



# Passerelles numériques

*A Gateway for Life*



OS & Maintenance

## Chapter 4 – Windows Installation



# Objectives



- Things you need to know before setup Operating system**
  - ✓ Understanding Windows 10 Editions
  - ✓ Understanding Windows Licenses
  - ✓ System requirement for Windows 10
  - ✓ Get to know Administrator User
- Understand how to install windows on a Computer**
  - ✓ Install Windows 10 using CD
  - ✓ Install windows 10 using USB
- Understand how to install windows on VirtualBox (Virtualization)**

# Things you need to know before setup OS



## Understanding Windows 10 Editions

Windows 10 Home, Enterprise, Professional



## Understanding Windows Licenses

How to buy license, license pricing, checking license



## System Requirement for Windows 10

RAM, Hard disk space, CPU,...



## Get to know Administrator User

Managing user, Administrator, Root



# Understanding Windows 10 Editions

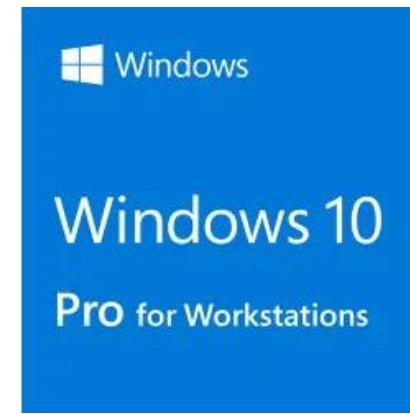
Commonly, there are *5 editions* of Windows 10:



Windows 10  
Home



Windows 10  
Pro



Windows 10  
Pro for Workstations



Windows 10  
Enterprise



Windows 10  
Education

The best  
Windows  
ever keeps  
getting better

A solid  
foundation for  
every  
business

Designed for  
people with  
advanced  
workloads or  
data needs.

The foundation  
for businesses  
and enterprises  
who need  
security,  
reliability and  
management  
controls

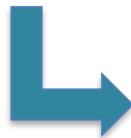
For  
organizations  
with advanced  
security and  
management  
needs

# Understanding Windows Licenses



Microsoft Windows has two different type of License

- Windows **Client** License
- Windows **Server** License



## Windows Client License

There are three type of Windows Client Licenses:

- Retail License
- OEM License
- Volume License





# Understanding Windows Licenses



**Retail:** This license is called Full Packaged Product (FPP), commonly known as a “boxed copy” This license type has one license key (product key). You can use this key on another computer as long as you deactivate the old device.



**OEM (Original Equipment Manufacturer):** Provided by the system manufacturer. This license type **cannot use it on another computer**. Also, if this Windows version is Windows 8 or Windows 10, the license key is embedded in **UEFI/BIOS firmware chip**.



**Volume:** This type of license is an institutional license type, such as schools and government offices. These non-resale licenses provide common use. This means that Windows is activated on **multiple computers** with a single license key.



# System Requirement for Windows 10



System requirement for installing windows 10:

Processor:	1 gigahertz (GHz) or faster processor
RAM:	1GB for 32-bit OS or 2GB for 64-bit OS
Hard drive space:	16GB for 32-bit OS 32GB for 64-bit OS



