

# Ubuntu Linux Setup Guide

For Lenovo ThinkPad P14s (Intel), P15s, P15v

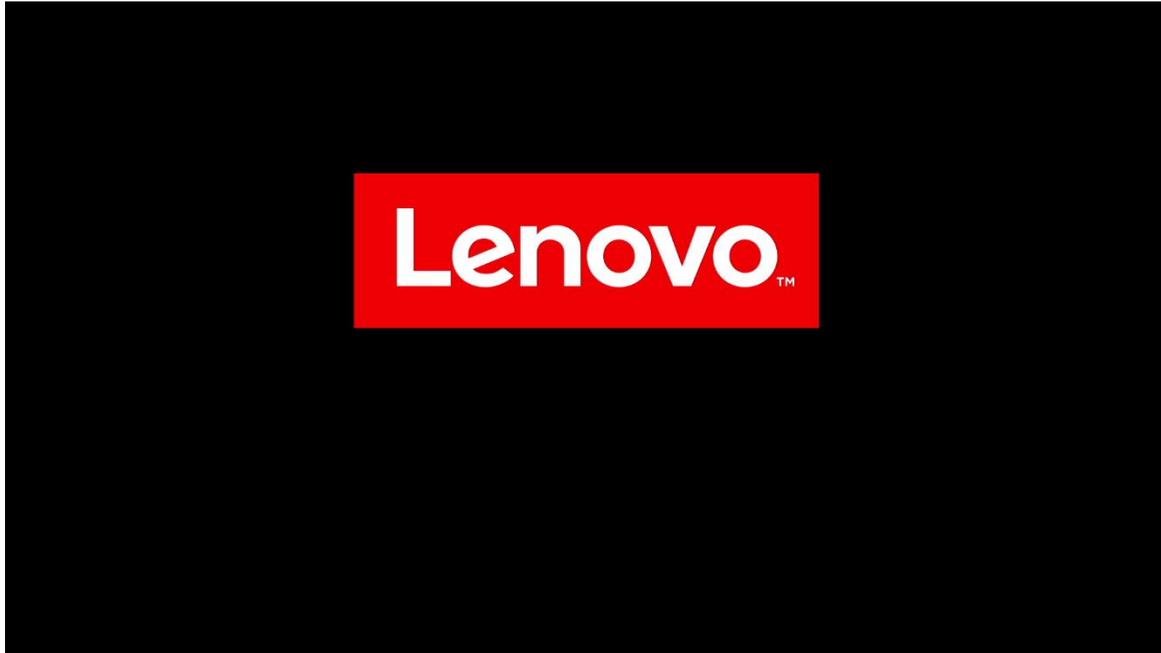
*\*\*\* Official support of Ubuntu 20.04 LTS and later.*



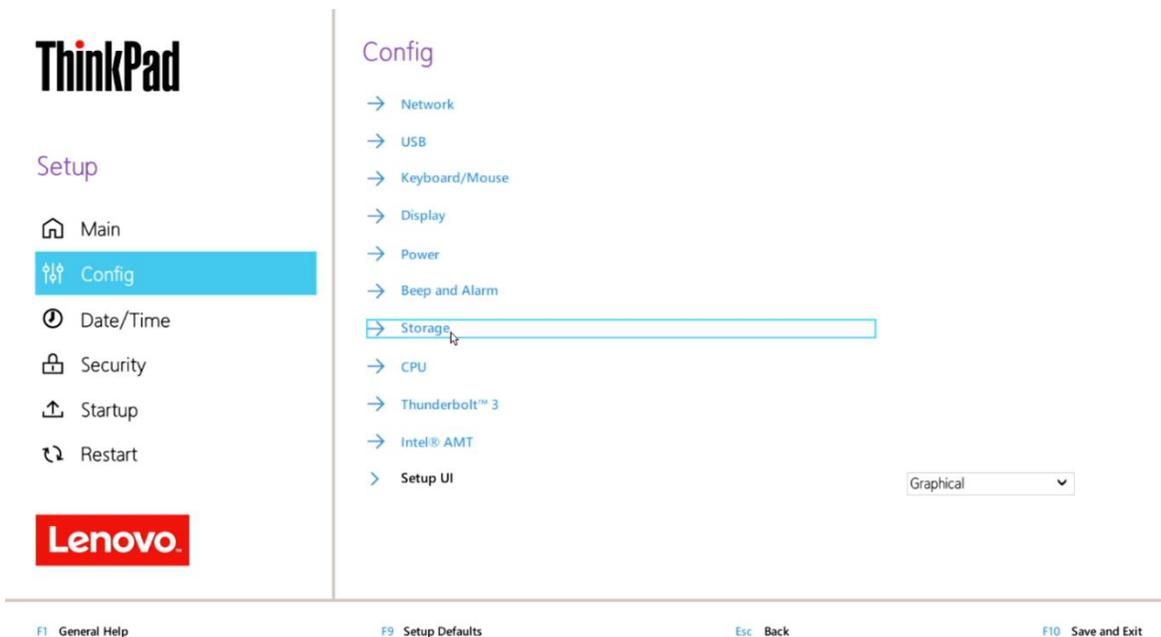
## Section 1 – BIOS Setup and Pre-Installation Steps

The first step before installing Linux is to make sure the system BIOS is setup correctly.

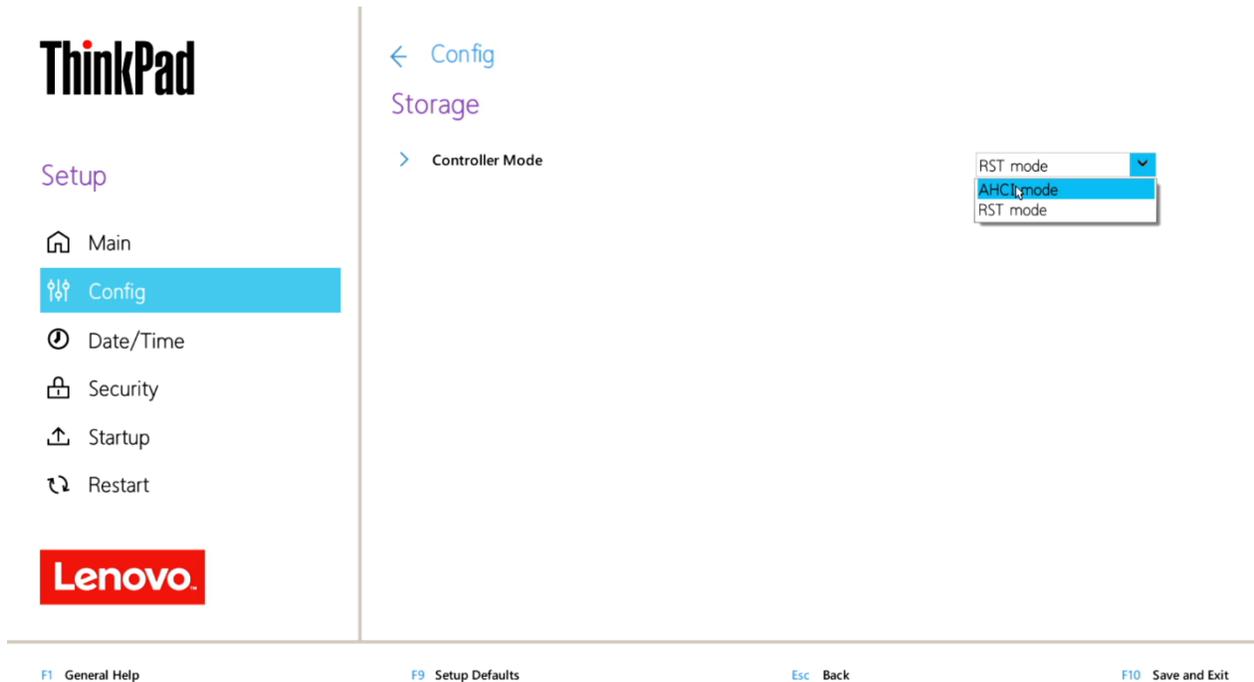
- Boot into BIOS by pressing the function F1 key at the “Lenovo” splash screen.



