

**Aim: To identify the major components of a computer system such as motherboard, ram modules, daughter cards, SMPS, bus loads, internal storage devices and interfacing ports. Specification of desktop and server class computers. Installation of common operating system for desktop and server use.**

## **COMPUTER HARDWARE**

Computer hardware includes the physical parts of a computer, such as the case, central processing unit (CPU), monitor, mouse, keyboard, computer data storage, graphic cards, sound card, speakers and motherboard. By contrast, software is the set of instructions that can be stored and run by hardware. Hardware is so-termed because it is "hard" or rigid with respect to changes, whereas software is "soft" because it is easy to change. Hardware is typically directed by the software to execute any command or instruction. A combination of hardware and software forms a usable computing system, although other systems exist with only hardware.

## **MOTHERBOARD**

The motherboard serves as a single platform to connect all of the parts of a computer together. It connects the CPU, memory, hard drives, optical disk, video card, sound card, and other ports and expansion cards directly or via cables. It can be considered as the backbone of a computer. Motherboard contains ports to connect all of the internal components. It holds together many of the crucial components of a computer, including central processing unit, memory and connectors for input and output devices.



## **GPU(GRAPHIC PROCESSING UNITS):**

GPUs also known as graphic cards or video cards or graphics cards. In order to display pictures, videos, audios, and 2D or 3D animations, each device uses a GPU. A GPU performs fast calculations of arithmetic and frees up the CPU to do different things.



## **CMOS(COMPLEMENTARY METALOXIDE SEMICONDUCTOR):**

CMOS is a combination of NMOS and PMOS transistors that operates under the applied electrical field. The structure of CMOS was initially developed for high density and low power logic gates.



## **HDMI (HIGH DEFINITION MULTIMEDIA INTERFACE):**

it is an all digital audio-video interface which transmits signals in uncompressed format, Eg: uncompressed video data and compressed or uncompressed digital data from a HDMI-compliant source device to a computer monitor, video projector, digital television...etc.



### **SMPS:**

SMPS is an electronic power supply system that makes use of a switching regulator to transfer electrical power effectively. It is a PSU (POWER SUPPLY UNIT) and is usually used in computers to change the voltage to the appropriate range for the computer.



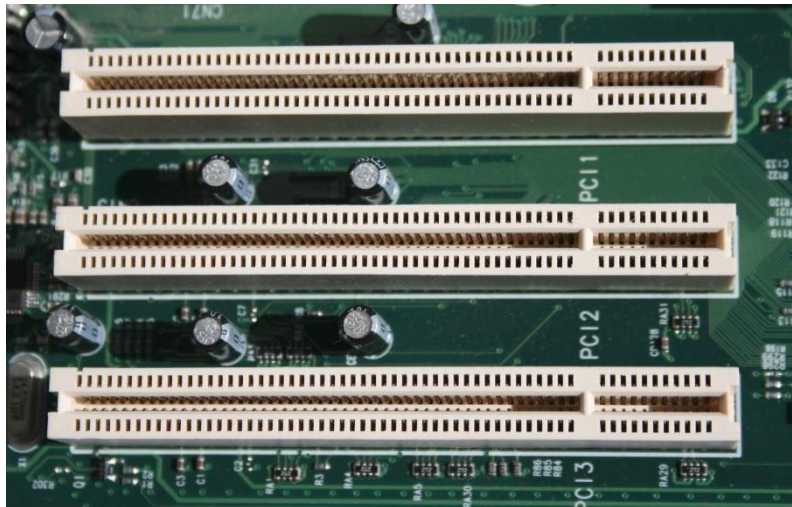
### **RAM MODULES:**

In computing, a memory module or RAM(random access memory) stick is a printed circuit board on which memory integrated circuit are mounted. Memory modules permit easy installation and replacement in electronic systems, especially computers such as personal computers, word stations, and servers. The first memory modules were proprietary designs that were specific to a model of computer from a specific manufacturer.



## **BUS SLOT:**

Alternatively known as a bus slot or expansion port, an expansion slot is a connection or port inside a computer on the motherboard or riser card. It provides an installation point for a hardware expansion card to be connected. For example, if you wanted to install a new video card in the computer, you'd purchase a video expansion card and install that card into the compatible expansion slot.



