BASIC COMPUTER USAGE

Things to know before installing Windows OS

OBJECTIVES FOR TODAY

- ✓ What is **USB bootable** device?
- ✓ Why do we need it?
- ✓ Preparing USB boot device
- ✓ Partitioning Overview
- ✓ Boot process

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WHAT IS OPERATING SYSTEM (OS) ?

How many kind of OS?

What does OS do in computer?

What do need to setup new OS on a computer?

Have you ever heard about Flash Boot?

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Watch the video to understand **Operating System**

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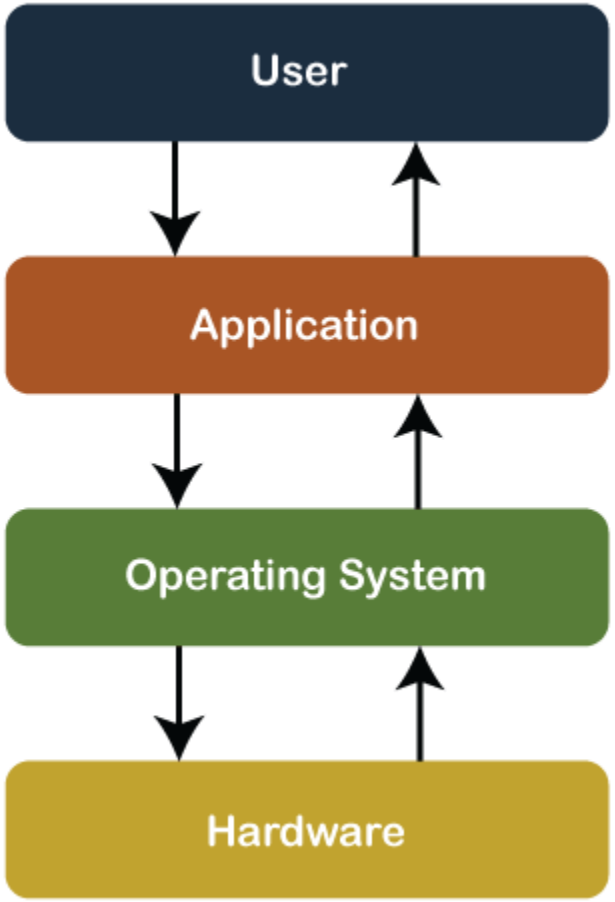
About Operating System

An **operating system** is the **most important software** that runs on a computer.

It’s a system software that **manages computer hardware and software resources** and act as the interface between a user and hardware.

Without an Operating system, a computer is useless.



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Operating System’s Job

Most of the time, there are several different computer programs running at the same time, and they all need to access your computer's **CPU**, **RAM**, and **storage**. The operating system coordinates all of this to make sure each program gets what it needs.

The 4 main function of Operating system:

- **Providing an user interface**
- **Managing Files**
- **Managing applications**
- **Manage hardware**

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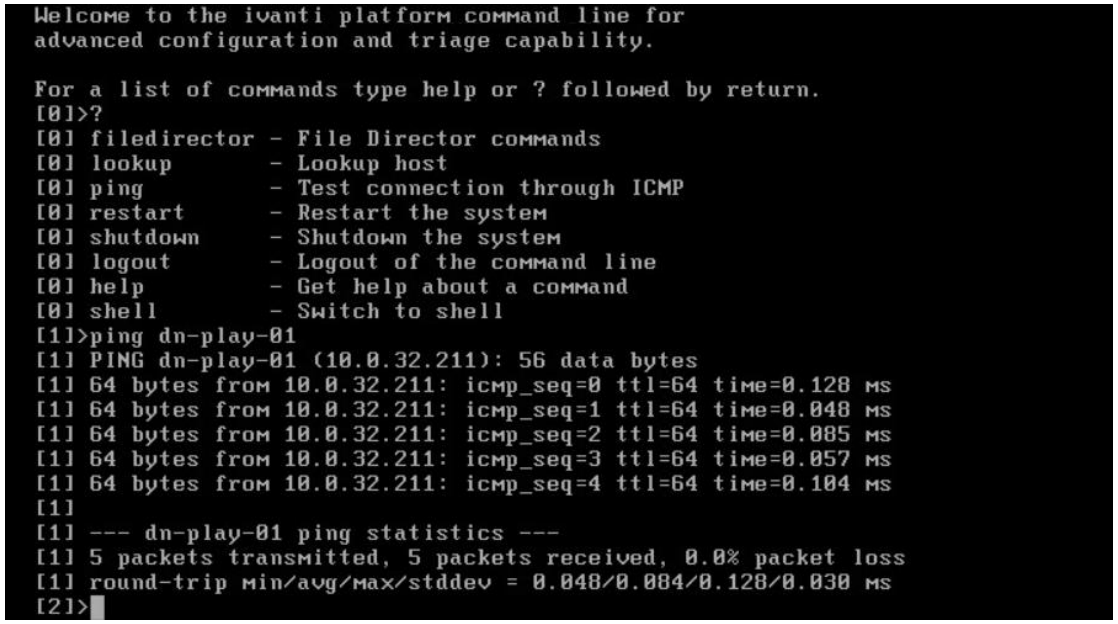
Operating System's Job

Providing a user interface: allow you to interact with computer by command line user interface (CLI) or graphic user interface (GUI).



