Deliverable 3

Name: Junior Nunez

Date: 12/11/21

Due date: End-Of-Semester

[⣿⣿⣿⣿⣿⣿⣿⣿ Default Project ⣿⣿⣿⣿⣿⣿⣿⣿]

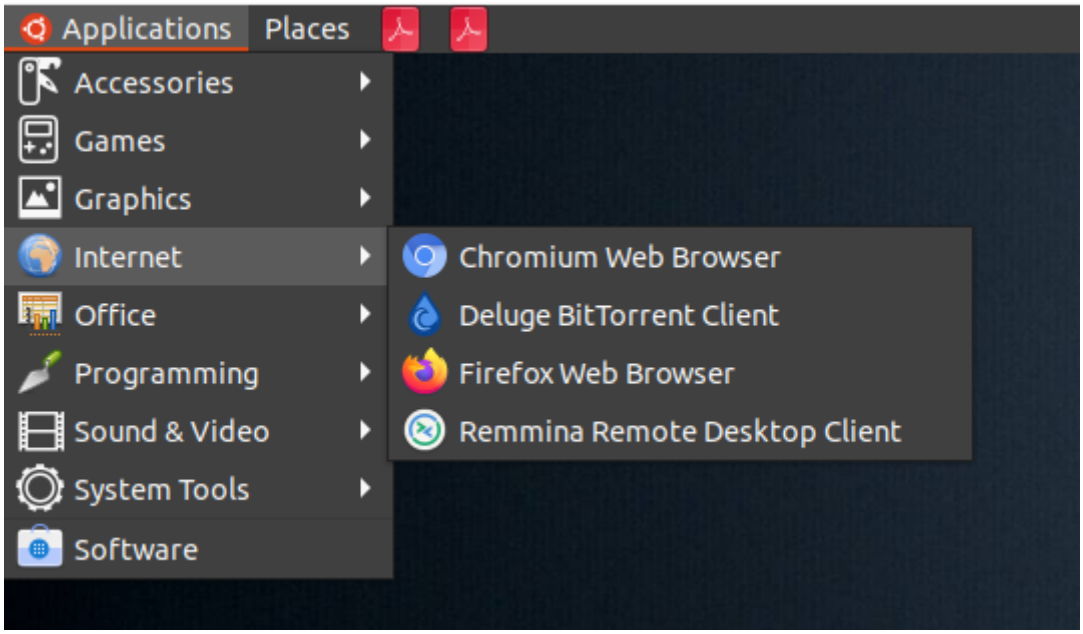
Topic: Setting up a Linux computer for everyday use.

Install Ubuntu 20.04

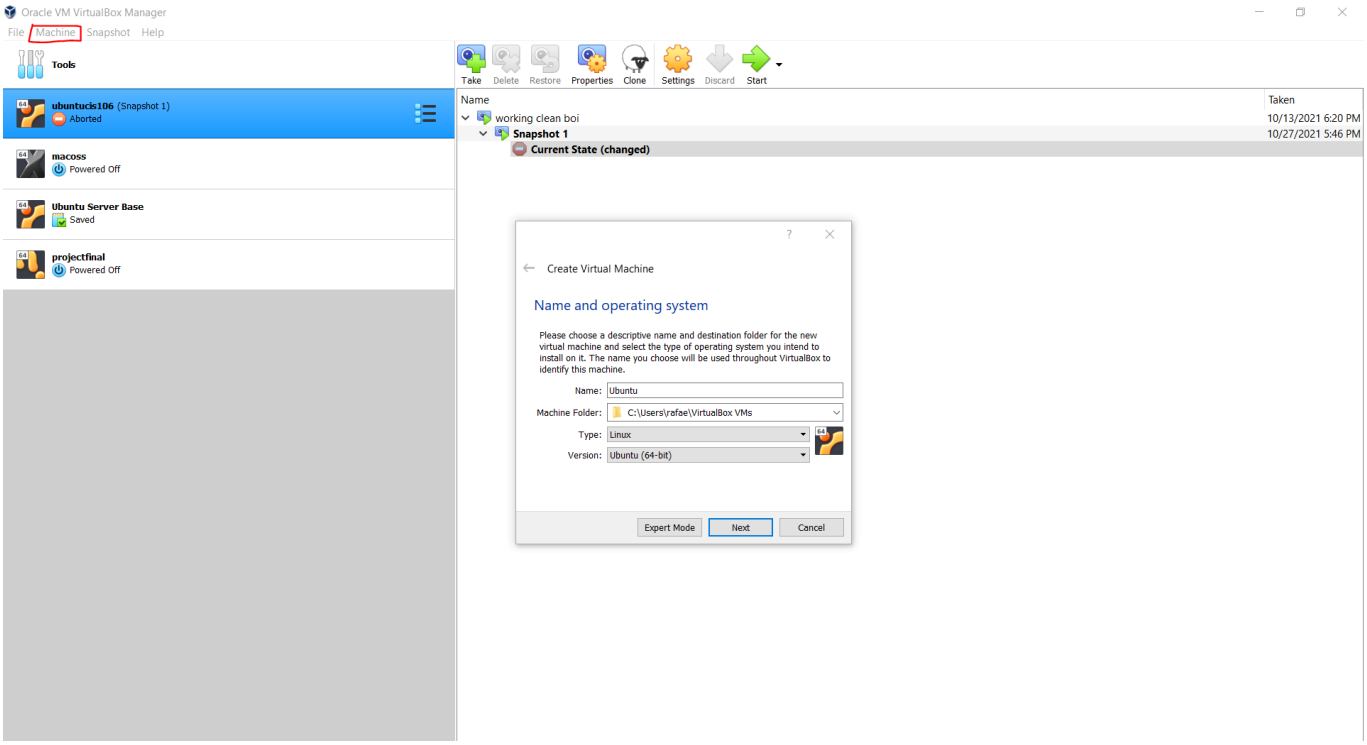
Want to know how to install and set up a computer to run Ubuntu Version 20.04? With Linux you will experience true freedom. But before you get a glimpse of that freedom you will need to meet some requirements.

Requirements:

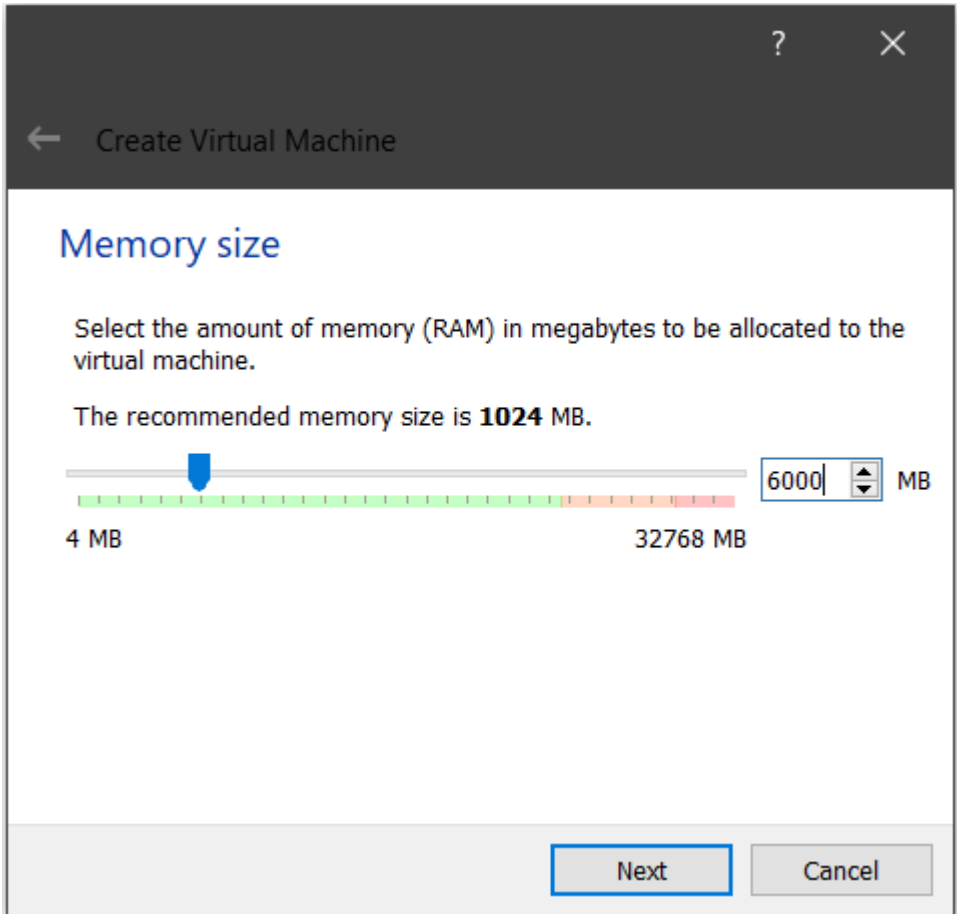
1. 4GB RAM - At least 4GB otherwise you will suffer.
2. Dual Core Processor (2 GHZ)
3. 40GB free disk space (Minimum disk space 25GB)
4. Reliable internet Connection - To download the program/iso
5. Installation media (ISO) [Operating system image] https://ubuntu.com/download/desktophttps://ubuntu.com/download/desktop
6. Download Virtual Box - Pick the package according to your platform wether is Mac OS, Linux or a Windows host. - h



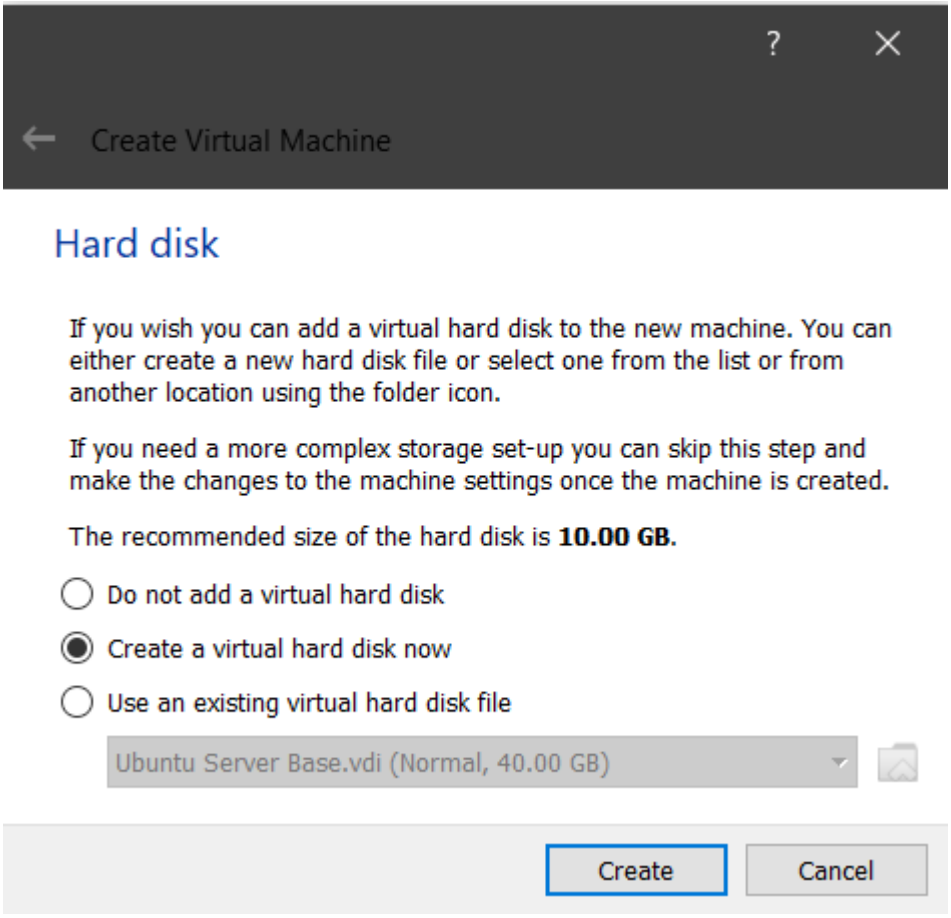
Name your machine and select the Linux (Ubuntu) version 64 Bits

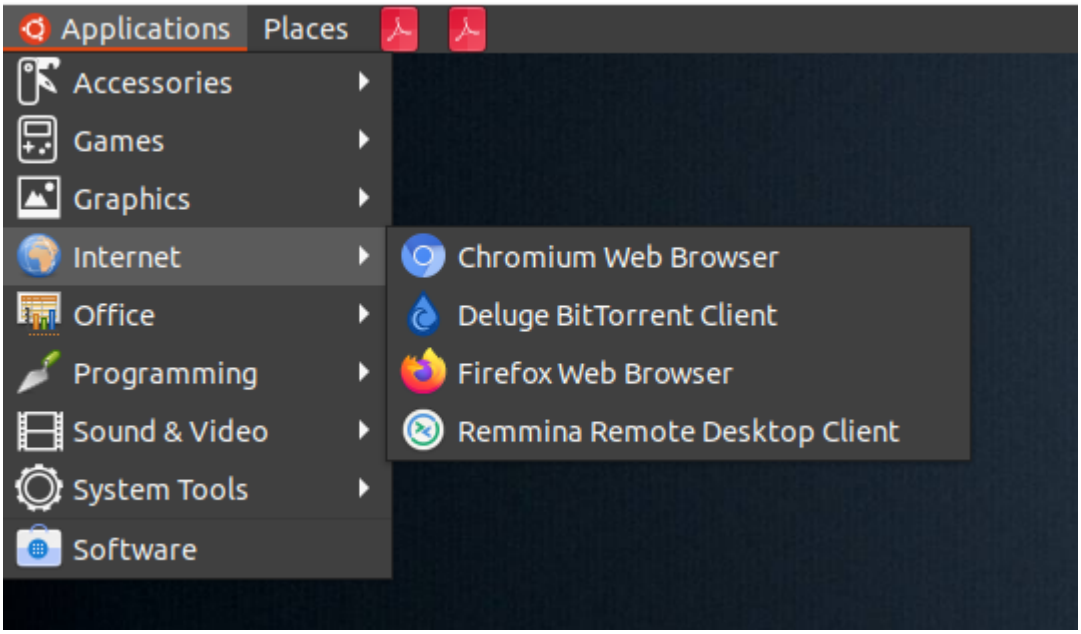


Set the ram for whatever amount higher than 4GB but make sure your machine has a good amount of ram for virtualization and cpu cores for processes/applications running the in the background.

