Assignment 4:

1.Install and configure a virtual machine (e.g., using VirtualBox or VMware) with a Linux distribution of your choice.

- **Choose Language**: Select the language for the installation.
- **Keyboard Layout**: Choose the keyboard layout (usually "English (US)" works).
- **Installation Type**: Choose the default installation options. For a simple setup, select "Erase disk and install Ubuntu" (don't worry, this will only affect the virtual hard disk, not your actual physical disk).
- **Set User Info**: Enter your name, desired username, and password.
- **Wait for Installation**: The installation will proceed. This may take a few minutes.
- **Finish Installation**: Once completed, you'll be asked to reboot the VM. Make sure to remove the ISO file from the virtual CD drive to avoid booting into the installer again.

Download a Linux ISO:

- Go to the **Ubuntu website**: Ubuntu Downloads and download an ISO image (e.g., ubuntu-20.04.3-desktop-amd64.iso).

Mount the ISO to the VM:

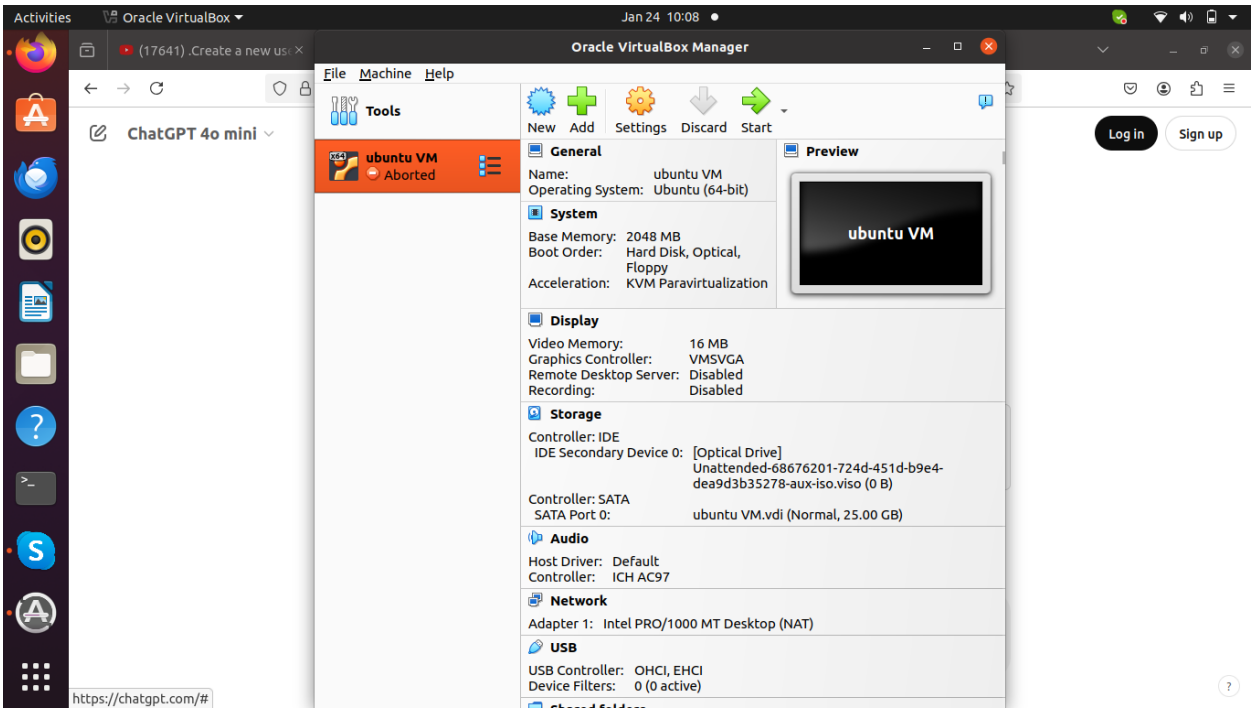
- Select your new virtual machine in the VirtualBox window and click **Settings**.
- Go to **Storage** in the left sidebar.
- Under **Controller: IDE**, click on **Empty** and then click the disk icon on the right side.
- Choose **Choose a disk file** and select the ISO file you downloaded (e.g., ubuntu-20.04.3-desktop-amd64.iso).
- Click **OK** to save the settings.
- **Create a New Virtual Machine**:
- Click **New** at the top left of the VirtualBox window.
- Choose a name for your virtual machine (e.g., "Ubuntu_VM").
- Select the type of OS and version. For example, for Ubuntu, select **Linux** and **Ubuntu (64-bit)**.
- Click **Next**.
- **Allocate Memory (RAM)**:
- Decide how much RAM you want to allocate to the VM. For Ubuntu, it's recommended to allocate at least **2 GB** (2048 MB) of RAM.
- Click **Next**.