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Operating System's Job

Managing Files: allow you to store, delete, copy, move and share files.

Example:

- You can store file on your computer
- You can create, delete, copy or move to other folder.

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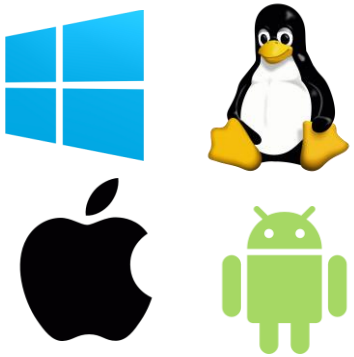
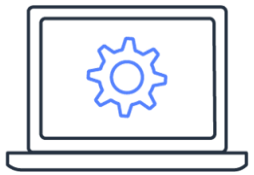
Operating System's Job

Managing applications: Operating system allow you to **install**, **uninstall** and **manage** system and software application.

Systems software the programs that *required for system to operate* as designed, include the operating system and device drivers.





Application software, or simply applications, is a set of computer programs *designed for end-user* to perform task.

5 MIN

Operating System's Job

Managing hardware: Operating system mange the computer's memory (RAM), processor (CPU) and other hardware devices that connected to computer (mouse, keyboard, disk drive…).

Example:

- It allows CPU to process the program software.
- It allow you to connect the USB flash drive
- It allow you to play a song and output the sound through speaker

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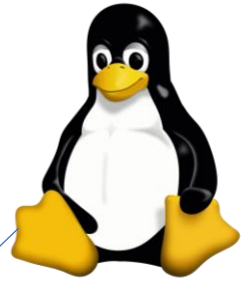
Type of Operating System