## **STORAGE DEVICES :**

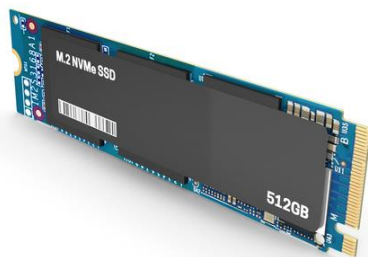
A storage device is a kind of hardware, which is also known as storage, storage medium, digital storage, or storage media that has the ability to store information either temporarily or permanently. It is used to hold, port, and extract data files.



### **1)SSD (SOLID STATE DRIVE):**

SSD is non-volatile storage device, it stores the data on flash memory chips and maintains the data in a permanent state, even when the power is off. As compared to electromechanical drives, SSDs have lower latency and access quickly. These storage devices store the data in the semiconductor cells. Following are several types of SSDs

SATA SSD: SATA is the acronym for 'serial advanced technology attachment'. Speaking of SSD type SSD is the most popular today.



### **2)HDD (HARD DISK DRIVE):**

HDD is an electro mechanical storage device, which is an abbreviation of hard disk drive. It

uses magnetic storage for storing and retrieving the digital data. It is a non-volatile storage device. Hard disk is installed internally in our computer systems, which is

connector directly to the disk controllers of the motherboard. HDD means data is retained when our computer system is shut down.

## **INPUT DEVICES/UNITS**

An input device is essentially a piece of instrument or hardware that allows users to provide data, information, or control instructions to a computer used for interaction and control. Data is entered into a computer in a raw format, which is converted into computer understandable language by input devices and processed by a central processing unit (CPU) to produce output. Some common types of input devices are:



### **1)KEYBOARD:**

The keyboard is one of the primary input devices, which helps in entering data and commands in a computer. A normal keyboard usually has a variety of keys, such as alphabetic character keys, function keys, number keys, arrow keys, and control keys. The keyboard can be connected to a computer using USB or BLUETOOTH.

### **2)MOUSE:**

Mouse is the most common and very popular pointing device that helps interact with a computer through a process called 'point and click'. This is mainly used to move a cursor on the computer's screen and click on the corresponding object using buttons (usually left, right, and middle key roller buttons).

### **3)SCANNER:**

Scanner is an input device, which works more like a photocopy machine. It is used when some information is available on paper and it is to be transferred to the hard disk of the computer for further manipulation.



## **PROCESSING UNIT**

The part of a computer that performs logical and arithmetical operation on the data as specified in the instructions.

### **1)CPU (CENTRALPROCESSING UNIT):**

A central processing unit is also called a processor, central processor, or microprocessor. It carries out all the important functions of a computer. It stores all important programs like operating systems and application software. It is often referred to as the brain of the computer.



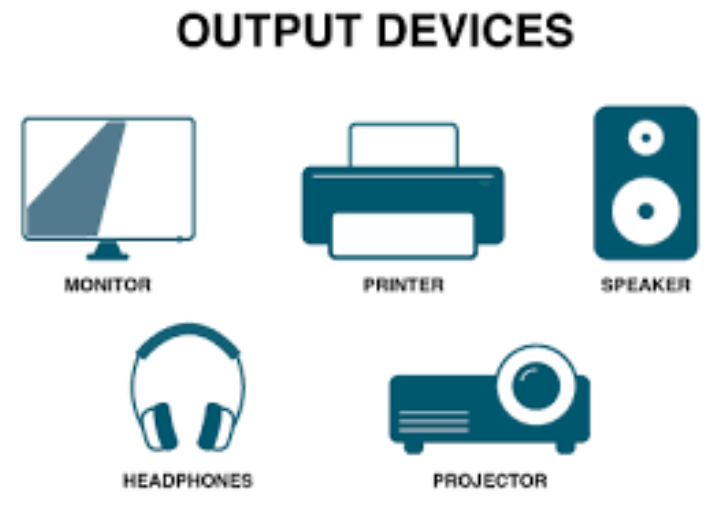
### **2)RAM (RANDOMACCESS MEMORY):**

Is a hardware device generally located on the motherboard of a computer of the CPU. It allows CPU store data, program, and program result when you switch on the computer.it is the read and write memory of a computer, which means the information can be written to it as well as read from it.



