Ubuntu Linux Setup Guide

For Lenovo ThinkPad P14s (AMD)

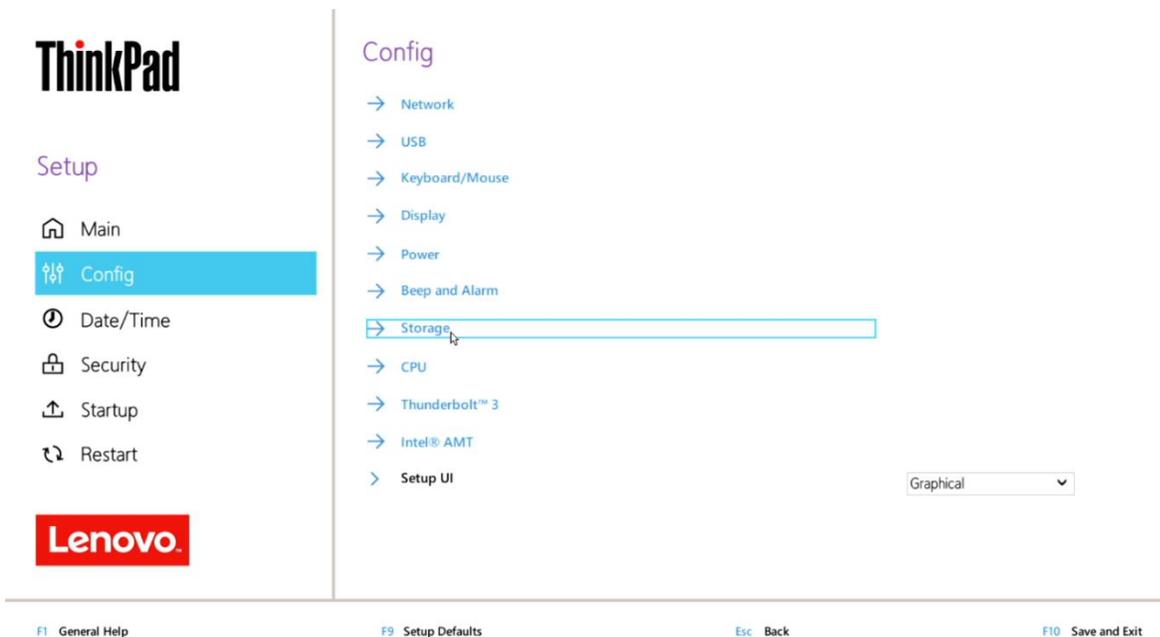*** *Official support of Ubuntu 20.04 LTS and later.*

Section 1 – BIOS Setup and Pre-Installation Steps

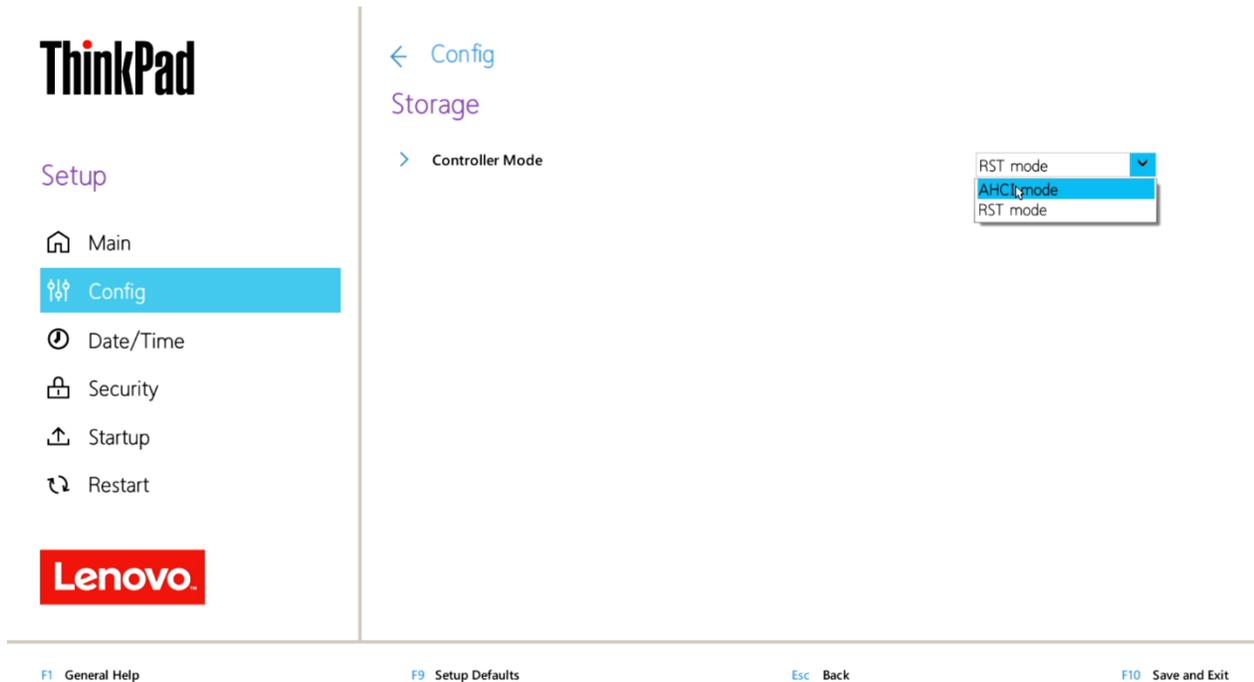The first step before installing Linux is to make sure the system BIOS is setup correctly.

