Ex.No:3

Virtual Machine setup
3.1) Setting up and configuring a new virtual machine.

3.1 Setting up and configuring a new Virtual Machine

The New Virtual Machine Wizard guides you through the key steps for setting up a new virtual machine, helping you set various options and parameters. You can then use the virtual machine settings editor (**VM > Settings**) if you need to make any changes to your virtual machine's setup. Steps to a New Virtual Machine

By default, the new virtual machine uses an IDE disk for Windows 95, Windows 98, Windows Me, Windows XP, Windows Server 2003, NetWare and FreeBSD guests. The default for other guest operating systems is a SCSI disk.

Follow these steps to create a virtual machine using a virtual disk.

1. Start VMware Workstation.

   Windows hosts: Double-click the VMware Workstation icon on your desktop or use the **Start** menu (**Start** > **Programs** > **VMware** > **VMware Workstation**).
   Linux hosts: In a terminal window, enter the command
   vmware&

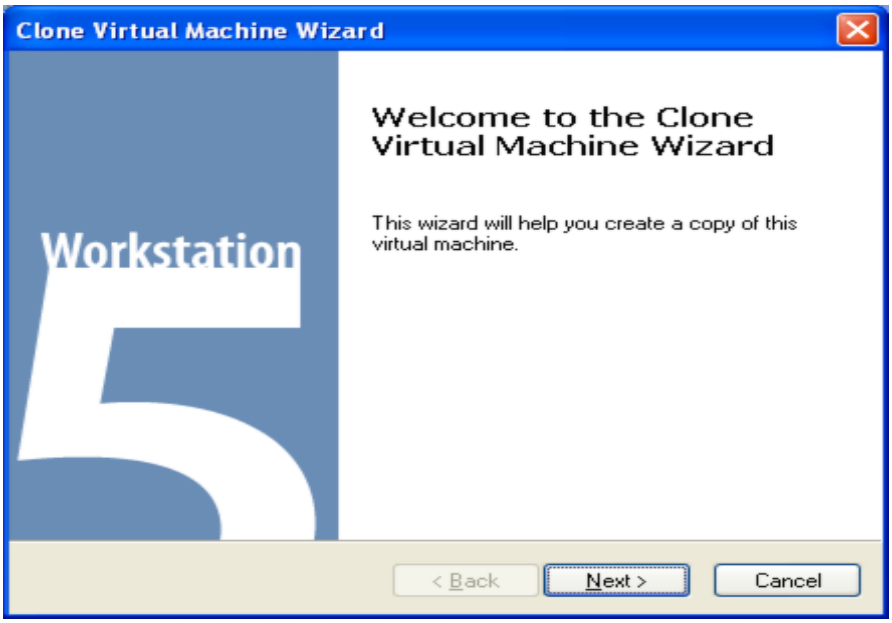
2. If this is the first time you have launched VMware Workstation and you did not enter the serial number when you installed the product (an option available on a Windows host), you are prompted to enter it. The serial number is on the registration card in your package or in the email message confirming your electronic distribution order. Enter your serial number and click **OK**.
   The serial number you enter is saved and VMware Workstation does not ask you for it again. For your convenience, VMware Workstation automatically sends the serial number to the VMware Web site when you use certain Web links built into the product (for

   example, **Help** > **VMware on the Web** > **Register Now!** and **Help** > **VMware on the Web** > **Request Support**). This allows us to direct you to the correct Web page to register and get support for your product.

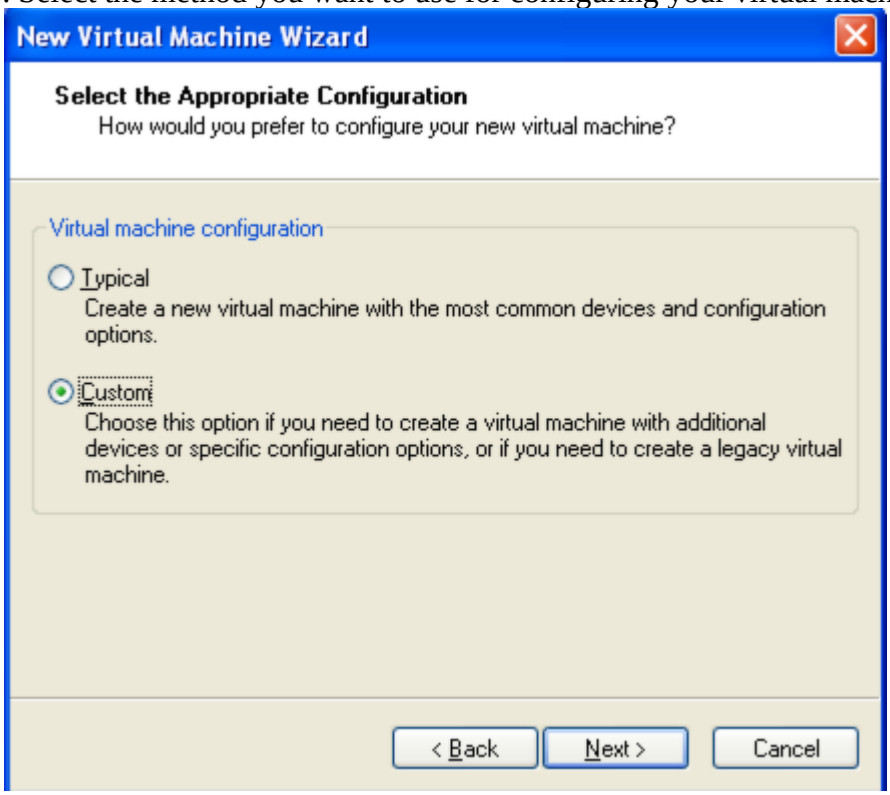
3. Start the New Virtual Machine Wizard.

   When you start VMware Workstation, you can open an existing virtual machine or create a new one. Choose **File** > **New > Virtual Machine** to begin creating your virtual machine.

4. The New Virtual Machine Wizard presents you with a series of screens that you navigate using the Next and Prev buttons at the bottom of each screen. At each screen, follow the instructions, then click **Next** to proceed to the next screen



5. Select the method you want to use for configuring your virtual machine.



If you select **Typical**, the wizard prompts you to specify or accept defaults for the following choices:

- The guest operating system
- The virtual machine name and the location of the virtual machine's files
- The network connection type
- Whether to allocate all the space for a virtual disk at the time you create it

Whether to split a virtual disk into 2GB files

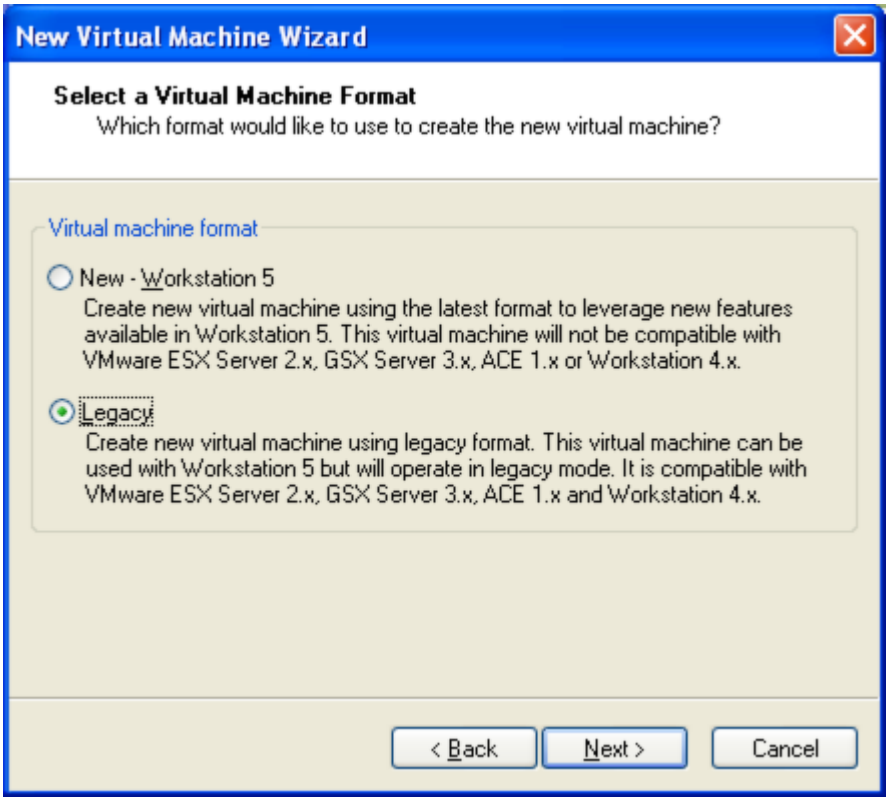
If you select **Custom**, you also can specify how to set up your disk — create a new virtual disk, use an existing virtual disk or use a physical disk — and specify the settings needed for the type of disk you select. There is also an option to create a legacy virtual disk for use in environments with other VMware products.

Select **Custom** if you want to

Set memory options that are different from the defaults

6. If you selected **Typical** as your configuration path, skip to step 7.

   If you selected **Custom** as your configuration path, you may create a virtual machine that fully supports all Workstation 5 features or a legacy virtual machine compatible with specific VMware products.



   This screen asks whether you want to create a Workstation 5 virtual machine or a legacy virtual machine. See Legacy Virtual Disks for more information.

7. Select a guest operating system.

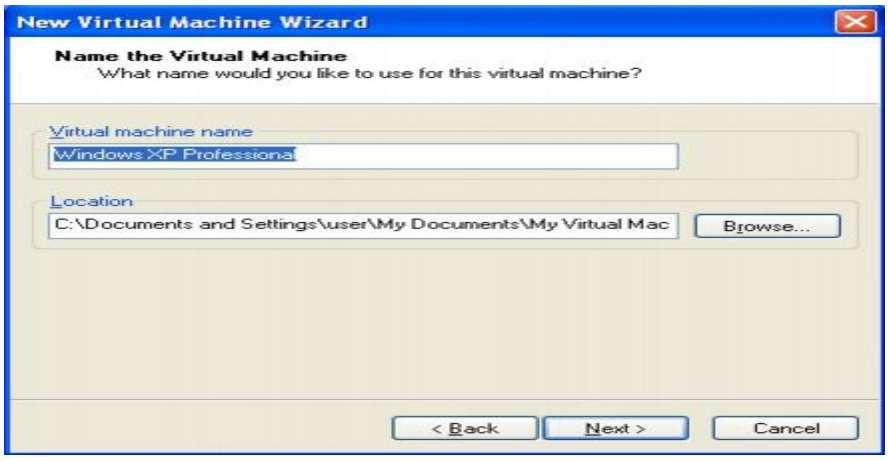
This screen asks which operating system you plan to install in the virtual machine. Select both an operating system and a version. The New Virtual Machine Wizard uses this information to

- Select appropriate default values, such as the amount of memory needed
- Name files associated with the virtual machine
- Adjust settings for optimal performance
- Work around special behaviors and bugs within a guest operating system

If the operating system you plan to use is not listed, select **Other** for both guest operating system and version.

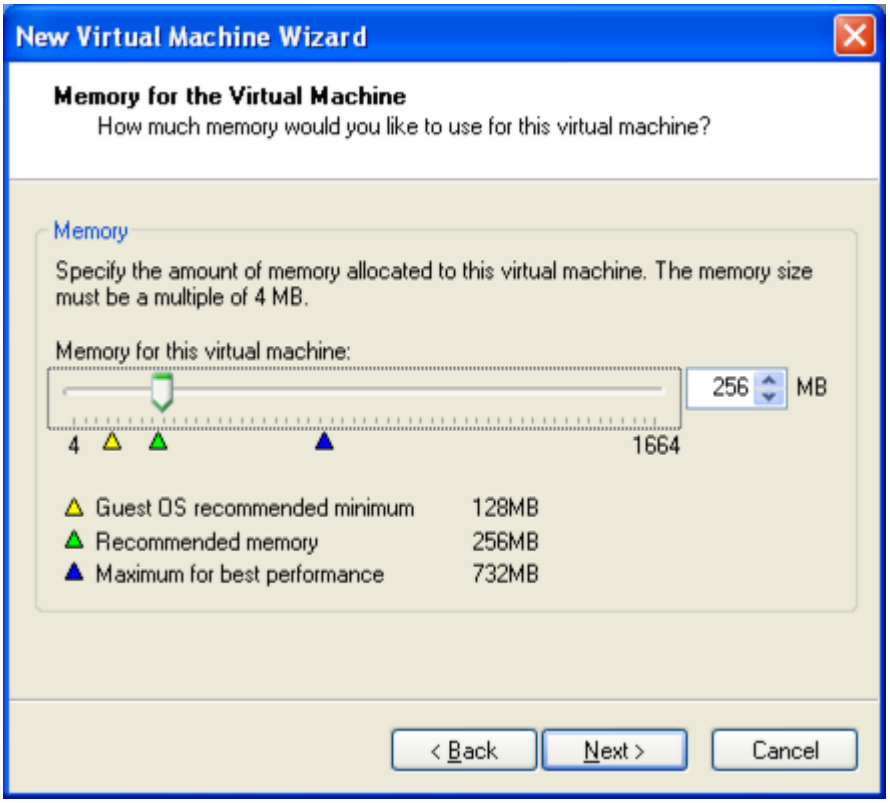
The remaining steps assume you plan to install a Windows XP Professional guest operating system. You can find detailed installation notes for this and other guest operating systems in the VMware Guest Operating System Installation Guide, available from the VMware Web site or from the Help menu.

8. Select a name and folder for the virtual machine.

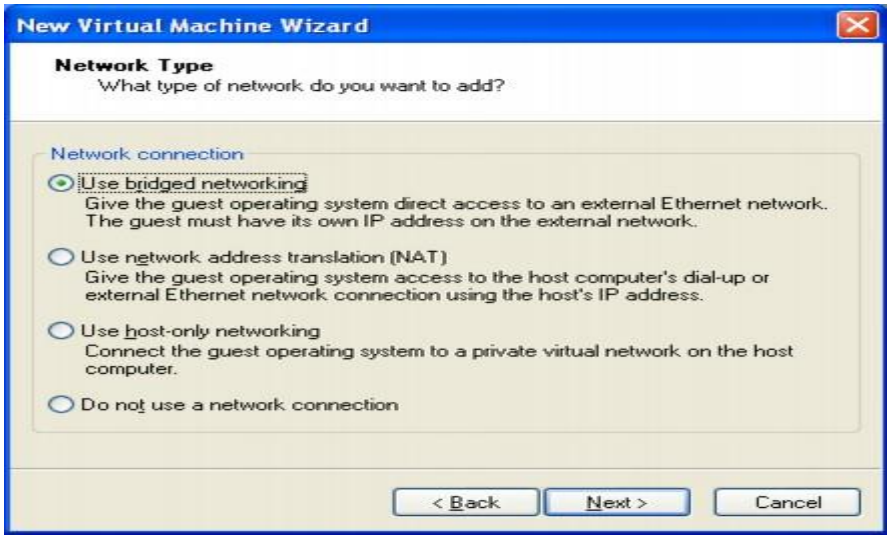


If you selected **Typical** as your configuration path, skip to step 10.

If you selected **Custom** as your configuration path, you may adjust the memory settings or accept the defaults, then click **Next** to continue.

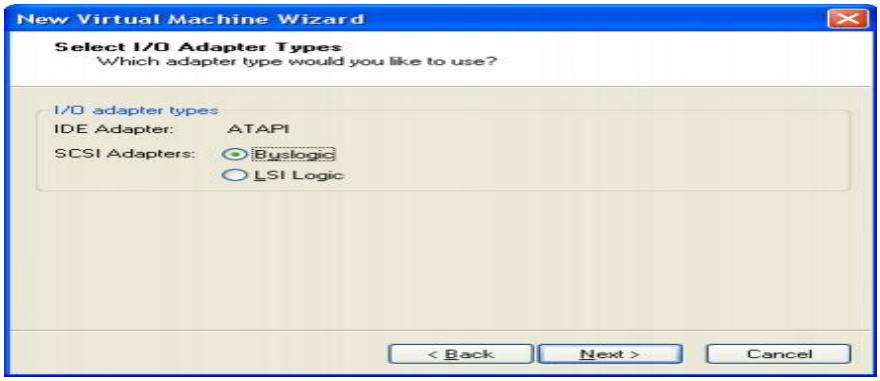


10. Configure the networking capabilities of the virtual machine

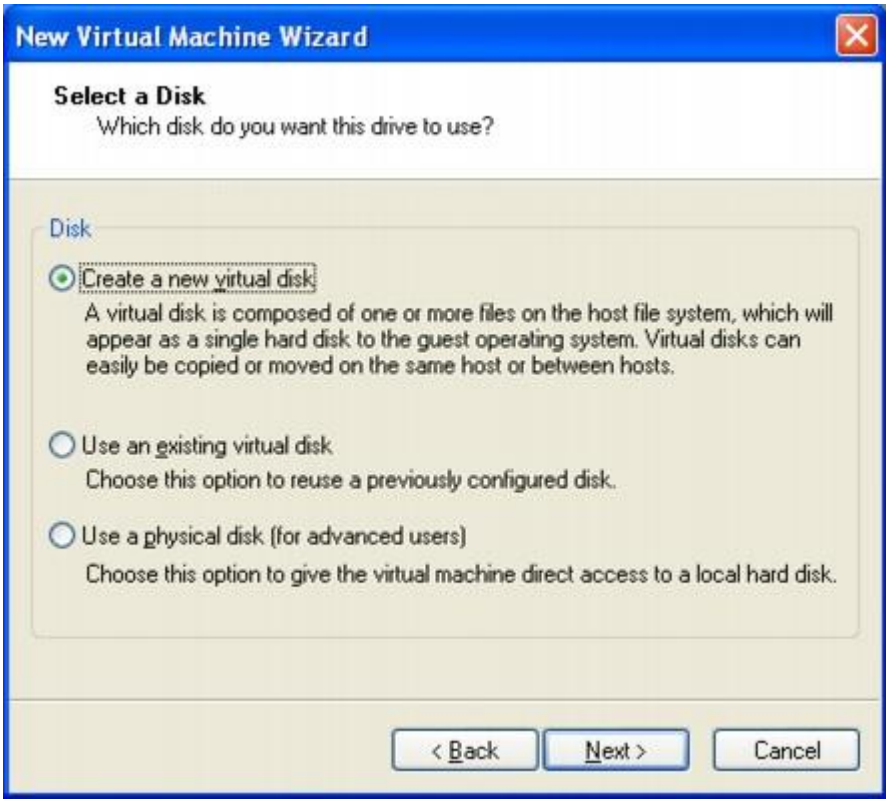


11. If you selected **Typical** as your configuration path, click **Finish** and the wizard sets up the files needed for your virtual machine.
    If you selected **Custom** as your configuration path, continue with the steps below to configure a disk for your virtual machine.