## **OUTPUT DEVICES/UNITS**

The output device displays the result of the processing of raw data that is entered in the computer through an input device. There are a number of output devices that displays output in different ways such as text, images, hard copies, and audio or video. Some popular output devices are:



### **1)MONITOR:**

A monitor is a piece of computer hardware that accepts data from a computer and displays it on the system screen through the computers video card. Monitors have the ability to display information at much higher resolution. Additionally, these are much like televisions and also known as video screen, display, video display terminal, or video display unit.

### **2)SPEAKERS:**

The most common output devices, speakers accept sound data from a computer and play the sounds for users to hear.

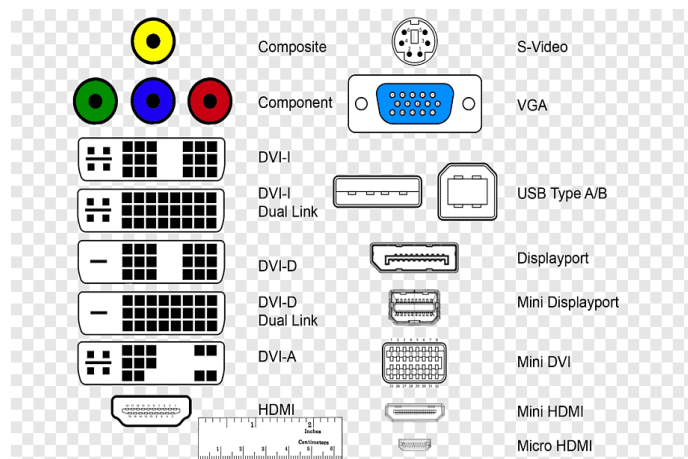
### **3)PROJECTOR:**

Projector is an output device that accepts data from a computer and projects that data or information as a picture onto a wall or screen or any large surface.



## **INTERFACING PORTS:**

A port is a physical docking point using which an external device can be connected to the computer. It can also be a programmatic docking point through which information flows from a program to the computer or over the Internet.



## **DESKTOP:**

A desktop computer is a personal computer designed for regular use at a single location on or near a desk due to its size and power requirements. The most common configuration has a case that houses the power supply, motherboard (a printed circuit board with a microprocessor as the central processing unit, memory, bus, certain peripherals and other electronic components), disk storage (usually one or more hard disk drives, solid state drives, optical disc drives, and in early models a floppy disk drive); a keyboard and mouse for input; and a computer monitor, speakers, and, often, a printer for output. The case may be oriented horizontally or vertically and placed either underneath, beside, or on top of a desk.