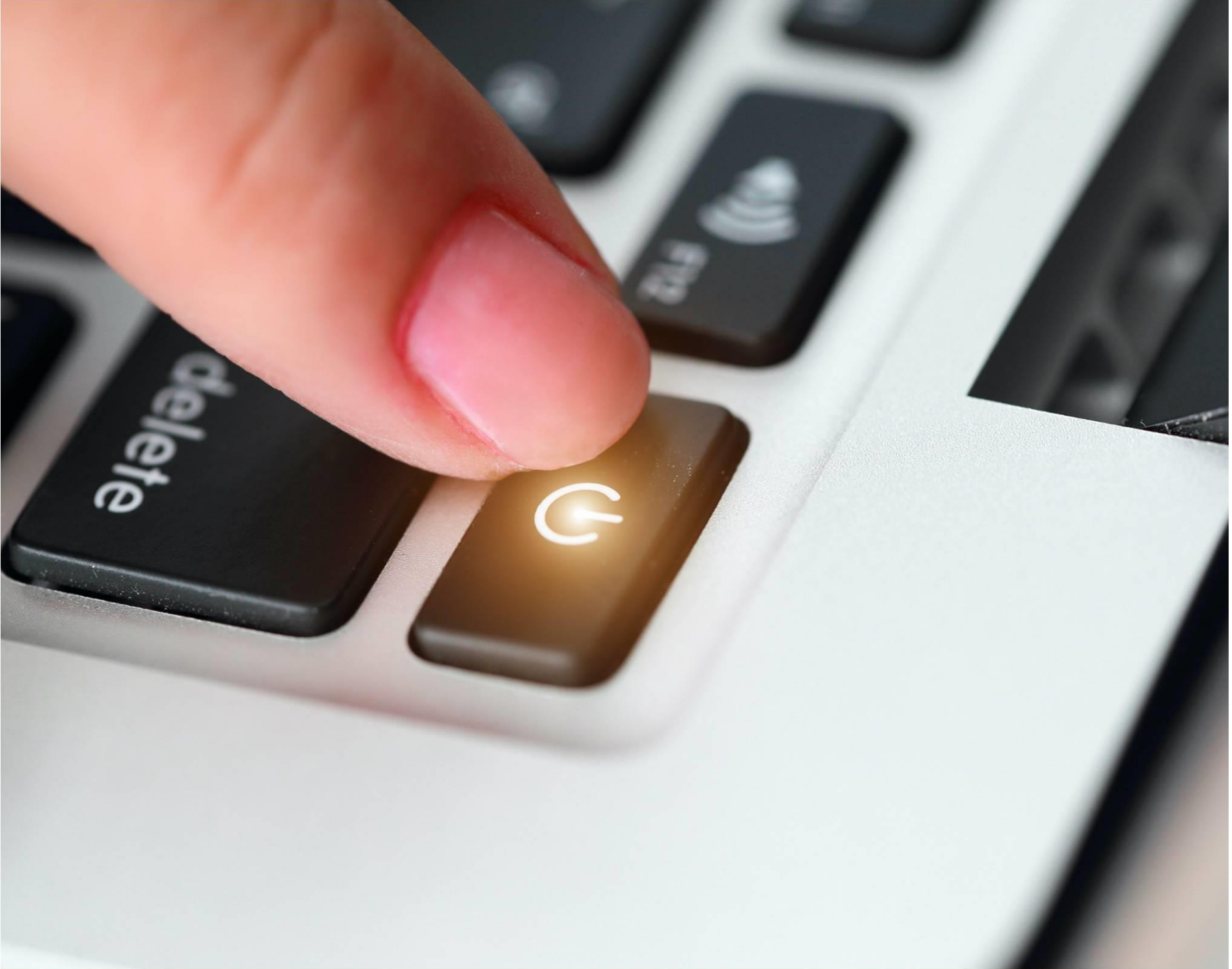
Linux

Microsoft Windows

MacOS

macOS Sierra

macOS Mojave



Booting process

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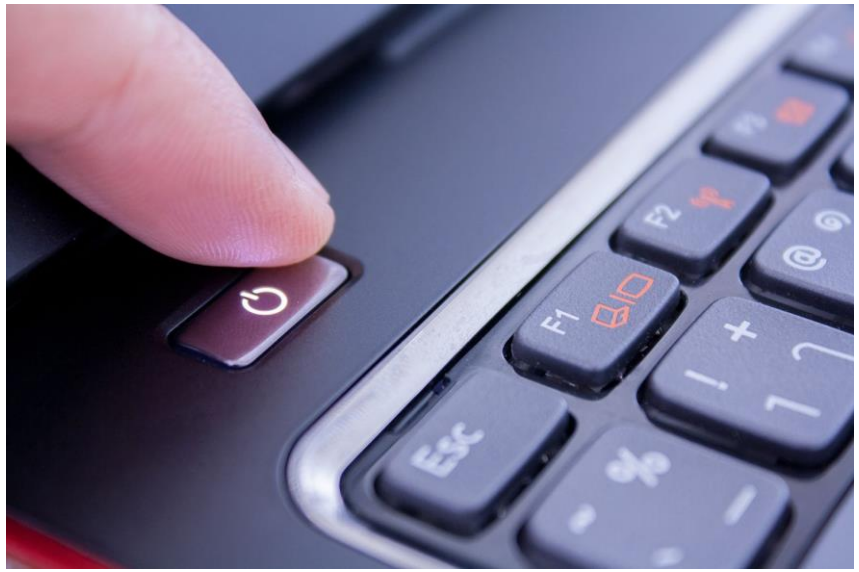
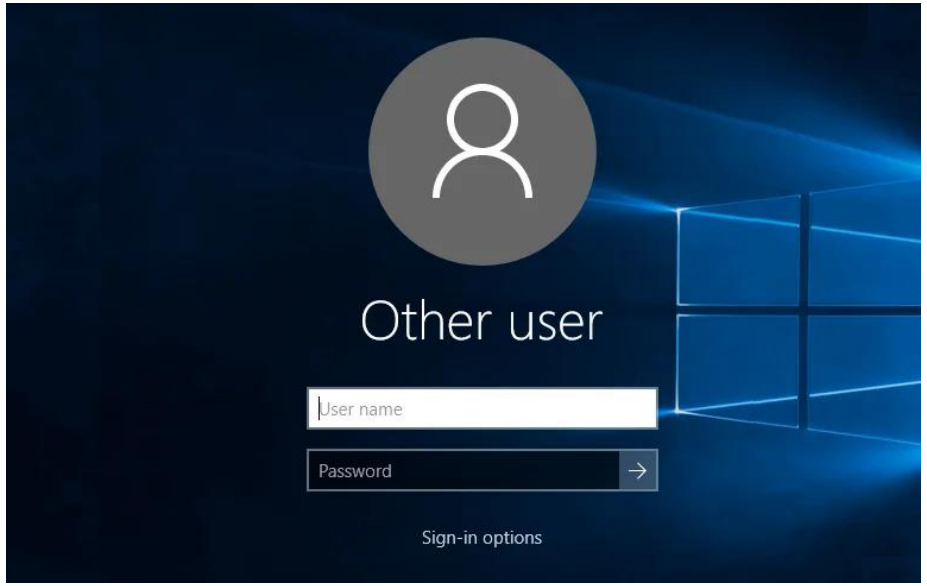
PC Booting Process

What is Boot?

A “**Boot**” (also "to boot up") a computer is to load an operating system into the computer's main memory or RAM in order to start up the computer.





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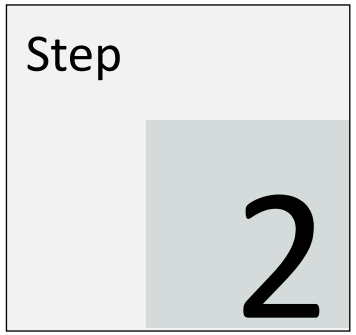
About the Booting Steps

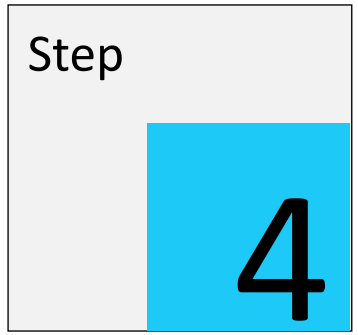
The steps of the boot process are:

Power on the computer.

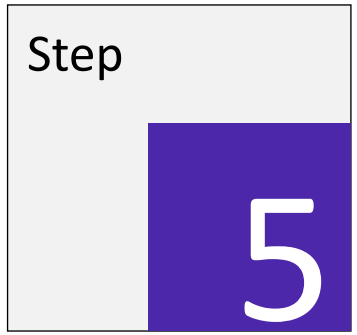


Activate the **Basic Input/Output System** (BIOS).

