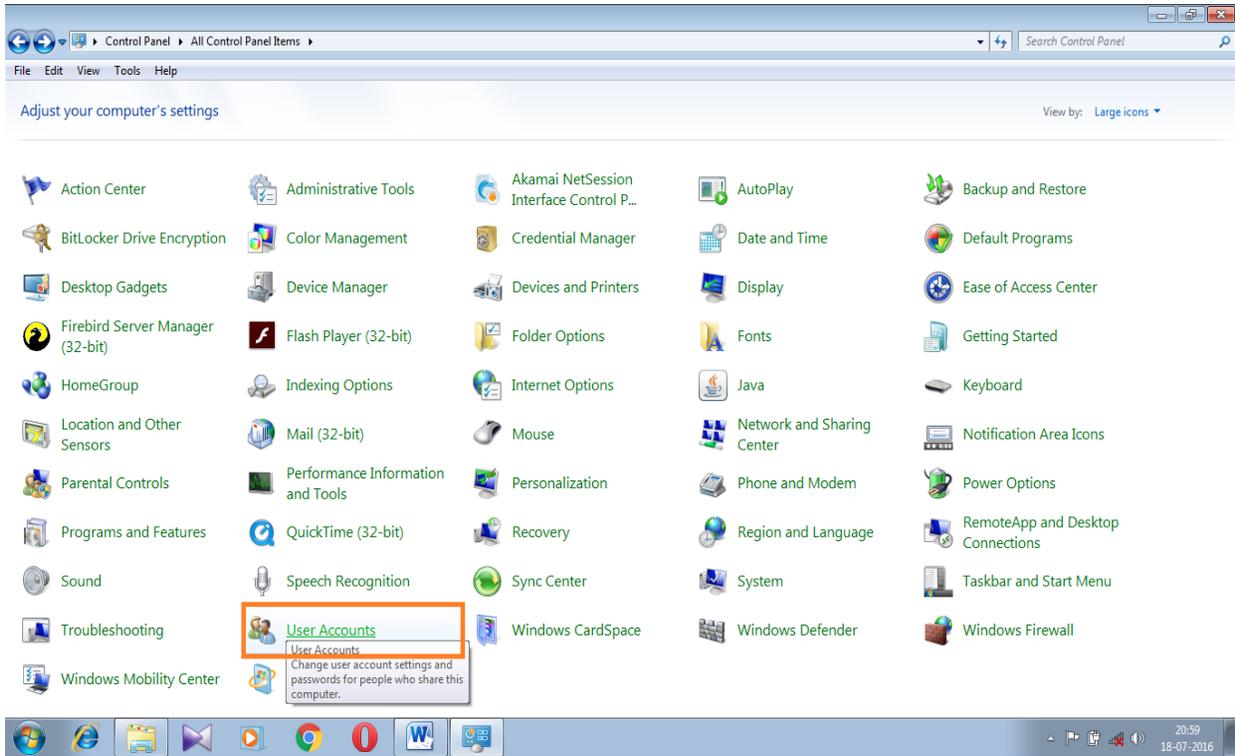
**The First User** When Windows first installs, it asks you for a user name and password, which it then uses to create your first account. This account joins the Administrators group, which has the highest set of privileges. From this account you can create and manage all other user accounts. When one person is the sole user of a computer, this first account is sometimes the only one ever created. However, even if you are the only user, a recommended practice is to create a second, standard account for daily use, so that you have it separate from your account with administrative privileges for managing the system. If you want to install software or make other system changes while logged in as a standard user, never fear: When you attempt to make the change, Windows will prompt you to authenticate your administrator account so that you won't need to log on with it.

**Creating a New Account** To create a new account, open Control Panel and choose User Accounts and Family Safety, Add or remove user accounts. Click on Create a new account. Type in the new account name, select either the Administrators or Standard Users user type, and then click Create Account. By default, Windows assigns no password; you can make one by clicking on that user's icon and selecting Create a password. Alternatively, you can leave it blank to allow the user to set a password when they first log on.