# Get to know Administrator User

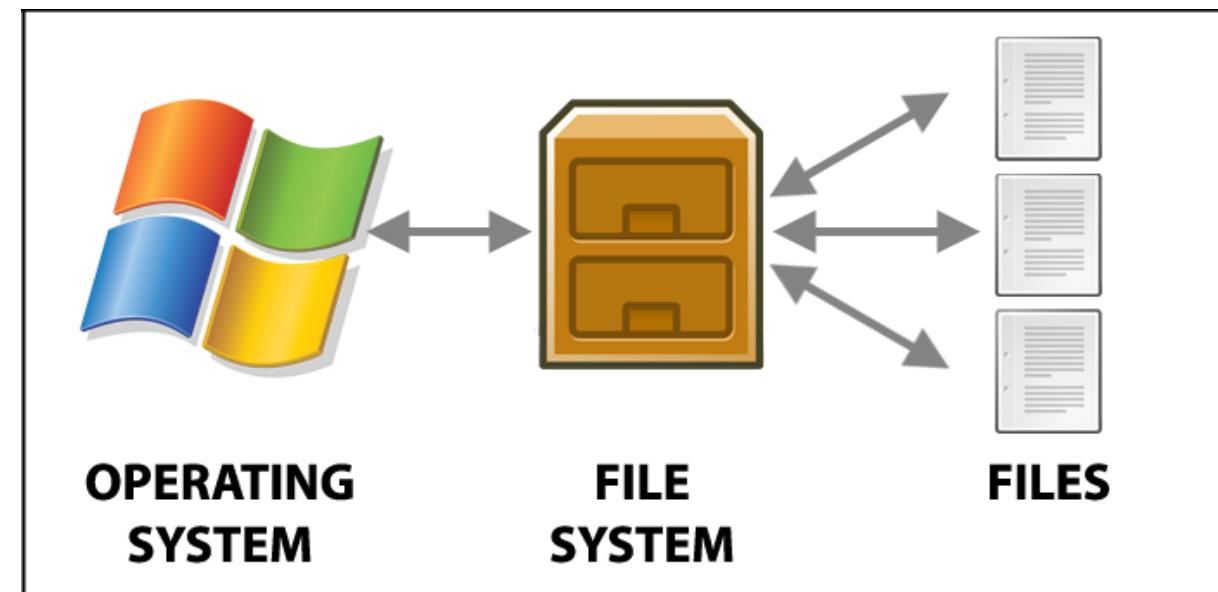
Each Operating System always has special user accounts used for System Administration. Depending on the operating system, the actual name of this account might be: **root**, **administrator**.

- ✓ **Administrator account** is to allow making system wide changes to the computer (Windows).
- ✓ **Root** is the conventional name of the user who has all rights or permissions (to all files and programs) in whole systems (Linux).

# Understanding File System



- ❖ In a computer, a **file system** (sometimes written *filesystem*) is the way in which files are named and where they are placed logically for storage and retrieval.
- ❖ There are many types of file system such as EXT2, EXT3, EXT4, FAT, NTFS....
- ❖ There are some file systems that Windows support natively: FAT, FAT32, NTFS.....



# Understand how to install Windows on a Computer

Materials needed for setup new OS on a laptop/desktop:

- Bootable media (USB Flash, CD, DVD...)
- Laptop/desktop

Step to setup new OS on computer:

1. Connect bootable media to computer
2. Change boot option on computer to boot from bootable media instead of HDD
3. After that start to install a new OS to computer hard disk drive



# How to install Windows on VirtualBOX

What is VirtualBox?



**VirtualBox** is a free virtualization product for enterprise and home use, that allow users to easily run multiple *guest operating systems (virtual machine)* on a *single host*.

VirtualBox runs on many platforms such as Windows, Linux, and Macintosh (Mac) Operating system.



# How to install Windows on VirtualBOX

Materials needed for setup new OS on VirtualBox Software:

- A Laptop/desktop with VirtualBox installed
- Windows OS image file (ISO)
- Internet (optional)

Step to setup new OS on VirtualBox:

1. Open VirtualBox software on your computer
2. Create new virtual machine then select type of OS that you want (Windows, Linux, Mac etc....)
3. Define system properties of virtual machine (RAM, HDD, CPU, Network...)
4. Attach OS image file to that virtual machine for booting process
5. Turn on the virtual machine, then start setup the OS into that virtual machine

# How to install Windows on VirtualBOX

The screenshot shows the Oracle VM VirtualBox Manager interface. On the left, a list of virtual machines is displayed: CentOS 7 (Powered Off), Windows 10 (Powered Off), Ubuntu 18 server (Powered Off), and Win10\_Partition (Powered Off). The Windows 10 entry is selected. The main pane displays the configuration settings for this VM:

- General**: Name: Windows 10, Operating System: Windows 10 (64-bit), Settings File Location: C:\Users\savoeurn.chorch\VirtualBox VMs\Windows 10.
- System**: Base Memory: 2048 MB, Boot Order: Floppy, Optical, Hard Disk, Acceleration: VT-x/AMD-V, Nested Paging, Hyper-V Paravirtualization.
- Display**: Video Memory: 128 MB, Graphics Controller: VBoxSVGA, Remote Desktop Server: Disabled, Recording: Disabled.
- Storage**: Controller: SATA. SATA Port 0: Windows 10.vdi (Normal, 50.00 GB), SATA Port 1: [Optical Drive] Empty, SATA Port 2: NewVirtualDisk1.vdi (Normal, 10.00 GB), SATA Port 3: NewVirtualDisk2.vdi (Normal, 10.00 GB).
- Audio**: Host Driver: Windows DirectSound, Controller: Intel HD Audio.
- Network**: Adapter 1: Intel PRO/1000 MT Desktop (Bridged Adapter, Qualcomm Atheros QCA9377 Wireless Network Adapter).
- USB**: USB Controller: OHCI, Device Filters: 0 (0 active).
- Shared folders**: Shared Folders: 1.

