Experiment No. 2

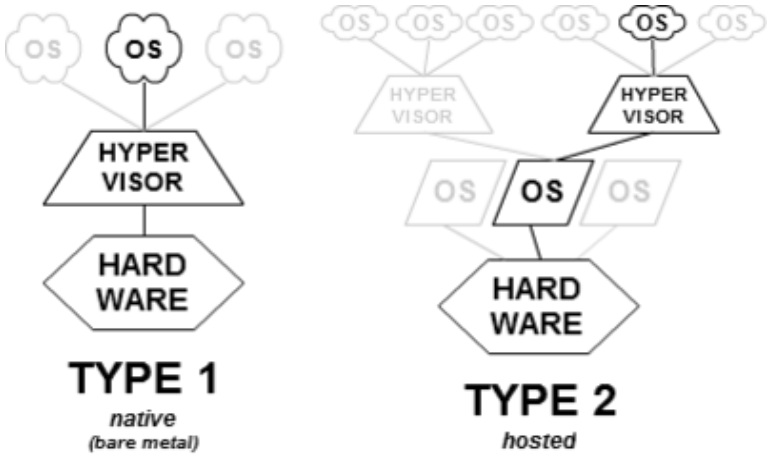
Aim: Installation and configuration of virtual machine with guest OS.

Theory:

- A **hypervisor** (or **virtual machine monitor**, **VMM**,) is computer software, firmware or hardware that creates and runs virtual machines.
- A computer on which a hypervisor runs one or more virtual machines is called a host machine, and each virtual machine is called a guest machine.
- The hypervisor presents the guest operating systems with a virtual operating platform and manages the execution of the guest operating systems.
- Multiple instances of a variety of operating systems may share the virtualized hardware resources: for example, Linux, Windows, and macOS instances can all run on a single physical x86 machine.
- This contrasts with operating-system-level virtualization, where all instances (usually called containers) must share a single kernel, though the guest operating systems can differ in user space, such as different Linux distributions with the same kernel.

Type-1, native or bare-metal hypervisors
These hypervisors run directly on the host's hardware to control the hardware and to manage guest operating systems. For this reason, they are sometimes called bare metal hypervisors. The first hypervisors, which IBM developed in the 1960s, were native hypervisors.

Type-2 or hosted hypervisors
These hypervisors run on a conventional operating system (OS) just as other computer programs do. A guest operating system runs as a process on the host. Type-2 hypervisors abstract guest operating systems from the host operating system.



Installation Process of an Hypervisor

To install VMware Workstation on a Windows host:

1. Log in to the Windows host system as the Administrator user or as a user who is a member of the local Administrators group.

Open the folder where the VMware Workstation installer was downloaded. The default location is the **Downloads** folder for the user account on the Windows host.

Note: The installer file name is similar to VMware-workstation-full-*xxxx-xxxx*.exe, where *xxxx-xxxx* is the version and build numbers.

2. Right-click the installer and click **run as Administrator**.
3. Select a setup option:
    - **Typical**: Installs typical Workstation features. If the Integrated Virtual Debugger for Visual Studio or Eclipse is present on the host system, the associated Workstation plug-ins are installed.
    - **Custom**: Lets you select which Workstation features to install and specify where to install them. Select this option if you need to change the shared virtual machines directory, modify the VMware Workstation Server port, or install the enhanced virtual keyboard driver. The enhanced virtual keyboard driver provides better handling of international keyboards and keyboards that have extra keys.
4. Follow the on-screen instructions to finish the installation.
5. Restart the host machine.