Run the **power-on self-test** (POST).



Locate and load the OS to RAM.



Transfer control to the OS.

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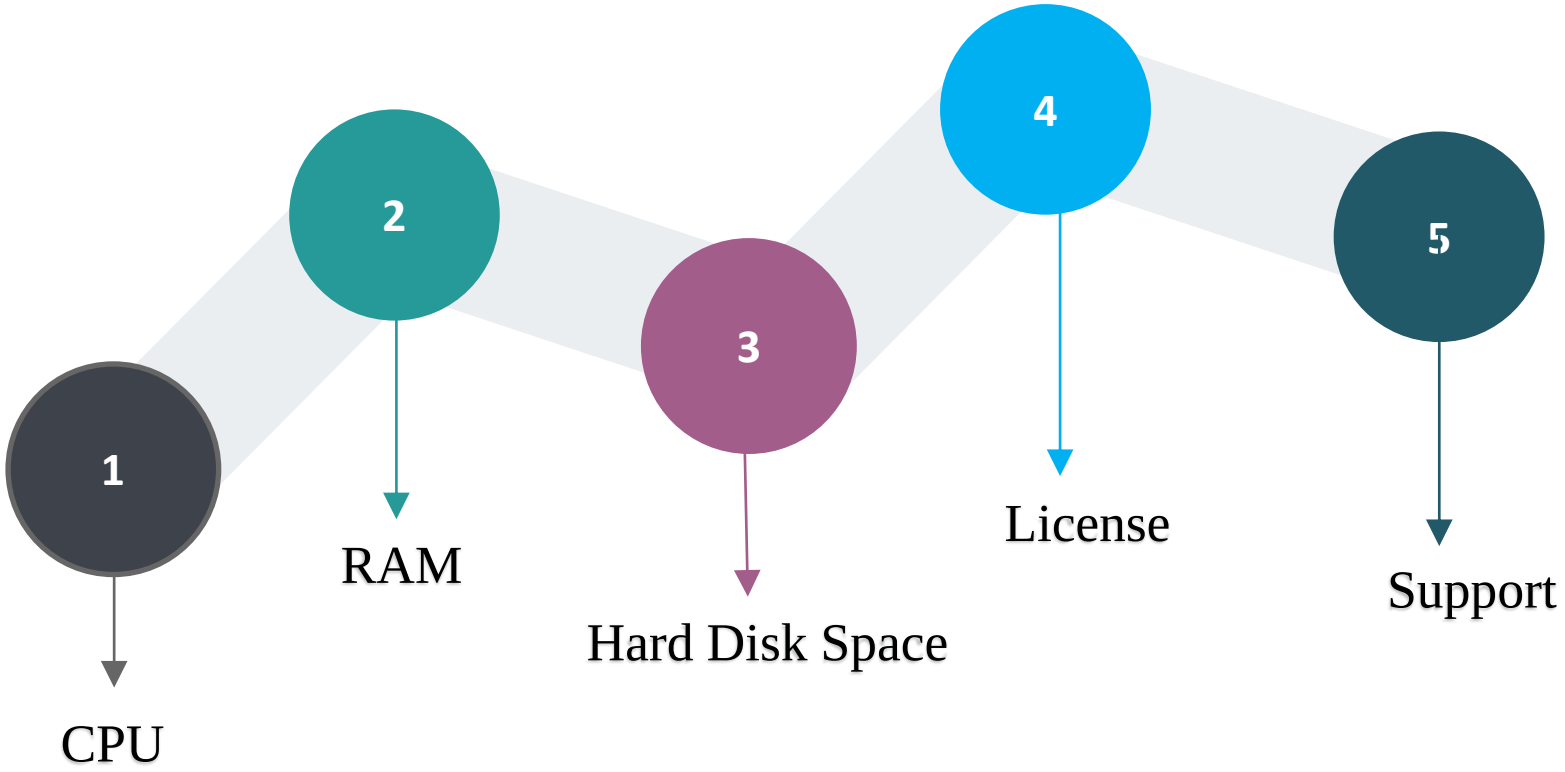
Hardware Requirements to install OS

You can identify differences from one Operating Systems to one Operating Systems by system requirements and characteristics:



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Hardware Requirements to install OS

Windows Clients Operating Systems			
Description	**Windows 7**	**Windows 10**	**Windows 11**
Requirement of RAM	2GB	4GB or more	4GB or more
Processor (CPU)	1GHz	1GHz or Faster	1GHz or Faster
Hard Disk Space	20GB	20GB	64GB or Larger
License/Pricing	115 USD	139$ - 199$ (life time on one device)	139$ - 199$ (life time on one device)
Support	Yes	Yes	Yes

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Hardware Requirements to install OS

Linux Operating Systems			
Description	**Ubuntu/Debian**	**Redhat/Centos**	**Open SuSE**
Requirement of RAM	1 GB	1 GB	1GB
Processor (CPU)	700 MHz	500 MHz	500 MHz
Hard Disk Space	15 GB	10 GB	10 GB
License/Pricing	Free	96 USD/year	Free
Support	No	Yes	No

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What do you need to prepare for set up new OS?

Material for creating bootable media (flash boot)

- USB Flash drive / CD or DVD
- OS image file (ISO)
- Software for creating flash boot
- Computer (Laptop/desktop)

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Bootable Media

What is Bootable Media?