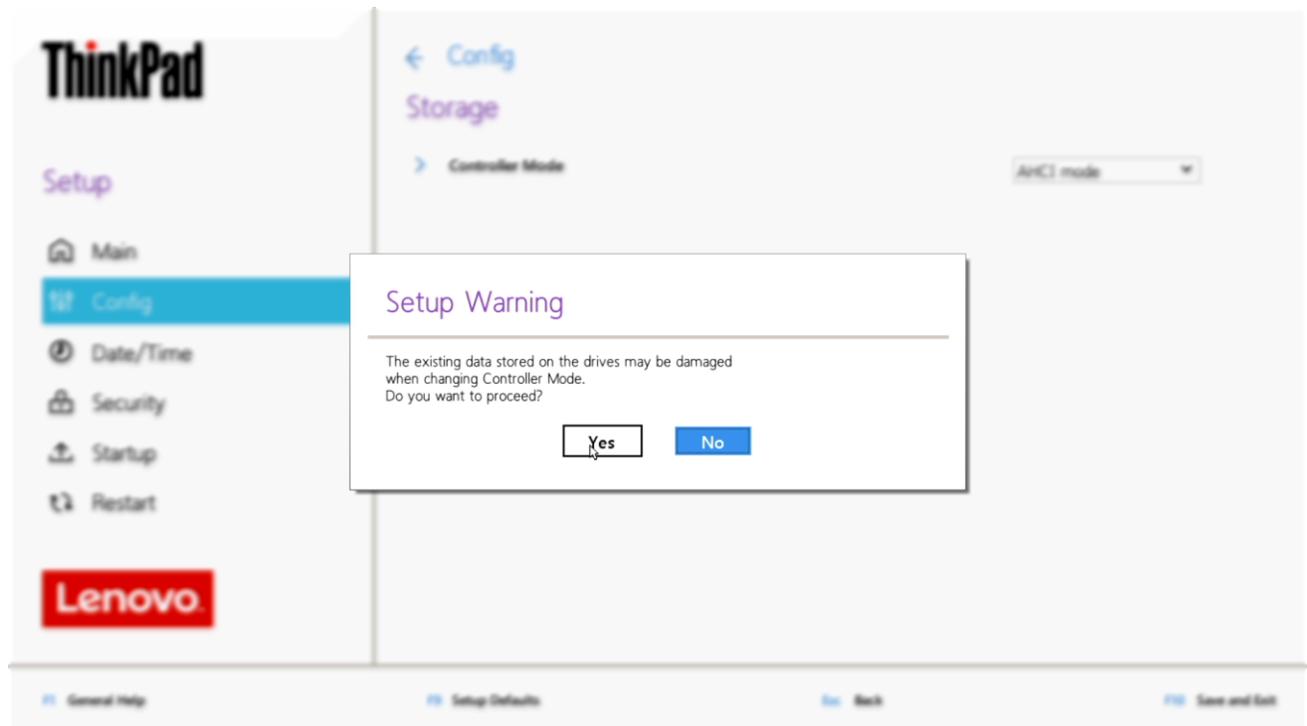
- Tab over to the “Config” menu tab



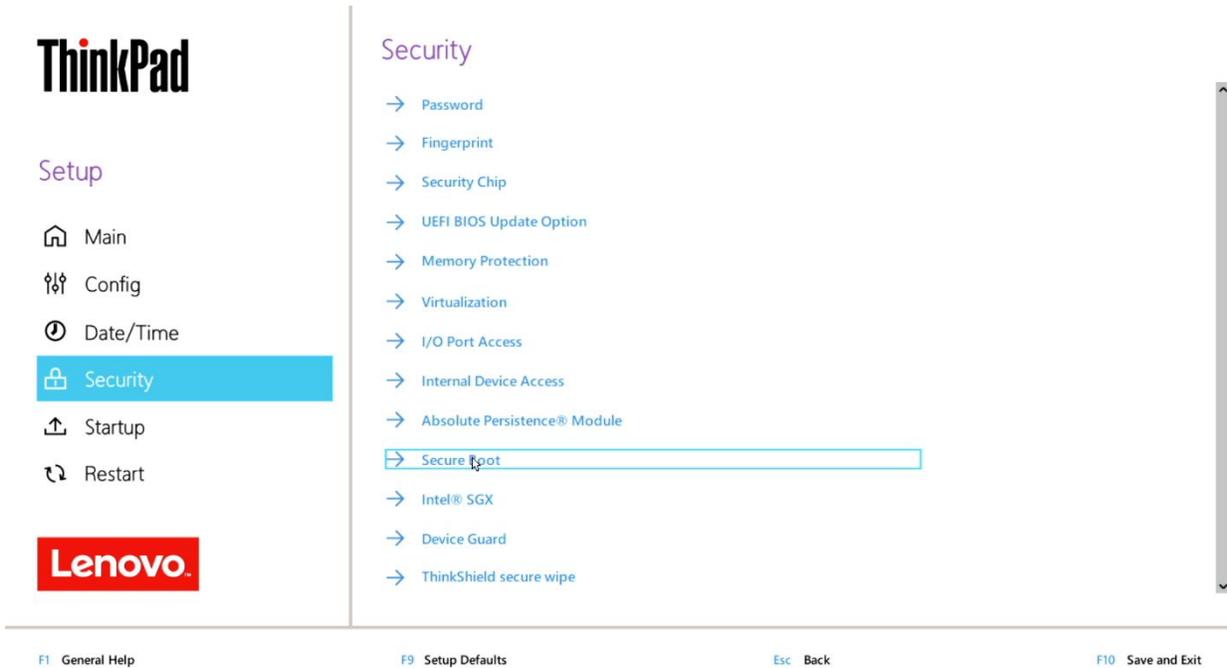
- Enter the “Storage” category and change the “Controller Mode” to “AHCI mode”