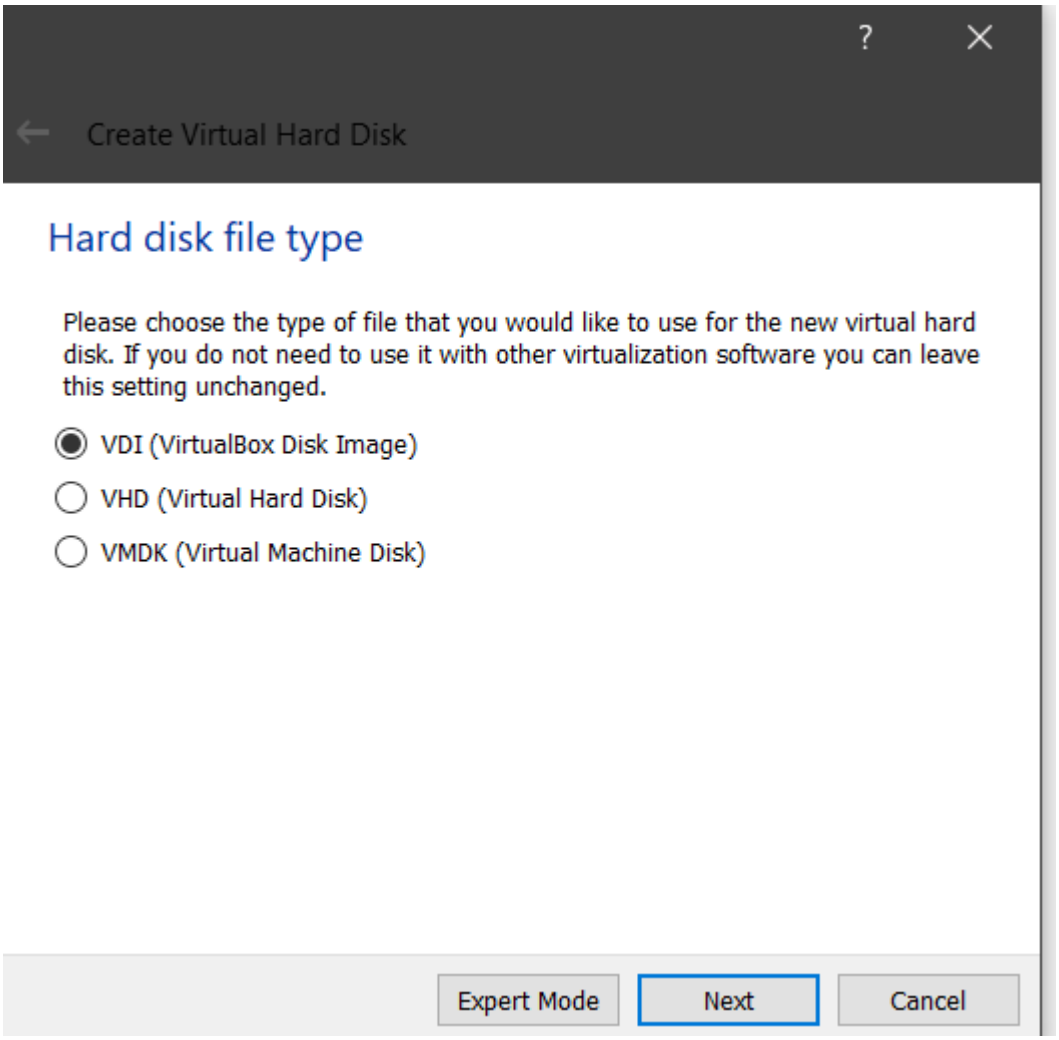


Create a virtual hard disk since there is no virtual hard disk available

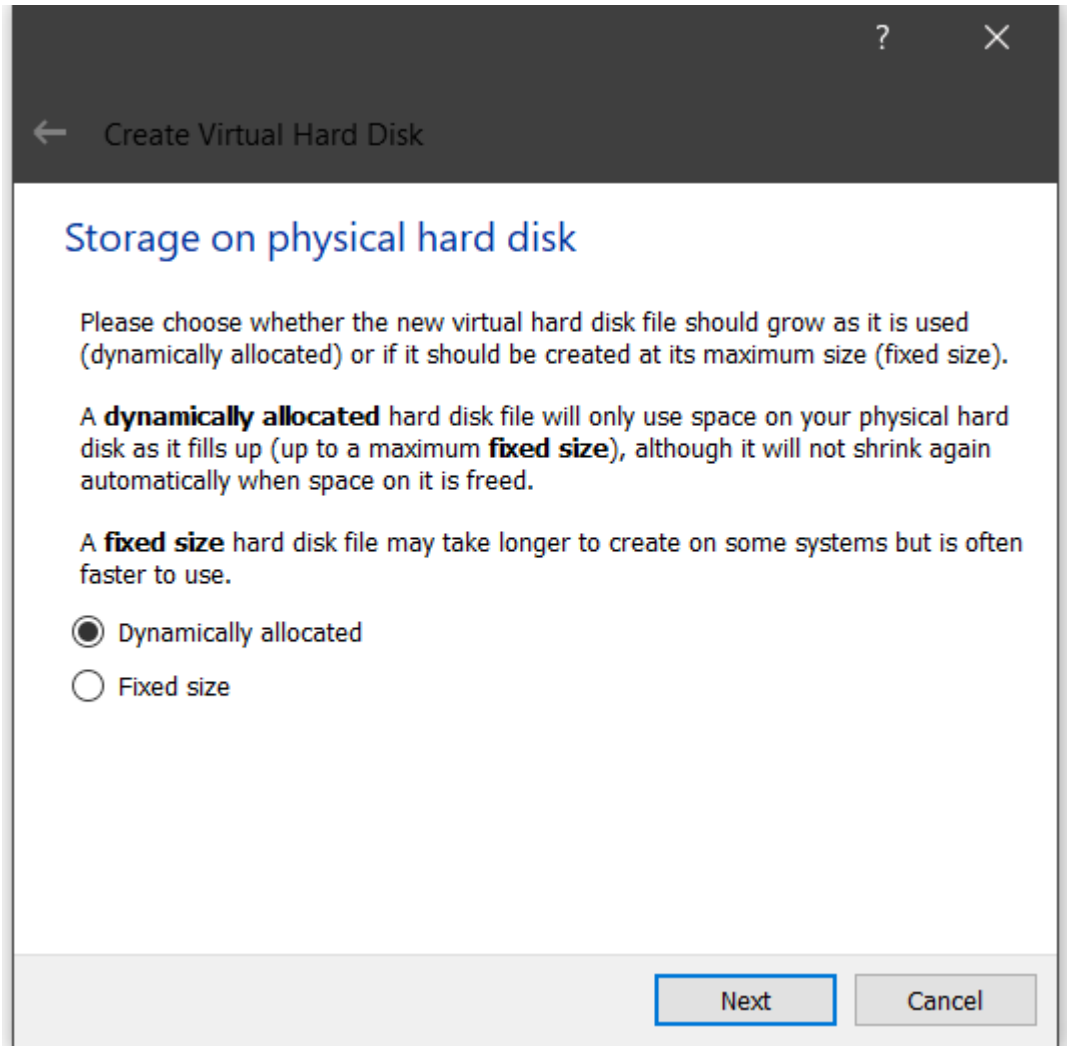




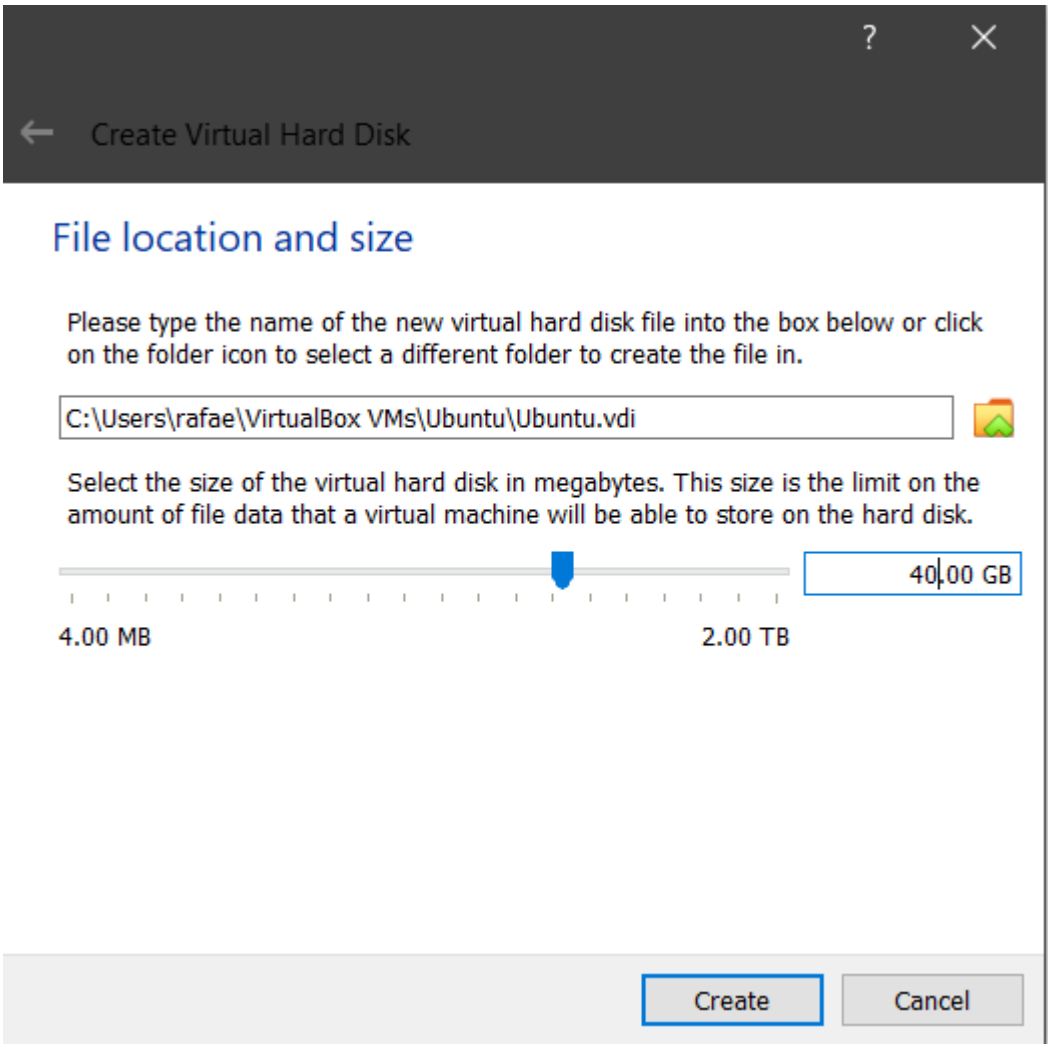
Select VirtualBox Disk Image



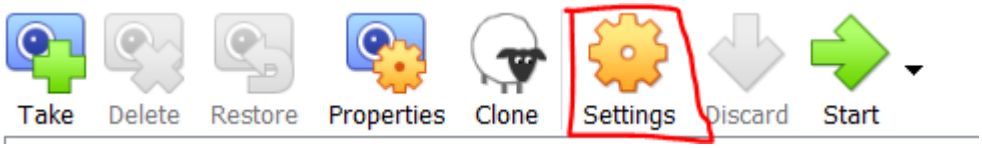
Select Dynamically allocated for better storage rendering in your local storage.