12. Select the type of SCSI adapter you want to use with the virtual machine.

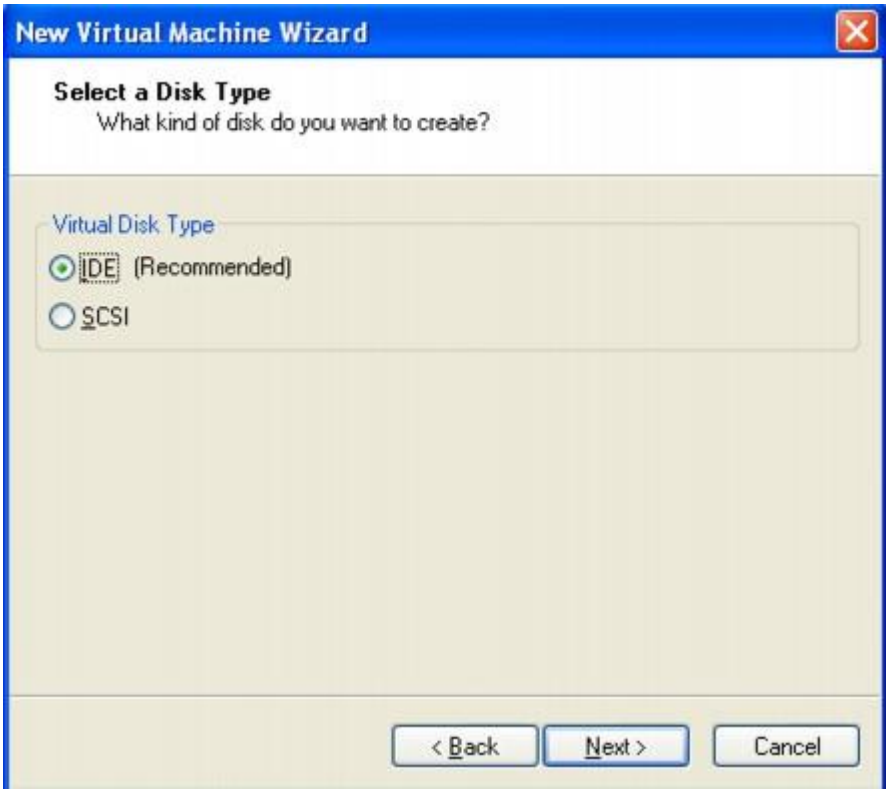


13. Select the disk you want to use with the virtual machine.

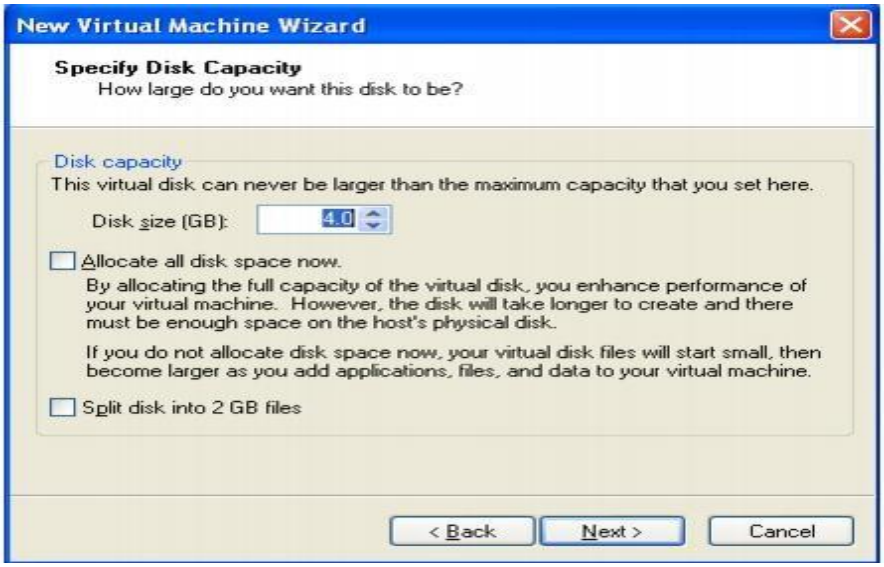


Select **Create a new virtual disk**.
Virtual disks are the best choice for most virtual machines. They are quick and easy to set up and can be moved to new locations on the same host computer or to different host computers.

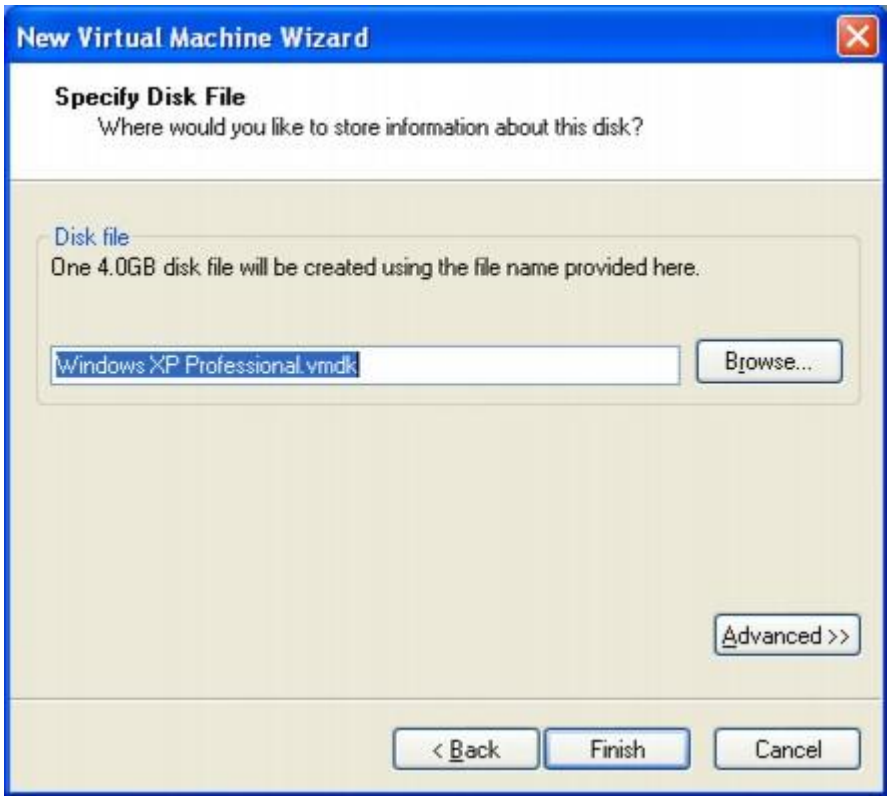
14. Select whether to create an IDE or SCSI disk.



15. Specify the capacity of the virtual disk.



16. Specify the location of the virtual disk's files.



If you want to specify which device node should be used by your SCSI or IDE virtual disk, click **Advanced**.

17. Click **Finish**.
    The wizard sets up the files needed for your virtual machine.

Install a Guest OS in an Existing Virtual Machine

If you have created a virtual machine but haven't yet installed a guest operating system, you can install one any time. You can install a guest OS from a CD or DVD, or from a CD/DVD image file. Some operating systems are available as CD/DVD disc images only.

In some cases, the installation cannot be performed from a real CD/DVD disc because of disc reading problems. In such cases, it is recommended that you try to install the operating system from a CD/DVD disc image of this disc. ISO images of CD/DVD discs can be created using a third party imaging utility.

You can also install the guest operating system using a PXE server via network.

Some operating systems are installed only from floppy disks. If your computer does not have floppy drives, you can install such operating systems using images of installation diskettes or using real

floppy disk drives inserted into an external USB floppy disk drive. You can create floppy disk images using third-party applications.

Installing from a CD/DVD or its image

To install a guest OS from a CD/DVD or using an image:

1. Select the virtual machine, and make sure that it is stopped.
2. Choose **Configure** from the **Virtual Machine** menu to open Virtual Machine Configuration.
3. Open the **CD/DVD-ROM** settings, and configure the virtual CD/DVD-ROM drive settings.
   - If you are installing from a real CD/DVD, select the **Real Device** option and specify the real drive to connect in the **CD/DVD-ROM** list. Then insert the CD/DVD disc with the operating system files into the appropriate drive of the computer.
   - If you are installing from an image file, select the **Image file** option, and specify the path to the image file in the **File** field
1. Click **OK** in Virtual Machine Configuration to save the changes.
2. Start your virtual machine by clicking **Start**  .

The installation will launch soon after the virtual machine is started.

Note: If you need to press any keys inside the virtual machine during the guest OS installation, first click inside the virtual machine window to capture the keyboard and mouse input and than press the corresponding keys. To release the keyboard and mouse input back to the host OS, press Ctrl+Alt. For more information, refer to **Capturing and Releasing the Keyboard and the Mouse**.

Installing from the network

1. Choose **Configure** from the **Virtual Machine** menu to open Virtual Machine Configuration.
2. Click the **Add** button  in the bottom part of the **Virtual Machine Configuration** dialog to launch Add Hardware Assistant.

Note: The **Add** button is disabled when the virtual machine is running. You need to shut down the virtual machine before you can use this button.

3. Add a network adapter to your virtual machine configuration.
4. Open the **Boot Order** pane in Virtual Machine Configuration and change the boot sequence to make the virtual network adapter the first device in the sequence. To this effect, select **Network Adapter** in the list and use the arrow buttons to move it to the top of the list.
5. Click **OK** to apply the changes.
6. Start the virtual machine by clicking **Start**  .

Soon after your virtual machine is started, a list of available PXE servers appears.

During the installation, when the guest OS reboots for the first time or after the installation, return the boot sequence to booting from the hard disk.

Installing from a floppy disk image

1. Select the virtual machine and make sure that it is stopped.
2. To connect the installation medium, open Virtual Machine Configuration by:
   - right-clicking the machine and choosing **Configure** from the shortcut menu, or
   - choosing **Configure** from the **Virtual Machine** menu.
3. Open the **Floppy Disk** pane and specify the path to the floppy image disk file in the **Image File** field.
4. Click **OK** to apply the changes
5. Start the virtual machine by clicking **Start**  .

The installation will launch soon after the virtual machine is started.

Reinstalling the guest OS

The procedure for reinstalling the guest OS is the same as the procedure of installing the guest OS: provide the installation media or its image, connect it to the virtual machine, and start the virtual machine. The reinstallation will launch soon after the virtual machine is started.

Note: You can reinstall the guest OS of the same type only. However, you are free to choose the guest OS version.

Keep in mind that in some cases, it is easier just to create a new virtual machine, install the guest OS, and delete the old machine after moving all the necessary data to the new one.

Exporting and packaging an existing Virtual Machine into a portable format.

You can export a virtual machine from Fusion Pro to Open Virtualization Format (OVF). You can export both .ovf and .ova files.

Fusion Pro converts the virtual machine from VMware runtime (.vmx) format to OVF format.

OVF is a platform-independent, efficient, extensible, and open packaging and distribution format for virtual machines. OVF format provides a complete specification of the virtual machine, including the full list of required virtual disks and the required virtual hardware configuration. The virtual hardware configuration includes CPU, memory, networking, and storage. An administrator can quickly provision an OVF-formatted virtual machine with little or no intervention.

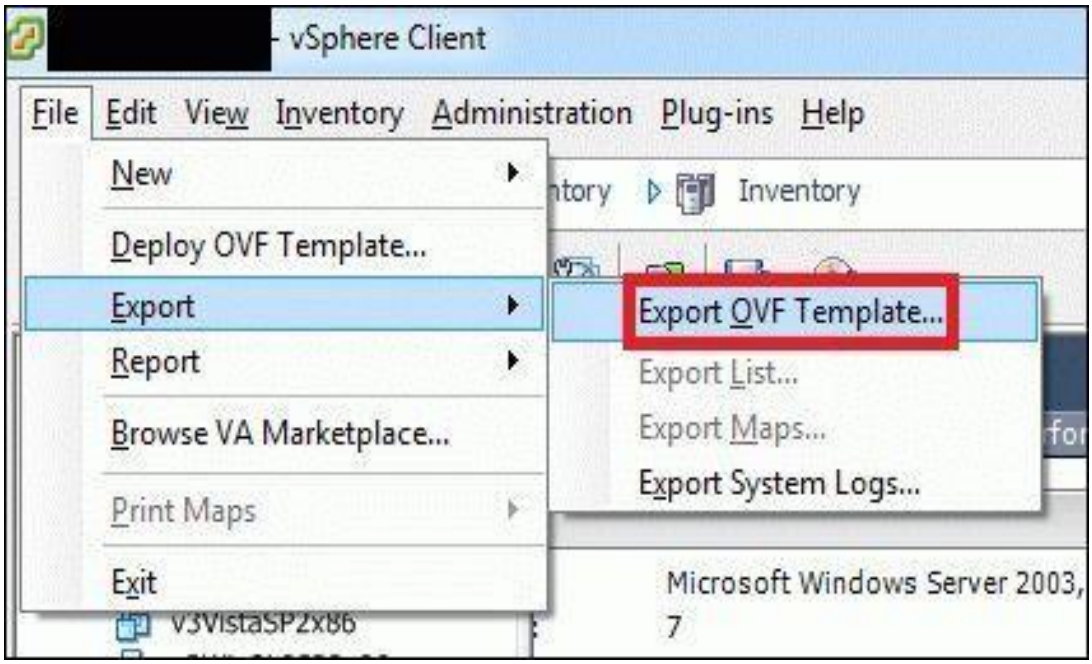
You can also use the standalone version of OVF Tool to convert a virtual machine that is in VMware runtime format to an OVF virtual machine. The standalone version of OVF Tool is installed in the Fusion Pro installation directory under Contents/Library/VMware OVF Tool . See the OVF Tool User Guide documentation on the VMware Web site for information about using OVF Tool.

Prerequisites

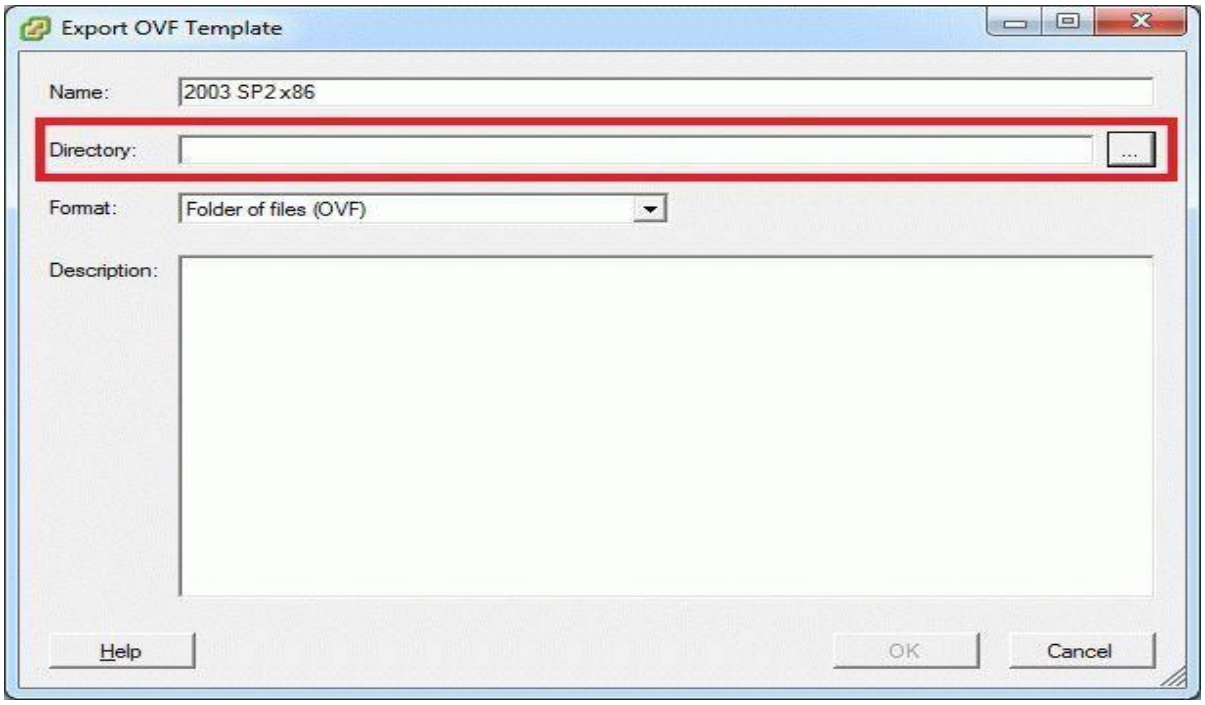
- Verify that the virtual machine is not encrypted. You cannot export an encrypted virtual machine to OVF format.
- Verify that the virtual machine is powered off.

Procedure

1. Open VMware vSphere Client and log on.
2. Select the virtual machine.
3. Select **File** > **Export** > **Export OVF Template**:

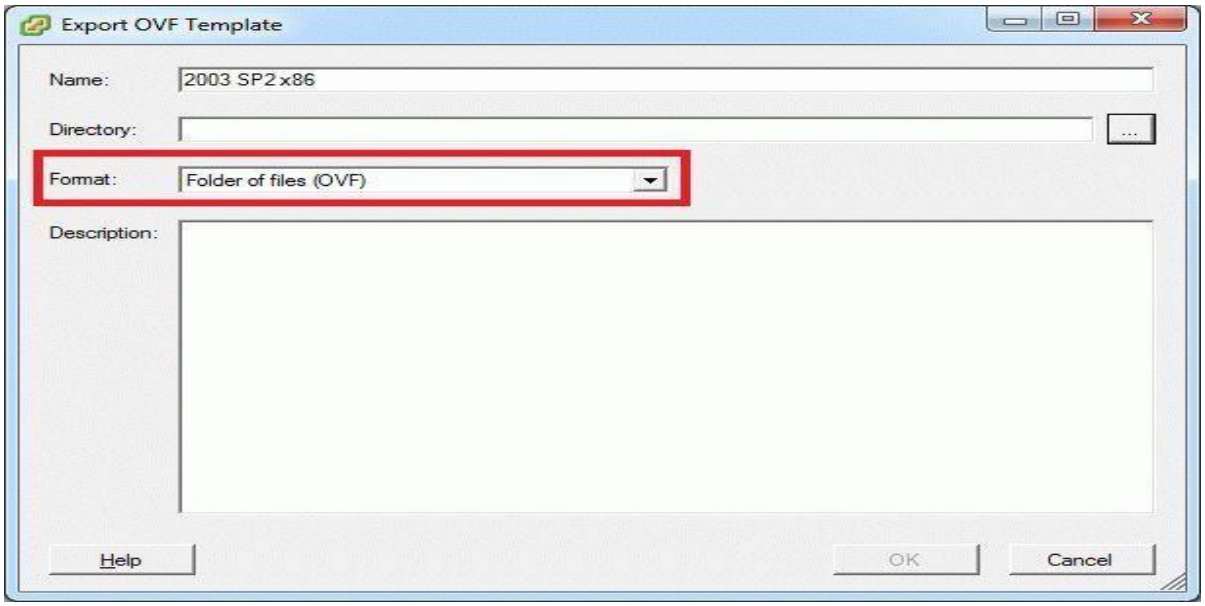


4. Select destination Directory (local hard drive is recommended).



5. Select format.

1. Choose **Single file (OVA)** to use less disk space.
2. Choose **Folder of Files (OVF)** to export in less time.



6. Wait for export to complete.

Ex.No:4

Installation of software's and basic commands

4.1) Installation of Linux operating Systems.

4.2)Installation of MS Windows operating Systems.

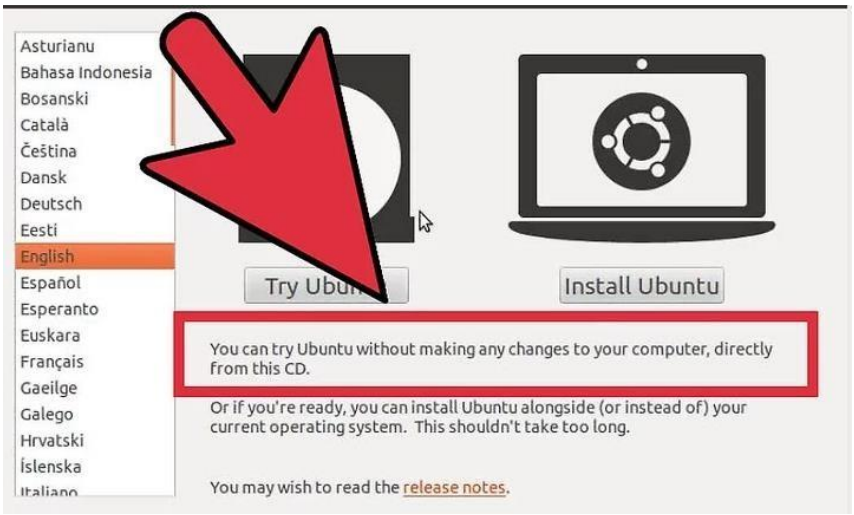
Installation of linux

Linux is the foundation of thousands of open source operating systems designed to replace Windows and Mac OS. It is free to download and install on any computer. Because it is open source, there are a variety of different versions, or distributions, available developed by different groups.

