

Exercise on Virtualization

1. Objective

- Create a virtual machine (VM) and install Ubuntu.
- Set up a shared folder between the host and the VM using VMware Tools.
- Copy a file from the host to the VM.

2. Creating the VM and Installing Ubuntu

I used VMware Workstation as the hypervisor. The VM creation process began by clicking on "Create a New Virtual Machine".

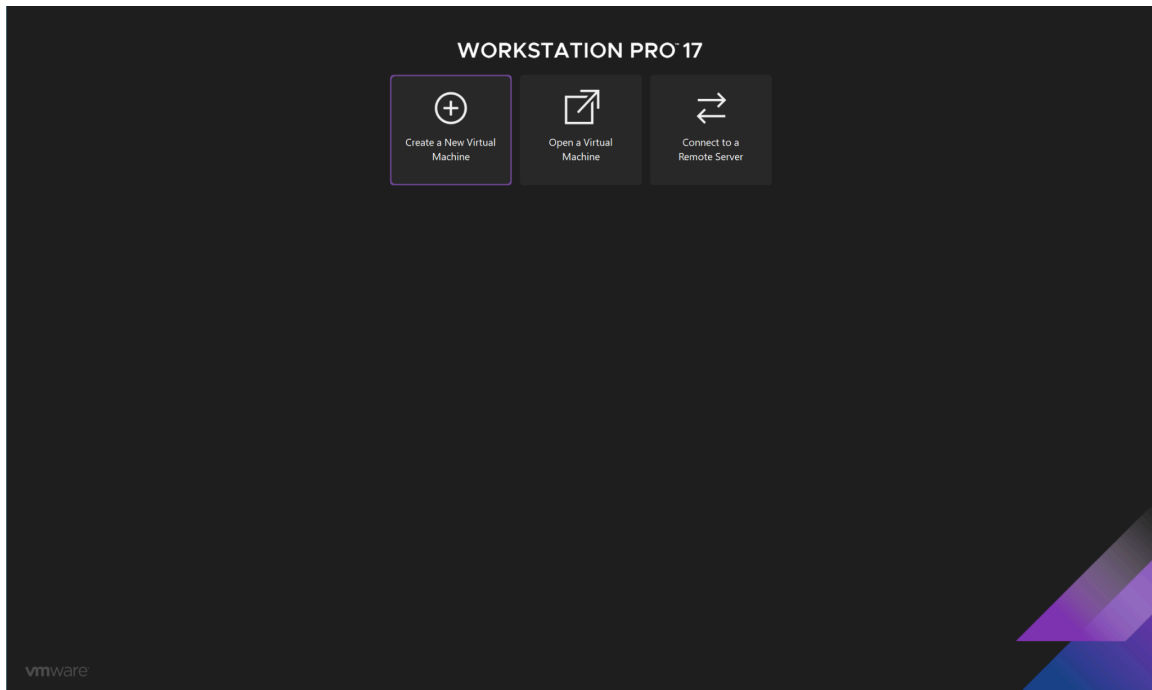


Figure 1: VMware Workstation start screen with the "Create a New Virtual Machine" option.

I downloaded the latest Ubuntu 24.04 LTS ISO from ubuntu.com to use during the installation.

New Virtual Machine Wizard ✕

Guest Operating System Installation

A virtual machine is like a physical computer; it needs an operating system. How will you install the guest operating system?

Install from:

☐ Installer disc:

No drives available

☒ Installer disc image file (iso):

C:\Users\youne\Downloads\ubuntu-24.04.2-desktop-ar ▼ Browse...

i Ubuntu 64-bit 24.04.2 detected.
This operating system will use Easy Install. [\(What's this?\)](#)

☐ I will install the operating system later.

The virtual machine will be created with a blank hard disk.

Help < Back Next > Cancel

Figure 2: Selecting the Ubuntu ISO file to install the operating system.

