



**Passerelles
numériques**
A Gateway for Life



OS & Maintenance

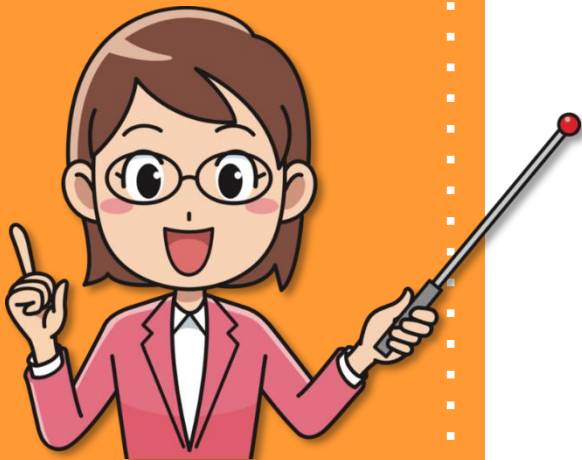
Chapter 1 – Introduction to Operating System



Course Objectives

Students will be able to:

- ☐ Understand what is an OS and its functions
- ☐ Know the different OS families
- ☐ Check the hardware requirements prior to install OS



Starter – Video Tutorial



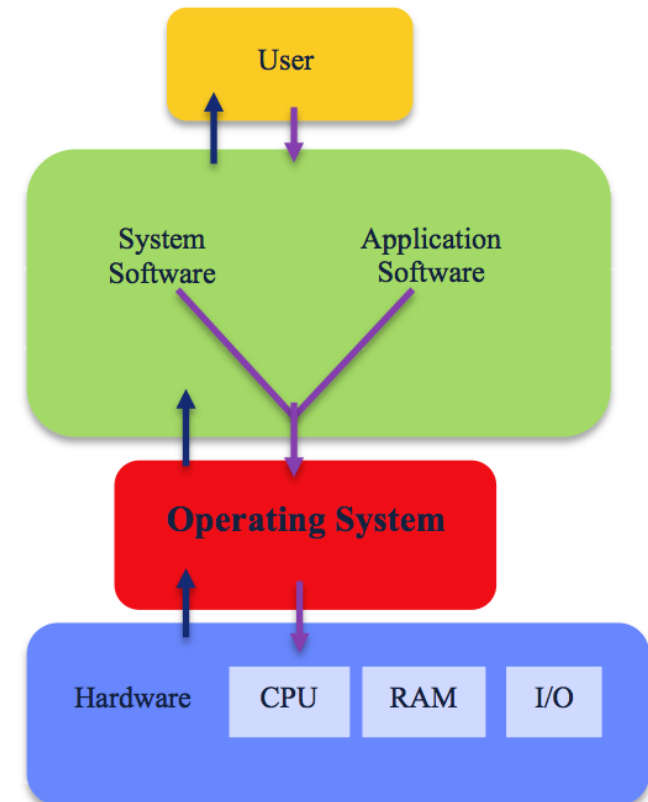
What is OS and it's function

- What is OS?

An **operating system (OS)** is system software that manages computer hardware and software to operate together. .

