

CLOUD COMPUTING

LAB 1, 2 & 3

Computer Engineering
Badal Parmar
18BCP011
Div. 2

AIM:

- Hands on virtualization using Xenserver
- Install the Xenserver on the virtual machine and operate it from Xencenter.

THEORY OF XEN:

XENSEVER

Citrix XenServer is an open source server virtualization platform based on the Xen hypervisor. This platform is used by virtualization administrators to deploy, host and manage VMs. It's also used to distribute hardware resources -- CPU, memory, networking, storage -- to VMs.

XENCENTER

XenCenter is the management GUI for XenServers that runs on Windows. This is the front end that lets users configure new virtual machines and enables full virtual machine installation, configuration, administration, and lifecycle management. Using this tool we configure the remote storage and manage networks, including VLANs and internal networks and bonded and dedicated NICs.

DOWNLOADING AND INSTALLING CITRIX HYPERVISOR 8.1

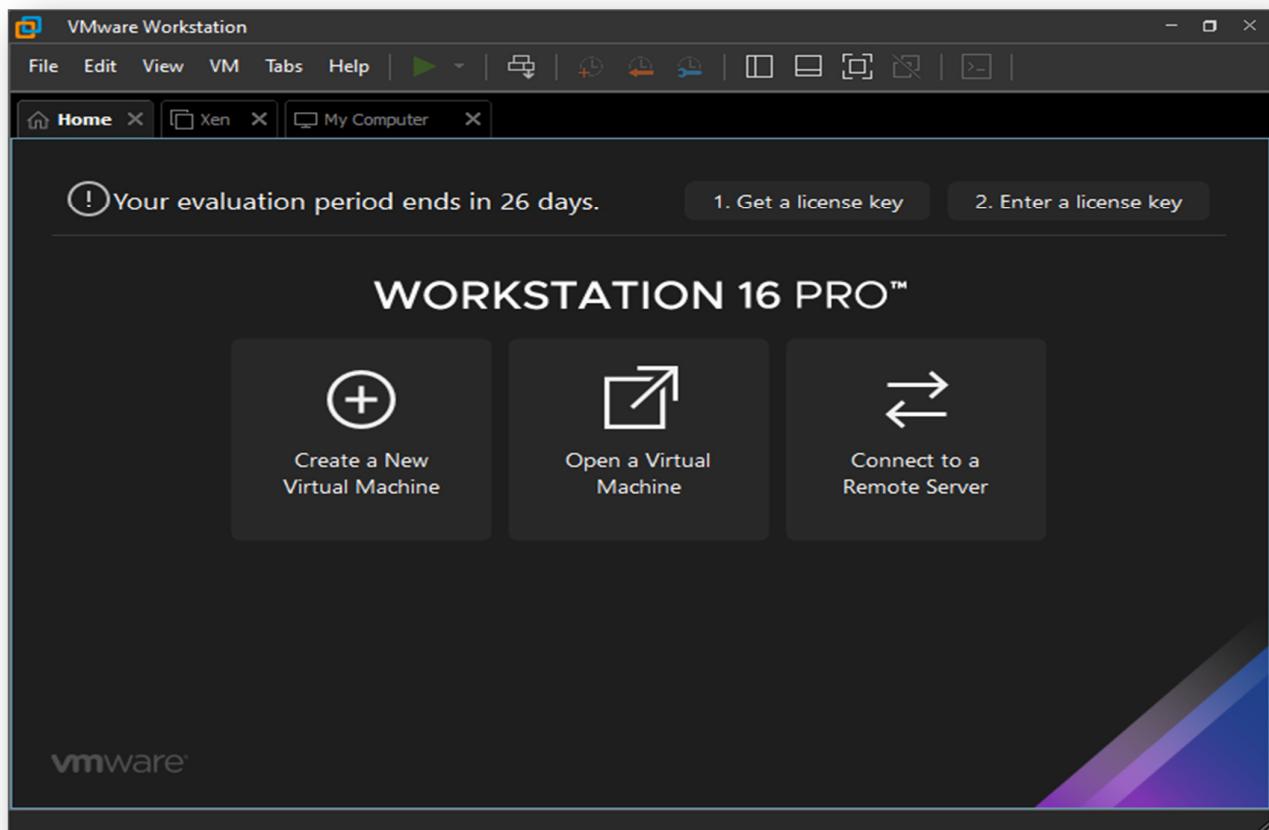
- Website Link: <https://www.citrix.com/downloads/citrix-hypervisor/>
- ⇒ Click on the link mentioned and sign in with the user account for downloading Citrix Hypervisor (XEN).

The screenshot shows a web browser displaying the Citrix website at <https://www.citrix.com/downloads/citrix-hypervisor/>. The page is titled "Citrix Hypervisor (XenServer)". On the left, there is a sidebar with a "Find Downloads" section containing a dropdown menu set to "Citrix Hypervisor (XenServer)" and a search bar. Below this is a "Narrow Results" section with a "By Type" filter where "All Types" is selected. The main content area lists "Citrix Hypervisor 8.2 LTSR" under "Product Software". It shows two editions: "Citrix Hypervisor 8.2 LTSR Premium Edition with Cumulative Update 1" and "Citrix Hypervisor 8.2 LTSR Standard Edition with Cumulative Update 1", both of which require additional permissions to access. Other sections visible include "XenServer 7.1 LTSR" and "Citrix Hypervisor and XenServer Legacy Versions". At the bottom, there are social sharing icons for Facebook, Twitter, LinkedIn, and Email.

- ⇒ Click on the Citrix Hypervisor and XenServer Legacy Versions → Product Software → **Citrix Hypervisor 8.0 Express Edition**.

