

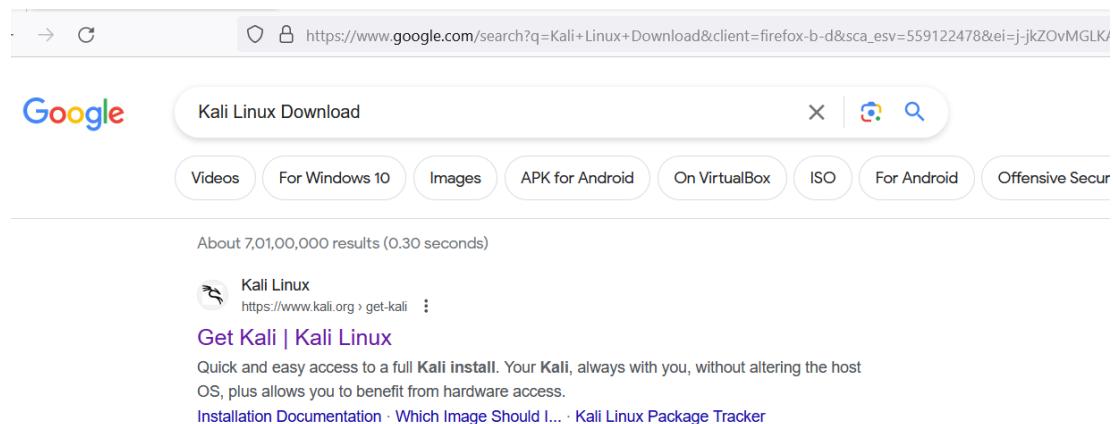
Hypervisor: Oracle Virtual Box

Experiment No. 1 Creating VM (virtual machines) in Oracle Virtual Box

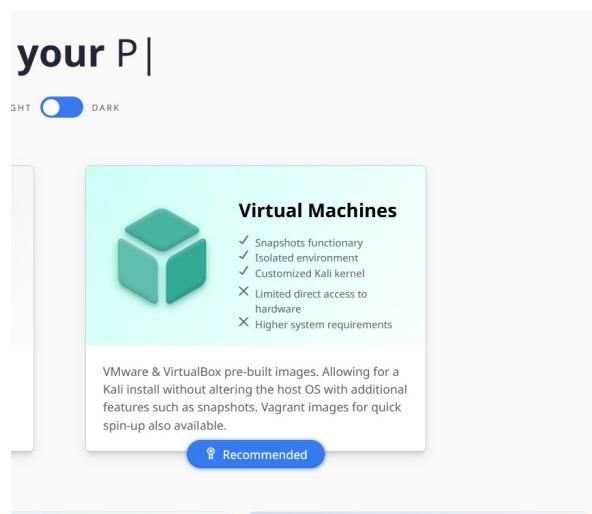
Creating Virtual Machine in Oracle Virtual Box-

Hypervisor – Virtual Box (Oracle)
Virtual Machine – Kali Linux (OVA File)

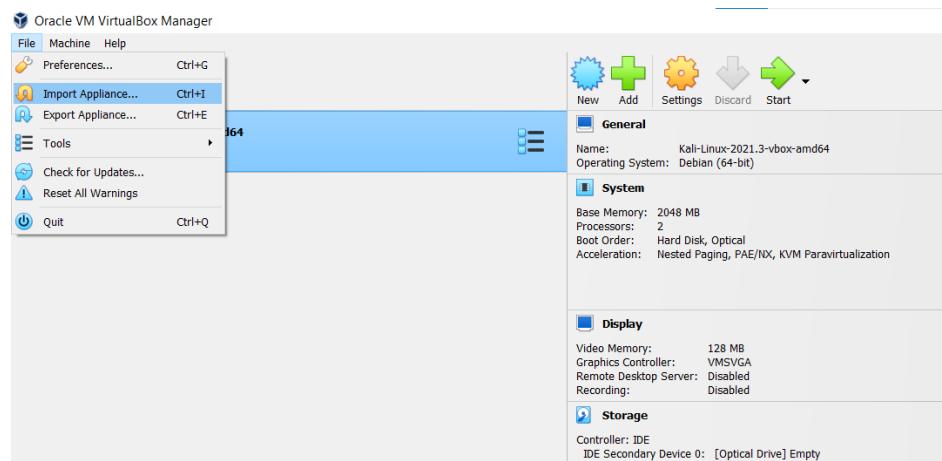
Step-01: Search Download the Kali Linux OVA File from kali official website-



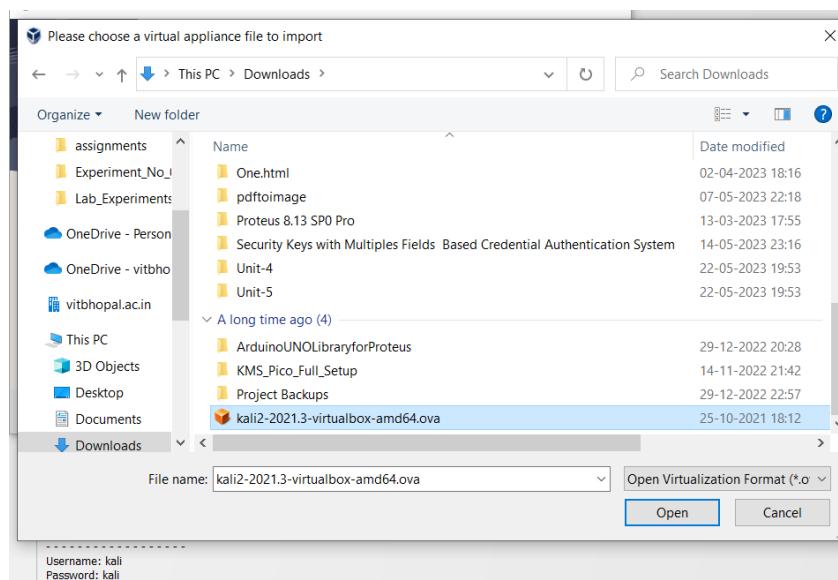
Step-02 – Next Select Virtual Machine and Download it.



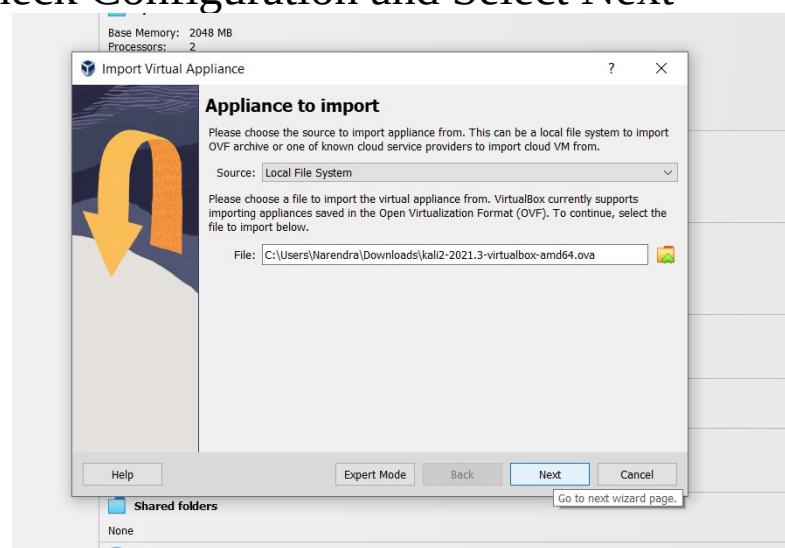
Step 03 – Now Open the virtual Box and Select Import Appliance

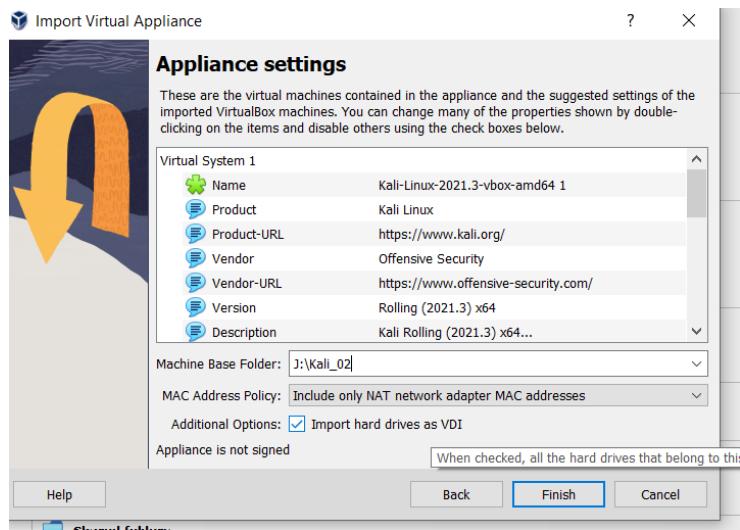


Step 04 – Now Select the Kali Linux VM Image

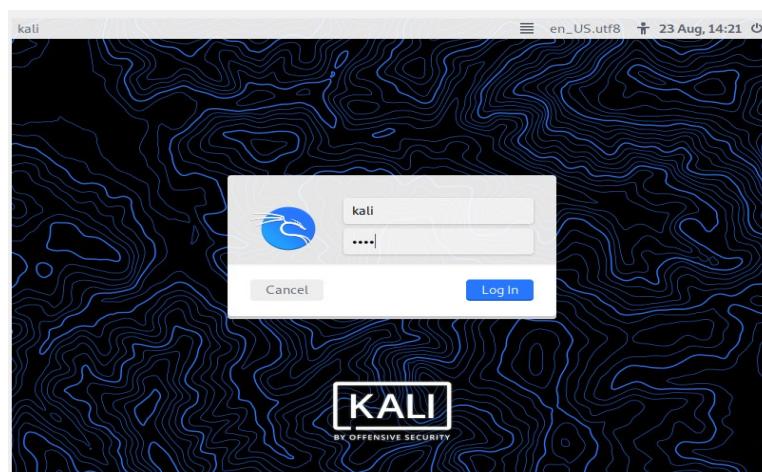
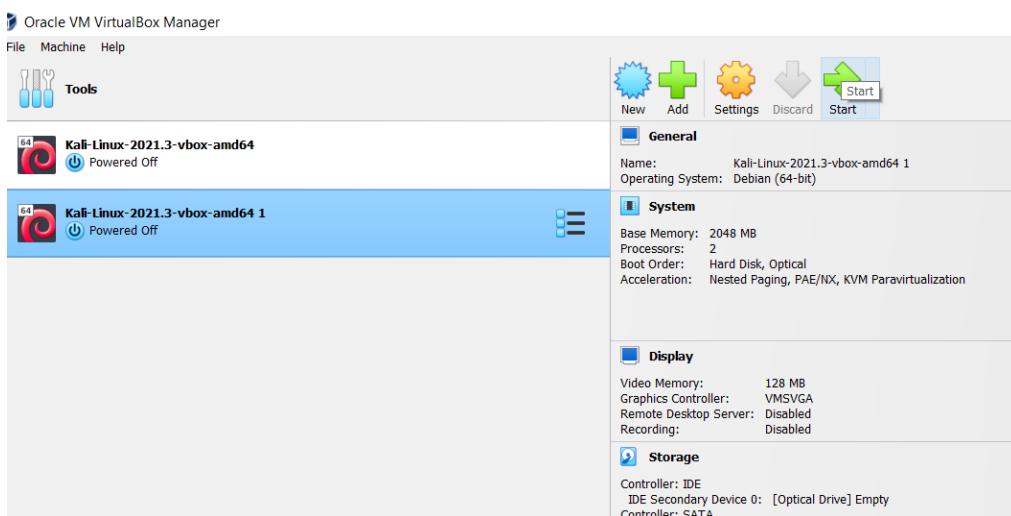


Step 05 – Check Configuration and Select Next-



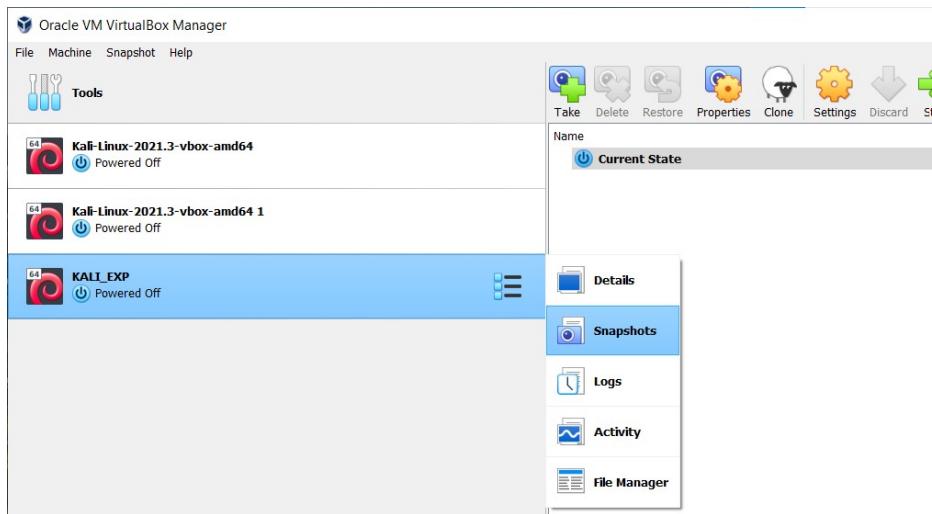


Step 06: - Now we can see our Virtual Machine is successfully created in Oracle Virtual Box. The Default kali Linux username and password are kali/kali

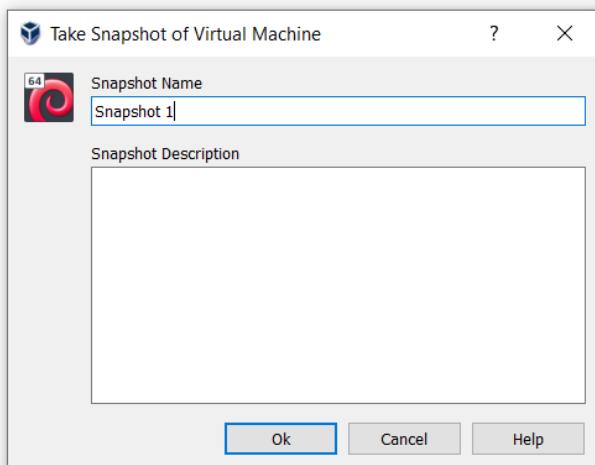


Experiment-02 – Creating Snapshot

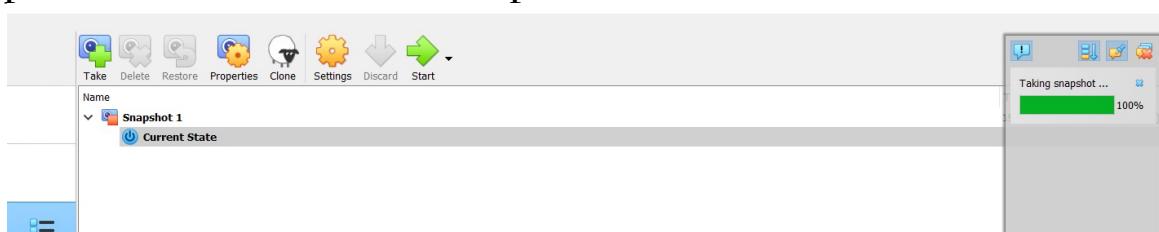
Step-01: Select the Virtual Machine and Click on snapshot option-



Step-02 – Give the name to Snapshot



Step 03 – We can see our Snapshot has been created

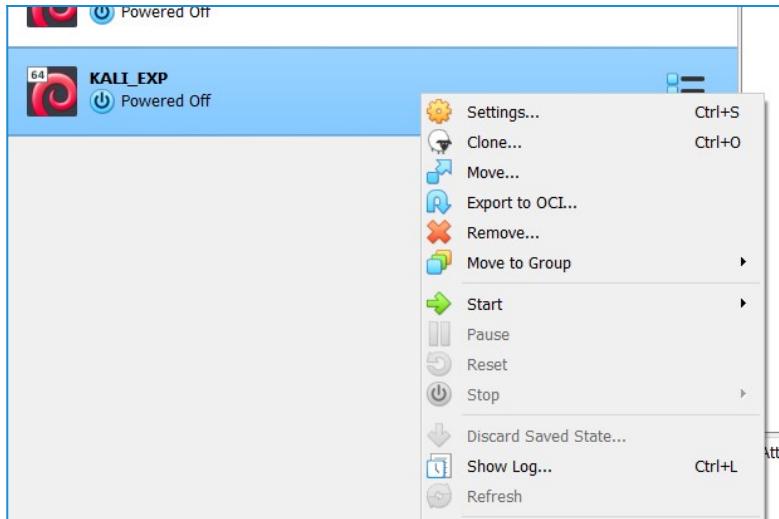


Step 04 – In the information section we can see the information about created snapshot

