Lab 1 - Installing Ubuntu Linux 20.04 on VirtualBox

Nowadays personal computer users have a choose to use operating systems such as Windows, Mac OS X, Linux, Solaris, and others. In this lab, you are going to download/setup on your computers Oracle VirtualBox version 7.0 and run the 20.04.1 LTS the stable version of Ubuntu on a virtual environment.

What you'll learn in this lab:

- How to install and configure VirtualBox.
- How to import an Ubuntu image.
- How to run a virtual instance of Ubuntu Desktop.
- Further configuration options.

Recommended System Requirements:

Before downloading and installing Ubuntu on windows using VirtualBox, the following requirements are essential.

- Operating System Version - Microsoft Windows 10 (32-bit or 64-bit).
- Random Access Memory (RAM) - Minimum 4 GB RAM recommended.
- Free Disk Space - Minimum 25 GB free space recommended.
- Good Internet Connection to download the VirtualBox and Ubuntu ISO file.

In preparation for this lab, please watch the following YouTube videos:

- How to Install Ubuntu 20.04 LTS on VirtualBox in **Windows.** [Video file]. (n.d.). Retrieved from https://www.youtube.com/watch?v=x5MhydijWmc

- How to Install Ubuntu 20.04 LTS **on Mac** using VirtualBox. [Video file]. (n.d.). Retrieved from https://www.youtube.com/watch?v=1anpiE9ZWXg

This lab has two parts:

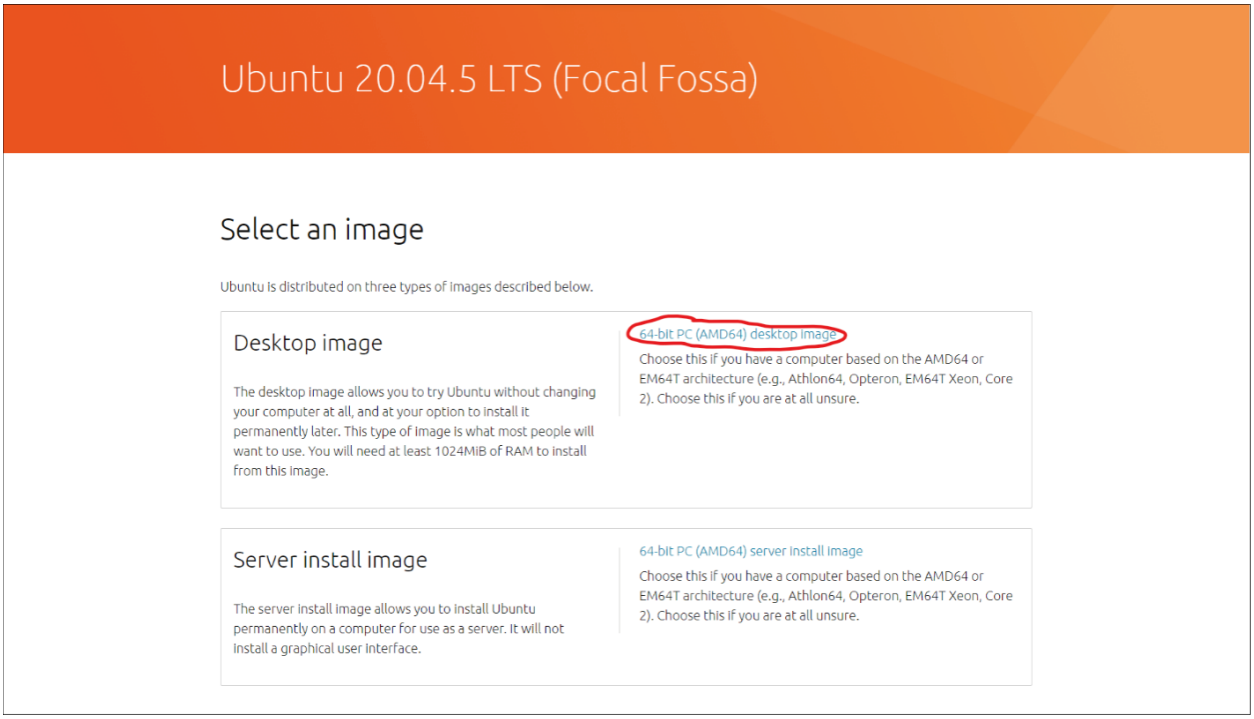
- Part 1 - Download and Setup Oracle VirtualBox
- Part 2 - Create Ubuntu Linux Virtual Machine on VirtualBox

Before moving to Part 1 - Downloading Ubuntu 20.04 ISO Image. First download the ISO image file (ubuntu-20.04-desktop-amd64.iso) from the following site. http://releases.ubuntu.com/20.04/

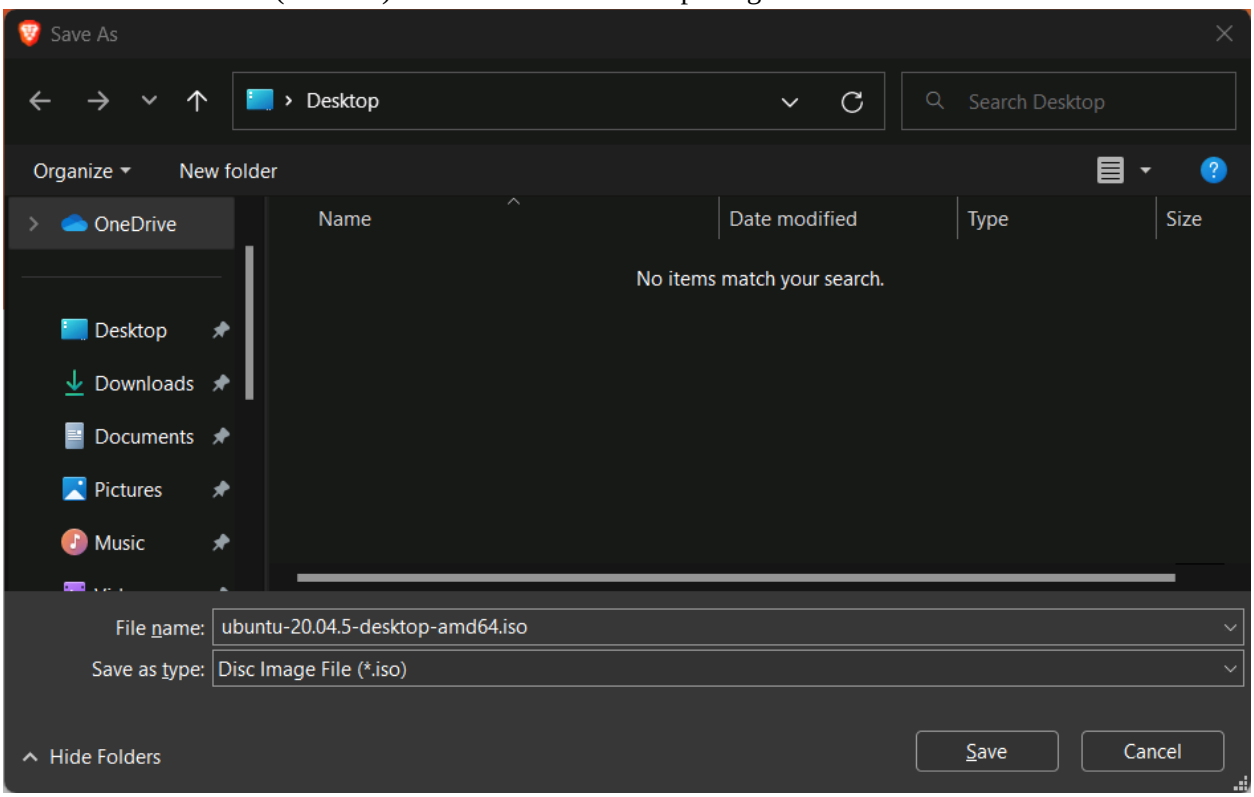
[You will see the text below at the top of the download page.]