Download the Linux distribution of your choice. If you're new to Linux, consider trying a lightweight and easy to use distribution, such as Ubuntu or Linux Mint. Linux distributions (known as "distros") are typically available for free to download in ISO format. You can find the ISO for the distribution of your choice at the distribution's website. This format needs to be burned to a CD or USB stick before you can use it to install Linux. This will create a Live CD or Live USB.

A Live CD or Live USB is a disk that you can boot into, and often contains a preview version of the operating system that can be run directly from the CD or USB stick.

Install an image burning program, or use your system's built-in burning tool if you are using Windows 7, 8, or Mac OS X. Pen Drive Linux and UNetBootin are two popular tools for burning ISO files to USB sticks.



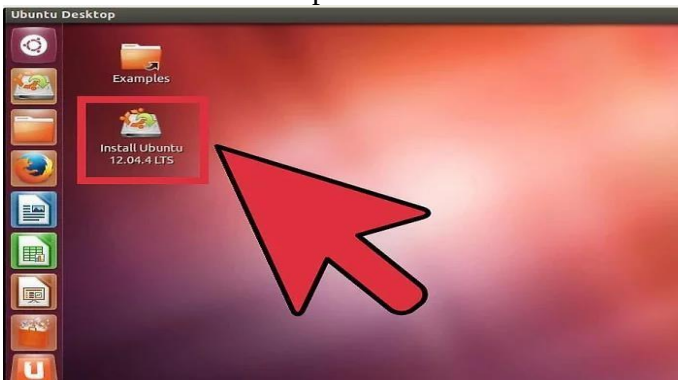
Step 2 Boot into the Live CD or Live USB: Most computers are set to boot into the hard drive first, which means you will need to change some settings to boot from your newly-burned CD or USB. Start by rebooting the computer.

Once the computer reboots, press the key used to enter the boot menu. The key for your system will be displayed on the same screen as the manufacturer's logo. Typical keys include F12, F2, or Del. For Windows 8 users, hold the Shift key and click restart. This will load the Advanced Startup Options, where you can boot from CD.

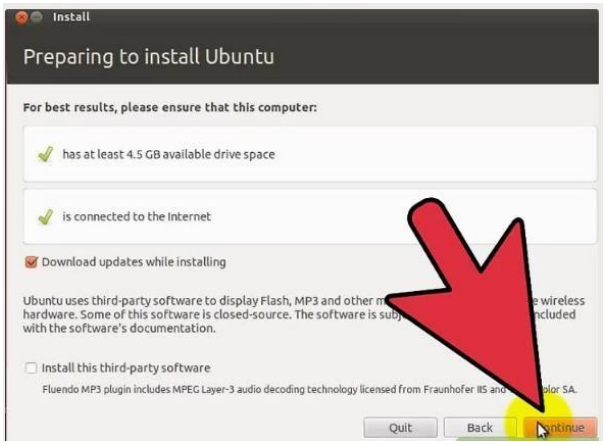
For Windows 10 users, go to advanced boot in settings and click "Restart Now."

If your computer doesn't give you direct access to the boot menu from the manufacturer's splash screen, it's most likely hidden in the BIOS menu. You can access the BIOS menu in the same way that you would get to the boot menu. At the manufacturer splash screen, the key should be listed in one of the bottom corners.

Once you're in the boot menu, select your live CD or USB. Once you've changed the settings, save and exit the BIOS setup or boot menu. Your computer will continue with the boot process.



Step3 Try out the Linux distribution before installing: Most Live CDs and USBs can launch a "live environment", giving you the ability to test it out before making the switch. You won't be able to create files, but you can navigate around the interface and decide if it's right for you.



Step4 Start the installation process: If you're trying out the distro, you can launch the installation from the application on the desktop. If you decided not to try out the distribution, you can start the installation from the boot menu.

You will be asked to configure some basic options, such as language, keyboard layout, and timezone.

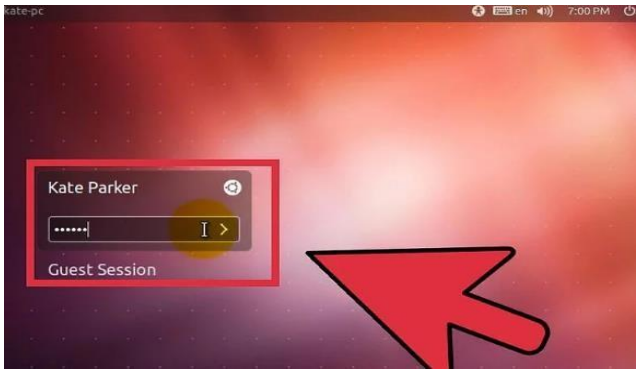
Step5 Create a username and password: You will need to create login information to install Linux. A password will be required to log into your account and perform administrative tasks.

Step 6 Set up the partition: Linux needs to be installed on a separate partition from any other operating systems on your computer if you intend dual booting Linux with another OS. A partition is a portion of the hard drive that is formatted specifically for that operating system. You can skip this step if you don't plan on dual booting. Distros such as Ubuntu will set a recommended partition

automatically. You can then adjust this manually yourself. Most Linux installations require at least 20 GB, so be sure to set aside enough room for both the Linux operating system and any other programs you may install and files you may create.
If the installation process does not give you automatic partitions, make sure that the partition you create is formatted as Ext4. If the copy of Linux you are installing is the only operating system on the computer, you will most likely have to manually set your partition size.

Step 7 Boot into Linux: Once the installation is finished, your computer will reboot. You will see a new screen when your computer boots up called "GNU GRUB". This is a boot loader that handles Linux installations. Pick your new Linux distro from the list. This screen may not show up if you only have one operating system on your computer. If this screen isn't being presented to you automatically, then you can get it back by hitting shift right after the manufacturer splash screen. If you install multiple distros on your computer, they will all be listed here.

Step 8 Check your hardware: Most hardware should work out of the box with your Linux distro, though you may need to download some additional drivers to get everything working.
Some hardware requires proprietary drivers to work correctly in Linux. This is most common with graphics cards. There is typically an open source driver that will work, but to get the most out of your graphics cards you will need to download the proprietary drivers from the manufacturer.
In Ubuntu, you can download proprietary drivers through the System Settings menu. Select the Additional Drivers option, and then select the graphics driver from the list. Other distros have specific methods for obtaining extra drivers.
You can find other drivers from this list as well, such as Wi-Fi drivers.



Start using Linux. Once your installation is complete and you've verified that your hardware is working, you're ready to start using Linux. Most distros come with several popular programs installed, and you can download many more from their respective file repositories.

Steps to install Windows 10

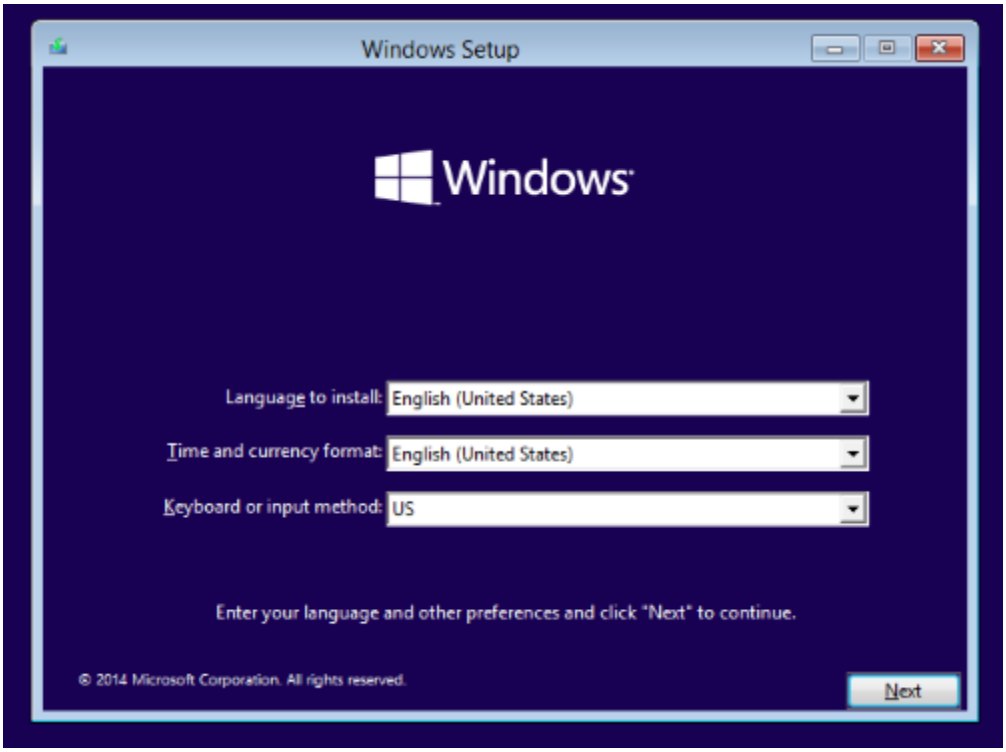
Step 1: Download Windows 10 ISO image from http://windows.microsoft.com/en-us/windows/preview-iso. Read more about Windows 10 technical preview ISO images.

Step 2: Mount the ISO image as a drive or burn it into a DVD. Optionally, you can create a Windows 10 bootable USB drive.

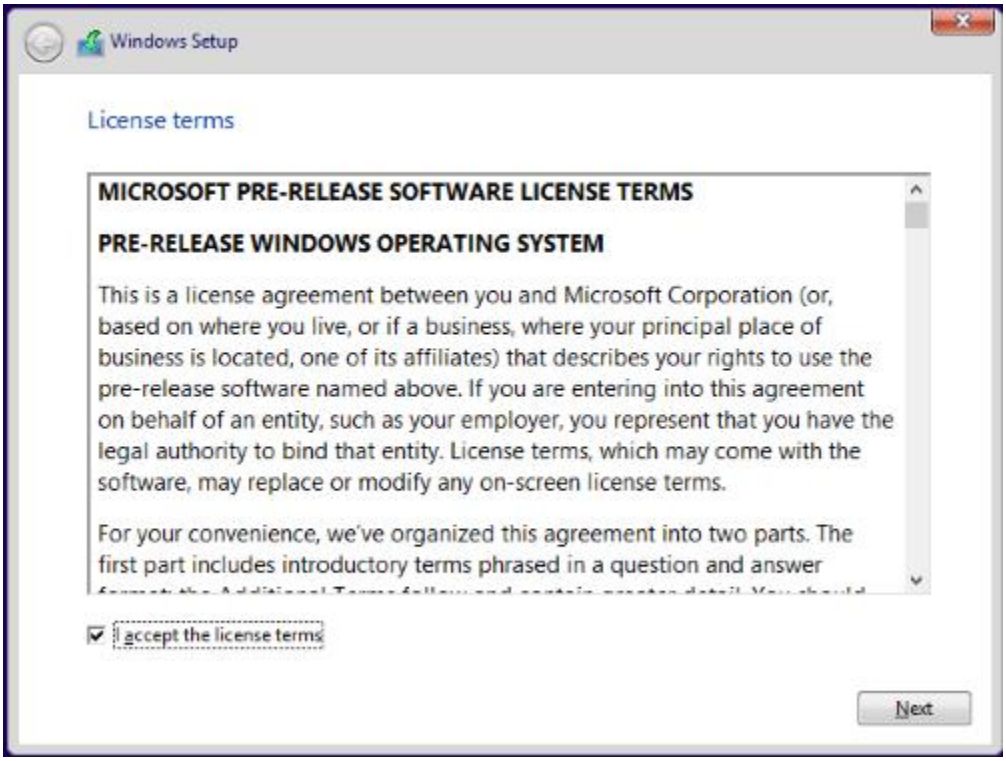
Step 3: Launch your virtual machine software and create a new virtual machine. You can read more details on how to install Windows 10 on VMWare Workstation.

Step 4: After you create the virtual machine, follow the steps below to install Windows 10.

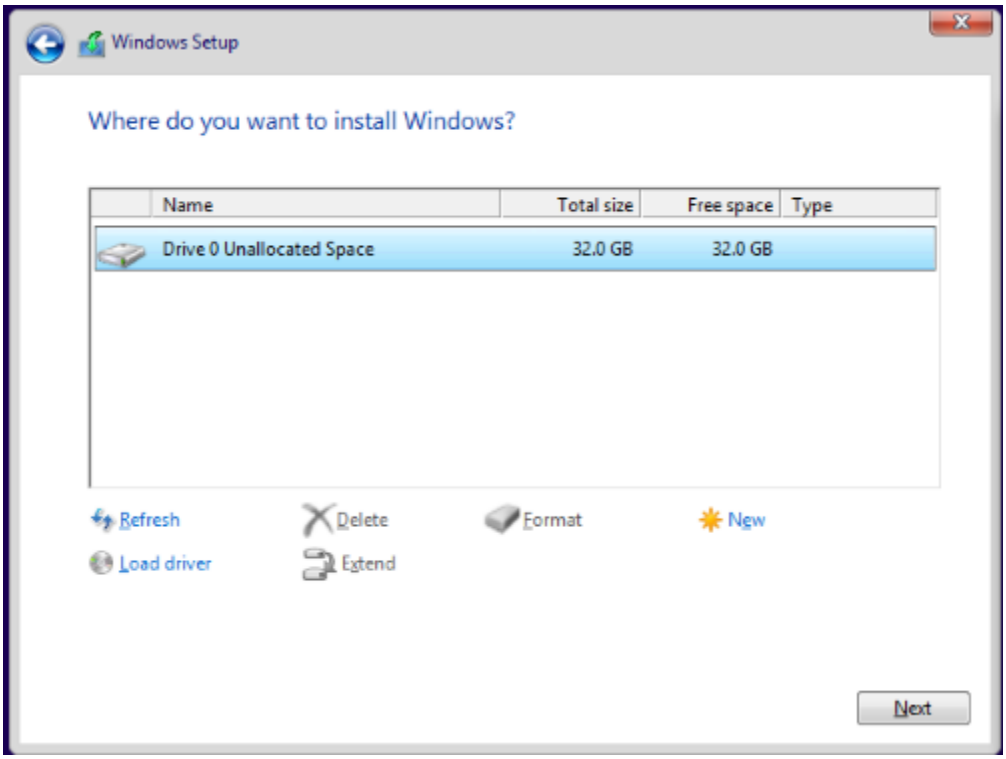
Step 5: In the welcome screen, choose your language settings and click the "Next" button to proceed.



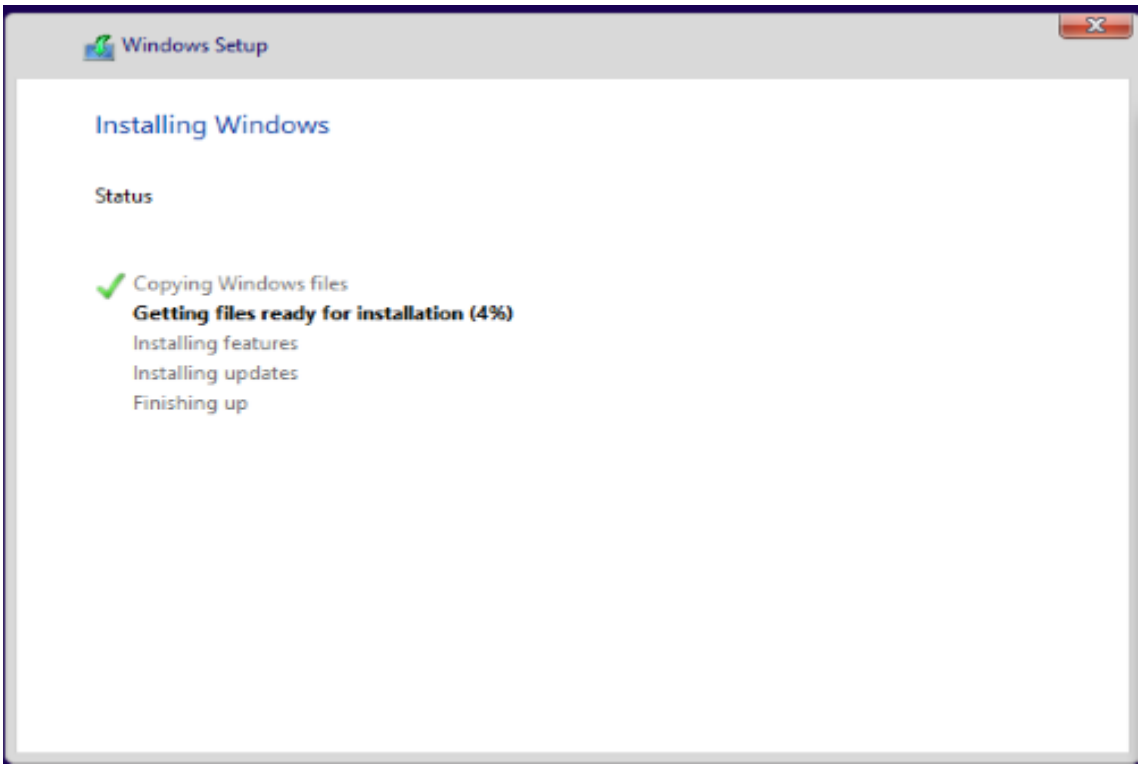
Step 6: Accept the license terms and click "Next" to proceed.



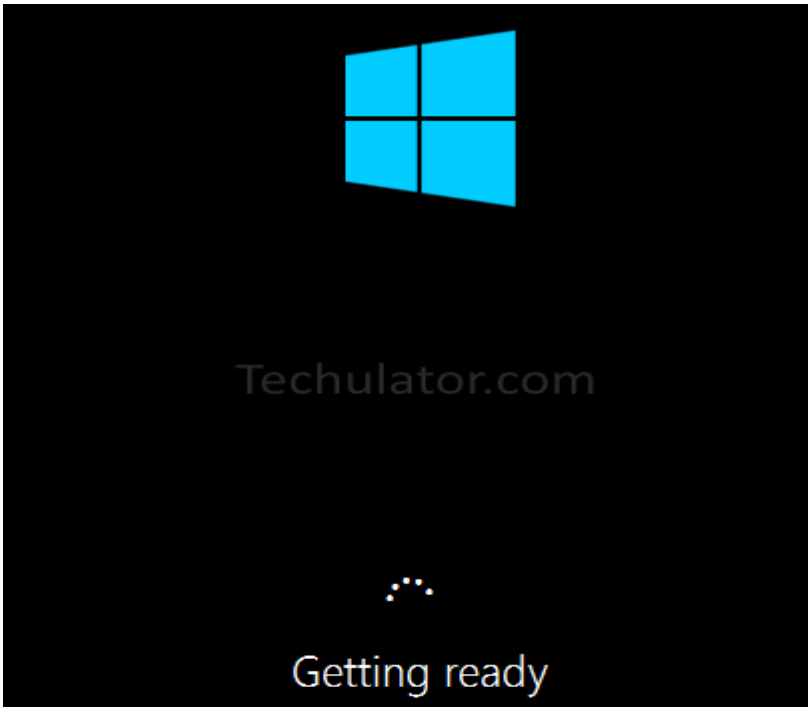
Step 7: In the next step, you have to select the drive to install. If you have multiple drives on your computer, you will see them all there. Choose the correct drive to install. If you are installing Windows 10 over an existing Windows, you may install side by side on another drive.