After entering my name and username, I allocated disk space from the physical machine to the virtual machine.

New Virtual Machine Wizard

×

Specify Disk Capacity
How large do you want this disk to be?

The virtual machine's hard disk is stored as one or more files on the host computer's physical disk. These file(s) start small and become larger as you add applications, files, and data to your virtual machine.

Maximum disk size (GB):

Recommended size for Ubuntu 64-bit: 20 GB

☐ Store virtual disk as a single file

☒ Split virtual disk into multiple files

Splitting the disk makes it easier to move the virtual machine to another computer but may reduce performance with very large disks.

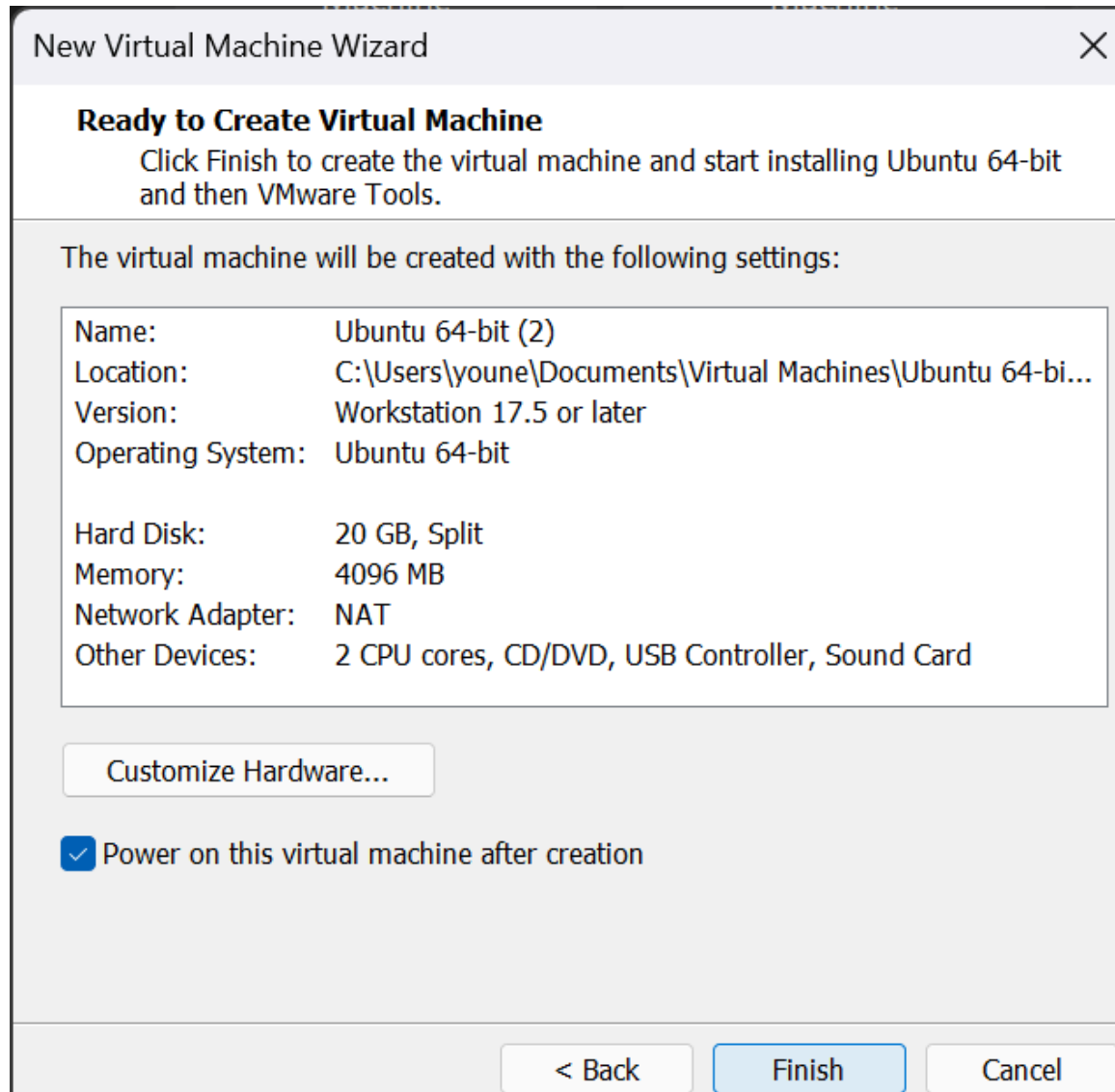
Help

< Back

Next >

Cancel

Figure 3: Allocating storage space to the VM.



Once I clicked "Finish", the VM was ready to power on. After powering on the VM, I followed the steps to complete the Ubuntu OS installation.

To finalize the setup, I installed some essential packages using the terminal:

```
sudo apt update && sudo apt upgrade
```

```
sudo apt install vim curl git
```

3. Creating a Shared Folder Between the Host and the VM

Step 1: Installing VMware Tools

To enable shared folder functionality, I installed the required packages with the following commands:

```
sudo apt install open-vm-tools open-vm-tools-desktop
```

After installation, I rebooted the VM.

Step 2: Enabling Shared Folder Access

While the VM was powered off, I went to "Edit virtual machine settings > Options > Shared Folders", enabled it, and selected "Always enabled".

