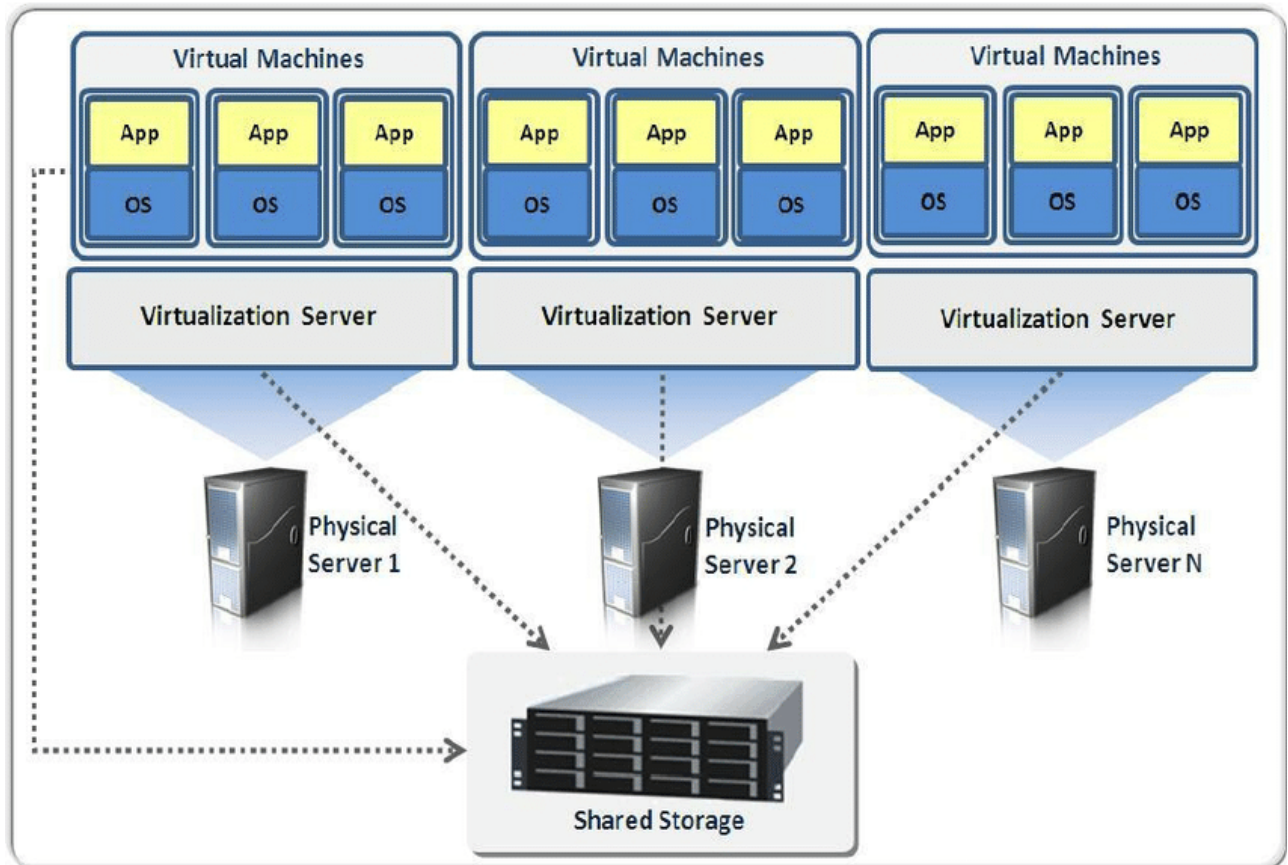


## What is Virtualization?

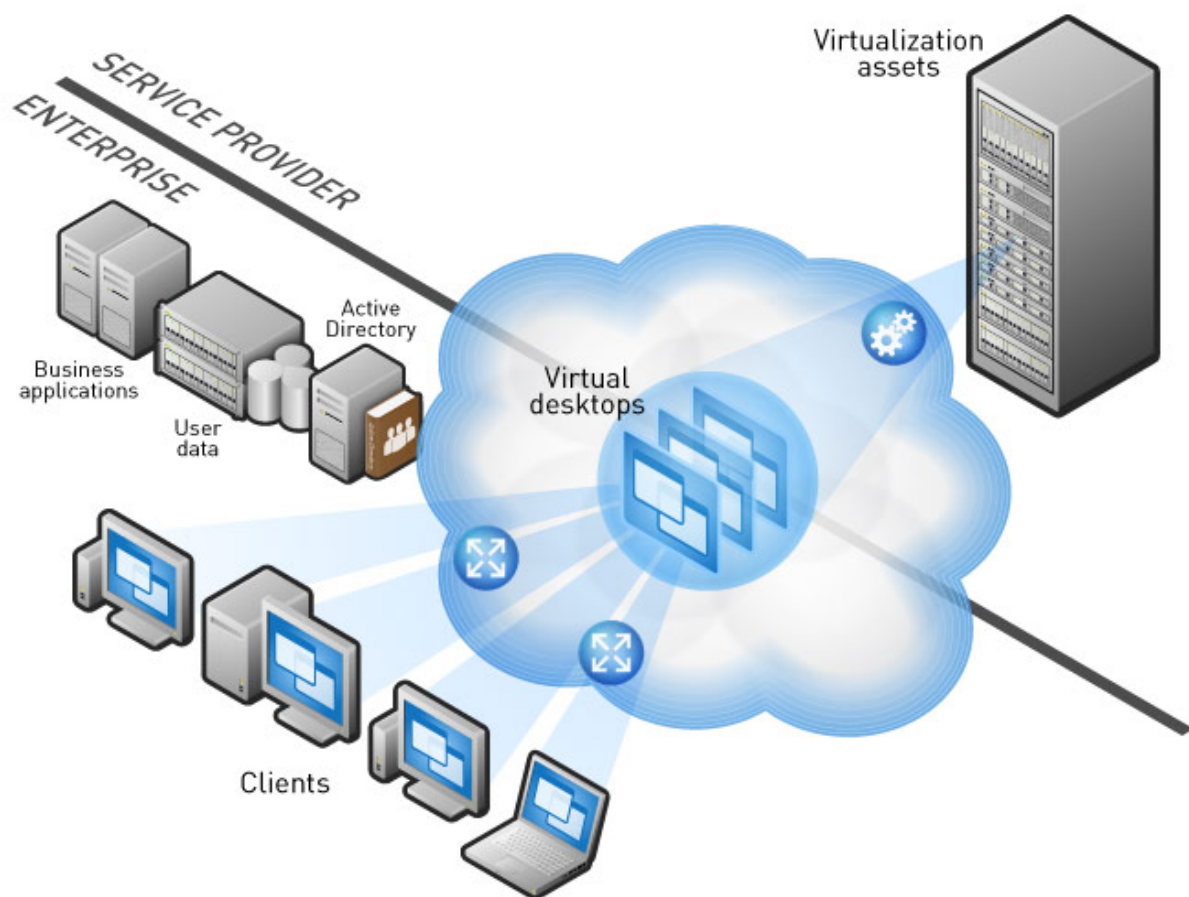
Definition: Virtualization uses software to create an indirection over computer hardware. It allows the hardware elements of a single computer, memory, storage and more—to be divided into multiple virtual machine

### Types of virtualization

- **server-side virtualization:** def: is the process of dividing a physical server into multiple unique and isolated virtual servers by means of a software application. Each virtual server can run its own operating systems independently. pic



- **client-side virtualization:** def: is a virtual machine environment in the user's machine. Also called endpoint virtualization the user's computer hosts multiple VMs, each of which contains an operating system and set of applications. pic



