Virtualization:

* Having multiple instance set on the host system.
* It helps reducing the cost and it is efficient to multi task.
* There are two types of Virtualization
  + Type 1 Virtualization
    - In this type, we install the software on the server and then install multiple operating systems on that server.
    - We have over allocation concept in this type, suppose if the server has 16 GB RAM size and we have installed 3 operating systems (Linux, Windows, CentOS) and provide 12 GB, 2 GB, 2GB for each system respectively.
    - So If any system needs more memory allocation then it uses up the other resources and make the system faster. But in idea scenario it would be as allocated.
    - Assume if linux machine is ideal and windows server needs more ram then it can pull and use the resources for that time.
  + Type 2 Virtualization
    - In this type we install the virtualization software on a host system and then install the guest operating systems using the software.
    - Assume if we have windows systems then we install the hypervisor on the host system and install the guest operating systems using the virtualization software.
    - Regarding the memory allocation, we need to be very careful in this type.
    - If the host has 8 GB ram and you install two host systems and give 2 GB for each of the system, then their might be chance your host machine slow down or crashes because no resources present for executing its general operations.
* Licensing
  + This is very tricky part, there might be license on system, processors, or cores.

WINDOWS

CENT OS

LINUX

WINDOWS

LINUX

WINDOWS

SERVER

**TYPE 2**

SERVER

**TYPE 1**