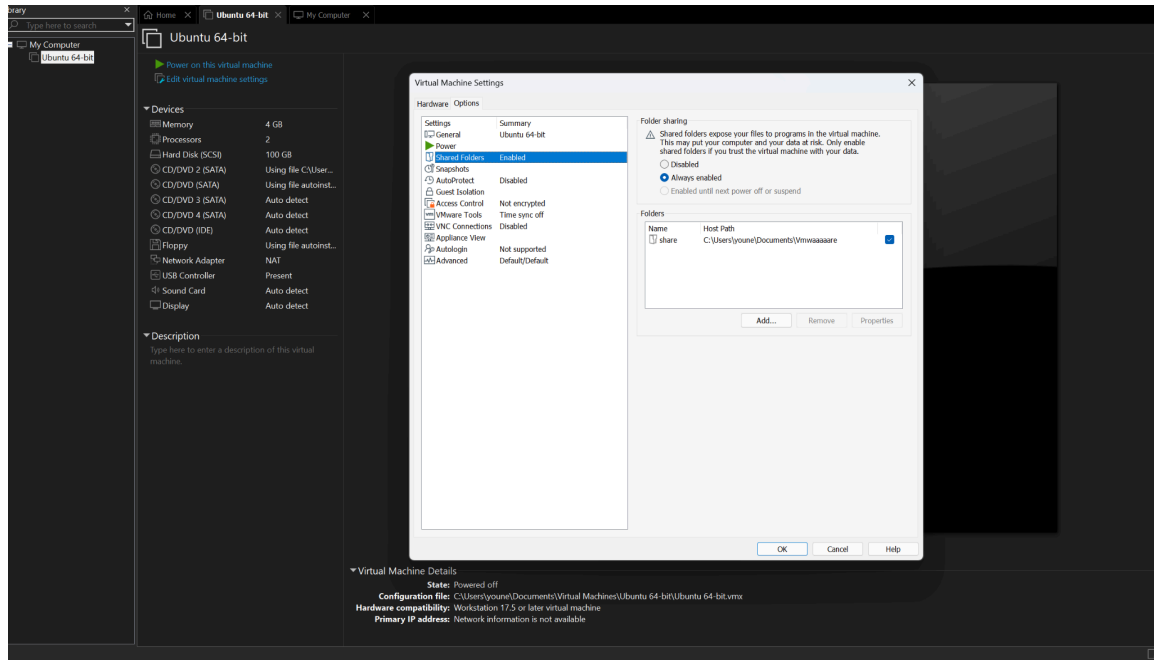
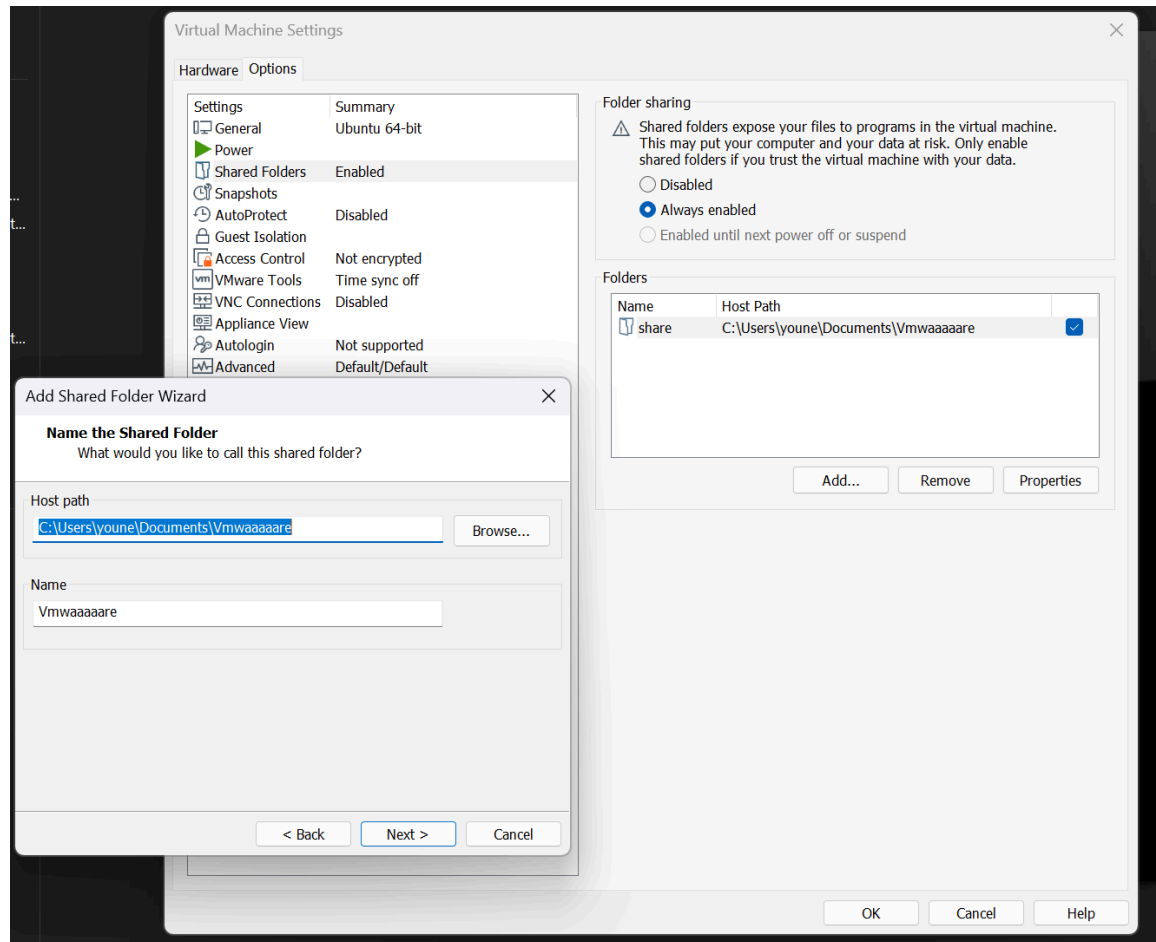


Figure 4: Enabling shared folder settings in VMware.



Next, I created a folder on the host machine, clicked "Add", entered the folder path, and specified a name for the shared folder.