To install VMware Workstation on a Linux host:

After installation

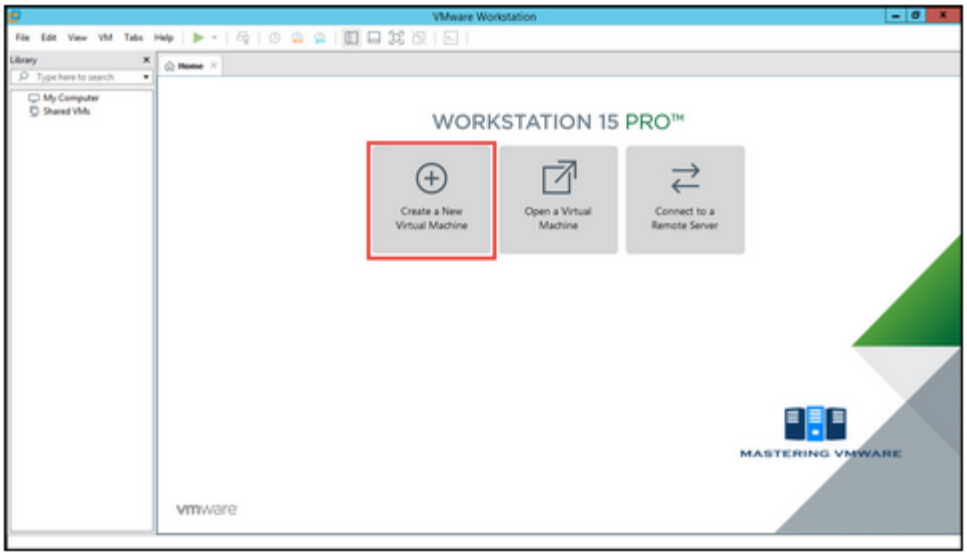
On Windows host systems:

- The installer creates a desktop shortcut, a quick launch shortcut, or a combination of these options in addition to a Start Menu item.
- To start VMware Workstation on a Windows host system, select **Start** > **Programs** > **VMware Workstation**.

Step 1:

Start the VMware Workstation.

Click on Create a New Virtual Machine option.



Step 2:

New Virtual Machine wizard will start.

Click Next to continue.

Step 3:

Provide the Guest Operating System Installation method.

You can either choose Installer disk or provide ISO file.

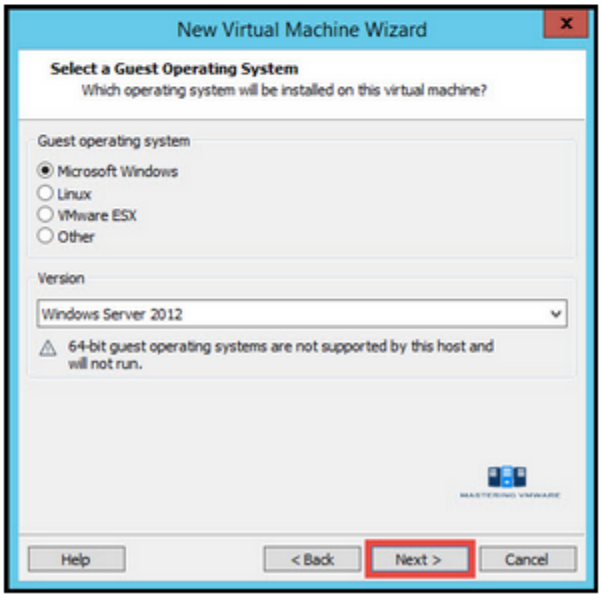
You can also go for Install Operating system later by selecting third option.

Click Next to continue.

Step 4:

Select the Guest Operating System Type which you will be installing in future.

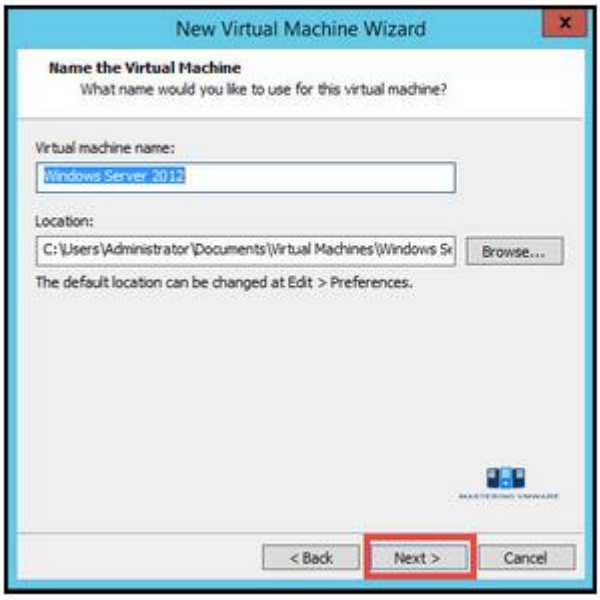
Click Next to continue.