"Bootable media" is storage device that contains special files required for the computer to boot into an operating system. Bootable media can be Hard disk, USB flash, CD, DVD, external hard disk etc.

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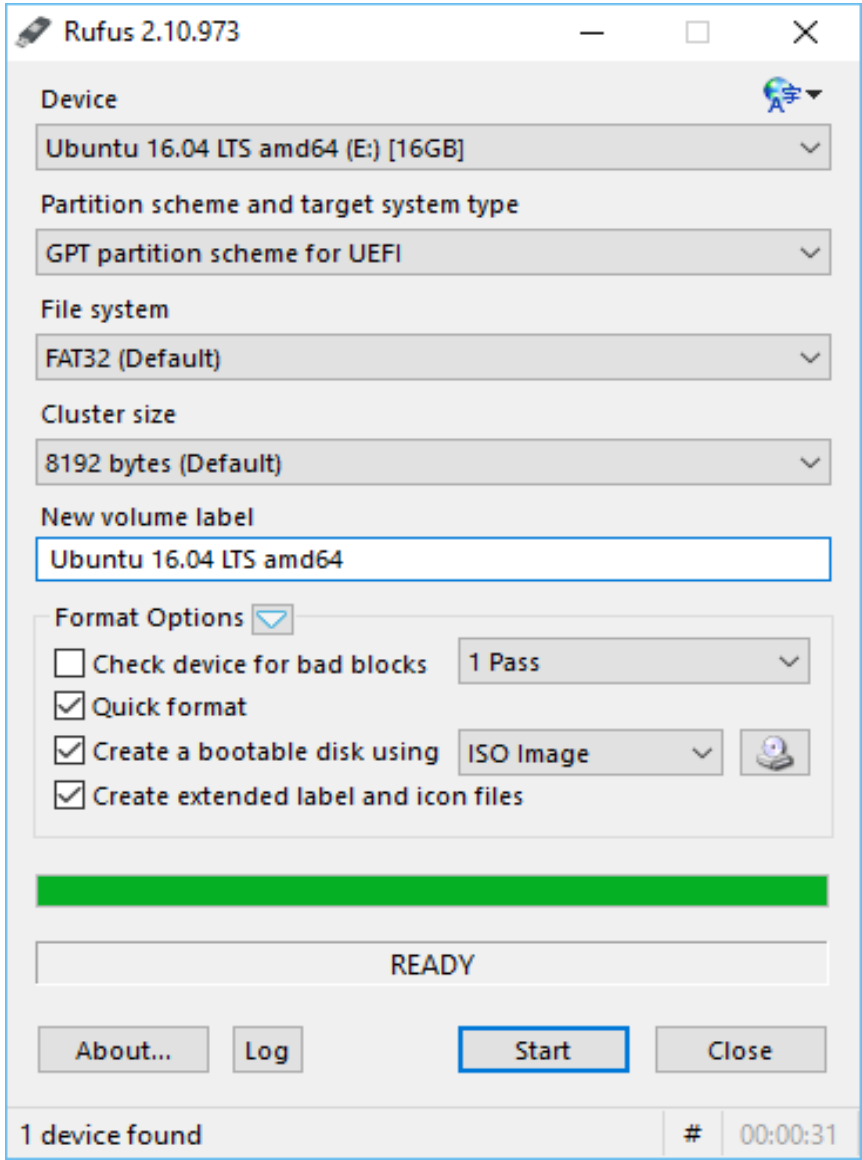
How to create USB Flash Boot?

Bootable USB Flash drive by software (Rufus)

- Download: https://rufus.akeo.ie/
- Run Rufus software
- Insert USB flash drive
- Brows ISO image
- Click start button

➢ Note: USB Flash will be formatted (everything that stored will be deleted)



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Watch the video to know how to **download Windows ISO file**

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What is Partition?

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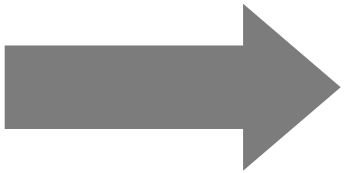
Partitioning Overview

When a hard disk is installed in a computer, it *must be partitioned* before being formatted and then used. You cannot use it immediately when you buy it and install it in a computer.

Once a partition is created, it can be *formatted* so it can be used.