## **SERVER OPERATING SYSTEM**

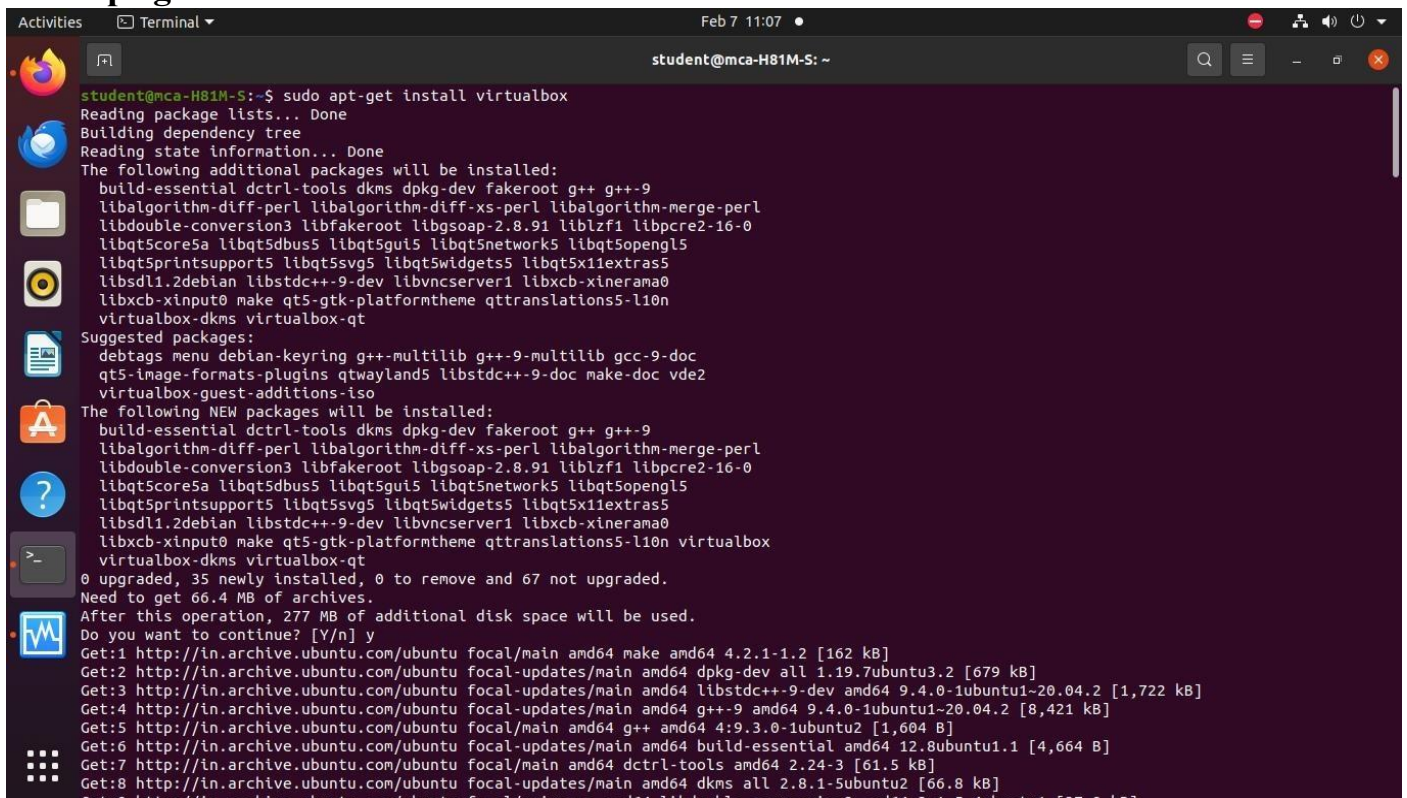
A server operating system is a type of operating system that is designed to be installed and used on a server computer. It is an advanced version of operating system, having features and capabilities required within a client-server architecture or similar enterprise computing environment. Example: Windows Operating System, Linux Operating System

## INSTALL UBUNTU ON VIRTUALBOX

Oracle VM VirtualBox is free and open-source and being developed by oracle corporation. Oracle VirtualBox is a cross-platform virtualization application. It installs on your existing Intel or AMD-based computers, whether they are running Windows, Mac, Linux or Solaris operating systems. VirtualBox can create and run a "guest" operating system (virtual machine) in a window of the host operating system. The virtual machine provides a self-contained environment in which to experiment with new software without risking damaging changes to the host operating system