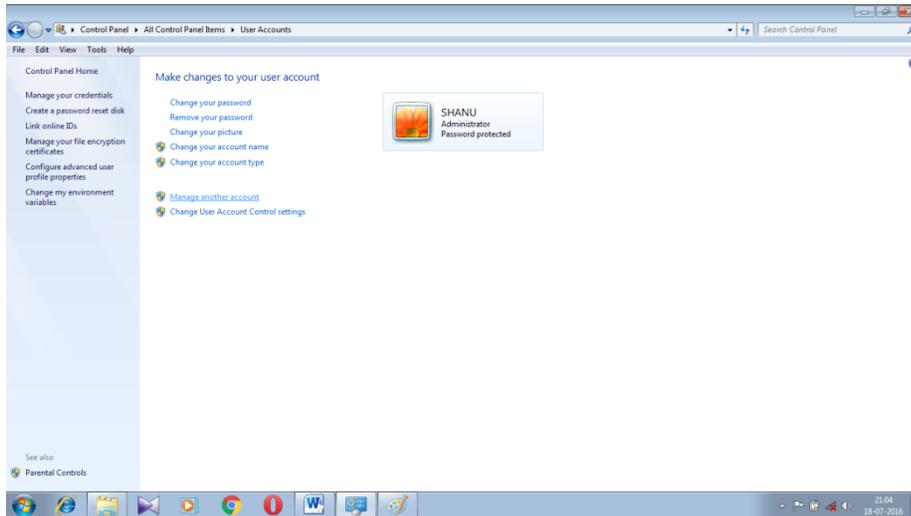
**Editing Accounts** Once you created an account, you can customize it further by editing. To edit an account, open Control Panel once again and select User Accounts and Family Safety, Add or remove user accounts. This takes you to the Manage Accounts window, where you can select an account to edit by clicking on its icon. In this window, you can change the account name, create or remove a password, change the picture, set up parental controls, change the account type, or delete the account. Be cautious when removing a password, since it will cause that user to lose any encrypted files, personal certificates, and stored passwords.

# Steps to create user accounts

## Step 1



## Step 2



### Step 3

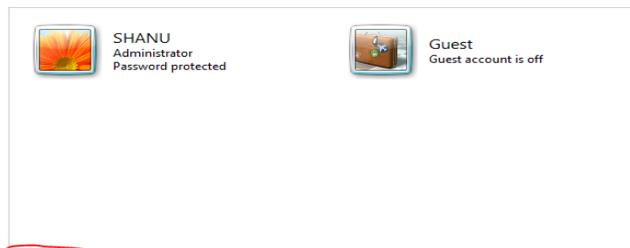
#### Make changes to your user account

- Change your password
- Remove your password
- Change your picture
-  Change your account name
-  Change your account type
-  **Manage another account**
-  Change User Account Control settings



### Step 4

Choose the account you would like to change



**Create a new account**  
What is a user account?

#### Additional things you can do

-  Set up Parental Controls
- [Go to the main User Accounts page](#)

### Step 5

#### Name the account and choose an account type

This name will appear on the Welcome screen and on the Start menu.

New account name

- Standard user  
Standard account users can use most software and change system settings that do not affect other users or the security of the computer.
- Administrator  
Administrators have complete access to the computer and can make any desired changes. Based on notification settings, administrators may be asked to provide their password or confirmation before making changes that affect other users.

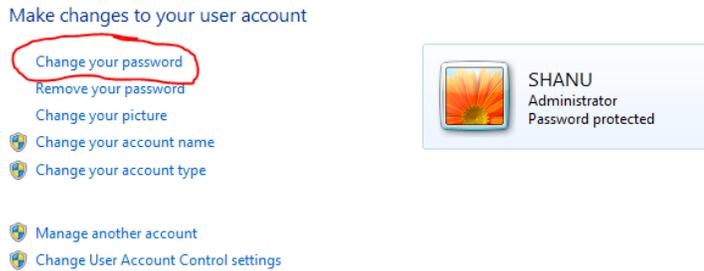
We recommend that you protect every account with a strong password.