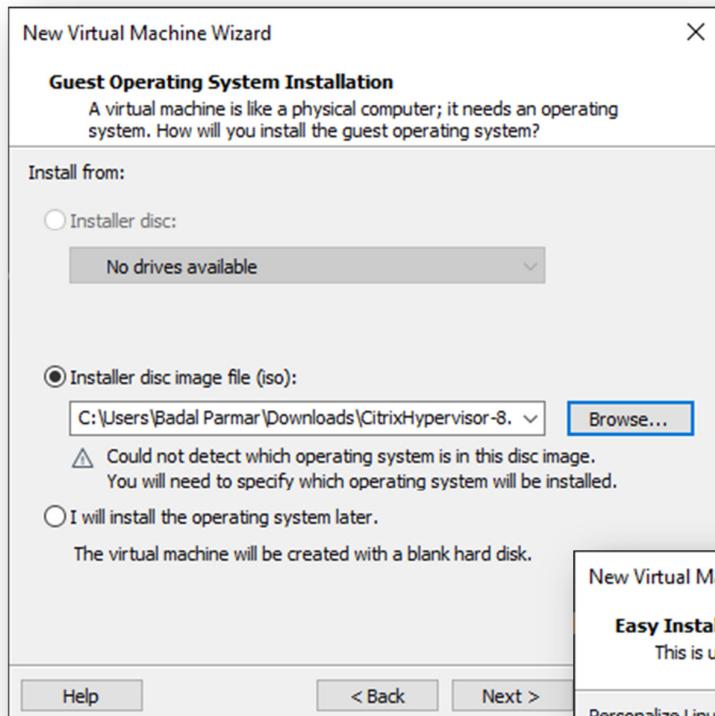
The screenshot shows a download page for 'Citrix Hypervisor 8.1 Express Edition'. At the top, it says 'Citrix Hypervisor 8.1 Express Edition' and 'Dec 17, 2019'. Below that, it says 'Citrix Hypervisor 8.1.0 Base Installation ISO - Express Edition' and 'Dec 17, 2019'. There is a 'Download File' button with a file icon. Under 'Checksums', it lists 'SHA-256 - c5cd949f3954d5f514ae4489a590a50a5560aff29e46eac2cf4840de3a667763'.

- ⇒ Click on the Download File button to download the disc (.iso) file of Citrix Hypervisor 8.1.0
⇒ Once the file is Download open VMWare Workstation for further installation of Xen Server Virtual Machine.

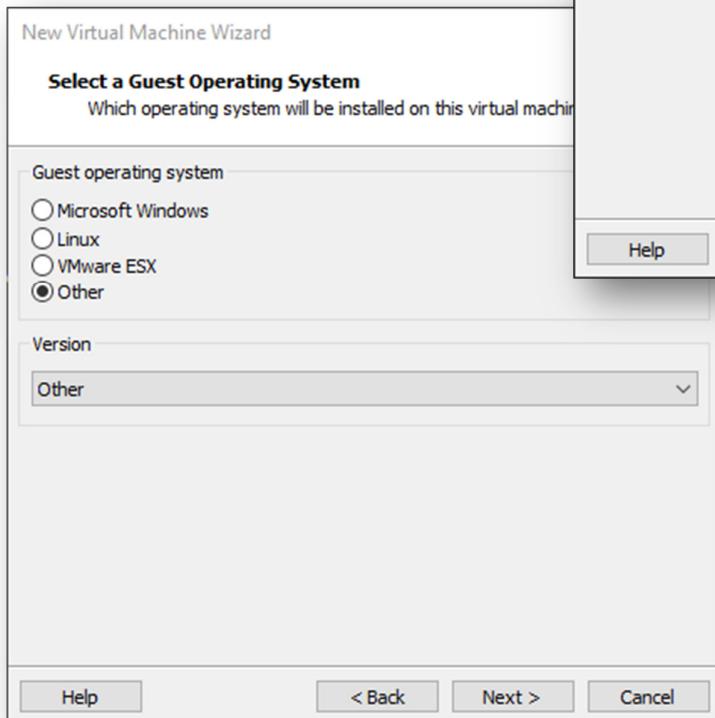
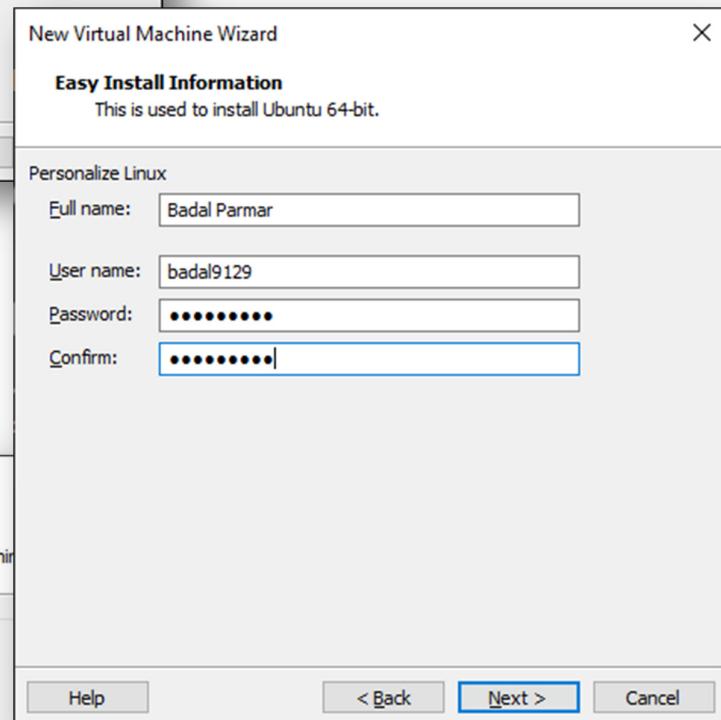


- ⇒ Click on Create a New Virtual Machine to create a New Virtual Machine in VMware Workstation Pro and then further click on the **Typical (recommended)** part.

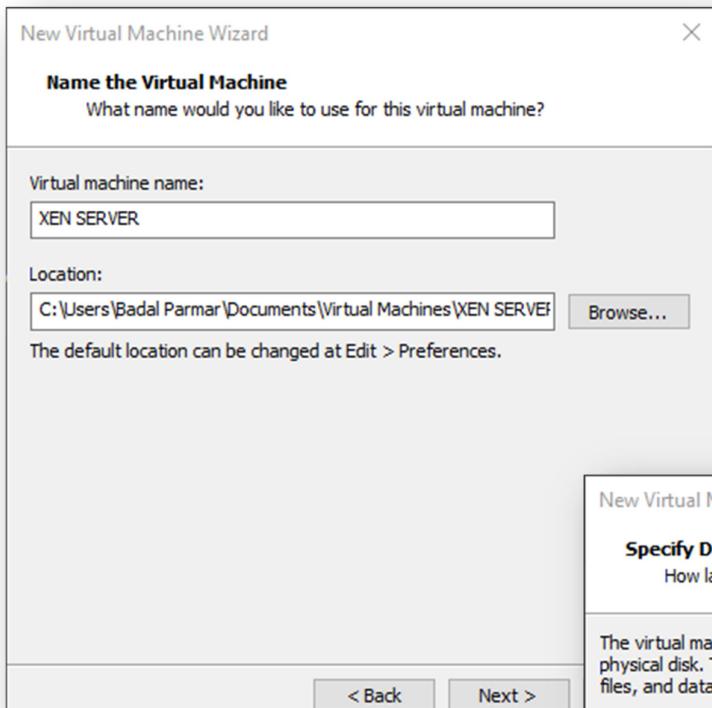
➤ XEN SERVER AS OPERATING SYSTEM IN VMWARE:



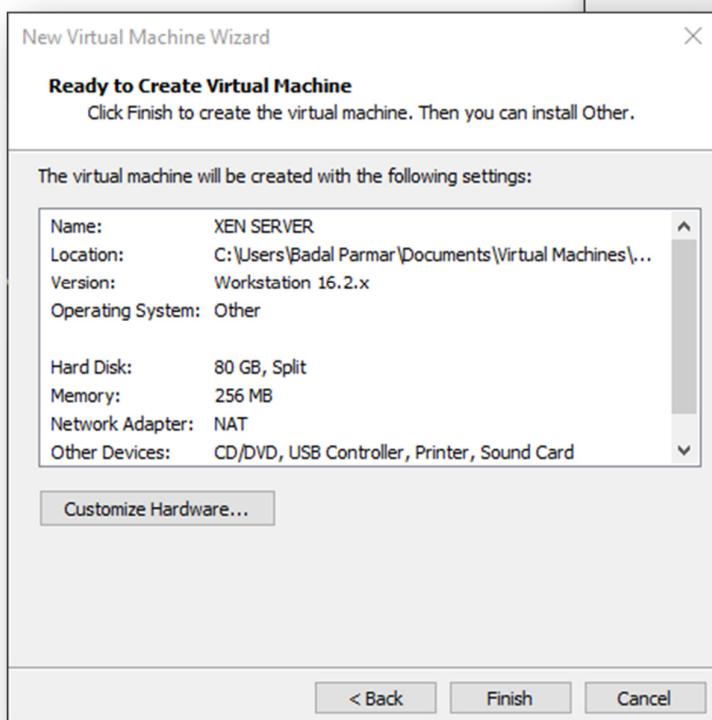
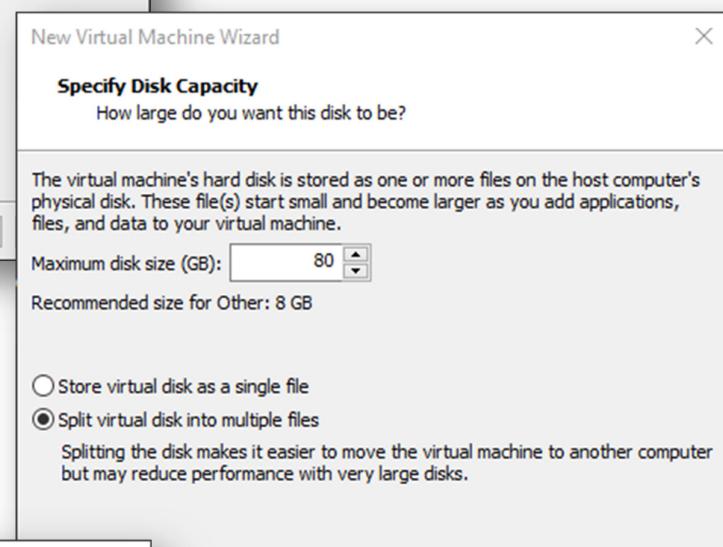
⇒ Click on the Installer Disc file (.iso) and then select **Citrix Hypervisor 8.1 XEN ISO Image** from the system/laptop from the Browse Button.



⇒ Select the Operating System Type as Other, and version as Other.