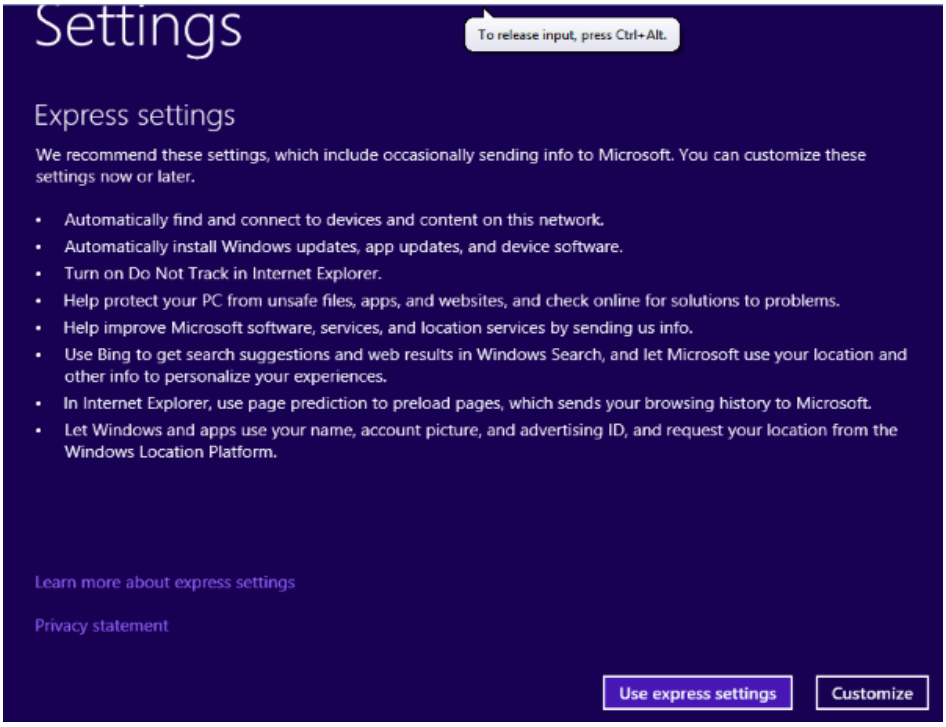
Step 8: Installer will copy all the necessary files to the computer and continue with the installation. Depending on your system configuration, it may take a while (10-20 minutes) to complete the installation.



After successful installation, you will see the Windows welcome screen, which is similar to the Windows 8 theme.



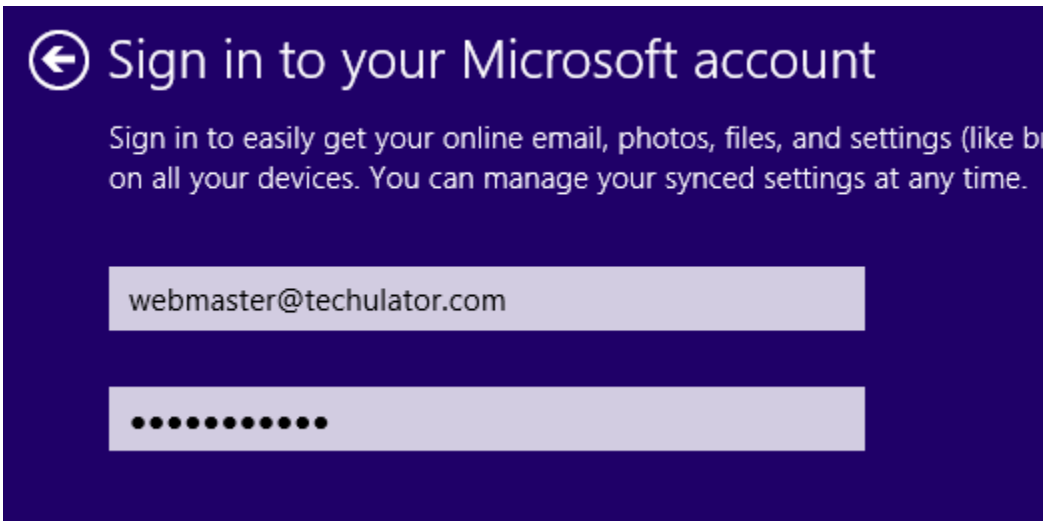
You will be presented with an option to select the Settings. Unless you want to make custom configuration, you can choose "Express Settings" and proceed.



In the next step, you will be prompted to select One Drive option. If you don't want to integrate One Drive storage for this computer, you can Turn Off the One Drive options.

The next step is installing some basic apps for your Windows 10 computer. No intervention from your side is necessary. Windows will automatically install the apps for you. It may take several minutes to complete the installation.

As part of installation, you will need to connect your Microsoft account with your OS to access various services like Microsoft App Store. You will need to use the same Microsoft account to login to your Windows.



You are all set. In a few minutes, Windows 10 will be configured and will be ready for you to use. If you encounter any errors or have any suggestions for Microsoft to improve the OS, don't forget to report them to Microsoft.

Exp.No:5

Networking and Internet

5.1) Networking commands.

5.2) Exploring Internet and World Wide Web.

5.3) Exploring Search Engines, Cyber hygiene

5.1 Networking commands.

Ping: Linux ping command stands for (Packet Internet Groper). It checks connectivity between two nodes to see if a server is available. It sends ICMP ECHO_REQUEST packets to network hosts and displays the data on the remote server's response. It checks if a remote host is up, or that network interfaces can be reached. Further, it is used to check if a network connection is available between two devices. It is also handy tool for checking your network connection and verifying network issues.

Ping command keeps executing and sends the packet until you interrupt.

To stop the execution, press "**CTRL**+C" keys.

Syntax:

The ping command supports various command-line options. But, the basic syntax for the ping command is as follows:

ping **<option> <destination>**

Options:

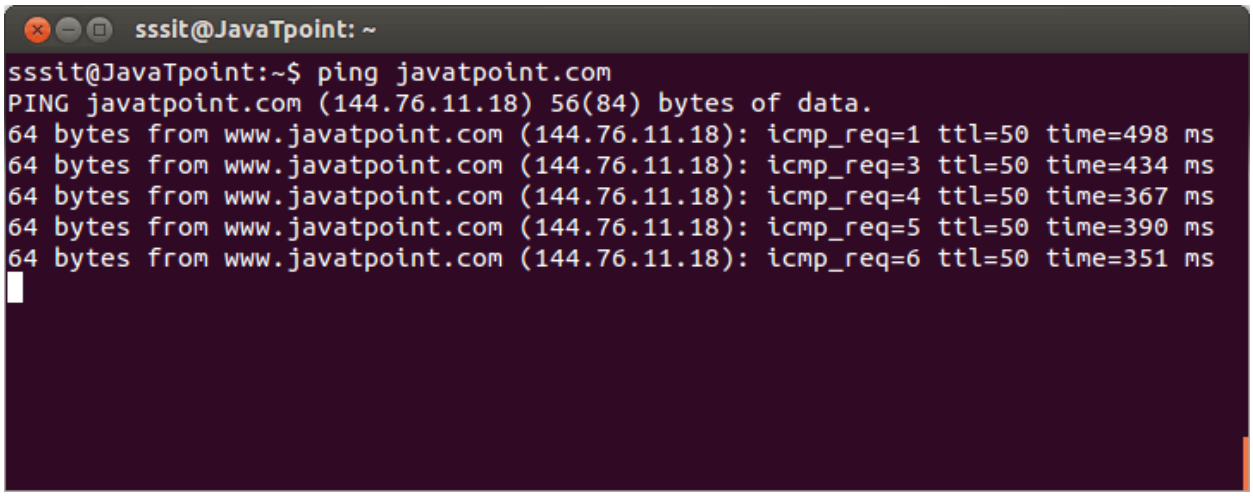
The ping command supports the following command-line options:

-4: It used to use IPv4 only.

-6: It is used to use IPv6 only.

-V: It is used to display version information.

-h: It is used to display the help manual having a brief description of the usage and support options.



ssh: ssh enables you to connect securely with remote hosts over the internet.

ssh enables secure communication over the internet with the following two features :

It confirms that the remote host is, who it says it is.

It encrypts all communication between the hosts.

Here is an example showing how you can connect to the remote host 10.0.0.50 using the ssh command:

```
me@ubuntu-xenial:~$ ssh 10.0.0.50
The authenticity of host '10.0.0.50 (10.0.0.50)' can't be established.
ECDSA key fingerprint is SHA256:s2tNJQa/C1/W0SevGm7Rt3xoBZG1QL5yT3ff/+PMpnY.
Are you sure you want to continue connecting (yes/no)? yes
```

You get a message saying that the authenticity of the host 10.0.0.50 cannot be established, this is because it's the first time a connection is being made with 10.0.0.50 (server) and the ssh client has never seen this remote host before. Enter yes to continue connecting. Once the connection has been established, you are prompted for a password:

```
Warning: Permanently added '10.0.0.50' (ECDSA) to the list of known hosts.
me@10.0.0.50's password:
```

ifconfig:

The command ifconfig stands for interface configurator. This command enables us to initialize an interface, assign IP address, enable or disable an interface. It display route and network interface. You can view IP address, MAC address and MTU (Maximum Transmission Unit) with ifconfig command.

A newer version of ifconfig is ip command. ifconfig command works for all the versions.

Syntax:

ifconfig

Look at the above snapshot, it shows the IP address of all three that is eth, lo and wlan.

Get details of specific interface

To find IP address of all three differently, use command

1. ifconfig eth0
2. ifconfig lo
3. ifconfig wlan0

scp: scp (secure copy) is very similar to cp command for copying files, with an addition – you can include remote hostnames in the source or destination pathnames. The hostname and the directory path are separated by a colon. This enables you to copy files securely over the network in an encrypted form. The following command copies a.txt from the local machine to 10.0.0.50 :

```
me@ubuntu-xenial:~$ scp a.txt 10.0.0.50:/home/me
me@10.0.0.50's password:
a.txt                                 100%    0     0.0KB/s
```

netstat: Linux netstat command stands for **Network statistics**. It displays information about different interface statistics, including open sockets, routing tables, and connection information. Further, it can be used to displays all the socket connections (including TCP, UDP). Apart from connected sockets, it also displays the sockets that are pending for connections. It is a handy tool for network and system administrators.

Syntax:

The netstat command supports various command-line options. The basic syntax of the netstat command is as follows:

netstat

Options:

It supports multiple command-line options to print information about the Linux networking subsystem. The output is controlled by the first argument. Let's see the list of the first arguments:

Next →← Prev

Linux netstat Command

Linux netstat command stands for **Network statistics**. It displays information about different interface statistics, including open sockets, routing tables, and connection information. Further, it can be used to displays all the socket connections (including TCP, UDP). Apart from connected sockets, it also displays the sockets that are pending for connections. It is a handy tool for network and system administrators.

Syntax:

The netstat command supports various command-line options. The basic syntax of the netstat command is as follows:
netstat

Options:

It supports multiple command-line options to print information about the Linux networking subsystem. The output is controlled by the first argument. Let's see the list of the first arguments:

(none): If no option is specified, it will execute the default command that displays a list of open sockets of all configured address families.

--route, -r: It is used to print the kernel routing tables. The "netstat -r" command and "route -e" command will produce the same output.

--groups, -g: It is used to display multicast group membership information different IP versions (Ipv4 and IPV6).

--interfaces, -i: It is used to display all network interfaces.

--masquerade, -M: It displays masqueraded connections.

--statistics, -s: This option displays the summary statistics for each protocol.

Here is an example:

```
$ netstat -i
Kernel Interface table
Iface   MTU Met   RX-OK RX-ERR RX-DRP RX-OVR    TX-OK TX-ERR TX-DRP TX-OVR Flg
eth0       1500 0      4001      0      0 0          2283       0      0      0 BMRU
eth1       1500 0     27154      0      0 0        838962       0      0      0 BMRU
lo        65536 0         0      0      0 0             0       0      0      0 LRU
```

Copy

Using -r flag will display the routing table. This shows the path configured for sending network packets.

```
$ netstat -r
Kernel IP routing table
Destination     Gateway         Genmask         Flags  MSS Window  irtt Iface
default         10.0.2.2        0.0.0.0         UG       0 0          0 eth0
10.0.0.0        *               255.255.255.0   U        0 0          0 eth1
10.0.2.0        *               255.255.255.0   U        0 0
```

ipstat command to report statistics about IP traffic. ipstat provides options to gather and report statistics only on IP traffic matching specified source or destination address, interface, and higher layer protocol. For more information, refer to the ipstat man page.

To gather and report statistics on IP traffic based on the selected output mode and sort order, use the "ipstat -l" with command.

```
# ipstat -l 5
SOURCE                  DEST                    PROTO   INT     BYTES
s11-server1.mydomain.com    s11-desktop.mydomain.com    UDP     net0    39.0
s11-desktop.mydomain.com    s11-server1.mydomain.com    UDP     net0    28.0
Total: bytes in: 39.0 bytes out: 28.0
```

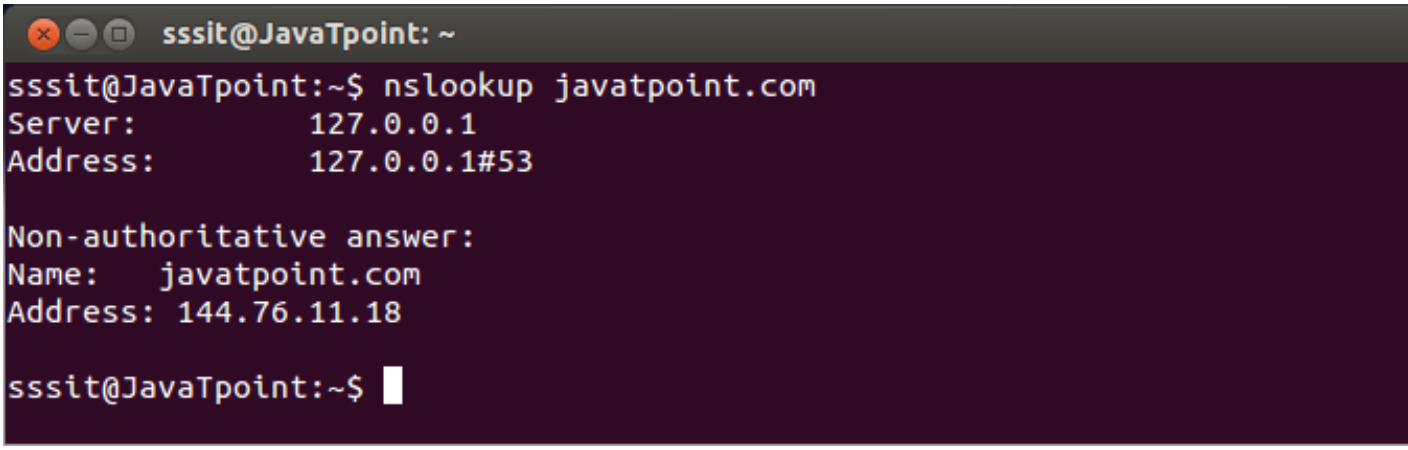
nslookup

This command is also used to find DNS related query.

Syntax:

nslookup **<domainName>**

nslookup javatpoint.com



Look at the above snapshot, it displays the record information of javatpoint.com

traceroute command

Linux traceroute command is a network troubleshooting utility that helps us determine the number of hops and packets traveling path required to reach a destination. It is used to display how the data transmitted from a local machine to a remote machine. Loading a web page is one of the common examples of the traceroute. A web page loading transfers data through a network and routers. The traceroute can display the routes, IP addresses, and hostnames of routers over a network. It can be useful for diagnosing network issues.

Syntax:

traceroute [OPTION...] HOST

Options:

The following command-line options are supported by the traceroute command:

-f, --first-hop=NUM: It is used to set the initial hop distance.

-g, --gateways=GATES: It is used to display a list of gateways for loose source routing.

-I, --icmp: It is specified to use ICMP ECHO as a probe.

To trace the route of a connected network host, pass the name of the server or IP address you want to connect. For example, to trace the route of the server 'javatpoint.com,' execute the below command:

traceroute javatpoint.com

The above command will display hops, packets, and much other information on the given route. Consider the below output:

```
javatpoint@javatpoint-Inspiron-3542:~$ traceroute javatpoint.com
traceroute to javatpoint.com (194.169.80.121), 64 hops max
  1   192.168.1.1  2.955ms  108.083ms  2.823ms
  2   *  *  *
  3   10.72.222.105  82.520ms  10.72.222.117  40.085ms  10.72.222.93  39.574ms
  4   192.168.28.196  26.381ms  40.080ms  192.168.28.194  39.293ms
  5   192.168.28.197  53.927ms  42.535ms  43.258ms
  6   172.16.8.70  56.835ms  56.874ms  40.893ms
  7   *  *  *
  8   *  *  *
  9   *  *  *
 10   *  *  *
 11   *  *  *
 12   *  *  *
 13   *  *  *
 14   103.198.140.54  309.762ms  319.848ms  328.998ms
 15   103.198.140.43  309.751ms  197.310ms  188.902ms
 16   195.66.225.162  203.018ms  370.983ms  319.810ms
 17   78.110.166.98  319.668ms  320.027ms  321.521ms
```

Trace the Route Using Ipv4

The '4' option is used to trace the route to a host network using the Ipv6 protocol. Consider the below command:

traceroute 4 google.com

The above command will trace the route to 'google.com' by using the Ipv6 protocol. Consider the below output:

```
javatpoint@javatpoint-Inspiron-3542:~$ traceroute 4 google.com
traceroute to google.com (172.217.166.238), 64 hops max
  1   192.168.1.1  2.588ms  2.462ms  2.721ms
  2   *  *  *
  3   10.72.223.69  1274.370ms  56.8.43.145  1344.726ms  *
  4   *  192.168.28.196  1071.611ms  *
  5   192.168.28.197  1255.813ms  1360.142ms  1319.128ms
  6   *  172.16.23.3  1561.085ms  *
  7   *  172.26.31.58  784.510ms  570.074ms
  8   *  *  *
  9   *  *  *
 10   *  * ^C
```

telnet:

telnet connect destination’s host and port via a telnet protocol if a connection establishes means connectivity between two hosts is working fine.

```
[root@lab ~]# telnet gf.dev 443
Trying 104.27.153.44...
Connected to gf.dev.
Escape character is '^]'.
```

host Command

Linux host command displays domain name for given IP address or vice-versa. It also performs DNS lookups related to the DNS query. The host command's default behavior displays a summary of its command-line arguments and supported options.

Syntax:

The host command supports various command-line arguments and options. The basic syntax for the host command is as follows:

host **<name>**

Options:

The following command-line arguments and options can be used with the host command:

-4: It is used for Ipv4 address only for the query.

-6: It is used for IPv6 address only for the query.

-a: The '-a' option stands for "All." It is equivalent to '-v', '-r', 's', any option. But, it influences the behavior of the '-l ' option.

If we execute the host command without any arguments, it will display a summary of command-line arguments and supported options. Execute the command as follows:

host :

The above command will display a list of supported command-line options. Consider the below output:

```
javatpoint@javatpoint-Inspiron-3542:~$ host
Usage: host [-aCdilrTvVw] [-c class] [-N ndots] [-t type] [-W time]
            [-R number] [-m flag] hostname [server]
       -a is equivalent to -v -t ANY
       -c specifies query class for non-IN data
       -C compares SOA records on authoritative nameservers
       -d is equivalent to -v
       -i IP6.INT reverse lookups
       -l lists all hosts in a domain, using AXFR
       -m set memory debugging flag (trace|record|usage)
       -N changes the number of dots allowed before root lookup is done
       -r disables recursive processing
       -R specifies number of retries for UDP packets
       -s a SERVFAIL response should stop query
       -t specifies the query type
       -T enables TCP/IP mode
       -v enables verbose output
       -V print version number and exit
       -w specifies to wait forever for a reply
       -W specifies how long to wait for a reply
       -4 use IPv4 query transport only
       -6 use IPv6 query transport only
```

ftp: is the simplest file transfer protocol to exchange files to and from a remote computer or network.. Similar to Windows, Linux and UNIX operating systems also have built-in command-line

prompts that can be used as FTP clients to make an FTP connection. Here's a list of commonly used FTP Linux and UNIX platforms commands.

4	Use only IPv4 to contact any host.
-6	Use IPv6 only.
-e	Disables command editing and history support, if it was compiled into the ftp executable. Otherwise, it does nothing.