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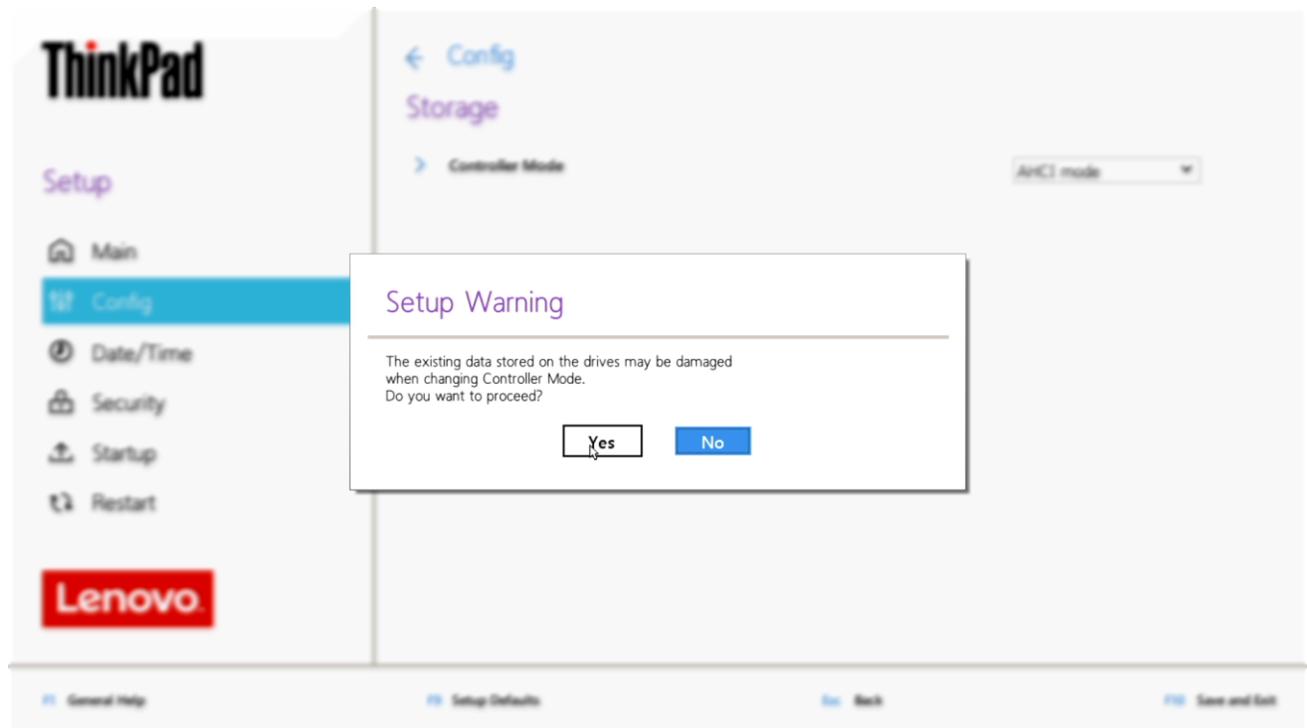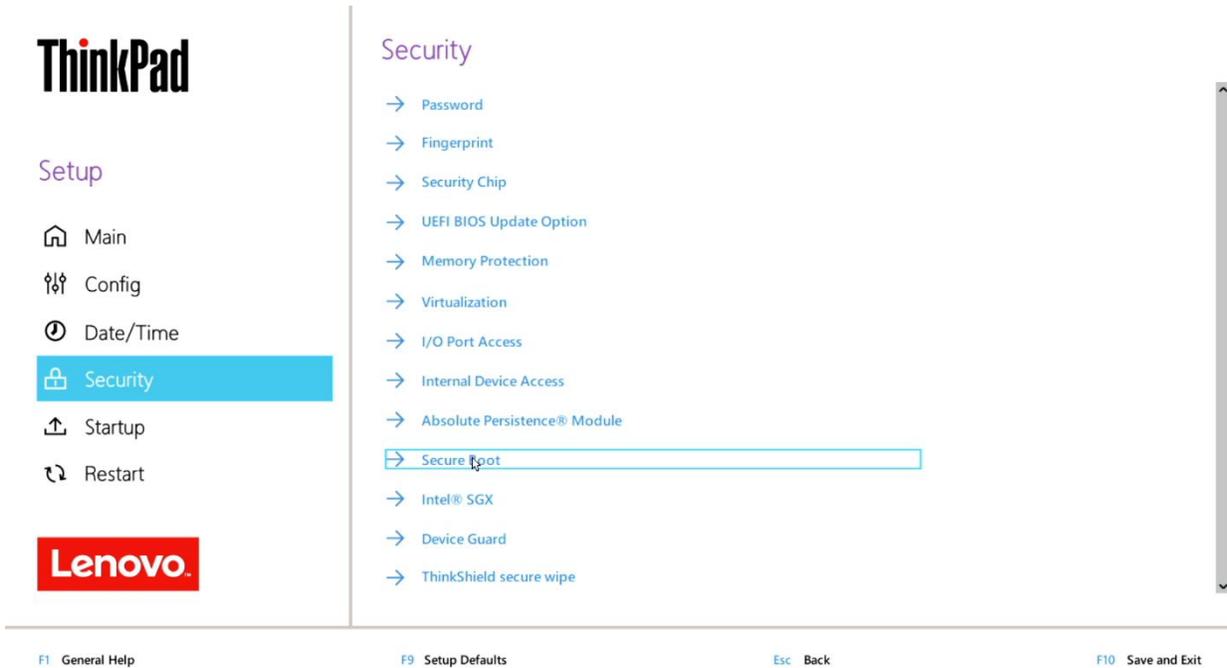

- Tab over to the "Config" menu tab

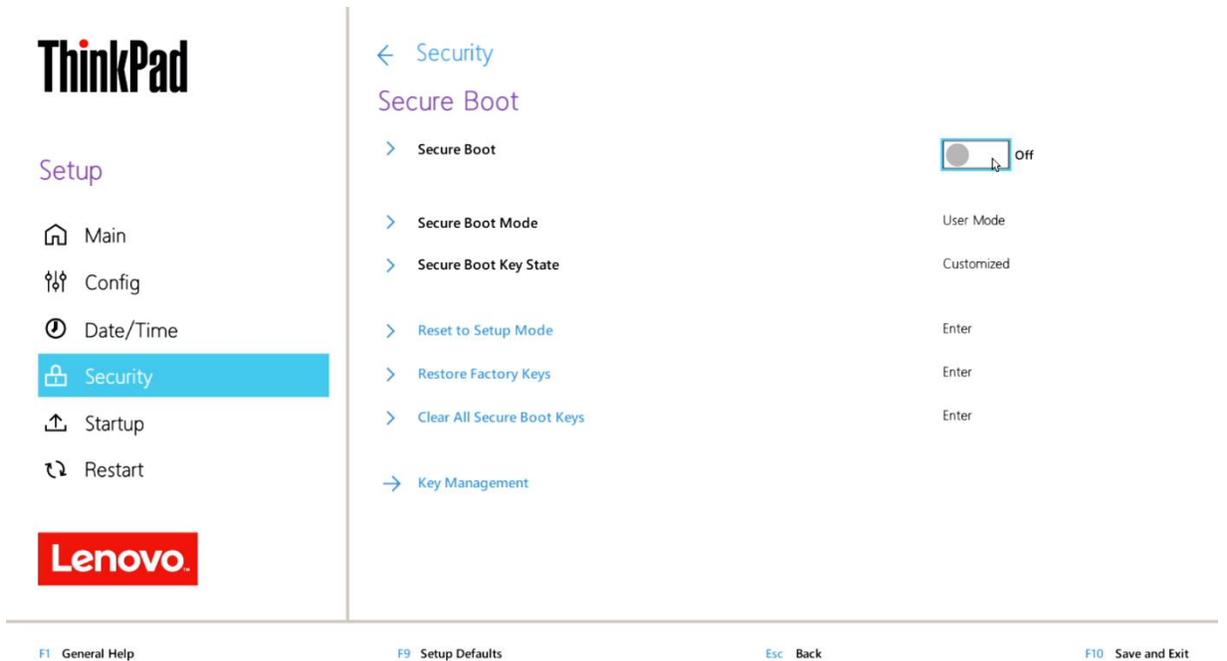- Enter the "Storage" category and change the "Controller Mode" to "AHCI mode"

ThinkPad

Setup

- ⌂ Main
- ◊◊◊ Config
- ⊘ Date/Time
- 🔒 Security
- ⬆ Startup
- ↻ Restart

Lenovo.