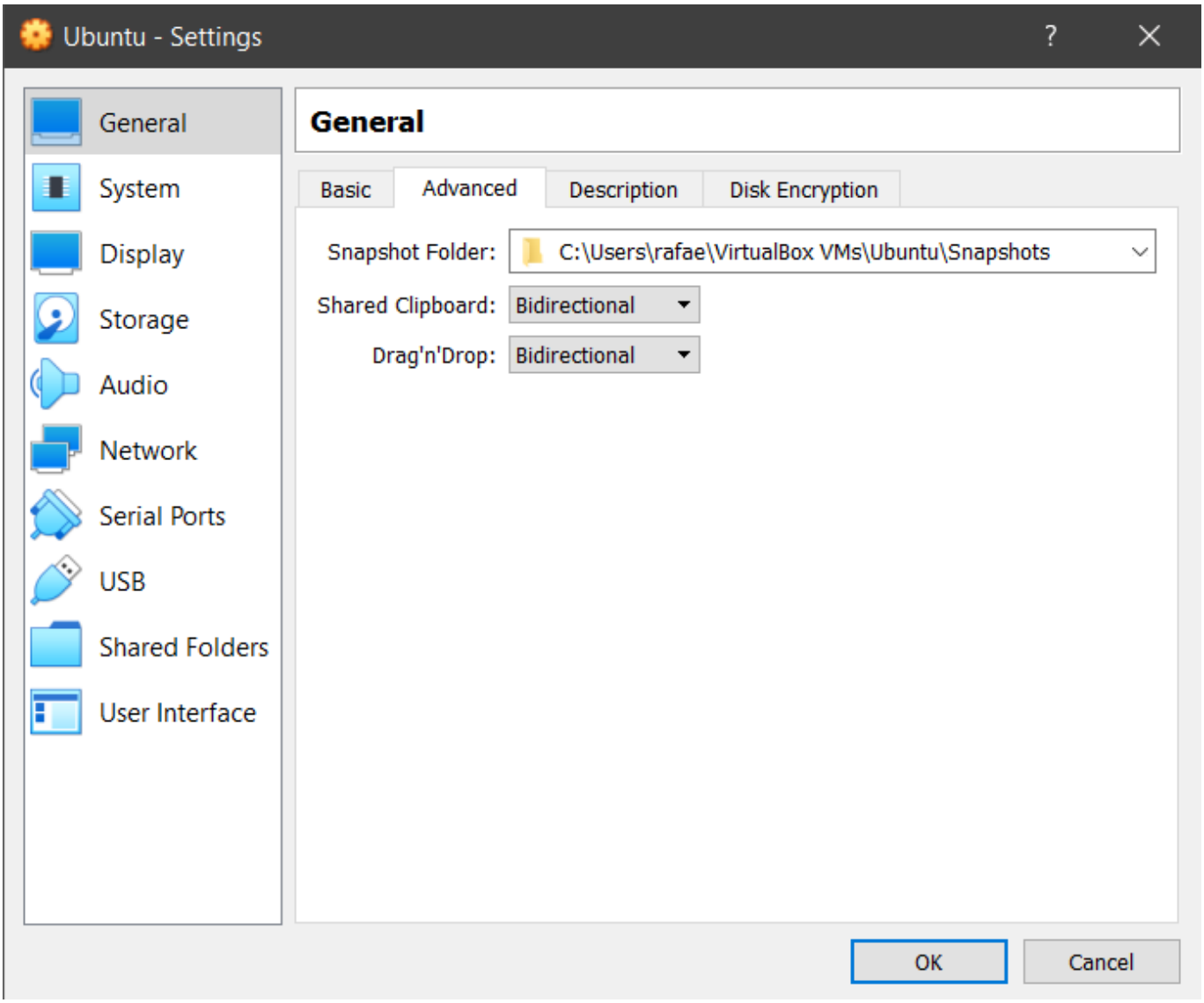


Set the storage amount to your liking. In this tutorial the amount is 40GB

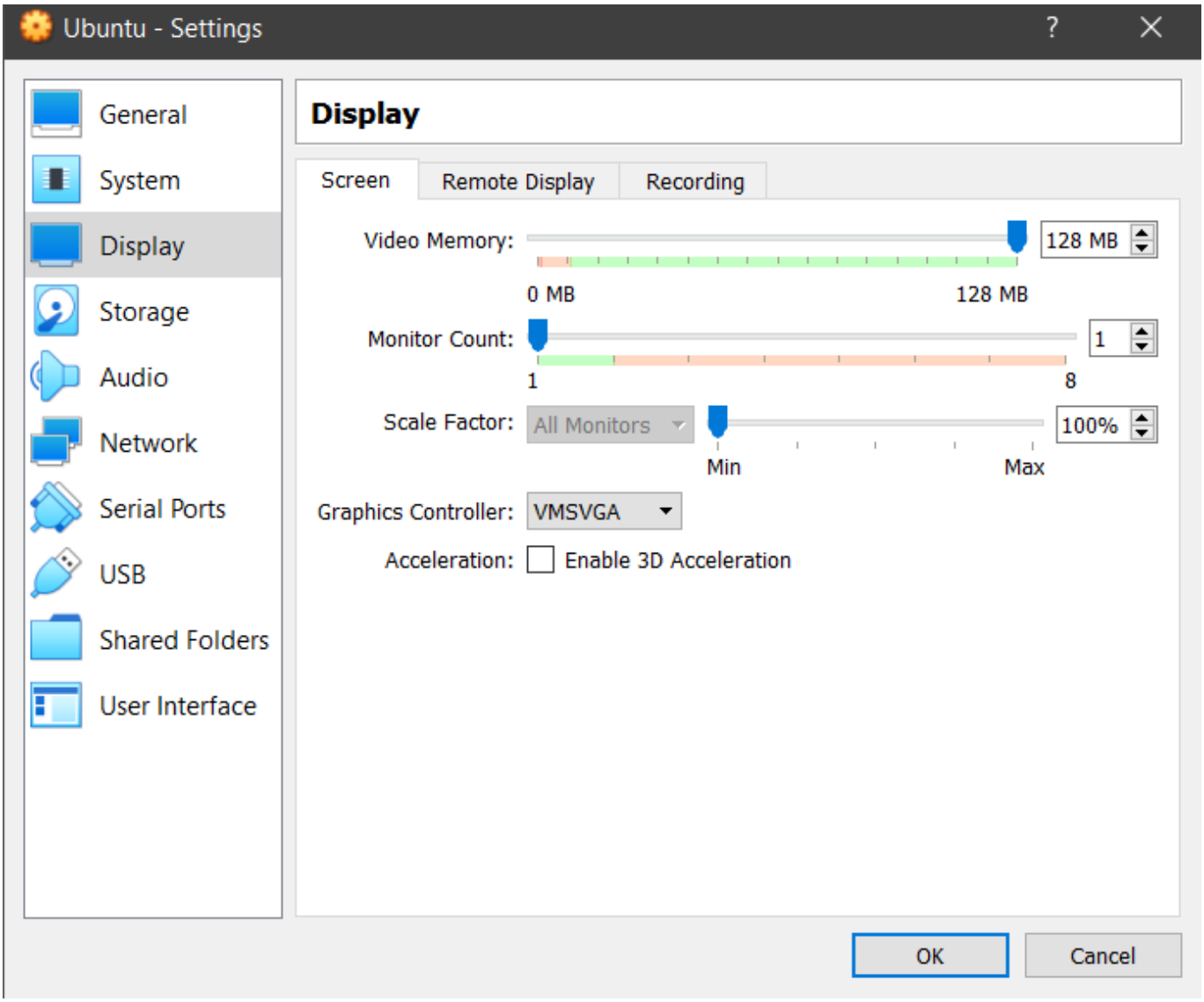


Once finished, head over to the settings tab and make the shared clipboard/Drag'n'Drop feature Bidirectional. This will open the door for sharing files between the main operating system and the one running in the virtual machine. Great tool for multitasking!

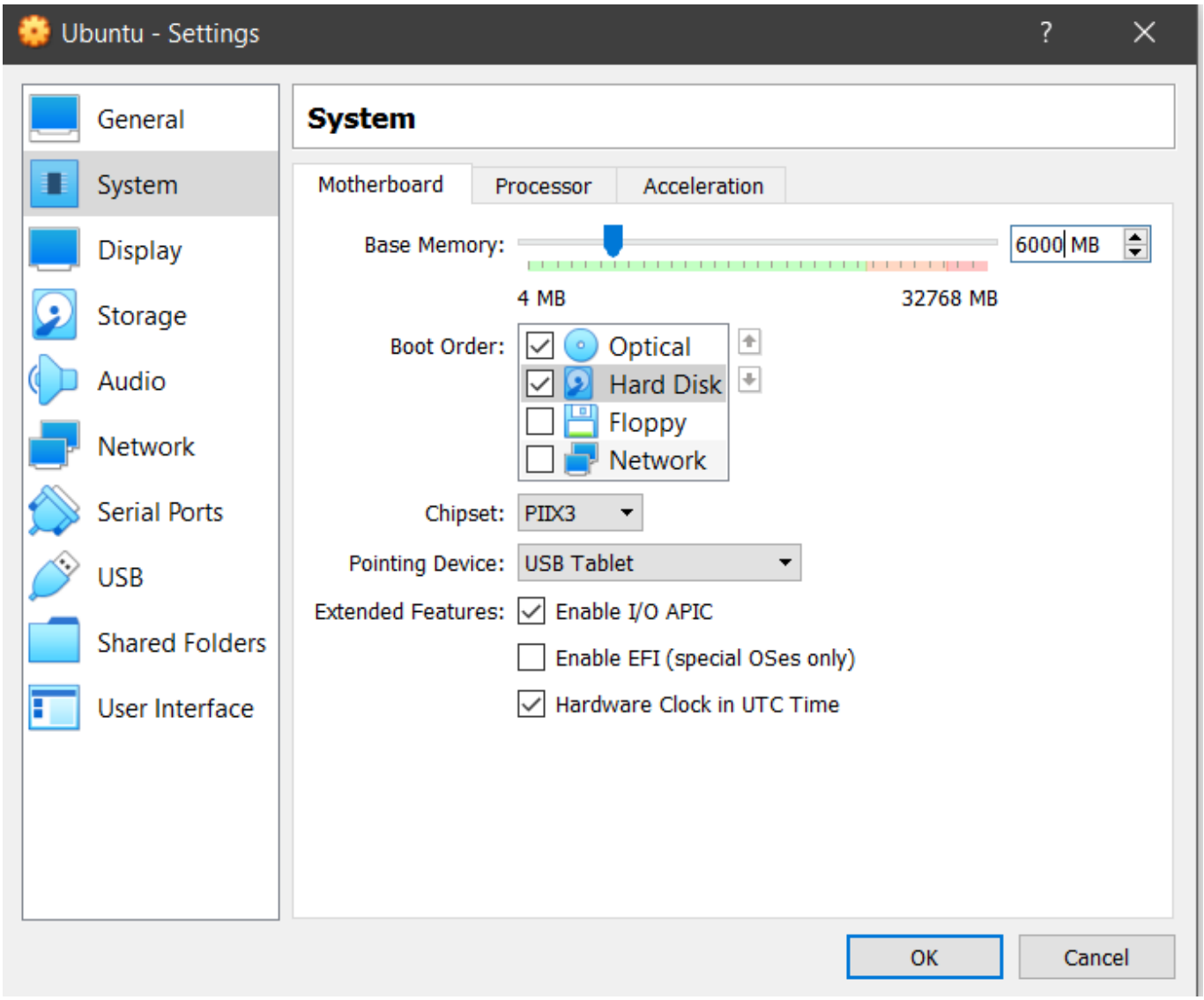




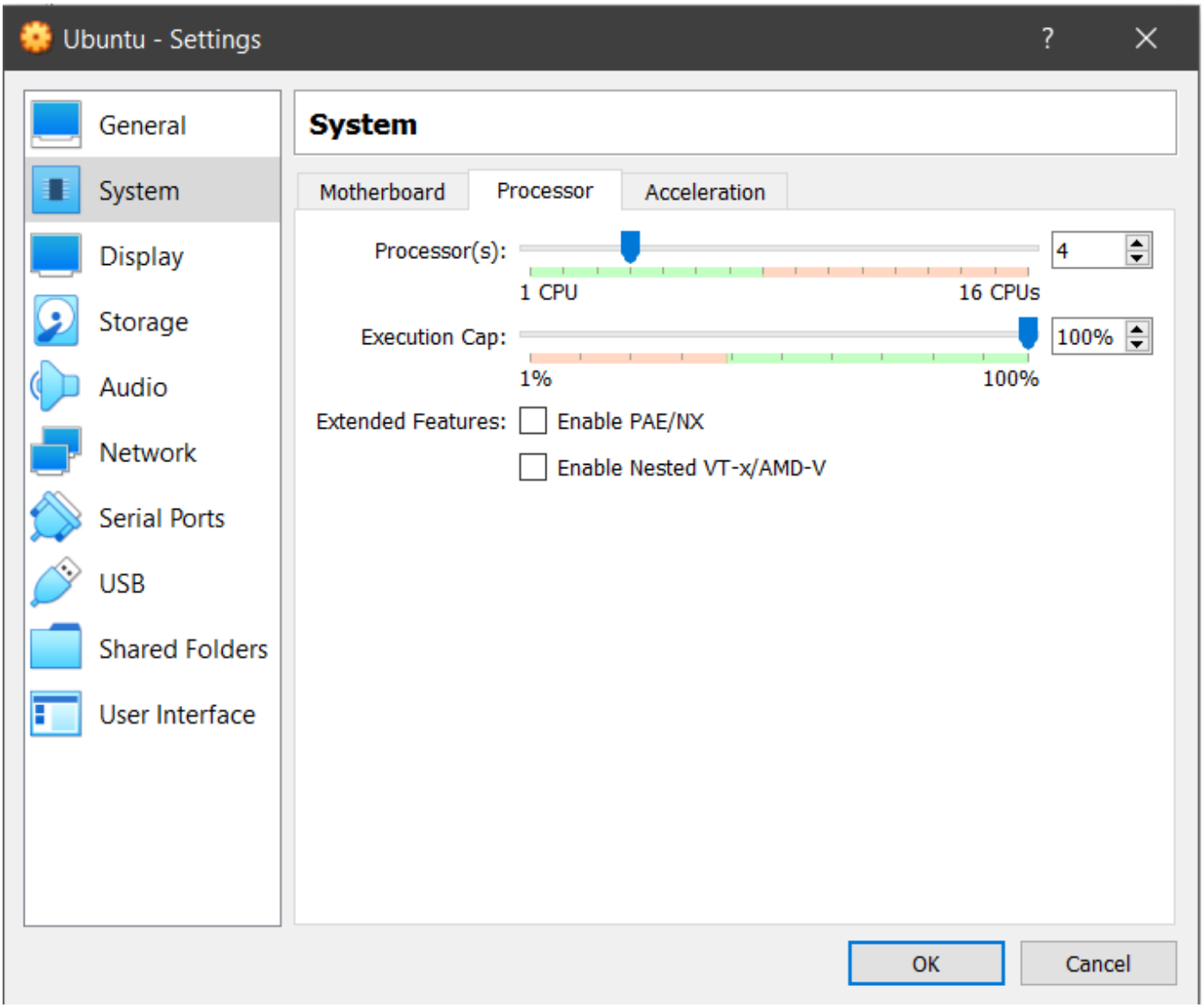
For great video response time max out the video memory to 128MB. Also this is the opportunity to select the monitor count if you wish to virtualize the machine in dual monitors or up to 8. I have the option for 2 monitors but I will leave it at 1.