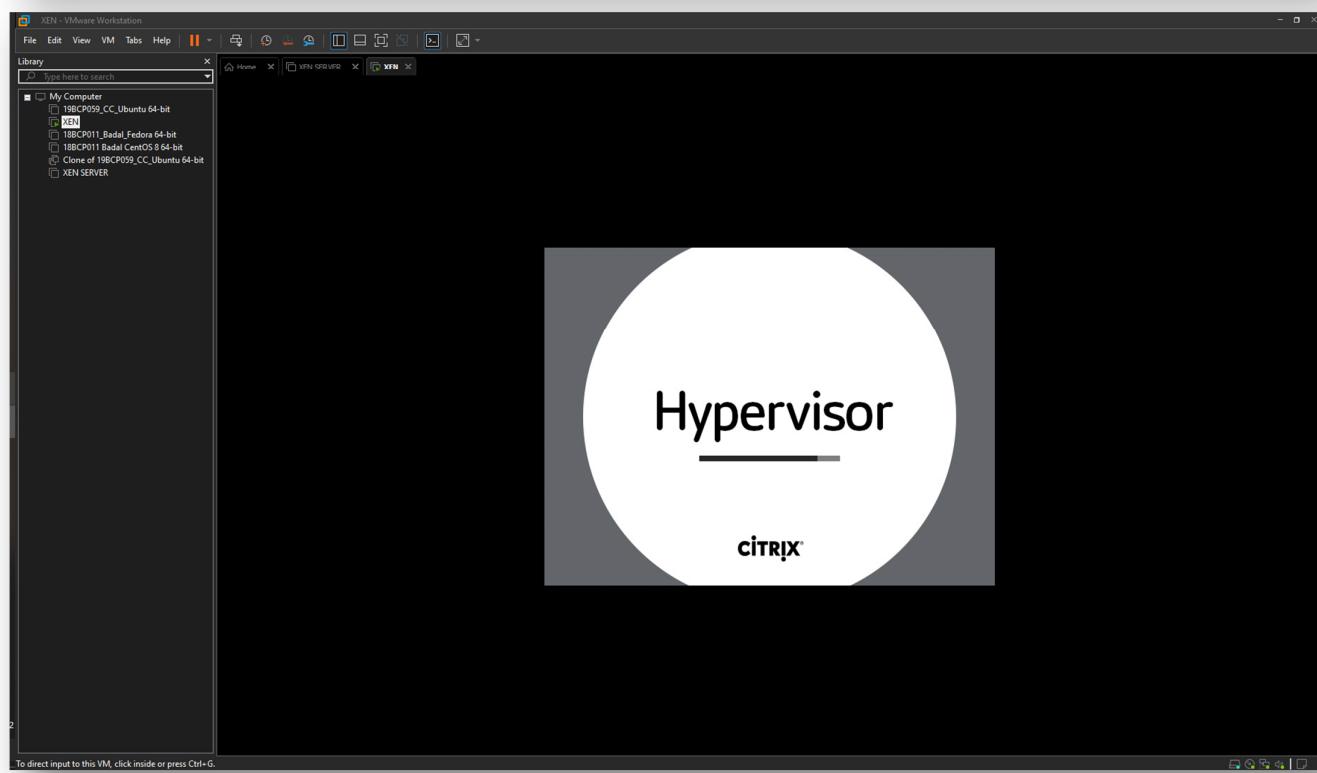
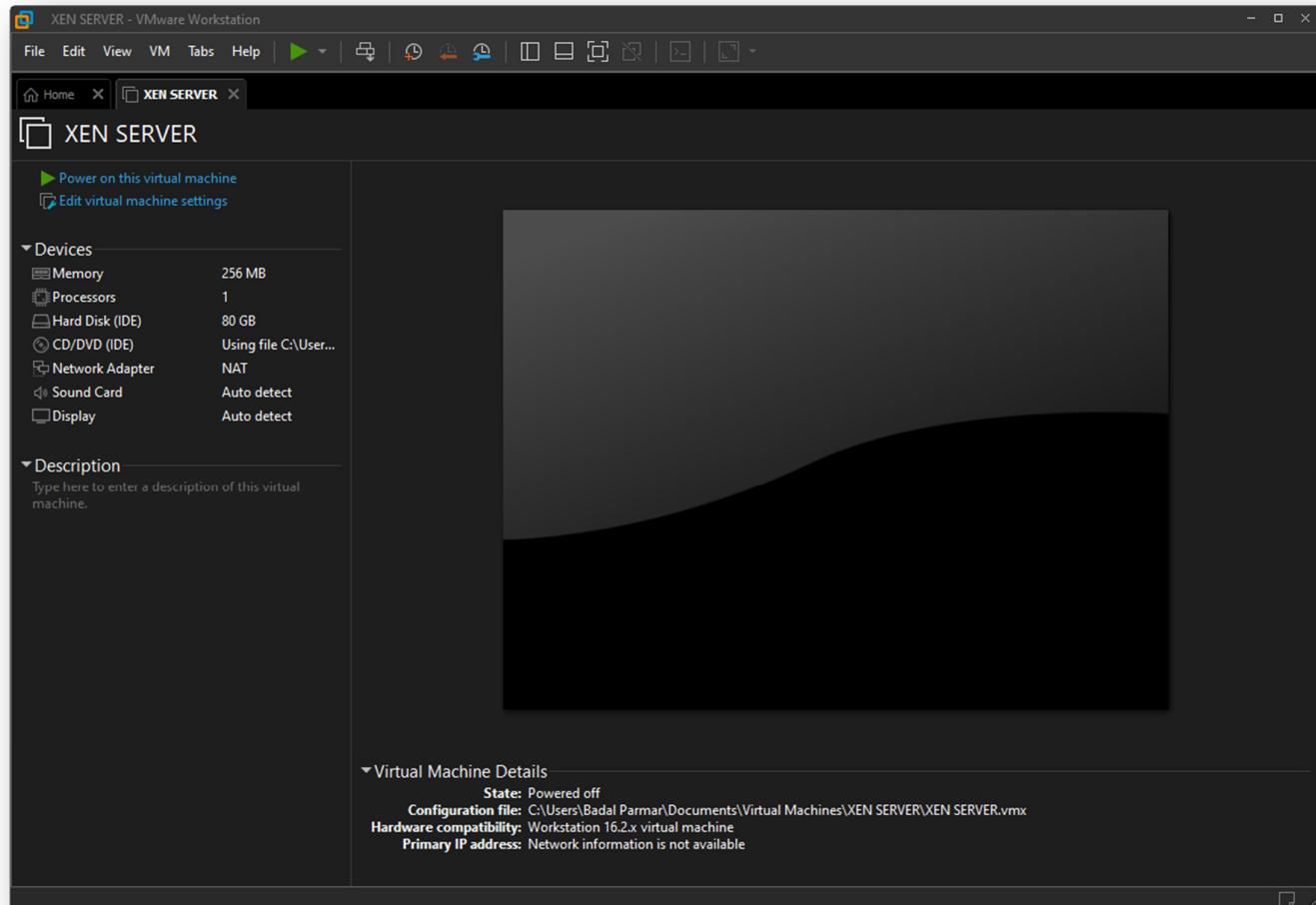
- ⇒ Name the Virtual Machine as Xen Server and Click on next button.
- ⇒ And assigned the Location path in the PC.



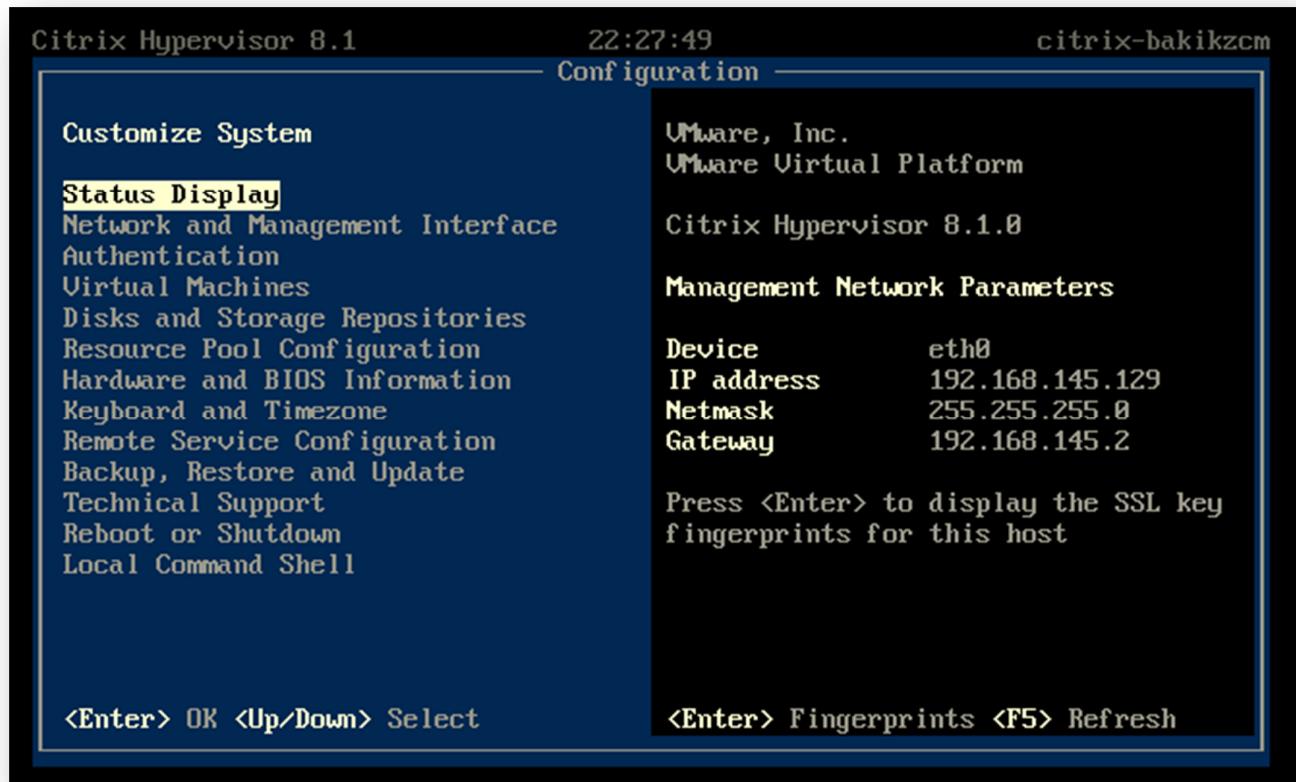
- ⇒ For XEN Operating System installation, let the default settings remain on the current page and then Click Next
- ⇒ Click on Finish button