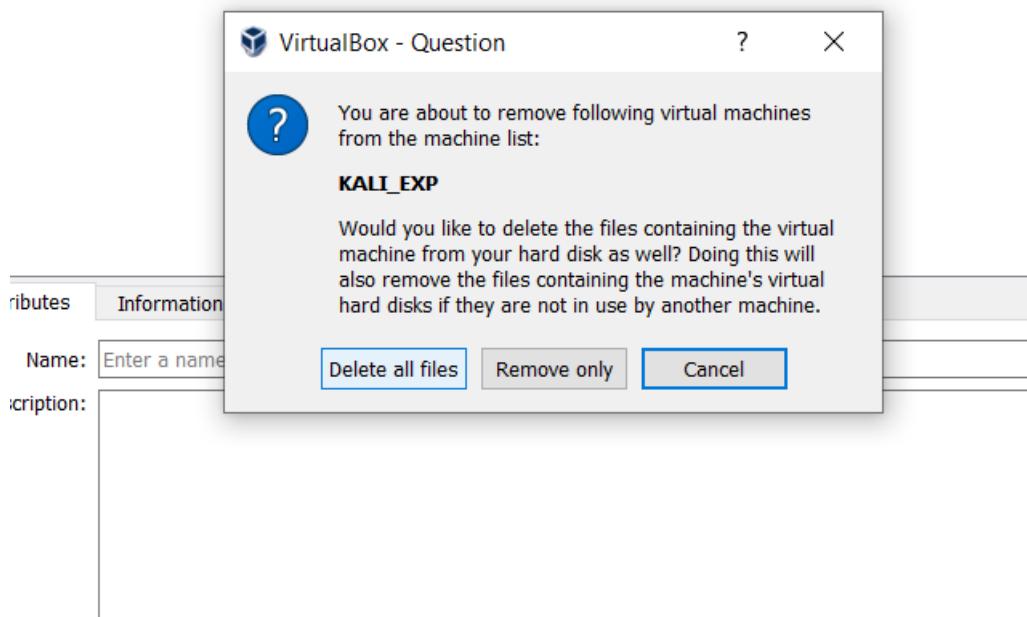
Attributes	Information
Name: KALI_EXP Operating System: Debian (64-bit) Settings File Location: J:\Kali_03\KALI_EXP	Base Memory: 1064 MB Processors: 2 Boot Order: Hard Disk, Optical Acceleration: VT-x/AMD-V, Nested Paging, PAE/NX, KVM Paravirtualization
Display: Video Memory: 128 MB Graphics Controller: VMSVGA Remote Desktop Server: Disabled Recording File: J:\Kali_03\KALI_EXP\KALI_EXP-screen0.webm Recording Attributes: Frame Size: 1024x768, Frame Rate: 25fps, Bit Rate: 512kbps	Audio: Host Driver: Windows DirectSound Controller: ICH AC97
Storage: Controller: IDE IDE Secondary Device 0 [Optical Drive]: Empty Controller: SATA SATA Port 0: Kali-Linux-2021.3-vbox-amd64 1-disk001.vdi (Normal, 80.00 GB)	Network: Adapter 1: Intel PRO/1000 MT Desktop (NAT)
USB: USB Controller: OHCI Device Filters: 0 (0 active)	Shared folders: None

Experiment – 03: Deleting VM

Step-01: Select the Virtual Machine and Click on Remove option-



Step-02 – Select Remove all files



Step 03 – We can see our Newly created Virtual machine have been removed/deleted

Oracle VM VirtualBox Manager

File

Machine Snapshot Help



Tools

Kali-Linux-2021.3-vbox-amd64
Powered Off

Kali-Linux-2021.3-vbox-amd64 1
Powered Off



Name

Current State

Attributes Information

Name:

Description:

Hypervisor: Hyper –V

Experiment No. 1 Creating Virtual Machine in Hyper V-

Hypervisor – Hyper V

Virtual Machine – Kali Linux (OVA File)

Step-01: Search Download the Kali Linux OVA File from kali official website-

About 7,01,00,000 results (0.30 seconds)

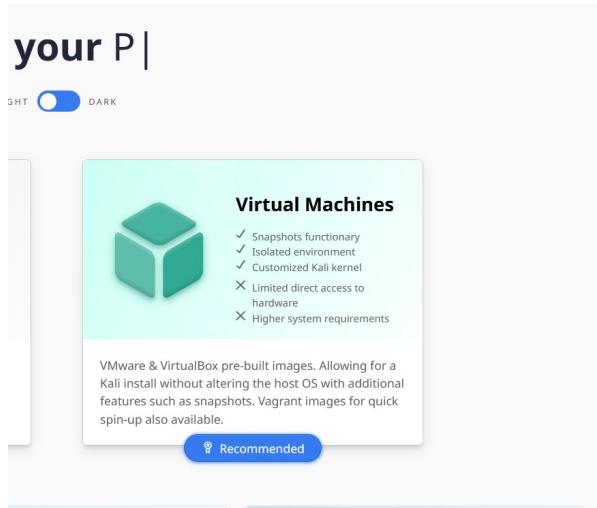
Kali Linux
https://www.kali.org › get-kali

Get Kali | Kali Linux

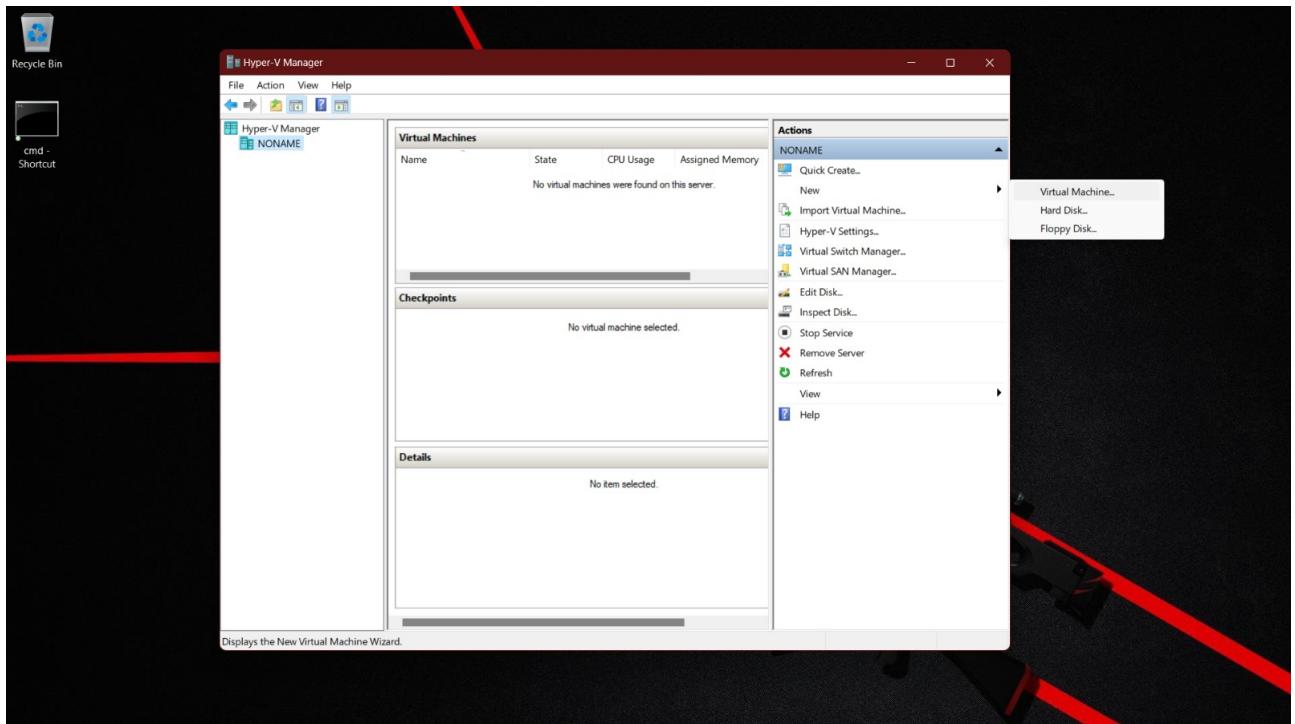
Quick and easy access to a full Kali install. Your Kali, always with you, without altering the host OS, plus allows you to benefit from hardware access.

Installation Documentation · Which Image Should I... · Kali Linux Package Tracker

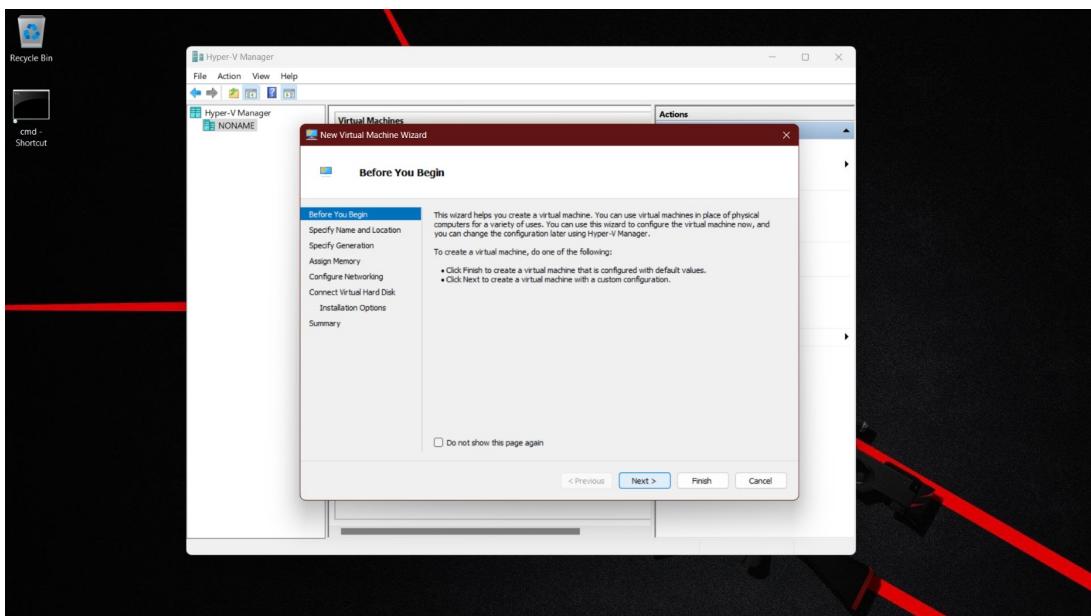
Step-02 – Next Select Virtual Machine and Download it.



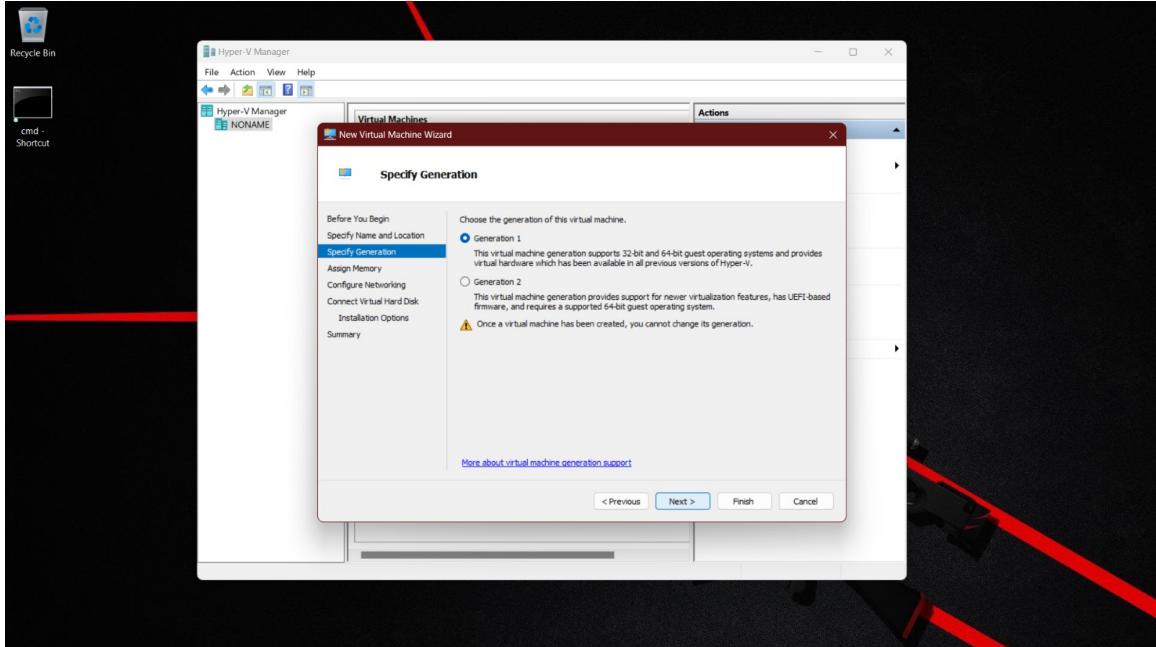
Open the Hyper v manager and
At first click on the “New” then select the Virtual Machine to begin the VM creation process,



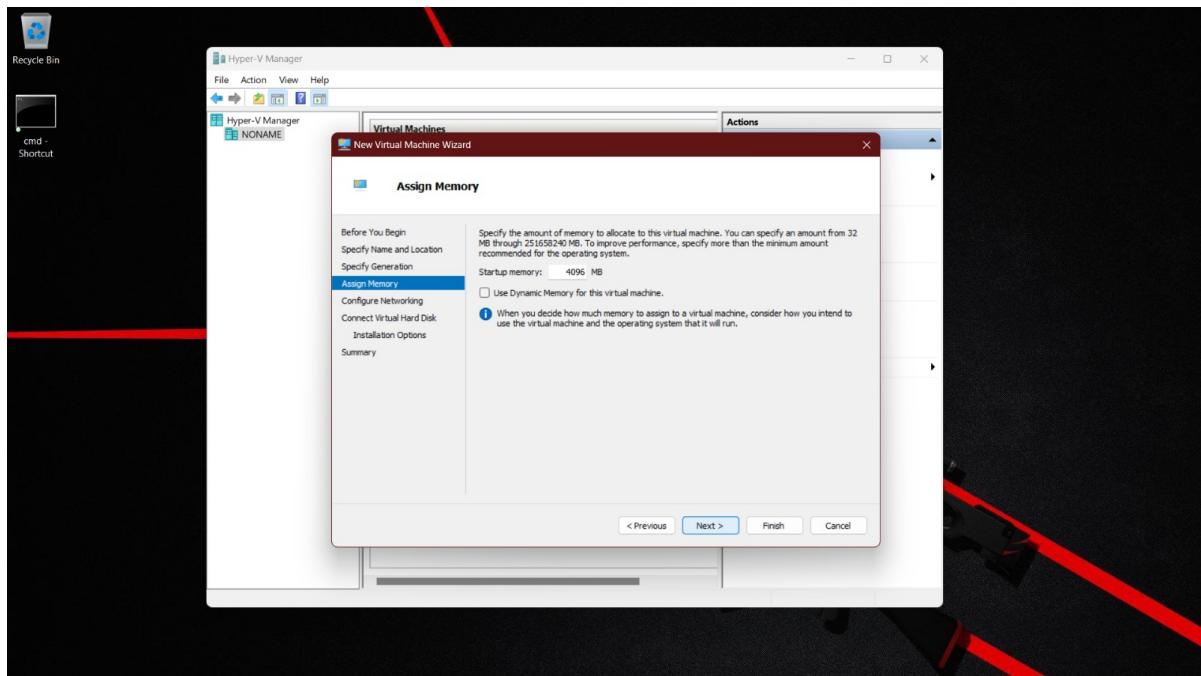
then click Next



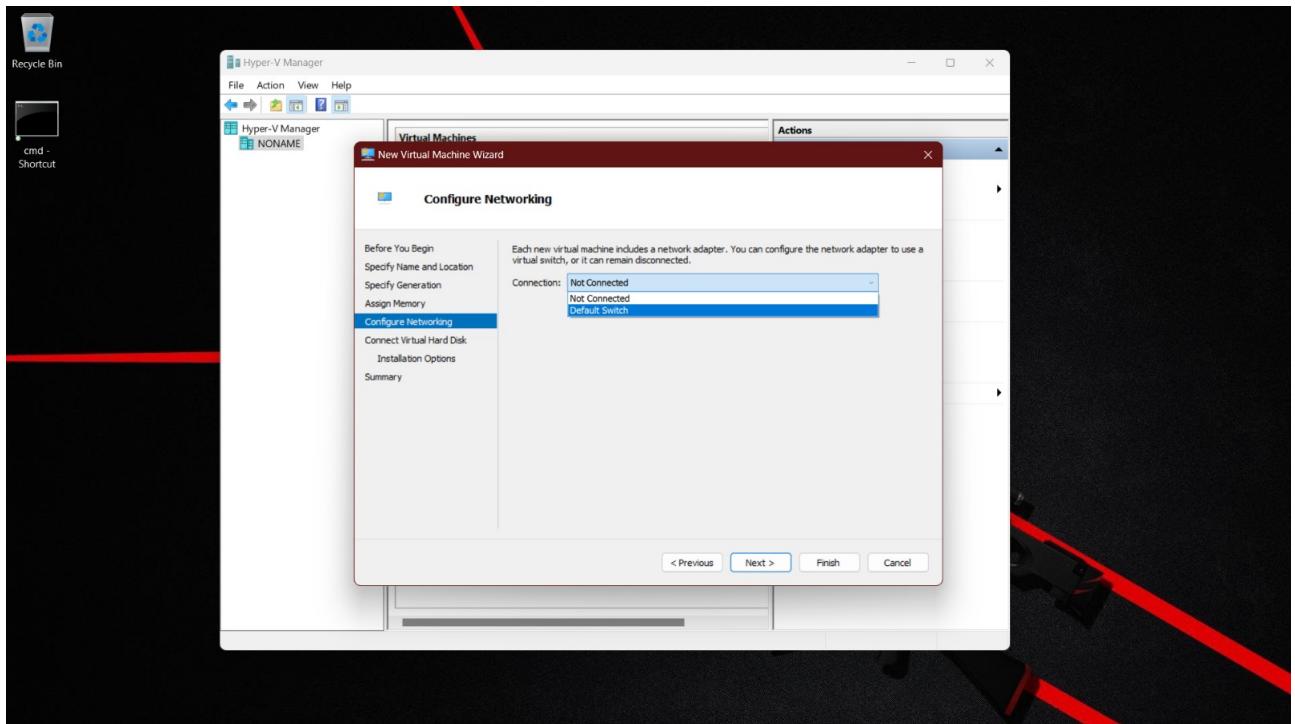
then we need to specify the name of the virtual machine as “Kali” and select the folder to store
now we leave these settings as default as “Generation 1” and click the next



