Setting up your first Linux machine on your own computer

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Introduction

Linux is an operating system alternative to Windows and MacOS. There are countless types and versions of it, each has its own unique quirks and differences, most are free to download and use at your leisure. On top of it all, for people who are more technologically oriented, you can modify these as much or little as you would like as the developers leave them to be open-sourced.

Linux offers as much security as Windows and MacOS, and even more for versions that are open source, as when developers find and fix issues, the patches roll almost instantly, therefore there is no true need to get antimalware software. There is also more significant customizability you can do with the operating system; the combinations and options are limitless. For this set of instructions, we will be setting up Ubuntu 20.04.

You can get your own Linux system through the following steps:

Step 1: Downloading Ubuntu 20.04

Step 2: Setting up to load Into Ubuntu.

Step 3: Navigating Ubuntu.

Step 4: Running Updates and terminal basics.

Step 5: Pre-installed and open-source software that parallels paid-software.

Before you get started

Make sure you have an empty flash drive that is 8GB or larger to download the iso onto. Creating a Linux subsystem is completely free and only needs about 20GB of storage if you want to keep your original operating system (OS) in parallel to Linux. This guide is starting from Windows 10 Education/Home edition and moving from there.

1. Downloading Ubuntu and Rufus

To begin the process of setting up your first Ubuntu system/subsystem, you will want to visit Ubuntu's Homepage at https://ubuntu.com/ and click the downloads dropdown to see the following.
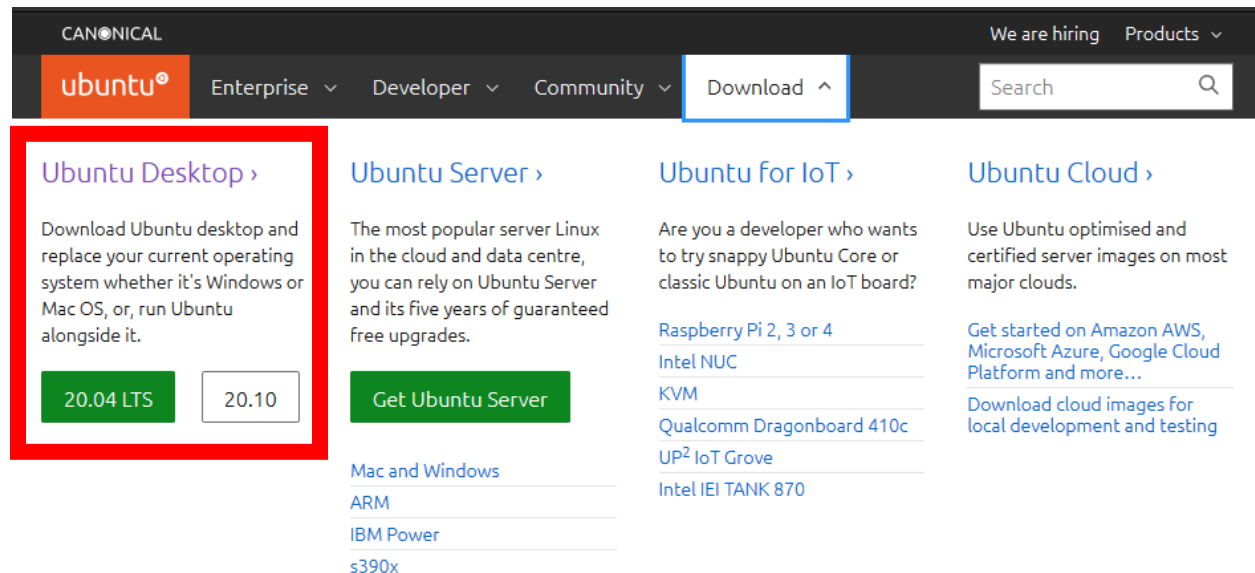

FIGURE 1: DOWNLOADING UBUNTU

From here, you want to click 20.04 LTS under Ubuntu Desktop which will begin the download of a .iso file. The file installed should be the following:

ubuntu-20.04.2.0-desktop-amd64.iso

Next, you will need Rufus, an application that allows you to write the iso to the flash drive so that you can boot from it. You can download it here: https://rufus.ie/ Upon plugging the flash drive in, you next use the "SELECT" button and locate/open the newly downloaded .iso file. Then just click start to burn the content to the drive.
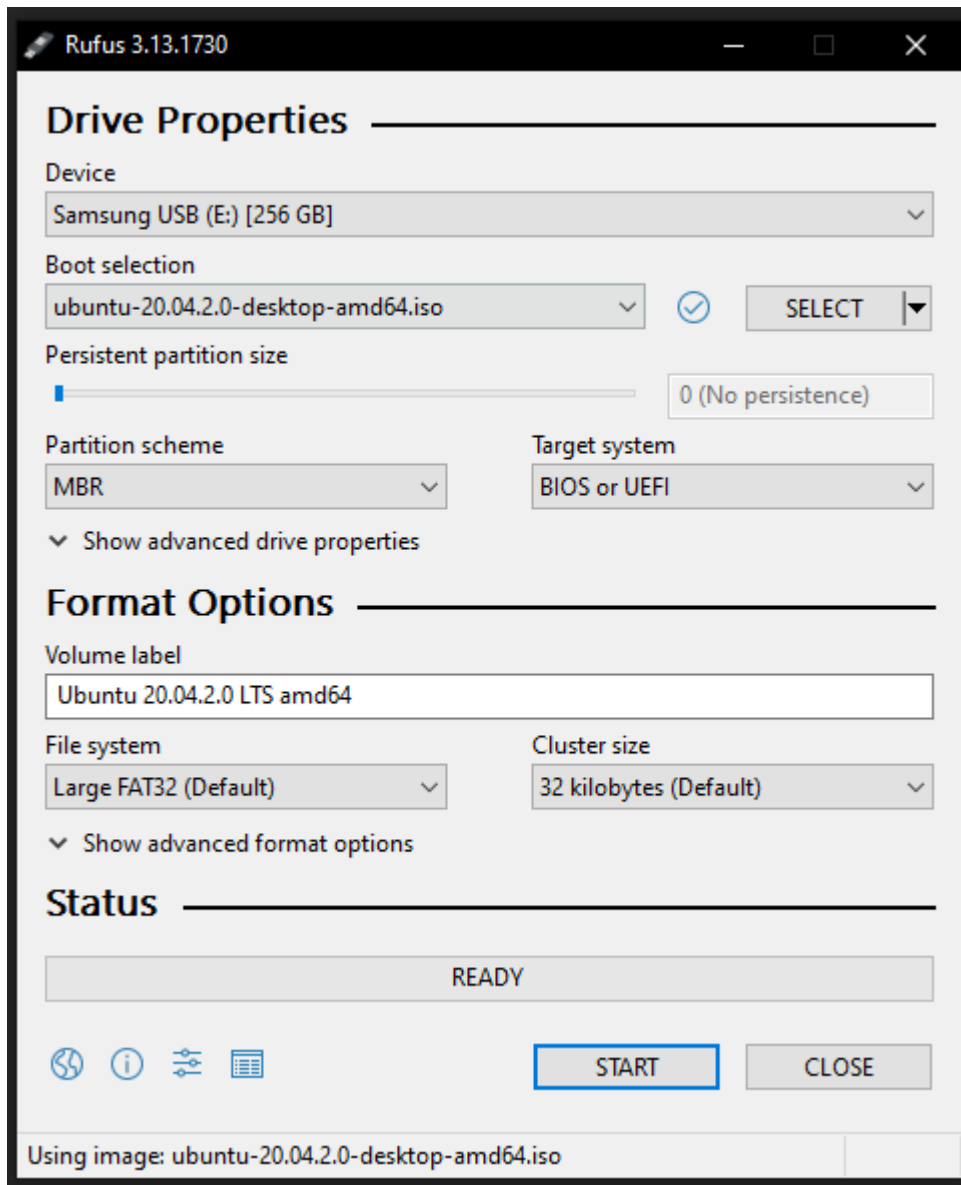
FIGURE 2: RUFUS BURNING ISO

Important:
Make sure you download Ubuntu Desktop and not Server. Server will not have a Graphical User Interface (GUI), and everything will in there have to be done exclusively via terminals. Ubuntu Desktop will look somewhat like Windows.