After turning the VM back on, I mounted the shared folder using:

```
sudo vmhgfs-fuse .host:/ /mnt/hgfs -o allow_other
```

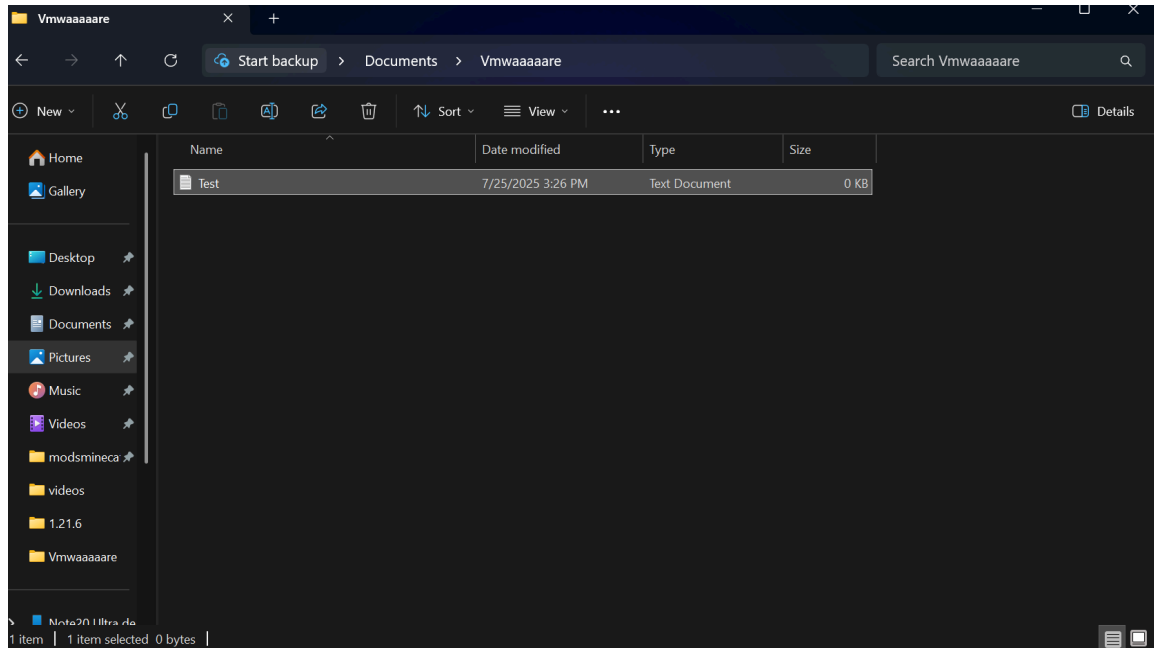
```
younes-hamdani@VMLENOVO:~$ sudo vmhgfs-fuse .host:/ /mnt/hgfs -o allow_other
[sudo] password for younes-hamdani:
younes-hamdani@VMLENOVO:~$ ls /mnt/hgfs
share
younes-hamdani@VMLENOVO:~$
```

To verify the shared folder was accessible:

```
ls /mnt/hgfs
```

4. Copying a File from Host to VM

Step 1:



Create a file (e.g., test.txt) inside the shared folder on the host machine.

Step 2:

```
younes-hamdani@VMLENOVO:~$ cd /mnt/hgfs/share/
younes-hamdani@VMLENOVO:/mnt/hgfs/share$
```

On the terminal, navigate to the shared folder:

```
cd /mnt/hgfs/[SharedFolderName]
```

Step 3:

Copy the file to the VM's home directory:

```
cp test.txt ~/
```

```
younes-hamdani@VMLENOVO:~$ cd /mnt/hgfs/share/
younes-hamdani@VMLENOVO:/mnt/hgfs/share$ cp test.txt ~/
younes-hamdani@VMLENOVO:/mnt/hgfs/share$
```

You can now find the file using the file manager inside the VM.