[Why is a standard account recommended?](#)

Create Account Cancel

## Changing Your Password

The simplest way to change your password when you are logged in is to press Ctrl-Alt- Del and click Change a Password. In this window, you simply type in your old password and your new one, and then confirm it. Administrators may also overwrite the user name and change the password for another user. Another way is to change user password as shown below



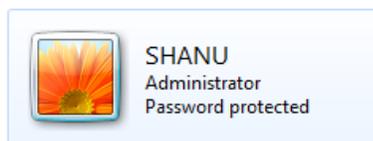
## Changing Your Picture

Windows 7 allows you to choose a picture to associate with your account. This is the image you click to log on to the computer. To change it, open Control Panel and choose Users Accounts. Under Users, click Change your Account Picture. You can select from a number of built-in images, or you can browse to one of your own images.

### Step 1

Make changes to your user account

- Change your password
- Remove your password
- Change your picture**
- Change your account name
- Change your account type
- Manage another account
- Change User Account Control settings



## Step 2

### Make changes to your user account

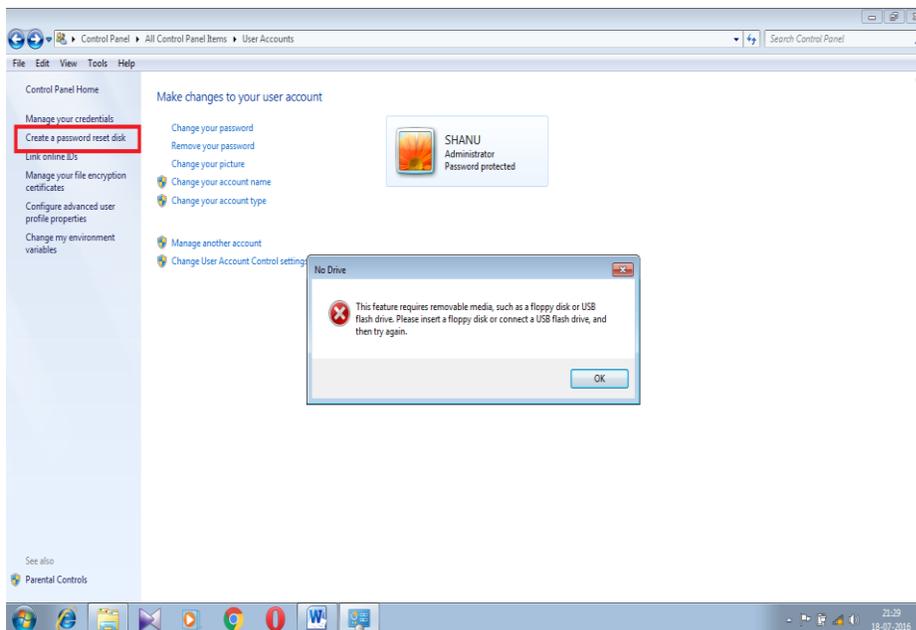
- Change your password
- Remove your password
- Change your picture
-  Change your account name
-  Change your account type
  
-  Manage another account
-  Change User Account Control settings



## Creating a Password-Reset Disk

A password-reset disk is useful if you forget your password, but the catch is that you have to create it while you are logged in-- if you have already forgotten your password, it is too late. You probably don't have a floppy drive on your PC, but a USB drive will work just fine. To create a password-reset disk, open Control Panel and select User Accounts and Family Safety, User Accounts. Click on Create a password reset disk in the left pane. A wizard will guide you through the procedure, asking you on which drive to place the password key as well as what your current password is. Be careful where you store the disk or USB drive-- anyone who can access it can use it to gain