← Config

Storage

⟩ Controller Mode

RST mode ▾
AHCI mode
RST mode

F1 General Help   F9 Setup Defaults   Esc Back   F10 Save and Exit

- Select "Yes" to proceed with changing the Controller Mode

ThinkPad

Setup

- ⌂ Main
- ◊◊◊ Config
- ⊘ Date/Time
- 🔒 Security
- ⬆ Startup
- ↻ Restart

Lenovo.

← Config

Storage

⟩ Controller Mode   [AHCI mode ▾]

Setup Warning

The existing data stored on the drives may be damaged
when changing Controller Mode.
Do you want to proceed?

[Yes]   [No]

General Help   Setup Defaults   Back   Save and Exit

3

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

ThinkPad

Setup

- ⌂ Main
- ⑯ Config
- ◷ Date/Time
- 🔒 Security
- ⏏ Startup
- ↻ Restart

Lenovo.

Security

→ Password
→ Fingerprint
→ Security Chip
→ UEFI BIOS Update Option
→ Memory Protection
→ Virtualization
→ I/O Port Access
→ Internal Device Access
→ Absolute Persistence® Module
→ Secure Boot
→ Intel® SGX
→ Device Guard
→ ThinkShield secure wipe

F1 General Help   F9 Setup Defaults   Esc Back   F10 Save and Exit

- Set "Secure Boot" to "Off"

ThinkPad

Setup

- ⌂ Main
- ⑯ Config
- ◷ Date/Time
- 🔒 Security
- ⏏ Startup
- ↻ Restart

Lenovo.

← Security

Secure Boot

> Secure Boot   ⬤ Off

> Secure Boot Mode   User Mode
> Secure Boot Key State   Customized

> Reset to Setup Mode   Enter
> Restore Factory Keys   Enter
> Clear All Secure Boot Keys   Enter

→ Key Management

F1 General Help   F9 Setup Defaults   Esc Back   F10 Save and Exit

- Press function F10 key to save and exit BIOS setup.
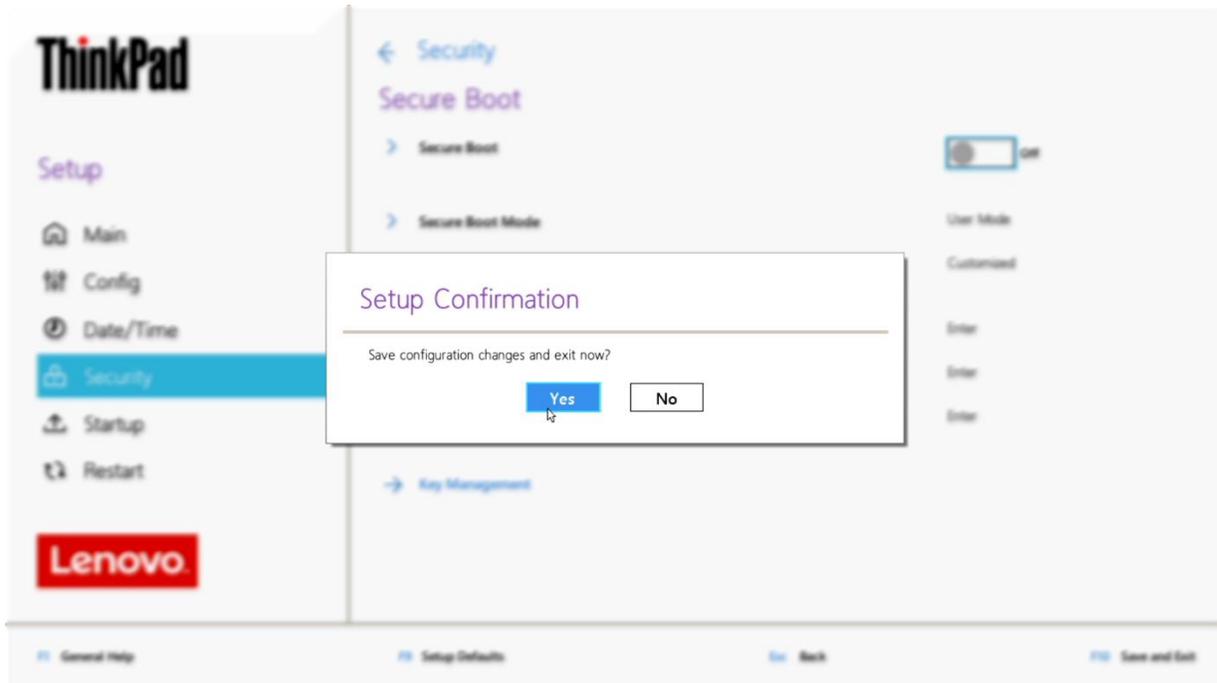
Section 2 – Installing Ubuntu Linux 20.04 LTS

Please refer to the following instructions and screenshots on how to install Ubuntu 20.04 LTS on the Lenovo ThinkPad P14s (AMD).
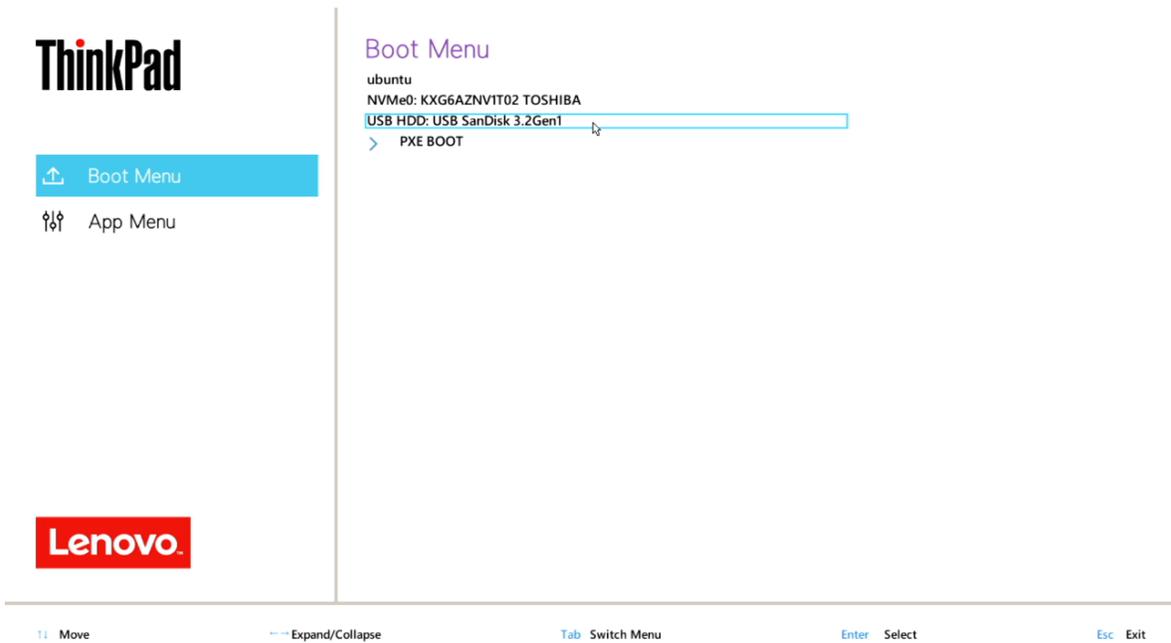
- Insert the Ubuntu 20.04 LTS installation media (either through USB or CD/DVD).