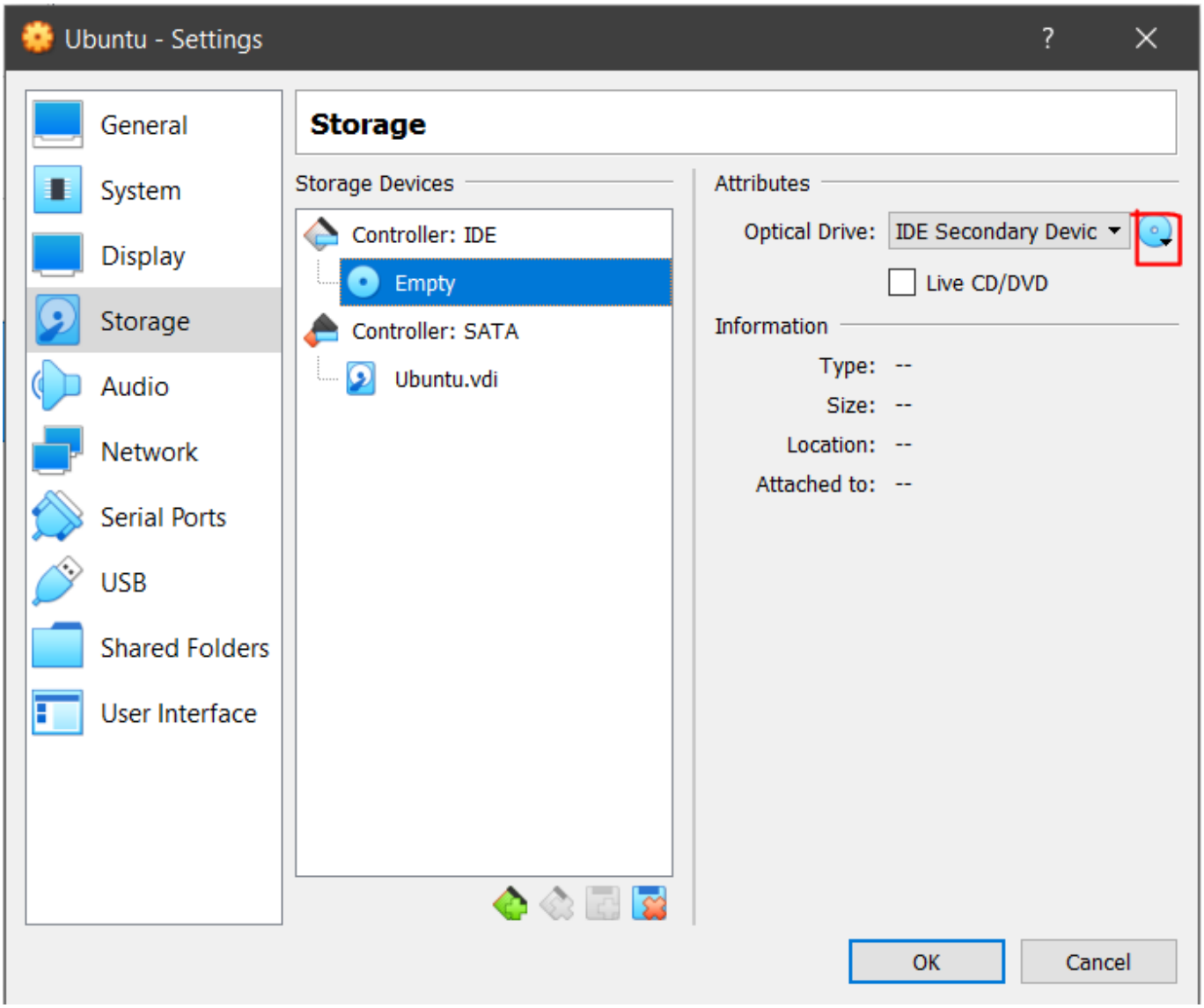
Uncheck the floppy disk and bring the optical and hard drisk up in the list using the up arrow icon right next to the boot order window.

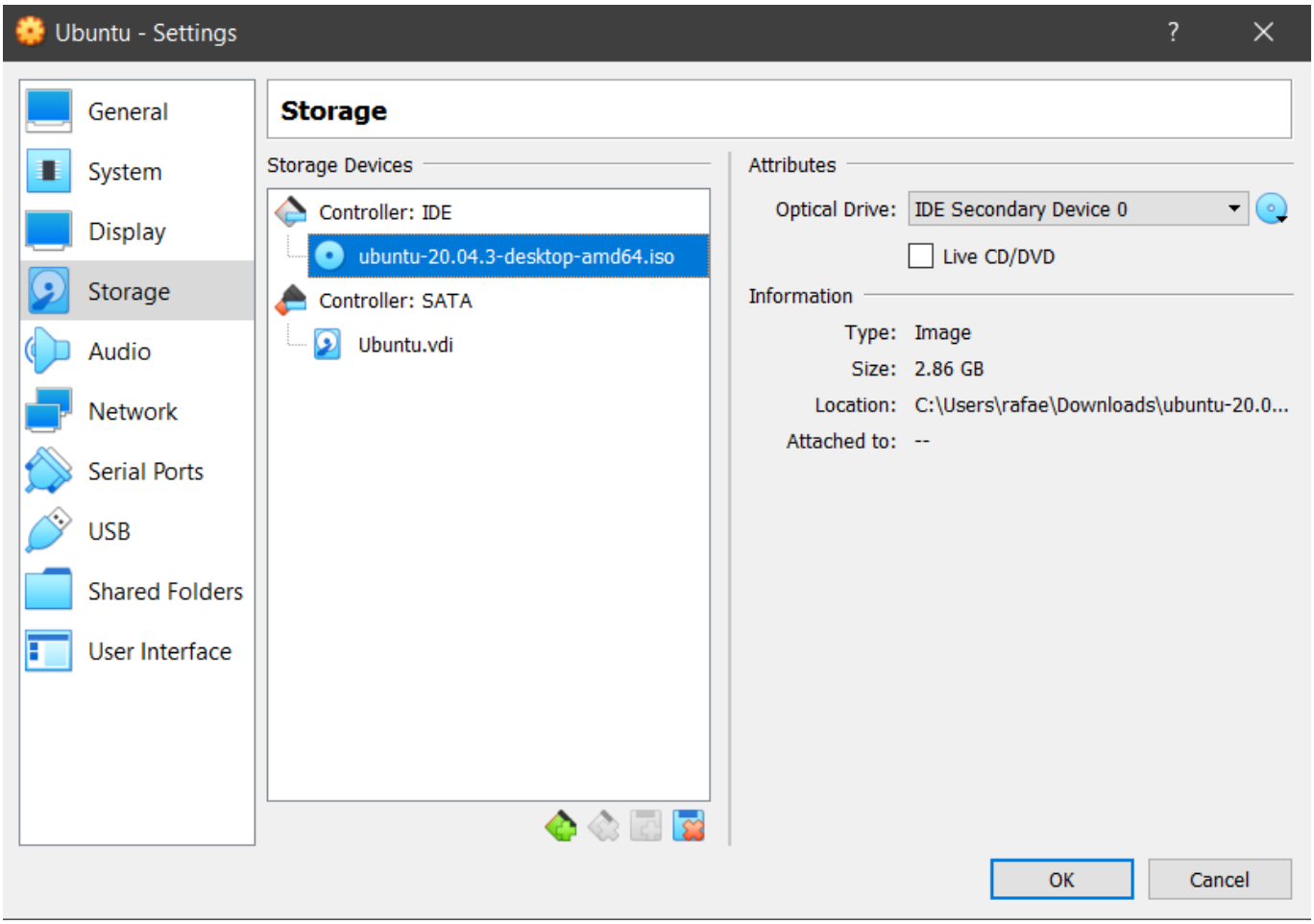


Select the amount of cores you wish your machine to run with. For dual core cpu I recommend using 1 and the other 1 core will be runned in the background for main system purposes. In my case I will use 4 out of 8. The more cores the better performance.



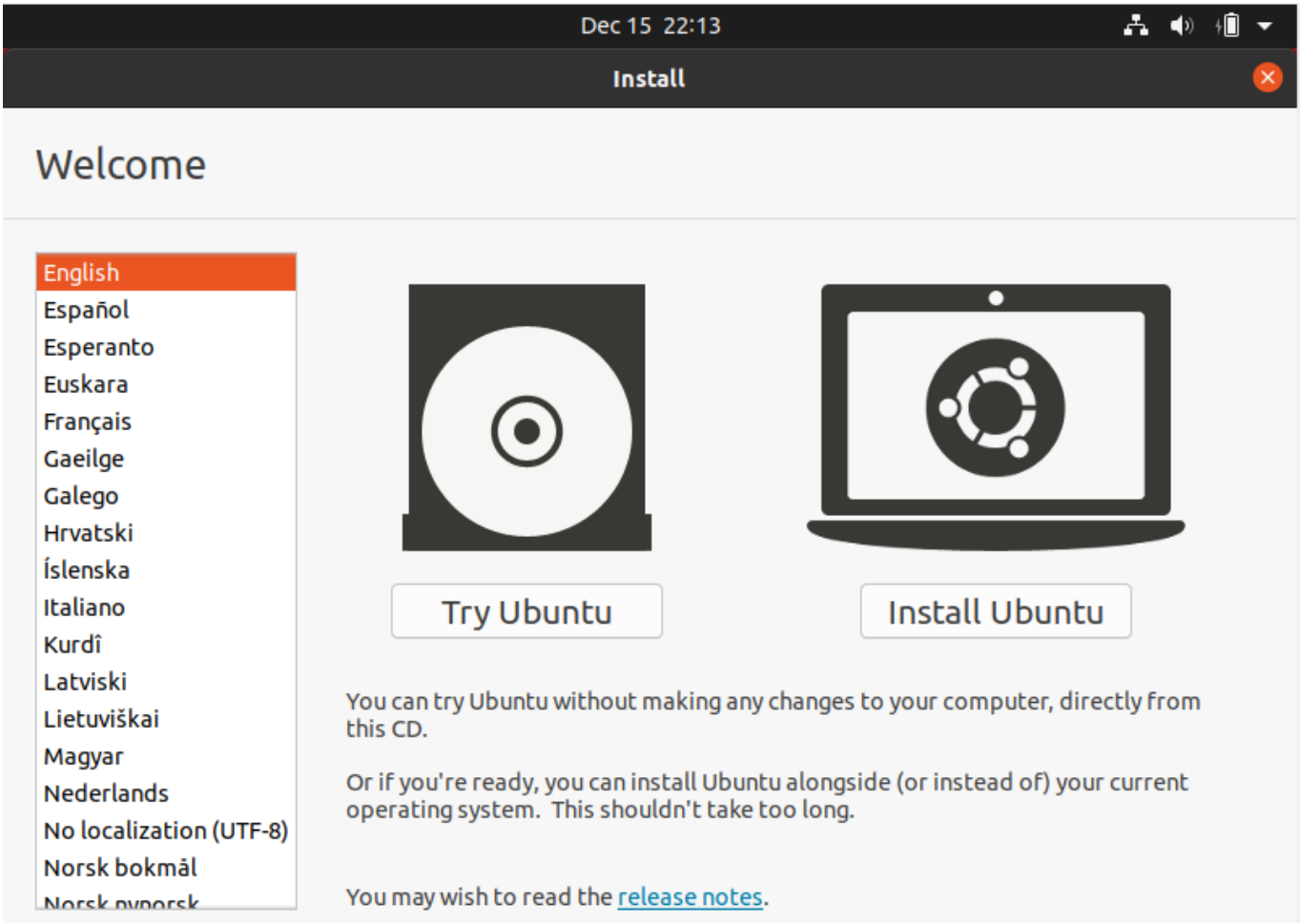
At this point you will select the iso you downloaded from the original source.


Ubuntu - Settings
General
System
Display
Storage
Audio
Network
Serial Ports
USB
Shared Folders
User Interface
Storage
Storage Devices
Controller: IDE
Empty
Controller: SATA
Ubuntu.vdi
Attributes
Optical Drive:
IDE Secondary Devic
Live CD/DVD
Information
Type: --
Size: --
Location: --
Attached to: --
OK
Cancel