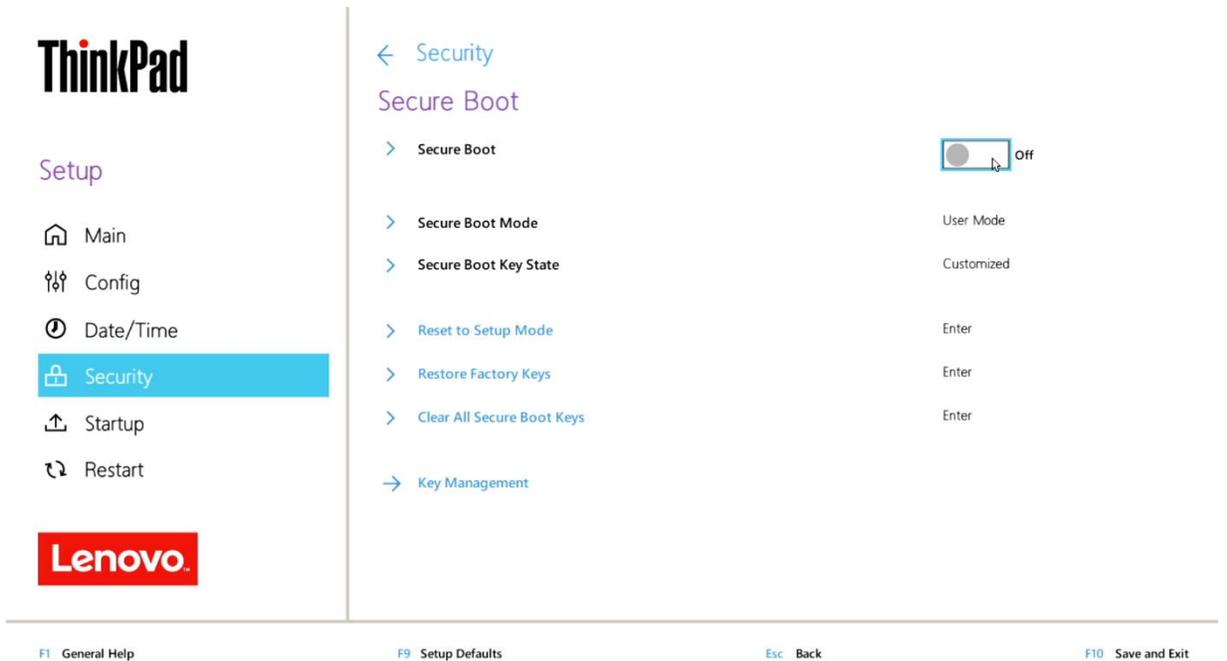
- Select “Yes” to proceed with changing the Controller Mode



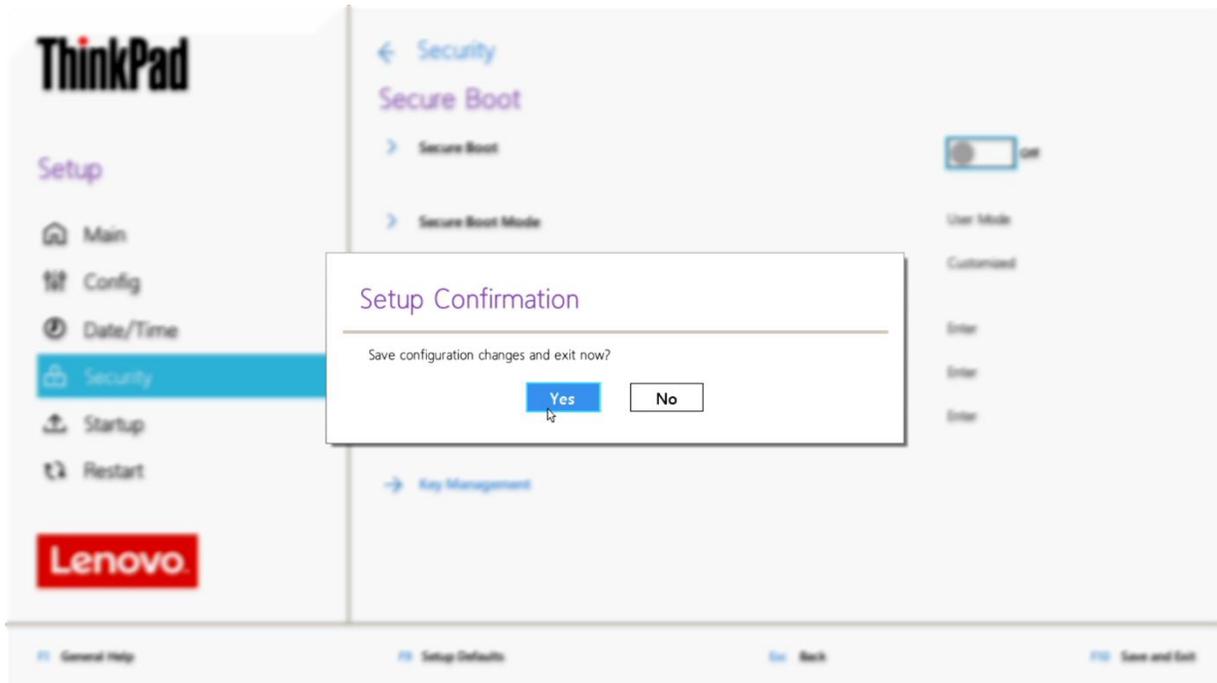
- Tab over to the “Security” menu tab and enter the “Secure Boot” category



- Set “Secure Boot” to “Off”



- Press function F10 key to save and exit BIOS setup.



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## Section 2 – Installing Ubuntu Linux 20.04 LTS

Please refer to the following instructions and screenshots on how to install Ubuntu 20.04 LTS on the Lenovo ThinkPad P14s (Intel), P15s, and P15v.

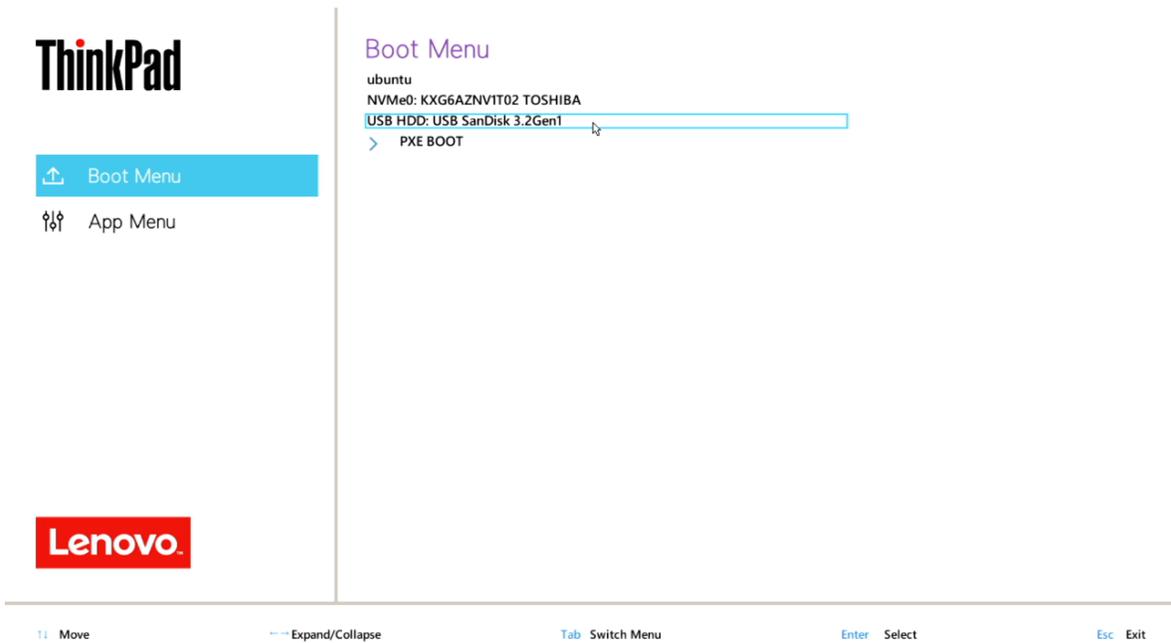
- Insert the Ubuntu 20.04 LTS installation media (either through USB or CD/DVD).
- Power on the system and press the F12 function key whenever the following Lenovo splash screen appears.