- Power on the system and press the F12 function key whenever the following Lenovo splash screen appears.
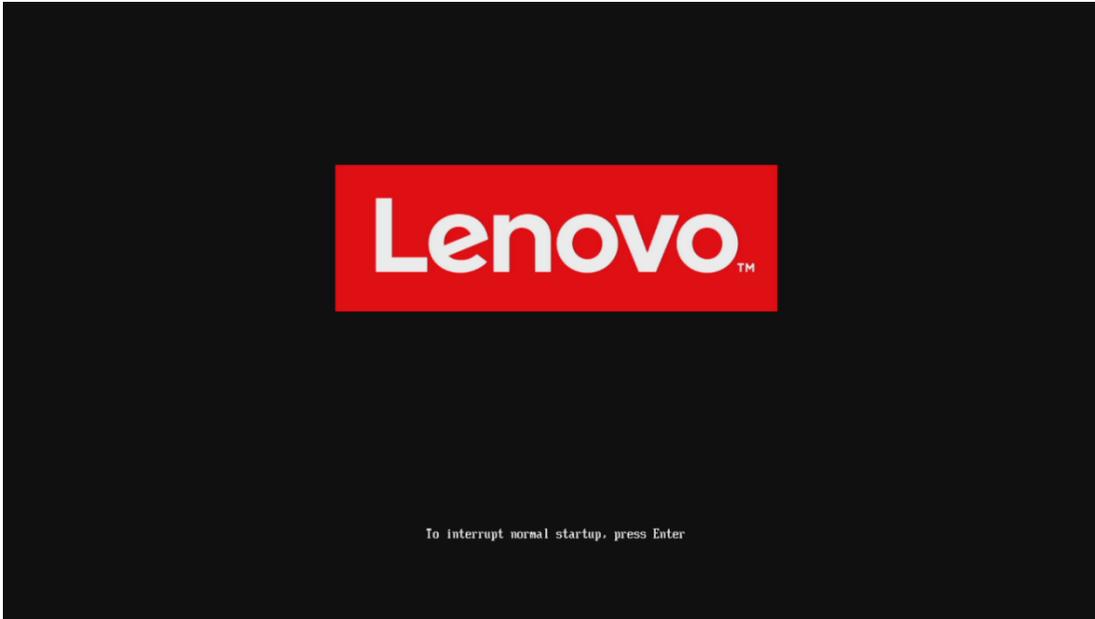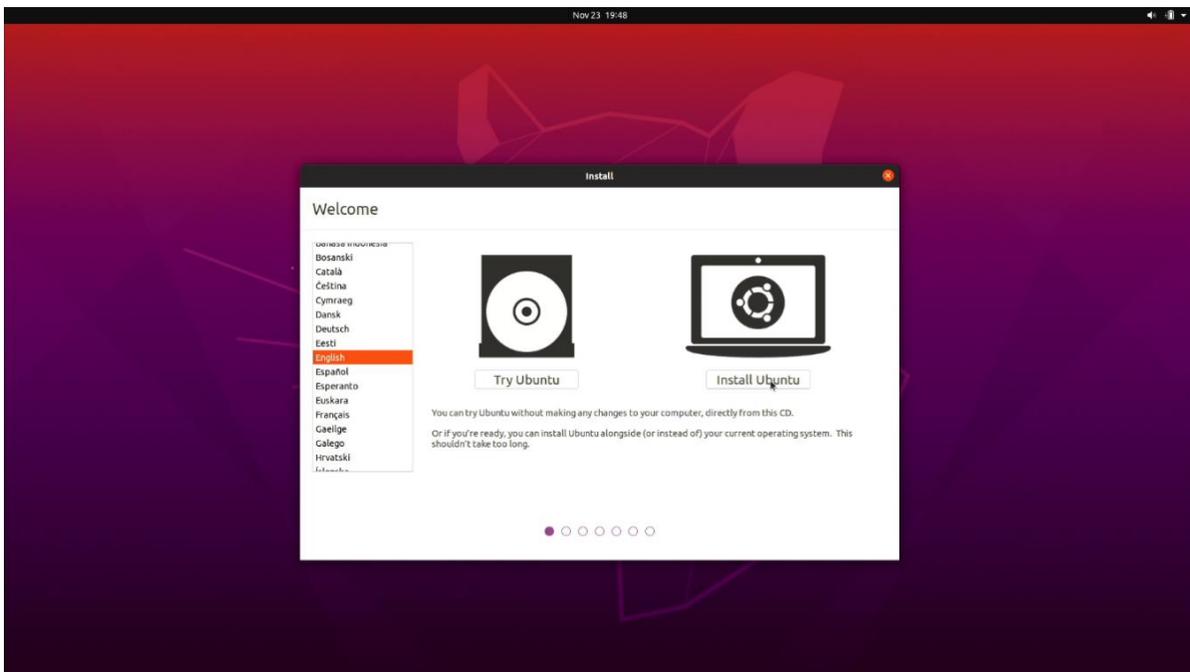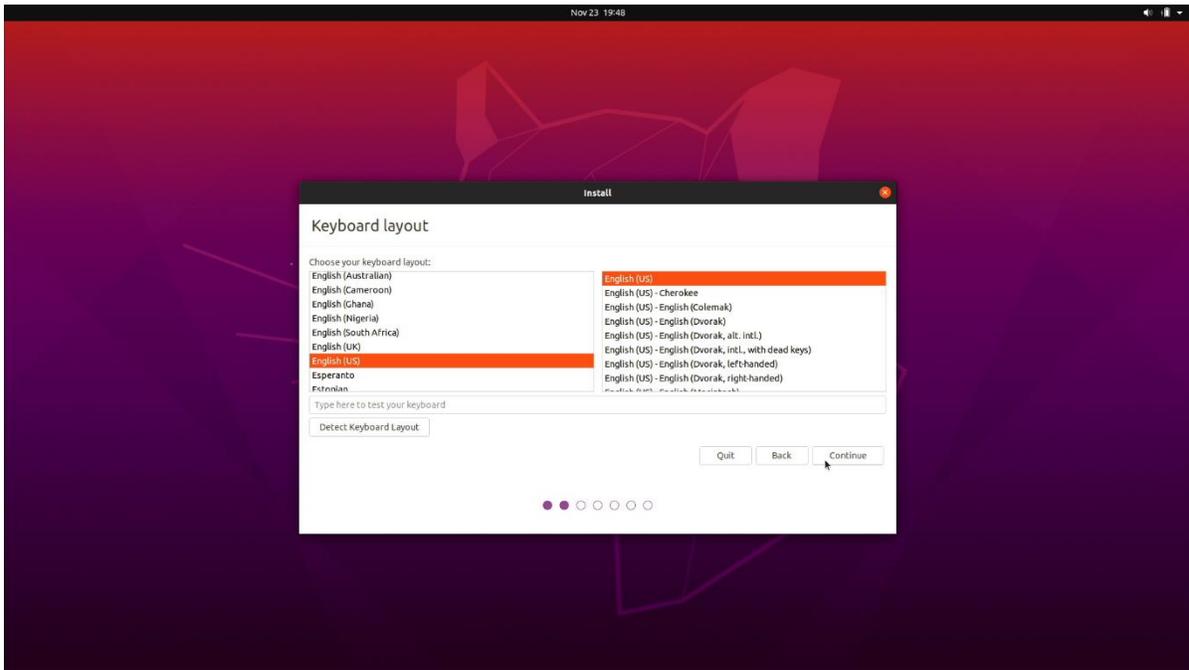

- Select the Linux bootable installation media from the F12 boot menu list.