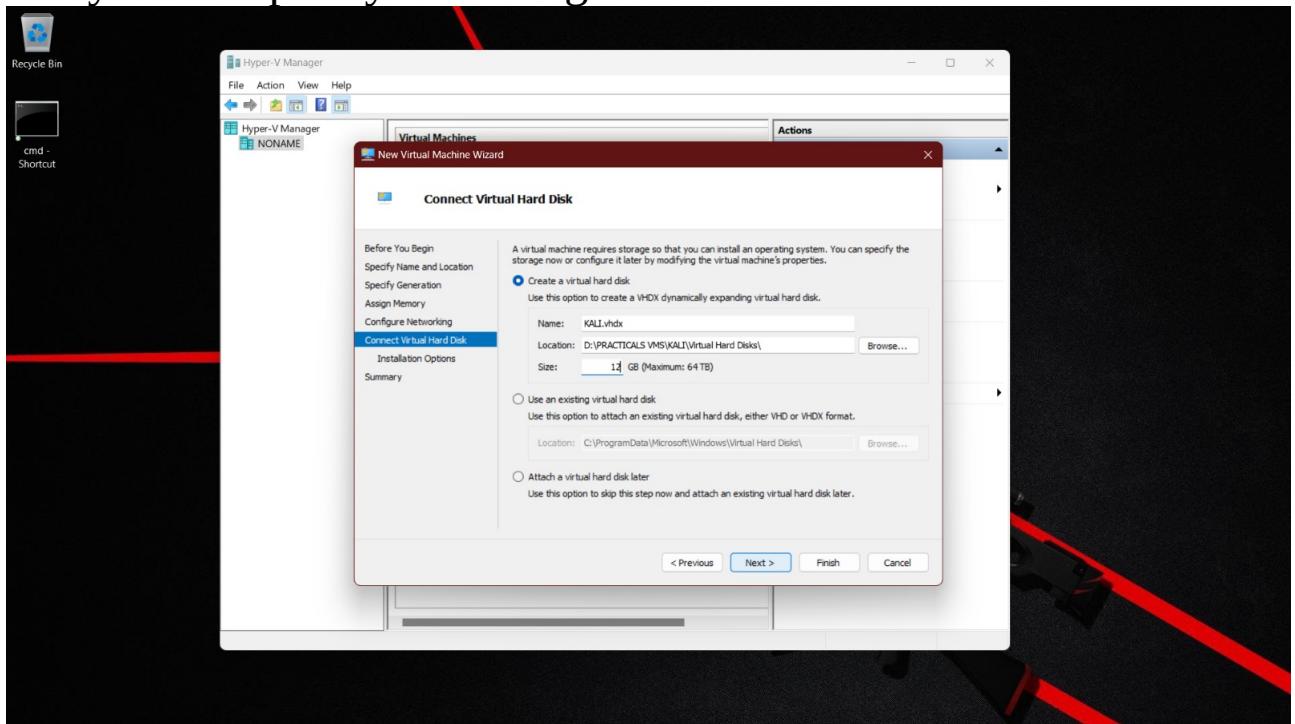
In this step, here the choice is given to specify the amount of memory to distribute to the virtual machine and uncheck the Dynamic Memory usage



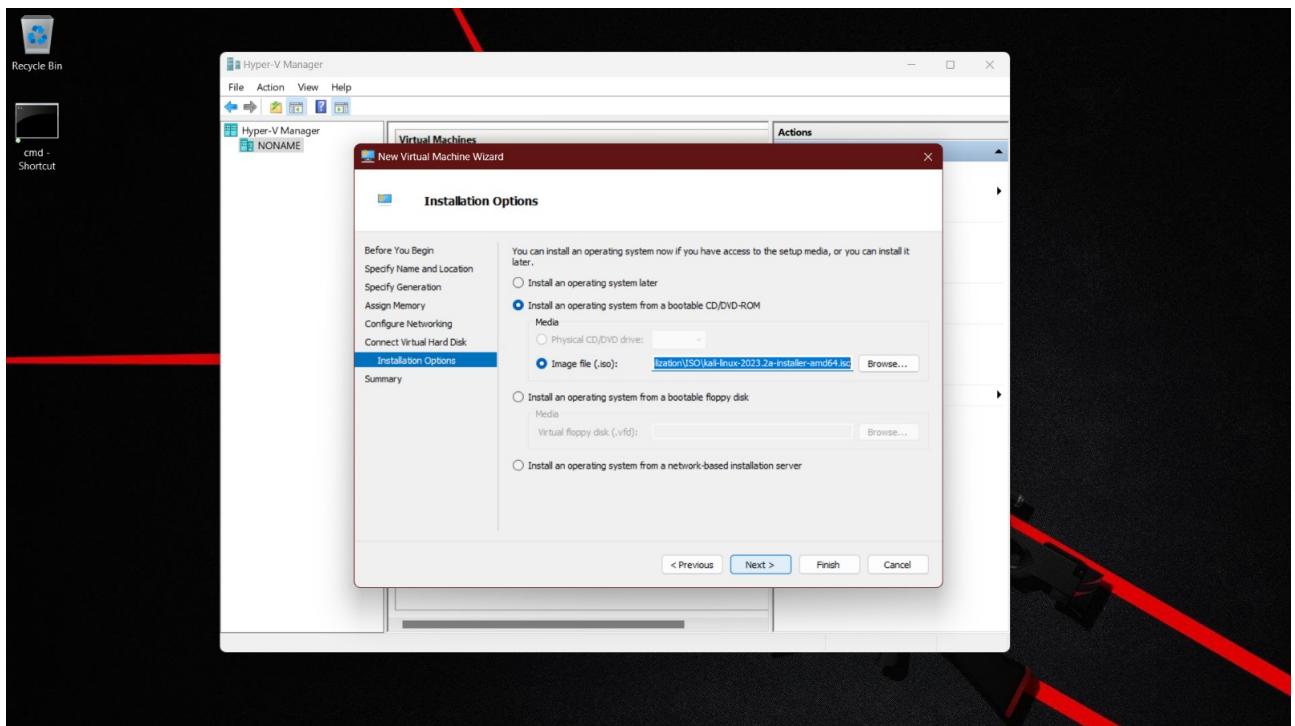
select the network adapter connection as “Default Switch”,



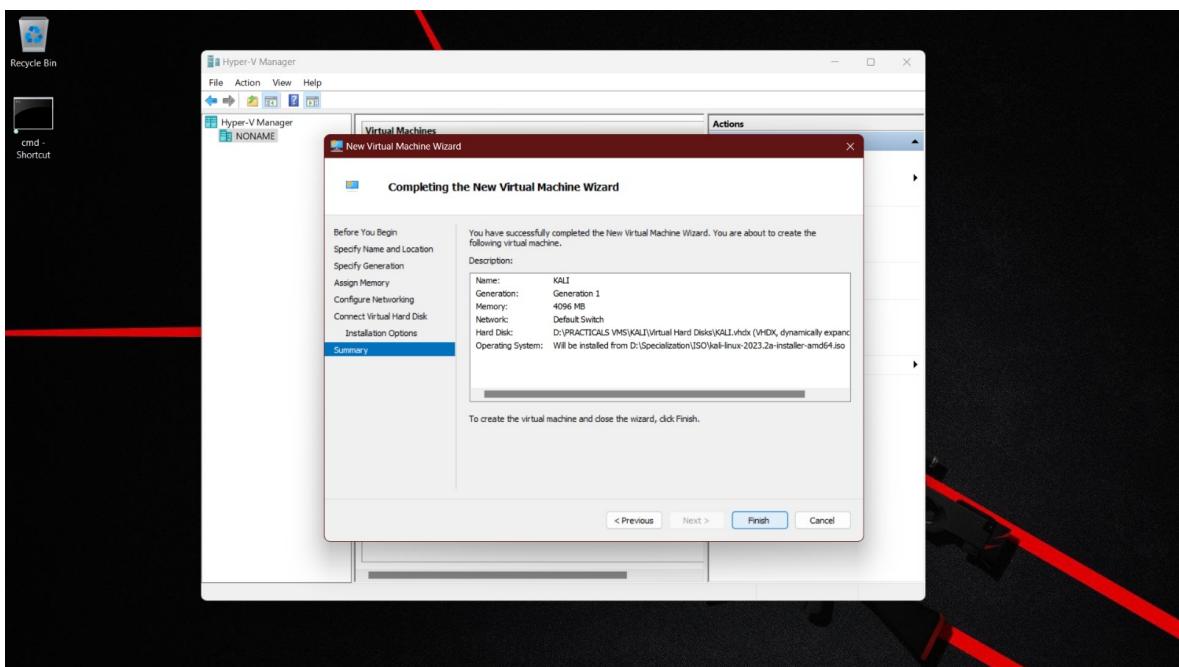
Here you can specify the storage to install the virtual machine.



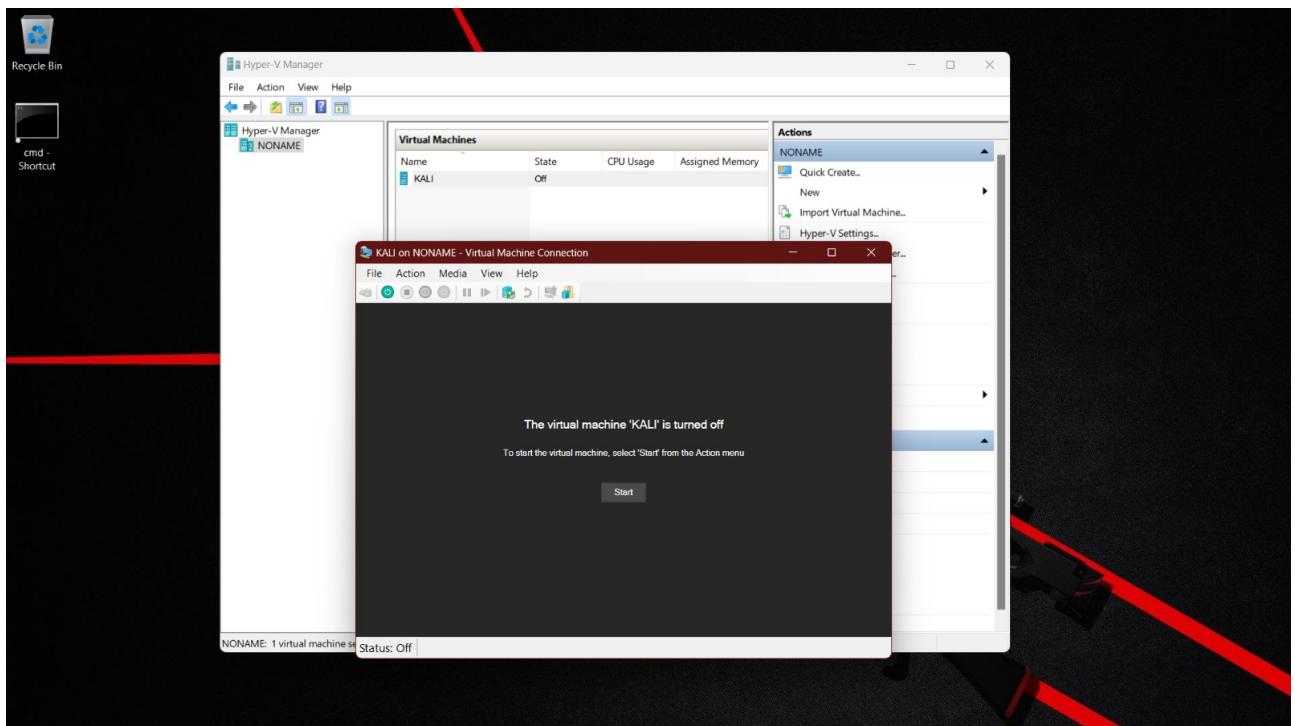
and then selecting the iso file for the kali Linux from the computer,



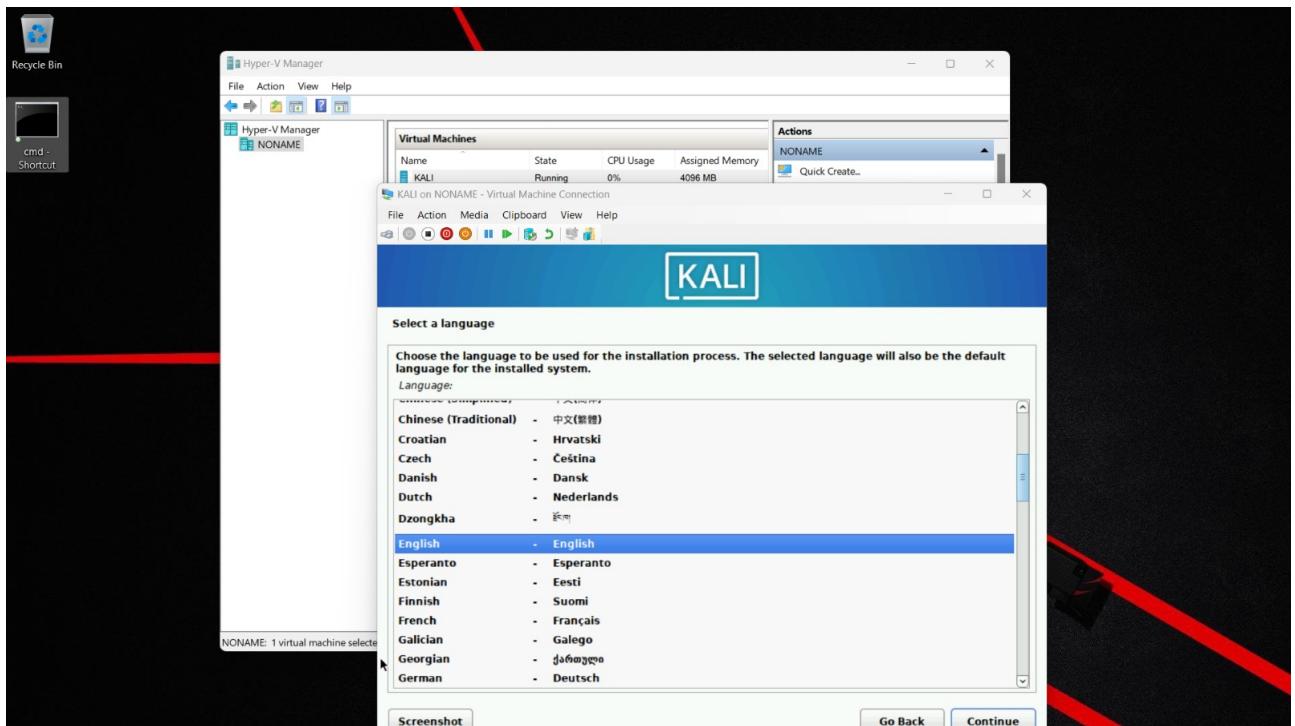
In the snapshot below, it shows the description of specification we selected earlier for the virtual machine. Now click the finish to install Kali Linux