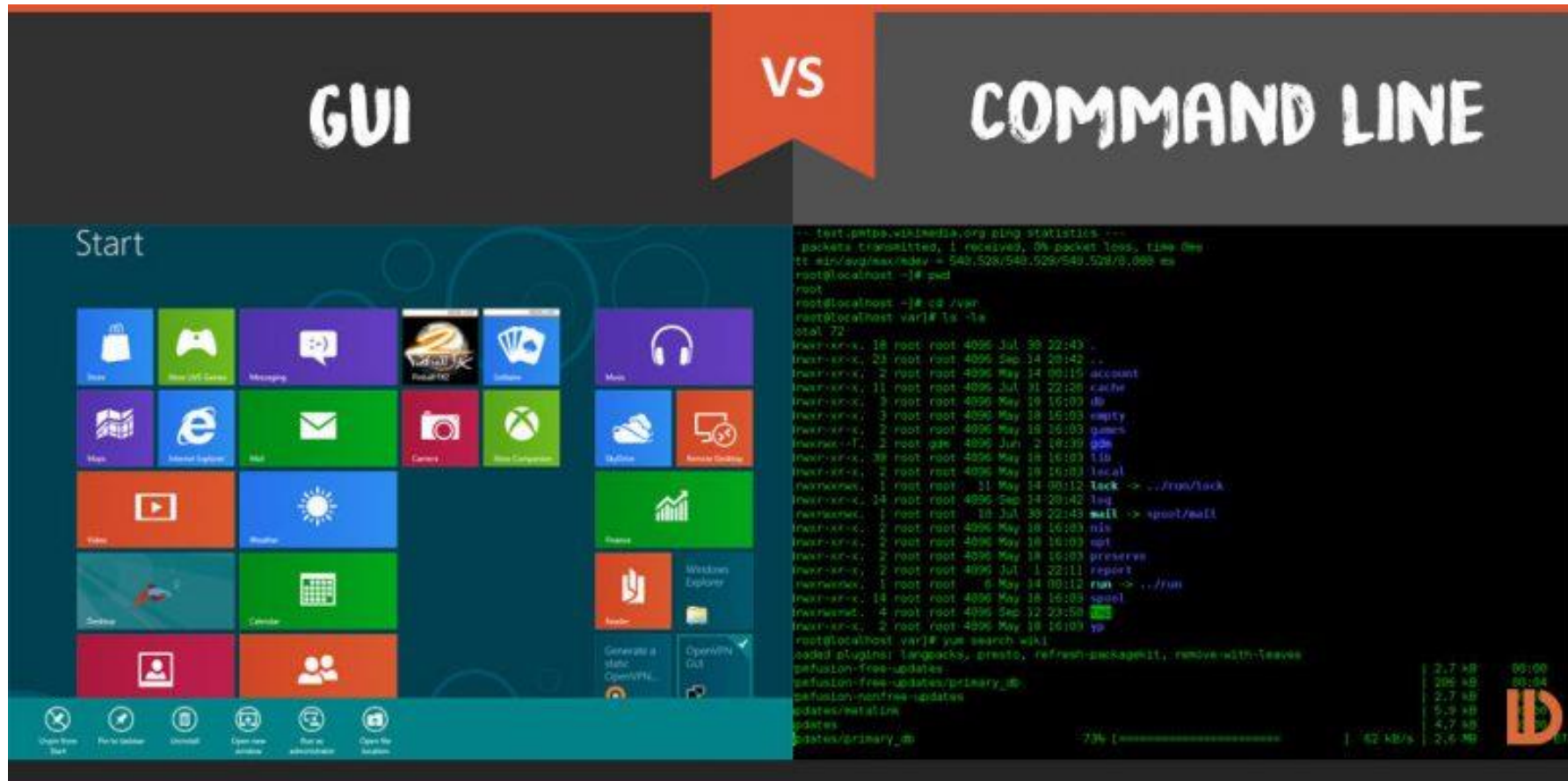
- OS share the following four main functions:

- Providing a user interface
- Managing Files
- Managing applications
- Manage hardware



What is OS and it's function

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



What is OS and it's function

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

Example:

- Your computer store your documents.
- You can delete, copy or move to other folder.