- 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".

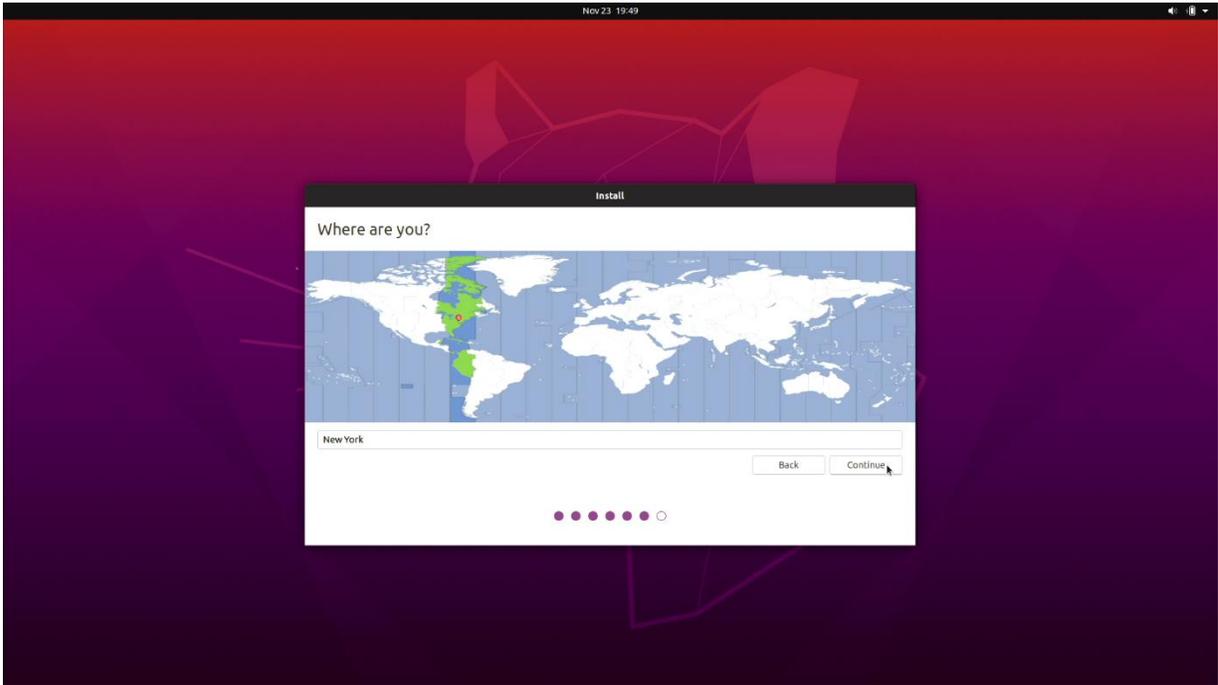- Select "Normal Installation" as well as "Install third-party software…" then "Continue".
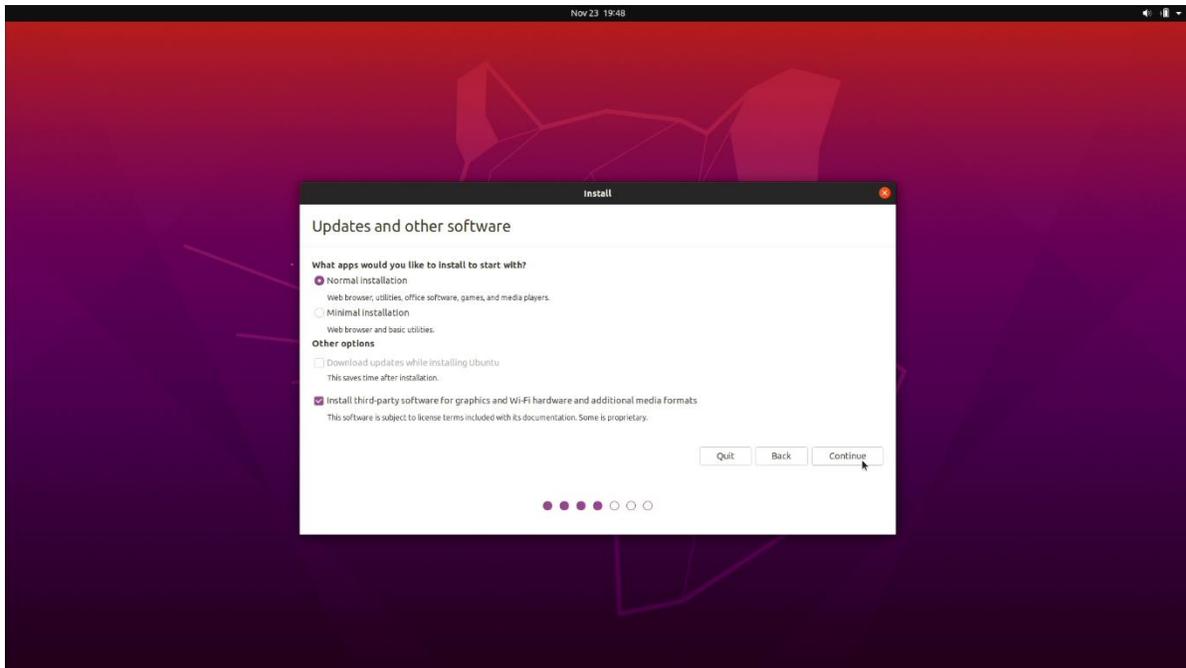