2. Booting from the Flash Drive

This step is a bit more on the technical side of computers, as we must check the BIOS (Basic Input/Output System) of the computer to check to see if the computer is permitted to boot from a flash drive, and if not then we are going to enable it.

Getting into the BIOS of a computer is a little different from computer to computer, but the system is generally the same: Upon start up of the computer, when the computer's logo (not the Windows logo, but Dell's or HP's logo for example) shows up you push one of the Function Keys that are often above the number row. Which one to press also is device specific so some trial and error must occur, however, the most common Function Keys are F12, F10, and F8 in that order.

Upon successful BIOS loading, you will be welcomed with a screen similar, but not identical to the following:
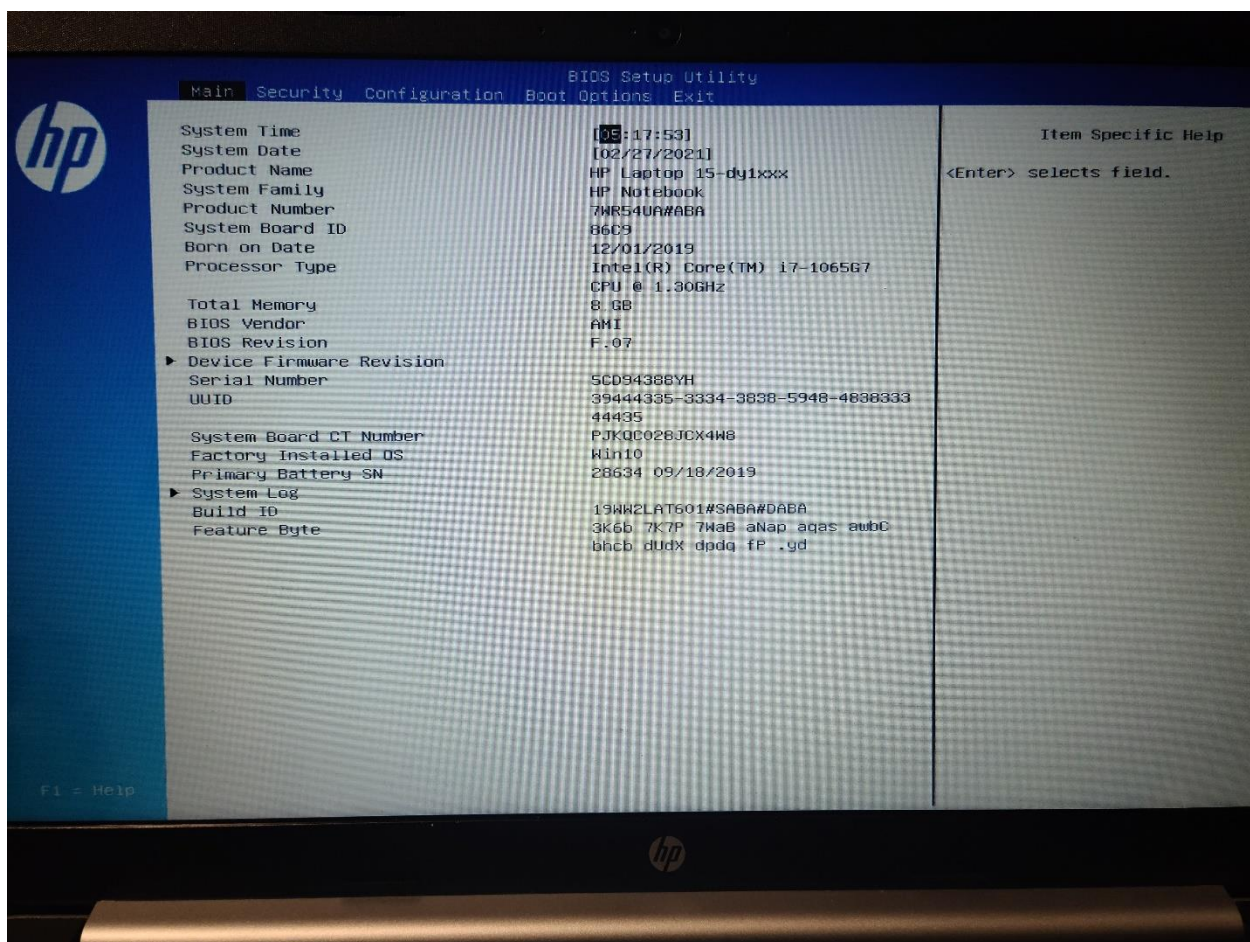

FIGURE 3: SAMPLE BIOS MENU

Following the BIOS, you will want to navigate to the section labelled "Boot Options" where you want to do two things, make sure the "USB BOOT" option is enabled, and to shift the boot order so that USB Flash Drive//USB Hard Disk is above OS Boot Manager
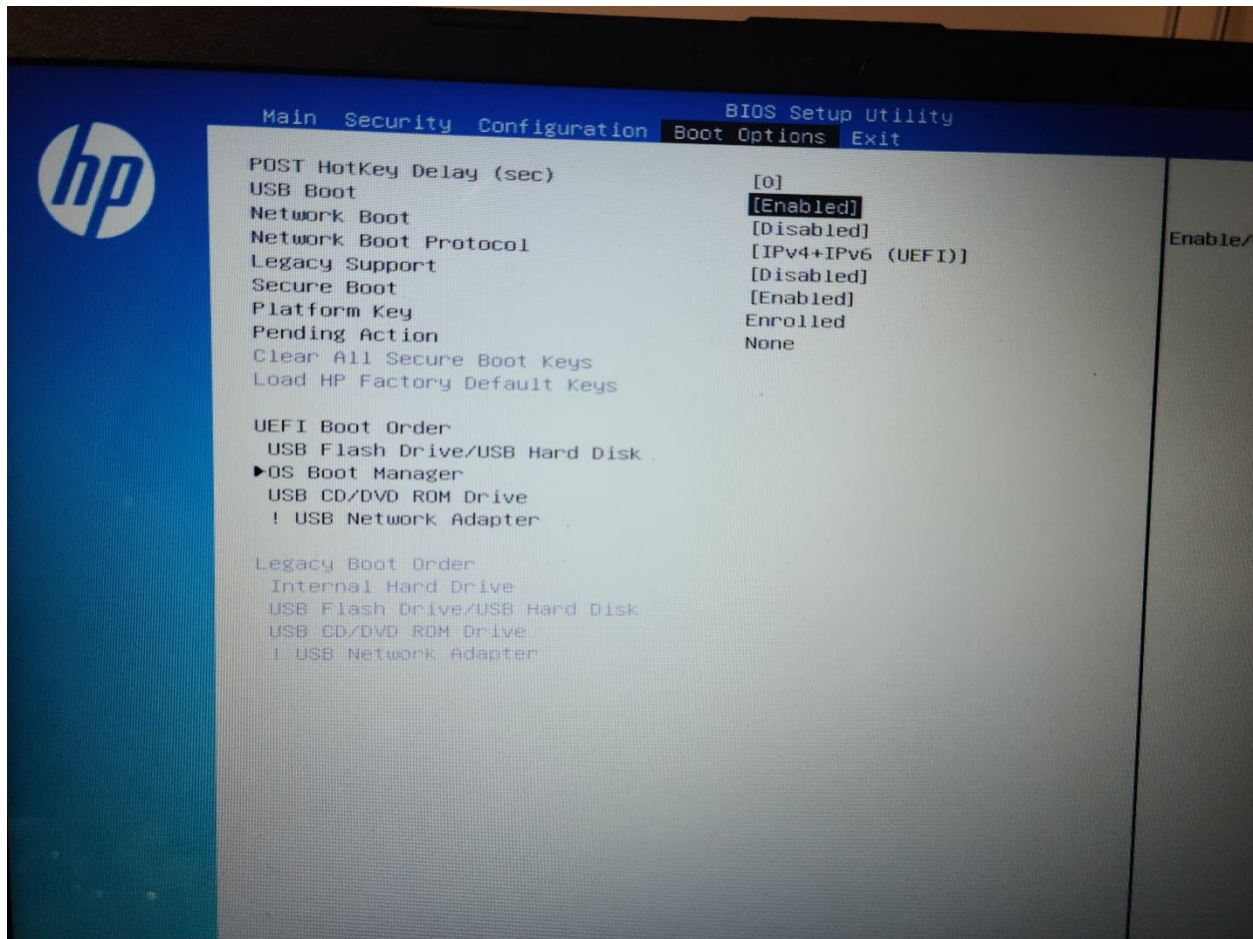