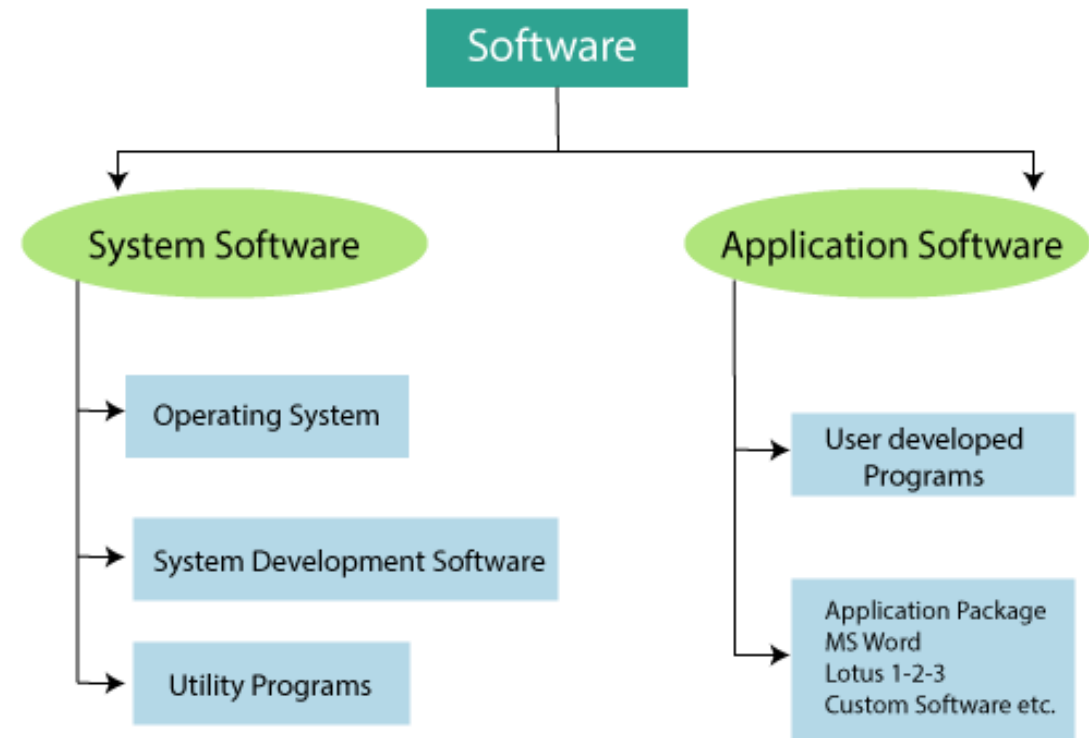
What is OS and it's function

Managing applications: You can install, uninstall and manage program, software or application.

The term software is the opposite of hardware. The hardware describes the physical part of the computer system, but the software refers to applications, scripts, and programs that can run on the device.

There are two main types of software:

- systems software
- application software.



What is OS and it's function

Systems software includes the programs that are dedicated to managing the computer itself, such as the operating system.

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



What is OS and it's function

Managing Hardware: allow you control hardware that connected to computer through an application known as **driver**. Each driver designed to control the hardware.

Example:

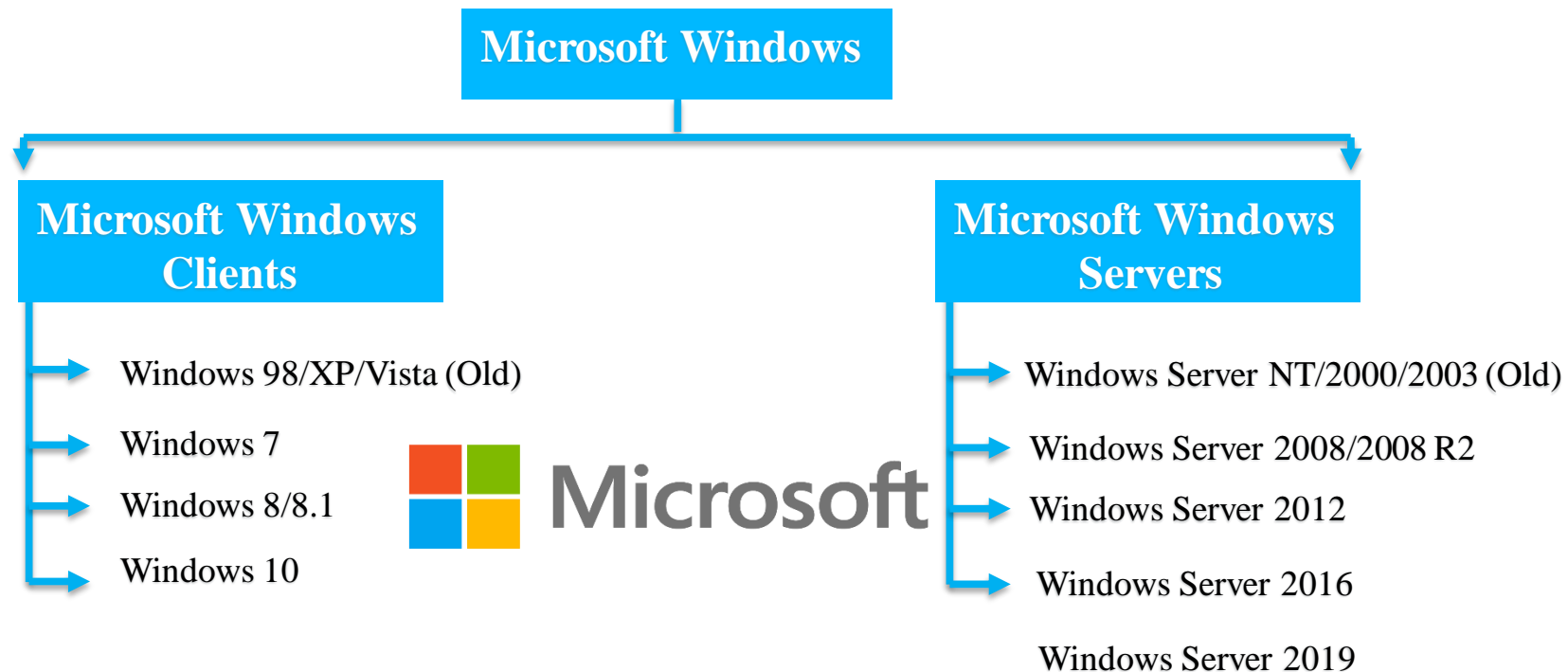
- Manage Hard Drive, RAM, CPU.
- All hardware need software to operate.