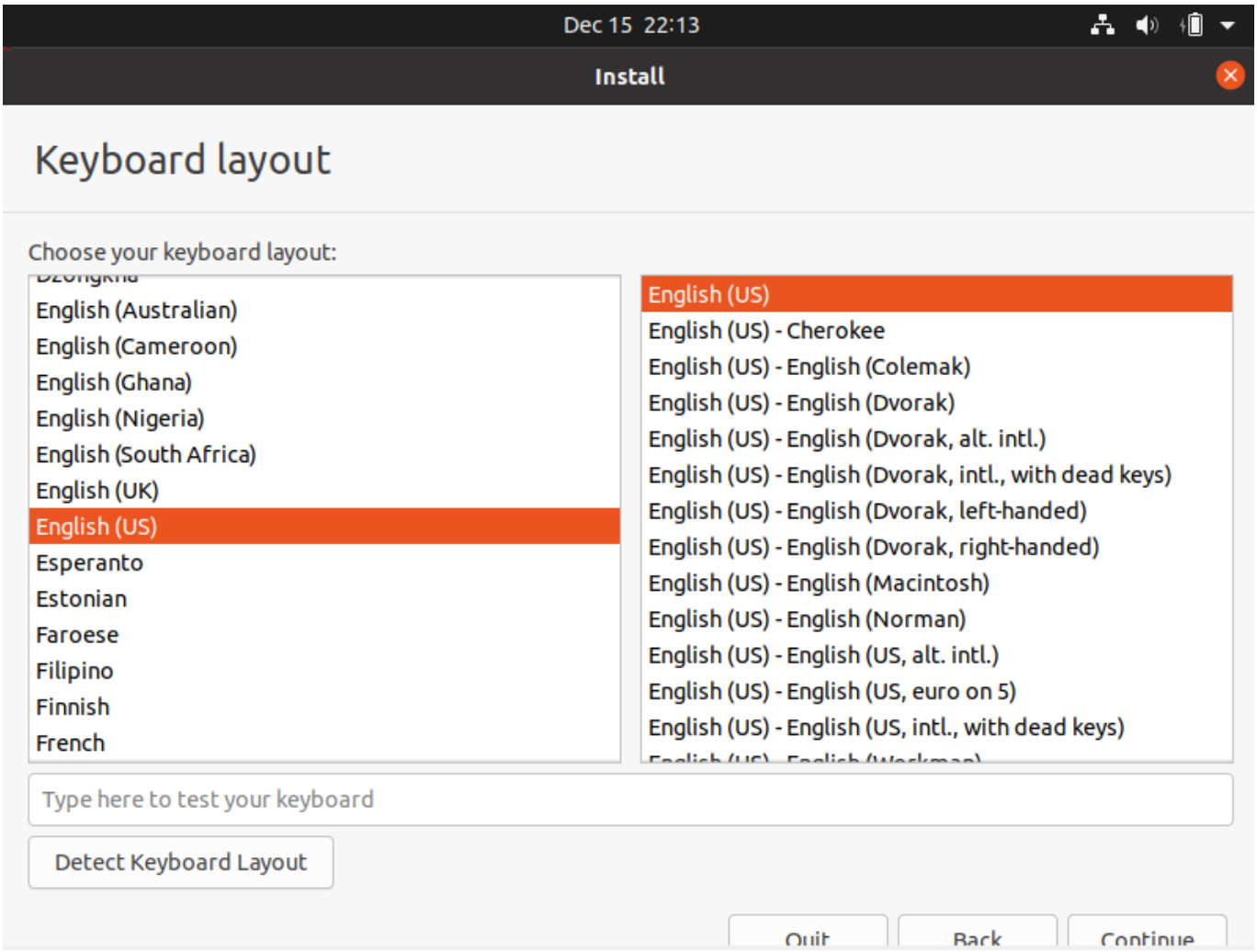


Below we see the screen of the installation

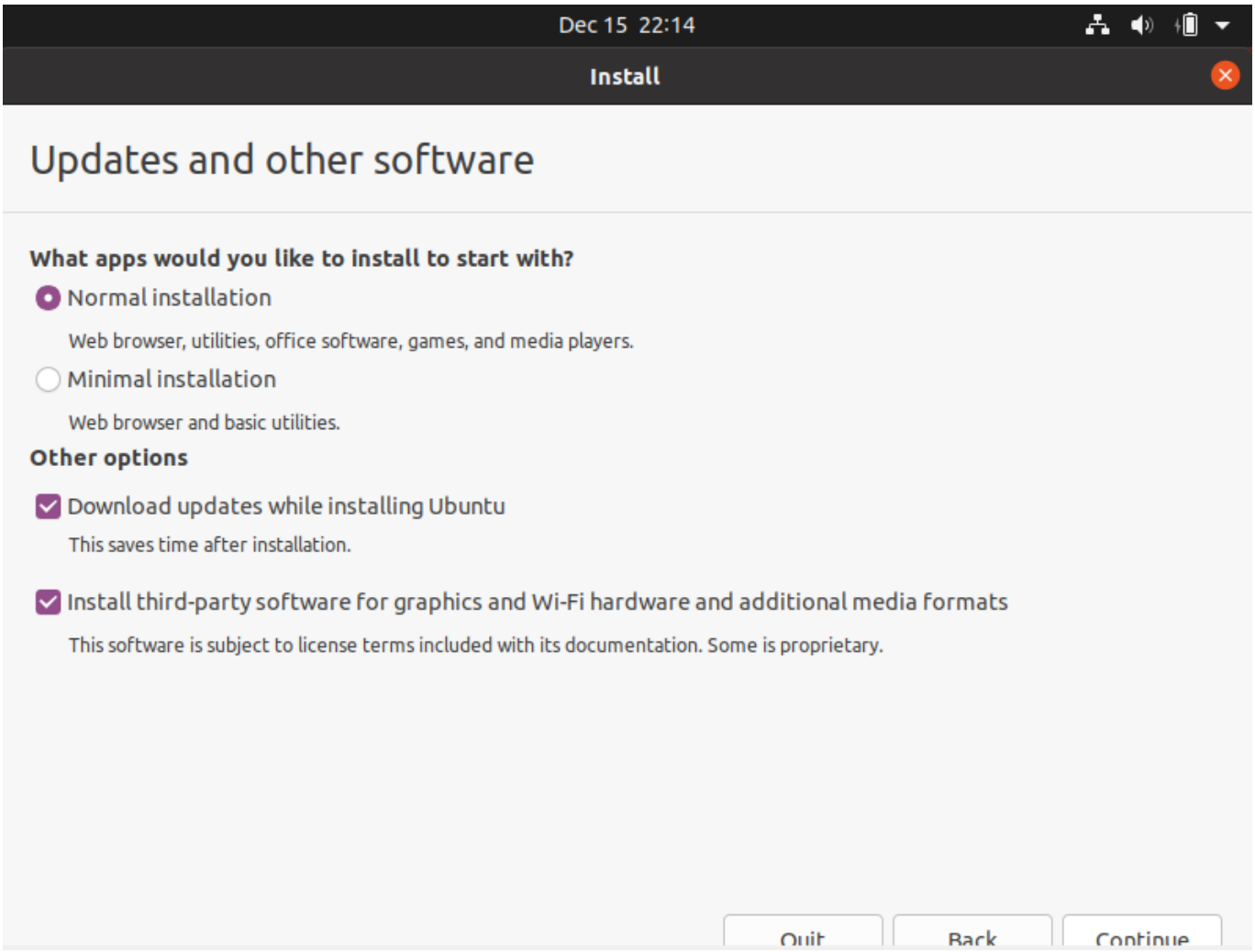
Select Install Ubuntu



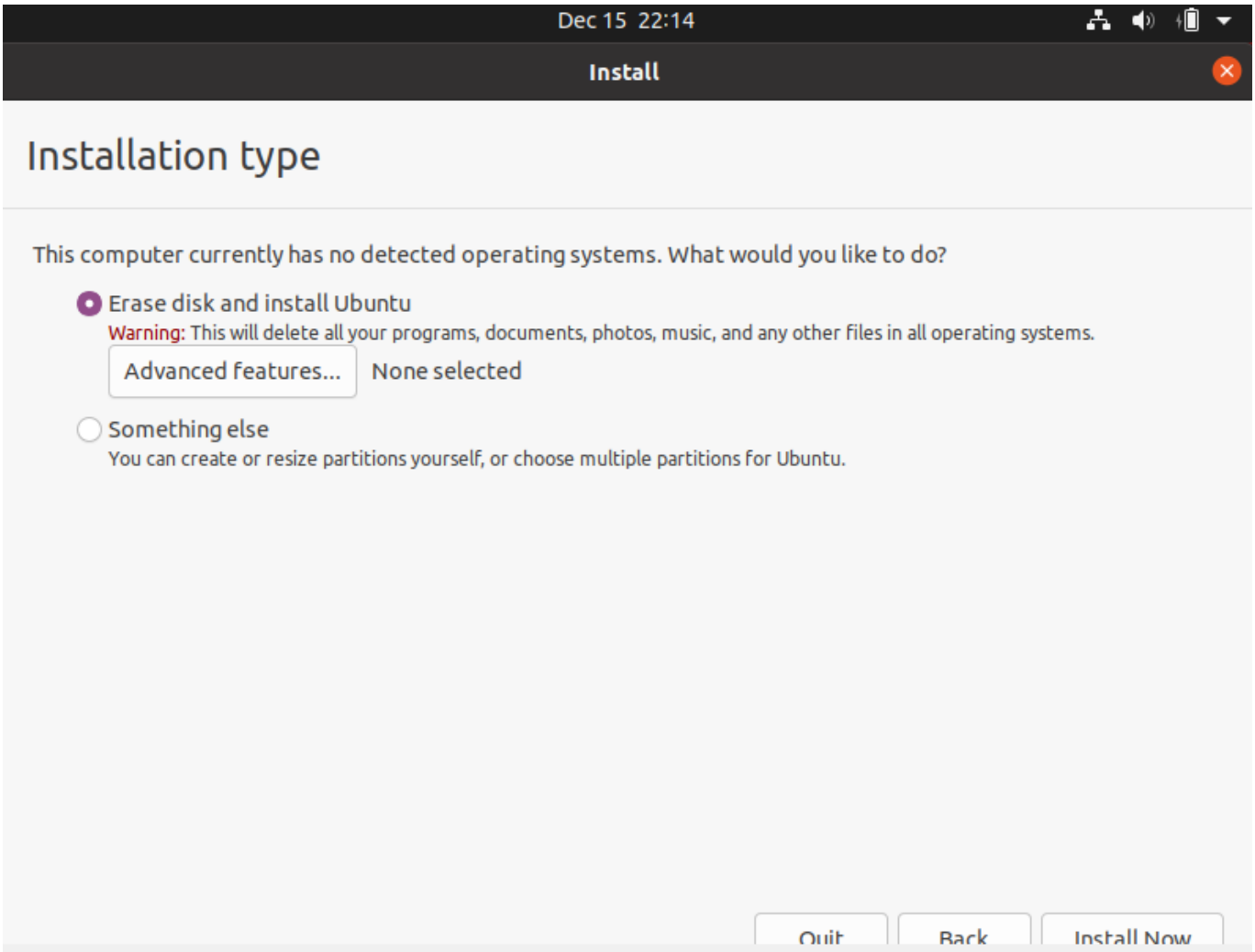
Select your language



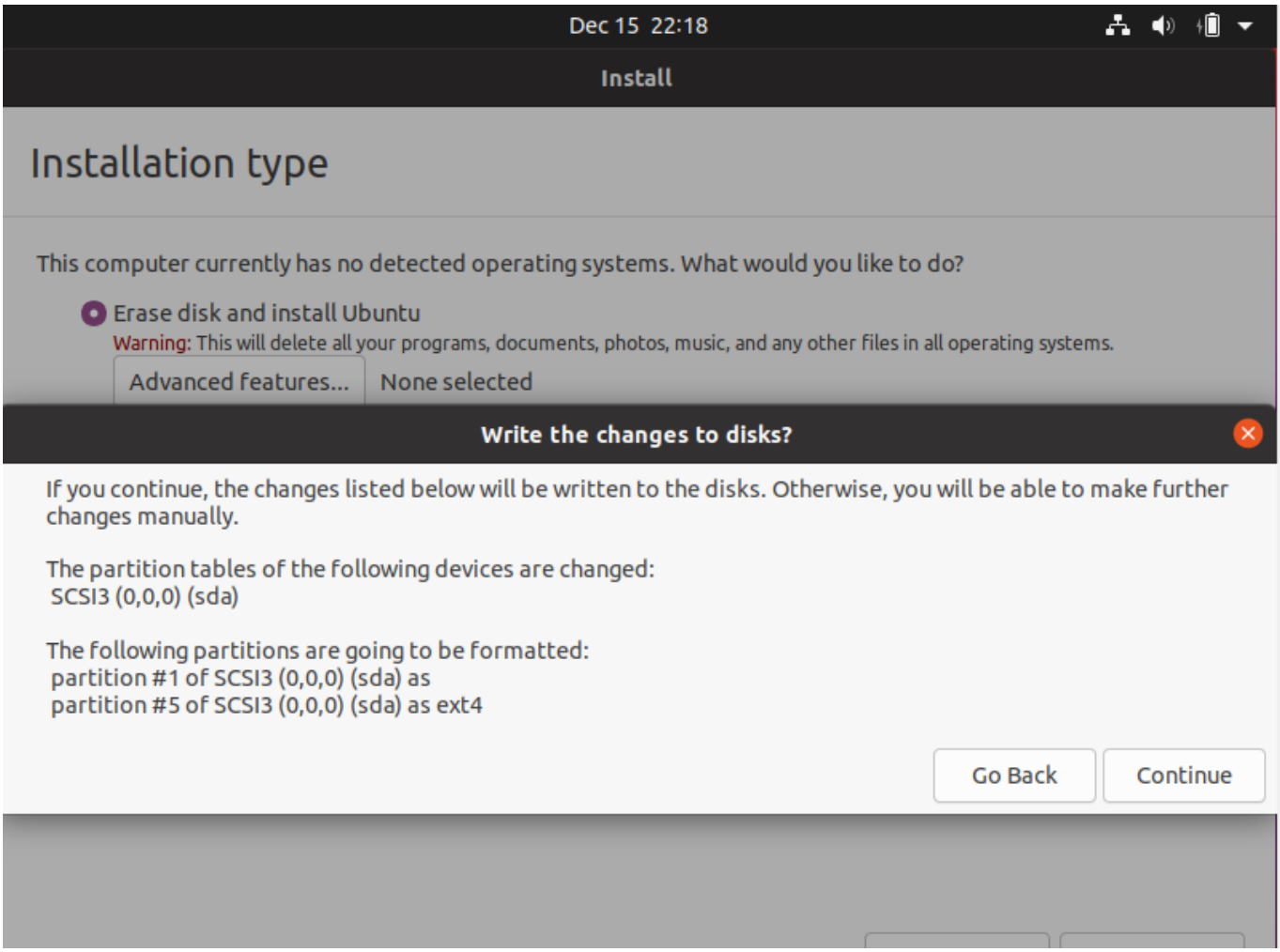
Select Normal Installation along with third party software