"Select an image"

Ubuntu is distributed on various types of images but for this lab please select the Desktop image. The desktop image allows you to try Ubuntu without changing your computer at all, and at your option to install it permanently later. This type of image is what most people will want to use



Click on the 64-bit PC (AMD64) to install Ubuntu desktop image.

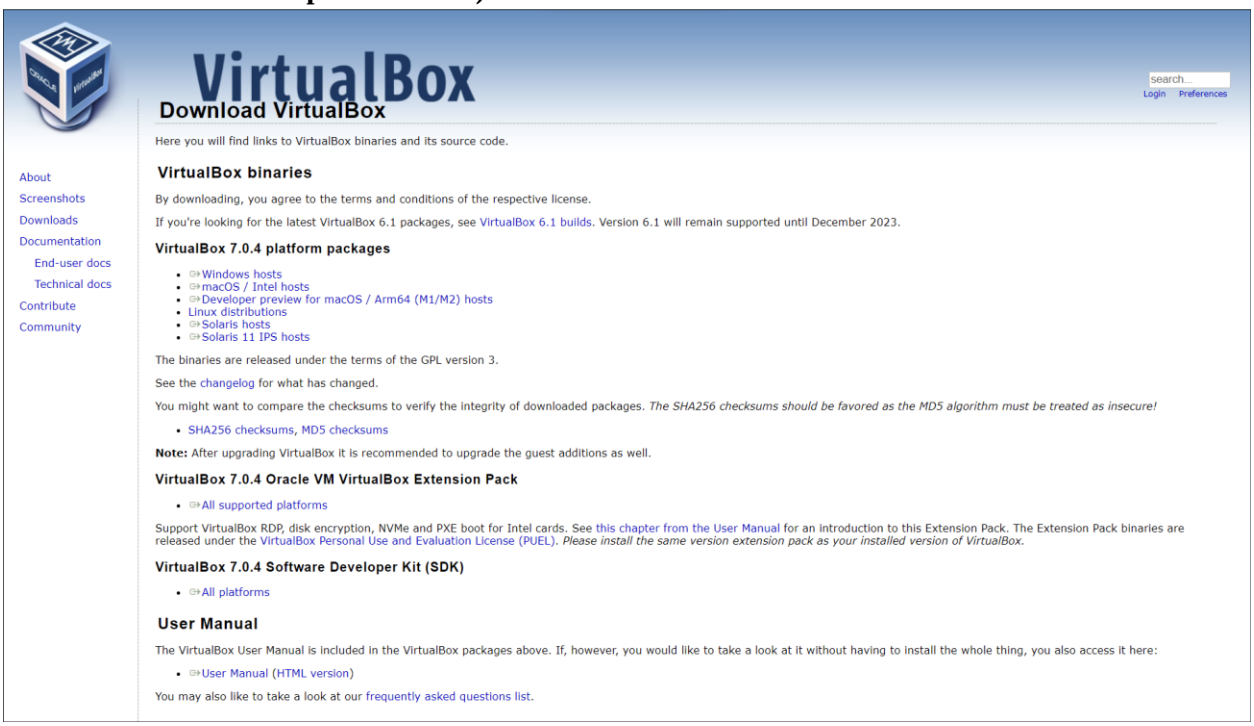


Have this file ready for use at step 11 of the lab. The file should be stored on your computer on the desktop or in a location such as the Downloads directory that you can easily navigate to when it is needed.

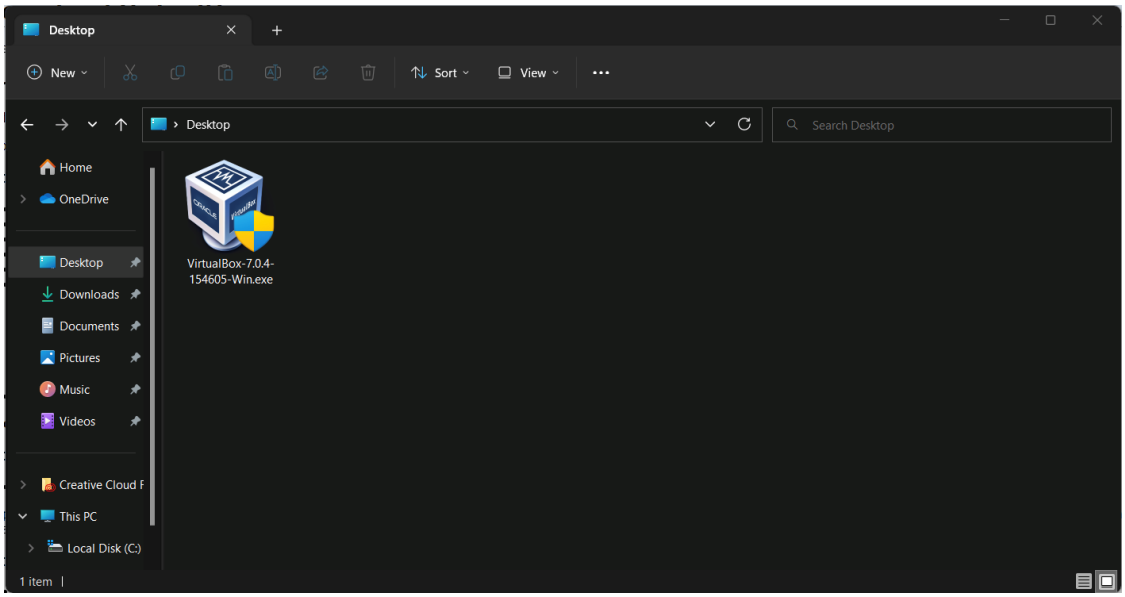
Part 1 - Download and Setup Oracle VirtualBox

Go to https://www.virtualbox.org/wiki/Downloads

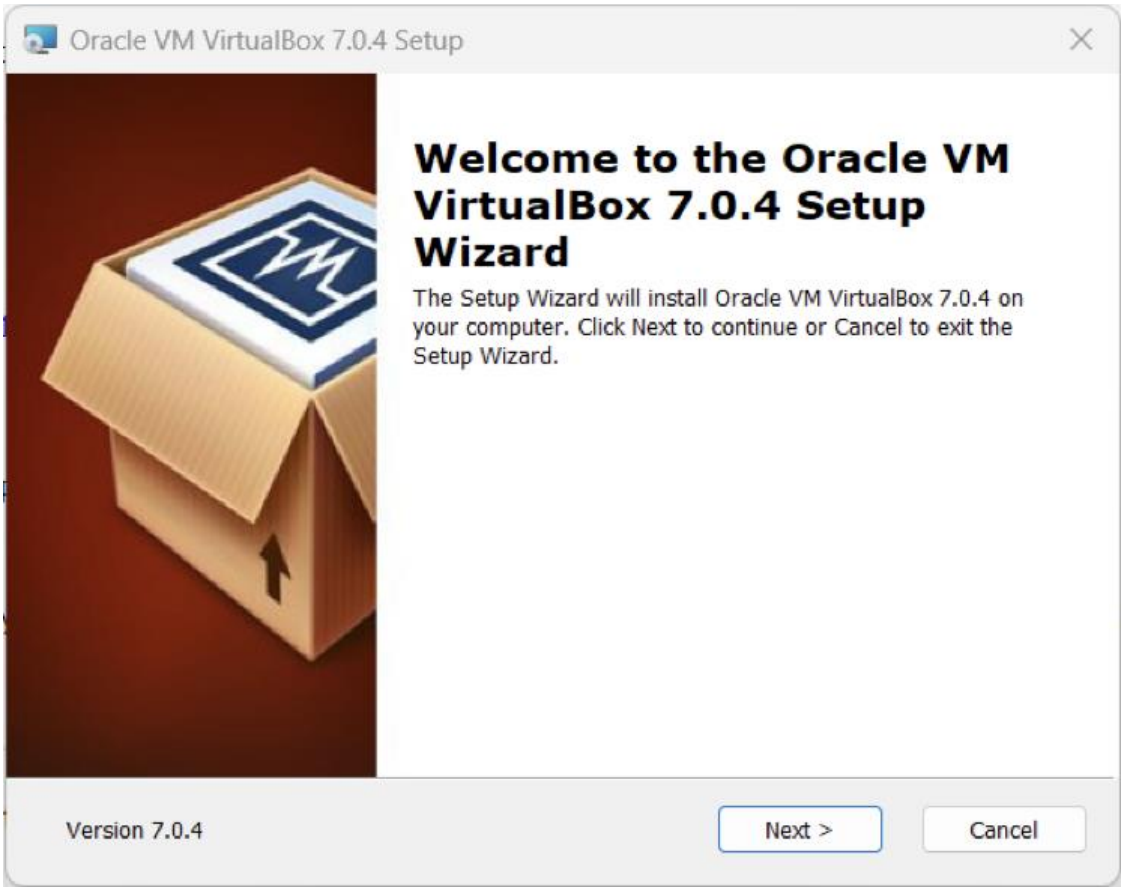
If you are using a Windows machine with Microsoft Windows XP, 7, 8 10 or 11 then your host machine is Windows. Download the first platform option for Windows hosts as shown in the following screenshot. **(Note: If you are a Mac user, you need to download a VirtualBox 7.0.4 macOS hosts. Please also watch a YouTube video posted above.).**