OS families

Microsoft Windows

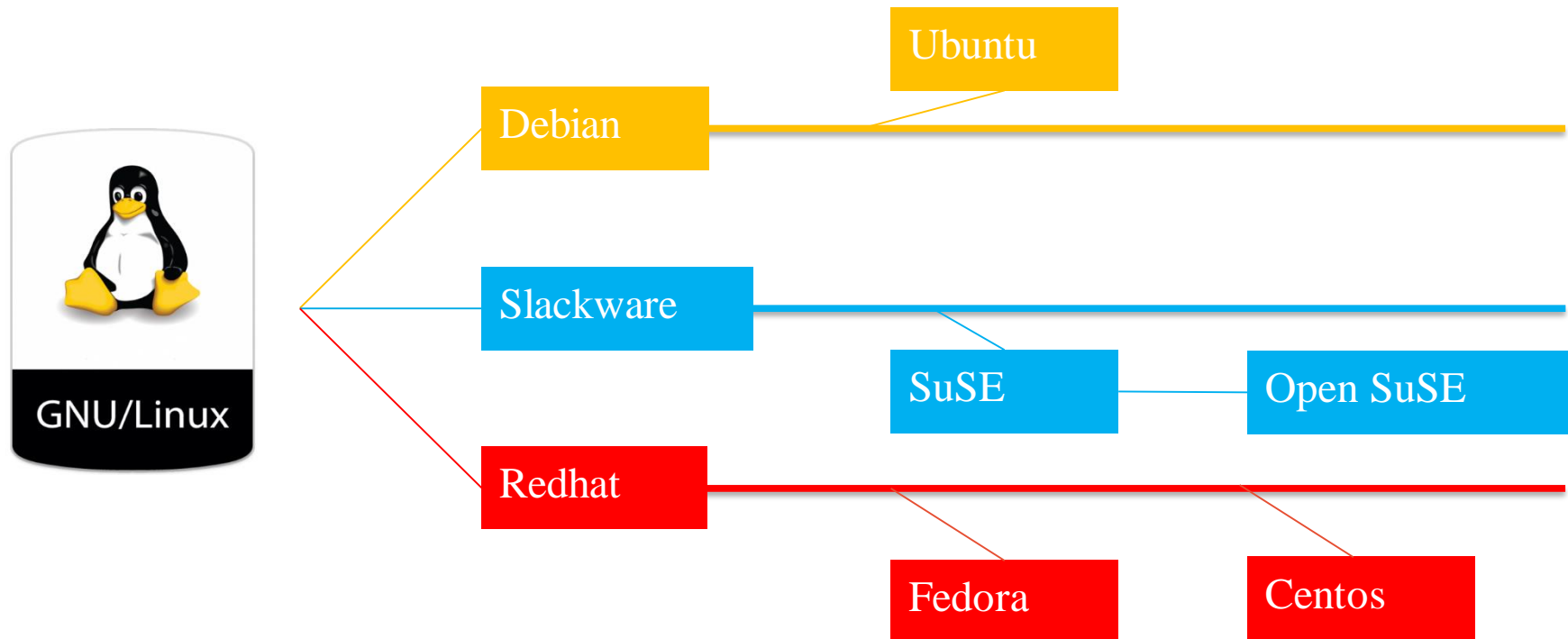
Microsoft Windows is likely the most well-known and common computer operating system in the world today. It was developed by Bill Gates' Microsoft Corporation.