FIGURE 4:SAMPLE BOOT OPTIONS SCREEN

Finally, plug the flash drive containing Ubuntu into your computer, go to the exit menu, save and reboot.

3. Welcome to Ubuntu- The First Boot

Now that we have booted into Ubuntu for the first time, it is time to configure it to work. You may see a screen like this:

FIGURE 5: FIRST BOOT

Just allow it to run the system checks and do not touch the keyboard during this stage. There is also a chance you may not see this screen, which is perfectly alright.

Upon successful boot, you will be greeted with the following screen:
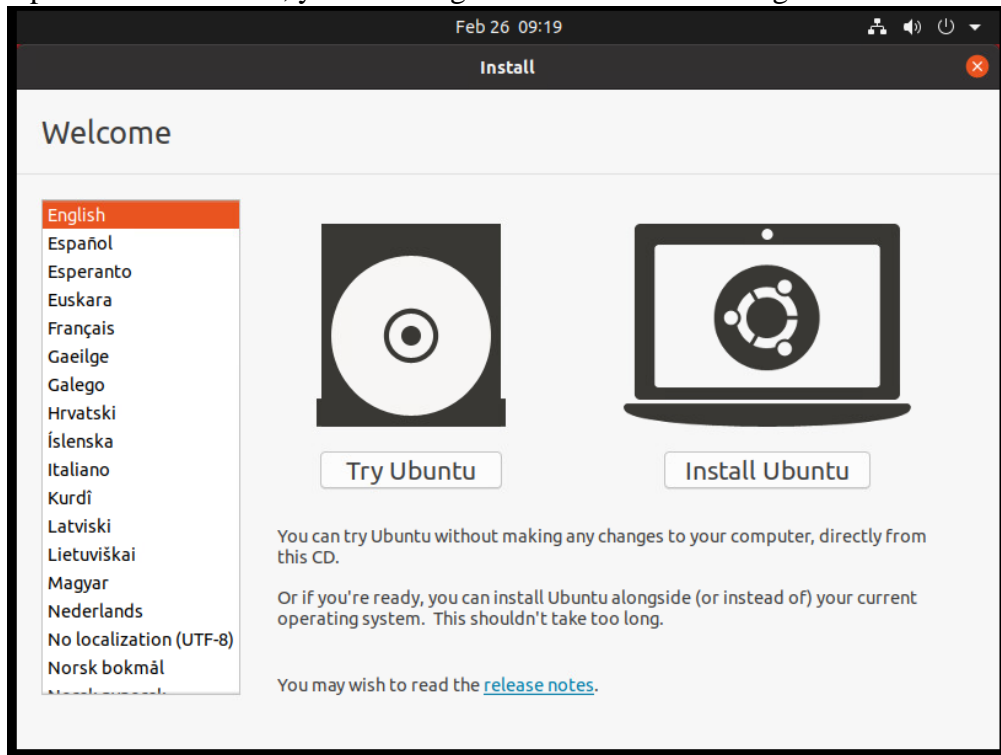

FIGURE 6: LANDING PAGE

Important:
If you click "Try Ubuntu" you can play around in a temporary environment which will be purged from existence upon restarting the computer. If you do not want to have a persistent Ubuntu version, this option is fine, and the guide effectively ends here.

If you wish to create a more permanent Ubuntu environment, click on Install Ubuntu, where it will prompt you for what type of keyboard and language you are using, upon selection, you will next be prompted with an update page.
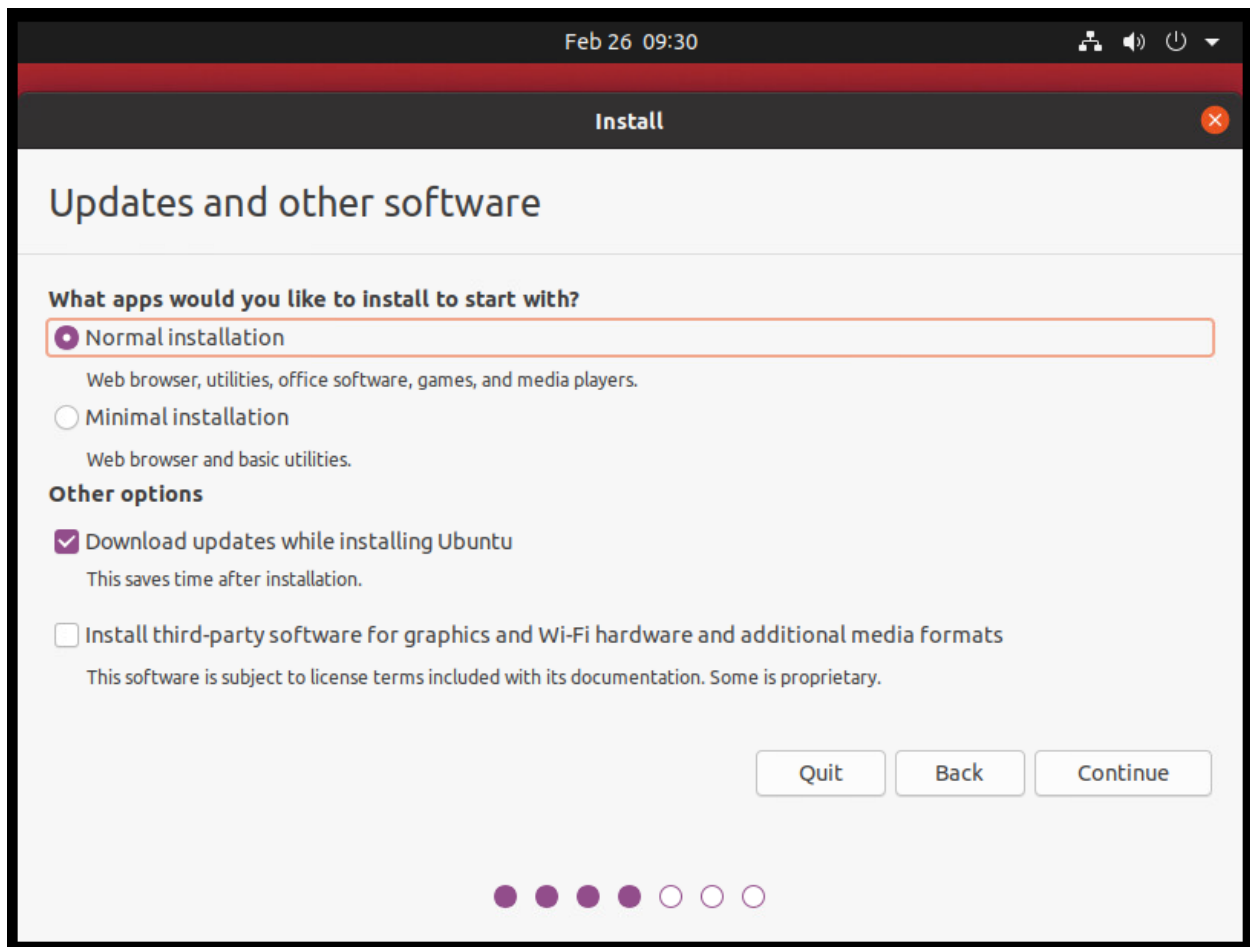
FIGURE 7: SOFTWARE UPDATES