⇒ Virtual Machine for **Ubuntu Operating System** is now created as shown in the above image and then click on **Power on this virtual machine** option to turn on the **Virtual Machine**.

- **Figure 1.** shown below display the main UI of the XEN SERVER
- **Figure 2.** shown below display the Power On State of Xen Server



- After the complete installation of Xen Server the UI shown below will be displayed.
- Figure below shows the **Configuration window** for XEN Server.



XEN CONTROL CENTER

- ⇒ Click on the Citrix Hypervisor and XenServer Legacy Versions → Product Software → **Citrix Hypervisor 8.1 Express Edition**.

Citrix Hypervisor 8.1 Express Edition

Dec 17, 2019

XenCenter 8.1.2 Windows Management Console

Mar 6, 2020

41MB -windows - (.msi)

[Download File](#)

XenCenter allows you to manage your Citrix Hypervisor environment and deploy, manage, and monitor Virtual Machines from a Windows desktop.

Checksums

SHA-256-e408cce67cb717dd0f7308cc58e40ad8f9ad810defa7ae30568721598937cb8d

- ⇒ Click on the Download File button to download the installer (.msi) file of **XenCenter 8.1.2 Windows Mangement Console**.

XenCenter 8.1.2 Windows Management Console.



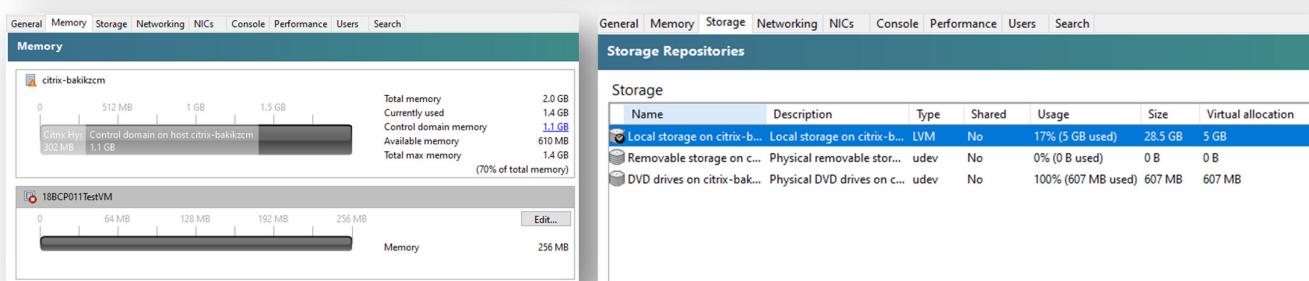
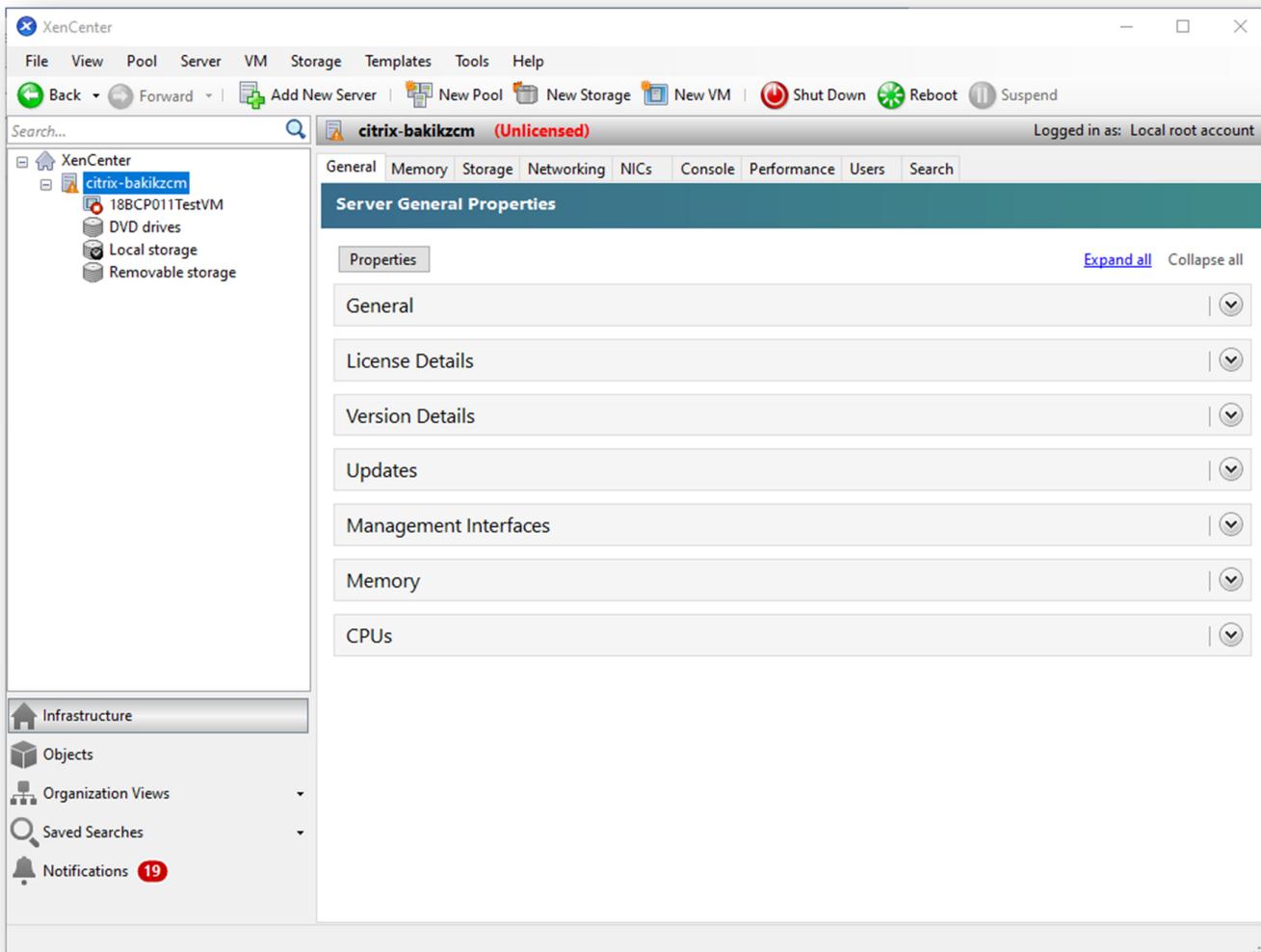
The Opening Interface of XenCenter

