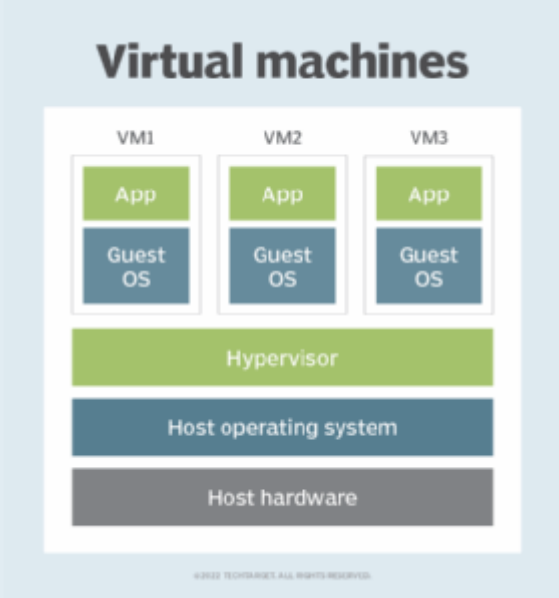
Virtual Machine

A virtual machine also known as a Virtual Box is defined as a computer resource that functions like a physical computer and makes use of software resources only instead of using any physical computer for functioning, running programs, and deploying the apps. While using Virtual Machine the experience of end-user is the same as that of when using a physical device.

Every virtual machine has its own operating system and it functions differently as compared to other Virtual Machine even if they all run on the same host system. A virtual machine has its own CPU, storage, and memory and can connect to the internet whenever it is required. A virtual machine can be implemented through firmware, hardware, and software or can be a combination of all of them. Virtual machine is used in cloud environments as well as in on-premise environments.

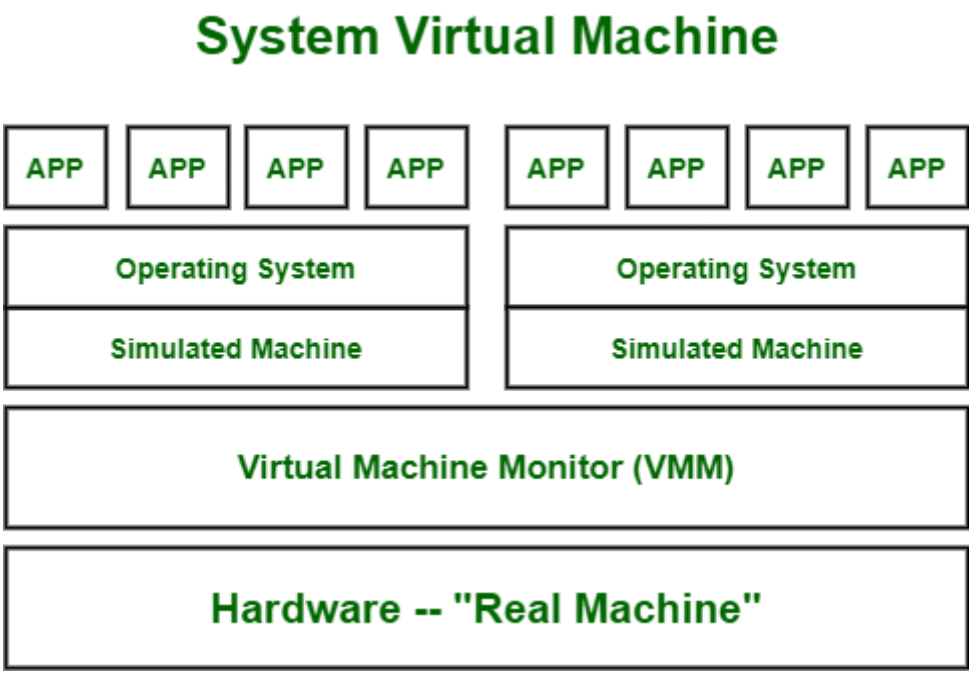


Types of Virtual Machine:

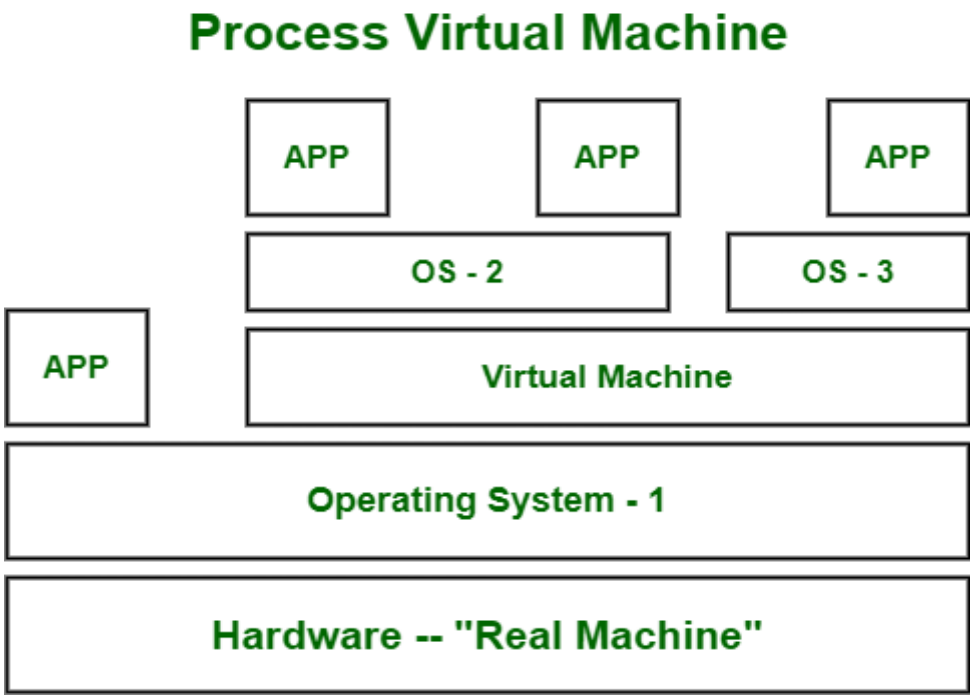
There are two types of Virtual Machine

- Process Virtual Machine
- System Virtual Machine

System Virtual Machine:
These types of virtual machines gives us complete system platform and gives the execution of the complete virtual operating system. Just like virtual box, system virtual machine is providing an environment for an OS to be installed completely. We can see in below image that our hardware of Real Machine is being distributed between two simulated operating systems by Virtual machine monitor. And then some programs, processes are going on in that distributed hardware of simulated machines separately.



Process Virtual Machine : While process virtual machines, unlike system virtual machine, does not provide us with the facility to install the virtual operating system completely. Rather it creates virtual environment of that OS while using some app or program and this environment will be destroyed as soon as we exit from that app. Like in below image, there are some apps running on main OS as well some virtual machines are created to run other apps. This shows that as those programs required different OS, process virtual machine provided them with that for the time being those programs are running. **Example -** Wine software in Linux helps to run Windows applications.



Virtual Machine Language : It's type of language which can be understood by different operating systems. It is platform-independent. Just like to run any programming language (C, python, or java) we need specific compiler that actually converts that code into system understandable code (also known as byte code). The same virtual machine language works. If we want to use code that can be executed on different types of operating systems like (Windows, Linux, etc) then virtual machine language will be helpful.