If you wish for an environment most like Windows, "Normal Installation" would be the option you should pick. Minimal installation installs only core functions and the default web browser. Depending on your hardware, you may also want to select to install third party software for additional drivers for the system, however this can be done later as well.

WARNING
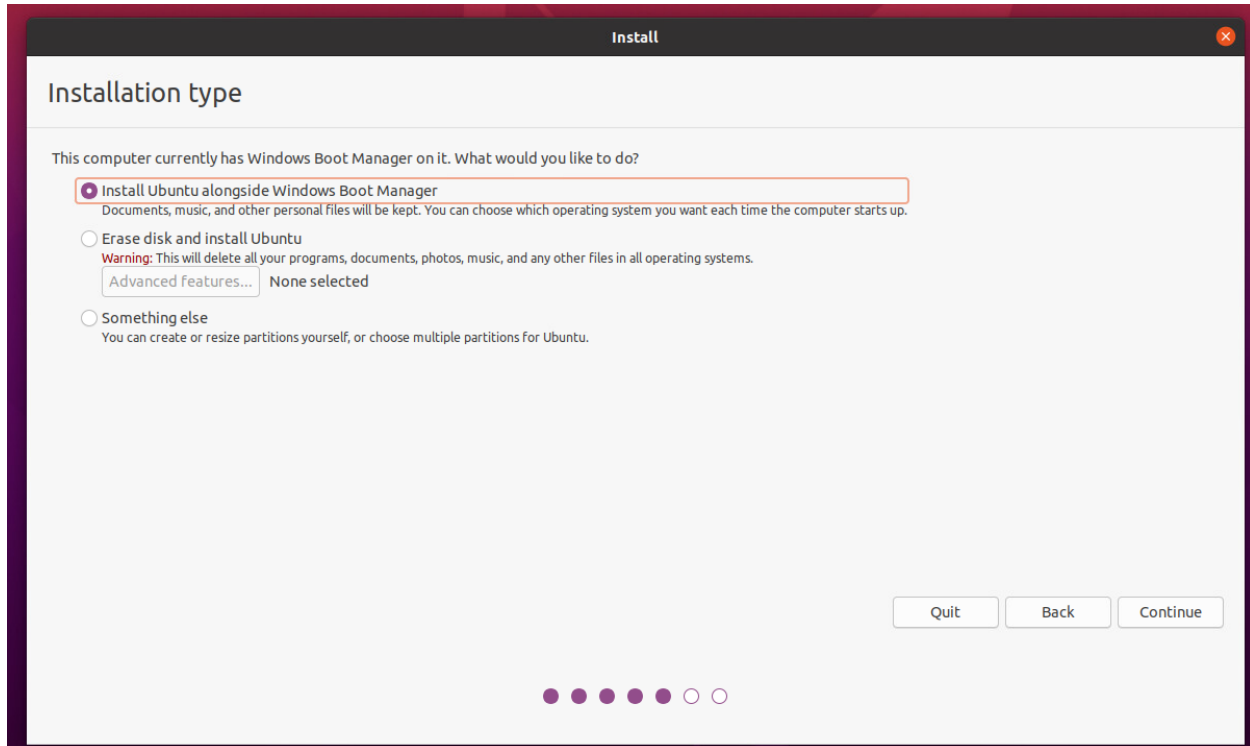## The following screen can possibly ERASE all existing data on your computer proceed with caution!