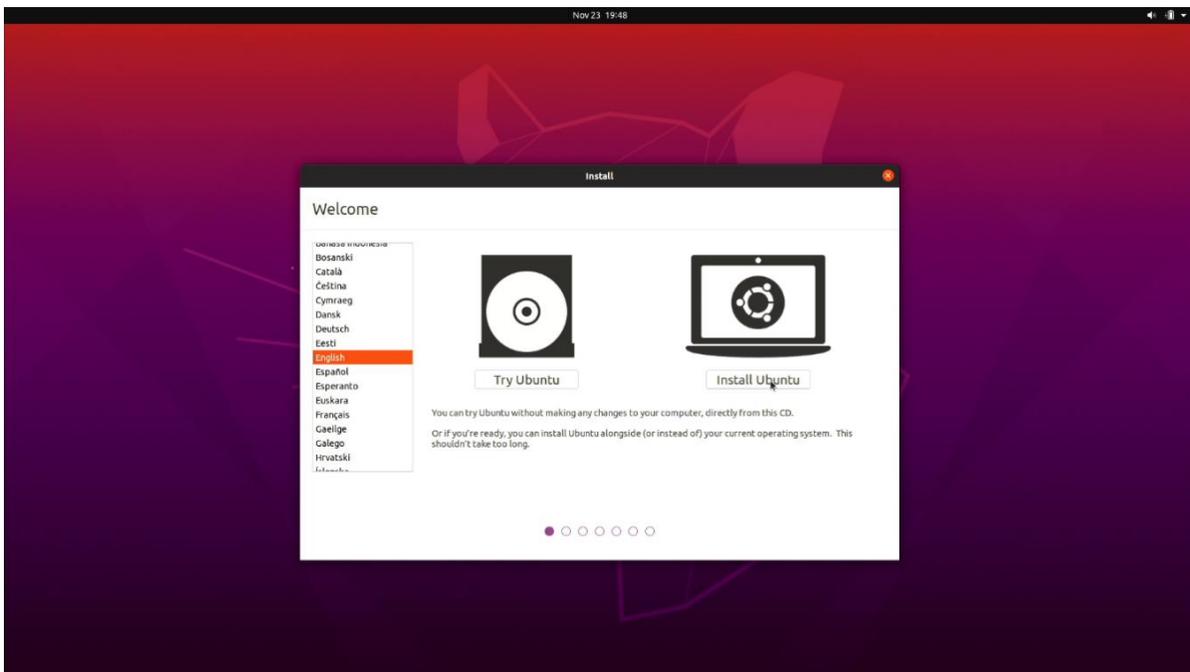
- Select the Linux bootable installation media from the F12 boot menu list.



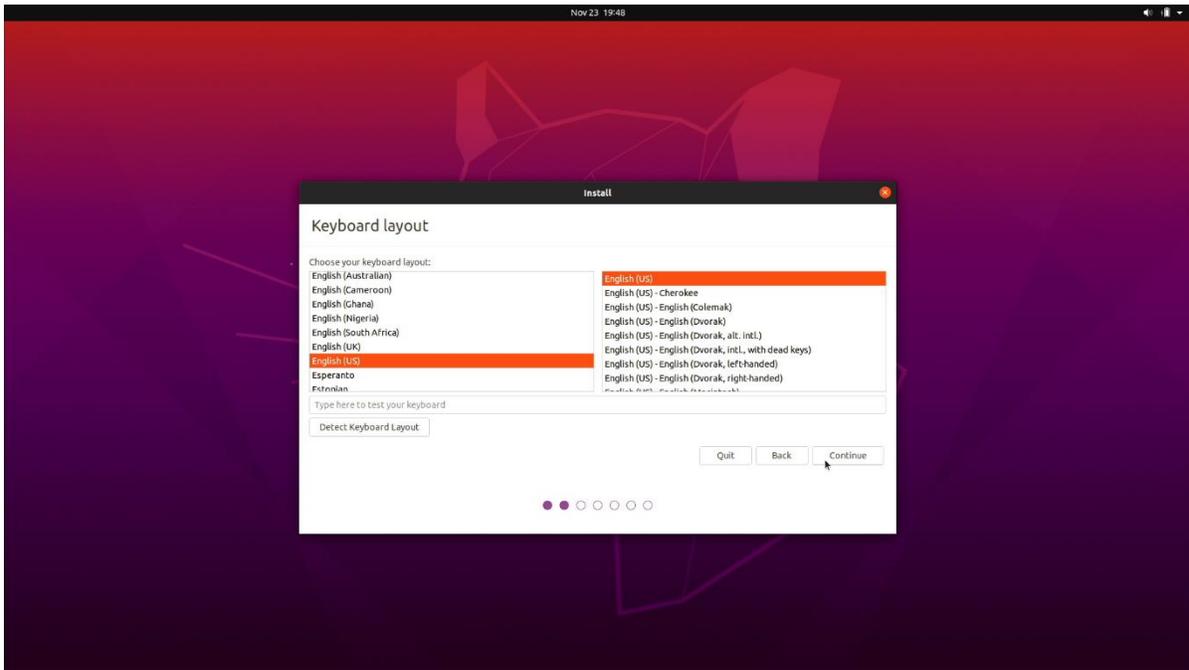
- Highlight “Install Ubuntu” from the GRUB boot menu and press ‘enter’.



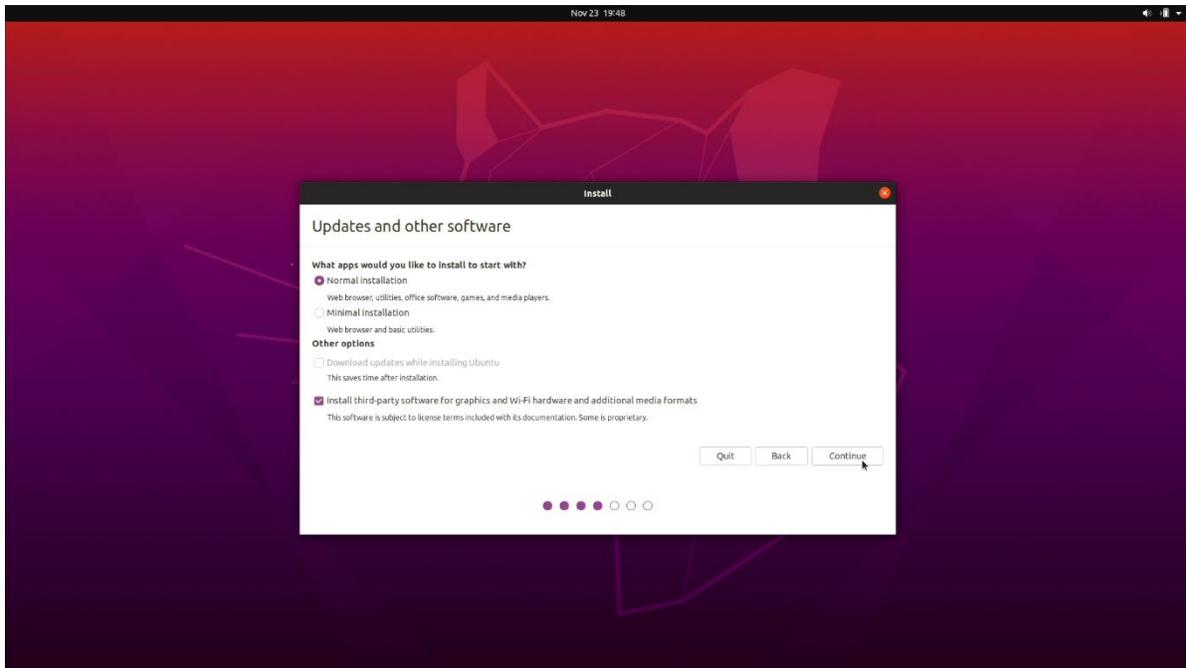
- The Ubuntu Linux Welcome Screen should appear. Click “Install Ubuntu” to proceed