Proceed to erase the disk

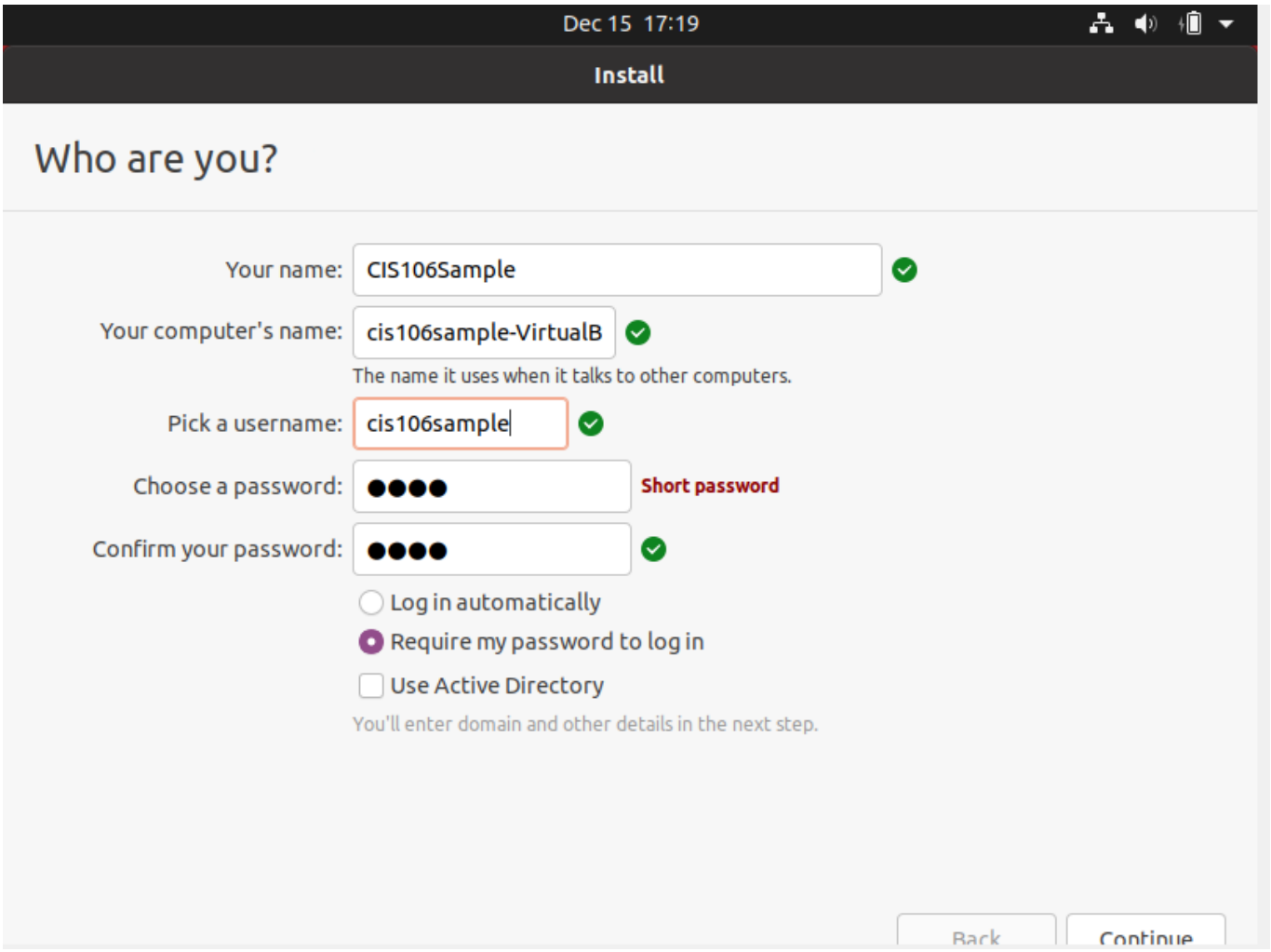

Dec 15 22:14
Install
Installation type
This computer currently has no detected operating systems. What would you like to do?
Erase disk and install Ubuntu
Warning: This will delete all your programs, documents, photos, music, and any other files in all operating systems.
Advanced features...
None selected
Something else
You can create or resize partitions yourself, or choose multiple partitions for Ubuntu.
Quit
Back
Install Now

Continue

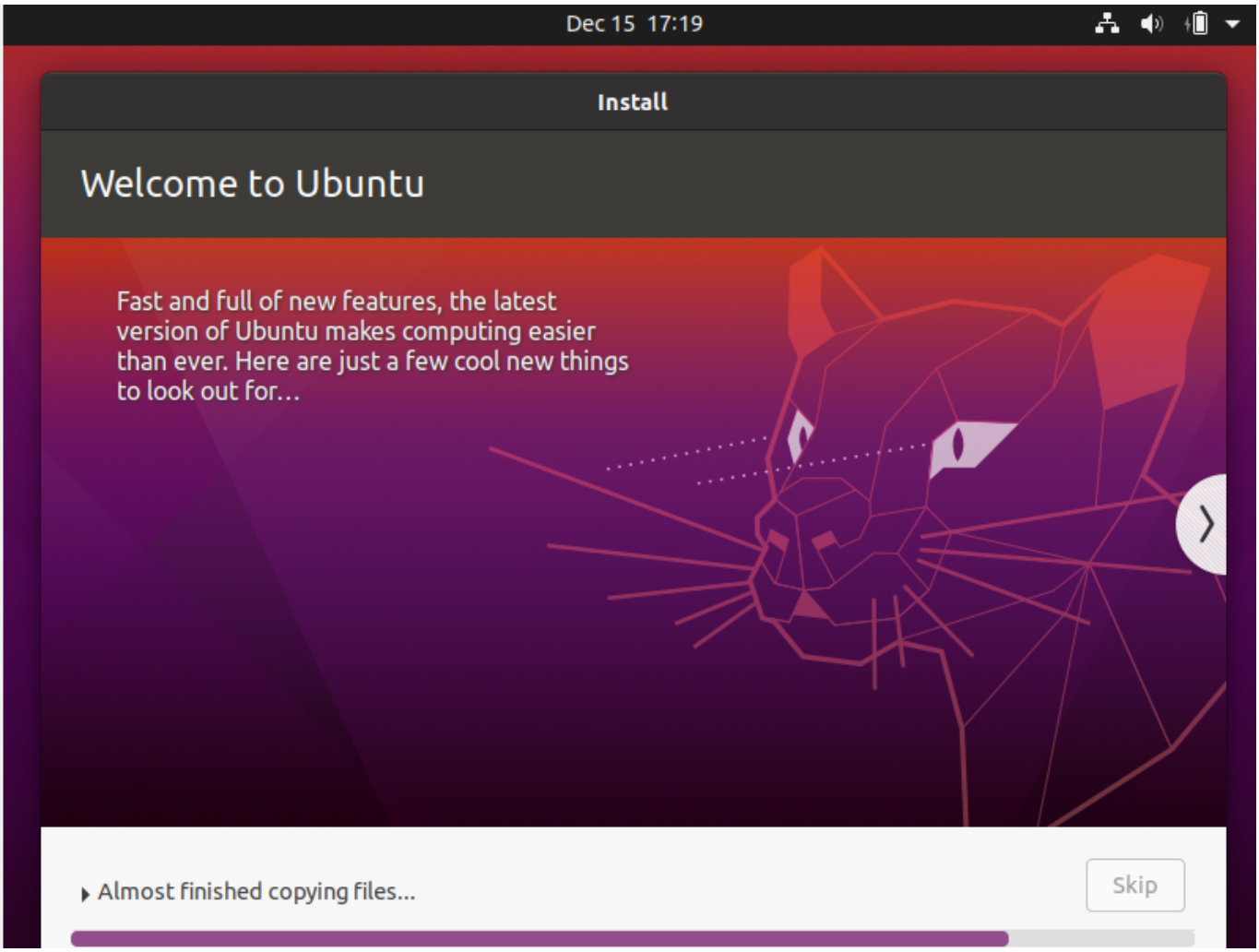


Select Time Zone

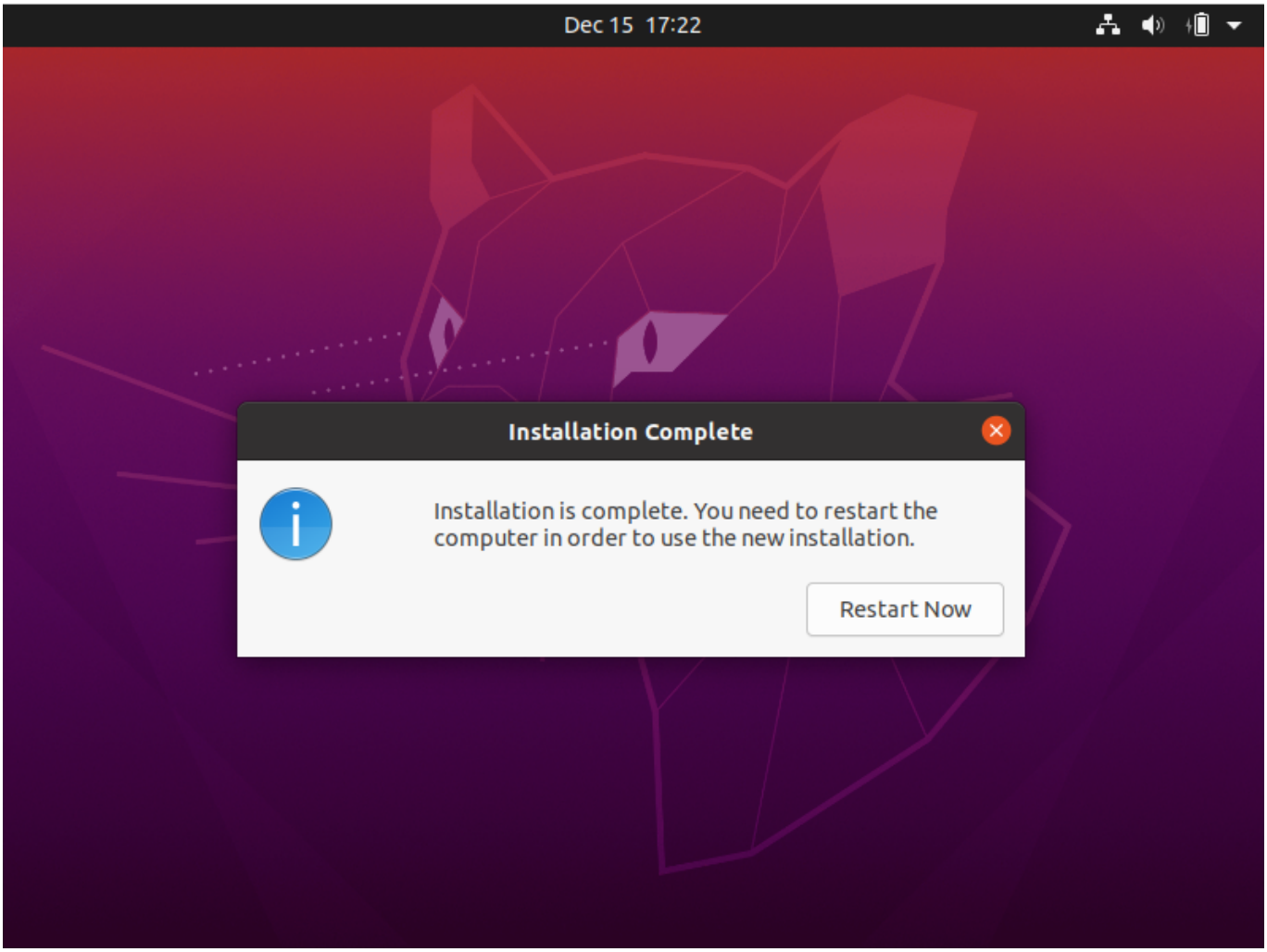
In this point you the user will input the fields asked



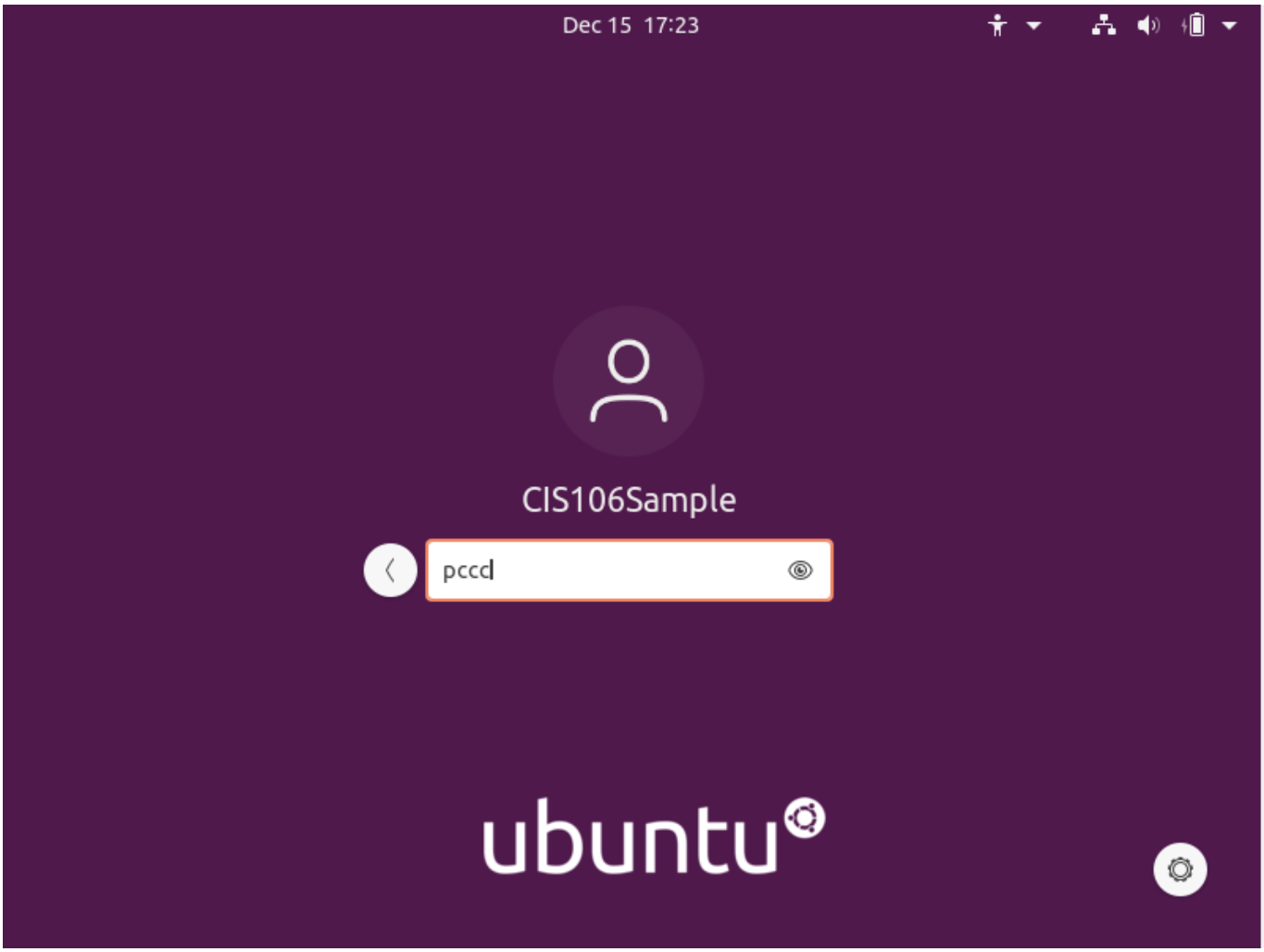
The installation is proceeding and will be done in a matter of minutes