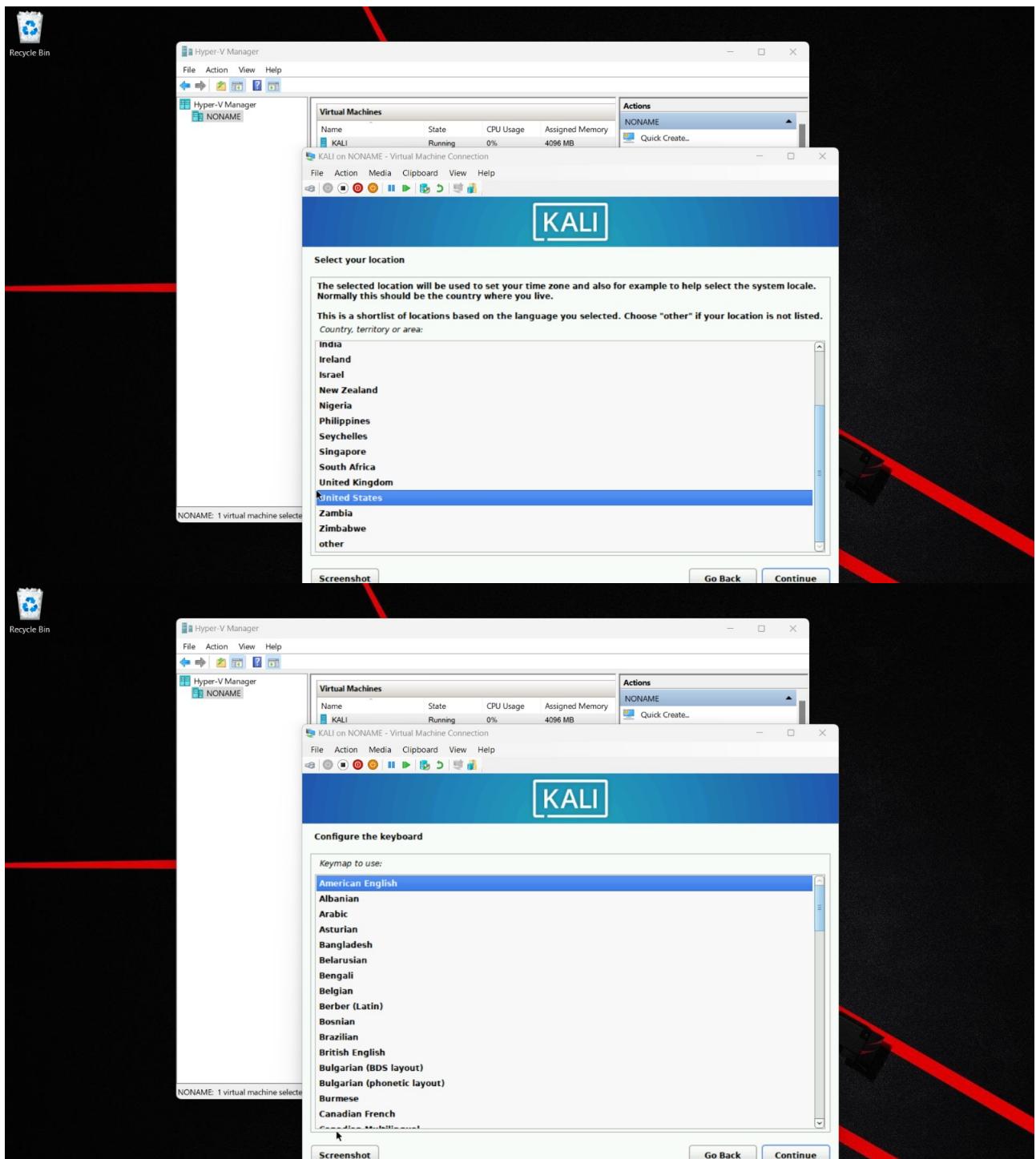


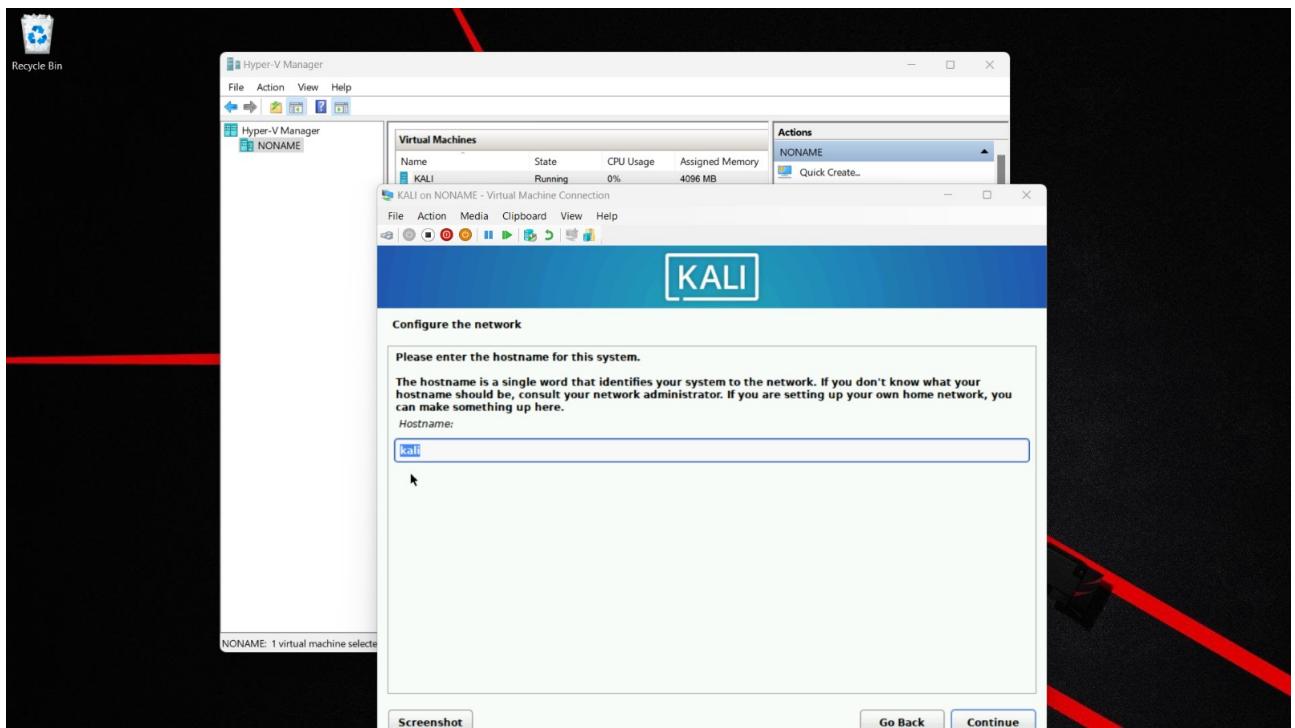
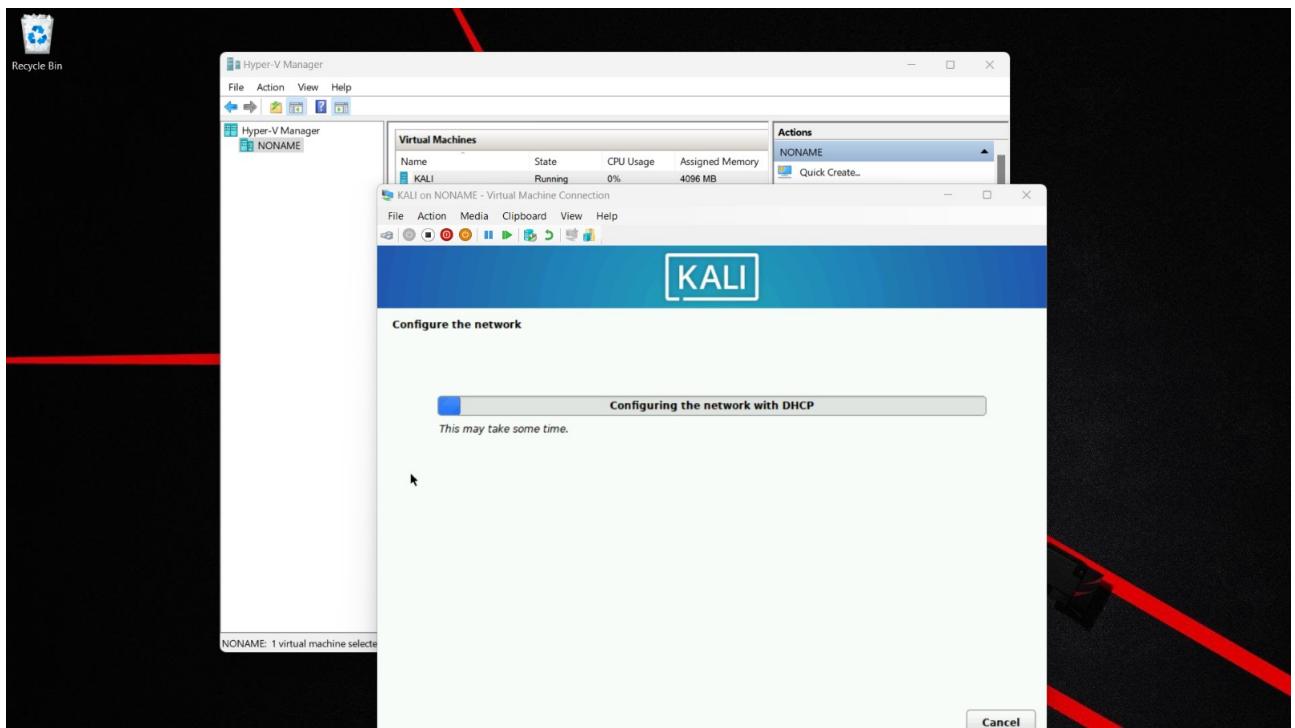
Hence, we created a Virtual Machine name “KALI”

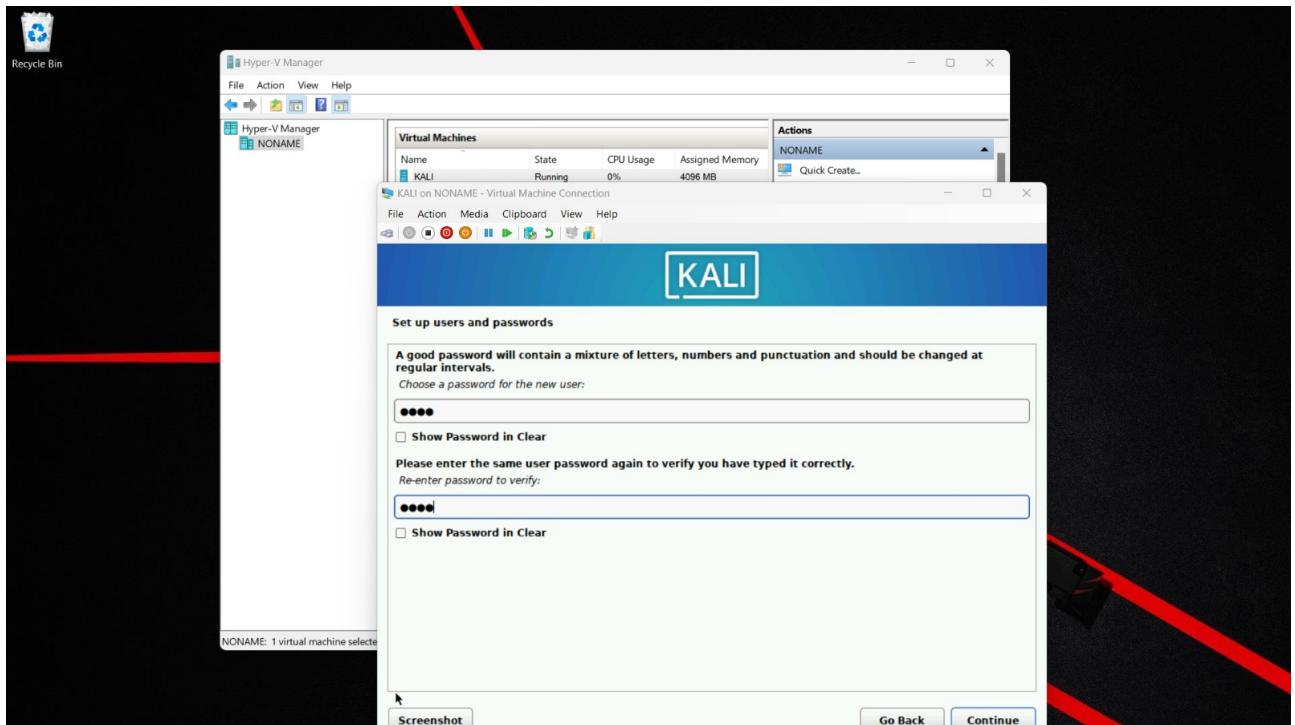
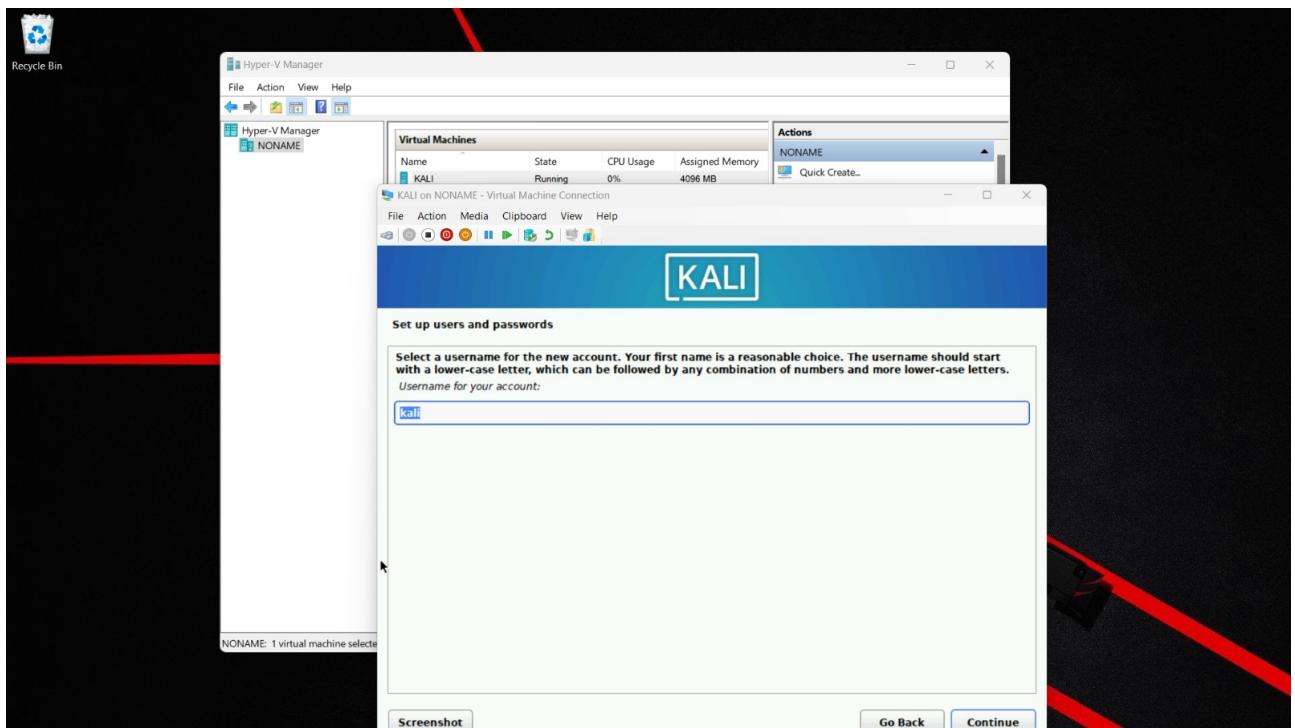


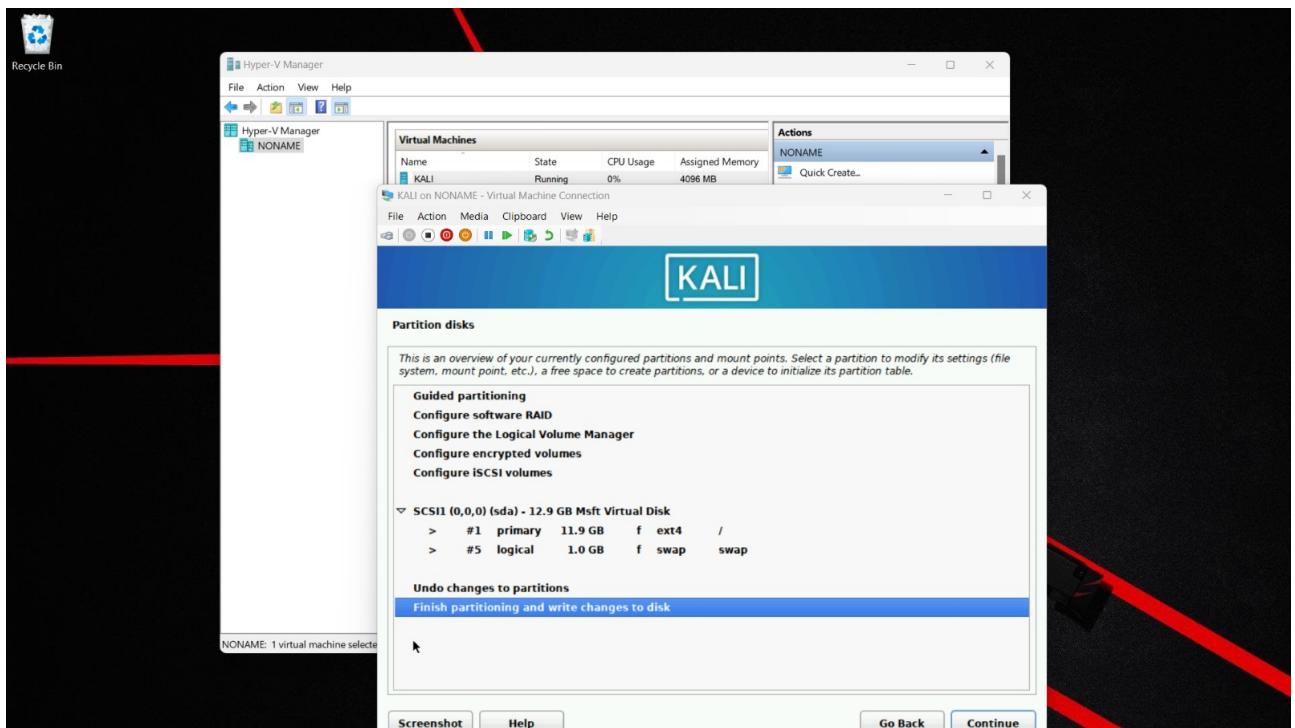
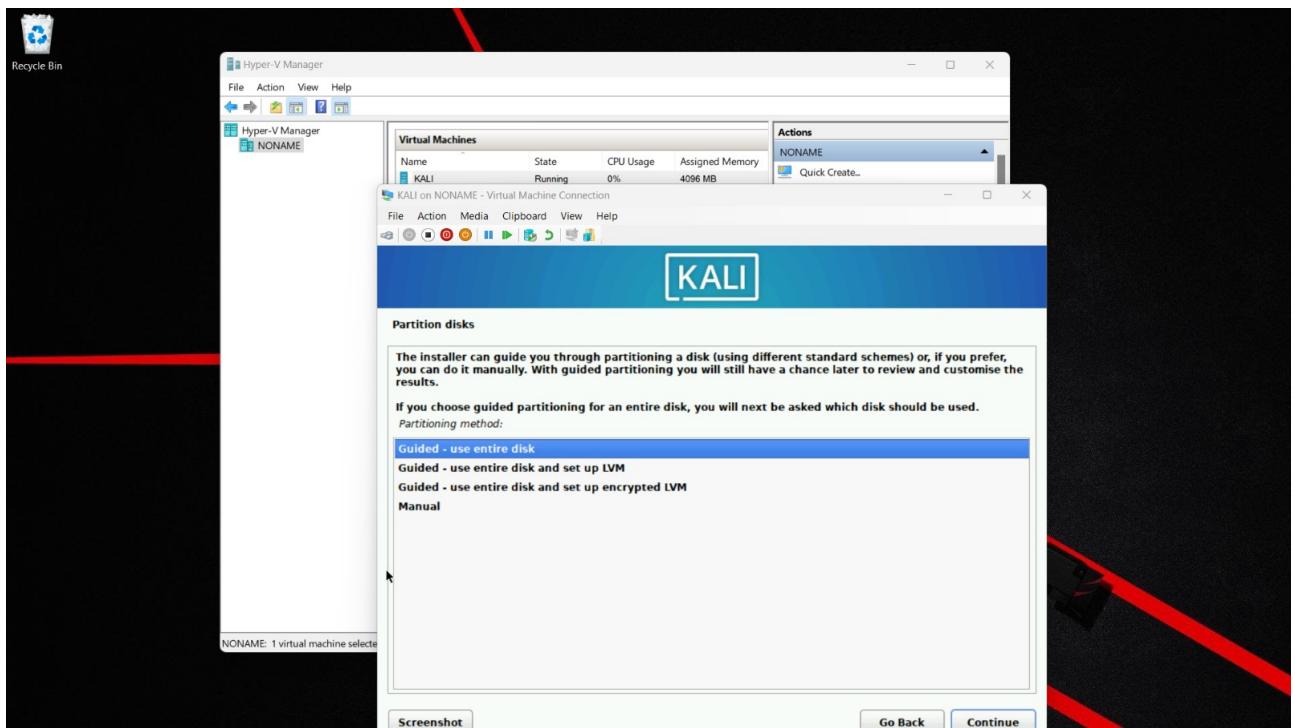
Following are the snapshots of the installation of Kali Linux: -