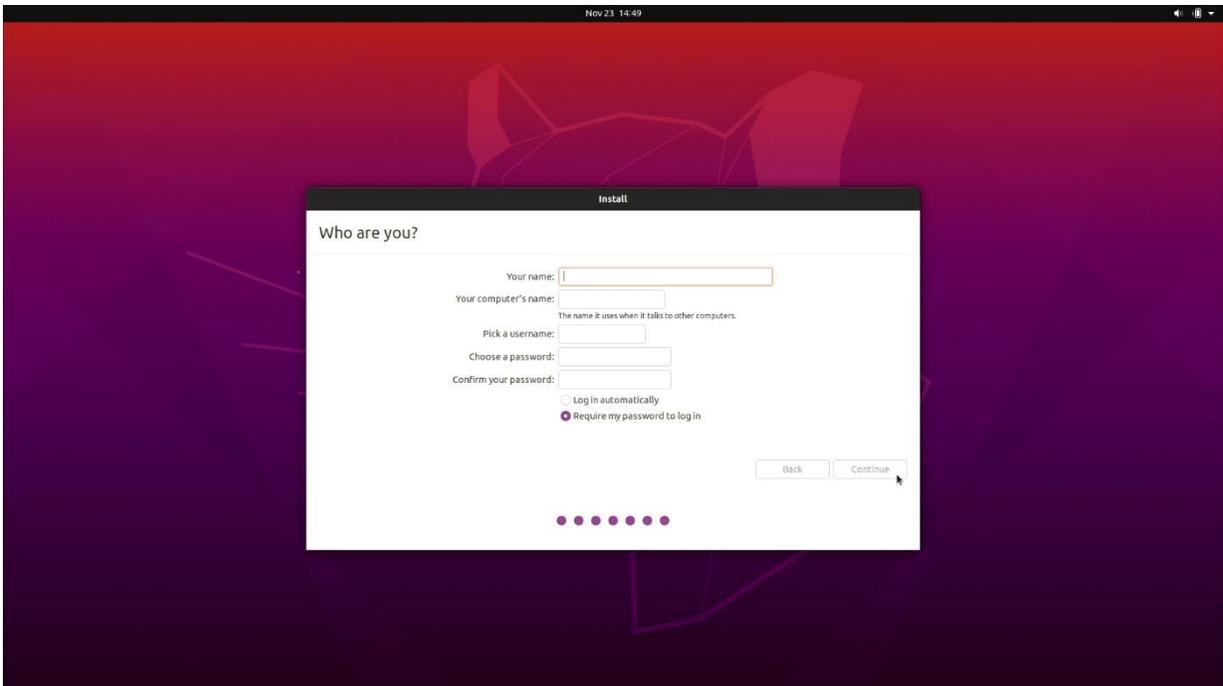- Choose the installation type. For simplicity, this guide was done using "Erase disk and install Ubuntu"
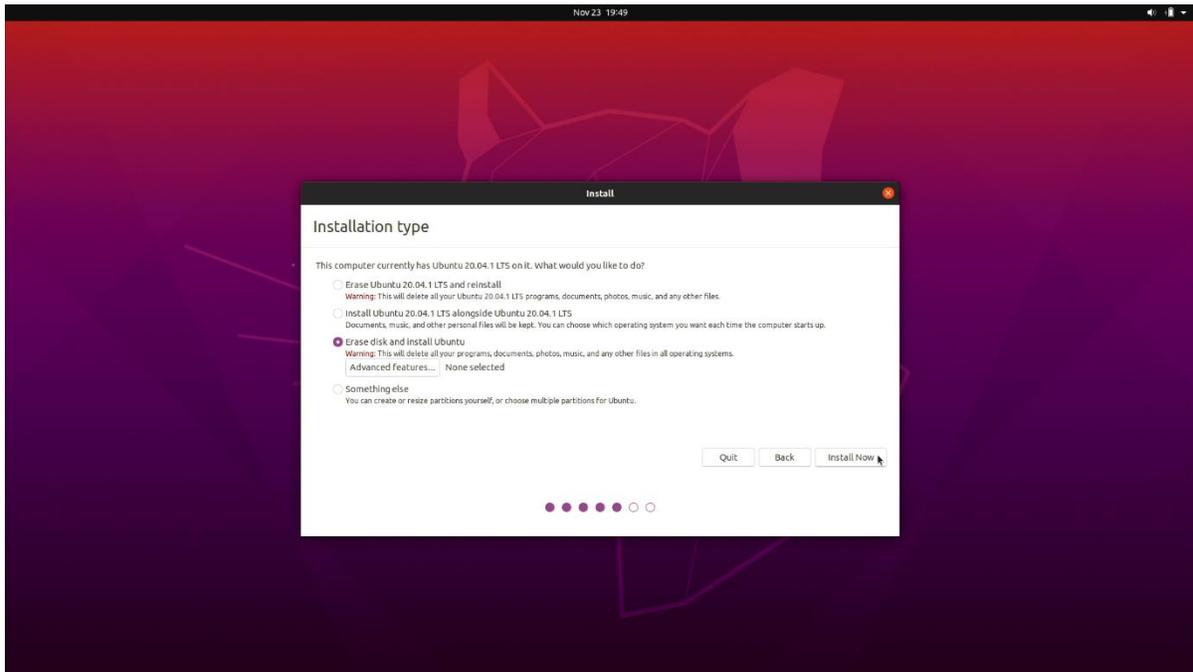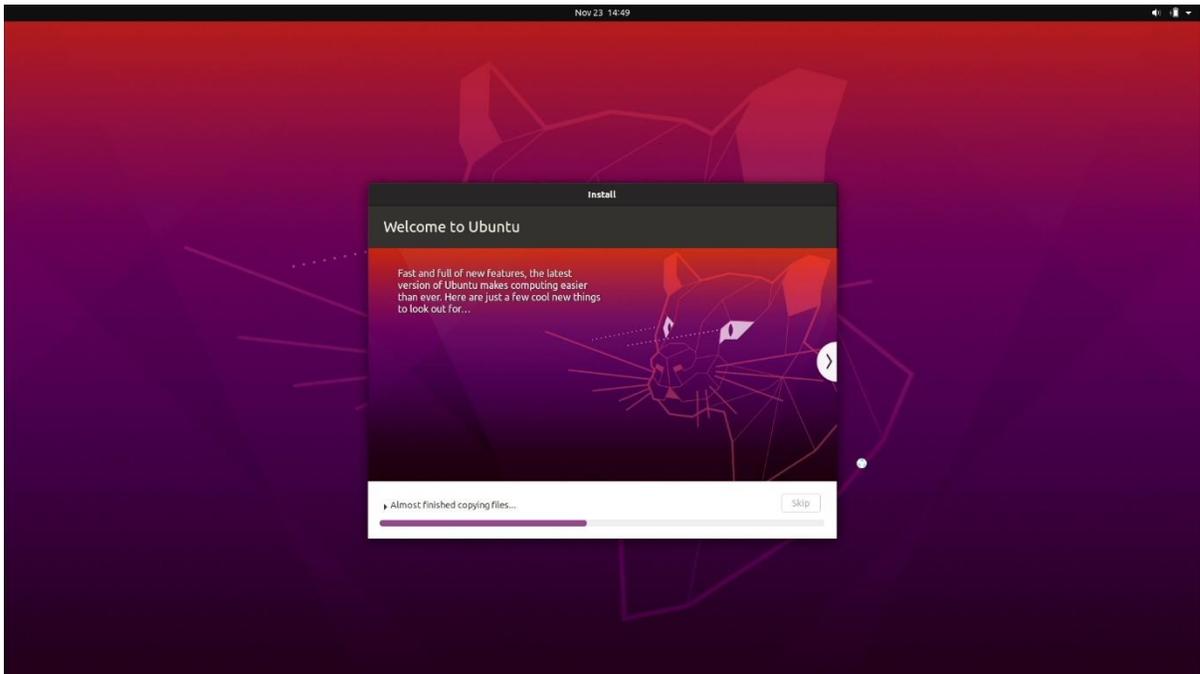