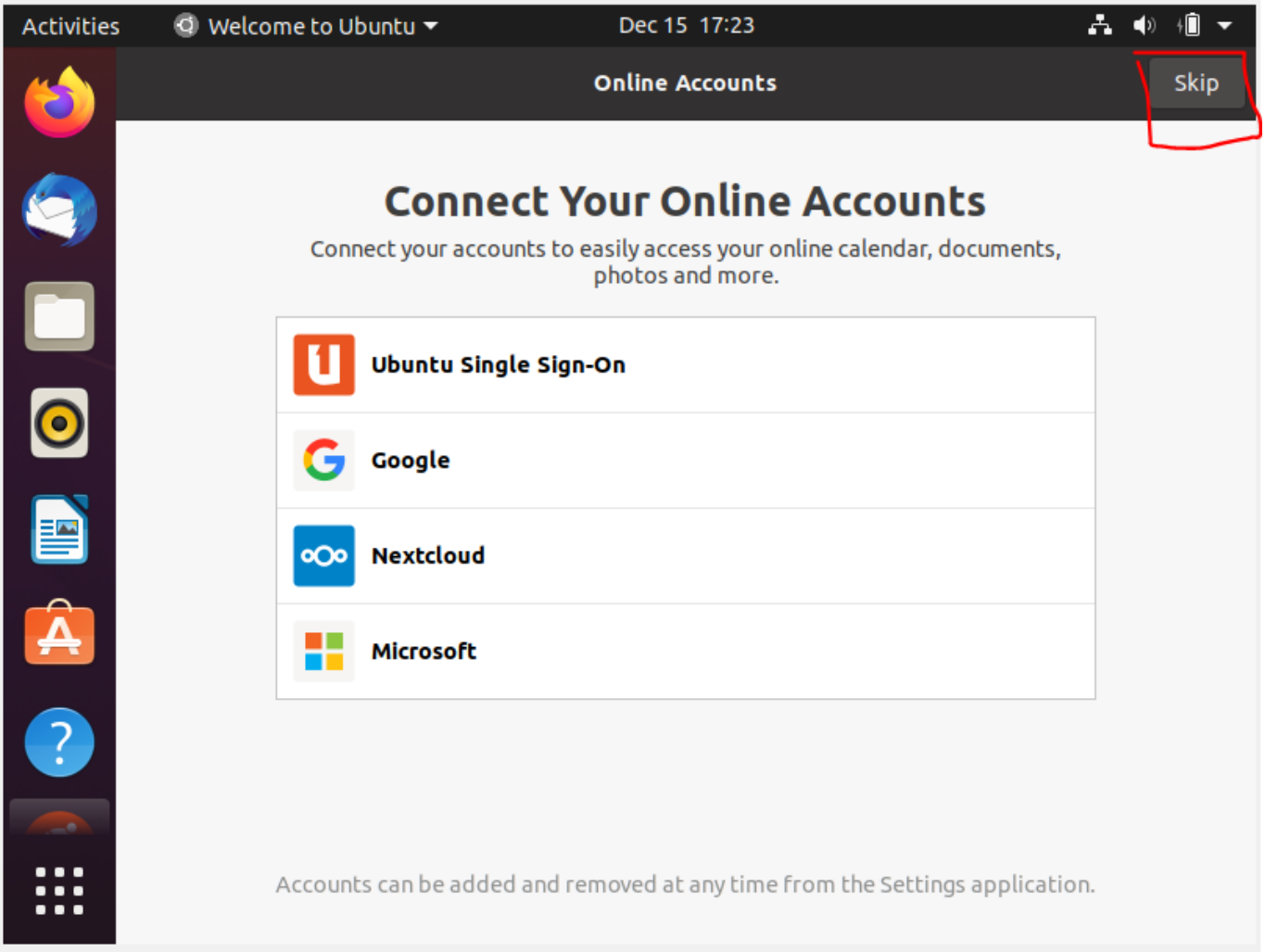
Installation complete now proceed to restart.



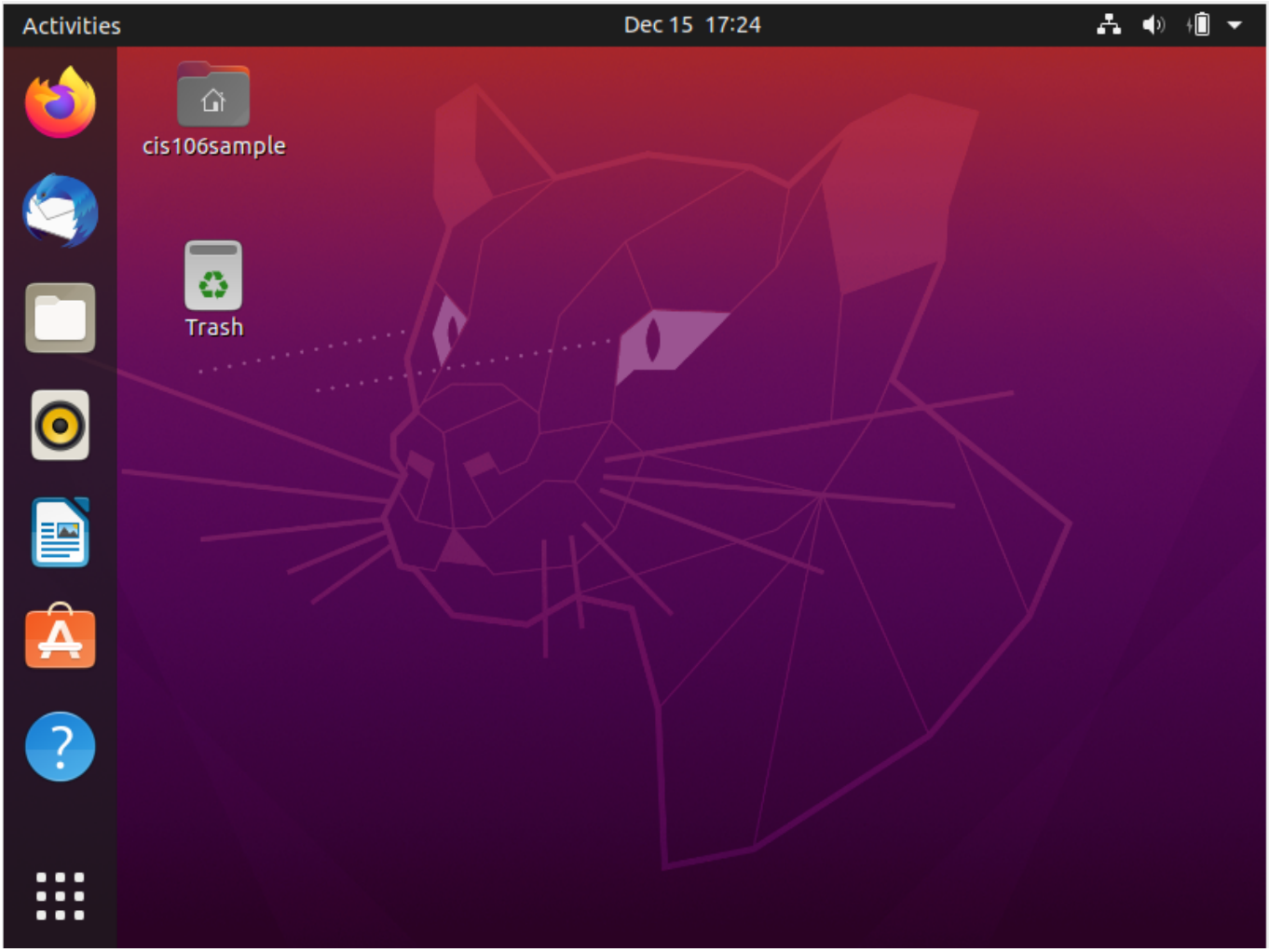
After your machine has been restarted you will be prompted with the login screen



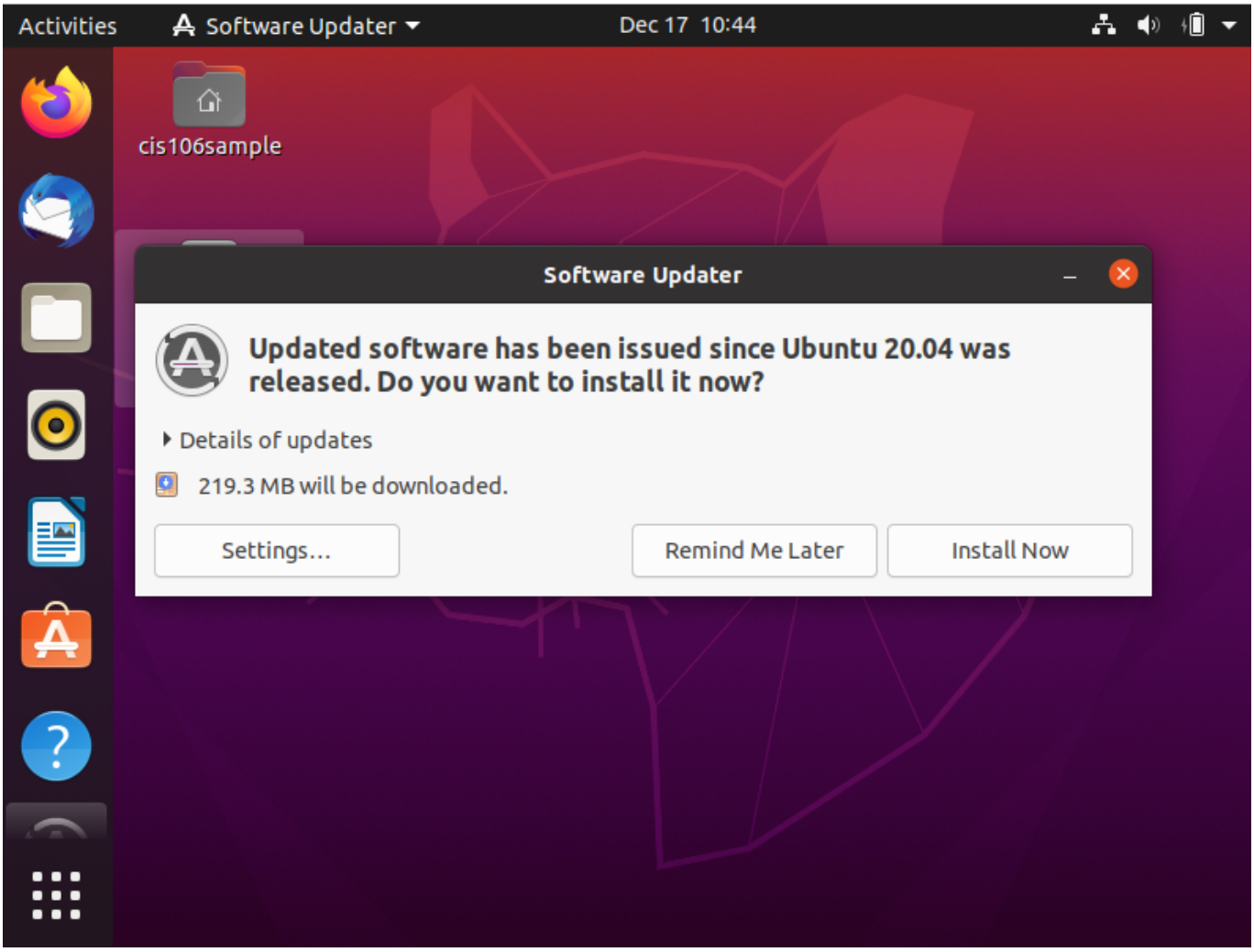
You can skip or connect using your credentials to the service of your choice



This is the homescreen. Installation successful



Proceed with installing the updates



IMPORTANT!

For the user to get the best out of the system they will need to use certain commands. These commands open the door to many possibilites and time saving tools. Before displaying the commands I will like to show how to update your system and keep it updated.

[▒▒▒▒▒▒▒▒ Updating tools ▒▒▒▒▒▒▒▒]

How to Update Ubuntu and best practices?

Since ubuntu 14.04 we have a new command called "apt". The following command will list out all the packages that you can update, what their current versions are, and what the new version is at the time your machine performed the search.