### VirtualBox Installation:

#### sudo apt-get install virtualbox



```
student@mca-H81M-S:~$ sudo apt-get install virtualbox
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  build-essential dctrl-tools dkms dpkg-dev fakeroot g++ g++-9
  libalgorithm-diff-perl libalgorithm-diff-xs-perl libalgorithm-merge-perl
  libdouble-conversion3 libfakeroot libgsoap-2.8.91 liblzfl1 libpcr2-16-0
  libqt5core5a libqt5dbus5 libqt5gui5 libqt5network5 libqt5opengl5
  libqt5sprintsupport5 libqt5svg5 libqt5widgets5 libqt5xml5 libqt5xmlpatterns5
  libstdl1.2debian libstdc++-9-dev libvncserver1 libxcb-xinerama0
  libxcb-xinput0 make qt5-gtk-platformtheme qttranslations5-l10n
  virtualbox-dkms virtualbox-qt
Suggested packages:
  debtags menu debian-keyring g++-multilib g++-9-multilib gcc-9-doc
  qt5-image-formats-plugins qtwayland5 libstdc++-9-doc make-doc vde2
  virtualbox-guest-additions-iso
The following NEW packages will be installed:
  build-essential dctrl-tools dkms dpkg-dev fakeroot g++ g++-9
  libalgorithm-diff-perl libalgorithm-diff-xs-perl libalgorithm-merge-perl
  libdouble-conversion3 libfakeroot libgsoap-2.8.91 liblzfl1 libpcr2-16-0
  libqt5core5a libqt5dbus5 libqt5gui5 libqt5network5 libqt5opengl5
  libqt5sprintsupport5 libqt5svg5 libqt5widgets5 libqt5xml5 libqt5xmlpatterns5
  libstdl1.2debian libstdc++-9-dev libvncserver1 libxcb-xinerama0
  libxcb-xinput0 make qt5-gtk-platformtheme qttranslations5-l10n virtualbox
  virtualbox-dkms virtualbox-qt
0 upgraded, 35 newly installed, 0 to remove and 67 not upgraded.
Need to get 66.4 MB of archives.
After this operation, 277 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://in.archive.ubuntu.com/ubuntu focal/main amd64 make amd64 4.2.1-1.2 [162 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 dpkg-dev all 1.19.7ubuntu3.2 [679 kB]
Get:3 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libstdc++-9-dev amd64 9.4.0-1ubuntu1-20.04.2 [1,722 kB]
Get:4 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 g++-9 amd64 9.4.0-1ubuntu1-20.04.2 [8,421 kB]
Get:5 http://in.archive.ubuntu.com/ubuntu focal/main amd64 g++ amd64 4:9.3.0-1ubuntu2 [1,604 B]
Get:6 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 build-essential amd64 12.8ubuntu1.1 [4,664 B]
Get:7 http://in.archive.ubuntu.com/ubuntu focal/main amd64 dctrl-tools amd64 2.24-3 [61.5 kB]
Get:8 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 dkms all 2.8.1-5ubuntu2 [66.8 kB]
Get:9 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libdouble-conversion3 amd64 3.1.2-1ubuntu1 [14.2 kB]
Get:10 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libgsoap-2.8.91 amd64 2.8.91-1ubuntu1 [1,104 kB]
Get:11 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 liblzfl1 amd64 1.0.2-1ubuntu1 [1,104 kB]
Get:12 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libpcr2-16-0 amd64 2.16-0ubuntu1 [1,104 kB]
Get:13 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libqt5core5a amd64 5.15.2-1ubuntu1 [1,104 kB]
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Get:25 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libvncserver1 amd64 0.9.12-1ubuntu1 [1,104 kB]
Get:26 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libxcb-xinerama0 amd64 1.13-1ubuntu1 [1,104 kB]
Get:27 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libxcb-xinput0 amd64 1.13-1ubuntu1 [1,104 kB]
Get:28 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 make amd64 4.2.1-1.2 [162 kB]
Get:29 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 qt5-gtk-platformtheme amd64 5.15.2-1ubuntu1 [1,104 kB]
Get:30 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 qttranslations5-l10n amd64 5.15.2-1ubuntu1 [1,104 kB]
Get:31 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 virtualbox amd64 6.1.2-1ubuntu1 [1,104 kB]
Get:32 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 virtualbox-dkms amd64 6.1.2-1ubuntu1 [1,104 kB]
Get:33 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 virtualbox-qt amd64 6.1.2-1ubuntu1 [1,104 kB]
Get:34 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 fakeroot amd64 1.20-1ubuntu1 [1,104 kB]
Get:35 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 g++ amd64 4:9.3.0-1ubuntu2 [1,604 B]
Fetched 100.0 MB in 10s (10.0 MB/s)
debconf: delaying package configuration, since apt-utils is not installed
[...]
```