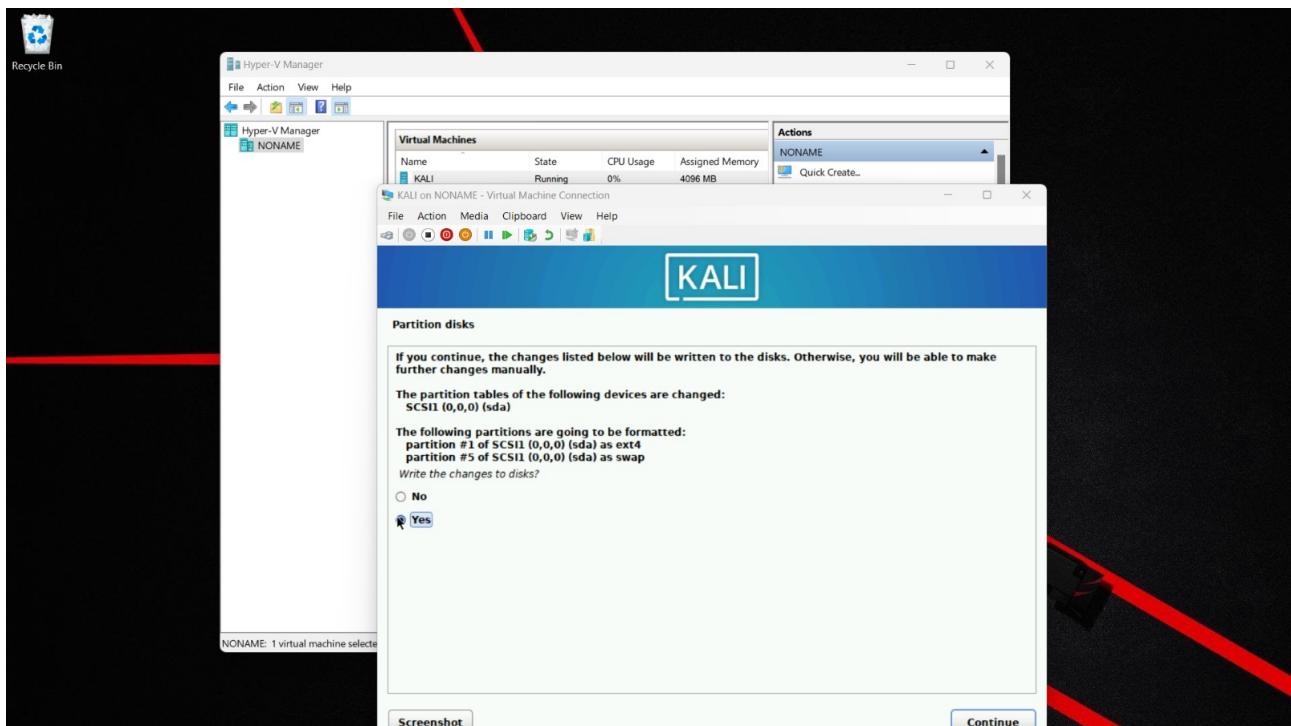






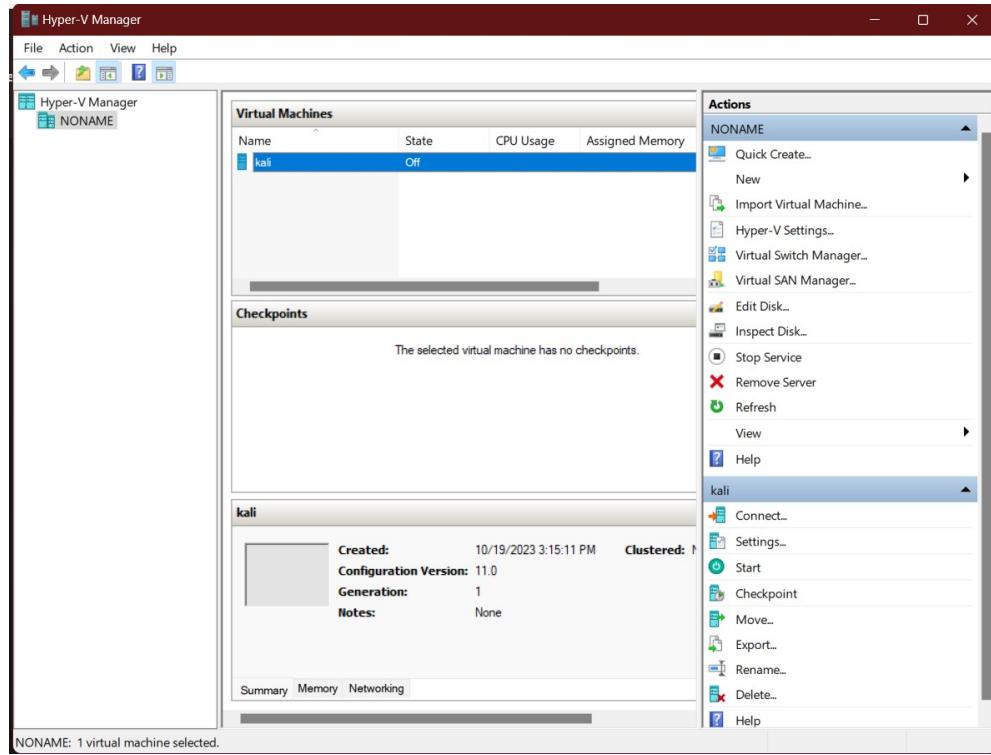




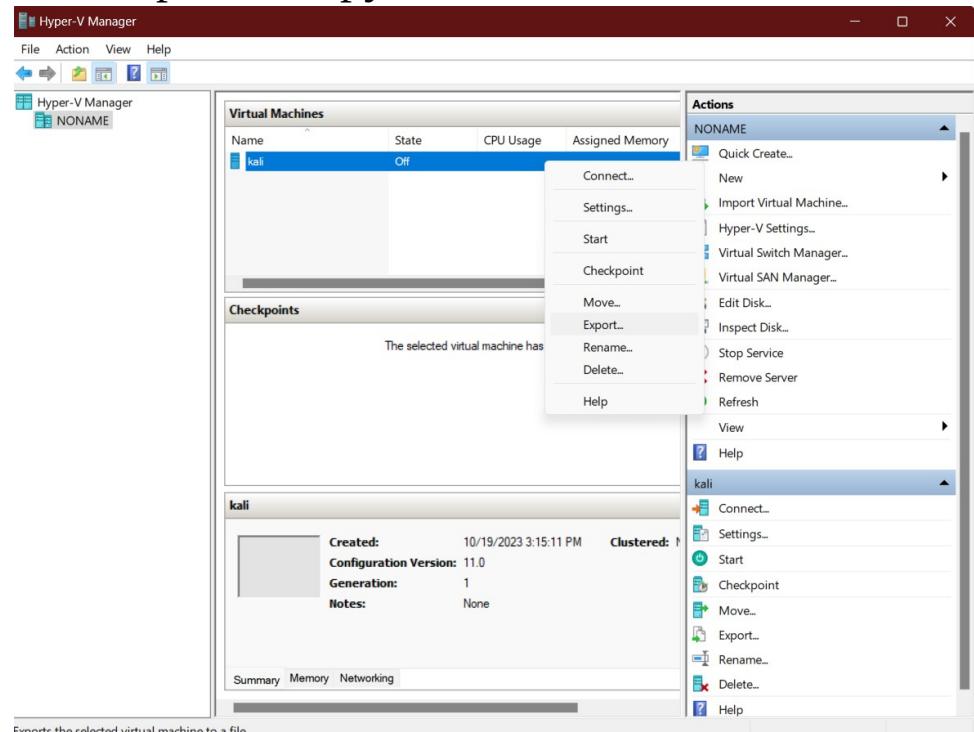


Experiment No. 2 Cloning the Virtual machine in Hyper V

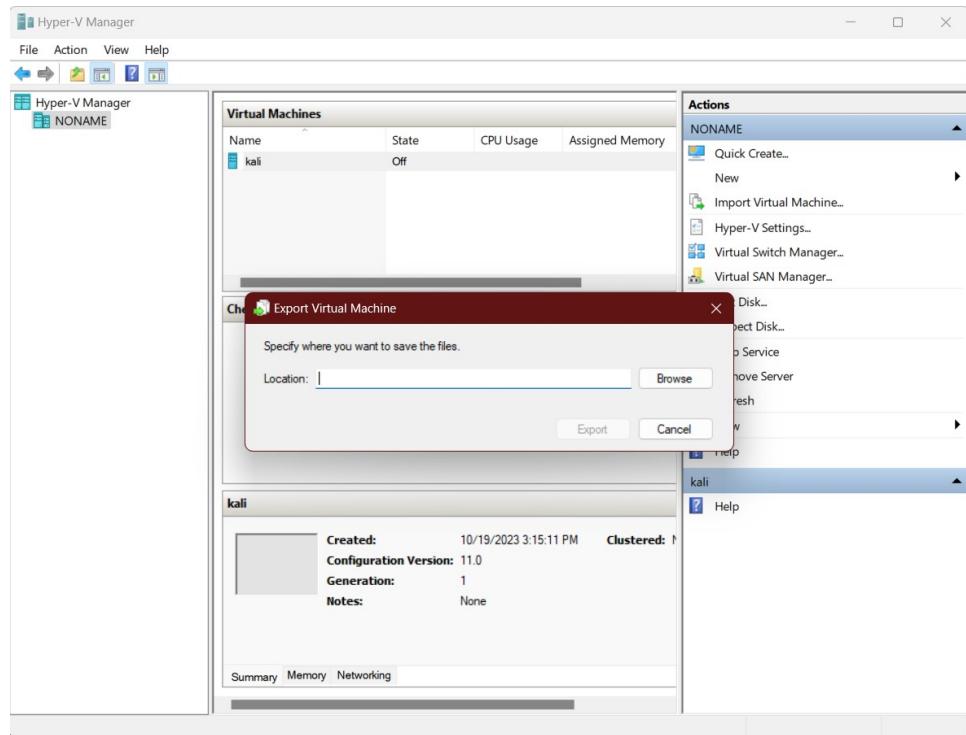
Step 1: Open the Hyper V manager



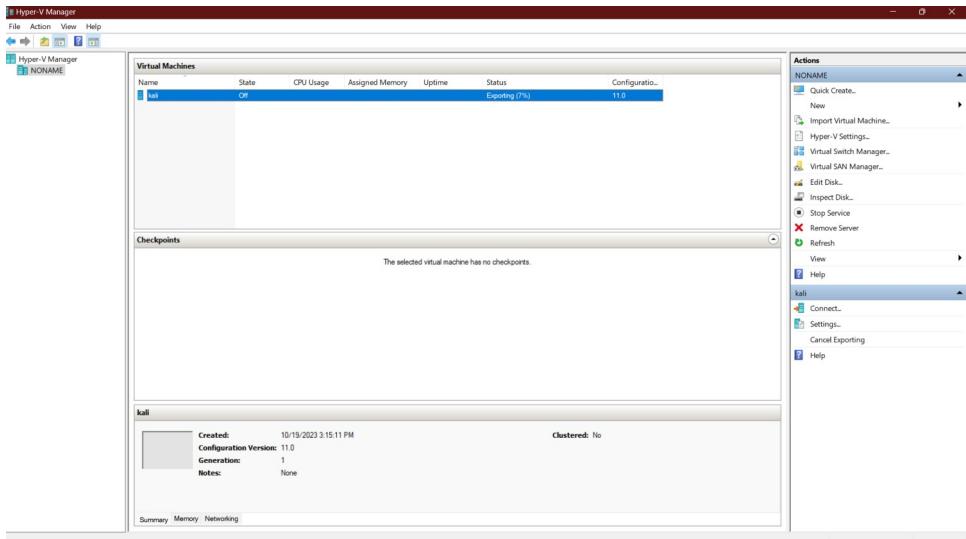
Step 2: Click on export to copy the whole virtual machine



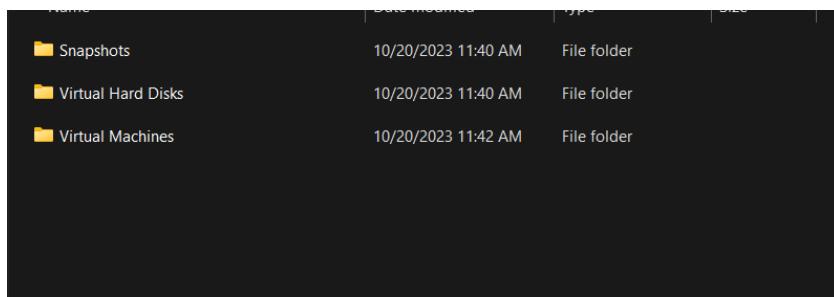
Step 3: Choose the folder to export your machine in your device



Step 4: After clicking in export, it will start exporting the machine in your dedicated folder



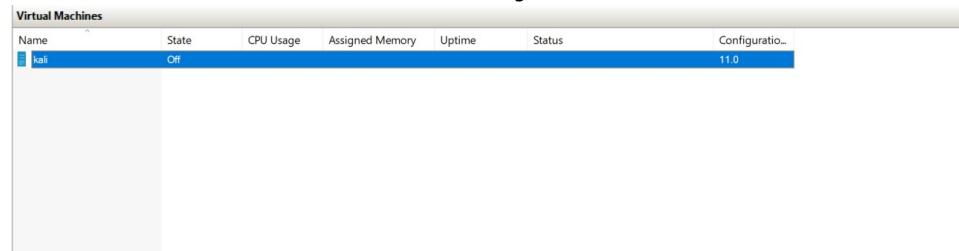
Step 5: The files will be shown in the folder as



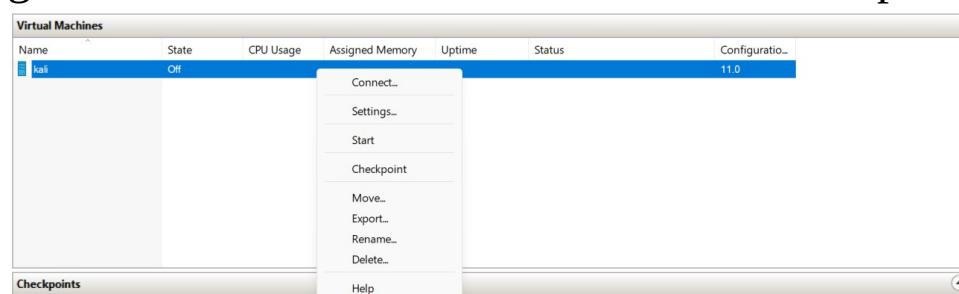
Experiment No. 3 Deleting the VM from the Hyper V manager

Step1: Click on Hyper v manger to open it

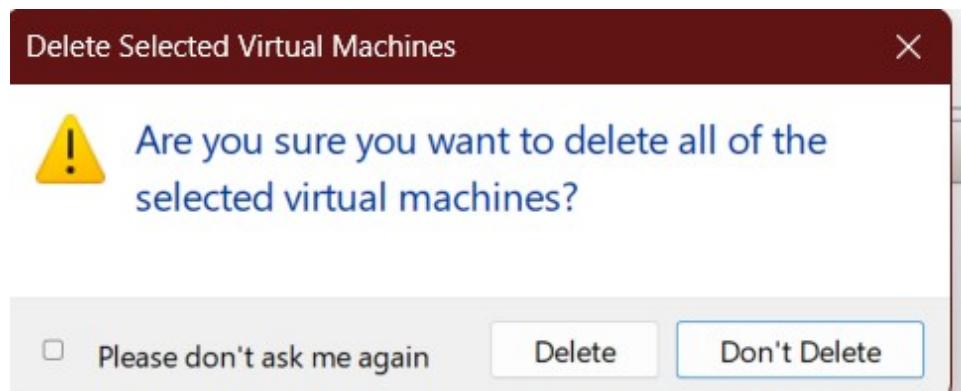
Step 2: Select the machine to which you choose to delete