'sudo apt list --upgradable'

```
[sudo] password for juniornunez920:
Listing... Done
alsa-ucm-conf/focal-updates,focal-updates 1.2.2-1ubuntu0.11 all [upgradable from: 1.2.2-1ubuntu0.10]
code/stable 1.63.2-1639562499 amd64 [upgradable from: 1.60.2-1632313585]
ghostscript-x/focal-updates 9.50~dfsg-5ubuntu4.4 amd64 [upgradable from: 9.50~dfsg-5ubuntu4.3]
ghostscript/focal-updates 9.50~dfsg-5ubuntu4.4 amd64 [upgradable from: 9.50~dfsg-5ubuntu4.3]
gir1.2-mutter-6/focal-updates 3.36.9-0ubuntu0.20.04.2 amd64 [upgradable from: 3.36.9-0ubuntu0.20.04.1]
gist/focal-updates,focal-updates 5.0.0-4ubuntu1 all [upgradable from: 5.0.0-4]
gnome-shell-extension-desktop-icons/focal-updates,focal-updates 20.04.0-3~ubuntu20.04.6 all [upgradable from: 20.04.0-3~ubuntu20.04.3]
libasound2-data/focal-updates,focal-updates 1.2.2-2.1ubuntu2.5 all [upgradable from: 1.2.2-2.1ubuntu2.4]
libasound2/focal-updates 1.2.2-2.1ubuntu2.5 amd64 [upgradable from: 1.2.2-2.1ubuntu2.4]
libatopology2/focal-updates 1.2.2-2.1ubuntu2.5 amd64 [upgradable from: 1.2.2-2.1ubuntu2.4]
libcephfs2/focal-updates 15.2.14-0ubuntu0.20.04.1 amd64 [upgradable from: 15.2.13-0ubuntu0.20.04.2]
libegl-mesa0/focal-updates 21.0.3-0ubuntu0.3~20.04.5 amd64 [upgradable from: 21.0.3-0ubuntu0.3~20.04.2]
libfprint-2-2/focal-updates 1:1.90.2+tod1-0ubuntu1~20.04.5 amd64 [upgradable from: 1:1.90.2+tod1-0ubuntu1~20.04.4]
libfprint-2-tod1/focal-updates 1:1.90.2+tod1-0ubuntu1~20.04.5 amd64 [upgradable from: 1:1.90.2+tod1-0ubuntu1~20.04.4]
libgbm1/focal-updates 21.0.3-0ubuntu0.3~20.04.5 amd64 [upgradable from: 21.0.3-0ubuntu0.3~20.04.2]
libgl1-mesa-dri/focal-updates 21.0.3-0ubuntu0.3~20.04.5 amd64 [upgradable from: 21.0.3-0ubuntu0.3~20.04.2]
libglapi-mesa/focal-updates 21.0.3-0ubuntu0.3~20.04.5 amd64 [upgradable from: 21.0.3-0ubuntu0.3~20.04.2]
libglx-mesa0/focal-updates 21.0.3-0ubuntu0.3~20.04.5 amd64 [upgradable from: 21.0.3-0ubuntu0.3~20.04.2]
libgs9-common/focal-updates,focal-updates 9.50~dfsg-5ubuntu4.4 all [upgradable from: 9.50~dfsg-5ubuntu4.3]
libgs9/focal-updates 9.50~dfsg-5ubuntu4.4 amd64 [upgradable from: 9.50~dfsg-5ubuntu4.3]
libmm-glib0/focal-updates 1.16.6-2~20.04.1 amd64 [upgradable from: 1.16.6-2~20.04]
libmutter-6-0/focal-updates 3.36.9-0ubuntu0.20.04.2 amd64 [upgradable from: 3.36.9-0ubuntu0.20.04.1]
libnautilus-extension1a/focal-updates 1:3.36.3-0ubuntu1.20.04.1 amd64 [upgradable from: 1:3.36.3-0ubuntu1]
libnemo-extension1/focal-updates 4.4.2-2ubuntu2 amd64 [upgradable from: 4.4.2-2ubuntu1]
libnetplan0/focal-updates 0.103-0ubuntu5~20.04.5 amd64 [upgradable from: 0.103-0ubuntu5~20.04.1]
libpulse-mainloop-glib0/focal-updates 1:13.99.1-1ubuntu3.13 amd64 [upgradable from: 1:13.99.1-1ubuntu3.11]
libpulse0/focal-updates 1:13.99.1-1ubuntu3.13 amd64 [upgradable from: 1:13.99.1-1ubuntu3.11]
libpulsedsp/focal-updates 1:13.99.1-1ubuntu3.13 amd64 [upgradable from: 1:13.99.1-1ubuntu3.11]
libqmi-glib5/focal-updates 1.28.6-1~20.04.1 amd64 [upgradable from: 1.28.6-1~20.04]
libqmi-proxy/focal-updates 1.28.6-1~20.04.1 amd64 [upgradable from: 1.28.6-1~20.04]
libqt5webkit5/focal-updates 5.212.0~alpha4-1ubuntu2.1 amd64 [upgradable from: 5.212.0~alpha4-1ubuntu2]
librados2/focal-updates 15.2.14-0ubuntu0.20.04.1 amd64 [upgradable from: 15.2.13-0ubuntu0.20.04.2]
libssl1.1/focal-updates 1.1.1f-1ubuntu2.10 amd64 [upgradable from: 1.1.1f-1ubuntu2.8]
libxatracker2/focal-updates 21.0.3-0ubuntu0.3~20.04.5 amd64 [upgradable from: 21.0.3-0ubuntu0.3~20.04.2]
linux-base/focal-updates,focal-updates 4.5ubuntu3.7 all [upgradable from: 4.5ubuntu3.6]
linux-firmware/focal-updates,focal-updates 1.187.23 all [upgradable from: 1.187.17]
mesa-va-drivers/focal-updates 21.0.3-0ubuntu0.3~20.04.5 amd64 [upgradable from: 21.0.3-0ubuntu0.3~20.04.2]
mesa-vdpau-drivers/focal-updates 21.0.3-0ubuntu0.3~20.04.5 amd64 [upgradable from: 21.0.3-0ubuntu0.3~20.04.2]
mesa-vulkan-drivers/focal-updates 21.0.3-0ubuntu0.3~20.04.5 amd64 [upgradable from: 21.0.3-0ubuntu0.3~20.04.2]
modemmanager/focal-updates 1.16.6-2~20.04.1 amd64 [upgradable from: 1.16.6-2~20.04]
mutter-common/focal-updates,focal-updates 3.36.9-0ubuntu0.20.04.2 all [upgradable from: 3.36.9-0ubuntu0.20.04.1]
mutter/focal-updates 3.36.9-0ubuntu0.20.04.2 amd64 [upgradable from: 3.36.9-0ubuntu0.20.04.1]
nautilus-data/focal-updates,focal-updates 1:3.36.3-0ubuntu1.20.04.1 all [upgradable from: 1:3.36.3-0ubuntu1]
nautilus/focal-updates 1:3.36.3-0ubuntu1.20.04.1 amd64 [upgradable from: 1:3.36.3-0ubuntu1]
nemo-data/focal-updates,focal-updates 4.4.2-2ubuntu2 all [upgradable from: 4.4.2-2ubuntu1]
```

You are then asked in the CLI wether or not you will like to install the updates. To approve type Y otherwise press N and press Enter key after inserting the choice desired.

Basic commands

Below are some of the commands learned in class (Do not include the quotation marks- they are written so that the reader can see the commands clearly)

'mkdir' - to create directories 'pwd' - prints the name of the working directory or current folder you are in using the command line 'cd' - command used to change or move between directories 'rmdir' - to remove directory or directories 'rm' - used to delete 'ls' - to list files 'tree' - to list directories in tree hierarchy

Specific commands

FILE AND DIRECTORY COMMANDS

List all files in a long listing (detailed) format

ls -al

Display the present working directory

pwd

Create a directory

mkdir directory

Remove (delete) file

rm file

Remove the directory and its contents recursively

rm -r directory

Force removal of file without prompting for confirmation

rm -f file

Forcefully remove directory recursively

rm -rf directory

Copy file1 to file2

cp file1 file2

Copy source_directory recursively to destination. If destination exists, copy source_directory into destination, otherwise create destination with the contents of source_directory.

cp -r source_directory destination

Rename or move file1 to file2. If file2 is an existing directory, move file1 into directory file2

mv file1 file2

Create symbolic link to linkname

ln -s /path/to/file linkname

Create an empty file or update the access and modification times of file.

touch file

View the contents of file

cat file

Browse through a text file

less file

Display the first 10 lines of file

head file

Display the last 10 lines of file

tail file

Display the last 10 lines of file and "follow" the file as it grows.

tail -f file

COMMANDS FOR SYSTEM INFORMATION

Display Linux system information

uname -a

Display kernel release information

uname -r

Show which version of redhat installed

cat /etc/redhat-release

Show how long the system has been running + load

uptime

Show system host name

hostname

Display the IP addresses of the host

hostname -I

Show system reboot history

last reboot

Show the current date and time

date

Show this month's calendar

cal

Display who is online

w

Who you are logged in as

whoami

COMMANDS FOR HARDWARE INFORMATION

Display messages in kernel ring buffer

dmesg

Display CPU information

cat /proc/cpuinfo

Display memory information

cat /proc/meminfo

Display free and used memory (-h for human readable, -m for MB, -g for GB.)

free -h

Display PCI devices

lspci -tv

Display USB devices

lsusb -tv

Display DMI/SMBIOS (hardware info) from the BIOS

dmidecode

Show info about disk sda

hdparm -i /dev/sda

Perform a read speed test on disk sda

hdparm -tT /dev/sda

Test for unreadable blocks on disk sda

badblocks -s /dev/sda

COMMANDS FOR USER INFORMATION AND MANAGEMENT

Display the user and group ids of your current user.

id

Display the last users who have logged onto the system.

last

Show who is logged into the system.

who

Show who is logged in and what they are doing.

w

Create a group named "test".

groupadd test

Create an account named junior, with a comment of "junior nunez" and create the user's home directory.

useradd -c "junior nunez" -m junior

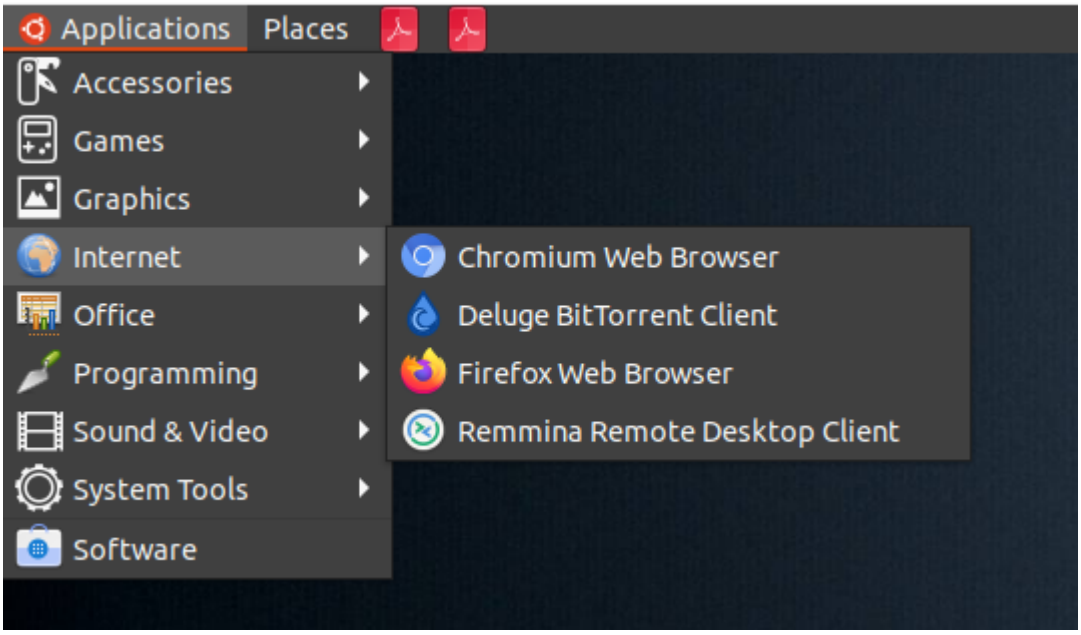
Delete the junior account.

userdel junior

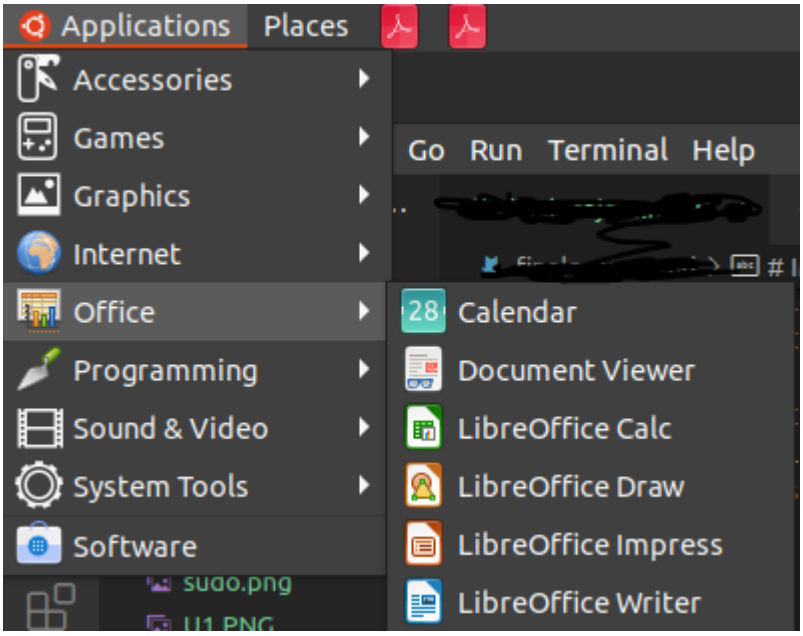
Tools provided

For web broswing you get 2 browsers but you have the freedom to install other versions.

Chromium Web Browser and Firefox are the ones provided. Deluge BitTorrent Client to download torrents. Remmina is a remote desktop client to connect to external devices remotely.



Office tools are provided similarly to office 365 but in this case, a free version with similar capabilites and even more features.



Source used

Kumar, Pradeep, et al. “Ubuntu 20.04 LTS Desktop Installation Steps with Screenshots.” LinuxTechi, 29 Apr. 2020, https://www.linuxtechi.com/ubuntu-20-04-lts-installation-steps-screenshots/.