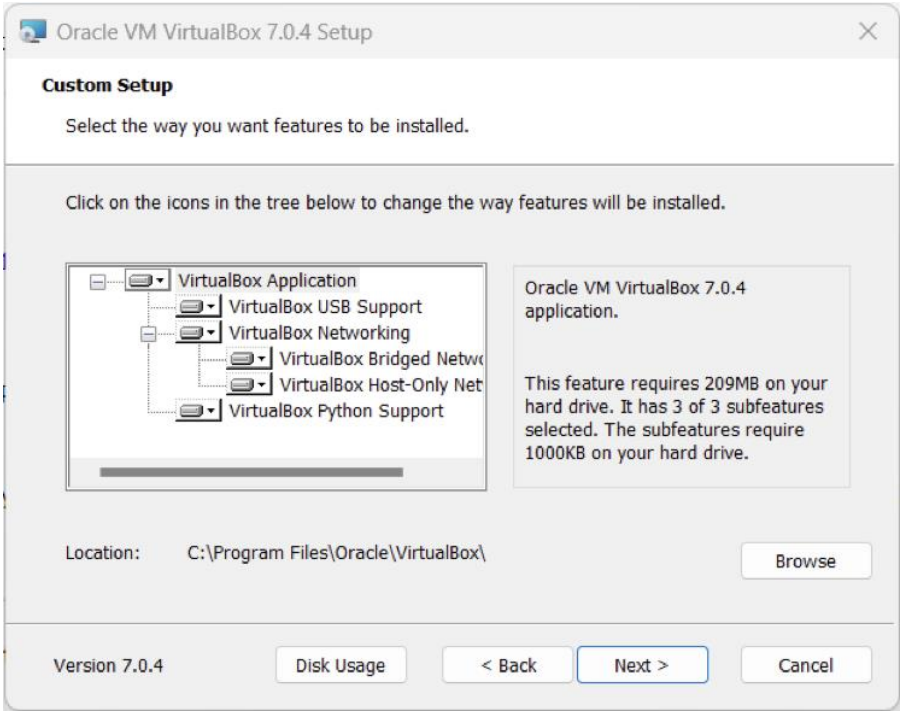
Now click Windows hosts. The VirtualBox exe file will begin downloading onto your computer.



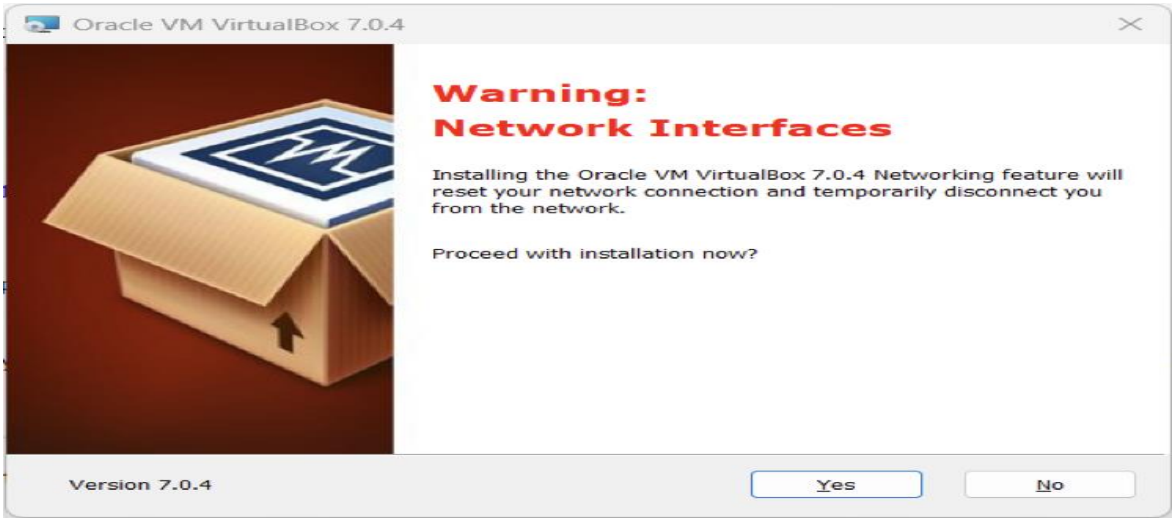
1) The Setup Wizard will open. Click **"Next >"**



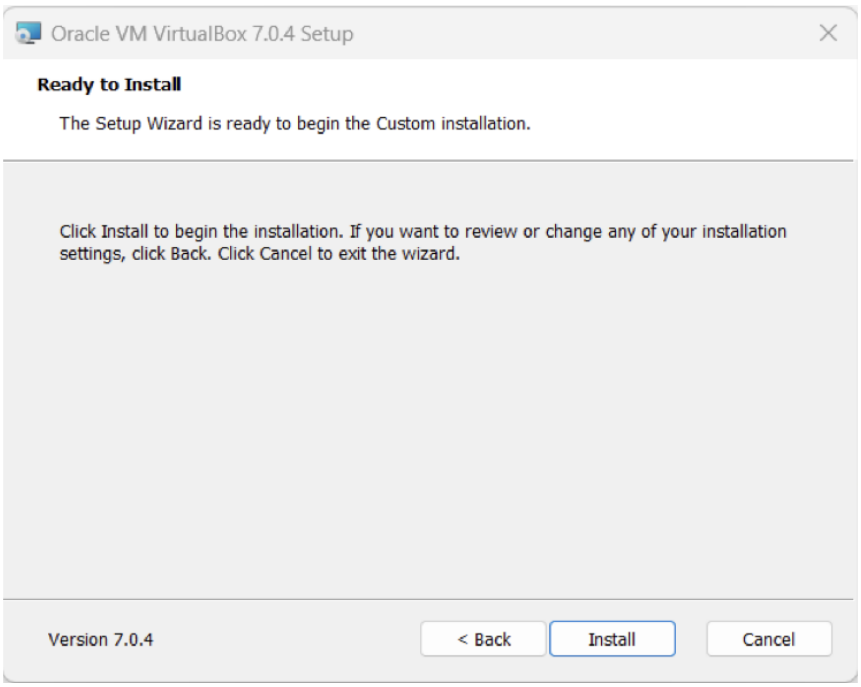
2) Click **"Next >"** again at the Custom Setup screen.



3) Click **"Yes"** at the **"Warning:"** screen.