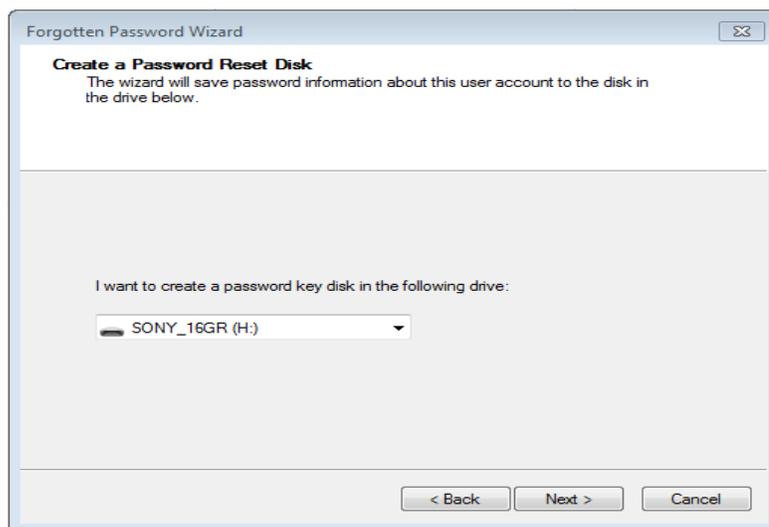
## Step 1



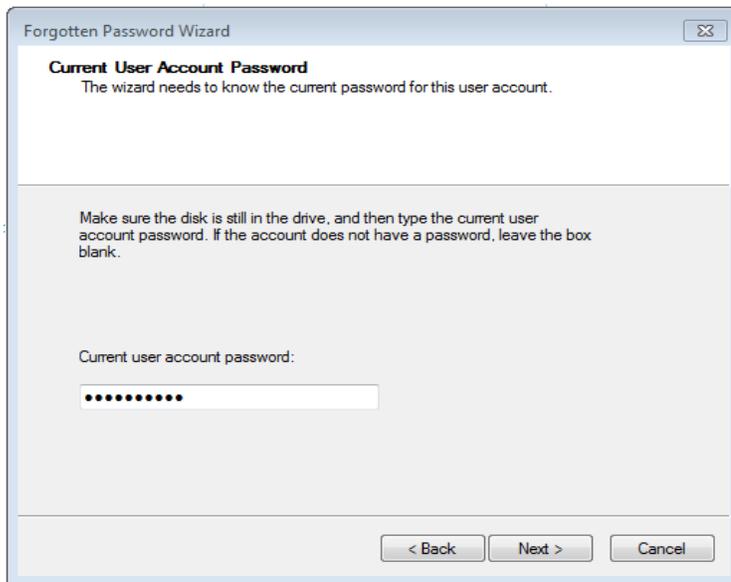
## Step 2



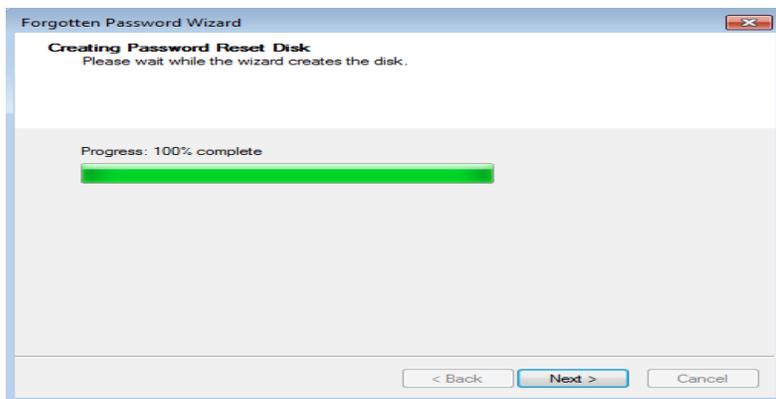
## Step 3



## Step 4



## Step 5



## Step 6



### **Entry to your account.**

Resetting Your Password Using the Password-Reset Disk If you enter your password incorrectly when you attempt to log on to your computer, Windows will display a Reset password link under the password box. Click it to launch the Password Reset Wizard. When prompted, select the drive that contains the password key, and then type in a new password and password hint. To access it, right-click Computer on the Start menu, and select Manage. This will open Computer Management.