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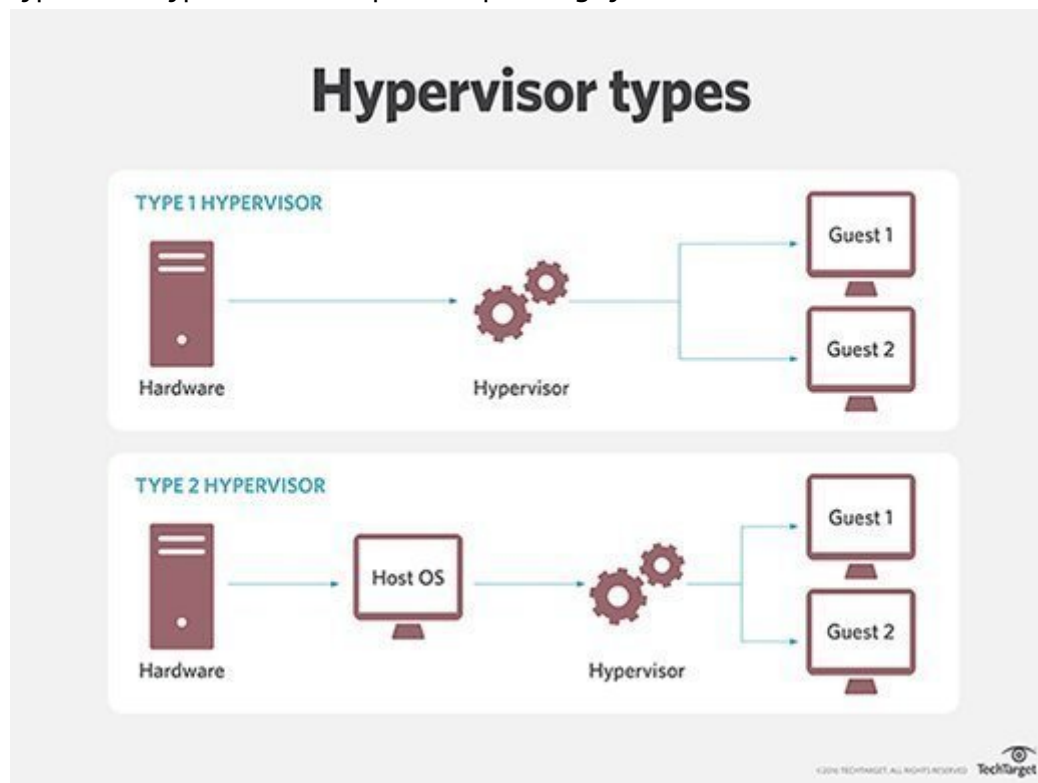
## Hypervisor

definition-a program used to run and manage one or more virtual machines on a computer.


## Types of hypervisor

- type 1 def-Type 1 runs on bare metal generally one without any software (OS or applications).

- type 2 def- Type 2 runs on top of an operating system.



## Virtualbox

 **virtualbox def:** VirtualBox is designed to run another computer on your computer without reinstalling your OS that is running on a physical machine. One more VirtualBox advantage is that this product can be installed for free. A virtual machine (VM) works much like a physical one.

### How to create virtual machine

- Launch VMware Workstation.
- Click New Virtual Machine.
- Select the type of virtual machine you want to create and click Next
- Enter your Product Key.
- Create a user name and password.
- Click Next.
- Enter a virtual machine name and specify a location for virtual machine files to be saved,
- Establish the virtual machine's disk size, select whether to store the virtual disk as a single file or split the virtual disk into 2GB files

## Installing ubuntu server in virtualbox

- install ubuntu software `sudo apt install + package name`
- example `sudo apt install vlc` install vlc package
- Deleting software `sudo apt remove + package name`
  - example `sudo apt remove vlc` remove vlc package
- searching for software Open your Terminal via the keyboard combination Ctrl + Alt + T. `sudo apt-cache search [application name or type]`
  - example `sudo apt-cache search tetris`



## Updating Ubuntu

Open the terminal application For remote server use the ssh command to login. For example: ssh user@server-name) Fetch update software list by running the sudo apt-get update

## Installing Software in Ubuntu

```
sudo apt install ubuntu
```

## Basics Linux commands

- ls example long list
- pwd command :used for displaying the current working directory
- cd command : used for changing the current directory
- tree command : display the content of a directory in a tree-like format. question2 question2.2

## Navigating the filesystem

cd command takes you from your home directory and go to an other Example cd / home directory

## Managing files and directories

### mkdir

- description : create directories
- usage `mkdir + option+ new directory`
- create parent and child directory
- `mkdir -p dog/cat`