FIGURE 8: DISK PARTITIONS

The first option does a full wipe of your entire computer's storage and installs just Ubuntu in its place. It is not recommended to do this if this is your first-time using Linux, as it can be frustrating and needing to go back to Windows for some things may be necessary in the future. Instead, you should select "Install Ubuntu alongside Windows Boot Manager" then click continue. This screen will show you your current disk's partitions and how much free space it has so you can reallocate some of it for Ubuntu to sit within. Anything around 20 to 30 GB of storage should be sufficient, however this comes down to your jurisdiction how much you wish to allocate. This can be adjusted in the future, however not as easily.
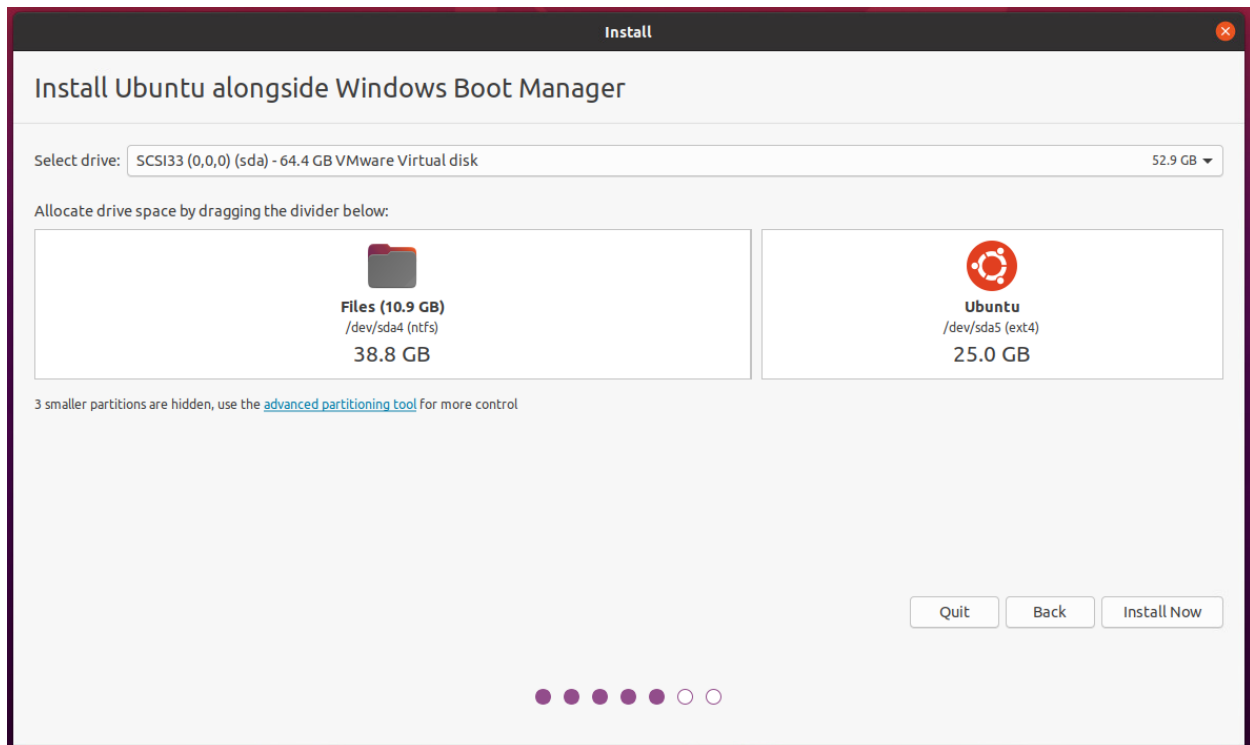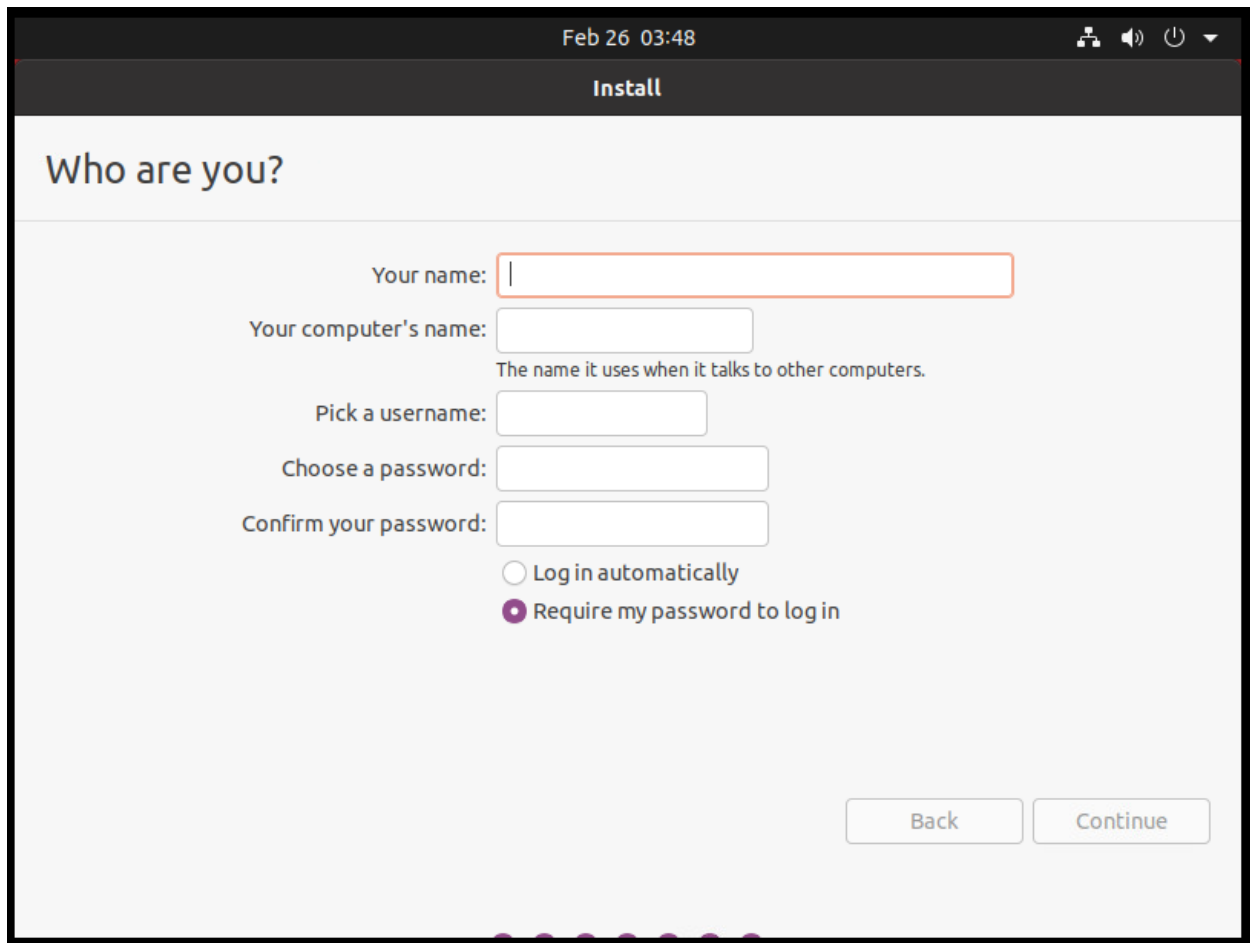
FIGURE 9: ALLOCATING STORAGE

There will be a few more confirmations for allocation following this screen.

It will then prompt for what time zone you are in to set the system clock correctly. Following that screen, it will ask you for some account-building information.

FIGURE 10: SETTING UP USER

Finally, it will begin to set up your new desktop environment. This process can take a few minutes.

Upon successful setup, Ubuntu will prompt for a system restart, before accepting the prompt to do so, remove the flash drive plugged into the computer in step 2.