### **From there, expand Local Users and Groups.**

Creating a new user: Right-click on Users, select New User, and then enter the user name. Optionally you may supply a full name, description, and password. Click Create to make the account.

- User must change password at next logon
- User cannot change password
- Password never expires
- Account is disabled
- Account is locked out (to unlock an account that Windows has locked in response to

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## Check your progress 2

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Q.1 What is a domain ?

A. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Q.2 What is a workgroup?

A. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Q.3 What is user management?

A. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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## 2.9 Network setting

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A **network** is a group of two or more computer systems linked together in order to share resources. Network setting means Manage, Configure the Switches Routers Firewalls or networking devices.

Control Changes. The steps of network settings are

1. Turn on each PC that you have attached to the network.
2. On the main PC, the one that will share its Internet connection, log on to the Internet.
3. Choose Start→Network and then click the Network and Sharing Center button.
4. Click the Set up a Connection or Network link, choose the Set up a Wireless Network option, and then click Next
5. The Choose a Connection Option window.

The next window describes what the wizard will do during its scan. Click Next.

A progress window appears while Windows detects your hardware settings. There are a few options at this point:

1. Windows detects your hardware and configures it automatically; you are done.
2. Windows detects your hardware but requires you to configure it manually. In this case, select the Configure This Device Manually option and complete the required information to finish the setup.
3. To make the process of configuring each of the computers easier, you can save the settings to a Flashdrive. Connect the Flash drive to the USB port and click Create Wireless Network Settings and Save to a USB Flash Drive. Enter a name for your network on the following screen and then follow the directions, which involve disconnecting the Flash drive and plugging it into a wireless access point. You can then use the drive to configure each computer on the network as directed.
4. Click Finish.

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## 2.10 Services

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An Operating System provides services to both the users and to the programs in the following ways

- Program execution
- I/O operations
- File System manipulation
- Communication
- Error handling
- Resource management
- Protection

### ➤ Program execution

Operating system handles many kinds of activities from user programs to system programs like printer spooler, name servers, file server etc. Each of these activities is encapsulated as a process.

A process includes the complete execution context (code to execute, data to manipulate, registers, OS resources in use). Following are the major activities of an operating system with respect to program management.

- Loads a program into memory.
- Executes the program.
- Handles program execution.
- Provides a mechanism for process synchronization.
- Provides a mechanism for process communication.
- Provides a mechanism for deadlock handling.

### ➤ I/O Operations

I/O subsystem comprised of I/O devices and their corresponding driver software. Drivers hides the peculiarities of specific hardware devices from the user as the device driver knows the peculiarities of the specific device. Operating System manages the communication between user and device drivers. Following are the major activities of an operating system with respect to I/O Operation.

- I/O operation means read or write operation with any file or any specific I/O device.
- Program may require any I/O device while running.
- Operating system provides the access to the required I/O device when required.

### ➤ File system manipulation

A file represents a collection of related information. Computer can store files on the disk (secondary storage), for long term storage purpose. Few examples of storage media are magnetic tape, magnetic disk and optical disk drives like CD, DVD. Each of these media has its own properties like speed, capacity, data transfer rate and data access methods. A file system is normally organized into directories for easy navigation and usage. These directories may contain files and other directions. Following are the major activities of an operating system with respect to file management.

- Program needs to read a file or write a file.
- The operating system gives the permission to the program for operation on file.
- Permission varies from read-only, read-write, denied and so on.
- Operating System provides an interface to the user to create/delete files.
- Operating System provides an interface to the user to create/delete directories.
- Operating System provides an interface to create the backup of file system.