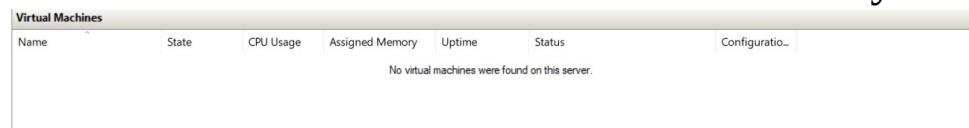
Step 3: Right click on the mouse and select the delete option



Step4: click on delete it will delete the whole Virtual machine from the system



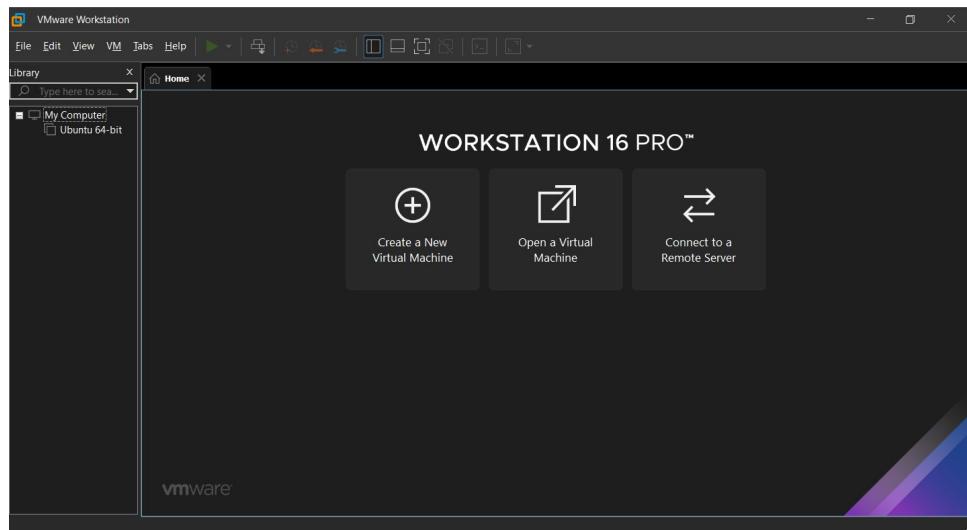
Step 5: Now the virtual machine is deleted from the system



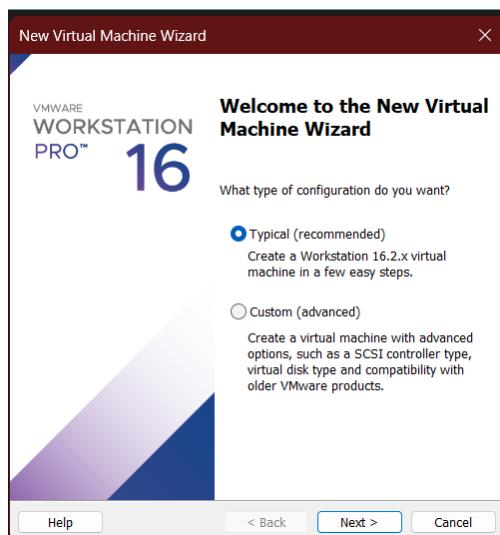
Hypervisor: VMWare Workstation pro

Experiment-01 Creating VM on the VMWare workstation pro

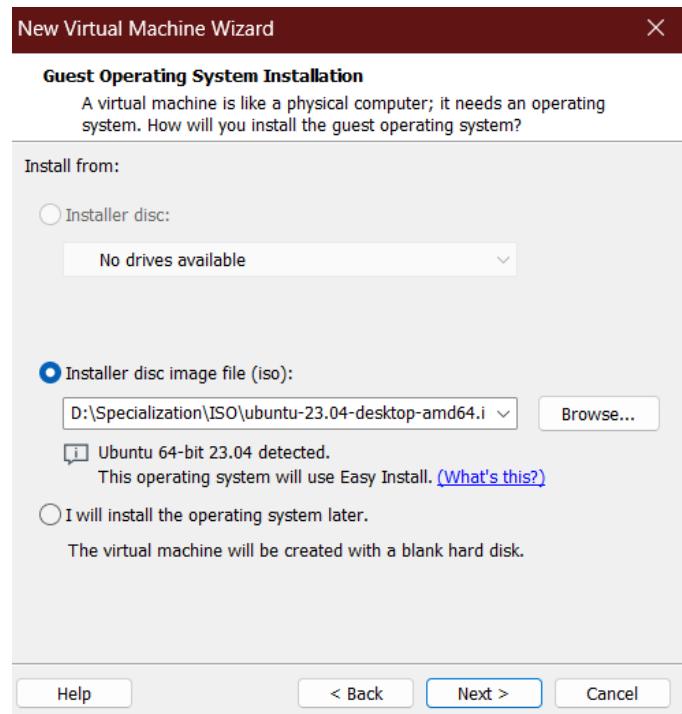
Step 1: Open VMWare Workstation pro



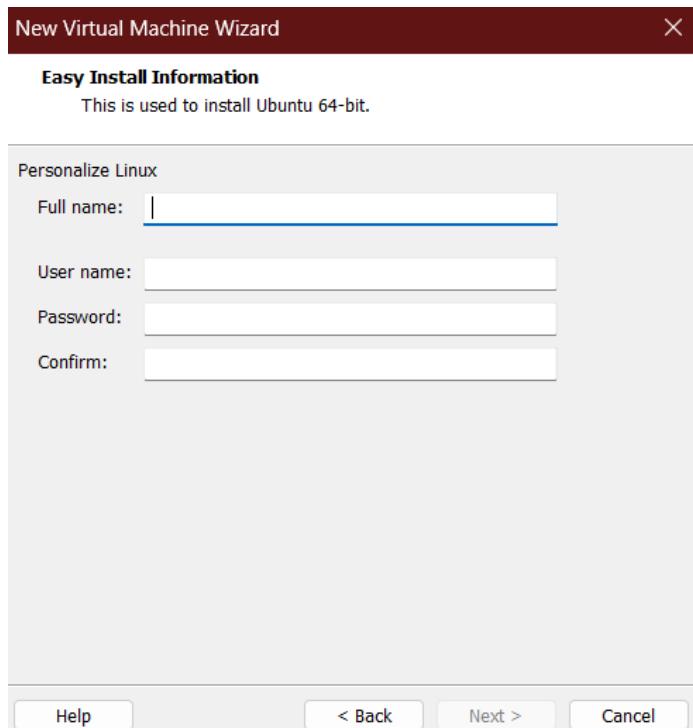
Step 2: Click on the create Virtual Machine a dialog box will appear with two options firstly typical and secondly custom
Click on the typical option and click next



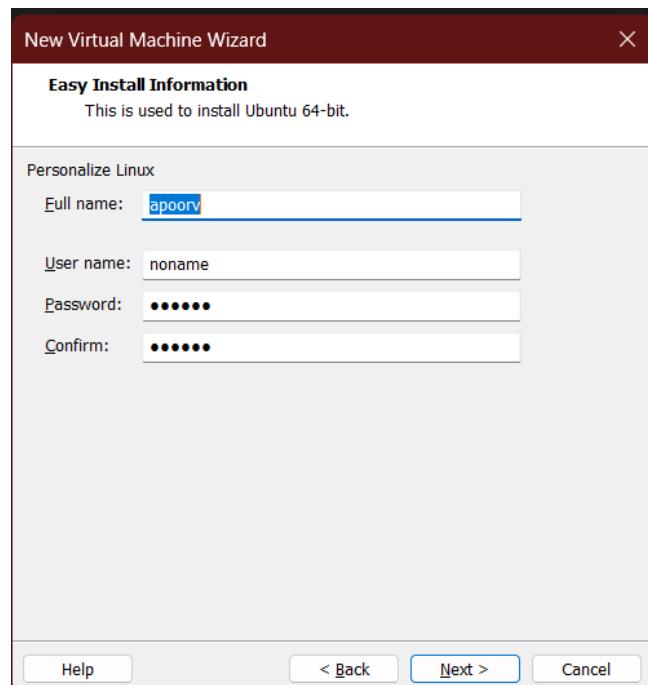
Step 3: Choose the installer disc image option and search for your iso file to which you want to install and click next



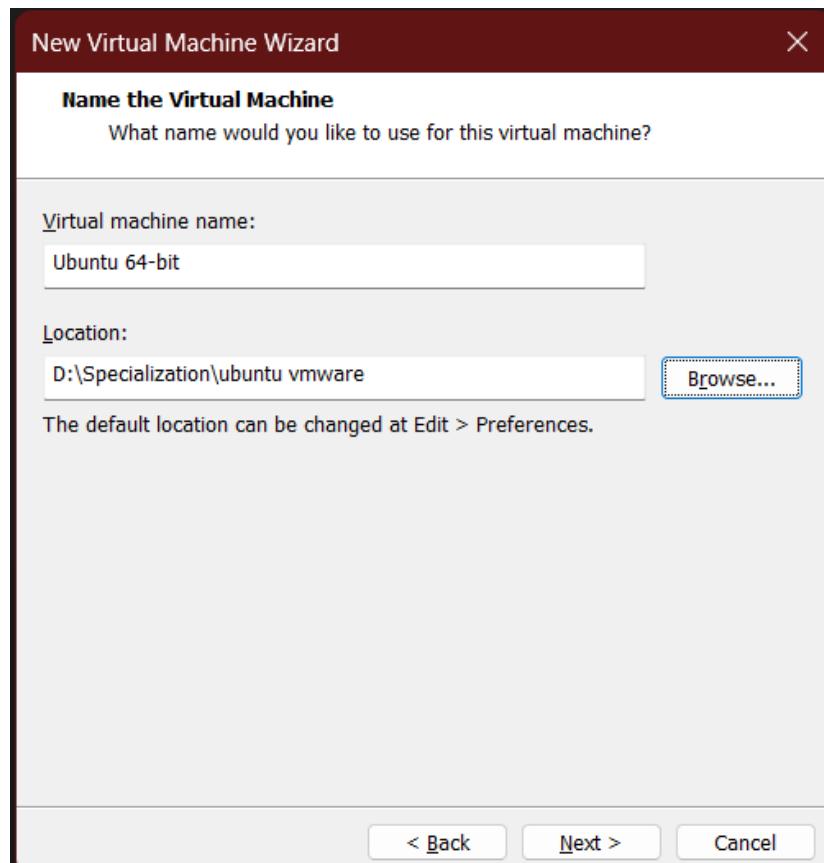
Step 4: Since the installation is of ubuntu it will automatically ask for the username, password, confirm password and user's full name



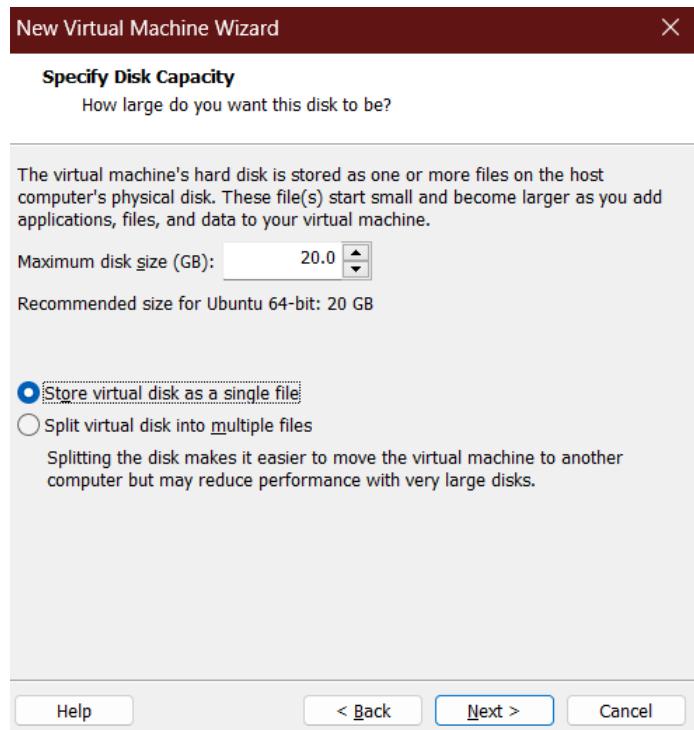
Step 5: Enter your name password and other details and click on next



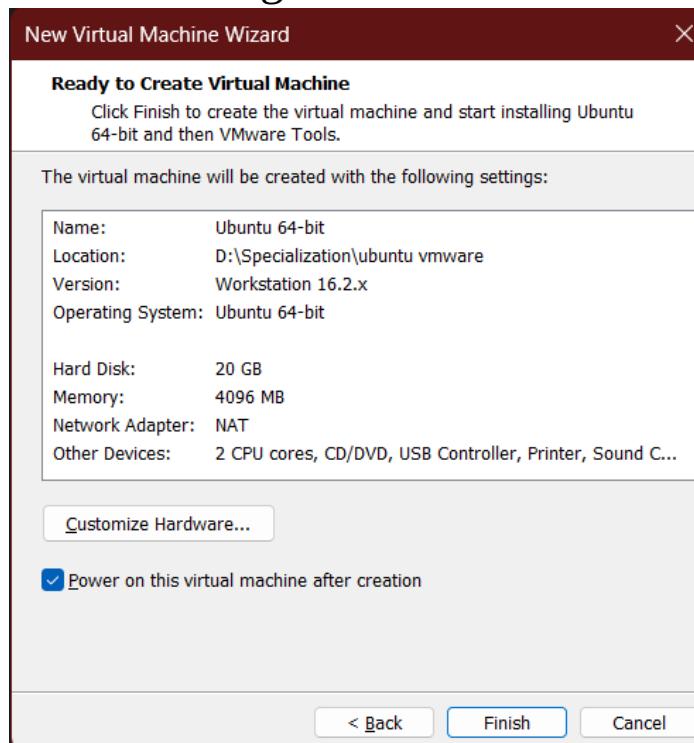
Step 5: It will ask you for the location and name to save the virtual machine and click next



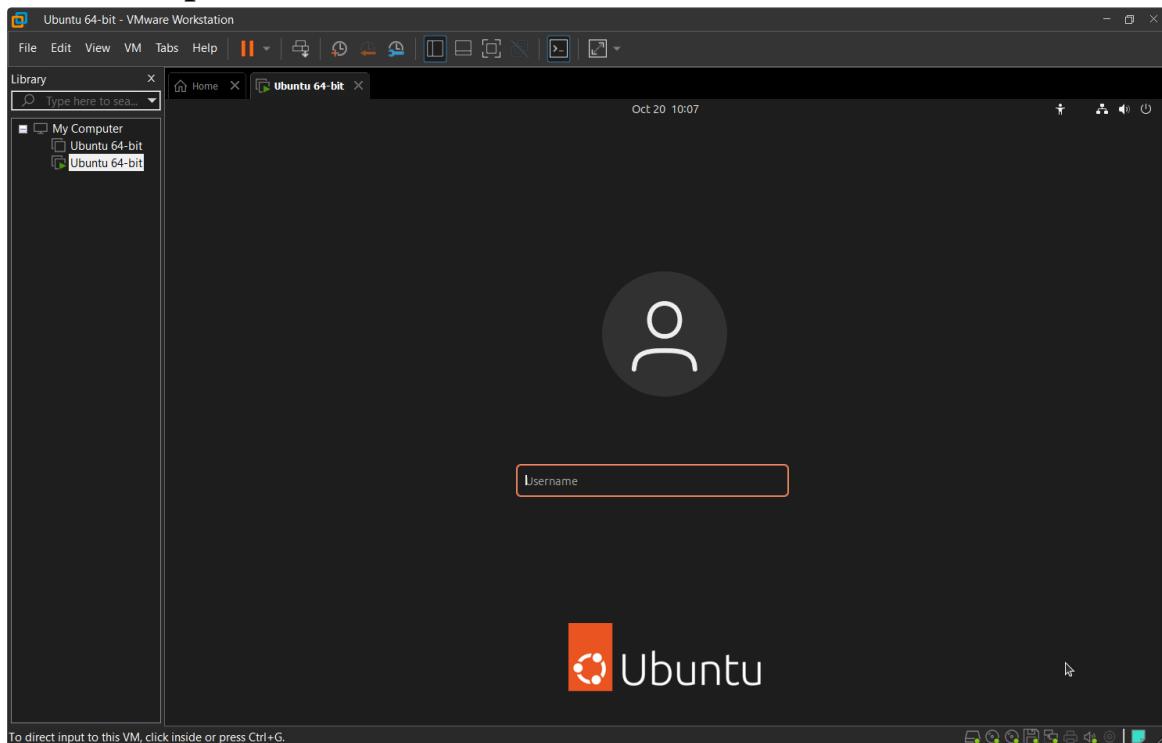
Step 6: Adjust the max. Disk size and click on store disk as a single file for moving or cloning the virtual machine easily and click next



Step 7: You can customize the hardware for your need and after checking the hardware configuration click on finish