A preview window on the right shows a black screen with "Windows 10" text. The bottom taskbar shows various open applications including 3.0\_Lesson, Side mate..., Student A..., Skype [14], Telegram ..., Oracle V..., CH4 - Wi..., (20) the o..., Chapter 4..., and system icons for search, file, and network.

## Activity -Team work

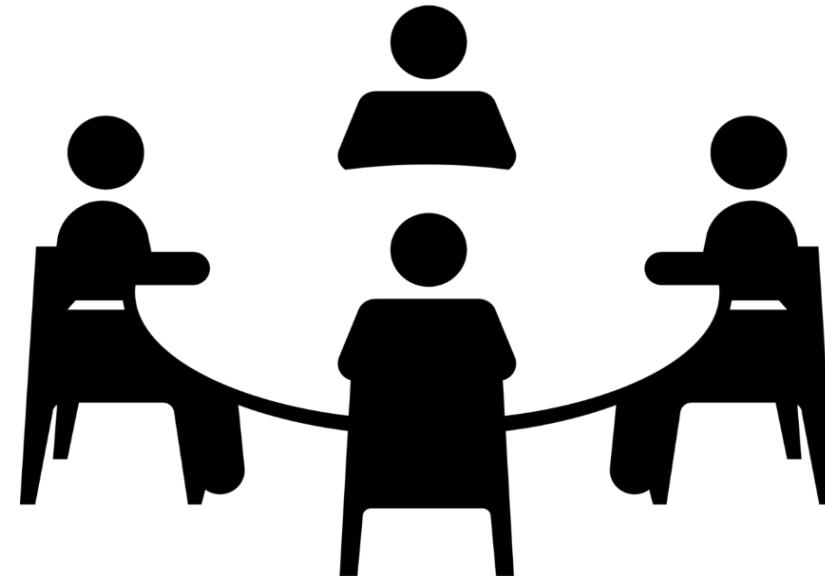
- ❖ Divide students to work with pairs
- ❖ Let all students with their pairs to discuss about how to install Windows Operating System from DVD and USB.



# Technical words

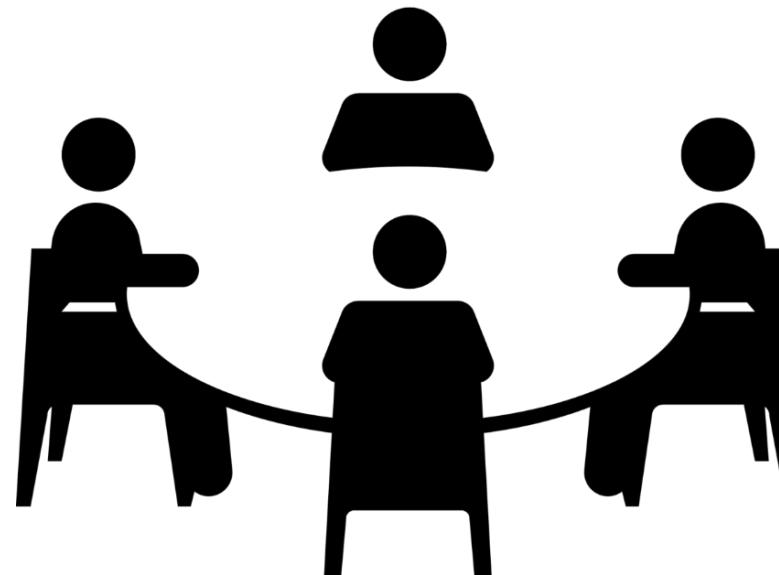
Discuss and explain all these key words with your classmates:

- Partitioning
- File System
- License
- Virtual Machine
- Host Machine
- Administrator
- Primary partition
- Extended partition



# Practice

- Divide students into 5 groups
- Request 5 Laptops for students practice in the real work
- Request CD and USB flash for students create bootable



# Any Questions?