#### sudo apt-get update

```
Activities Terminal Feb 7 11:06 student@mca-H81M-S: ~

Setting up libqt5opengl5:amd64 (5.12.8+dfsg-0ubuntu2.1) ...
Setting up virtualbox (6.1.48-0ubuntu1~20.04.1) ...
Setting up libqt5x11extras5:amd64 (5.12.8-0ubuntu1) ...
Setting up libqt5svg5:amd64 (5.12.8-0ubuntu1) ...
Setting up virtualbox-gt (6.1.48-0ubuntu1~20.04.1) ...
Processing triggers for desktop-file-utils (0.24-1ubuntu3) ...
Processing triggers for mime-support (3.64ubuntu1) ...
Processing triggers for hicolor-icon-theme (0.17-2) ...
Processing triggers for gnome-menus (3.36.0-1ubuntu1) ...
Processing triggers for libc-bin (2.31-0ubuntu9.14) ...
Processing triggers for systemd (245.4-4ubuntu3.20) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for shared-mime-info (1.15-1) ...
student@mca-H81M-S:~$ sudo apt-get update
Hit:1 http://in.archive.ubuntu.com/ubuntu focal InRelease
Get:2 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:3 http://in.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:4 http://security.ubuntu.com/ubuntu focal-security/main amd64 Packages [2,680 kB]
Hit:5 http://in.archive.ubuntu.com/ubuntu focal-backports InRelease
Get:6 http://in.archive.ubuntu.com/ubuntu focal-updates/main i386 Packages [926 kB]
Get:7 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [3,060 kB]
Get:8 http://security.ubuntu.com/ubuntu focal-security/main i386 Packages [700 kB]
Get:9 http://in.archive.ubuntu.com/ubuntu focal-updates/main Translation-en [493 kB]
Get:10 http://in.archive.ubuntu.com/ubuntu focal-updates/restricted amd64 Packages [2,625 kB]
Get:11 http://in.archive.ubuntu.com/ubuntu focal-updates/restricted Translation-en [366 kB]
Get:12 http://in.archive.ubuntu.com/ubuntu focal-updates/universe amd64 Packages [1,162 kB]
Get:13 http://in.archive.ubuntu.com/ubuntu focal-updates/universe i386 Packages [772 kB]
Get:14 http://in.archive.ubuntu.com/ubuntu focal-updates/universe Translation-en [279 kB]
Get:15 http://security.ubuntu.com/ubuntu focal-security/main Translation-en [410 kB]
Get:16 http://security.ubuntu.com/ubuntu focal-security/restricted amd64 Packages [2,506 kB]
Get:17 http://security.ubuntu.com/ubuntu focal-security/restricted Translation-en [349 kB]
Get:18 http://security.ubuntu.com/ubuntu focal-security/universe amd64 Packages [935 kB]
Get:19 http://security.ubuntu.com/ubuntu focal-security/universe i386 Packages [644 kB]
Get:20 http://security.ubuntu.com/ubuntu focal-security/universe Translation-en [197 kB]
Fetched 18.3 MB in 22s (818 kB/s)
Reading package lists... Done
student@mca-H81M-S:~$ virtualbox
```