A screenshot of the XenCenter 8.1.2 User Interface. The window title is "XenCenter". The menu bar includes File, View, Pool, Server, VM, Storage, Templates, Tools, and Help. The toolbar contains Back, Forward, Add New Server, New Pool, New Storage, New VM, Shut Down, Reboot, and Suspend buttons. A search bar is present. The left sidebar shows a tree view with "XenCenter" expanded, and "citrix-bakikzcm" listed under it. The main content area has a blue header with the text "Citrix Hypervisor" and "Industry leading open source platform for cloud server and desktop virtualization". It features three links: "Learn about using XenCenter", "Network with other Citrix Hypervisor users", and "Visit the Citrix Knowledge Center". To the right is a graphic of a cloud with gears and two computer monitors. Below the header are three buttons: "Add a Server" (with a plus sign icon), "Purchase Support" (with a speech bubble icon), and "Try Desktop Virtualization" (with a green arrow icon). The bottom left sidebar includes Infrastructure, Objects, Organization Views, Saved Searches, and Notifications (with a red notification count of 1).

User Interface of Citrix Hypervisor (XenCenter)

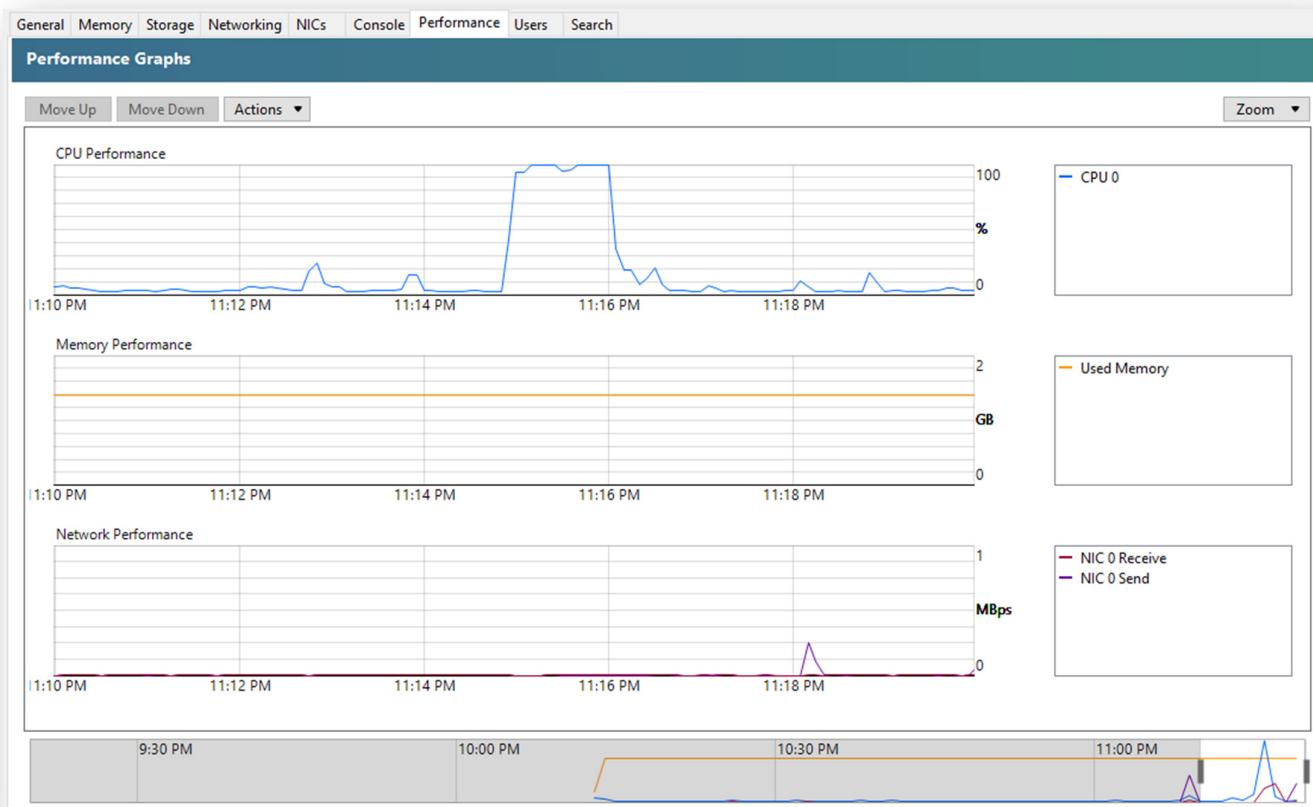
Steps to Monitor XenServer in XenCenter:

1. Click on Add a Server
2. Fill the credentials with the configuration IP Address in XenServer VMWare Workstation Pro and Click on Connect.
3. The window containing all the information regarding the Virtual Machine will appear as shown in the Figure below.
4. All the configurations of the XenServer in VMWare can be monitor as well as modified in the XenCenter



Information such as **Memory, Storage, Networking and many more** can be acquired through XenCenter as shown in the figure above.