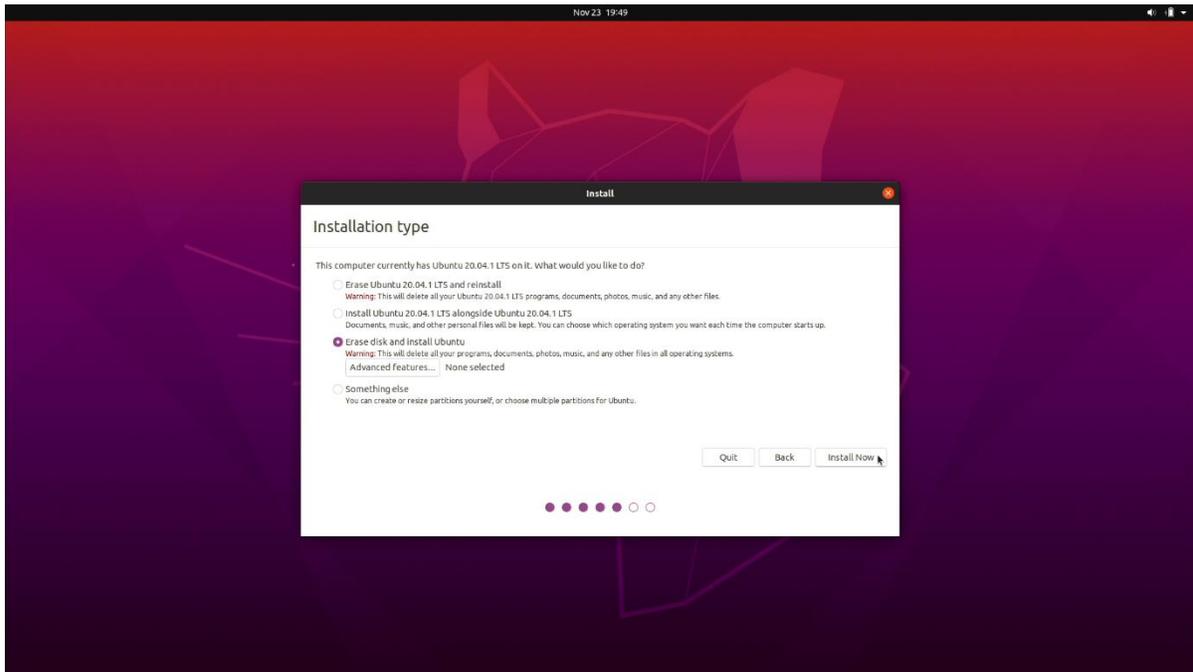
- Select the appropriate keyboard layout and language and “Continue”.



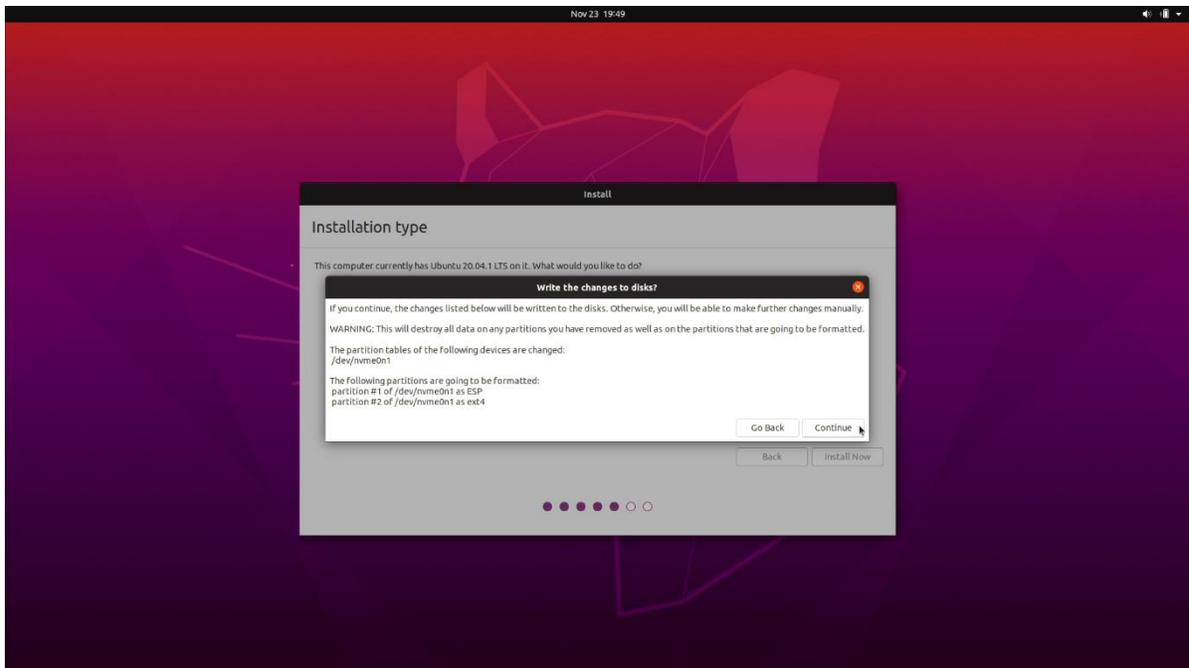
- Select “Normal Installation” as well as “Install third-party software...” then “Continue”.