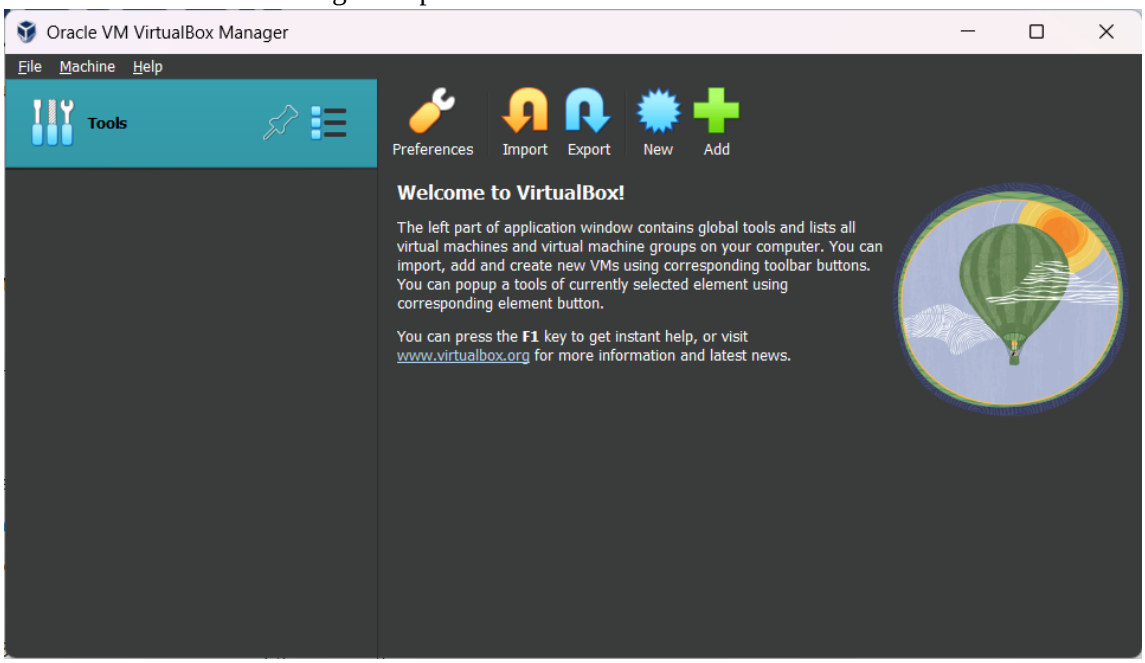


4) Click **"Install"** at the **"Ready to Install"** screen.

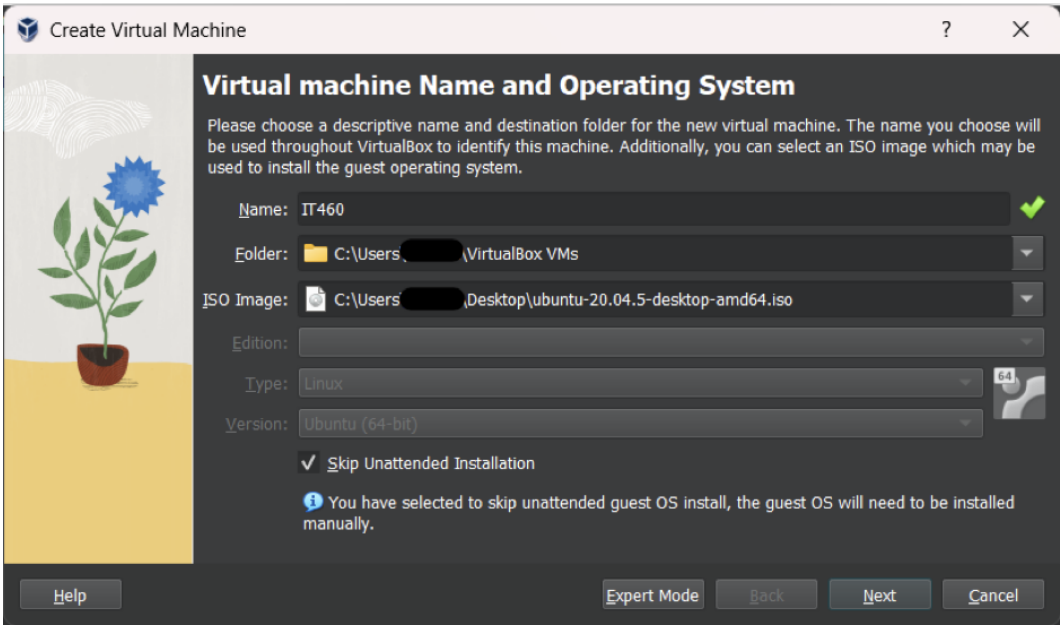


5) If the progress bar completes without reporting that the Setup Wizard has finished the installation, and if you see that the VirtualBox icon has appeared on your desktop, and that VirtualBox has been installed as a new program, then just close the Setup window and click on the VirtualBox icon to start the VirtualBox application.

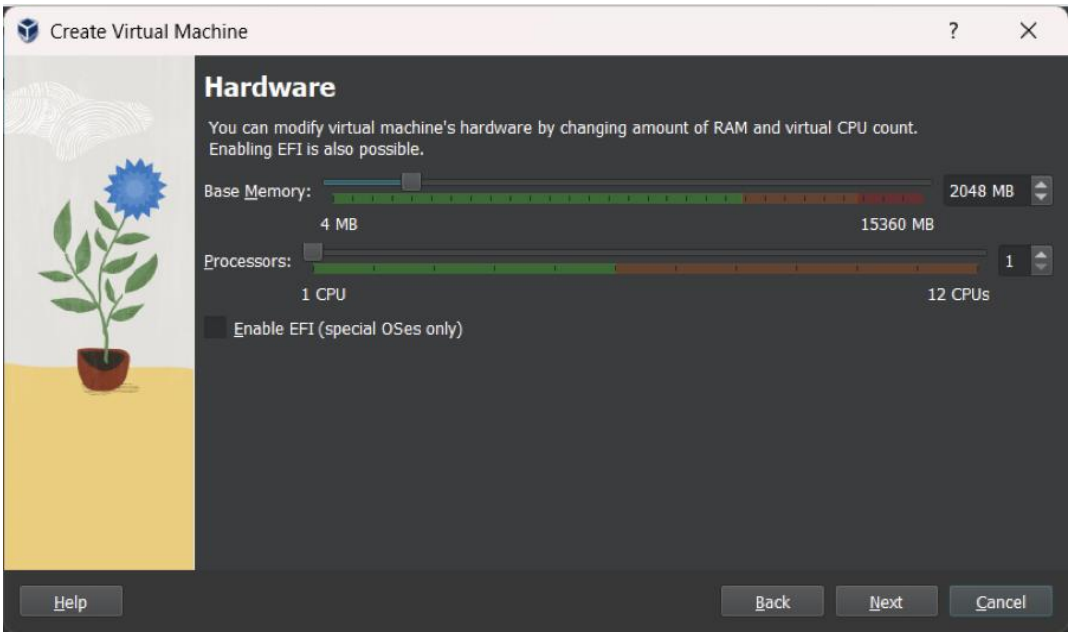
You will see the following startup screen.