4. Welcome Back to Ubuntu- The Second Boot

Upon restarting the device and login using the account created at the end of step 3, you will next be welcomed with a prompt asking if you would like to link some other accounts to the device. However these are non-vital and can skipped or done at another time if desired, if you wish to skip, the button for such is in the top right.
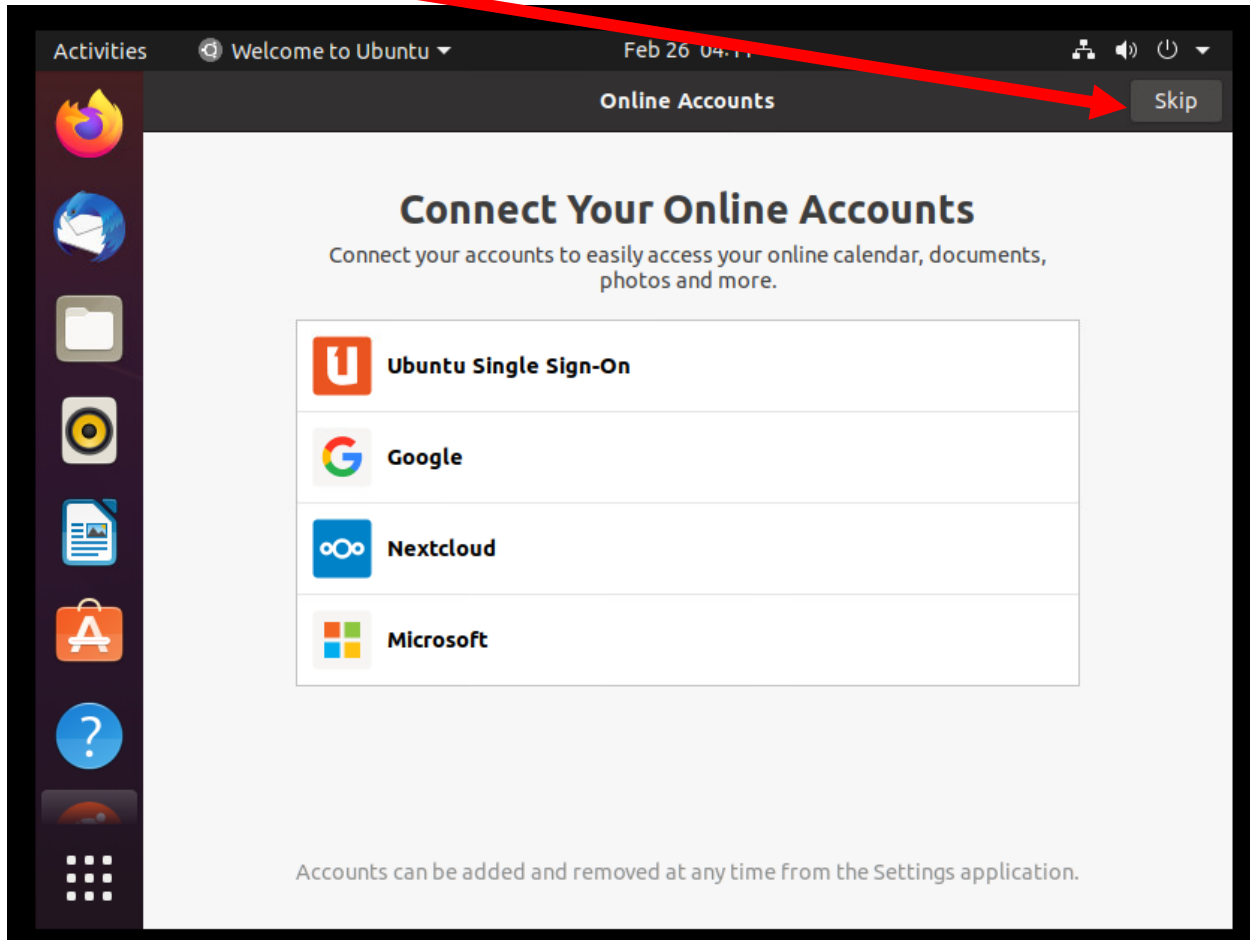

FIGURE 11: SECOND BOOT SCREEN

The following screen prompts you about Ubuntu's Livepatch service; this automatically applies security updates without requiring system restarts allowing continuous work during updates without breaking workflow. To enable it you must create an Ubuntu Account, however these are not critical and can be done manually, thus we shall skip Livepatch. We will cover how to manually do such shortly. Sending data to Ubuntu is optional and can be skipped along with locational services. It will next ask about software you would like to install at this time and will open an application most like an App Store from other devices. Finally, it will ask once more for system update information asking for a download, it is recommended to do so as it provides

security updates. Upon completion it will once again ask for a restart and doing so will allow the updates to be applied.

Next, we will be making sure everything has updated nicely, if you click on the 3x3 grid in the bottom left of the screen, it will show all applications installed.
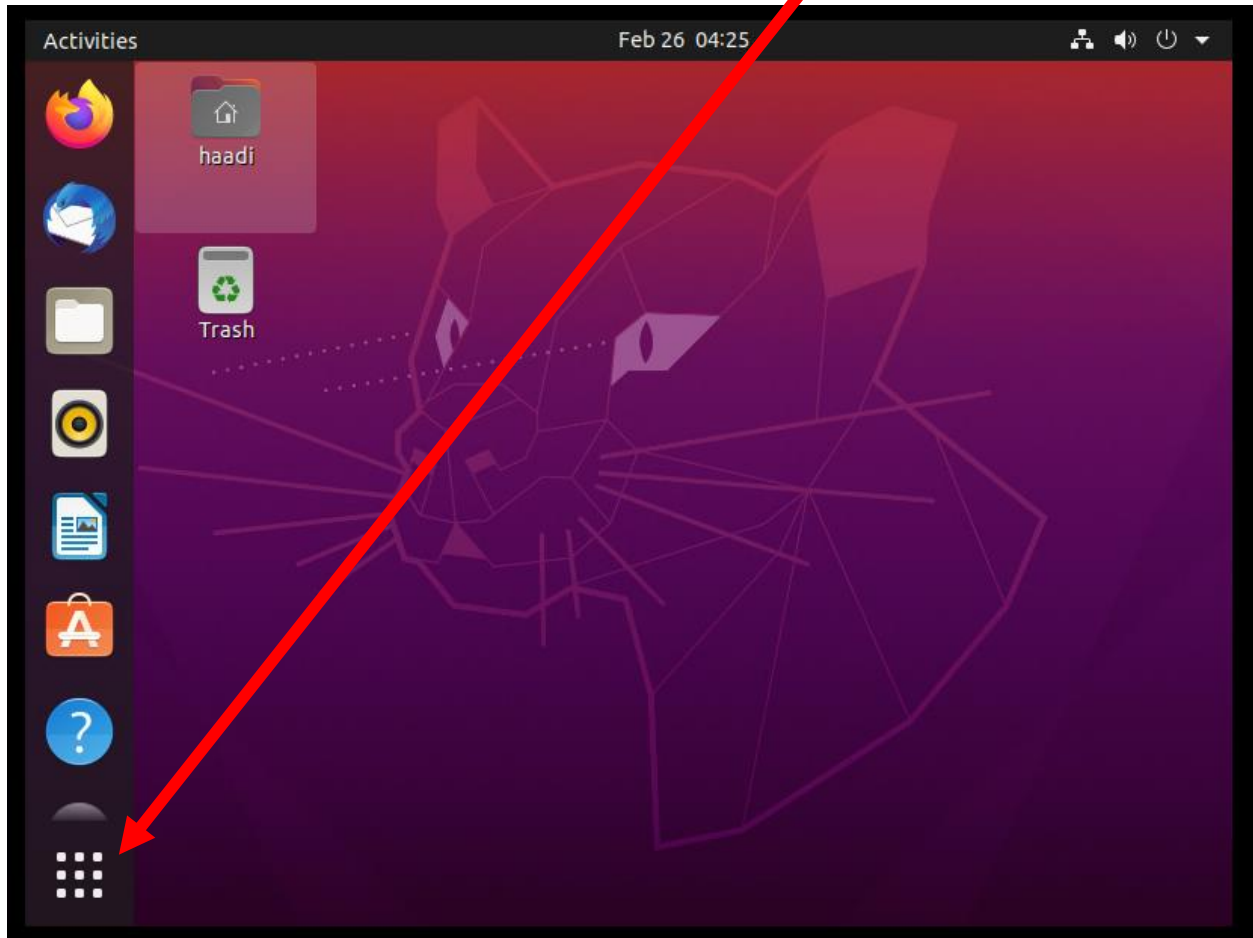