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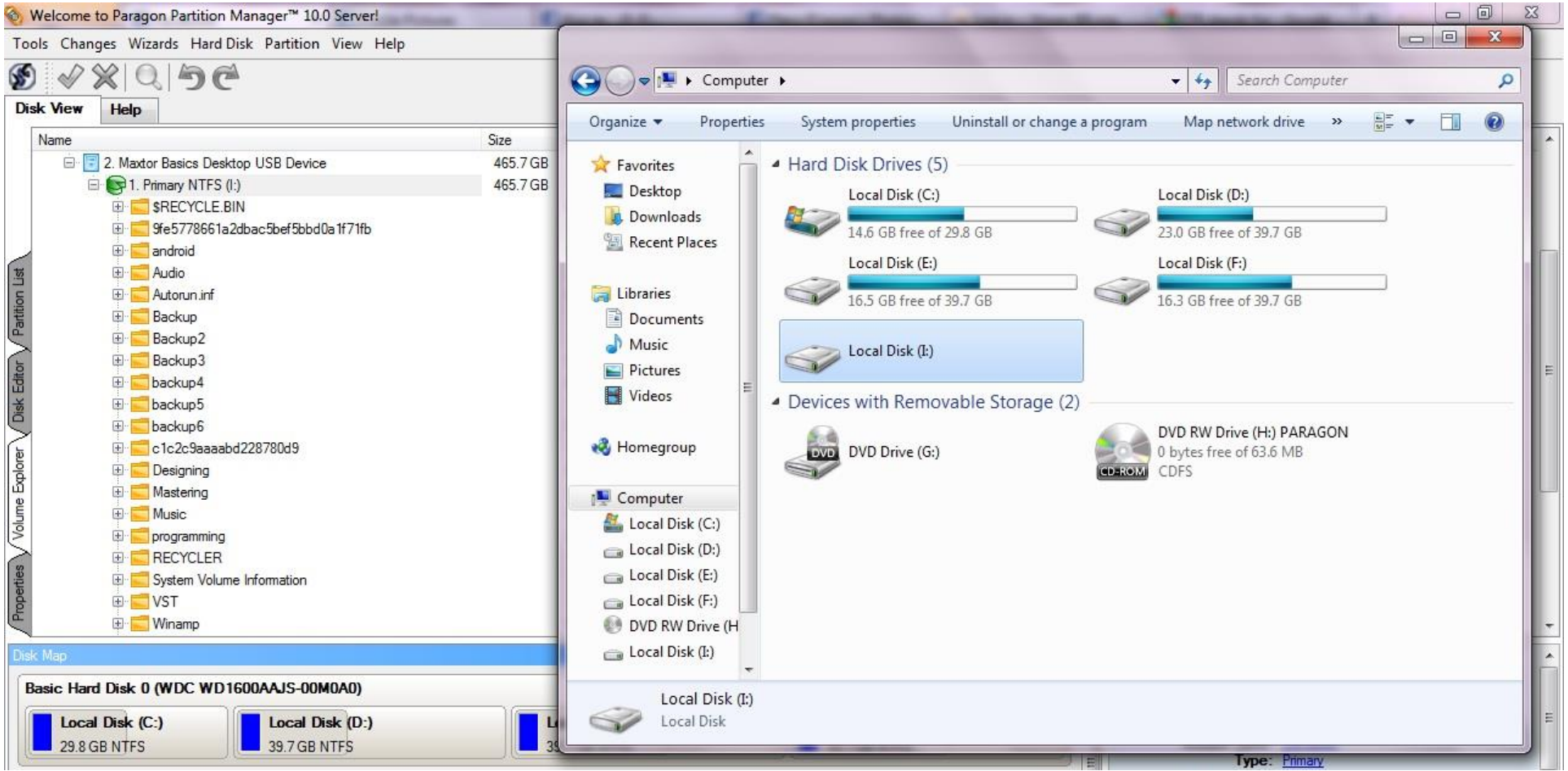
Partitioning Overview

Disk partitioning is the way to divide a physical hard disk into multiple logical storage units.

Example: Drive **C:** or **D:**



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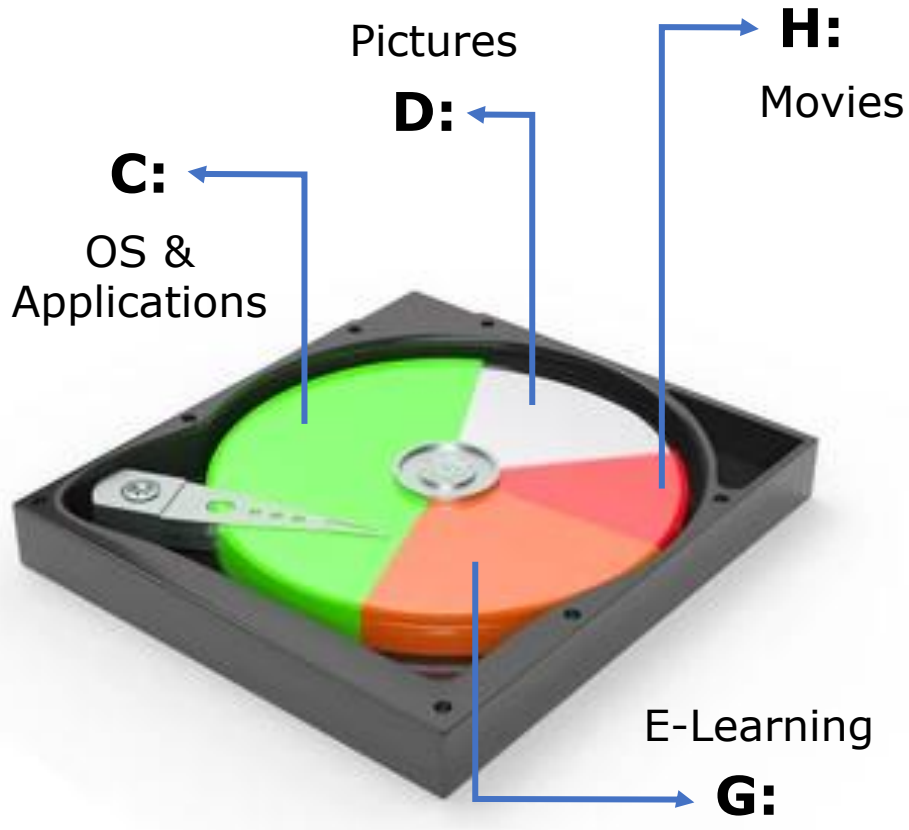
Purpose of Partition

- Better **organize** your data.
- Run different **operating systems** on one PC.
- Reduce the possibility of **data loss**.
- More convenient for **backup** and **restore**.
- Improve **performance**.