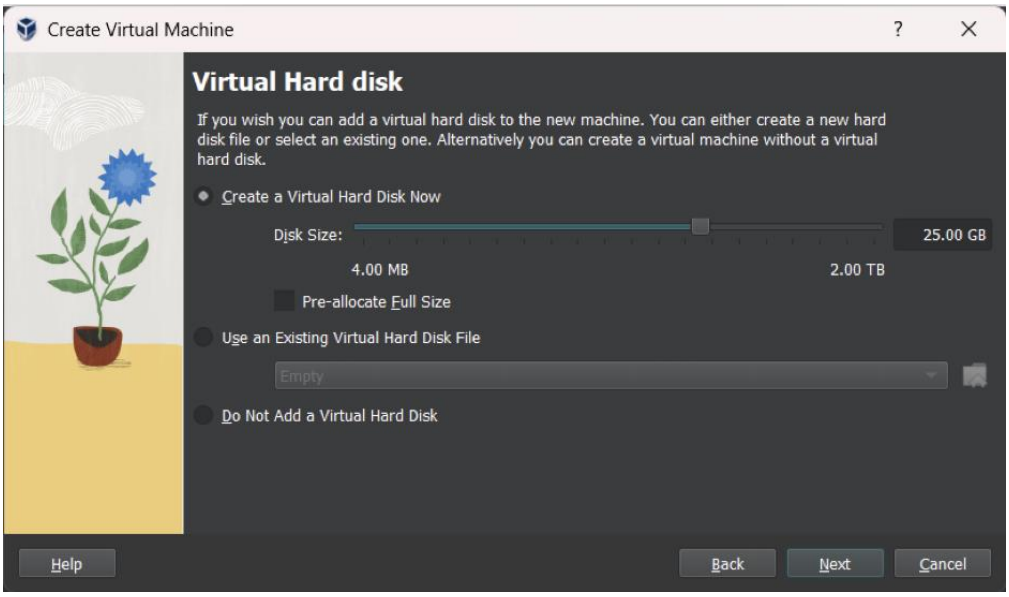
6) Create a **"New"** virtual machine. Give it a name **(BYGB 7990)** and select Linux as the type and Ubuntu 64 bit. (or 64 bit if the option appears and if you have a 64 bit processor.) Check **"Skip Unattended Installation." Click "Next >"**



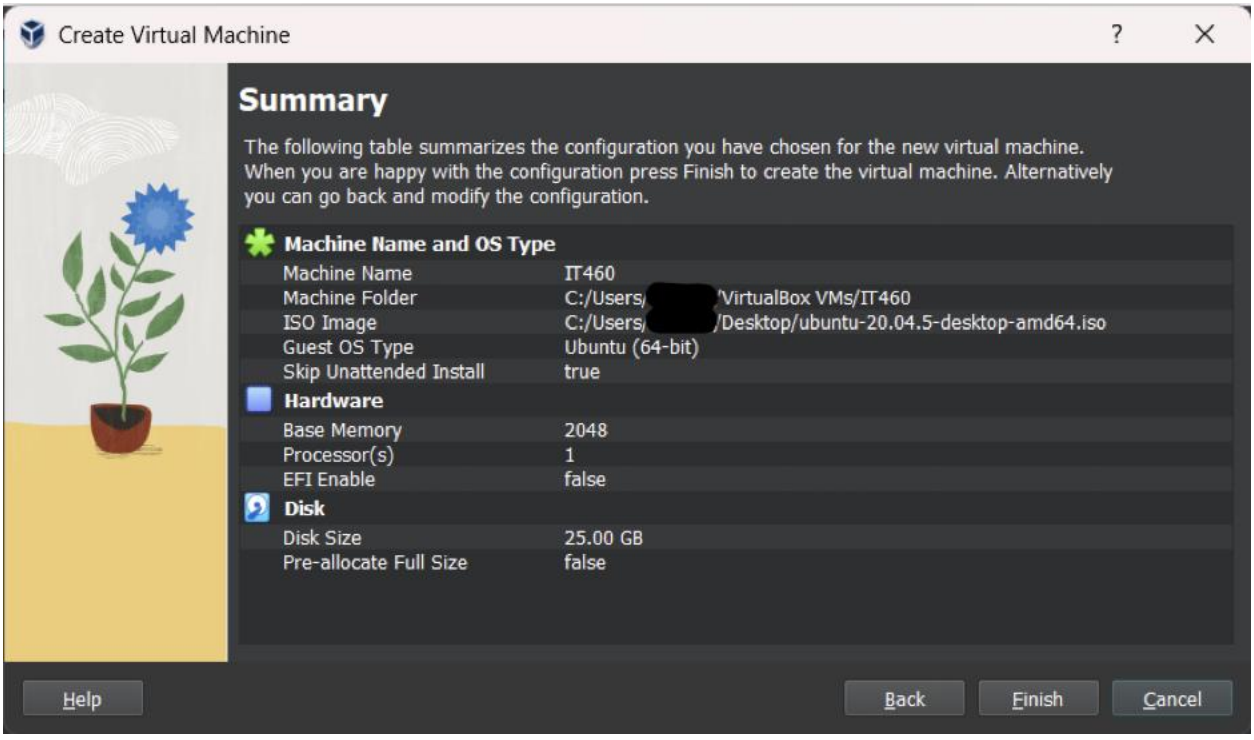
7) The more RAM you allocate for the machine, the faster it will run. This means that if you have 4 GB or more of RAM, you could easily allocate 3 GB here. You can find your system specifications at Administrative Tools or System Properties in the Control Panel. Allocate RAM and click **"Next >"**



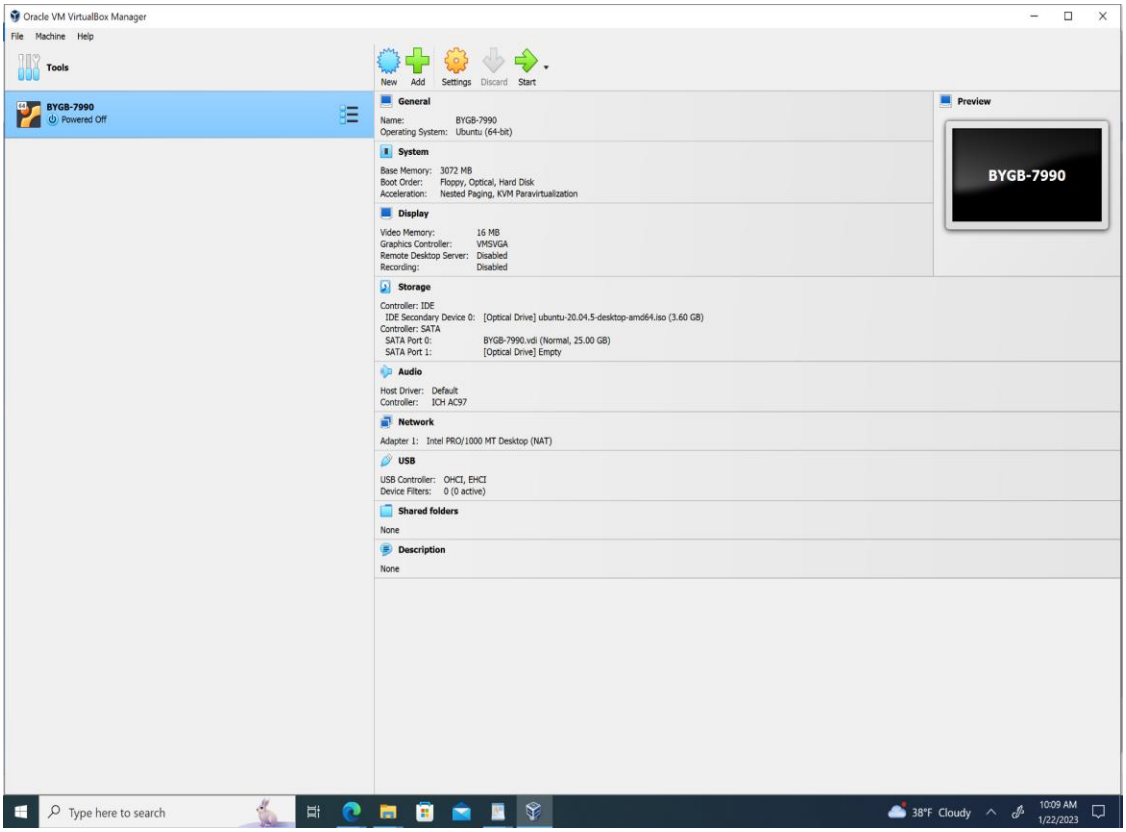
8) Keep **"Create a virtual hard disk now"** selected and click "Next >"