Create virtual machine by just clicking on this new Click  
-> new  
we can install ubuntu so type ubuntu And choose the type

```
Activities VirtualBox Feb 7 11:07 student@mca-H81M-S: ~

student@mca-H81M-S:~$ sudo apt-get install virtualbox
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  build-essential dctrl-tools libalgorithm-diff-perl libalgorithm-diff-xs-perl libdouble-conversion3 libfakerandom libqt5core5a libqt5dbus5 libqt5network5 libqt5printsupport5 libqt5svg5 libstdc++9-glibc libxcb-xinput0 make qt5-gtk-platformtheme virtualbox-dkms virtualbox-guest-additions-1.2.0
Suggested packages:
  debtagstags menu debian-keyring qt5-image-formats-plugins qt5-qmltooling-plugins virtualbox-guest-additions-1.2.0
The following NEW packages will be installed:
  build-essential dctrl-tools libalgorithm-diff-perl libalgorithm-diff-xs-perl libdouble-conversion3 libfakerandom libqt5core5a libqt5dbus5 libqt5network5 libqt5printsupport5 libqt5svg5 libstdc++9-glibc libxcb-xinput0 make qt5-gtk-platformtheme virtualbox-dkms virtualbox-guest-additions-1.2.0
0 upgraded, 35 newly installed packages
Need to get 66.4 MB of archives
After this operation, 277 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://in.archive.ubuntu.com/ubuntu focal/main amd64 make amd64 4.2.1-1.2 [162 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 dpkg-dev all 1.19.7ubuntu3.2 [679 kB]
Get:3 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libstdc++9-dev amd64 9.4.0-1ubuntu1~20.04.2 [1,722 kB]
Get:4 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 g++-9 amd64 9.4.0-1ubuntu1~20.04.2 [8,421 kB]
Get:5 http://in.archive.ubuntu.com/ubuntu focal/main amd64 g++ amd64 4:9.3.0-1ubuntu2 [1,604 B]
Get:6 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 build-essential amd64 12.8ubuntu1.1 [4,664 B]
Get:7 http://in.archive.ubuntu.com/ubuntu focal/main amd64 dctrl-tools amd64 2.24-3 [61.5 kB]
Get:8 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 dkms all 2.8.1-5ubuntu2 [66.8 kB]
Get:9 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libalgorithm-diff-perl all 1.204-1 [11.5 kB]
Get:10 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libalgorithm-diff-xs-perl amd64 0.04-2 [11.5 kB]
Get:11 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libdouble-conversion3 amd64 3.1.2-1 [11.5 kB]
Get:12 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libfakerandom amd64 2.0.4-1 [11.5 kB]
Get:13 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libqt5core5a amd64 5.15.2-1ubuntu0.1 [1,111 kB]
Get:14 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libqt5dbus5 amd64 5.15.2-1ubuntu0.1 [111 kB]
Get:15 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libqt5network5 amd64 5.15.2-1ubuntu0.1 [111 kB]
Get:16 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libqt5printsupport5 amd64 5.15.2-1ubuntu0.1 [111 kB]
Get:17 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libqt5svg5 amd64 5.15.2-1ubuntu0.1 [111 kB]
Get:18 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libstdc++9-glibc amd64 9.4.0-1ubuntu1~20.04.2 [111 kB]
Get:19 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libxcb-xinput0 amd64 1.14-1 [11.5 kB]
Get:20 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 qt5-gtk-platformtheme amd64 5.15.2-1ubuntu0.1 [111 kB]
Get:21 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 virtualbox-dkms amd64 6.1.48-0ubuntu1~20.04.1 [111 kB]
Get:22 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 virtualbox-guest-additions-1.2.0 amd64 1.2.0-1 [111 kB]
Get:23 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 build-essential amd64 12.8ubuntu1.1 [4,664 B]
Get:24 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 dctrl-tools amd64 2.24-3 [61.5 kB]
Get:25 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 dkms all 2.8.1-5ubuntu2 [66.8 kB]
Get:26 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libalgorithm-diff-perl all 1.204-1 [11.5 kB]
Get:27 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libalgorithm-diff-xs-perl amd64 0.04-2 [11.5 kB]
Get:28 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libdouble-conversion3 amd64 3.1.2-1 [11.5 kB]
Get:29 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libfakerandom amd64 2.0.4-1 [11.5 kB]
Get:30 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libqt5core5a amd64 5.15.2-1ubuntu0.1 [1,111 kB]
Get:31 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libqt5dbus5 amd64 5.15.2-1ubuntu0.1 [111 kB]
Get:32 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libqt5network5 amd64 5.15.2-1ubuntu0.1 [111 kB]
Get:33 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libqt5printsupport5 amd64 5.15.2-1ubuntu0.1 [111 kB]
Get:34 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libqt5svg5 amd64 5.15.2-1ubuntu0.1 [111 kB]
Get:35 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libstdc++9-glibc amd64 9.4.0-1ubuntu1~20.04.2 [111 kB]
Get:36 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libxcb-xinput0 amd64 1.14-1 [11.5 kB]
Get:37 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 qt5-gtk-platformtheme amd64 5.15.2-1ubuntu0.1 [111 kB]
Get:38 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 virtualbox-dkms amd64 6.1.48-0ubuntu1~20.04.1 [111 kB]
Get:39 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 virtualbox-guest-additions-1.2.0 amd64 1.2.0-1 [111 kB]