Performance Window:



Console Window:

The console window displays the boot logs for the Citrix Hypervisor Host 8.1.0:

```
Citrix Hypervisor Host 8.1.0
System Booted: 2022-01-24 21:33

Your Citrix Hypervisor Host has now finished booting.
To manage this server please use the Citrix XenCenter application.
You can install XenCenter for Windows from https://www.citrix.com/downloads/citrix-hypervisor.

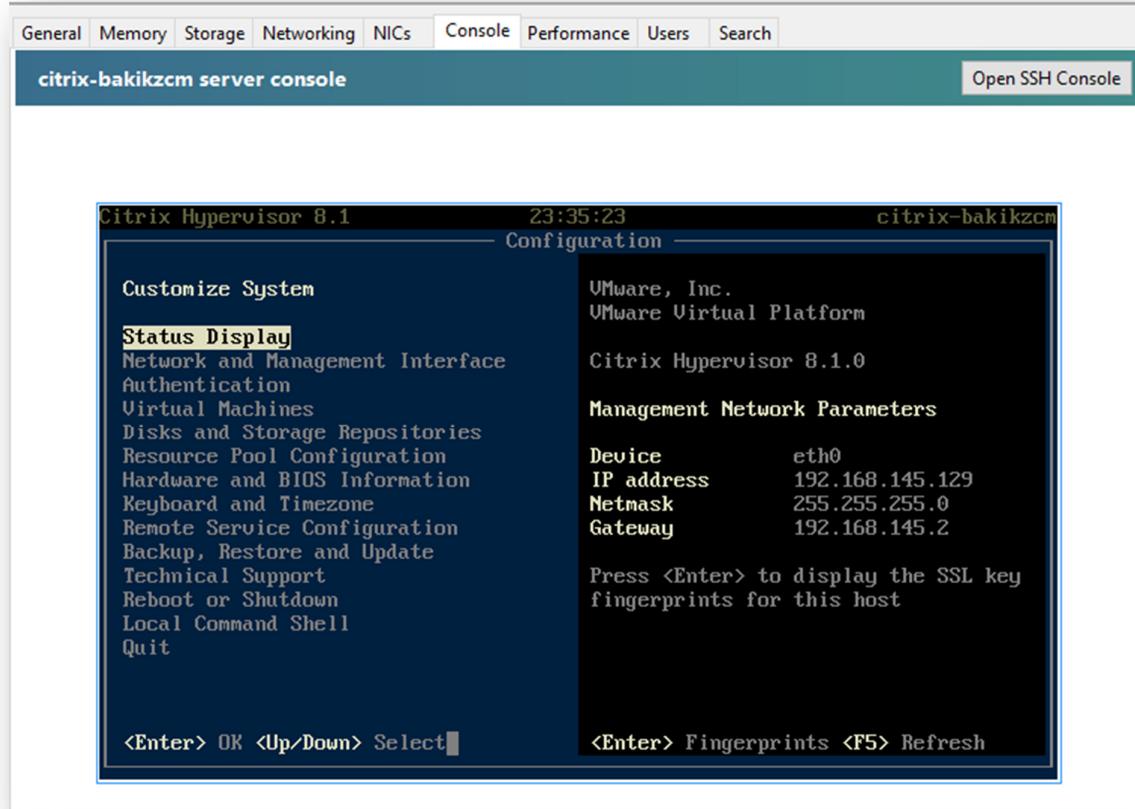
You can connect to this system using one of the following network
addresses:

192.168.145.129

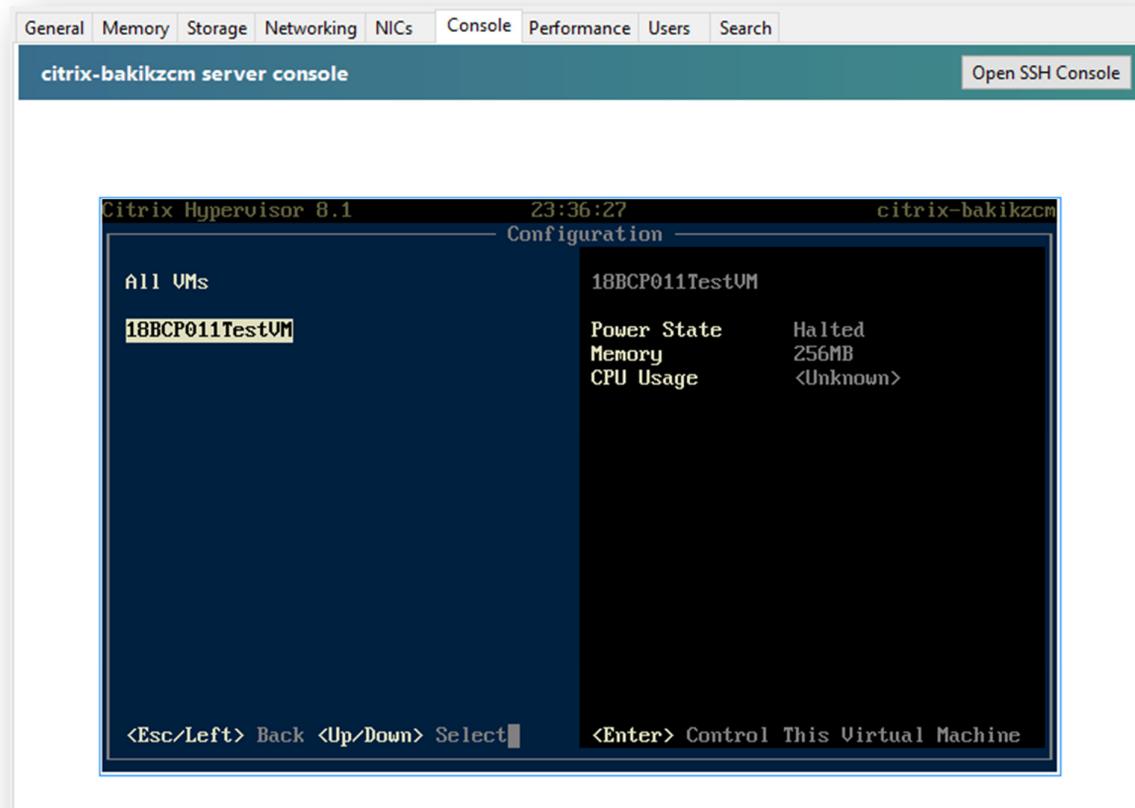
Citrix Hypervisor Host SSL certificate fingerprint:
80:5B:A0:0D:A4:01:58:D1:BC:58:E3:DC:11:92:C6:06:A2:99:5B:26

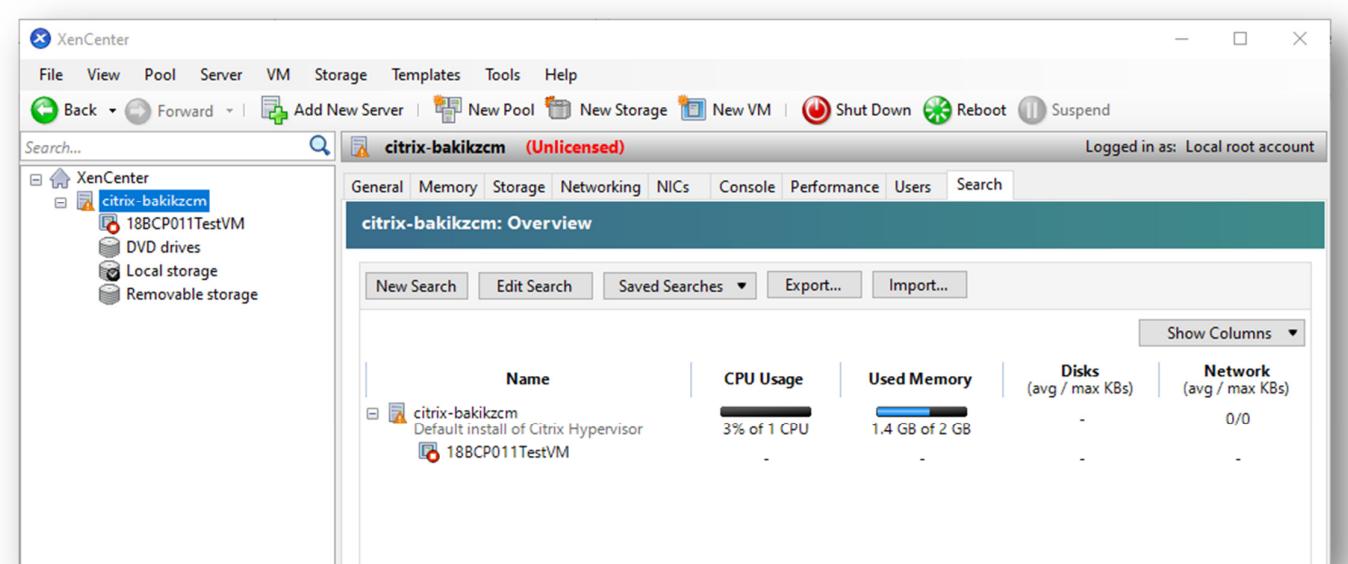
Password: ■
```