Create a Virtual Hard Disk:

- Select **Create a virtual hard disk now** and click **Create**.
- Choose the disk file type (default is **VDI**).
- Select **Dynamically allocated** (this allows the virtual disk to grow in size as needed).
- Set the size of the virtual hard disk. **20 GB** should be enough for most Linux installations.
- Click **Create**.

Start the Virtual Machine:

- Click **Start** at the top of the VirtualBox window to boot the virtual machine.
- The VM will boot from the ISO file and begin the installation process.



2.Create a user named vmuser and enable SSH access to the virtual machine.

Create the User

Run the following command to create the user vmuser:

sudo adduser vmuser

You will be prompted to:

- Set a password for the user.
- Provide optional information (e.g., full name). You can press **Enter** to skip these fields.

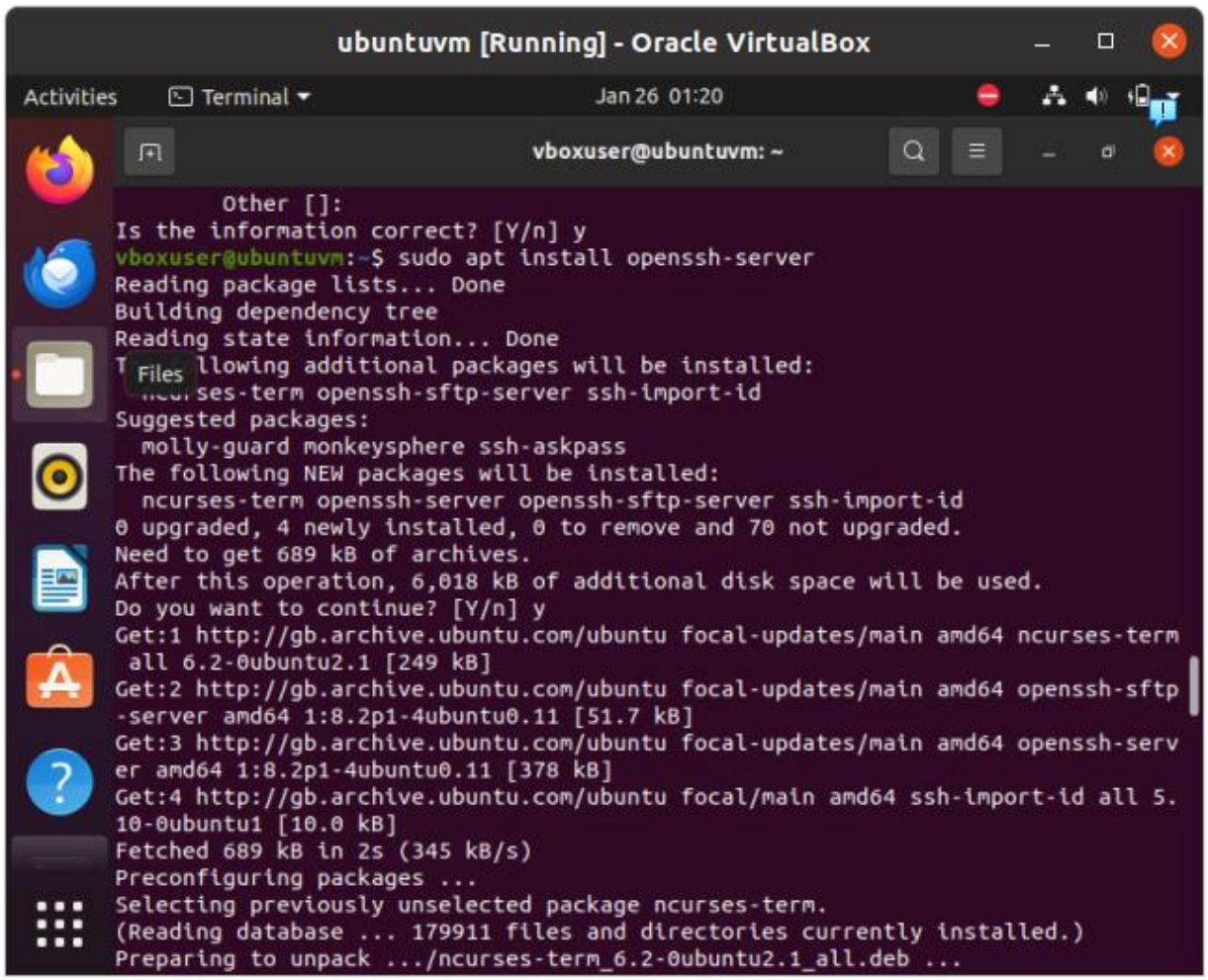
Ensure the SSH server is installed and running:

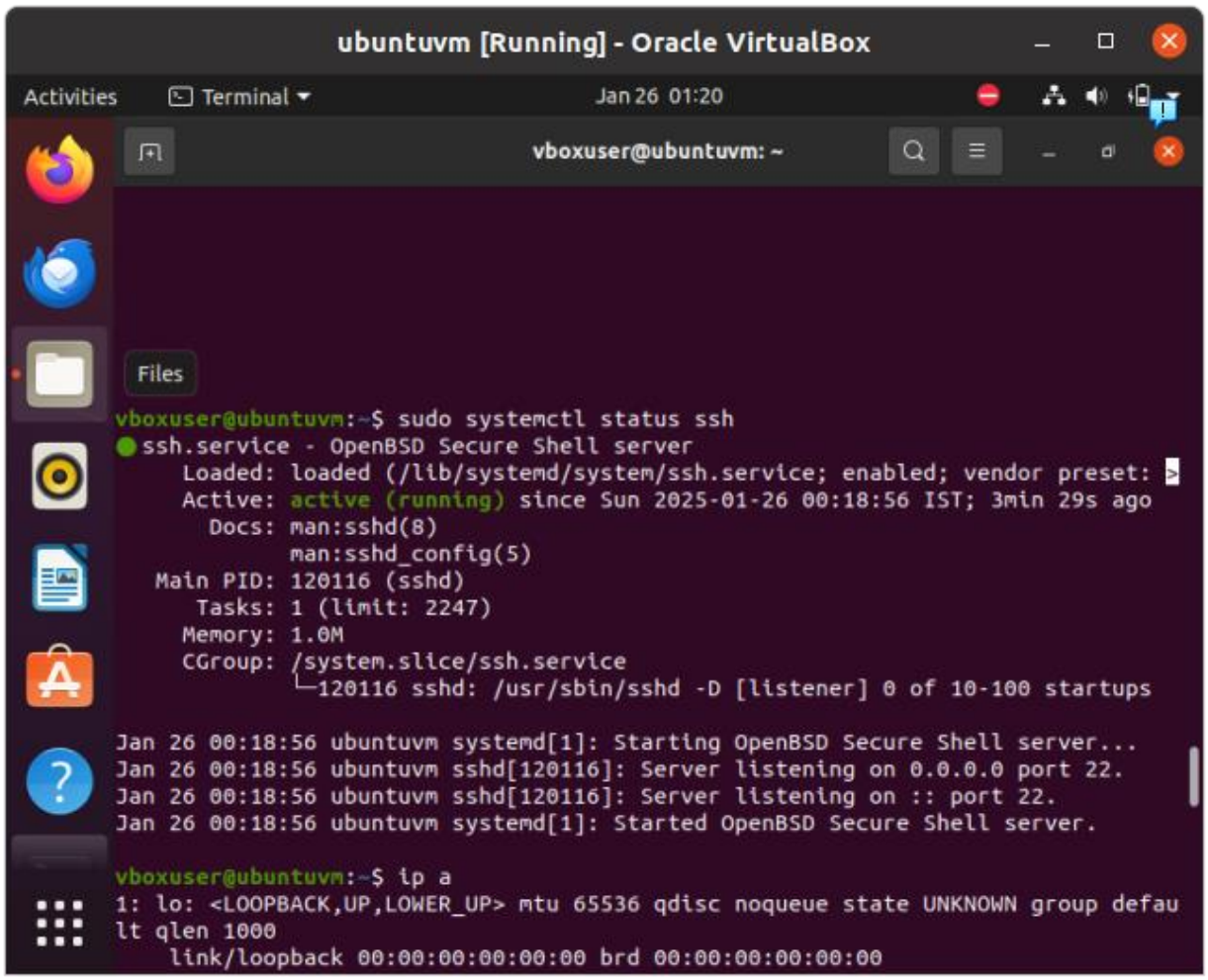
sudo apt update

sudo apt install openssh-server

sudo systemctl enable ssh

sudo systemctl start ssh




ubuntuvm [Running] - Oracle VirtualBox
Activities
Terminal
Jan 26 01:20
vboxuser@ubuntuvm: ~
Files
vboxuser@ubuntuvm:~$ sudo systemctl status ssh
ssh.service - OpenBSD Secure Shell server
Loaded: loaded (/lib/systemd/system/ssh.service; enabled; vendor preset:
Active: active (running) since Sun 2025-01-26 00:18:56 IST; 3min 29s ago
Docs: man:sshd(8)
man:sshd_config(5)
Main PID: 120116 (sshd)
Tasks: 1 (limit: 2247)
Memory: 1.0M
CGroup: /system.slice/ssh.service
└─120116 sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
Jan 26 00:18:56 ubuntuvm systemd[1]: Starting OpenBSD Secure Shell server...
Jan 26 00:18:56 ubuntuvm sshd[120116]: Server listening on 0.0.0.0 port 22.
Jan 26 00:18:56 ubuntuvm sshd[120116]: Server listening on :: port 22.
Jan 26 00:18:56 ubuntuvm systemd[1]: Started OpenBSD Secure Shell server.
vboxuser@ubuntuvm:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group defau
lt qlen 1000
link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00