OS families

Linux Operating System

Linux was derived from UNIX –derived by Swede Linus Torvalds and released to the public in 1991 under the free and open-source software collaboration. Linux is now used widely by developers who, under the open-source system, can make change to the software to meet their own needs.



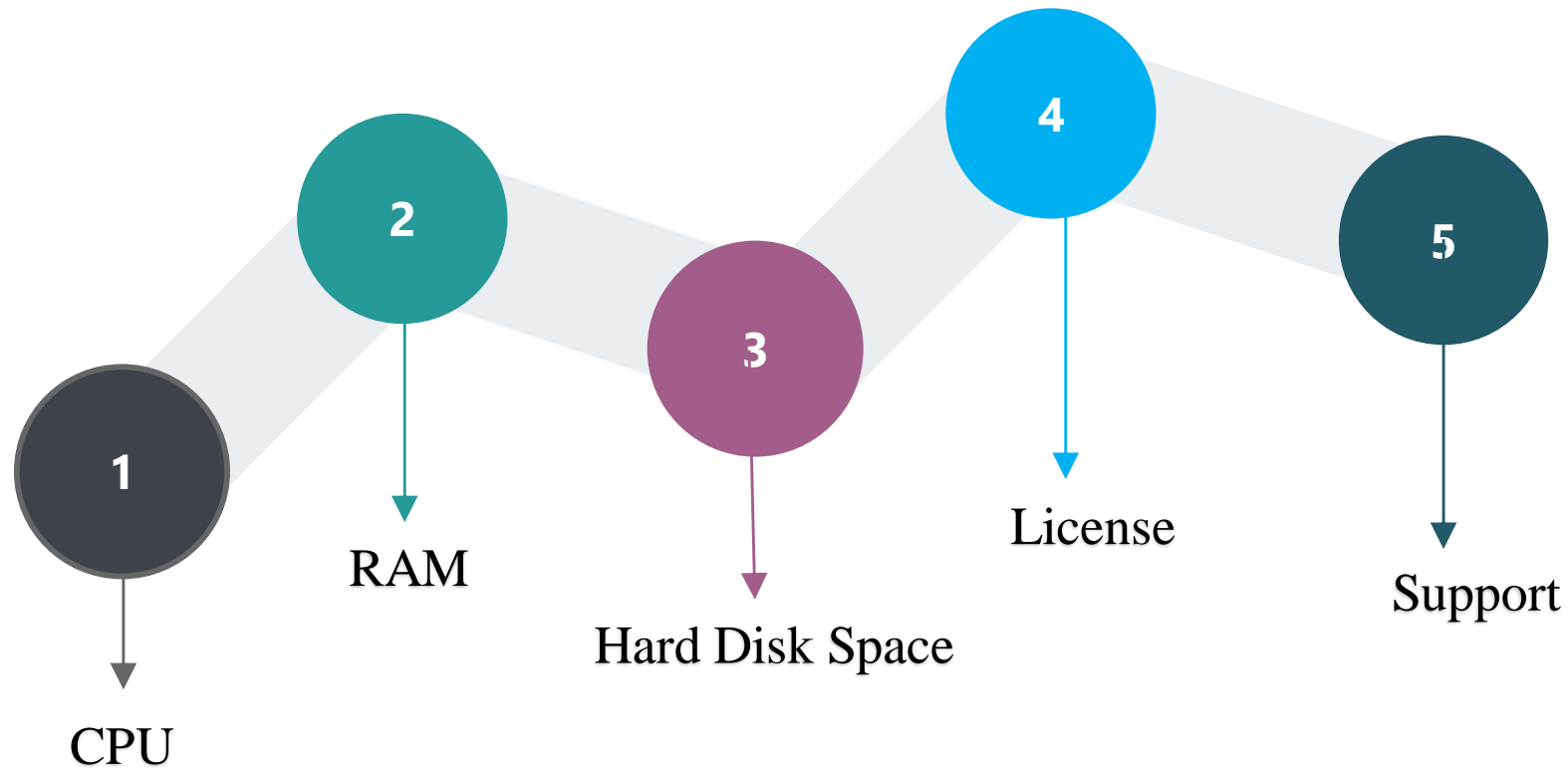
OS families

Mac OS

| Version | Release Date |
|-------------------------------|---------------------------------|
| Mac OS X v10.0 (Cheetah) | 24 th March 2001 |
| Mac OS X v10.1 (Puma) | 25 th September 2001 |
| Mac OS X v10.2 (Jaguar) | 2002 |
| Mac OS X v10.3 (Panther) | 2003 |
| Mac OS X v10.4 (Tiger) | 2005 |
| Mac OS X v10.5 (Leopard) | 2007 |
| Mac OS X v10.6 (Snow Leopard) | 2009 |
| Mac OS X v10.7 (Lion) | 2011 |
| OS X v10.8 (Mountain Lion) | 2012 |
| OS X v10.9 (Mavericks) | 2013 |
| OS X v10.10 (Yosemite) | 2014 |
| OS X EI Capitan v10.11 | 2015 |
| MacOS Sierra v10.12 | 2016 |
| MacOS High Sierra v10.13 | 2017 |

Hardware Requirements prior to install OS

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



Hardware Requirements prior to install OS

| Windows Clients Operating Systems | | | |
|-----------------------------------|--------------|----------------|----------------------|
| Description | Windows 7 | Windows 8/8.1 | Windows 10 |
| Minimum of RAM | 1GB (32-bit) | 1GB (32-bit) | 1GB (32-bit) |
| Requirement of RAM | 2GB (64-bit) | 2GB (64-bit) | 4GB (64-bit) or more |
| Processor (CPU) | 1GHz | 1GHz or Faster | 1GHz or Faster |