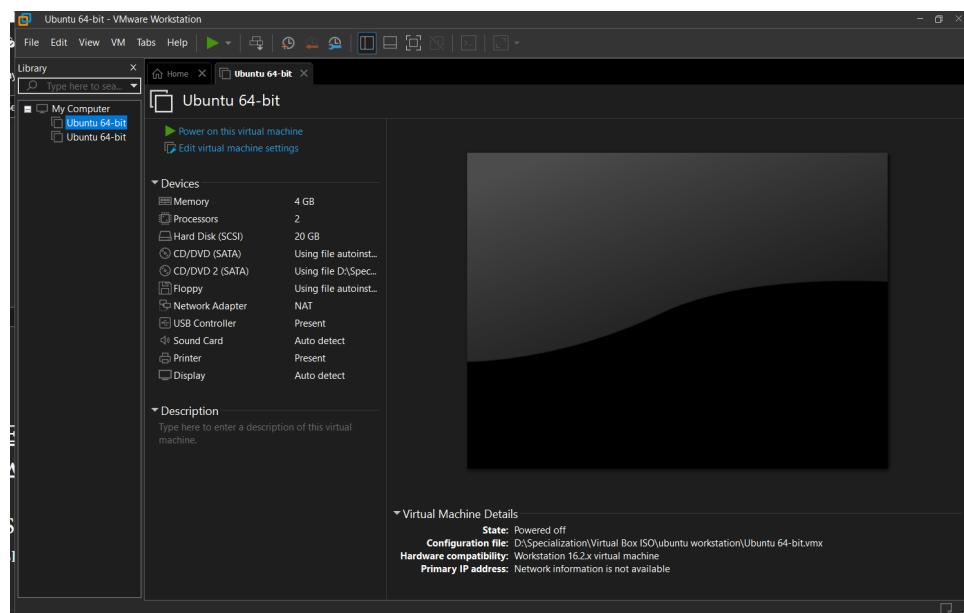


Step 8: Now virtual machine is installed in the VMware workstation pro

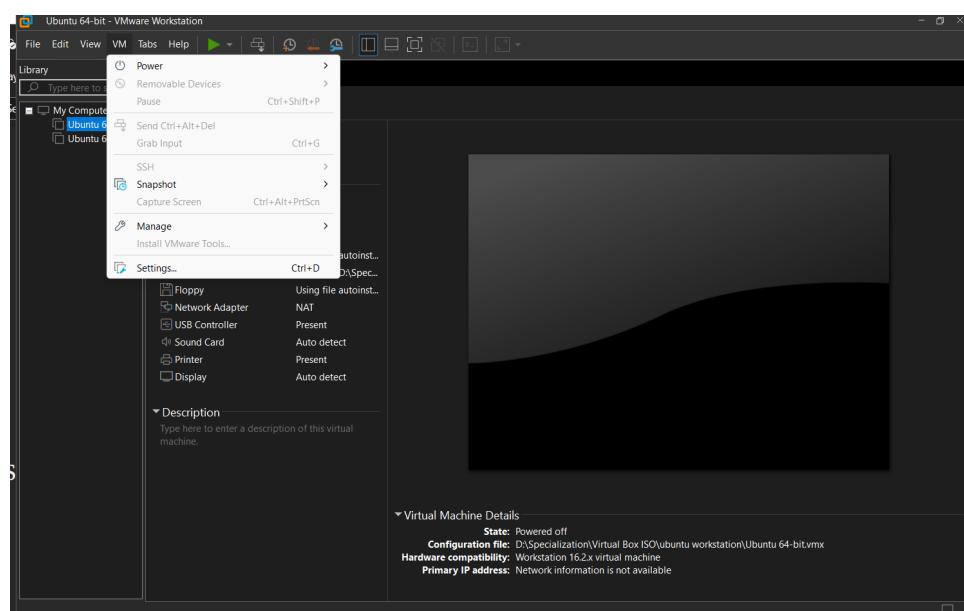


Experiment-02 Taking Snapshot in the VMware workstation pro

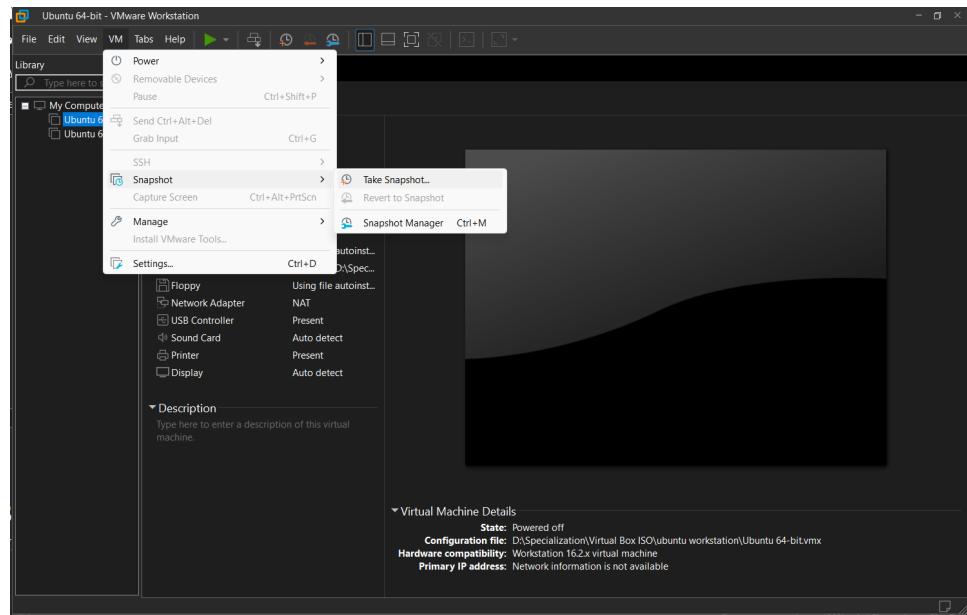
Step 1: Click on the virtual machine to which you want to take snapshot



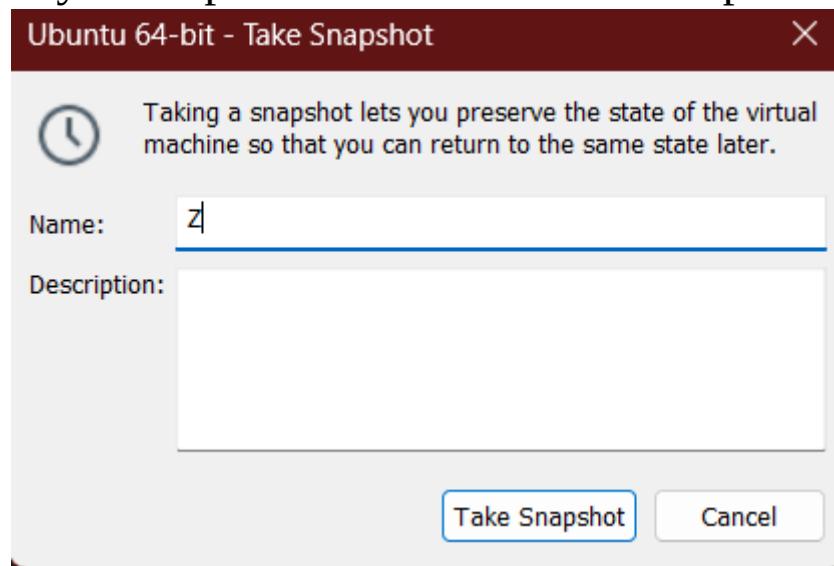
Step 2: Click on the VM tab on the taskbar



Step 3: Click on the snapshot option to create the snapshot of the virtual machine and click on the take snapshot option



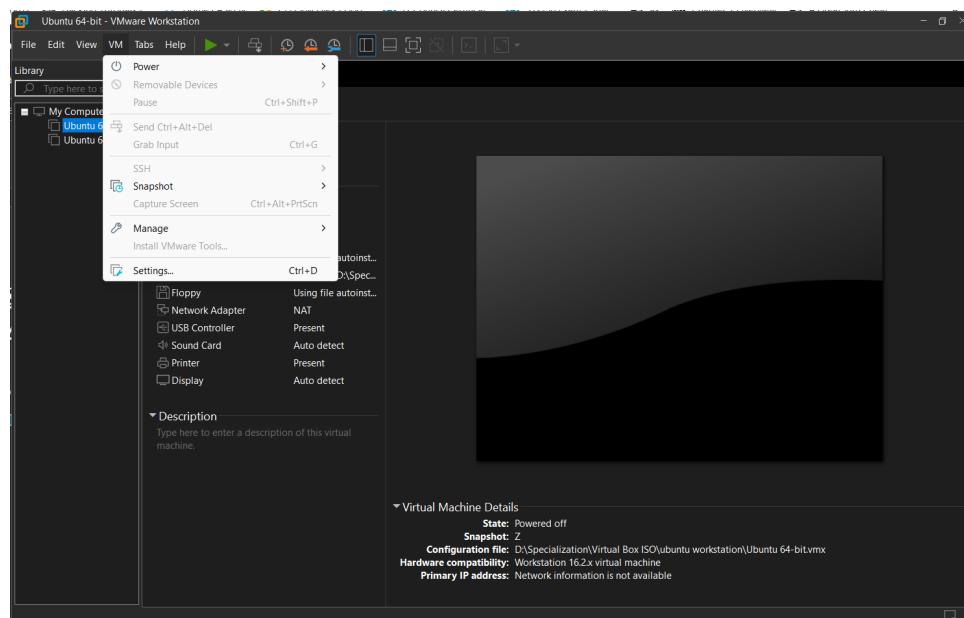
Step 4: Name you snapshot and click on take snapshot



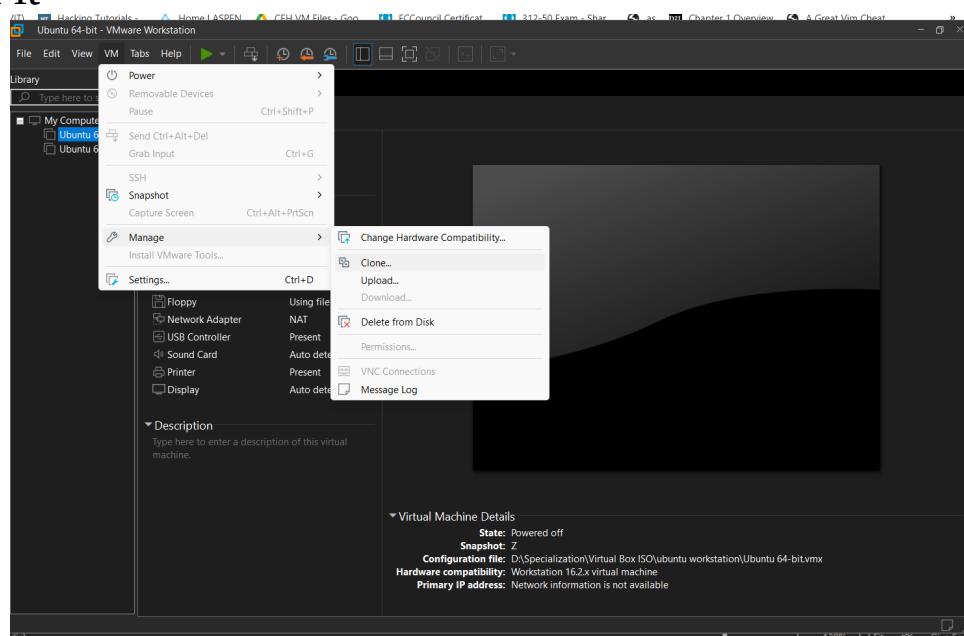
Now the snapshot has been taken of the virtual machine

Experiment-03 Cloning the virtual machine in the VMware workstation pro

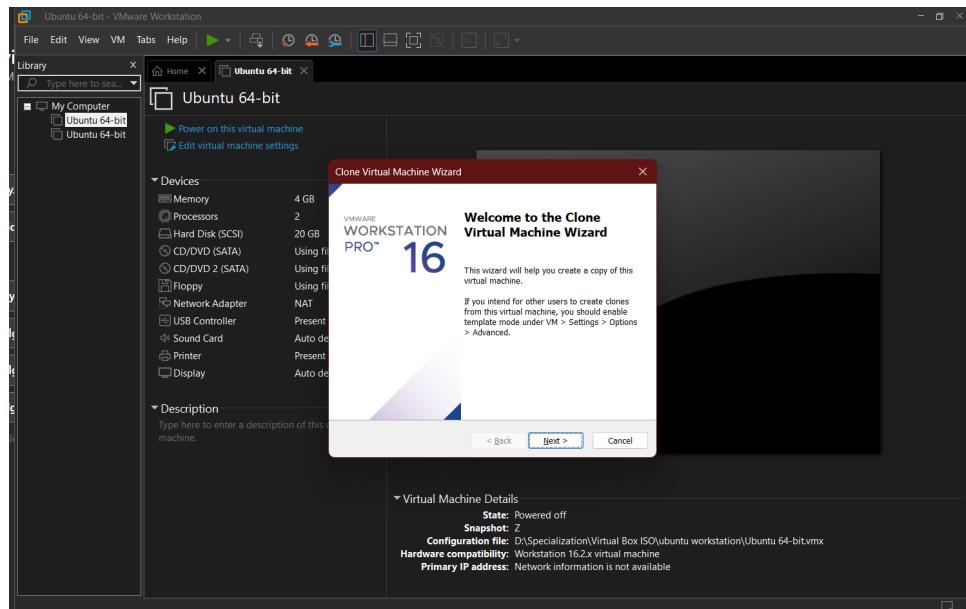
Step 1: Click on the virtual machine to which you want to clone and then click on VM tab



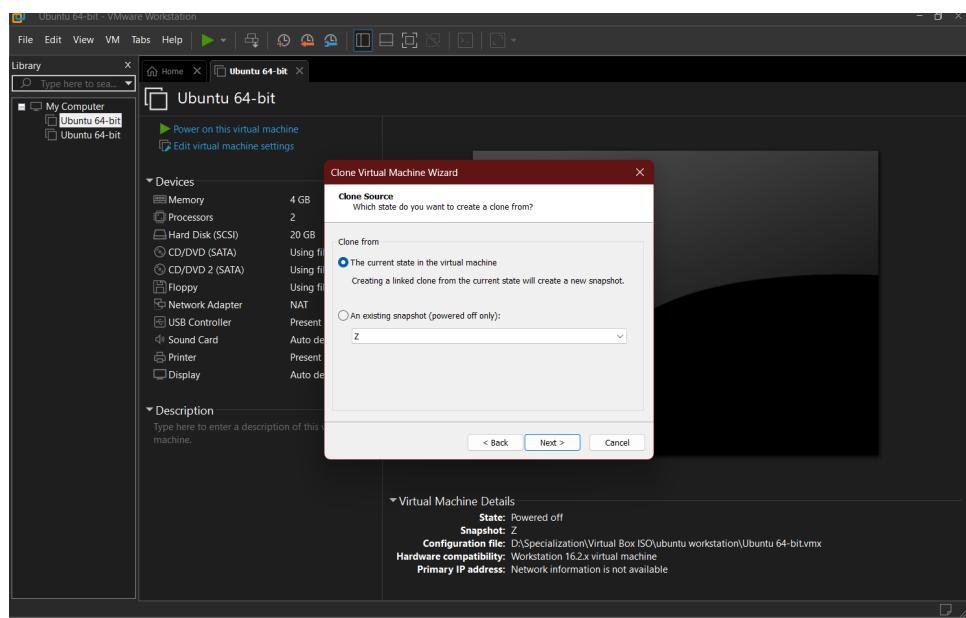
Step 2: Go to manage option and you will see the clone button click on it



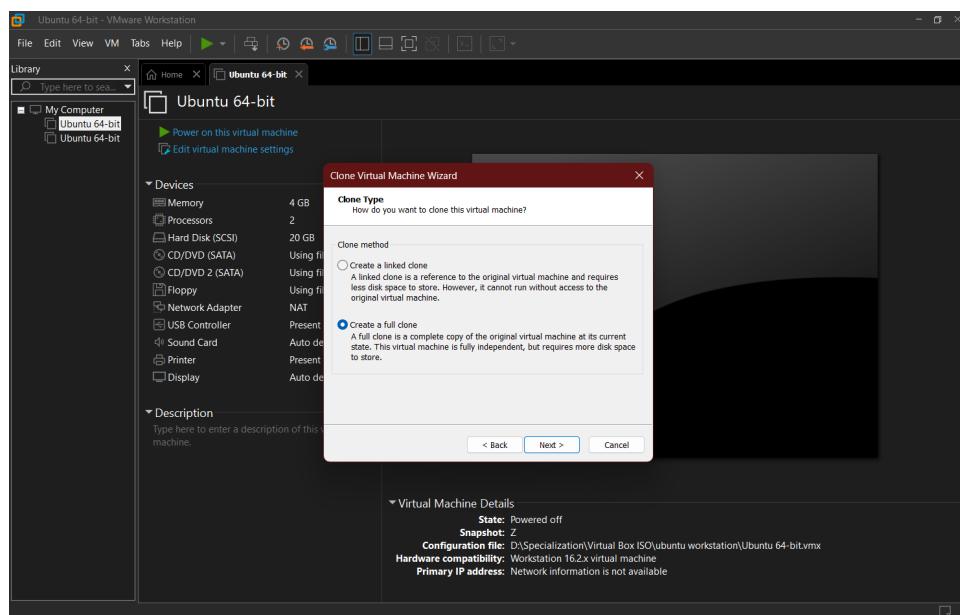
Step 3: A wizard box will appear and click on next