Establishing an FTP Connection

01. To open an ftp connection to a remote system, invoke the `ftp` command followed by the remote server IP address or domain name. For example, to connect to an FTP server at "192.168.42.77" you would type:

```
$ ftp 192.168.42.77
```

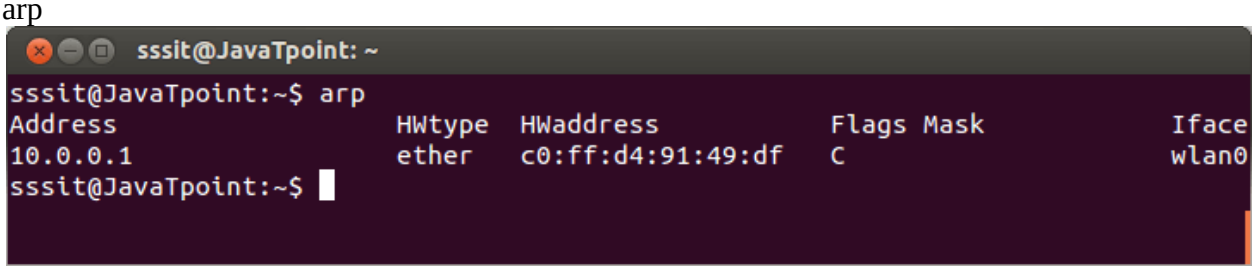
02. If the connection is established, a confirmation message will be displayed, and you will be prompted to enter your FTP username, in this example the FTP username is `linuxize`:

```
Output
220---------- Welcome to Pure-FTPd [privsep] [TLS] ----------
220-You are user number 1 of 50 allowed.
220-Local time is now 21:35. Server port: 21.
220-This is a private system - No anonymous login
220-IPv6 connections are also welcome on this server.
220 You will be disconnected after 15 minutes of inactivity.
Name (192.168.42.77:localuser): linuxize
```

arp: The command arp stands for **A**ddress **R**esoslution **P**rotocol. It allows us to view or add content into kernel's ARP table.

Syntax:

arp



Look at the above snapshot, command arp displays ARP table

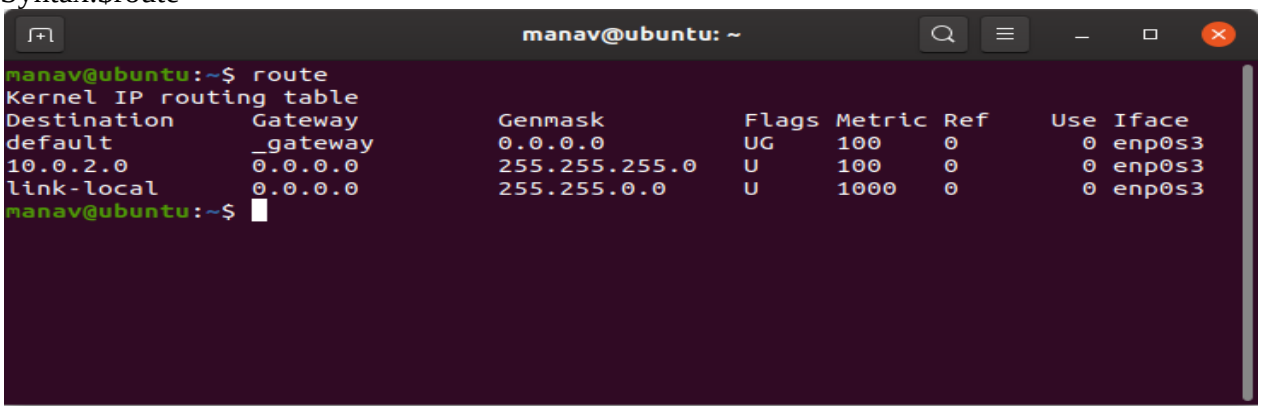
wget: Wget command is a Linux command line utility that helps us to download the files from the web. We can download the files from web servers using HTTP, HTTPS and FTP protocols. We can use wget in scripts and cronjobs.

Wget is a non-interactive program so that it will run in the background. One of the good feature of wget command is mirriong using this we can download the complete website from the web.
Let's have a look at some examples of Wget command

How to download a WebPage using wget command?
The basic format to download a file from the web using Wget command.

```
wget http://example.com/sample.php
```

route command in Linux is used when you want to work with the IP/kernel routing table. It is mainly used to set up static routes to specific hosts or networks via an interface. It is used for showing or update the IP/kernel routing table.
Syntax:$route



5.2) Exploring Internet and World Wide Web.

The internet is a world wide, publicly network of interconnected computer networks. Internet is the combination of Interconnection and Networks and is also called 'Net'. The following are the different networks available.

LAN- Local Area Network are privately owned networks with in a single building or campus of up to few kilometers in size. Interconnection of computes within the room.

WAN: A Wide Area Network is a network that connects computers within a building or institution.

MAN: Metropolitan Area Network is a network that connects the computers within some specific geographic area or town / city.

TCP/IP (Transmission Control Protocol/Internet Protocol): Collection of methods used to connect servers on the internet and to exchange data.

HTML (Hyper Text Markup Language): The coding used to control the look of documents on the

web.

HTTP(Hyper Text Transfer Protocol): Part of a url that identifies the location as one that uses HTML.

IP(Internet Protocol): A format for contents and addresses of packets of information sent over the internet.

IP ADDRESS: An identifier for a computer or device on a TCP/IP network.

SEARCH ENGINE: A program that searches documents located on the Internet for keywords or phrases entered by a person browsing the net.

Internet Connection requirements:

TCP/IP protocol

Client Software

ISP Account Means of communication to the net

telephone Modem

Ethernet

ISDN(Integrated Services Digital Network)

DSL(Digital Subscriber Line)

Satellite.

5.3) Exploring Search Engines, Cyber hygiene

A Web search engine is a tool designed to search for information on the World Wide Web. Information may consist of web pages, images, information and other types of files. Some search engines also mine data available in news books, databases, or open directories

A search engine operates, in the following order

Web crawling

Indexing

Searching

Web search engines work by storing information about many web pages, which they retrieve from the WWW itself. These pages are retrieved by a Web crawler (sometimes also known as a spider) — an automated Web browser which follows every link it sees. When a user enters a query into a search engine (typically by using key words), the engine examines its index and provides a listing of best-matching web pages according to its criteria, usually with a short summary containing the document's title and sometimes parts of the text. Most search engines support the use of the Boolean operators AND, OR and NOT to further specify the search query.

AOL Search - engine that defaults to AND logic and offers an Options template for easy search construction; has an option to view results by popularity; offers a directory based on the Open Directory

Ask.com - general search engine enhanced by a number of specialty searches including a dictionary, thesaurus, currency converter, encyclopedia, maps, news and more (Site is a merging of the former search engines Ask Jeeves and Teoma)

ChaCha - search engine that offers live human guides to help answer queries

Cuil - searches a very large index of Web pages and includes thumbnails of sites in its search results

Factbites - beta engine that searches for full topic matches and returns meaningful, full sentence excerpts of sites in its results list

Google - ranks pages by tracking the links links from pages ranked high by the service. Also check out EcoSmartSearch.com, a Google-powered search engine with a black background display that saves energy. Google offers a number of Services that are worth exploring, including:

Google Blog Search, for searching blog entries

Google Book Search, for searching the full text of books from most publishers in the U.S.

Google Directory, for searching the Google version of the Open Directory

Google Scholar, offers the full text, abstracts, and/or citations to scholarly materials including books, journal articles, documents in academic repositories and the free Web. This link will allow you to access the full text of articles in journals to which the Libraries subscribe when you are off campus.

Google U.S. Government Search, a searchable database of U.S. government Web sites (.gov and .mil) ranked by link popularity

Live Search - Microsoft's search engine that offers searches of the general Web as well as some deep Web sources and focused search including health, local, and questions/answers

Lycos - general search engine that also offers searches of a few deep Web content sources including people look-up, yellow pages and multimedia

Quintura - displays a type of tag cloud with keywords related to your search that can be selected to generate new results

SearchEdu.com - service that limits results to the .edu, domain; also offers to search well-known dictionaries, encyclopedias, almanacs, etc. See also:

Yahoo! - portal with a general Web search and many other content services

CYBER HYGIENE:

Viruses, worms and Trojan Horses are all malicious programs that can cause damage to your computer.

Computer virus attaches itself to a program or file enabling it to spread from one computer to another, leaving infections as it travels. Almost all viruses are attached to an executable file, which means the virus may exist on your computer but it actually cannot infect your computer unless you run or open the malicious program.

A worm is similar to a virus by design and is considered to be a sub-class of a virus. Worms spread from computer to computer, but unlike a virus, it has the capability to travel without any human action. A worm takes advantage of file or information transport features on your system, which is what allows it to travel unaided.

A Trojan Horse is full of as much trickery as the mythological Trojan Horse it was named after. The Trojan Horse, at first glance will appear to be useful software but will actually do damage once installed or run on your computer. Some Trojans are designed to be more annoying than malicious (like changing your desktop, adding silly active desktop icons) or they can cause serious damage by deleting files and destroying information on your system.

Protecting Computer Against Viruses & Worms: There are three basic steps through which we can easily protect our computer against the Viruses and Worms.

Updating Windows.

Installing Antivirus Software.

Installing or Configuring Firewall.

UPDATING WINDOWS:Make sure that the Automatic Updates option is always set to Automatic. Updates get downloaded automatically and get installed in a background process.

INSTALLING ANTIVIRUS SOFTWARE: Antivirus software are computer programs that attempt to identify, neutralize or eliminate malicious software. The term "antivirus" is used because the earliest examples were designed exclusively to combat computer viruses; however most modern antivirus software is now designed to combat a wide range of threats, including worms, phishing attacks, rootkits, and Trojans, often described collectively as malware.

TOP ANTIVIRUS SOFTWARES:

 Norton AntiVirus 15.0.0.8  NOD32 AntiVirus 3.0.414 RC1

 McAfee VirusScan 10  Kaspersky Anti-Virus 7.0.1.241 Beta

 ClamWin 0.91.2  BitDefender 10 Free Edition

INSTALLING OR CONFIGURING FIREWALL:

The Windows Firewall general settings allow you to configure these options:
On (recommended). This is the default setting (with Don't allow exceptions not selected).
Don't allow exceptions. When this check box is selected, the firewall is placed into On With No Exceptions mode which blocks all unsolicited requests to connect to your computer. Off (not

recommended). Turning off Windows Firewall might make your computer more vulnerable to damage from viruses, worms, or intruders.

CUSTOMIZE WEB BROWSERS: Block or Allow Pop-up Windows

Select Tools > Options, and click the Content tab.

Uncheck the box beside Block pop-up windows to allow all popup windows. Check the box to block all pop-up windows.

To specify which sites can or cannot launch popup windows in your browser, check the box and click Exceptions to the right of it.

In the Exceptions box, enter the web site's address.

Click Allow.

To remove a web site from the list of allowed sites, highlight it & click Remove Site.

To clear the list completely, click Remove All Sites.

When you're done, click Close.

Exp.No:6

6.1 Demonstration and Practice on Text Editors like Notepad++, Sublime Text, Atom, Brackets, Visual code, etc

Notepad++ is an open source code editor written in C++. It supports various programming languages running under the Microsoft Windows environment.

It supports syntax highlighting for languages like PHP, JavaScript, HTML, and CSS. But it has a few drawbacks.

Here is a curated list of Top Code Editor alternatives that can replace Notepad++. This list includes commercial (paid) as well as open-source (free) code editors (IDE) with popular features and the latest download link.

1) Atom

Atom is useful code editor tool preferred by programmers due to its simple interface compared to the other editors. Atom users can submit packages and them for the software.

Price: Free

Platform: Mac, Windows, Linux

Features:

- Package Manager Integrated for Plugins support
- The feature of smart autocompletion
- This Notepad++ alternative supports Command Palette
- Multiple panes
- Allow cross-platform editing

2) Kite

Kite is IDE for Notepad++ that automatically completes multiple line codes. This editor supports more than 16 languages. It helps you to code faster with no hassle.

Price: Free

Platform: Mac, Windows, Linux

Features:

- It offers Java documentation.
- This editor provides a function signature as you type.
- You will get a tooltip on mouse hover.
- Provides support in email.
- Uses machine learning models for Java language.

Emacs

Emacs is a Unix based text editor tool which is used by programmers, engineers, students, and system administrators. It is one of the best Notepad++ alternatives that allows you to add, modify, delete, insert, words, letters, lines, and other units of text.

Price: Free

Platform: Mac, Windows, Linux

Features:

- This alternative to Notepad++ provides complete built-in documentation
- Full Unicode support for many human scripts
- Highly customizable, using Emacs Lisp code.
- A packaging system for installing and downloading extensions

4) NetBeans

NetBeans is an open-source code editor tool for developing with Java, PHP, C++, and other programming languages. With this editor, code analyzers, and converters. This code editor is better than Notepad++ and it allows you to upgrade your applications to use new Java 8 language constructs.

Price: Free

Platform: Mac, Windows, Linux

Features:

- Easy & Efficient Project Management
- This Notepad++ alternative offers fast & Smart Code Editing
- Rapid User Interface Development
- Helps you to write bug-free code

5) jEdit

jEdit, a code editor program which is written in Java. This open source tool supports hundreds of plugins and macros. It offers a large collection of plugins maintained by a worldwide developer team.

Price: Free

Platform: Mac, Windows, Linux

Features:

- Built-in macro language & extensible plugin architecture
- This Notepad++ alternative for Mac allows copy and paste with an unlimited number of clipboards
- You can download plugins with the help of the plugin manager.
- Register contents are saved across editing sessions.
- Allows auto indent, and syntax highlighting over 200 languages

6) Geany

Geany is a text editor which uses GTK+ toolkit. It also has certain basic features of an integrated development environment. The tool supports many filetypes and has some nice features.

Price: Free

Platform: Mac, Windows, Linux

Features:

- This Notepad++ alternative Linux allows you to add a note for applying the indent settings in the project preferences
- Navigating through the source code
- Allows popup menu on message window notebooks and sidebar
- Show status message on attempt to execute empty context action

7) TextMate

TextMate is a versatile plain text editor for mac with unique and innovative features. The tool offers support for many programming languages, writing prose in structured formats such as blogging, running SQL queries, writing screenplays, etc.

Price: Free

Platform: Mac

Features:

- Auto-Indent for Common Actions
- CSS-like Selectors to find the Scope of Actions and Settings
- Dynamic Outline for Working With Multiple Files
- Function Pop-up for Quick Overview and Navigation
- Run Shell Commands from Within a Document
- Visual Bookmarks to Jump Between Places in a File

8) VIM

Vim is an advanced text editor open source tool which is also considered to be an IDE in its way. This tool allows managing your text editing activities with vim editors and UNIX System which can be used on-premise or online.

Price: Free

Platform: Mac, Windows, Linux

Features:

- Extensive plugin support
- Powerful search and replace
- Integrates with many tools
- Macro recording and playback
- Support for hundreds of programming languages and file formats

9) Light Table

Light Table is an IDE and text editor tool for software development. The tool offers fast feedback and allowing instant execution, debugging and access to documentation.

Price: Free

Platform: Mac, Windows, Linux

Features:

- Inline Evaluation
- Light Table is a lightweight, clean, and sleek interface.
- Powerful editing and plugin manager
- The feature of println to keep track of critical values in your code

10) Brackets

Brackets is a lightweight tool developed by Adobe. It is an open source text editor which is free to download. It allows you to a toggle between your source code and the browser view.

Price: Free

Platform: Mac, Windows, Linux

Features:

- Quick Edit UIfeature puts context-specific code and tools inline
- This Notepad++ alternative for Windows offers live preview, preprocessor support, and inline editors
- Pleasant looking UI
- Especially developed tool for macOS
- It comes with the inbuilt extension manager for fast & effective extension management.

11) Bluefish

Bluefish a is a cross-platform editor is a speedy tool which can handle dozens of files simultaneously. The tool allows developers to conduct remote editing. This code editor tool offers many options to s programmers and web developers, to write websites, scripts, and programming code.

Price: Free

Platform: Mac, Windows, Linux

Features:

- This Notepad plus plus alternative loads hundreds of files within seconds
- Auto-recovery of changes in modified documents after a crash, kill or shutdown.
- Project support feature helps you to work efficiently on multiple projects.
- Unlimited undo/redo functionality.

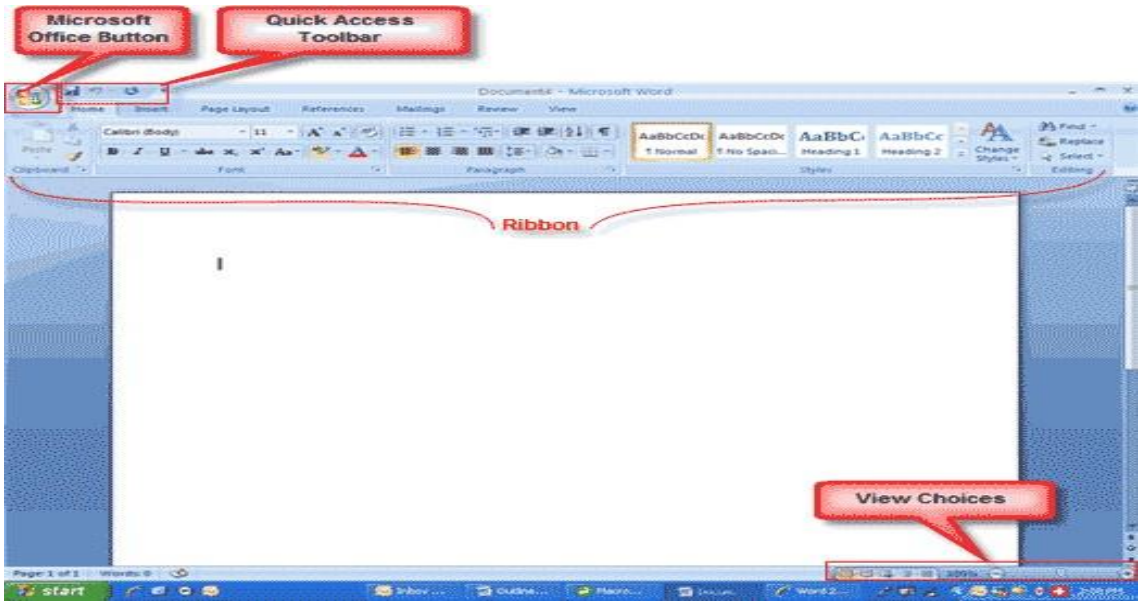
Exp.No:7

i. Demonstration and practice on Microsoft Word- Formatting, Page Borders, Reviewing, Equations, symbols.

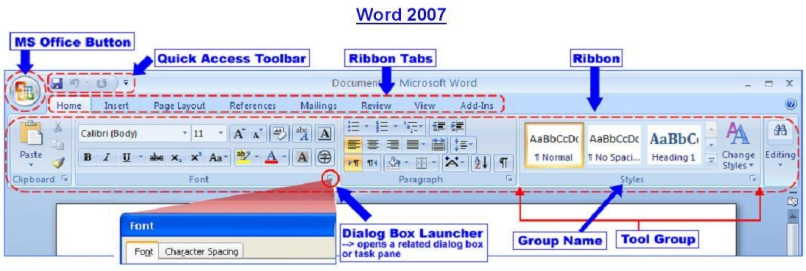
Word - Formatting, Page Borders, Reviewing, Equations, symbols.

Microsoft Word is a word processing software and is currently the most common word processor on the market. Because it is so common, the .doc format has become the de facto format for text documents. Word files can also be used to create other file formats, such as PDF and HTML. There are several things that can be done to make content created in Word more accessible.

HOME SCREEN



Microsoft Word 2007 is different from previous versions of Microsoft Word.