- Select "Continue" to confirm changes will be made to the disk.
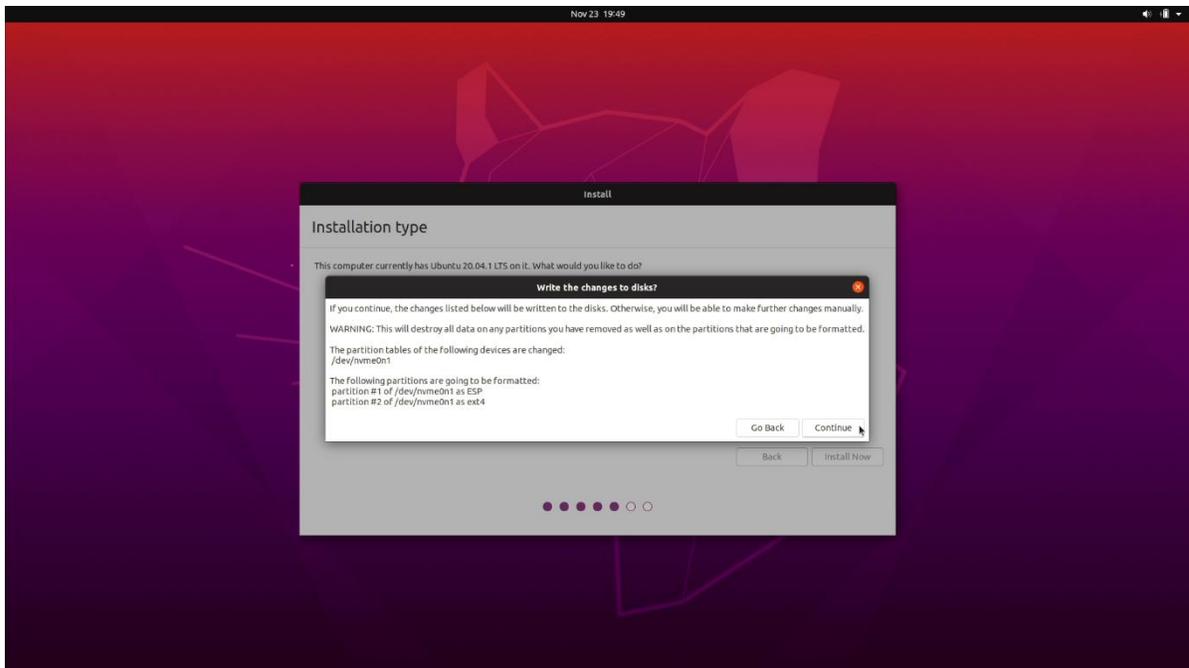
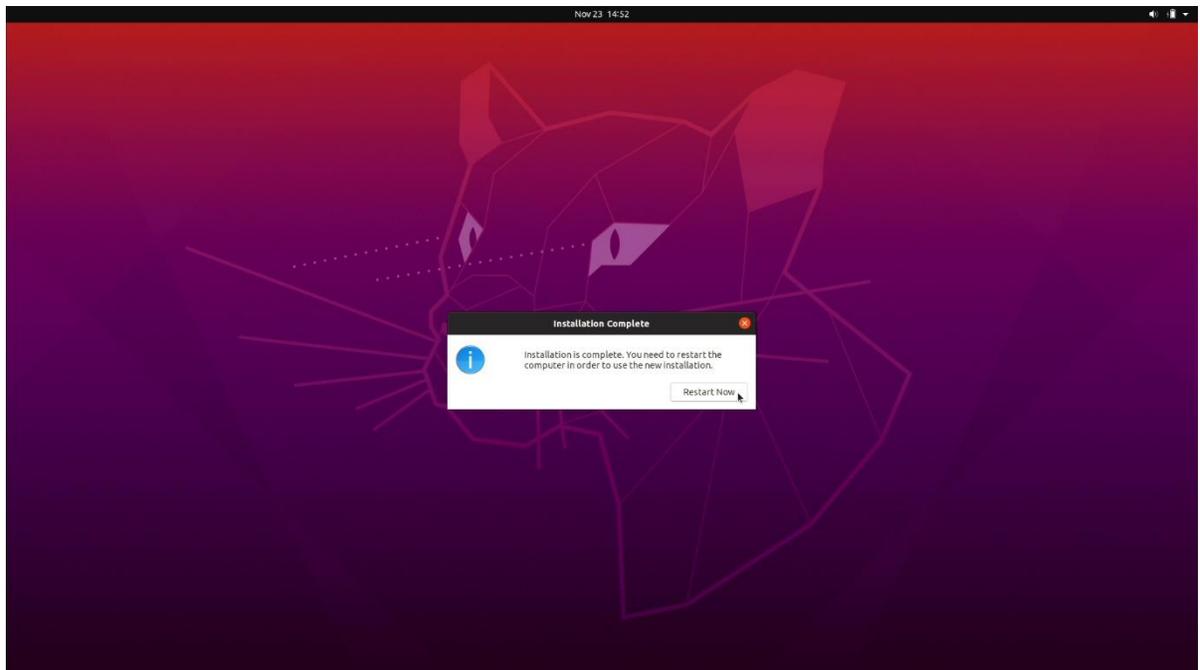- Choose the appropriate geographical location and select "Continue".

- Fill out the appropriate information and select "Continue".

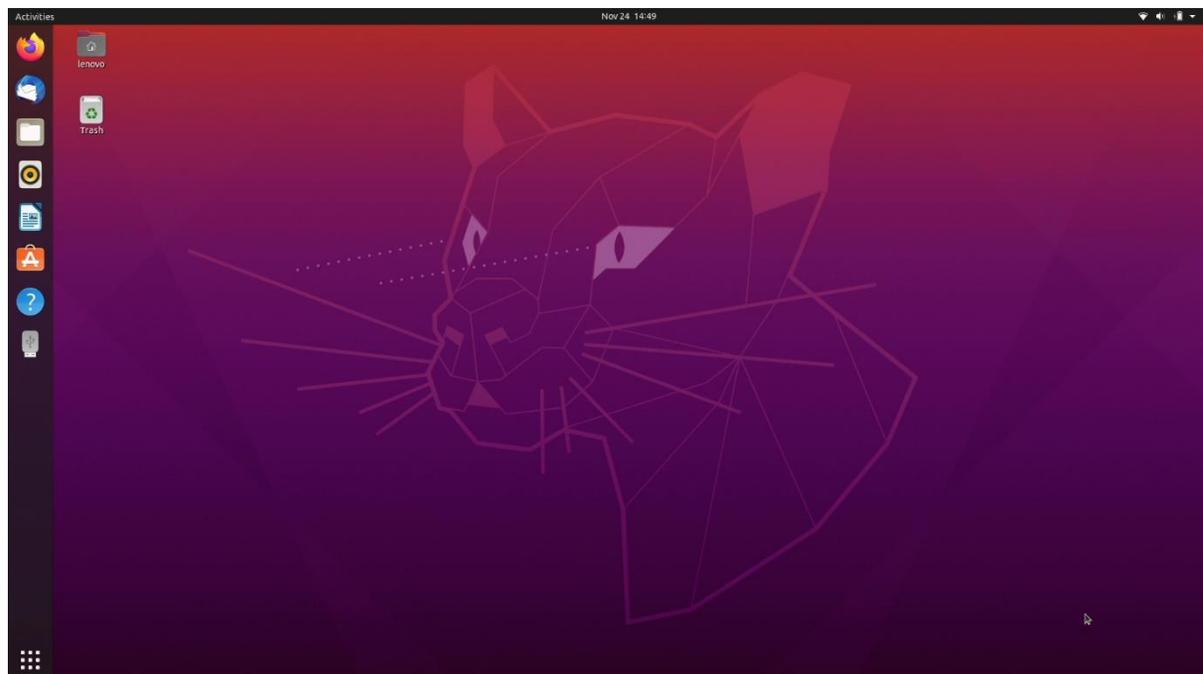- Ubuntu installation progress bar will be shown.