9) Check all settings and click **"Finish"**

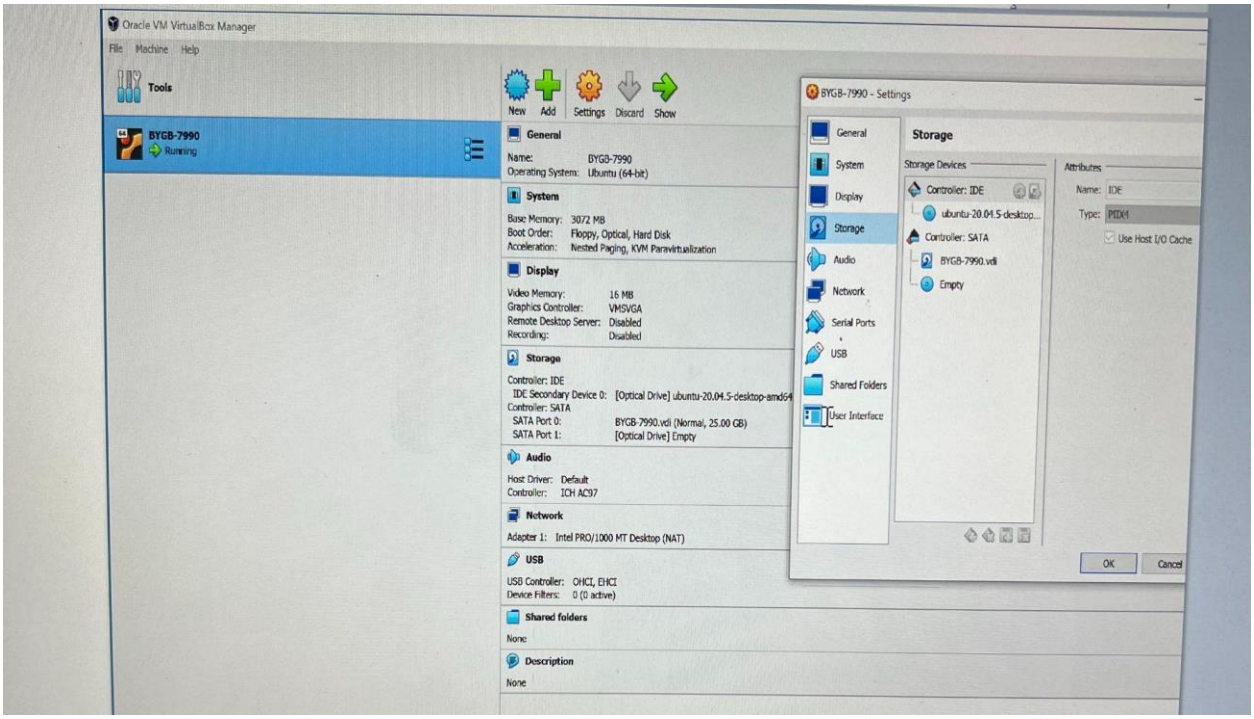


10) Now that you have set up the virtual machine, you have to **"Start" it** and load the Linux operating system.

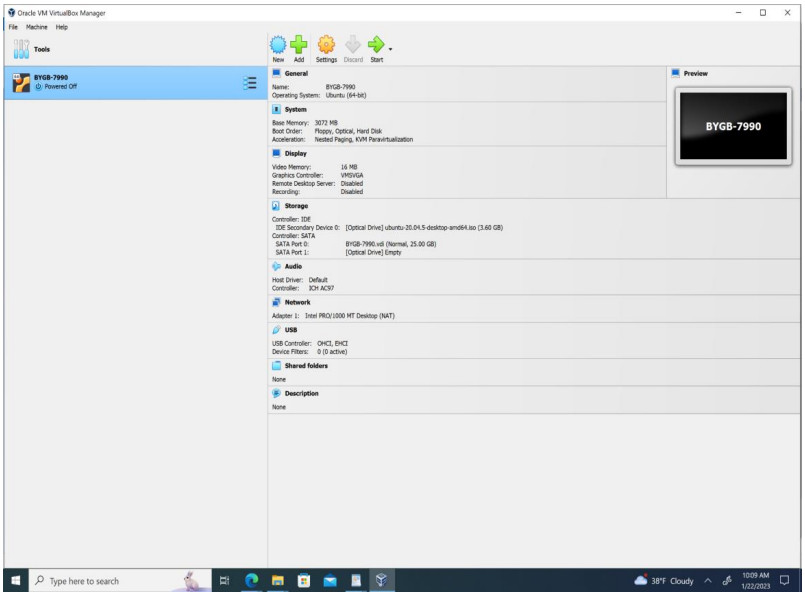


Part 2 - Create Ubuntu Linux Virtual Machine on VirtualBox

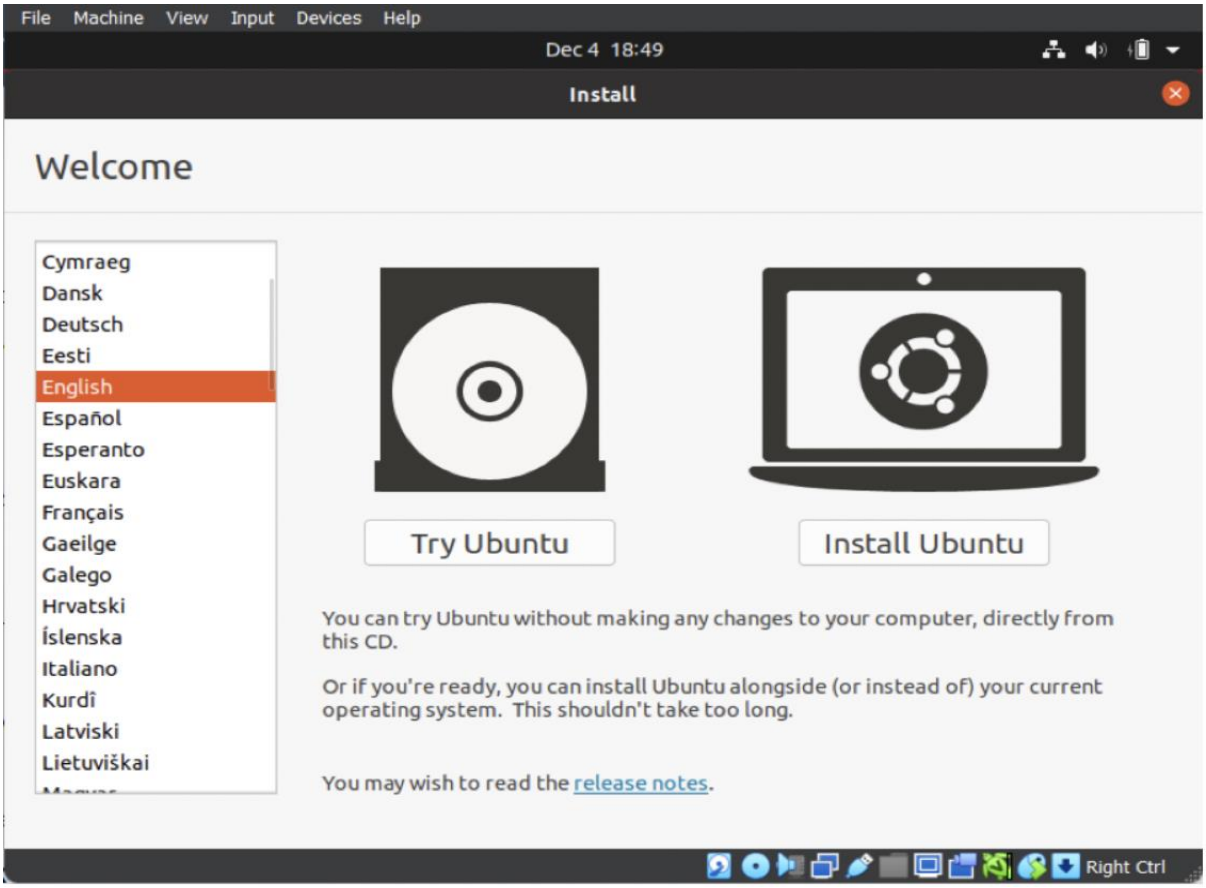
11) On the VM VirtualBox Manager click **Settings -> Storage -> Empty** -> and then in the attributes section choose a virtual optical disk file. **(You may not have it empty there, but what you must do is click on Controller: SATA and then look at the bottom where it says attachments. Click on attachments and then select the optical drive. It will take you to a screen, but make sure to click the empty option).** Navigate and select to the "ubuntu-20.04-desktop-amd64.iso" file downloaded in step 1 and once the iso file is selected **click ok.**