Menus

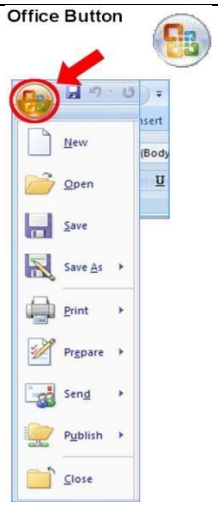
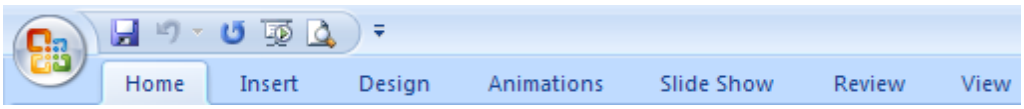
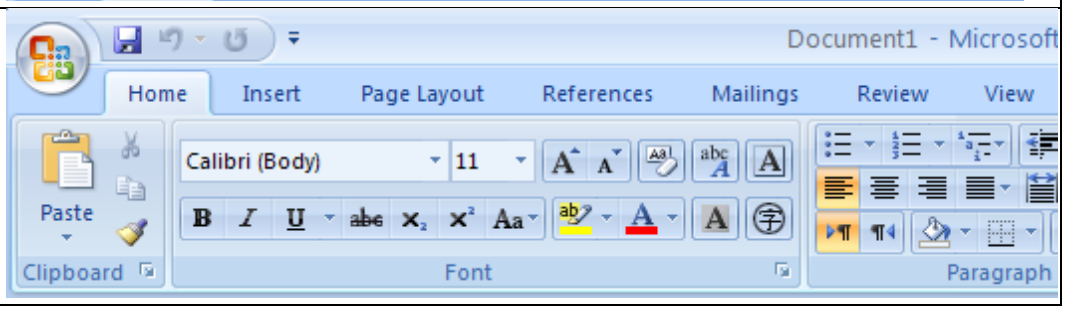
When you begin to explore Word

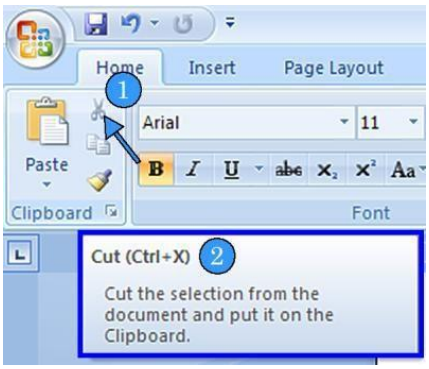
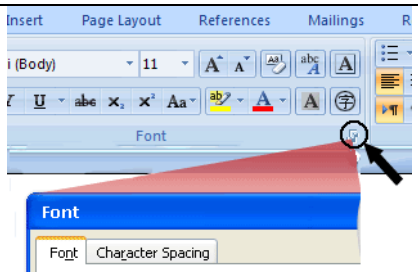
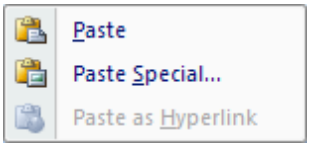
2007 you will notice a new look to the menu bar. You should remember three features as you work within Word 2007:

- The Microsoft Office Button
- The Quick Access Toolbar
- The Ribbon

These three features contain many of the functions that were in the menu of previous versions of Word. The functions of these three features will be outlined below.

The Microsoft

	The **Office Button** is the round icon at the top left-hand corner. It includes the basic File Functions from the older version of Office New, Open, Save, Save As, Print, etc. Click on the Office Button icon. You will see the main file functions in the pull-down menu.
Quick Access Toolbar	The **Quick Access Toolbar** contains shortcuts to Save, Undo, and Repeat Tools We recommend always using **MS Office Button** >>**Save As** to make sure your work is being saved properly
Ribbon Tabs	The **Menu** or **Toolbar** from older versions of MS Office have been replaced with **Ribbon Tabs**. 
Ribbon	

Tool Group	**Ribbon Tabs** are broken into sub-sections called **Tool Groups**. **Example** Here is the **Clipboard Group** under the **Home Tab**  Basic functions such as **Cut**, **Copy**, and **Paste** are represented as icons When you hold the mouse over each icon, a small window will appear to show you The keyboard shortcut for that Tool A description of what that Tool does The image to the right shows the window tha appears when you hold the mouse over the **Cut Tool** icon Take some time to explore the **Ribbon Tabs** and **Tool Groups** and learn When where to find the Tools you use most frequently.
Dialog Box	you click on the small arrow at the bottom right-hand corner of **Tool Group** box, a **Dialog Box** appears. The **Dialog Box** provides additional Formatting options related to the Tool Group that you chose. 
Context Menu	The arrow at the bottom of the "Paste" button indicates that you can drop down a **Context Menu**. The **Context Menu** provides more options related to the function you are working with.  

Formatting Tools Tab	In order to format or edit any inserted object (ex. images, tables, etc.) 1. You must first **select** the object by clicking on the image or bring the cursor inside the table. 2. Then the **Formatting Tools Tab** appears at the right-hand end of the **Ribbon Tabs**. It provides the formatting palettes for the selected object.

Microsoft Word Shortcuts:

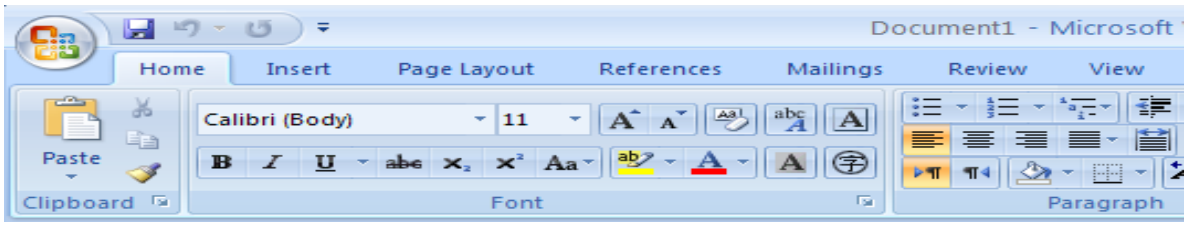
- **To Create a New Document:** Click the **Office Button**, select **New**, and click **Create**, or press **<Ctrl>**+ **<N>**.
- **To Open a Document:** Click the **Office Button** and select **Open**, or press **<Ctrl>**+ **<O>**.
- **To Save a Document:** Click the **Save** **button** on the Quick Access Toolbar, or press **<Ctrl>**+ **<S>**.
- **To Save a Document with a Different Name:** Click the **Office Button**, select **Save As**, and enter a new name for the document.
- **To Preview a Document:** Click the **Office Button**, point to the **Print** list arrow, and select **Print Preview**.
- **To Print a Document:** Click the **Office Button** and select **Print**, or press **<Ctrl>**+ **<P>**.
- **To Undo:** Click the **Undo** button on the Quick Access Toolbar or press **<Ctrl>**+**<Z>**.
- **To Close a Document:** Click the **Close** button or press **<Ctrl>**+**<W>**.
- **To Get Help:** Press **<F1>**to open the Help window. Type your question and press **<Enter>**.
- **To Exit Word:** Click the **Office Button** and click **Exit Word**.
- **To Cut or Copy Text:** Select the text you want to cut or copy and click the **Cut** or **Copy** button in the Clipboard group on the Home tab.
- **To Paste Text:** Place the insertion point where you want to paste and click the **Paste** button in the Clipboard group on the Home tab.
- **To Format Selected Text:** Use the commands in the Font group on the Home tab, or click the **Dialog Box Launcher** in the Font group to open the Font dialog box.

- **To Copy Formatting with the Format Painter:** Select the text with the formatting you want to copy and click the  **Format Painter** button in the Clipboard group on the Home tab. Then, select the text you want to apply the copied formatting to.
- **To Change Paragraph Alignment:** Select the paragraph(s) and click the appropriate alignment button (**Align**  **Left**,  **Center**,  **Align Right**, or  **Justify**) in the Paragraph group on the Home tab.
- **To Indent a Paragraph:** Click the  **Increase Indent** button in the Paragraph group on the Home tab.
- **To Decrease an Indent:** Click the  **Decrease Indent** button in the Paragraph group on the Home tab.
- **To Add a Tab Stop:** Click the  **Tab alignment** box on the Ruler until you see the type of tab you want to insert. Then, click on the Ruler where you want to insert the tab stop.
- **To Adjust or Remove a Tab Stop:** Click and drag the tab stop to the desired position on the Ruler. Click and drag the tab stop off the Ruler to remove it.
- **To Change Paragraph Line Spacing:** Click the  **Line Spacing** button in the Paragraph group on the Home tab and select an option from the list.
- **To Create a Bulleted or Numbered List:** Select the paragraphs you want to bullet or number and click the  **Bullets** or  **Numbering** button in the Paragraph group on the Home tab.
- **To Change a Document's Margins:** Click the **Page Layout** tab on the Ribbon, click the **Margins** button in the Page Setup group, and select a setting.
- **To Change Page Orientation:** Click the **Page Layout** tab on the Ribbon, click the **Orientation** button, and select an option from the list.
- **To Insert a Header or Footer:** Click the **Insert** tab on the Ribbon and click the **Header** or **Footer** button in the Header & Footer group.
- **To Insert a Manual Page Break:** Click the **Insert** tab on the Ribbon and click the **Page Break** button in the Page Setup group.
- **To Insert a Section Break:** Click the **Page Layout** tab on the Ribbon, click the **Breaks** button in the Page Setup group, and select the type of break you want to insert.
- **To Correct a Spelling Error:** Right-click the error and select a correction from the contextual menu. Or, press **<F7>**to run the Spell Checker.

- **To Find Text:** Click the **Find** button in the Editing group on the Hometab.
- **To Replace Text:** Click the **Replace** button in the Editing group on the Home tab.

There are seven ribbon tabs available in MS-Word 2007

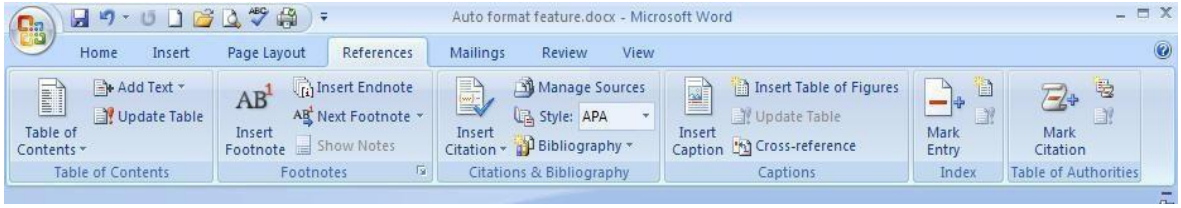
Home: Clipboard, Fonts, Paragraph, Styles, and Editing.



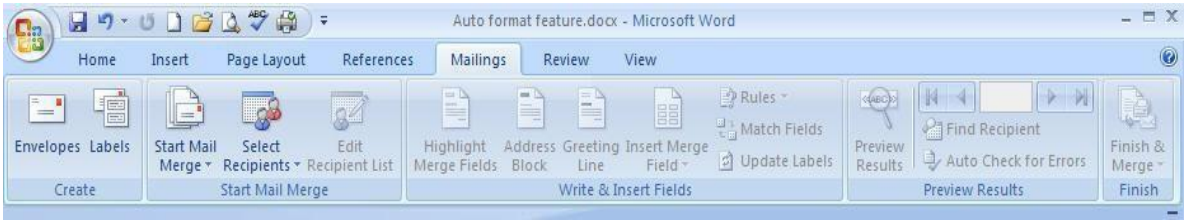
Insert: This tab handles anything you might want to insert into a document, such as tables, pictures, charts, hyperlinks, bookmarks, headers and footers, WordArt, etc.

Page Layout: Here's where you'll change margins, page size and orientation, set up columns, align objects, add effects and so on. There are some grey areas between this tab and the Home tab.

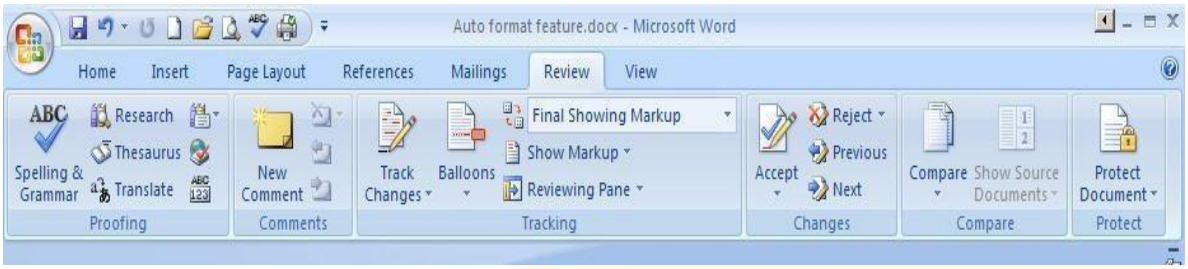
References: This tab handles tables of contents, footnotes, bibliographies, indexes andsimilar material.



Mailings: This is where you'll go for anything to do with mailings, from creating labels to mail merges.



Review: This is where to go if you need to check spelling and grammar or look up a word in a thesaurus.



View: Here's where to go when you want to change the view in any way, including displaying a ruler and gridlines, zooming in and out, splitting a window and so on.

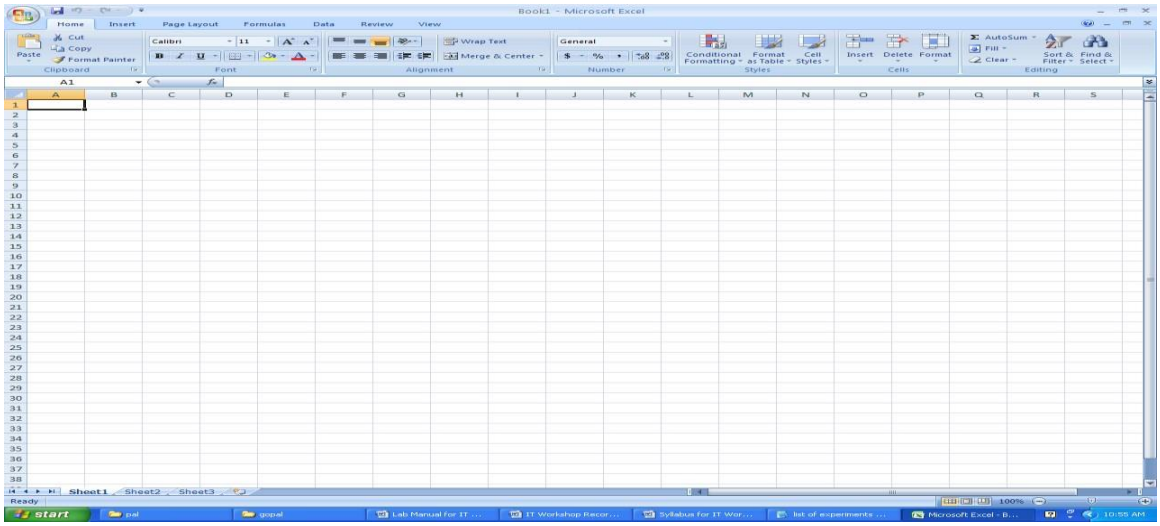
Exp No: 8

Microsoft Excel- Organize data, usage of formula, graphs and charts.

MICROSOFT EXCEL

Microsoft Excel is an electronic spreadsheet that runs on a personal computer. You can use it to organize your data into rows and columns. You can also use it to perform mathematical calculations quickly.Excel 2007 has eight standard ribbon tabs

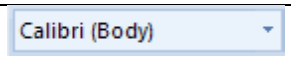
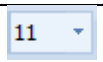
HOME SCREEN:



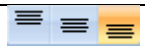
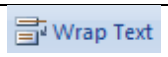
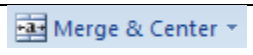
ICONS	DESCRIPTIONS
	Clipboard
	Pastes the contents of the clipboard in the cursor's current location

	Places the currently selected item on the clipboard, it will be removed from its current location once it is pasted in a new location
	Copies the currently selected item to the clipboard
	Copies the formatting of the currently selected item to apply to the next selected item
	Shows the clipboard and other options

FONTS

	Font
	Font size
	Increase font size
	Decrease font size
	Bold
	Italics
	Underline (the arrow will give you line options)
	Apply the last used border (the arrow will give you border options)
	Apply the last used cell color (the arrow will give you color options)
	Apply the last used font color (the arrow will give you color options)
	More font options

ALIGNMENT

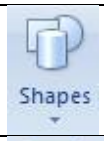
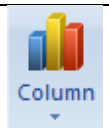
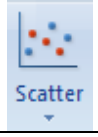
	Align contents to top, middle, or bottom
	Change the angle of the text in the cell
	Align cell contents to left, center, or right
	Increase or decrease indent
	Make all cell contents visible by wrapping to multiple lines
	Merges selected cells into one cell and centers the contents (the arrow provides more options)
	More alignment options

SOME ADVANCED ICONS

General	Number format (i.e. currency, percentage, date)
$	Accounting number format currency (alternate currencies are available using the arrow)
%	Display cell contents as a percentage
,	Display the cell value with a thousand's separating comma
.0 .00 .00 .0	Increase or decrease the number of decimal places
	More number options
Conditional Formatting	Automatically format cells based on the cell contents
Format as Table	Format the selected cells as a table
Cell Styles	Format cells by using pre-defined styles
Insert	Insert cell, row, or column
Delete	Delete cell, row, or column
Format	Various cell, row, or column formatting options
Σ	Autosum (the arrow provides other common formulas)
	Fill
	Clear
Sort & Filter	Arrange and view data by sorting or filtering
Find & Select	Find text, formatting, or type of information

Insert Tab

PivotTable	Insert pivot table or pivot chart	Other Charts	Insert another type of chart
Table	Insert table	Hyperlink	Insert a hyperlink to a website

	Insert a picture from a file		Insert a text box
	Insert Microsoft clip art		Insert a header and/or a footer
	Insert shapes or drawing canvas		Insert Word Art
	Insert a Smart Art diagram		Insert a signature line
	Insert a column chart		Insert a range of other types of objects
	Insert a line chart		Insert a symbol
	Insert a pie chart		Insert an area chart
	Insert a bar chart		Insert a scatter chart

FREEZE OR LOCK ROWS AND COLUMNS

You can view two areas of a worksheet and lock rows or columns in one area by freezing or splitting panes (pane: A portion of the document window bounded by and separated from other portions by vertical or horizontal bars.). When you freeze panes, you select specific rows or columns that remain visible when scrolling in the worksheet.