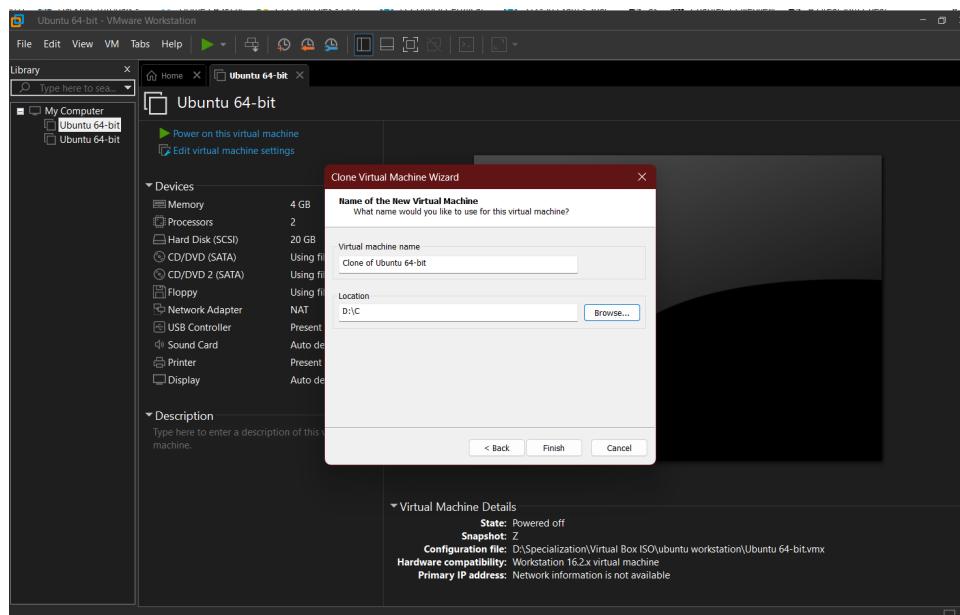
Step 2: Choose option 1 and click on next



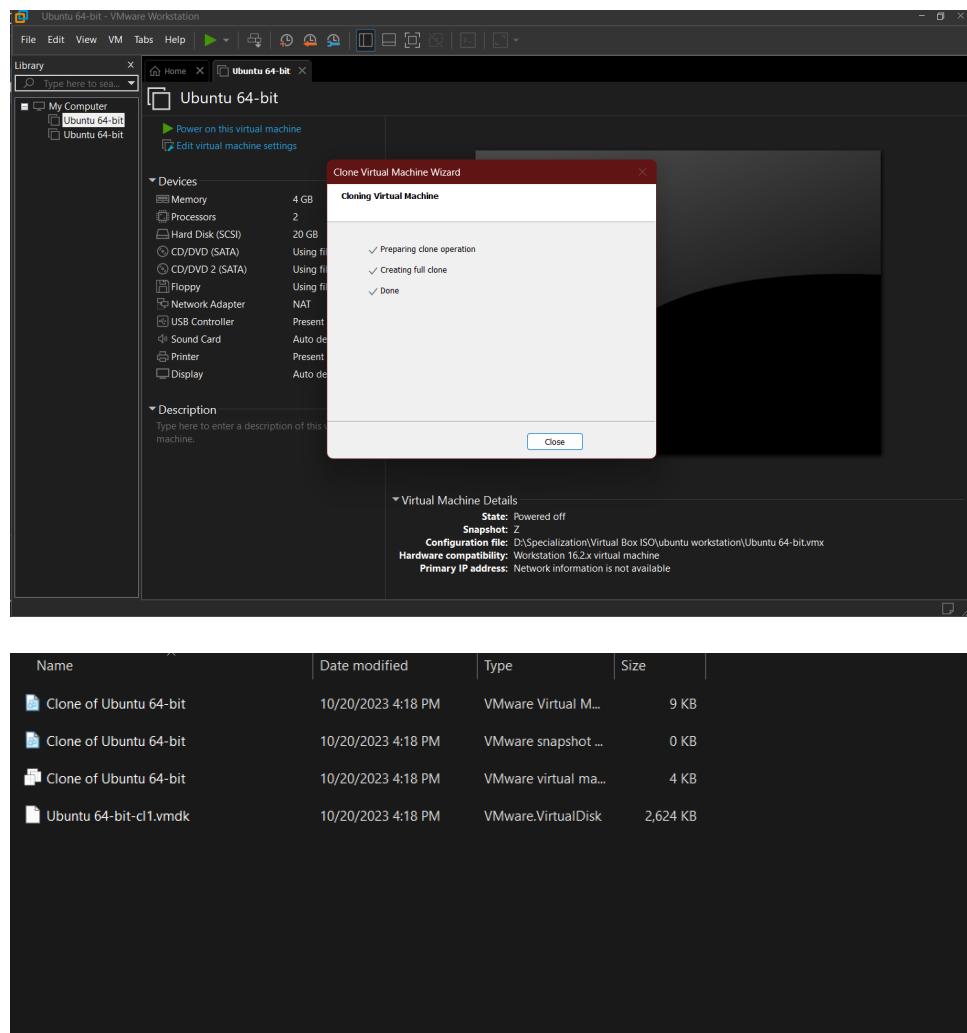
Step 3: Select create a full clone to make an independent clone of the virtual machine and then click on next



Step 4: Choose the name and location of the cloning virtual machine and click on finish

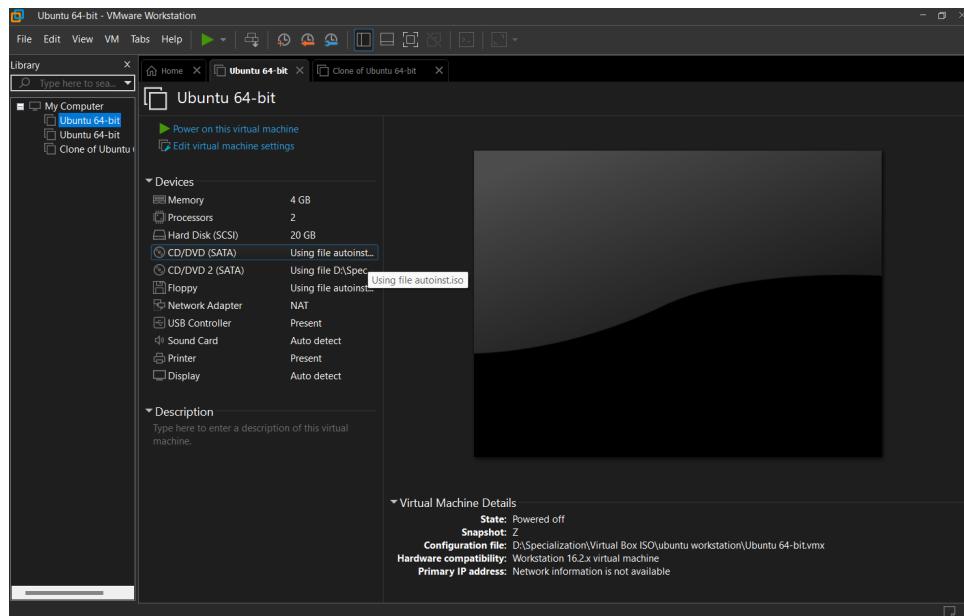


Step 5: The clone machine will be appeared on you selected location and folder

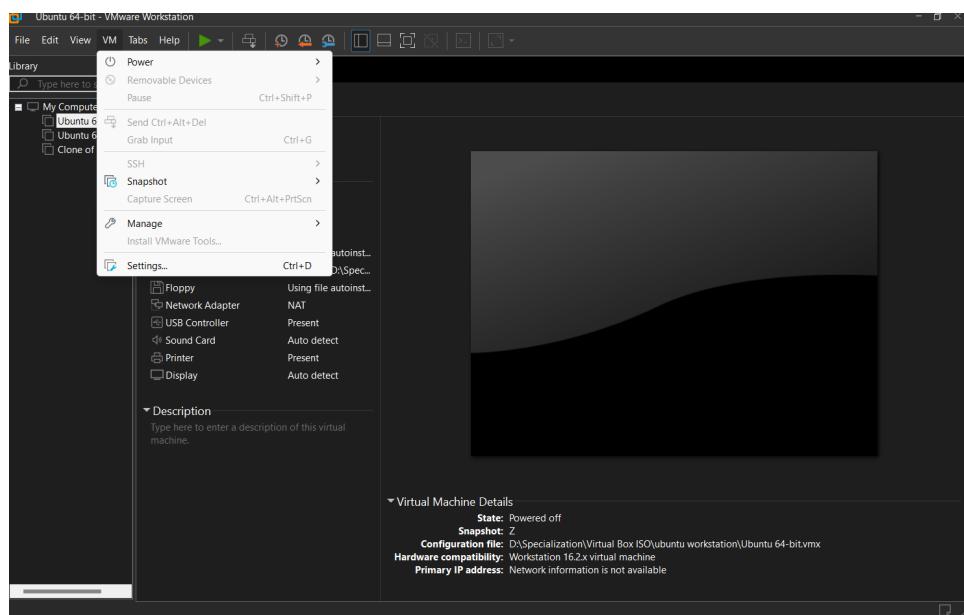


Experiment-03 Deleting the virtual machine in the VMware workstation pro

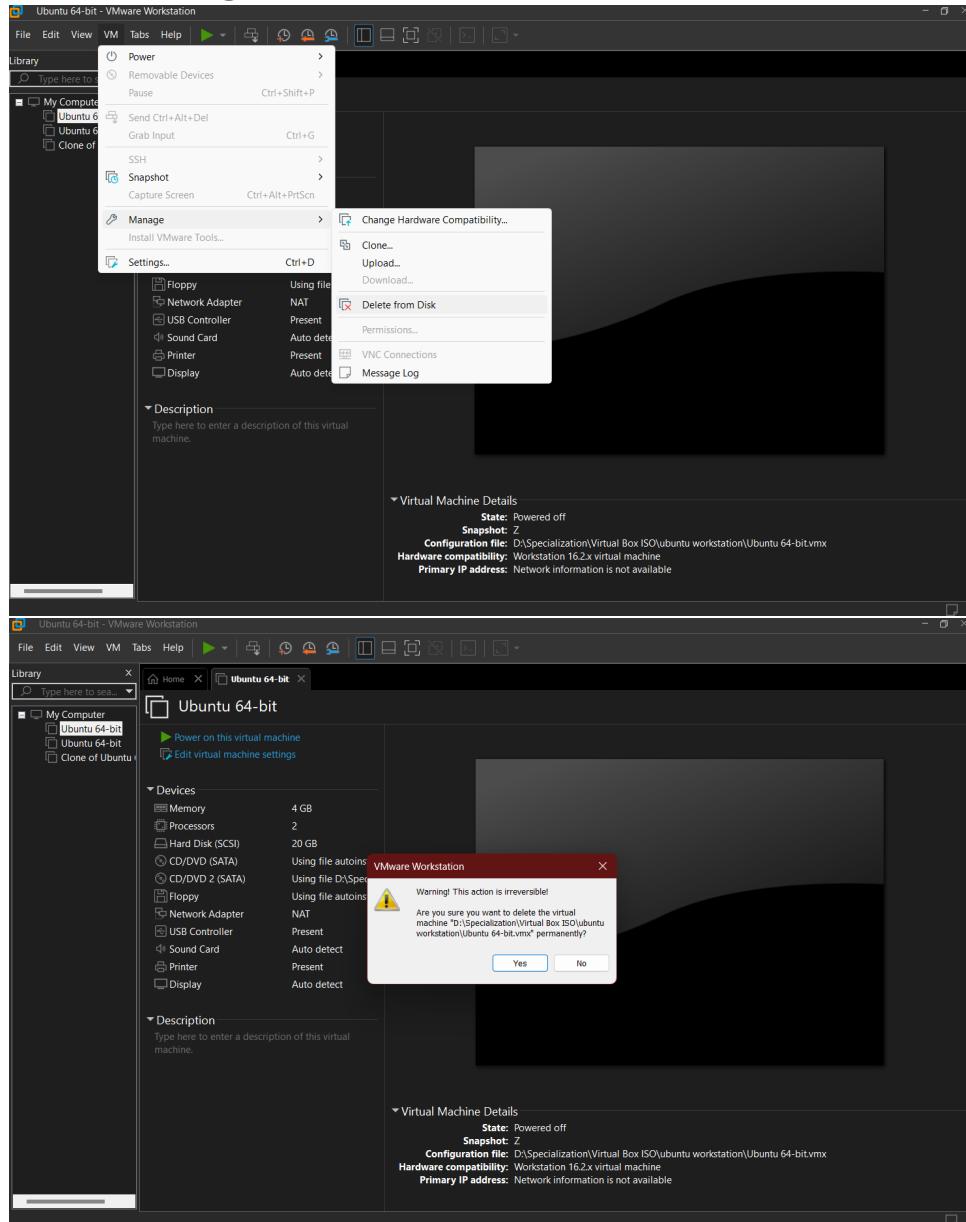
Step 1: Select the virtual machine to which you want to delete from the workstation



Step 2: Go to home tab and click on VM tab



Step 3: Go to manage and click on the delete button and click on it



Step 4: Click on yes to delete it from the system

Creating Virtual Machine on Azure

Step -01 : Select Create resource option

The screenshot shows the Microsoft Azure portal homepage. At the top, there's a blue header bar with the Microsoft Azure logo and a search bar. Below the header, the main content area has a title 'Azure services' and a large white button with a blue plus sign containing the text 'Create a resource'. To the right of this button are icons for 'Cost Management ...', 'Traffic Manager profiles', and 'App Services'. Below this section is another titled 'Resources'.

Step-02 : Select Virtual Machine Option

The screenshot shows the 'Create a resource' page in the Microsoft Azure portal. On the left, there's a sidebar with sections like 'Get Started', 'Recently created', 'Categories' (which lists 'AI + Machine Learning', 'Analytics', 'Blockchain', 'Compute', 'Containers', 'Databases', 'Developer Tools', 'DevOps', and 'Identity'), and a search bar at the top. The main area has a search bar and a 'Getting Started? Try our Quickstart center' link. Below the search bar, there's a section for 'Popular Azure services' with links to 'Virtual machine', 'Web App', 'SQL Database', 'Function App', and 'Key Vault'. To the right, there's a 'Popular Marketp' section with links to 'Windows' (Create | Learn), 'Microsoft' (Create | Learn), 'Windows' (Create | Learn), 'Ubuntu S' (Create | Learn), and 'Ubuntu S' (Create | Learn).

Step-03: Enter the Configuration Setting for Virtual Machine.

Home > Create a resource >

Create a virtual machine

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * ⓘ

Azure for Students

Resource group * ⓘ

(New) VMServer_group

[Create new](#)

Instance details

Virtual machine name * ⓘ

VMServer

Region * ⓘ

(US) East US

Availability options ⓘ

Availability zone

Availability zone * ⓘ

Zones 1

You can now select multiple zones. Selecting multiple zones will create one VM per zone. [Learn more ⓘ](#)

Security type ⓘ

Trusted launch virtual machines

[Configure security features](#)

Image * ⓘ

Debian 11 "Bullseye" - x64 Gen2

[See all images](#) | [Configure VM generation](#)

[Review + create](#)

< Previous

Next : Disks >

Size * ⓘ

Standard_B2s - 2 vcpus, 4 GiB memory (₹2,384.94/month)

[See all sizes](#)

Administrator account

Authentication type ⓘ

SSH public key

Password

Info Azure now automatically generates an SSH key pair for you and allows you to store it for future use. It is a fast, simple, and secure way to connect to your virtual machine.

Username * ⓘ

azureuser

SSH public key source

Generate new key pair

Key pair name *

VMServer_key

Inbound port rules

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

Public inbound ports * ⓘ

None

Allow selected ports

Select inbound ports *

SSH (22)

Step -04: Next click on Review and Create

Screenshot of the Microsoft Azure 'Create a virtual machine' wizard. The page shows validation passed and the 'Review + create' step selected. It displays the price for 1 X Standard B2s VM at 3.2670 INR/hr. The user has entered 'NARENDRA KUMAR' as the name and 'narendra.kumar2020@vitbhopal.ac.in' as the preferred e-mail address. The 'Create' button is visible at the bottom.

Step-05: Now we can see our virtual Machine has been created.

Screenshot of the Microsoft Azure portal showing the 'Azure services' and 'Resources' sections. The 'Recent' tab in the resources section is selected, displaying three items: 'VMServer' (Virtual machine), 'VMServer_OsDisk_1_d74917e167624624a4358a7eb8cdd90b' (Disk), and 'VMS' (Resource group).

The screenshot shows the Microsoft Azure portal interface. At the top, there's a search bar and a navigation bar with icons for Home, Notifications, and Help. Below that, the main title is 'VMServer' under 'Virtual machine'. On the left, there's a sidebar with 'Overview' selected, followed by 'Activity log', 'Access control (IAM)', 'Tags', and 'Diagnose and solve problems'. Under 'Settings', there are sections for 'Networking', 'Connect', and 'Disks'. The main content area is titled 'Essentials' and contains the following information:

	:		
Resource group	(move) : VMS	Operating system	: Linux
Status	: Stopped (deallocated)	Size	: Standard B2s (2 vcpus, 4 GB memory)
Location	: East US	Public IP address	: 4.227.252.49
Subscription	(move) : Azure for Students	Virtual network/subnet	: VMServer-vnet/default
Subscription ID	: d9f876c3-a987-4a0e-838e-3b73d3e44210	DNS name	: Not configured
Tags	(edit) : Add tags	Health state	: -

At the bottom of the essentials section, there are links for 'Properties', 'Monitoring', 'Capabilities (7)', 'Recommendations', and 'Tutorials'.

Step-06: Now we can also connect our virtual machine from local computer Terminal using IP address and RSA private key

```
PS C:\Users\Narendra\Downloads> ssh -i VMServer_key.pem ks@4.227.252.49
Linux VMServer 5.10.0-26-cloud-amd64 #1 SMP Debian 5.10.197-1 (2023-09-29) x86_64

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/*copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Fri Oct 20 12:27:55 2023 from 106.194.179.41
ks@VMServer:~$ █
```

Step -07: We can start work on created Virtual Machine.

```
Last login: Fri Oct 20 12:27:55 2023 from 106.194.179.41
ks@VMServer:~$ whoami
ks
ks@VMServer:~$ mkdir narendra
ks@VMServer:~$ cd narendra/
ks@VMServer:~/narendra$ █
```