FIGURE 12: APPS ICON FROM HOMEPAGE

From there, you want to search for "Terminal" and open that application; you should be welcomed to a blank looking window:
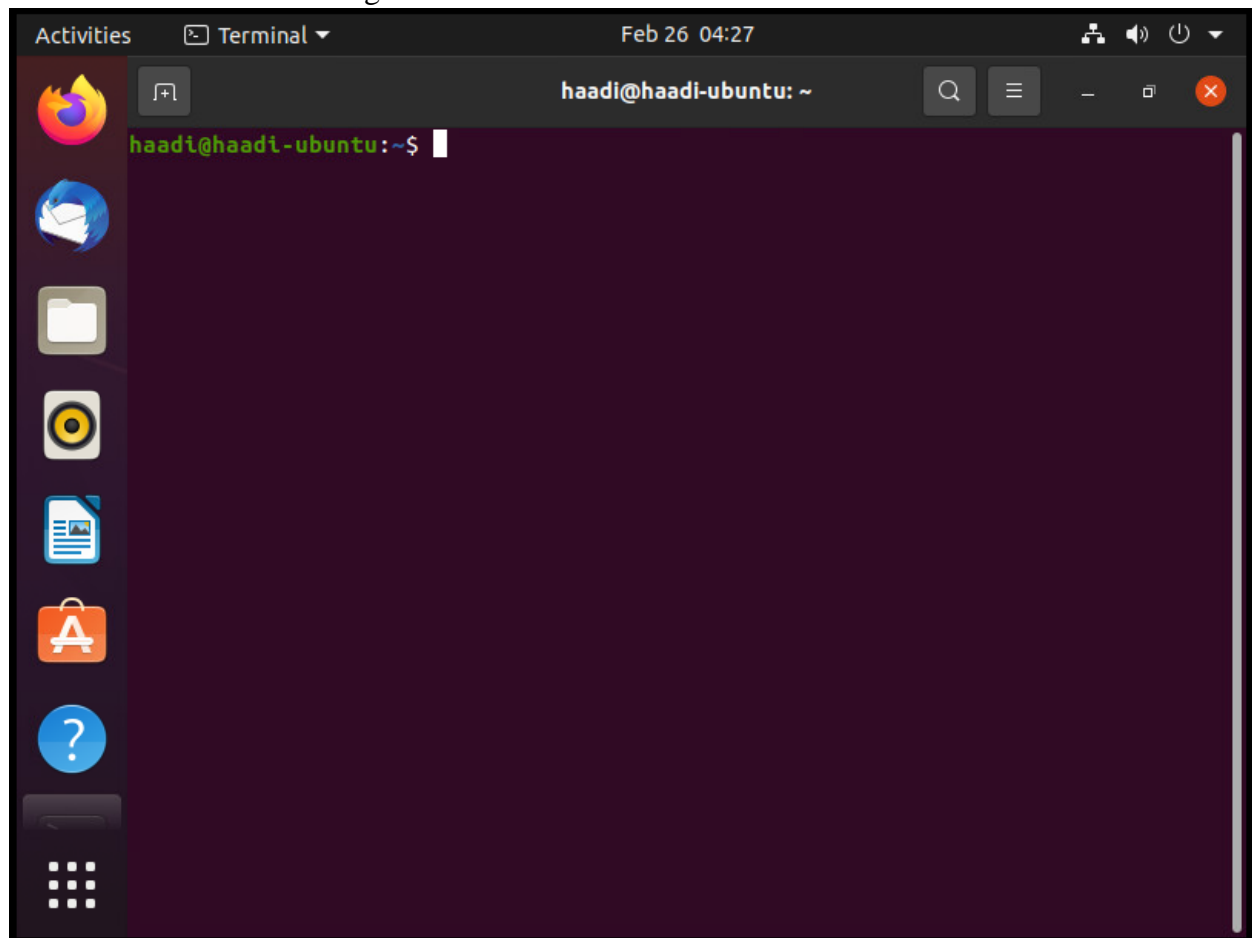

FIGURE 13: TERMINAL

Terminals were what preceded GUIs and you can enter commands straight here for the computer to process. The commands we want to run are the following in order, one after another. You can either copy paste these in or type them in, once in the terminal, hit enter to run the command.

sudo apt update

sudo apt full-upgrade -y

sudo apt auto-remove

The term "sudo" means Super User DO (pronounced sue doe) and is the equivalent of running something as administrator in Windows. Upon running a command with sudo out front, the

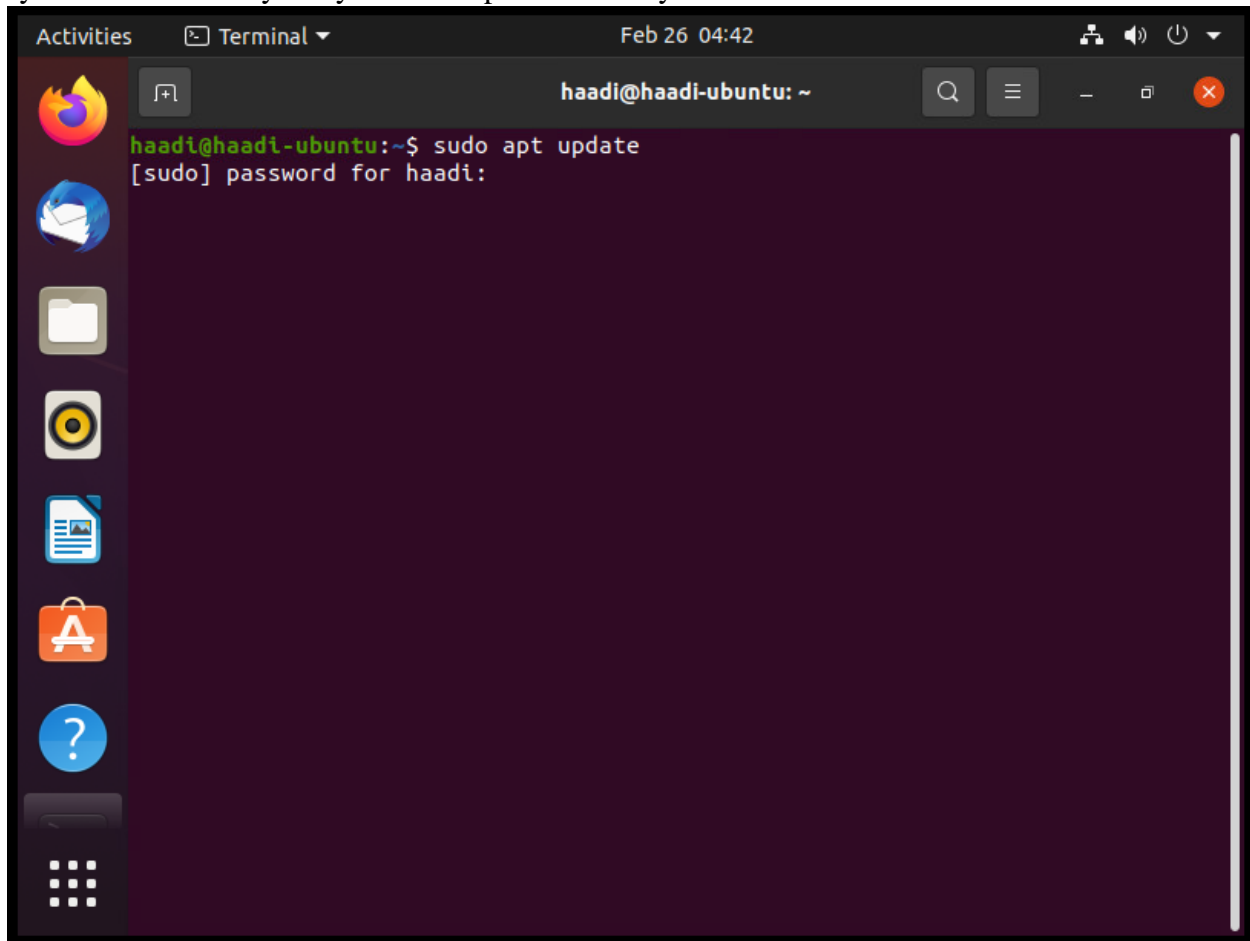system will normally ask you for the password for your user.