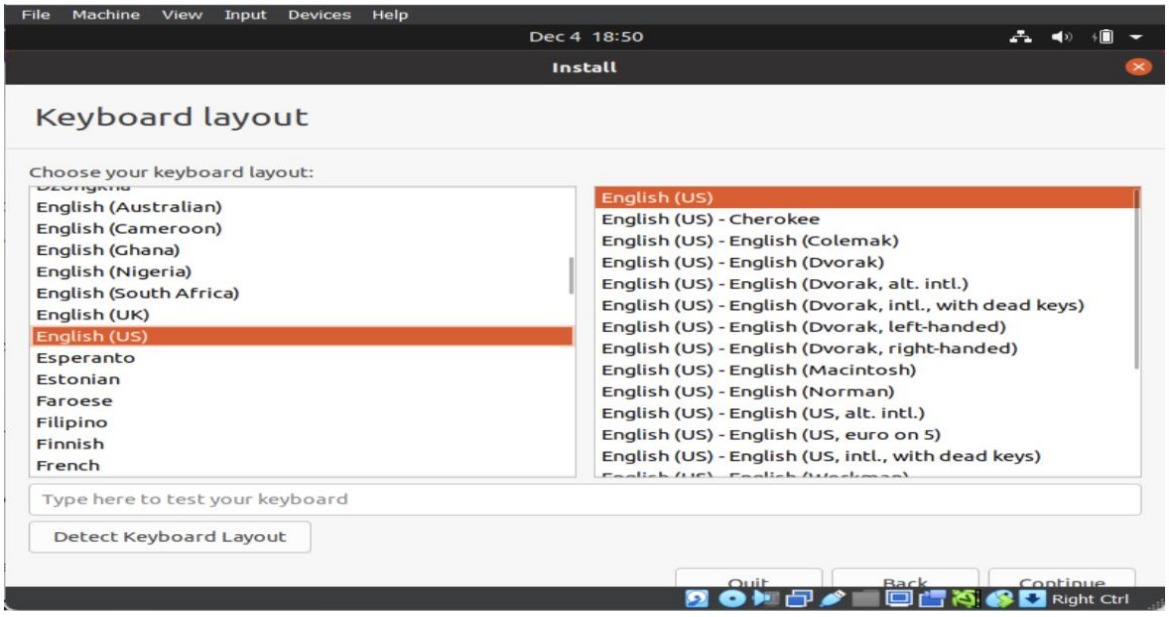
12) On the VirtualBox Manager **Click Start-> Select Normal Start**. This action starts downloading the Ubuntu Linux operating system contained in that file.



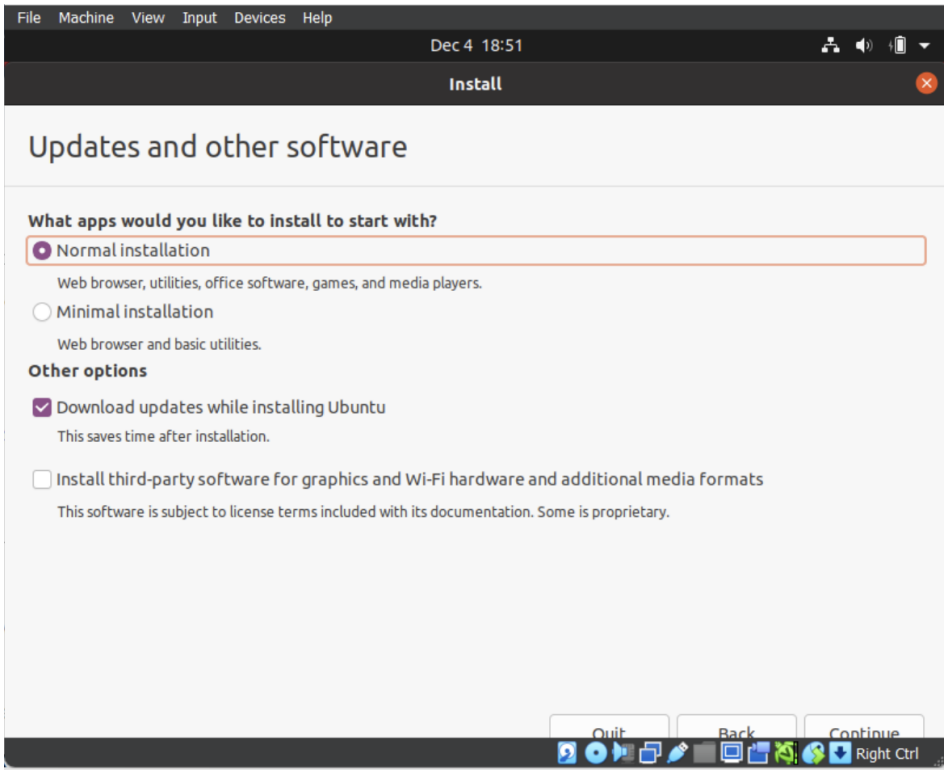
13) Continue with loading Linux on the virtual machine by answering the questions. **(Select Install Ubuntu)**