Step 5:

Provide Virtual Machine Name and Location to store the virtual machine data.

Click Next to continue.



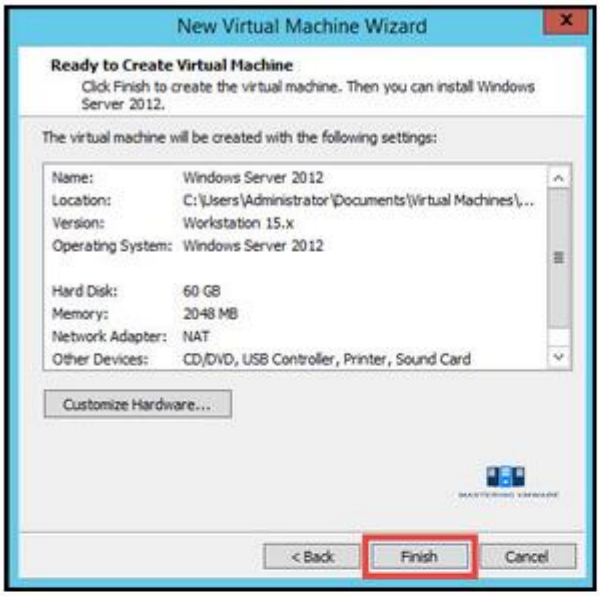
Step 6:

Specify the disk size which you want to add to the virtual machine.

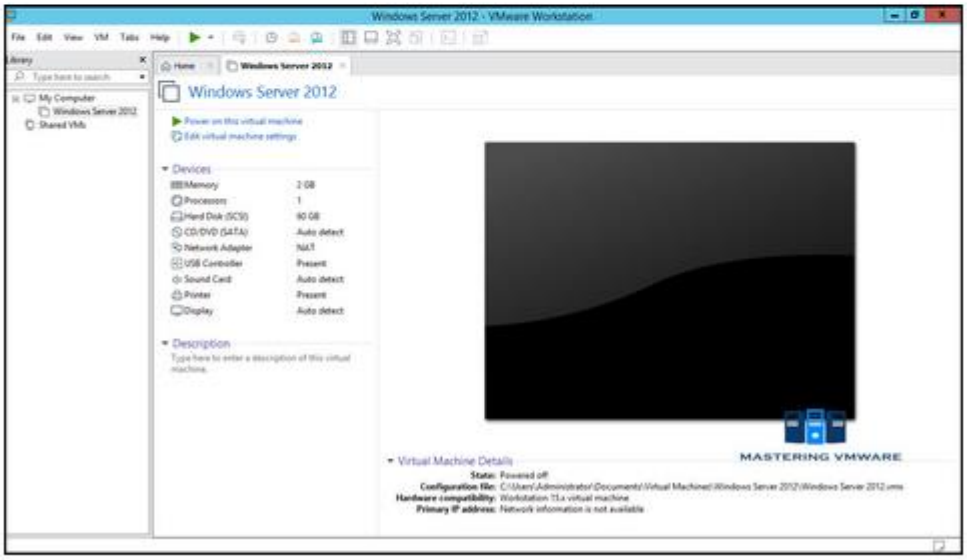
Click Next to continue.

Step 7:

Review all the configuration and click Finish to create a virtual machine. If you have missed something you can click on Customize Hardware to add or edit the virtual machine hardware.



That's it. You can see that now your virtual machine is created .



Using this way you can easily create a virtual machines you want. If you want to add or edit virtual hardware click on Edit Virtual Machine settings to manage virtual hardware of the virtual machine.

Conclusion: Hence, I have installed a Hypervisor and completed the Installation and configuration of virtual machine with guest OS.