Steps to create:

For example, you would freeze panes to keep row and column labels visible as you scroll, as shown in the following example

1. First prepare a table as bellow.

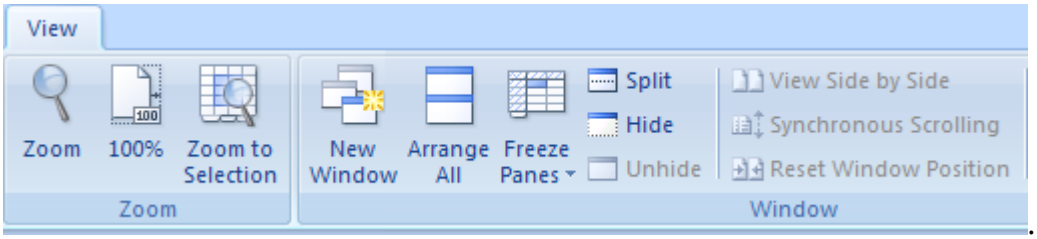
	A	B	C	D	E	F	G	H	I	J	K
1	STUDENT MARKS LIST										
2	Roll No.	Name	Maths	Chemistry	Physics	English	CP	ES	Drawing	Total	Average
3	A001	H.Raju	58	54	54	58	54	54	87	419	59.86
4	A002	B.Murthy	65	87	63	98	86	65	56	520	74.29
5	A003	D. Kiran	45	98	55	76	97	87	54	512	73.14
6	A004	P.Rani	98	65	87	54	56	98	56	514	73.43
7	A005	E. Gopal	77	45	79	85	98	56	85	525	75.00
8	A006	B. Bharat	65	35	65	96	76	73	36	446	63.71
9	A007	N. Chinni	98	65	45	65	54	86	45	458	65.43
10	A008	S. Suresh	65	99	85	36	88	76	76	525	75.00
11	A009	K. Madhu	36	87	65	69	68	78	86	489	69.86
12	A010	A. Arjun rao	95	56	45	85	45	54	65	445	63.57
13											

2. The below documents contains full table before freezing

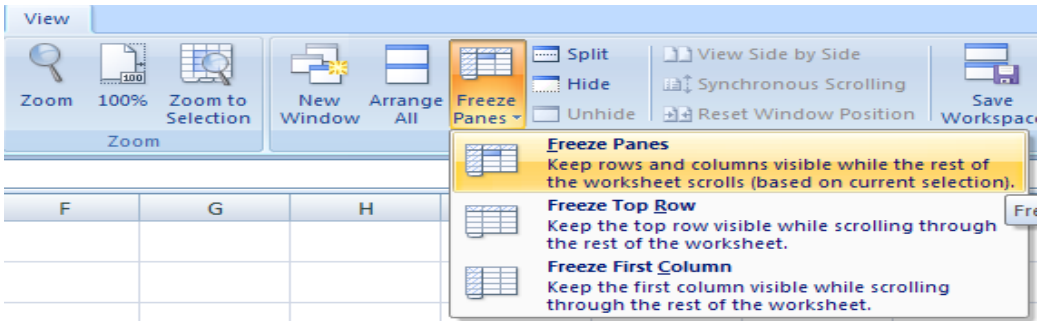
	A	B	C	D	E	F	G	H	I	J	K	L	M
1	STUDENT MARKS LIST												
2	Roll No.	Name	Maths	Chemistry	Physics	English	CP	ES	Drawing	Total	Average		
3	A001	H.Raju	58	54	54	58	54	54	87	419	59.86		
4	A002	B.Murthy	65	87	63	98	86	65	56	520	74.29		
5	A003	D. Kiran	45	98	55	76	97	87	54	512	73.14		
6	A004	P.Rani	98	65	87	54	56	98	56	514	73.43		
7	A005	E. Gopal	77	45	79	85	98	56	85	525	75.00		
8	A006	B. Bharat	65	35	65	96	76	73	36	446	63.71		
9	A007	N. Chinni	98	65	45	65	54	86	45	458	65.43		
10	A008	S. Suresh	65	99	85	36	88	76	76	525	75.00		
11	A009	K. Madhu	36	87	65	69	68	78	86	489	69.86		
12	A010	A. Arjun rao	95	56	45	85	45	54	65	445	63.57		
13													

3. To apply freeze pane, select the required row or column

4. Now go to view tab and click on Freeze Panes



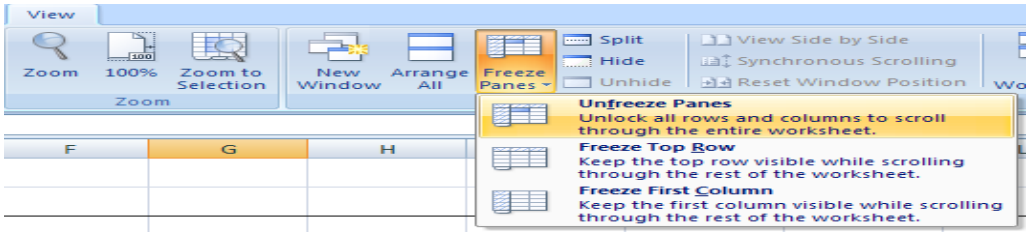
5. Now select Freeze Panes



6. The below documents seems to view only half of the document actually remaining half is hide after freezing

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	STUDENT MARKS LIST												
2	Roll No.	Name	Maths	Chemistry	Physics	English	CP	ES	Drawing	Total	Average		
9	A007	N. Chinni	98	65	45	65	54	86	45	458	65.43		
10	A008	S. Suresh	65	99	85	36	88	76	76	525	75.00		
11	A009	K. Madhu	36	87	65	69	68	78	86	489	69.86		
12	A010	A. Arjun rao	95	56	45	85	45	54	65	445	63.57		
13													

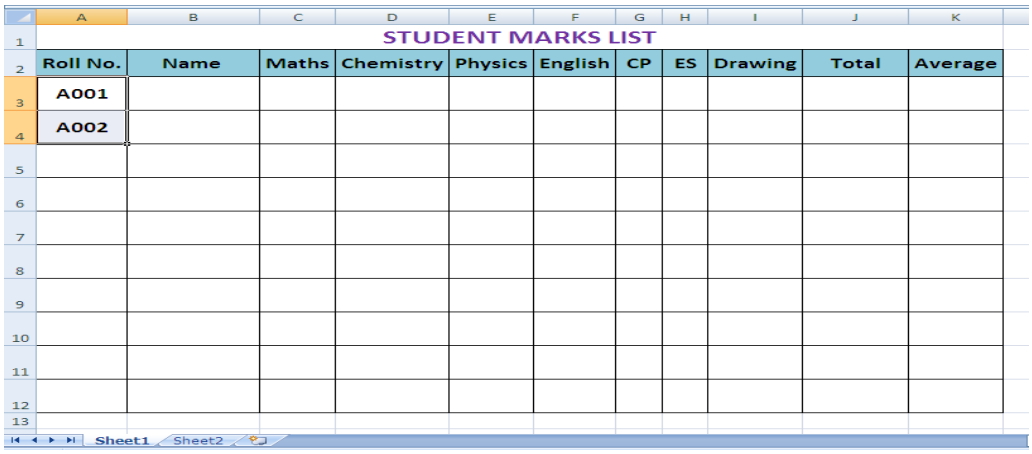
7. To unfreeze go to the same and select Unfreeze panes



APPLYING AUTO FILL

Using the fill handle (fill handle: The small black square in the lower-right corner of the selection. When you point to the fill handle, the pointer changes to a black cross.), you can quickly fill cells in a range with a series of numbers or dates or with a built-in series for days, weekdays, months, or years.

1. Select the first cell in the range that you want to fill.
2. Type the starting value for the series.
3. Type a value in the next cell to establish a pattern.



	A	B	C	D	E	F	G	H	I	J	K
1	STUDENT MARKS LIST										
2	Roll No.	Name	Maths	Chemistry	Physics	English	CP	ES	Drawing	Total	Average
3	A001										
4	A002										
5											
6											
7											
8											
9											
10											
11											
12											
13											

Sheet1 Sheet2

4. Select the cell or cells that contain the starting values.
5. Drag the fill handle across the range that you want to fill.

6. Now drag as bellow and leave the mouse

7. Now you can find the required numbers displayed automatically

8. To fill in increasing order, drag down or to the right. To fill in decreasing order, drag up or to the left

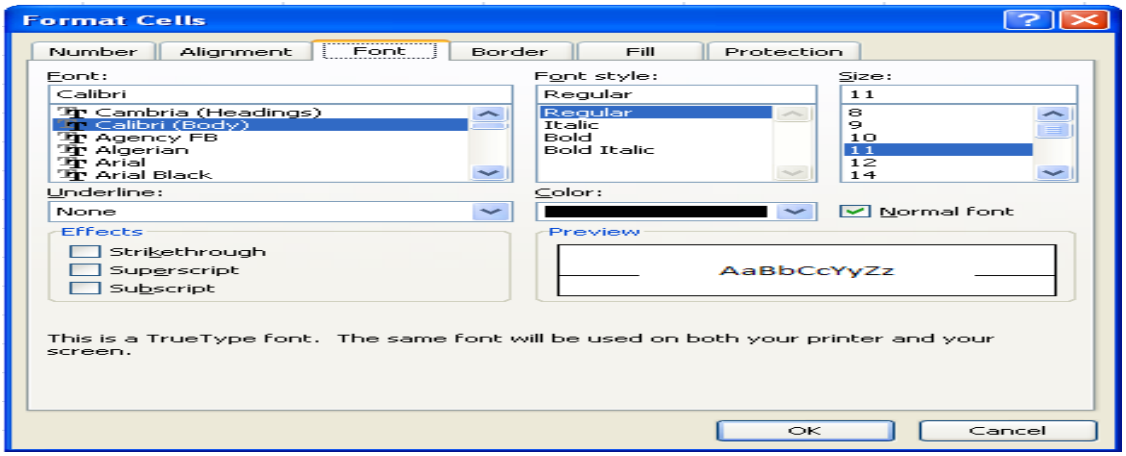
Applying Format Cells, Formatting Text

Step 1: create a table as follows using the following.

	A	B	C	D	E	F	G	H	I	J	K	L
1	STUDENT MARKS LIST											
2	Roll No.	Name	Maths	Chemistry	Physics	English	CP	ES	Drawing	Total	Average	
3	A001	H.Raju	58	54	54	58	54	54	87	419	59.86	
4	A002	B.Murthy	65	87	63	98	86	65	56	520	74.29	
5	A003	D. Kiran	45	98	55	76	97	87	54	512	73.14	
6	A004	P.Rani	98	65	87	54	56	98	56	514	73.43	
7	A005	E. Gopal	77	45	79	85	98	56	85	525	75.00	
8	A006	B. Bharat	65	35	65	96	76	73	36	446	63.71	
9	A007	N. Chinni	98	65	45	65	54	86	45	458	65.43	
10	A008	S. Suresh	65	99	85	36	88	76	76	525	75.00	
11	A009	K. Madhu	36	87	65	69	68	78	86	489	69.86	
12	A010	A. Arjun rao	95	56	45	85	45	54	65	445	63.57	
13												

APPLING FONT:

Font tool window by pressing Ctrl+ Shift+ F we will get the following window



APPLING ALIGNMENT:

ALIGN TEXT TO THE LEFT

1. Select the text that you want to format.
2. On the **Home** tab, in the **Alignment** group, click **Align Left**.

   Keyboard shortcut To align selected text to the left, press CTRL+L.

ALIGN TEXT TO THE RIGHT

1. Select the text that you want to format.
2. On the **Home** tab, in the **Alignment** group, click **Align Right**.

   Keyboard shortcut To align selected text to the right, press CTRL+R.

CENTER TEXT

1. Select the text that you want to format.
2. On the **Home** tab, in the **Alignment** group, click **Center**.

   Keyboard shortcut Tocenter selected text, press CTRL+E.

IMPLEMENTING CONDITIONAL FORMATTING

Use a conditional format to help you visually explore and analyze data, detect critical issues, and identify patterns and trends.

It Also Helps Us To Do The Following:

- Learn more about conditional formatting
- Format all cells by using a two-color scale
- Format all cells by using a three-color scale
- Format all cells by using data bars
- Format all cells by using an icon set
- Format only cells that contain text, number, or date or time values
- Format only top or bottom ranked values
- Format only values that are above or below average
- Format only unique or duplicate values
- Use a formula to determine which cells to format
- Clear conditional formats

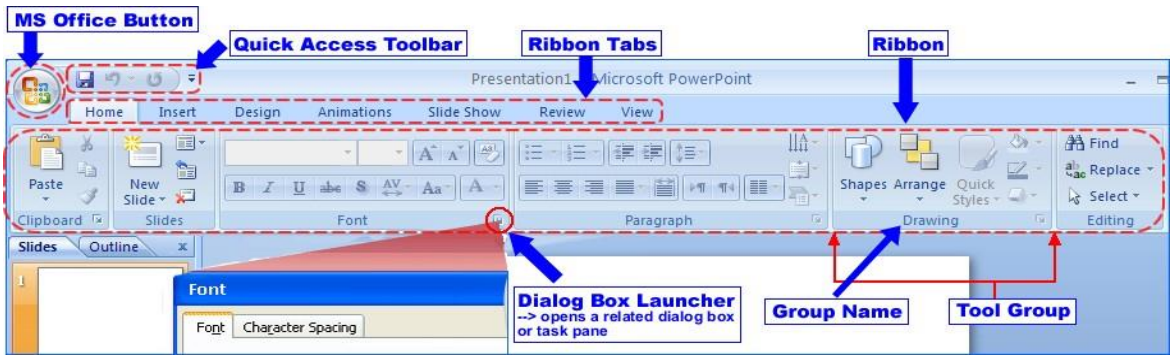
Format all cells by using a two-color scale

Color scales are visual guides that help you understand data distribution and variation. A two-color scale helps you compare a range of cells by using a gradation of two colors. The shade of the color represents higher or lower values. For example, in a green and red color scale, you can specify higher value cells have a more green color and lower value cells have a more red color.

Exp No: 9

Power Point- Features of power point, guidelines for preparing an effective Presentation.

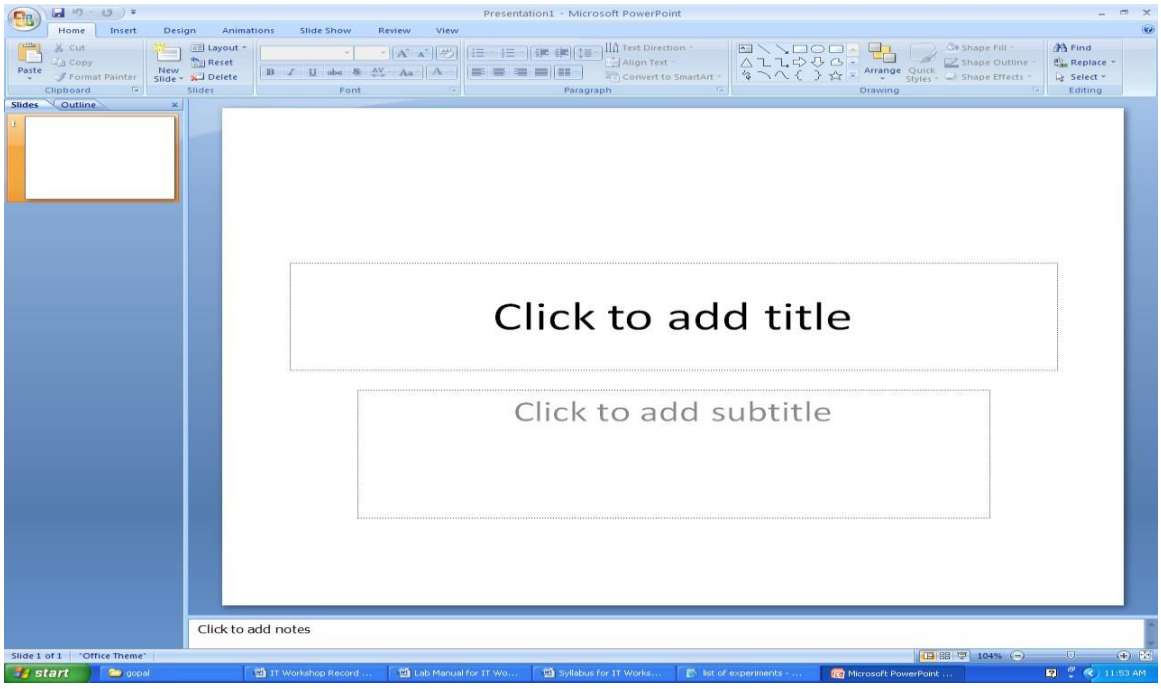
- It is best to outline your entire presentation before working too much on the style and layout of your presentation. When left to the end it is much less time consuming to work on the style and format of your slides. Keep in mind the content of your presentation is the most important part of it!
- Keep your points short and straightforward. Points should be complimentary to your oral presentation.
- PowerPoint allows you to add a lot of distracting sounds and excessive animations to your presentation. It is best to keep all animation as simple as possible and only use sounds if absolutely necessary.
- Stay away from unusual fonts. If you are presenting on an unfamiliar computer the font you have chosen may not work. Arial and Times New Roman are common fonts.
- Think of contrast. If you use a dark background use light-colored text and vice versa.
- Refrain from using backgrounds that will obscure your text colour.



- The MS Office Button contains the main file functions New, Open, Save, Save as, Print, Print Preview, etc.
- The Quick Access Toolbar contains shortcuts to Save, Undo, and Repeat
- Each Ribbon Tab displays a Ribbon that provides a set of Tool **Groups.**
- The Ribbon Tab and the Tool Groups in the Ribbon correspond to the Menu and Toolbar in Word 2000 and 2003
- The Name of each Tool Group is listed at the bottom of the Group
- Example - In the Home Tab, the third Tool Group is named Font

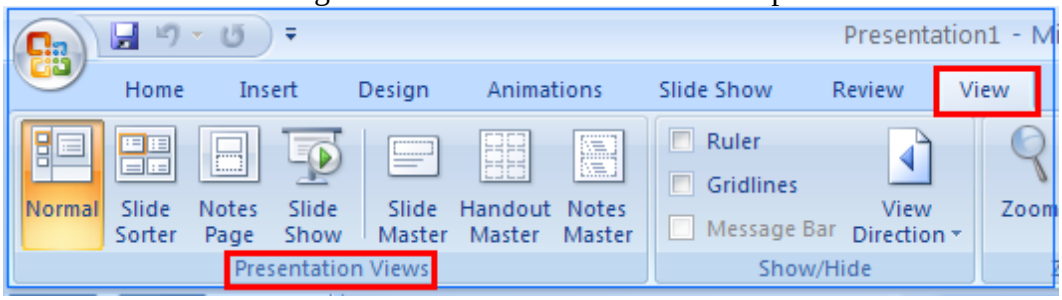
- The name "Font" is under the Font Tool Group
- To change the Tool Groups being displayed in the Ribbon
- Click on the appropriate Ribbon Tab
- Example - The Home Tab contains Tool Groups for the most commonly used Tools
- Clipboard, Font, Paragraph, and Style tools in Word
- Some Tool Group boxes have a small arrow in the bottom right-hand corner. If you click on this arrow, PowerPoint will open a Dialog Box which offers more options and settings related to that Tool Group
- In PowerPoint 2007, you will find that tools with similar uses are organized so that they are usually found within the same Tool Group or at least within one Ribbon. If you do not find a tool in the Ribbon you think it should be in, try exploring the other Ribbon Tabs.

HOME PAGE:



Create a new presentation	MS Office Button >> New -- New Presentation window opens up □□The MS Office Button is located in the top left corner of the Word 2007 Window To start a new file from scratch: □□Choose “Blank Document” and press “Create”.

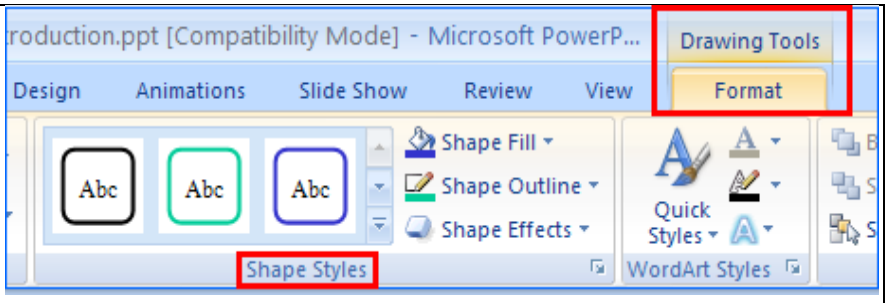
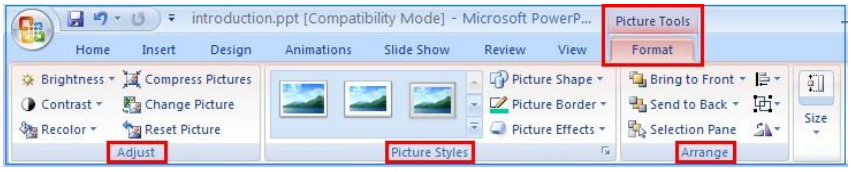
	There are templates available on the left panel for creating a presentation of a specific type (ie. photo album or calendar).
Open an existing presentation	MS Office Button >> Open □□Find your presentation in the "Open" window. □□PowerPoint 2007 will open files created with older versions of PowerPoint (*.ppt) as well as PowerPoint 2007 files (*.pptx)
Open a file from a different version or format	PowerPoint 2007 will automatically convert a document from a compatible version of PowerPoint □□Your document will open in Compatibility Mode □□This will prevent you from using certain tools in Office 2007 which are not compatible with Office 2000 or 2003 □□When you finish editing a document, be VERY CAREFUL to save any converted documents in their original format □□Please read the Important Notes below regarding saving in Office 2007
Save the current document	MS Office Button >> Save □□Please read the Important Notes above regarding saving in Office 2007
Save a document under a different name, version, or format	MS Office Button >> Save As... □□In the bars at the bottom of the Save As... sub window:

	o Give your document a new name in "File Name:" o Select the version and format from "Save as type:"
Add a new slide 	Home Tab >> Slides >> New Slide Click on New Slide button. It adds a new slide in the default layout "Title and Content." Click on the arrow at the bottom corner of the New Slide button. You can select the slide layout from the Default Design pallet. Click Layout button. You can select and change the slide layout. Click Delete button to delete the current slides.
Viewing Slides in PowerPoint 2007 Workspace 	
Layout of frames in "Normal View"	When you first open a new presentation in PowerPoint the main window has three frames: The right biggest frame shows the Current Slide. The left frame has two tabs: Slides tab displays the slides as thumbnails Outline tab displays a written outline of each slide of your presentation. The bottom frame is for Notes to remind you of points for each slide.
Different views allow you to	View Tab >> Presentation Views

manage different aspects of your presentation.	Normal View - A window splits into Slide, Notes, and the left frame where you can choose either Slides Thumbnails or Slides Outline. Allows you to focus on a slide and see everything about the slide at once. Slide Sorter - Gives thumbnails of all the slides in the presentation. Lets you see the big picture. Allows you to sort, move, add and delete slides easily. Useful near end of a project Notes Page - Displays a page layout of the notes and the slide. Allows you to rearrange the notes and compare them to the content of your slide. Slide Show - Plays the presentation from the beginning.