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

- Remove the installation media and press ENTER.

- Ubuntu Desktop Screen:

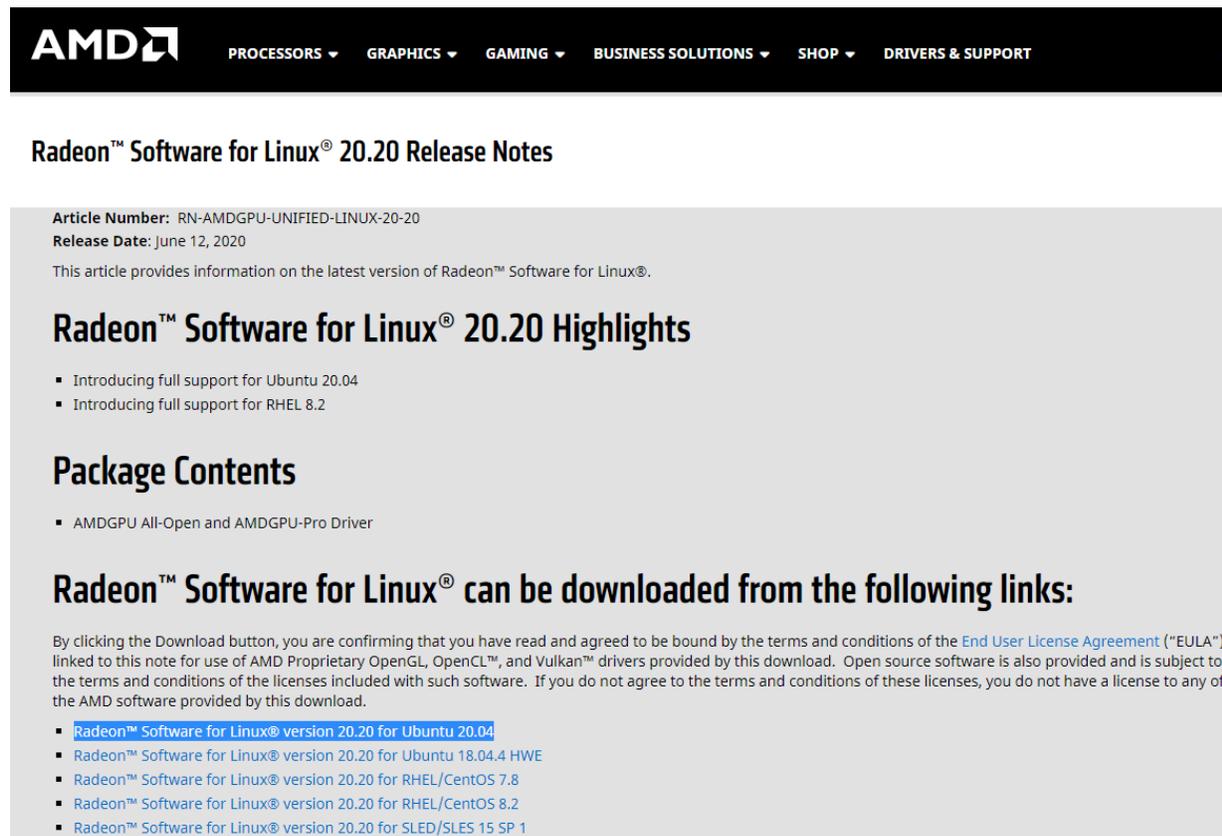## Section 3 – Installing the AMD Radeon Graphics Driver

In order to get optimal performance out of the integrated AMD Radeon Pro graphics, it's a good idea to ensure the latest AMD 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:

- Download "Radeon™ Software for Linux® version 20.20 for Ubuntu 20.04" from the AMD support site linked below.

https://www.amd.com/en/support/kb/release-notes/rn-amdgpu-unified-linux-20-20

- Detailed instructions for installing this software can also be found below.

https://amdgpu-install.readthedocs.io/en/latest/index.html

- Change directory to the download location and extract the software.

cd ~/Downloads

tar -Jxvf amdgpu-pro-YY.XX-NNNNNN.tar.xz

cd ~/Downloads/amdgpu-pro-YY.XX-NNNNNN

- Proceed to install the AMDGPU graphics package, using the All-Open or Pro Variant.

./amdgpu-install

./amdgpu-pro-install

```
amdgpu-pro-20.20-1098277-ubuntu-20.04/llvm-amdgpu-10.0-runtime_10.0-1098277_i386.deb
amdgpu-pro-20.20-1098277-ubuntu-20.04/libglapi-amdgpu-mesa_20.0.5-1098277_amd64.deb
amdgpu-pro-20.20-1098277-ubuntu-20.04/amdgpu-lib_20.20-1098277_amd64.deb
amdgpu-pro-20.20-1098277-ubuntu-20.04/libgl1-amdgpu-pro-ext_20.20-1098277_amd64.deb
amdgpu-pro-20.20-1098277-ubuntu-20.04/libglapi1-amdgpu-pro_20.20-1098277_amd64.deb
amdgpu-pro-20.20-1098277-ubuntu-20.04/libdrm2-amdgpu_2.4.100-1098277_amd64.deb
amdgpu-pro-20.20-1098277-ubuntu-20.04/libgl1-amdgpu-mesa-glx_20.0.5-1098277_i386.deb
amdgpu-pro-20.20-1098277-ubuntu-20.04/libgl1-amdgpu-mesa-dri_20.0.5-1098277_i386.deb
lenovo@lenovo-ThinkPad-P14s-Gen-1:~/Downloads$ cd amdgpu-pro-20.20-1098277-ubuntu-20.04/
lenovo@lenovo-ThinkPad-P14s-Gen-1:~/Downloads/amdgpu-pro-20.20-1098277-ubuntu-20.04$ ./amdgpu-pro-install
```

- The installation may run for a few minutes.

```
Unpacking libdrm-amdgpu-amdgpu1:i386 (1:2.4.100-1098277) ...
Selecting previously unselected package libdrm-amdgpu-radeon1:i386.
Preparing to unpack .../5-libdrm-amdgpu-radeon1_2.4.100-1098277_i386.deb ...
Unpacking libdrm-amdgpu-radeon1:i386 (1:2.4.100-1098277) ...
Selecting previously unselected package libllvm10.0-amdgpu:i386.
Preparing to unpack .../6-libllvm10.0-amdgpu_10.0-1098277_i386.deb ...
Unpacking libllvm10.0-amdgpu:i386 (1:10.0-1098277) ...

Progress: [  7%] [############............................................................
```

- Once the installation is complete, reboot the system.

sudo reboot

Section 4 – Revision History

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