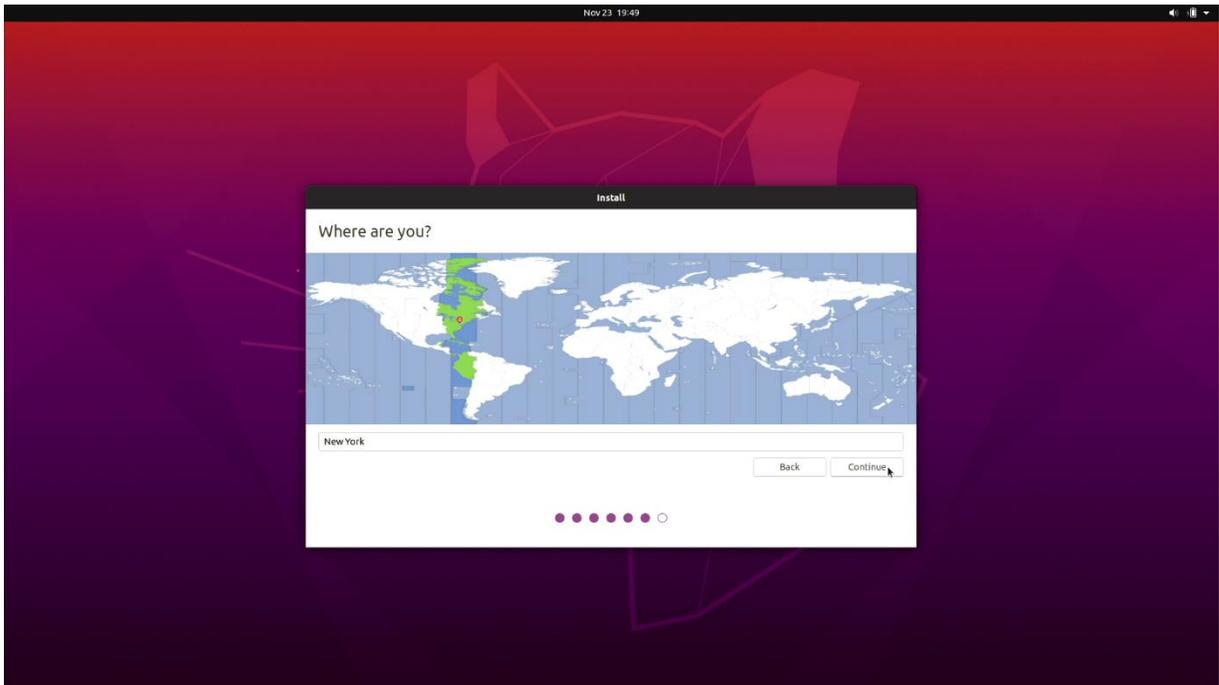
- Choose the installation type. For simplicity, this guide was done using “Erase disk and install Ubuntu”



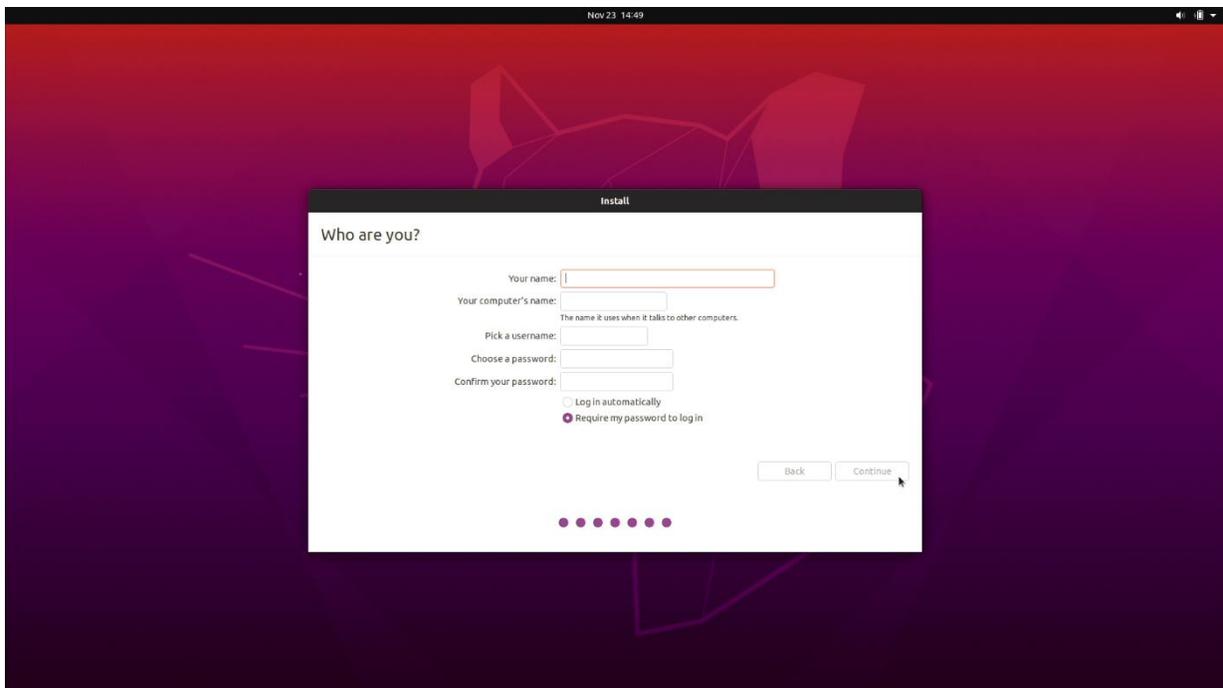
- Select “Continue” to confirm changes will be made to the disk.



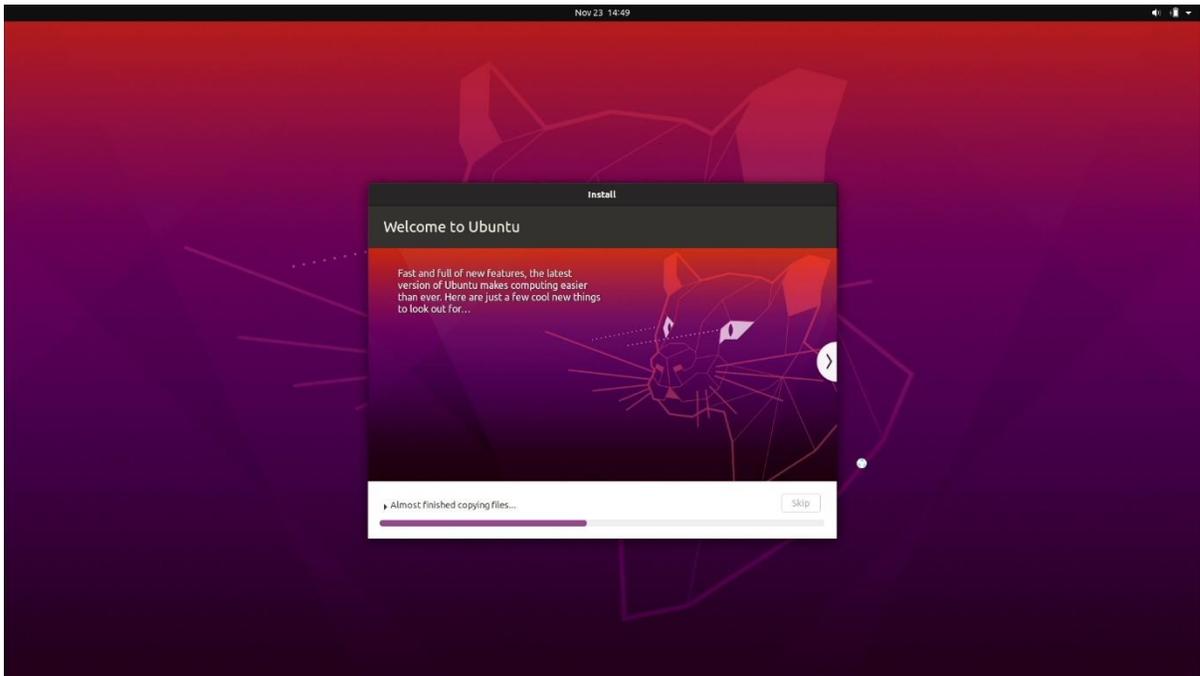
- Choose the appropriate geographical location and select “Continue”.