| Hard Disk Space | 20GB | 20GB | 20GB |
| Free Space | 16GB | 16GB | 16GB |
| License/Pricing | 115 USD | 119.99 USD | 180 USD |
| Support | Yes | Yes | Yes |

Hardware Requirements prior to install OS

Windows Servers Operating Systems

| Description | Windows Server 2008 | Windows Server 2012 | Windows Server 2016 |
|--------------------|---------------------|---------------------|---------------------|
| Requirement of RAM | 2GB or greater | 2GB or greater | 4GB or greater |
| Processor (CPU) | 2GHz or Faster | 2GHz or Faster | (64-bit processor) |
| Hard Disk Space | 40GB or greater | 40GB or greater | Unlimited |
| Free Space | 10GB | 32GB | 32GB+ |
| License/Pricing | 62.18 USD | 179 USD | Release for testing |
| Support | Yes | Yes | Yes |

Hardware Requirements prior to install OS

| Linux Operating Systems | | | |
|-------------------------|---------------|---------------|-----------|
| Description | Ubuntu/Debian | Redhat/Centos | Open SuSE |
| Minimum of RAM | 384 MB | 256 MB | 512 MB |
| 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 |
| Free Space | 5 GB | 4 GB | 4 GB |
| License/Pricing | Free | 96 USD/year | Free |
| Support | No | Yes | No |

OS Scenario

Arrange 5 students per group:

- Group 1 will discuss the exercise 1 in OS Scenario
- Group 2 will discuss the exercise 2 in OS Scenario
- Group 3 will discuss the exercise 3 in OS Scenario
- Group 4 will discuss the exercise 4 in OS Scenario
- Group 5 will discuss the exercise 5 in OS Scenario

OS Scenario, [click here](#)

Any Questions?