Inserting and Formatting Text and Objects

Add text with text boxes	Home Tab >> Drawing >> Text Box In PowerPoint all text is contained in Text Boxes. Click on Text Box button >> Click anywhere in the slide. Drag circle corner points or square side points of the text box to change its size. Click within the box to type text.

Format text box	 Select the text box. The Drawing Tools Tab appears. Click on the Format tab. Format the selected text box in Shape Styles: o Shape Fill -- Changes the fill color o Shape Outline -- Changes the color, width, line style of outline o Shape Effects -- Applies visual effects (shadow, bevel, etc.) to the text box
Add WordArt -- fancy text	Insert Tab >> Text >> WordArt □Click on the WordArt button >> Select the style you like □□A WordArt Text Box appears in the slide.Type in. 
Format an image and ClipArt	Formatting process is basically the same as formatting "text box," "WordArt," or "Shape."  Select objects (image or clip art). Picture Tool Tab appears. Format objects using Adjust Group, Picture Styles Group and Arrange Group. Move objects: See the instruction of "Move Text Box"

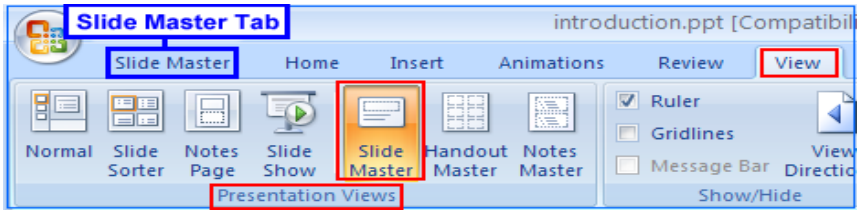
Formatting Slide Design

Change the background	Design Tabs >> Background >> Background Styles □□Click on the Format Background button at the bottom. □□Format Background window appears. o You can set the color, solid or gradient, transparency or choose picture/texture fill o Click on Close button to apply changes only to the current slide o Click on Apply to All to apply changes to all the slide
Change the theme	Design Tabs >> Themes □□Move the cursor over the theme buttons to preview different themes on your current slide. □□Click on any theme button to choose the theme, which will be applied to all the slides in your presentation. □□Colors -- Changes the color scheme of the current theme □□Fonts -- Changes the font of the current theme □□Effects -- Changes the effects of the current theme

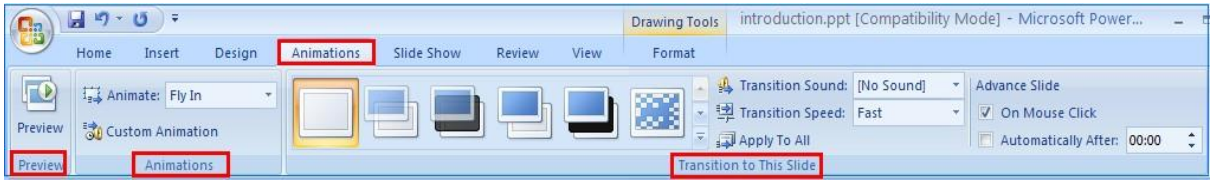
Formatting Presentation in Slide Master

The Slide Master acts as a template for your entire presentation.

Altering anything on the Slide Master will change it for all the slides in your presentation



Objects and Animation

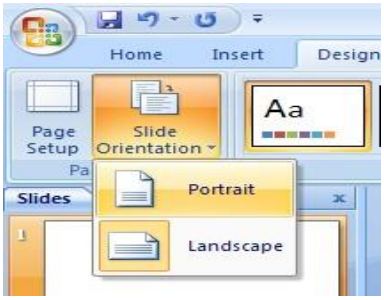


Finishing Steps

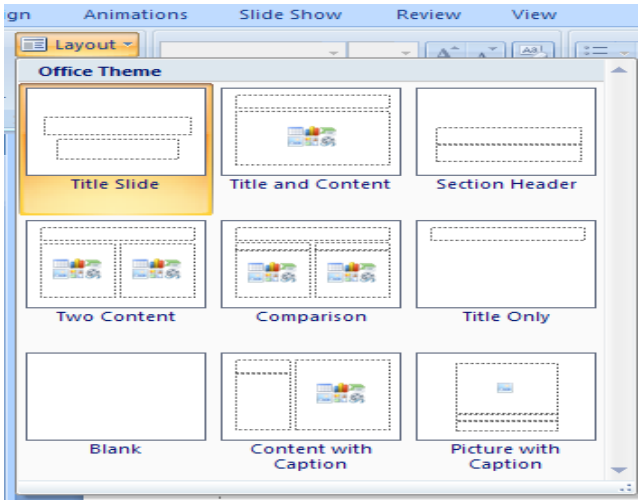
Change the order of the slides	View Tab >> Presentation Views >> Slide Sorter o You can easily change the order, if you have a lot of slides.Or, select Slides tab in the left frame in the Normal View. You can see thumbnails of the slides in your presentation. o Click on a slide thumbnail and drag up and down to change the order.
Make notes	Write your notes in the bottom frame in Normal view. To Print your notes: □□Office Button >> Print >> Print What: □□Select "Note Pages" NOTE: Notes are not visible during the slide show
Present the slide show	Manual Presentation: View Tab >> Presentation Views >> Slide Show To move to the next slide in your presentation do one of the following: □□Click the left mouse button □□Hit the spacebar □□Use the arrow keys on the keyboard. Up and left go back, right and down go forward. □□Click on the Esc key on keyboard to go back to Normal view. Automatic Presentation: Animations Tab>> Transition to this Slide >> Advance Slide □□Click on the check box for "Automatically After." □□Set the time to automatically change to the next slide after a

	certain duration of time. □□This feature is useful if you are under a time constraint or if you want to present in a more movie-like style.

SLIDE ORINTATION: Used to set the page in Portrait (Vertical) or Landscape (Horizontal).



SLIDE LAYOUTS: A layout is one part of a slide master that defines positioning information for content that will later appear on a slide. Layouts contain placeholders (placeholders: Boxes with dotted or hatch-marked borders that are part of most slide layouts. These boxes hold title and body text or objects such as charts, tables, and pictures.), which in turn hold text, such as titles and bulleted lists, and slide content such as SmartArt graphics, tables, charts, pictures, shapes, and clip art (clip art: A single piece of ready-made art, often appearing as a bitmap or a combination of drawn shapes.). While you can add text and object placeholders to a layout or slide master, you cannot add placeholders directly to a slide.**To View The Layouts:** On the **Home** tab, in the **Slides** group, click **Layout**, and then click a layout.



BACKGROUNDS: Add a background style to your presentation

1. Click the slide or slides that you want to add a background style to. To select multiple slides, click the first slide, and then press and hold CTRL while you click the other slides.

2. On the **Design** tab, in **Background** group, click arrow next to **Background Styles**.

3. Right-click the background style that you want, and then do one of the following:

- To apply the background style to the selected slides, click **Apply to Selected Slides**.
- To apply the background style to all of the slides in your presentation, click **Apply to All Slides**.

Customize a background style for your presentation

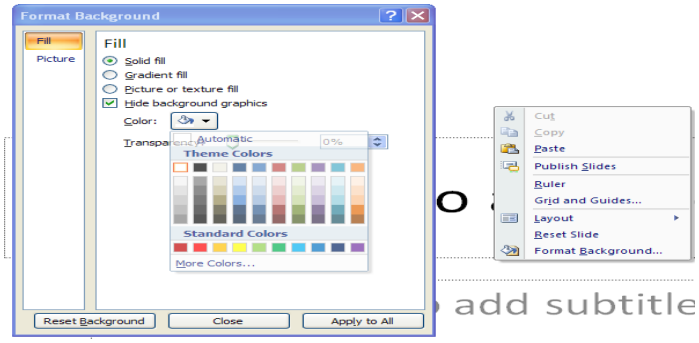
1. Click the slide or slides that you want to add a background style to.

   To select multiple slides, click the first slide, and then press and hold CTRL while you click the other slides.

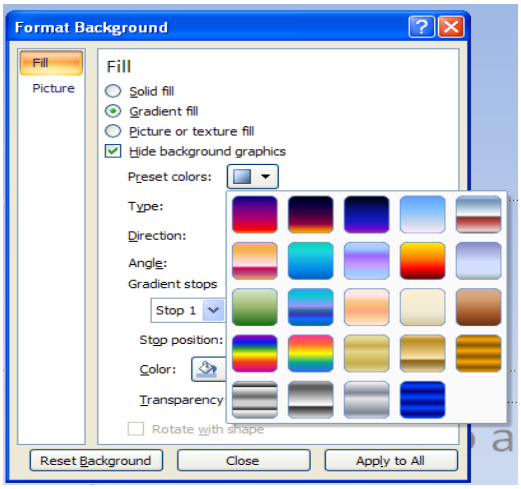
2. On the **Design** tab, in the **Background** group, click the arrow next to **Background Styles**.

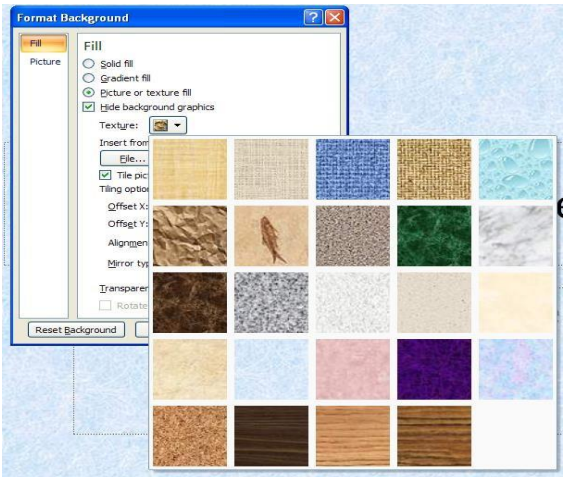
3. Click **Format Background**, and then choose the options that you want. Or right click and select Format Background.

4. You can apply Solid Fill or Gradient Fill or Picture or Texture Fill, Inserting pictures by clicking on File and can Insert Clip Arts by clicking on Clip Arts.

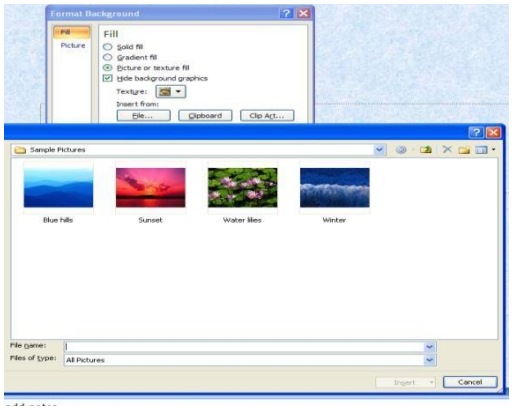


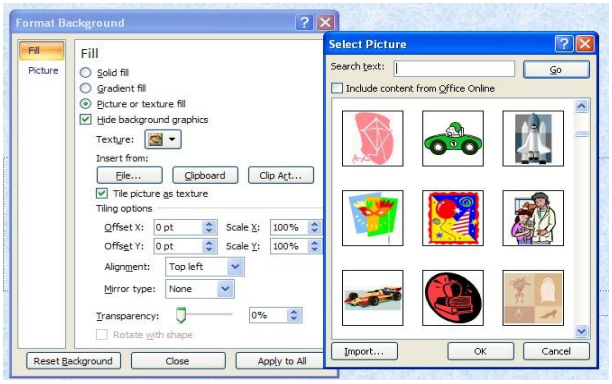
Solid Selection





Gradient Fill Selection Picture or Texture Fill Selection

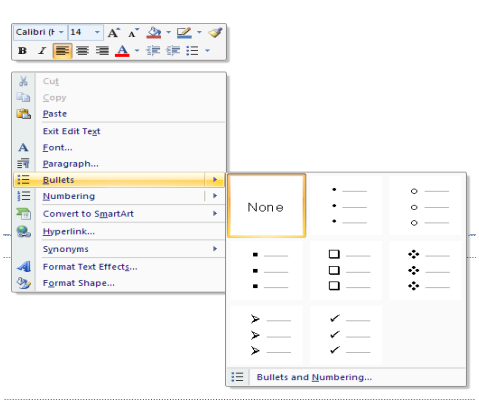




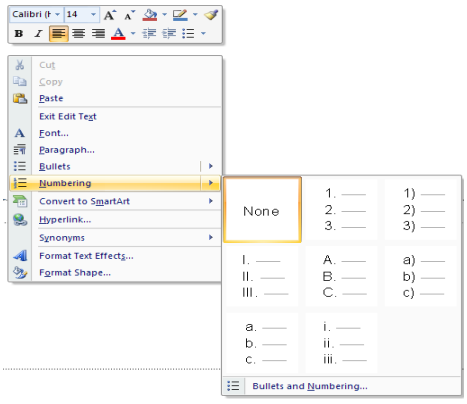
Inserting Pictures Insert Clip Arts

AUTO SHAPES We can insert different shapes from Insert Tab and select Shapes Group. Select a shape and just click and drag so that we will get a shape.

INSERTING BULLETS AND NUMBERING:



Inserting Bullets



Inserting Numbering

INSERTING HYPERLINKS:

In Microsoft Office PowerPoint 2007, a hyperlink is a connection from one slide to another slide in the same presentation (such as a hyperlink to a custom show) or to a slide in another presentation, an e-mail address, a Web page, or a file.You can create a hyperlink from text or from an object, such as a picture, graph, shape, or WordArt

Create a hyperlink to a slide in the same presentation

1. In Normal view, select the text or the object that you want to use as a hyperlink.
2. On the **Insert** tab, in the **Links** group, click **Hyperlink**.
3. Under **Link to**, click **Place in This Document**.
4. Do one of the following:

Link to a custom show in the current presentation:

1. Under **Select a place in this document**, click the custom show that you want to use asthe hyperlink destination.
2. Select the **Show and return** check box.

- Link to a slide in the current presentation:

Under **Select a place in this document**, click the slide that you want to use asthe hyperlink destination.

Create a hyperlink to a slide in a different presentation

1. In Normal view, select the text or the object that you want to use as a hyperlink.
2. On the **Insert** tab, in the **Links** group, click **Hyperlink**.
3. Under **Link to**, click **Existing File or Web Page**.

4. Locate the presentation that contains the slide that you want to link to.

5. Click **Bookmark**, and then click the title of the slide that you want to link to.

INSERTING TABLES:

We can Insert tables from Insert and select tables group. Now select the range of Rows and Columns. At the same time you can see the table image on the slide. We can also change the format of the table.

Sample creation of a presentation:

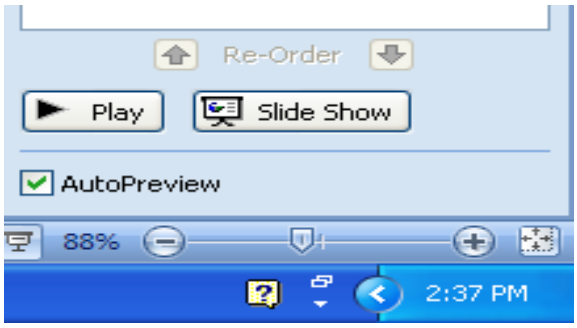
1. Insert a new slide with slide layout of your choice.
2. Change the background (built-in or customized)
3. Insert the required images, Clip Arts, Auto Shapes, Word Art pictures.
4. Now to apply custom animation for the above using following method.

1. Select an object & go to Animations Tab and click on Custom Animation
2. Click on More Effects to view and apply more.
3. To view more options to apply animation with time sound start with previous and without previous, select an object and click on down arrow.
4. To apply Timing click on Timing. We can setup Start, Delay, Speed, Repeat options
5. To apply sound effects select Effect options and we can set sound and can also change the color after animation.
6. We can set the animation for the object when the mouse is clicked, or with previous object and After previous object. By default it is on mouse click. Using "Automatically After" we can assign some time gap.

Appling Slide Transaction:

This is used to view the next slide with an animation. We can use the default slide transactions from animations. We can also apply timing between the slides using Automatically

After option. Here provide the time to wait for the next slide. To view the preview click on Play and to see the slide show click on Slide Show.

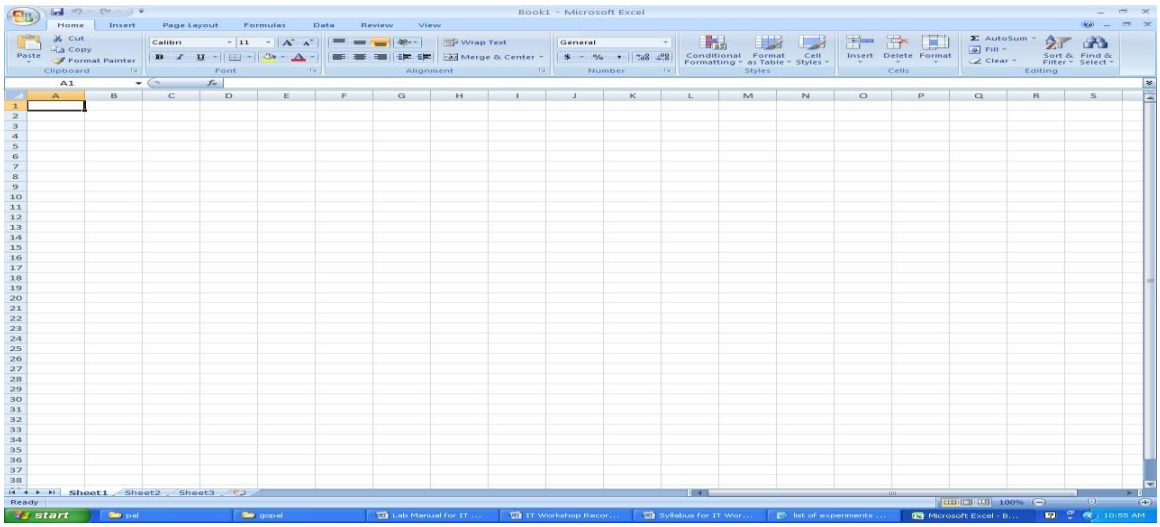


ii. Microsoft Excel- Organize data, usage of formula, graphs and charts.

MICROSOFT EXCEL

Microsoft Excel is an electronic spreadsheet that runs on a personal computer. You can use it to organize your data into rows and columns. You can also use it to perform mathematical calculations quickly.Excel 2007 has eight standard ribbon tabs

HOME SCREEN:



ICONS	DESCRIPTIONS
	Clipboard
	Pastes the contents of the clipboard in the cursor's current location