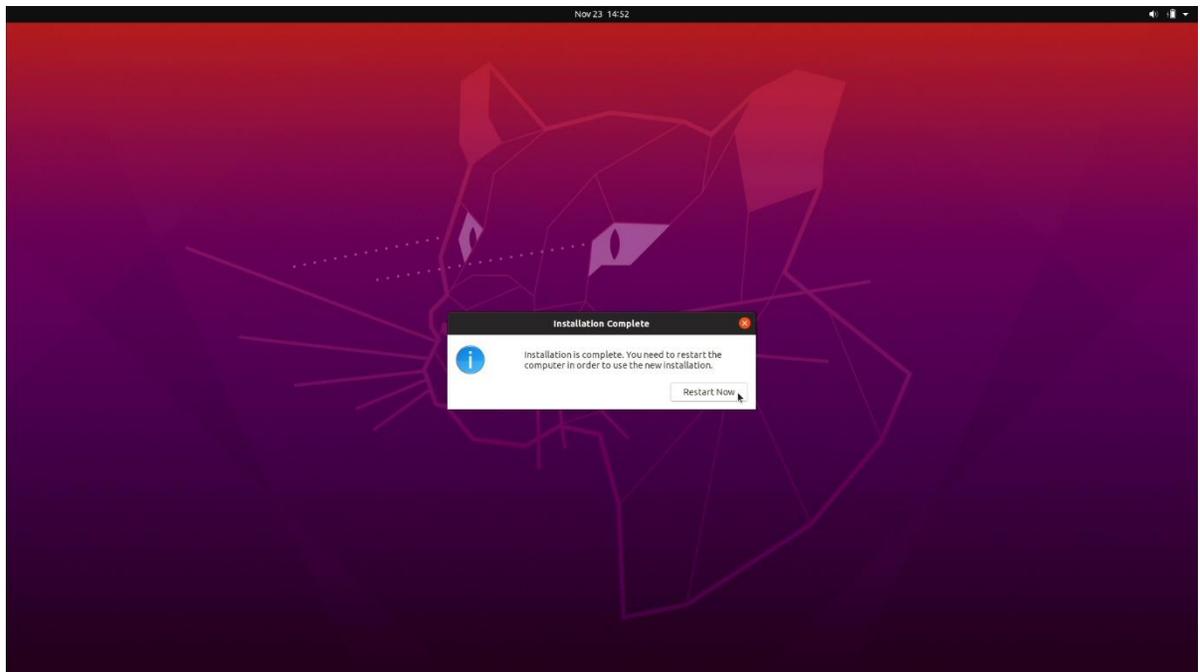
- Fill out the appropriate information and select “Continue”.



- Ubuntu installation progress bar will be shown.



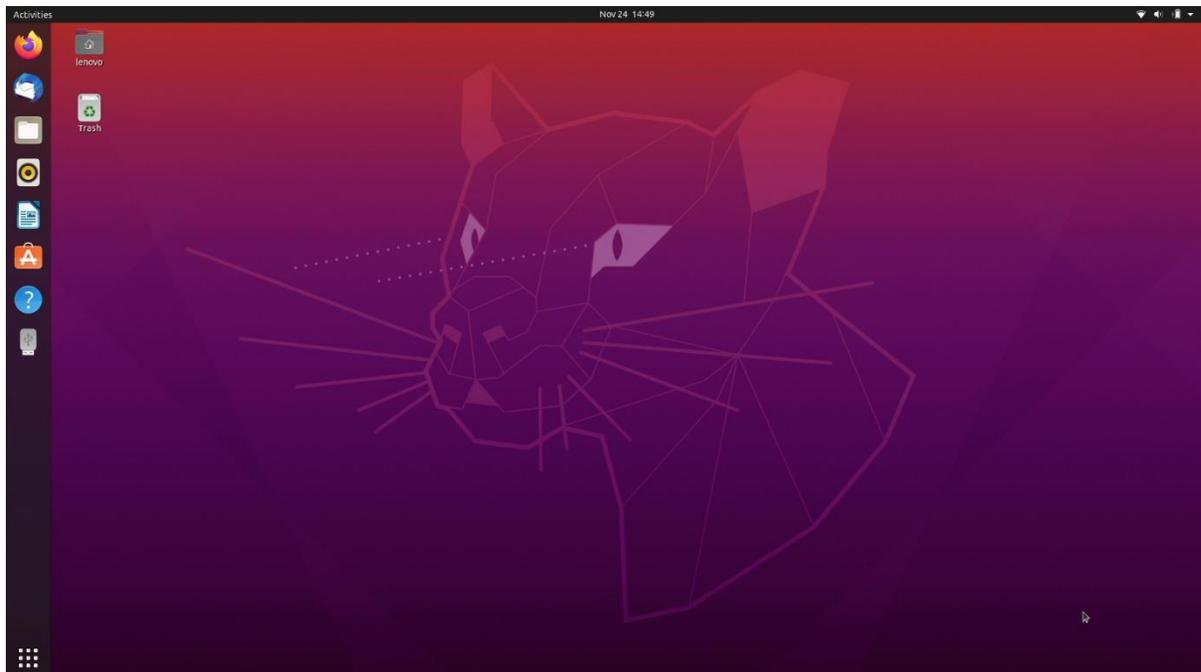
- Once the installation completes, select "Restart Now".



- Remove the installation media and press ENTER.



- Ubuntu Desktop Screen:



## Section 3 – Installing the Nvidia Graphics Driver

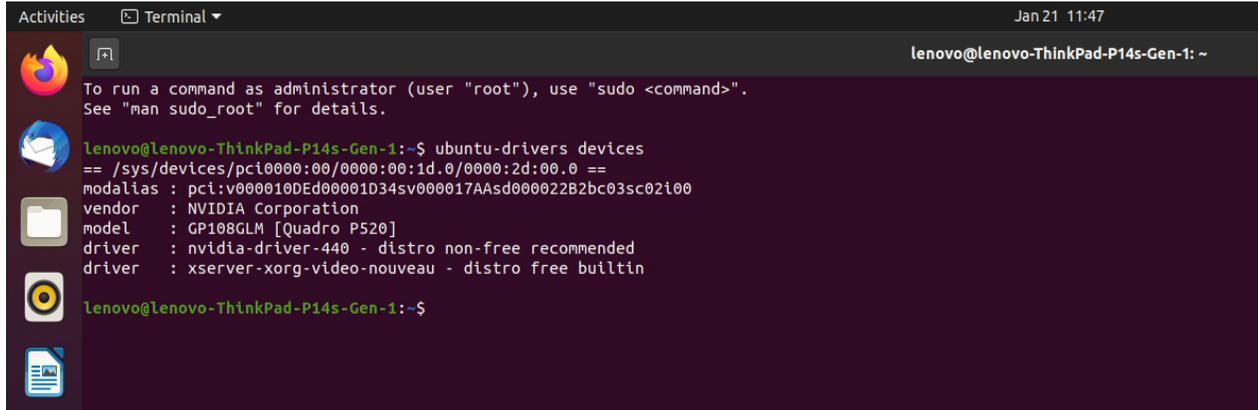
In order to get optimal performance out of the Nvidia GPU, it's a good idea to ensure the latest Nvidia graphics driver is installed.