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Type of Partition

Boot partition: it is also a primary partition which used to contains the operating system.

Primary partition : it’s a partition that is used to store the normal data file such as picture, video, sound, document files and etc.

System partition: it is a primary partition that contains the boot loader, a piece of procedure responsible for booting the OS. It’s default created by system computer.

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How to create partition on Windows

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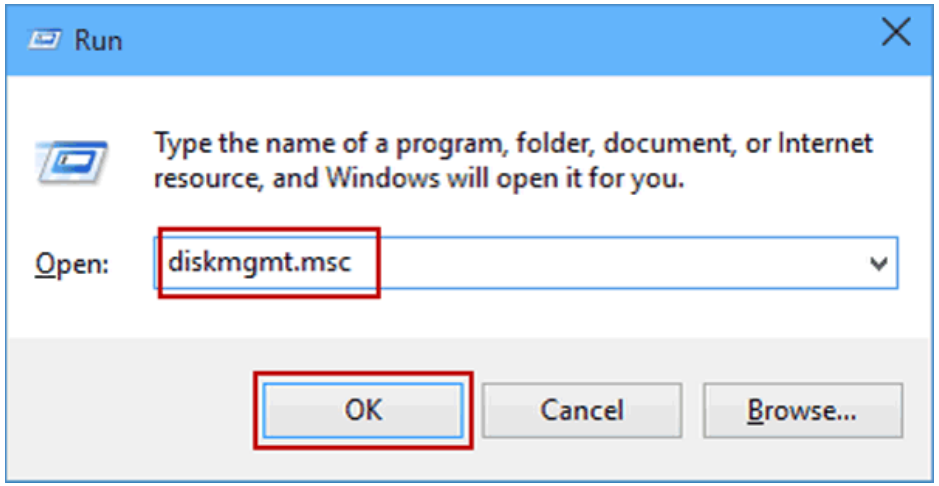
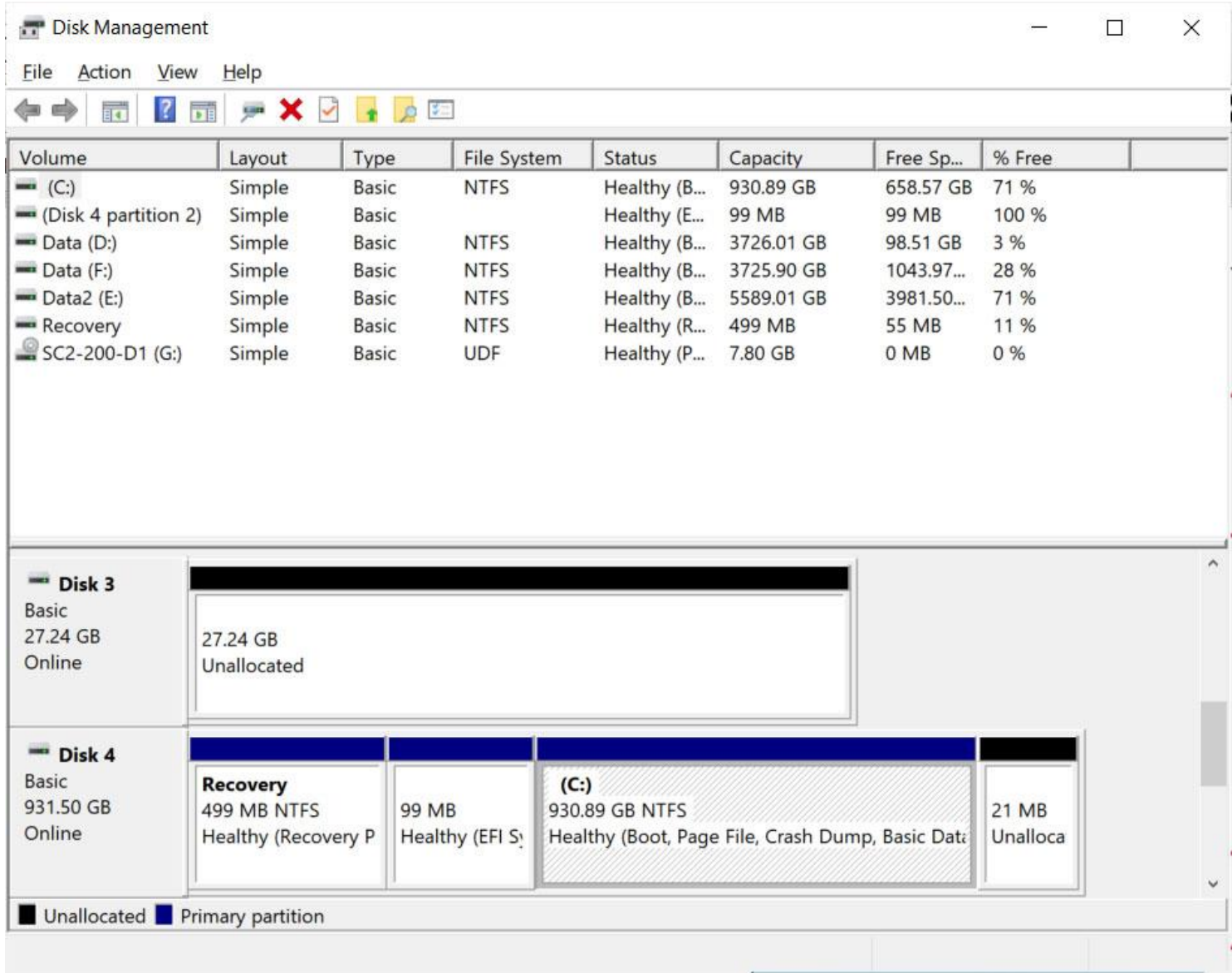
+ R > type “diskmgmt.msc”