### ➤ Communication

In case of distributed systems which are a collection of processors that do not share memory, peripheral devices, or a clock, operating system manages communications between processes. Multiple processes with one another through communication lines in the network. OS

handles routing and connection strategies, and the problems of contention and security. Following are the major activities of an operating system with respect to communication.

- Two processes often require data to be transferred between them.
- The both processes can be on the one computer or on different computer but are connected through computer network.
- Communication may be implemented by two methods either by Shared Memory or by Messagepassing.

➤ **Error handling**

Error can occur anytime and anywhere. Error may occur in CPU, in I/O devices or in the memory hardware. Following are the major activities of an operating system with respect to error handling.

- OS constantly remains aware of possible errors.
- OS takes the appropriate action to ensure correct and consistent computing.

➤ **Resource management**

In case of multi-user or multi-tasking environment, resources such as main memory, CPU cycles and files storage are to be allocated to each user or job. Following are the major activities of an operating system with respect to resource management.

- OS manages all kind of resources using schedulers.
- CPU scheduling algorithms are used for better utilization of CPU.

➤ **Protection**

Considering a computer systems having multiple users the concurrent execution of multiple processes, then the various processes must be protected from each another activities. Protection refers to mechanism or a way to control the access of programs, processes, or users to the resources defined by a computer systems. Following are the major activities of an operating system with respect to protection.

- OS ensures that all access to system resources is controlled.
- OS ensures that external I/O devices are protected from invalid access attempts.
- OS provides authentication feature for each user by means of a password.

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## 2.11 IIS Configuration

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### IIS Configuration

IIS stands for Internet Information Server .Formerly it was called Internet Information Services.It is a web server which provides access to web pages published on it. It does a similar role to Apache, except it is more user friendly.It is created by Microsoft for use with Windows NT family.<sup>[2]</sup> IIS supports HTTP, HTTPS, FTP, FTPS, SMTP and NNTP.

#### **Install IIS: Introduction**

Advances in cloud technologies have led many users to use Windows Azure Web Sites to host both a production site and test site, as it makes it easy to test various configurations without impacting their own personal computers. If you still prefer to do this on your desktop, you can install IIS on it, as well as other applications and extensions easily using the Microsoft® Web Platform Installer (Web PI). To learn more about the Web PI, see [Learn about and install the Web PI](#).If you choose to install IIS 7.0 or above manually, you can use this article for guidance.

Ensure that you have installed one of the editions of Windows Vista or Windows 7 on which IIS 7 and above is supported before you proceed. Not all IIS features are supported on all editions of Windows Vista and Windows 7. Home Basic and Starter editions include only limited basic features of IIS. To see a list of which features are supported on the edition of Windows you are using, see one of the following:

#### [Available Web Server \(IIS\) Role Services in IIS 7.5 \(Windows 7\)](#)

Also be sure that you have administrative user rights on the computer. By default, you do not have administrative user rights if you are logged on as a user other than the built-in administrator, even if you were added to the local Administrators group on the computer (this is a new security feature in Windows Server® 2008 called Local User Administrator).

## Install IIS 7 or Above

1. To open the Windows Features dialog box, click Start, and then click Control Panel.



Figure 2: Windows Vista Start menu

2. In the **Control Panel**, click **Programs**.



Figure 3: Control Panel Home

3. Click **Turn Windows features on or off**.



Figure 4: Control Panel install options

4. You may receive the Windows Security warning. Click **Allow** to continue. the **Windows Features** dialog box is displayed.



Expand **Internet Information Services**. Additional categories of IIS features are displayed.

Select **Internet Information Services** to choose the default features for installation.