- Note that by selecting “Install third-party software...” during the Ubuntu installation in Step 3, a compatible driver should already be installed.

To install the latest graphics driver, connect to the internet via a wireless or wired connection, and then follow the steps below:

- Detect the model of your GPU and the recommended driver using this command.

```
# ubuntu-drivers devices
```



```

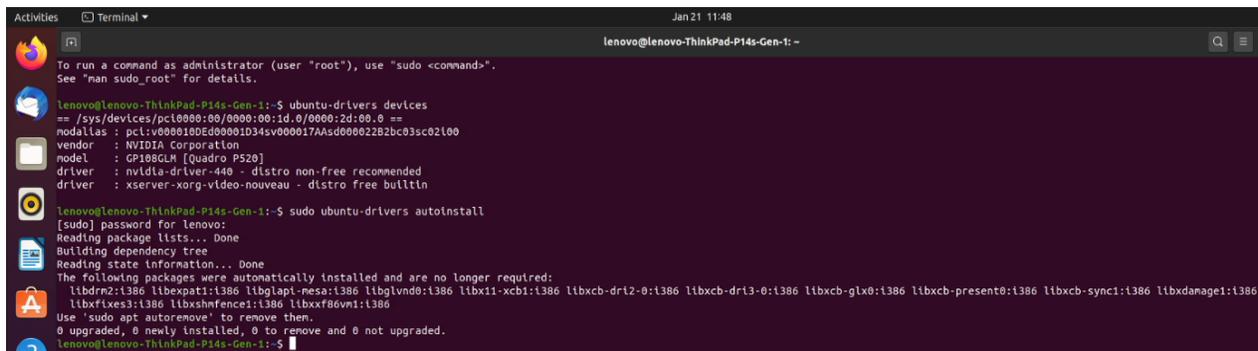
lenovo@lenovo-ThinkPad-P14s-Gen-1:~$ ubuntu-drivers devices
== /sys/devices/pci0000:00/0000:00:1d.0/0000:2d:00.0 ==
modalias : pci:v000010DEd00001D34sv000017AAsd000022B2bc03sc02i00
vendor   : NVIDIA Corporation
model    : GP108GLM [Quadro P520]
driver   : nvidia-driver-440 - distro non-free recommended
driver   : xserver-xorg-video-nouveau - distro free builtin

lenovo@lenovo-ThinkPad-P14s-Gen-1:~$

```

- You can then run the following command to auto install all recommended drivers.

```
# sudo ubuntu-drivers autoinstall
```



```

lenovo@lenovo-ThinkPad-P14s-Gen-1:~$ sudo ubuntu-drivers autoinstall
[sudo] password for lenovo:
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
libdrm2:i386 libxpat:i386 libglapi-mesa:i386 libglvnd0:i386 libx11-xcb1:i386 libxcb-dri2-0:i386 libxcb-dri3-0:i386 libxcb-glx0:i386 libxcb-present0:i386 libxcb-sync1:i386 libxdamage1:i386
libxf86ves3:i386 libxshmfence1:i386 libxf86vm1:i386
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.

lenovo@lenovo-ThinkPad-P14s-Gen-1:~$

```

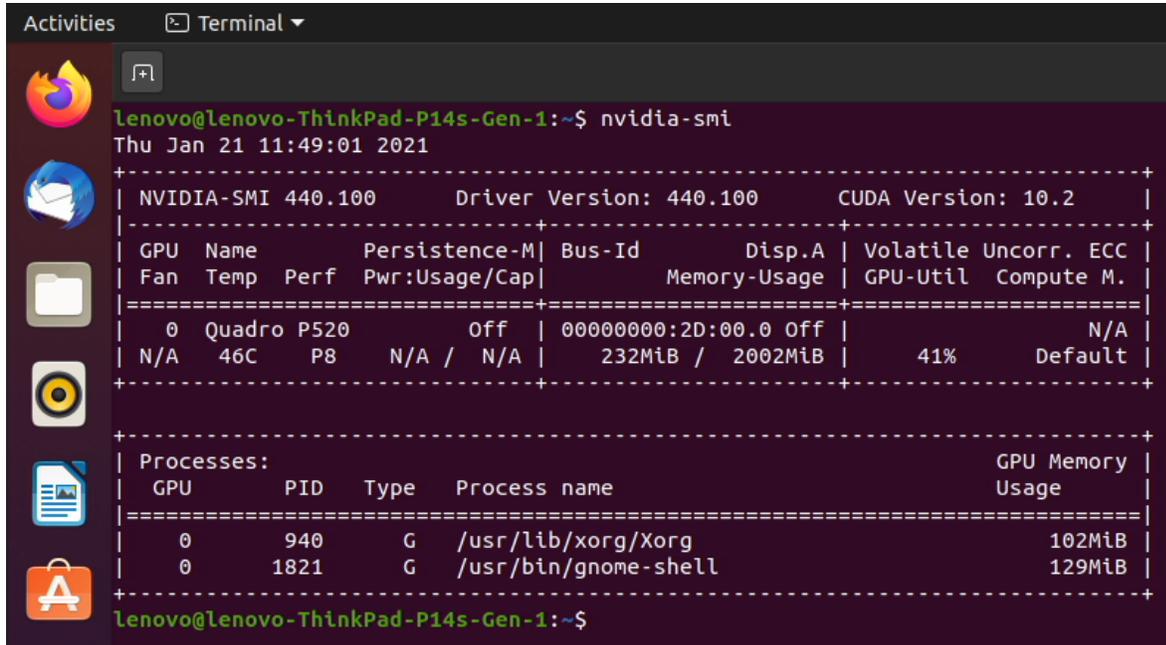
- In this case, the most recent driver was already installed by selecting “Install third-party software...” during the Ubuntu installation in Step 3.

- Once the installation is complete, reboot the system.

```
# sudo reboot
```

- Use the following command to verify the correct driver is loaded.

```
# nvidia-smi
```



```
Activities Terminal
Lenovo@Lenovo-ThinkPad-P14s-Gen-1:~$ nvidia-smi
Thu Jan 21 11:49:01 2021
+-----+
| NVIDIA-SMI 440.100      Driver Version: 440.100      CUDA Version: 10.2      |
+-----+-----+
| GPU Name          Persistence-M| Bus-Id        Disp.A | Volatile Uncorr. ECC |
| Fan  Temp  Perf  Pwr:Usage/Cap|      Memory-Usage | GPU-Util  Compute M. |
+-----+-----+-----+-----+
|   0  Quadro P520           Off | 00000000:2D:00.0 Off |          N/A          |
| N/A   46C    P8     N/A /  N/A | 232MiB / 2002MiB |      41%    Default  |
+-----+-----+-----+-----+
+-----+
| Processes:
| GPU      PID   Type   Process name                      GPU Memory |
|-----|-----|-----|-----|-----|
|   0      940    G     /usr/lib/xorg/Xorg                 102MiB |
|   0     1821    G     /usr/bin/gnome-shell                129MiB |
+-----+
Lenovo@Lenovo-ThinkPad-P14s-Gen-1:~$
```

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## Section 4 – Revision History

Version	Date	Author	Changes/Updates
1.0	1/22/2021	Hady Asad	Initial launch release