FIGURE 14: NO PASSWORD SHOWN

NOTE:

This specific line will not show any input, but it DOES record it, for example, my password is fully typed out here, however for security, it does not show it nor any symbols for length of it. If you get it incorrect it will simply re-prompt for the password twice more before cancelling the command. To re-run the command, hit the up-arrow key, then enter.

In order of what each command does, "apt update" has your system connect online and check versions of files and drivers on your computer with those online and returns a list of what all can be updated. "apt full-upgrade -y" tells the system that, using the list from "apt update" to install the newer versions for the system. Finally, "apt auto-remove" just deletes old and obsolete software that was not done via the upgrade.

5. Adjusting to Ubuntu

Now that you have the partition and setup of Ubuntu all done, it is time to familiarise yourself with the new software you have in front of you. You will notice that there is some pre-installed software present.

First there is the "Files", this works similar to Windows' version of the application.

The notable feature to mention here is that you can see all of Windows' files from within. By navigating to the "Other Locations" tab on the left you can see the different partitions
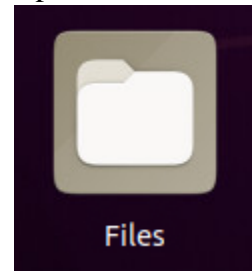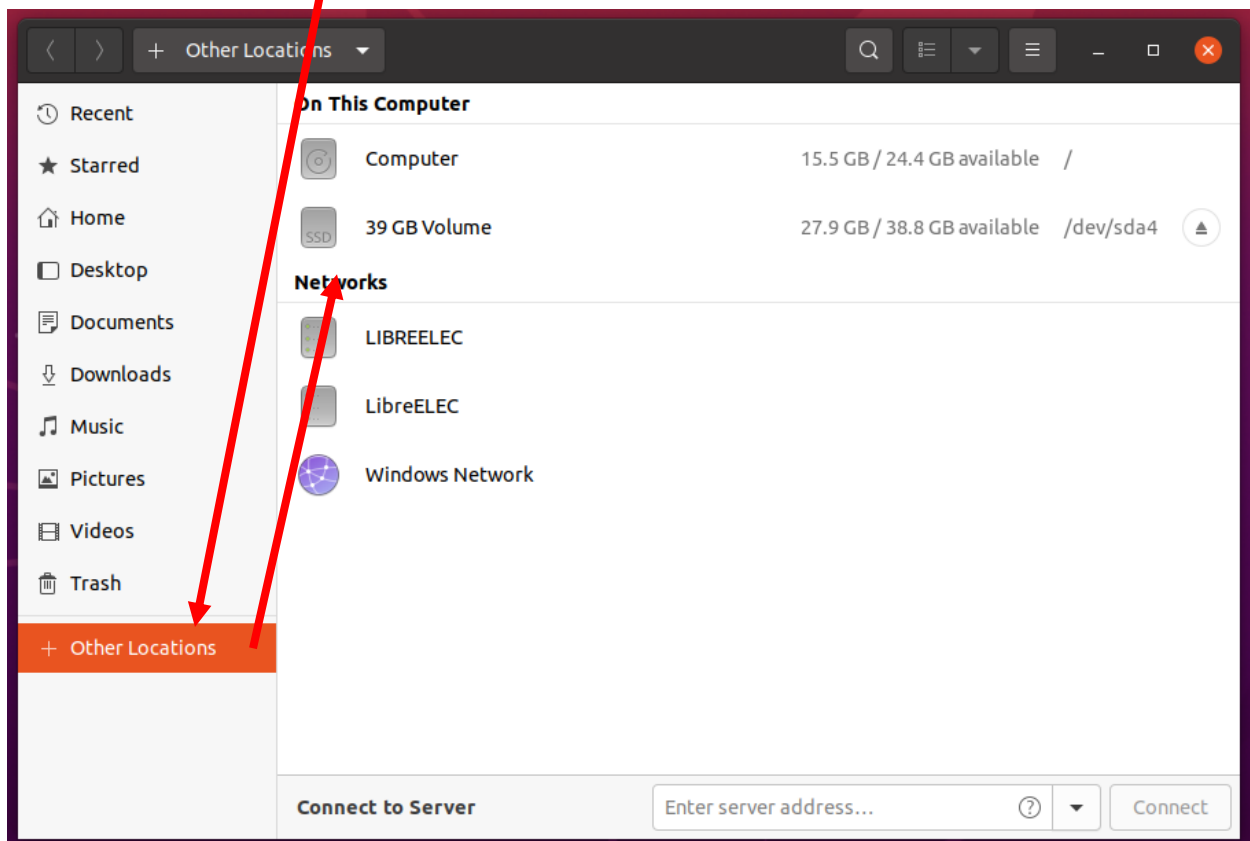
FIGURE 14: FILES ICON

FIGURE 15: FINDING WINDOWS FILES

We can see, like the visual when creating the partition, there is Ubuntu's storage at 25GB, and Windows' partition at the 39GB that we left for it. By double clicking into the 39GB section, you can navigate through the file system and interact with files there.

Next is the LibreOffice line of applications, these free and open-sourced programs work nearly identically to Microsoft's paid software and come preinstalled allowing for you to pick up right where you left off before the switch.
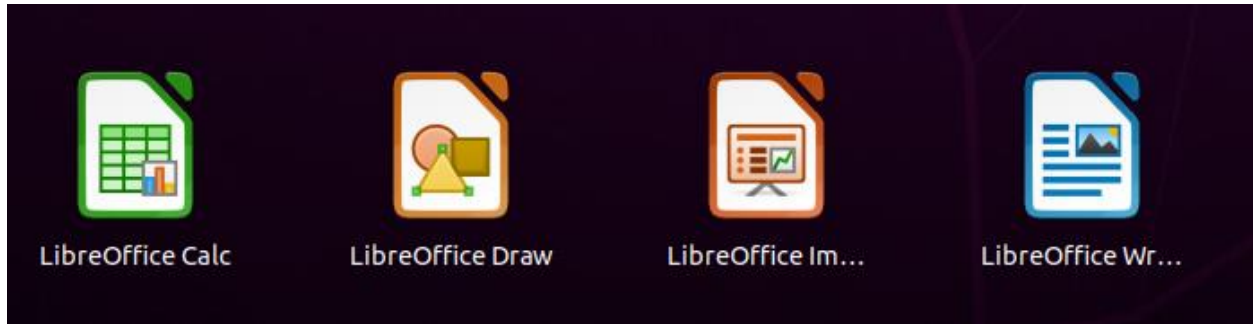

FIGURE 16: LIBREOFFICE SUITE

Finally there is the Ubuntu Software Store, everything in there is free with very few exceptions, it offers many types of software including productivity, utility, games, and more.
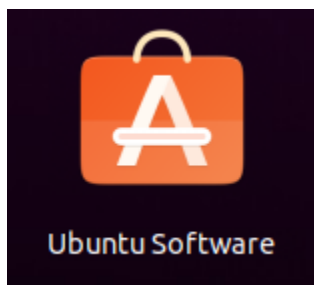

FIGURE 17: APP STORE

It is worth checking out for quick add-ons for the software and personalization of the OS.

Conclusion

This guide went through the process of setting up your first Ubuntu/Linux machine locally and configured it to be ready to go for your use. You are more than welcome to explore this new environment and learn how to use it to the maximum potential. There are many options for you to play with to get it to feel just right, and if need be, it is also possible to get back into Windows by restarting the computer and using the new menu that will show up there.