At the bottom of the console window, there are control buttons for sending keyboard input, scaling, undocking, and switching to full screen.

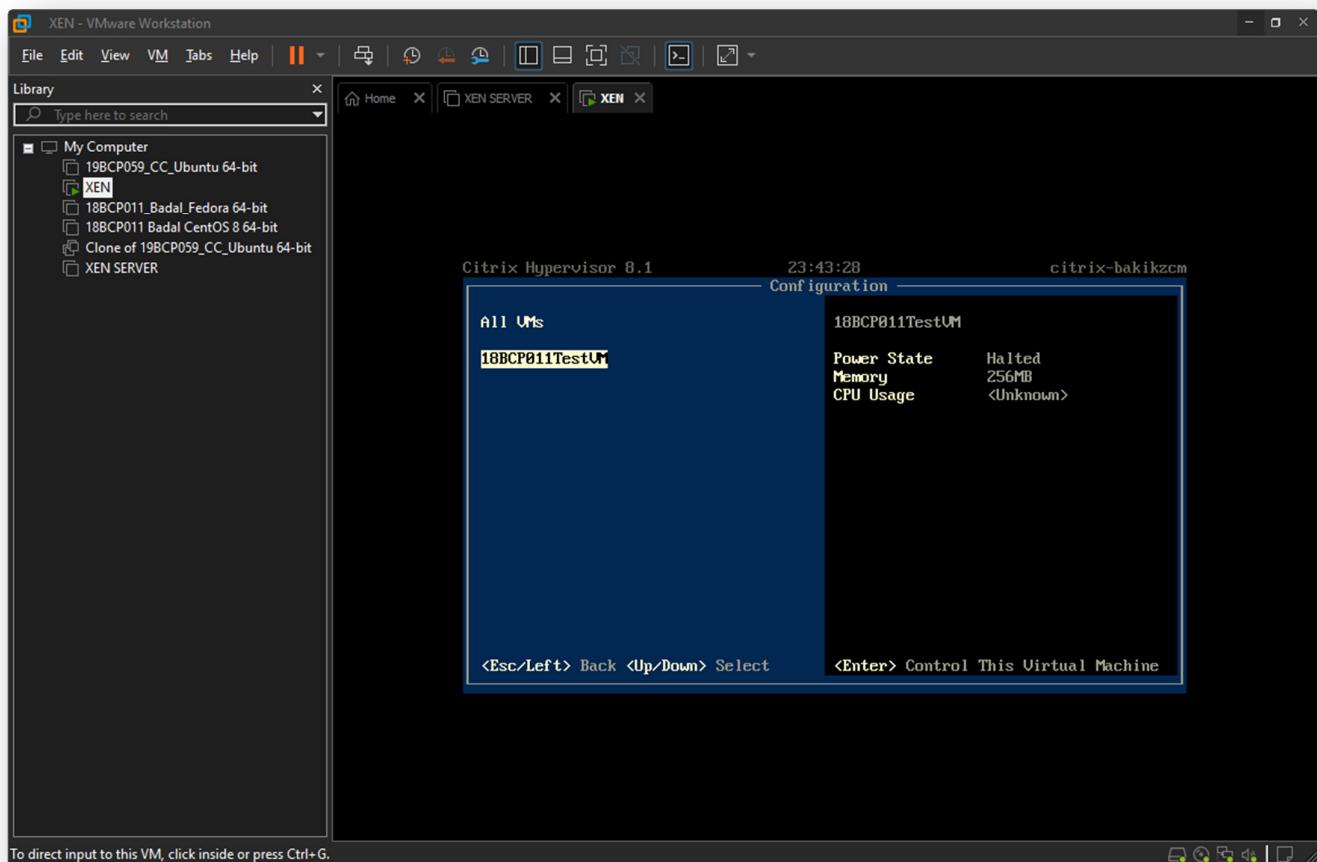


1. XenCenter can be utilized for creating new Virtual Machine inside the Xen Hypervisor Virtual Machine.
2. Figure shown below displays the Virtual Machine created inside XenServer by allotting resources using XenCenter.





- ⇒ Above figure display the Virtual Machine created in the XenServer, it's CPU and Memory Usage.
- ⇒ In **VMWare Workstation Pro**, **Virtual Machine** which is created in **XenCenter** is visible as shown in the figure below.



OBSERVATION, LEARNING AND CONCLUSION:

- ⇒ The installation of XenServer and XenCenter was done through Citrix HyperVisor Website in VMWare Workstation.
- ⇒ The working, resource allocation and Monitoring of Virtual Machine in Citrix Command Center was done.
- ⇒ The creation of Virtual Machine in XenServer was done in XenCenter and was verified in VMWare.