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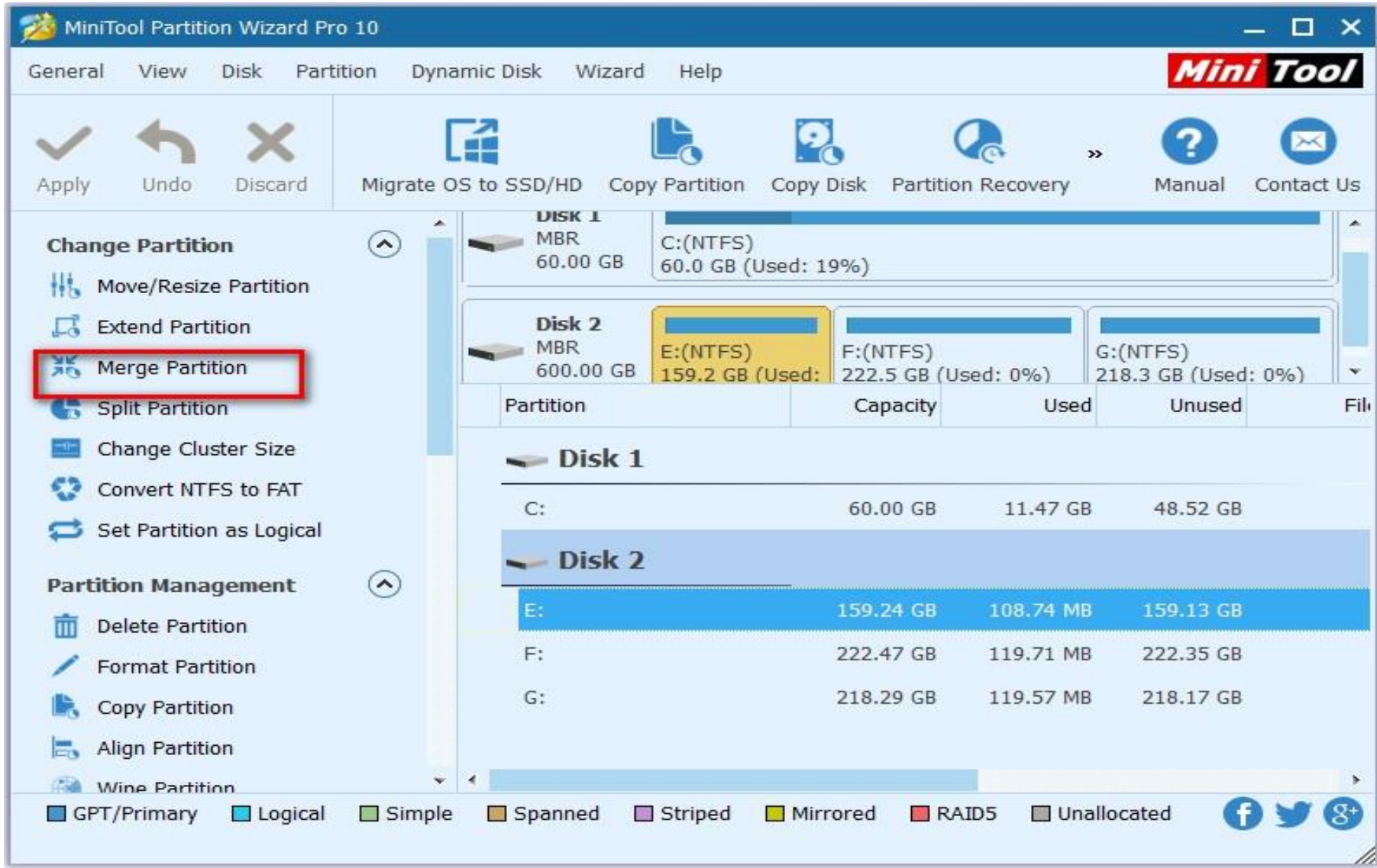
How to create partition on Windows

MiniTool partition Wizard Free software



1. What is Operating system?
2. What does Operating system do in computer?
3. How many kind of Operating system? What are they?
4. What do you need to prepare before starting to install OS on a computer?
5. What is a partition? What kind of partition?
6. Why do we need to partition our hard disk drive?
7. How many partition should we create on our computer?