Fetched 18.3 MB in 22s (818 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  build-essential dctrl-tools libalgorithm-diff-perl libalgorithm-diff-xs-perl libdouble-conversion3 libfakerandom libqt5core5a libqt5dbus5 libqt5network5 libqt5printsupport5 libqt5svg5 libstdc++9-glibc libxcb-xinput0 make qt5-gtk-platformtheme virtualbox-dkms virtualbox-guest-additions-1.2.0
Suggested packages:
  debtagstags menu debian-keyring qt5-image-formats-plugins qt5-qmltooling-plugins virtualbox-guest-additions-1.2.0
The following NEW packages will be installed:
  build-essential dctrl-tools libalgorithm-diff-perl libalgorithm-diff-xs-perl libdouble-conversion3 libfakerandom libqt5core5a libqt5dbus5 libqt5network5 libqt5printsupport5 libqt5svg5 libstdc++9-glibc libxcb-xinput0 make qt5-gtk-platformtheme virtualbox-dkms virtualbox-guest-additions-1.2.0
0 upgraded, 35 newly installed packages
Need to get 66.4 MB of archives
After this operation, 277 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://in.archive.ubuntu.com/ubuntu focal/main amd64 make amd64 4.2.1-1.2 [162 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 dpkg-dev all 1.19.7ubuntu3.2 [679 kB]
Get:3 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libstdc++9-dev amd64 9.4.0-1ubuntu1~20.04.2 [1,722 kB]
Get:4 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 g++-9 amd64 9.4.0-1ubuntu1~20.04.2 [8,421 kB]
Get:5 http://in.archive.ubuntu.com/ubuntu focal/main amd64 g++ amd64 4:9.3.0-1ubuntu2 [1,604 B]
Get:6 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 build-essential amd64 12.8ubuntu1.1 [4,664 B]
Get:7 http://in.archive.ubuntu.com/ubuntu focal/main amd64 dctrl-tools amd64 2.24-3 [61.5 kB]
Get:8 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 dkms all 2.8.1-5ubuntu2 [66.8 kB]
Get:9 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libalgorithm-diff-perl all 1.204-1 [11.5 kB]
Get:10 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libalgorithm-diff-xs-perl amd64 0.04-2 [11.5 kB]
Get:11 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libdouble-conversion3 amd64 3.1.2-1 [11.5 kB]
Get:12 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libfakerandom amd64 2.0.4-1 [11.5 kB]
Get:13 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libqt5core5a amd64 5.15.2-1ubuntu0.1 [1,111 kB]
Get:14 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libqt5dbus5 amd64 5.15.2-1ubuntu0.1 [111 kB]
Get:15 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libqt5network5 amd64 5.15.2-1ubuntu0.1 [111 kB]
Get:16 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libqt5printsupport5 amd64 5.15.2-1ubuntu0.1 [111 kB]
Get:17 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libqt5svg5 amd64 5.15.2-1ubuntu0.1 [111 kB]
Get:18 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libstdc++9-glibc amd64 9.4.0-1ubuntu1~20.04.2 [111 kB]
Get:19 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libxcb-xinput0 amd64 1.14-1 [11.5 kB]
Get:20 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 qt5-gtk-platformtheme amd64 5.15.2-1ubuntu0.1 [111 kB]
Get:21 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 virtualbox-dkms amd64 6.1.48-0ubuntu1~20.04.1 [111 kB]
Get:22 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 virtualbox-guest-additions-1.2.0 amd64 1.2.0-1 [111 kB]
Get:23 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 build-essential amd64 12.8ubuntu1.1 [4,664 B]
Get:24 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 dctrl-tools amd64 2.24-3 [61.5 kB]
Get:25 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 dkms all 2.8.1-5ubuntu2 [66.8 kB]
Get:26 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libalgorithm-diff-perl all 1.204-1 [11.5 kB]
Get:27 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libalgorithm-diff-xs-perl amd64 0.04-2 [11.5 kB]
Get:28 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libdouble-conversion3 amd64 3.1.2-1 [11.5 kB]
Get:29 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libfakerandom amd64 2.0.4-1 [11.5 kB]
Get:30 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libqt5core5a amd64 5.15.2-1ubuntu0.1 [1,111 kB]
Get:31 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libqt5dbus5 amd64 5.15.2-1ubuntu0.1 [111 kB]
Get:32 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libqt5network5 amd64 5.15.2-1ubuntu0.1 [111 kB]
Get:33 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libqt5printsupport5 amd64 5.15.2-1ubuntu0.1 [111 kB]
Get:34 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libqt5svg5 amd64 5.15.2-1ubuntu0.1 [111 kB]
Get:35 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libstdc++9-glibc amd64 9.4.0-1ubuntu1~20.04.2 [111 kB]
Get:36 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libxcb-xinput0 amd64 1.14-1 [11.5 kB]
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Get:38 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 virtualbox-dkms amd64 6.1.48-0ubuntu1~20.04.1 [111 kB]
Get:39 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 virtualbox-guest-additions-1.2.0 amd64 1.2.0-1 [111 kB]
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Reading state information... Done
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Suggested packages:
  debtagstags menu debian-keyring qt5-image-formats-plugins qt5-qmltooling-plugins virtualbox-guest-additions-1.2.0
The following NEW packages will be installed:
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0 upgraded, 35 newly installed packages
Need to get 66.4 MB of archives
After this operation, 277 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
```