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## 2.12 Let us sum up

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The unit of storage of information is a file. Files are of various types such as text files, executable files, batch files. Depending on the nature of business a file is created by the user. Files can be stored, hidden, renamed, transferred from one location to the other. The location can be directory, drive. A directory is a collection of files. Directories can be renamed, copied and hidden. The main component that acts as a bridge between the user and hardware is the operating system. Discussing about the operating system we discussed about windows and its features. Operating system cannot be installed without formatting and when loading windows operating system it formats the hard drive and loads itself. During the time of installation the operating system gives instructions to user what to be done. The first user is the administrator. Password is assigned to this account for security. The administrator creates normal users. The difference between administrator and normal user is that administrator has complete control over the operating system while the normal user can use the operating system but devoid of certain features such as installing a new program, setting up a network. The user can change his picture for his identification. The user has the privilege to change his/her password. Coming to domain a domain is a collection of servers and clients that are managed by a central security system. A group of computers and devices on a network that are administered as a unit with common rules and procedures. A workgroup is a collection of computers on a local area network (LAN) that share common resources and responsibilities. In Windows, this central security system is known as Active Directory. The domain controllers in the network maintain Active Directory. Active Directory controls what computers can communicate within the domain and

which users can access shared resources such as printers, scanners, servers .A network is a group of two or more computer systems linked together in order to share resources. Network setting means Manage, Configure of Switches Routers Firewalls or networking devices. There are steps to configure the intranet.An Operating System provides services to both the users and to the programs in the following ways such as program execution, I/O operations, file system manipulation, communication, Errorhandling, Resource management and protection. Internet information server enables the computer to behave as a web server.

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### 2.13 Keywords

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- HTTP :- Hypertexttransfer protocol . The Hypertext Transfer Protocol (HTTP) is an application protocol for distributed, collaborative, hypermedia information systems. HTTP is the foundation of data communication for the World Wide Web. Hypertext is structured text that uses logical links (hyperlinks) between nodes containing text. Most web sites created are called by this protocol such as <http://google.com>
- HTTPS :- Hyper text transfer protocol secure is a protocol for secure communication over a computer network which is widely used on the Internet.  
The main motivation for HTTPS is authentication of the visited website and protection of the privacy and integrity of the exchanged data.
- FTP :- File transfer protocol . The File Transfer Protocol (FTP) is a standard network protocol used to transfer computer files between a client and server on a computer network. FTP is built on a client-server model. FTP is used to transfer very large files from one location to the other.
- FTPS:-FTP secure. FTPS (FTP over SSL), a connection is authenticated using a user id, password and certificate(s). The users and passwords for FTPS connections are encrypted. When connecting to a trading partner's FTPS server, your FTPS client will first check if the server's certificate is trusted. The certificate is considered trusted if either the certificate was signed off by a known certificate authority (CA), like VeriSign, or if the certificate was self-signed (by your partner) and you have a copy of their public certificate in your trusted key store.

- SMTP :- Simple Mail Transfer Protocol (SMTP) is an Internet standard for electronic mail (email) transmission
- NNTP :- The Network News Transfer Protocol (**NNTP**) is an application protocol used for transporting Usenet news articles (Netnews) between news servers and for reading and posting articles by end user client applications.

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## 2.14 References

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1. Tutorialspoint.com
2. google.com

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## 2.15 Check your progress - possible answers

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### Answers to check your progress 1

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A.1 To open the command window we use cmd command

A.2 To delete a file we use del command and to copy a file we use copy command.

A.3 To Remove a directory we use the rd command.

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### Answers to check your progress 2

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A.1. A **domain** is a collection of servers and clients that are managed by a central security system. A group of computers and devices on a network that are administered as a unit with common rules and procedures. Within the Internet, domains are defined by the *IP address*. All devices sharing a common part of the IP address are said to be in the same domain.

A.2. In computer networking, a **workgroup** is a collection of computers on a local area network (LAN) that share common resources and responsibilities. Workgroups provide easy sharing of files, printers and other network resources

A.3. User management deals with creation of users, setting passwords to users, remove user accounts.