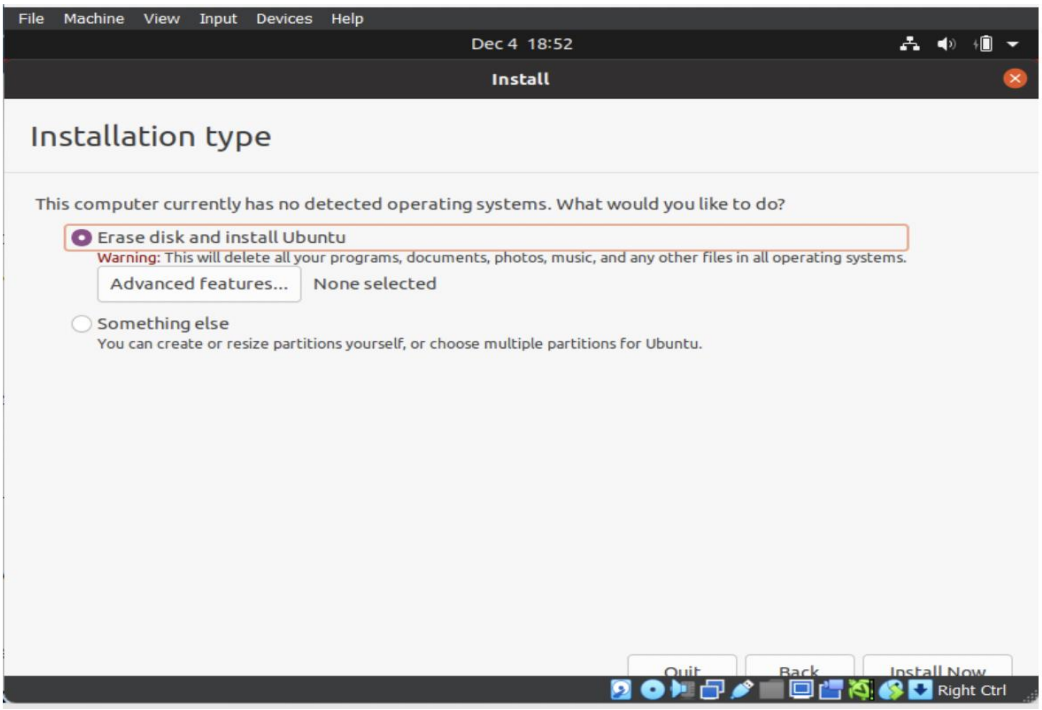
14) Click **"Continue"**



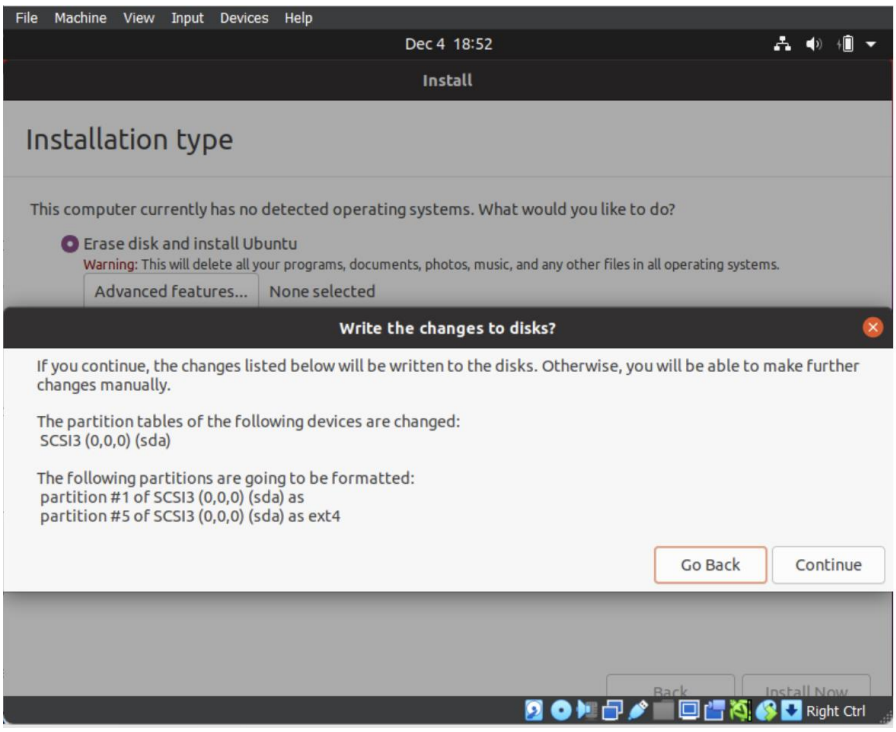
15) Click **"Continue"**



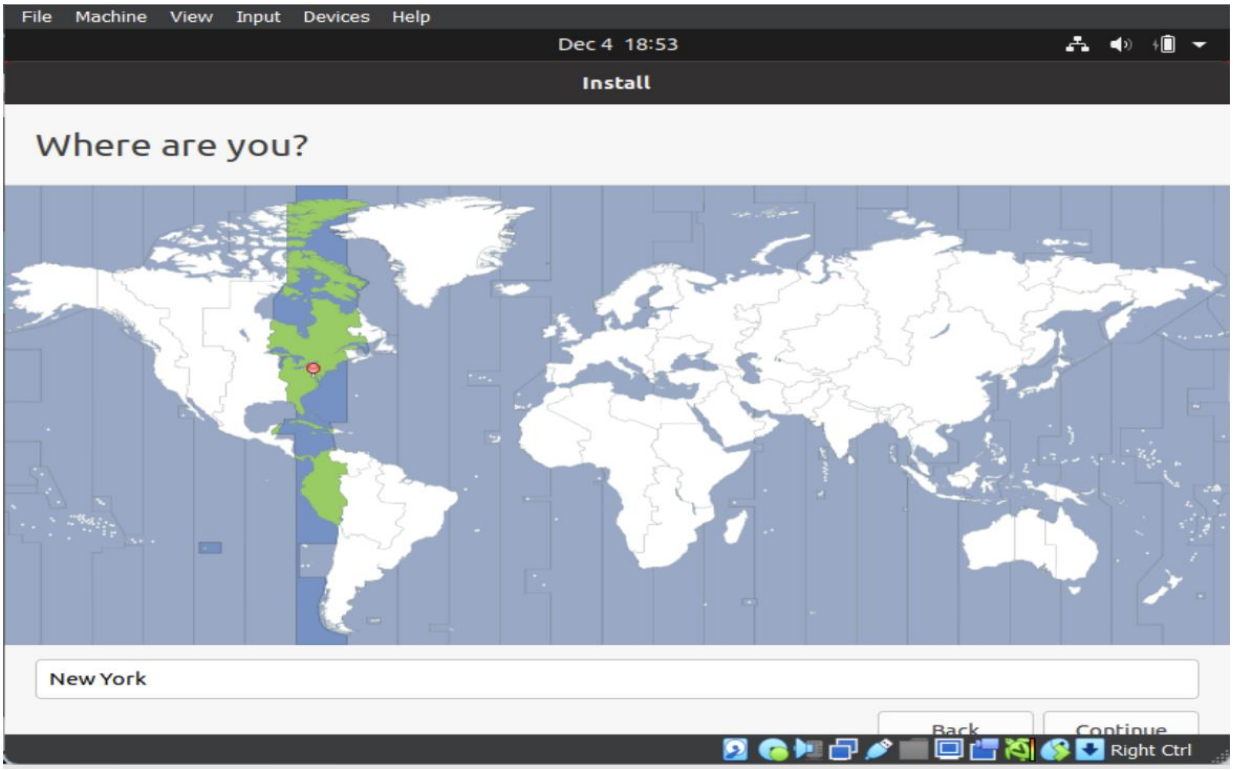
16) Click **"Install Now"**



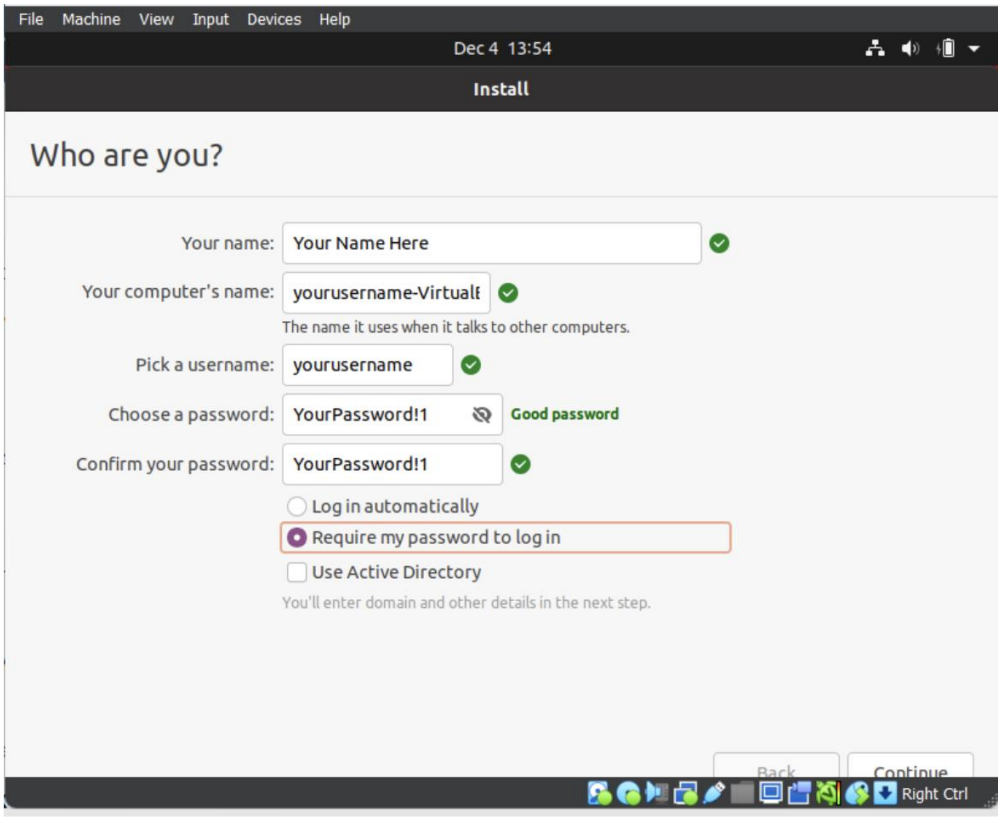
17) Click **"Continue"**



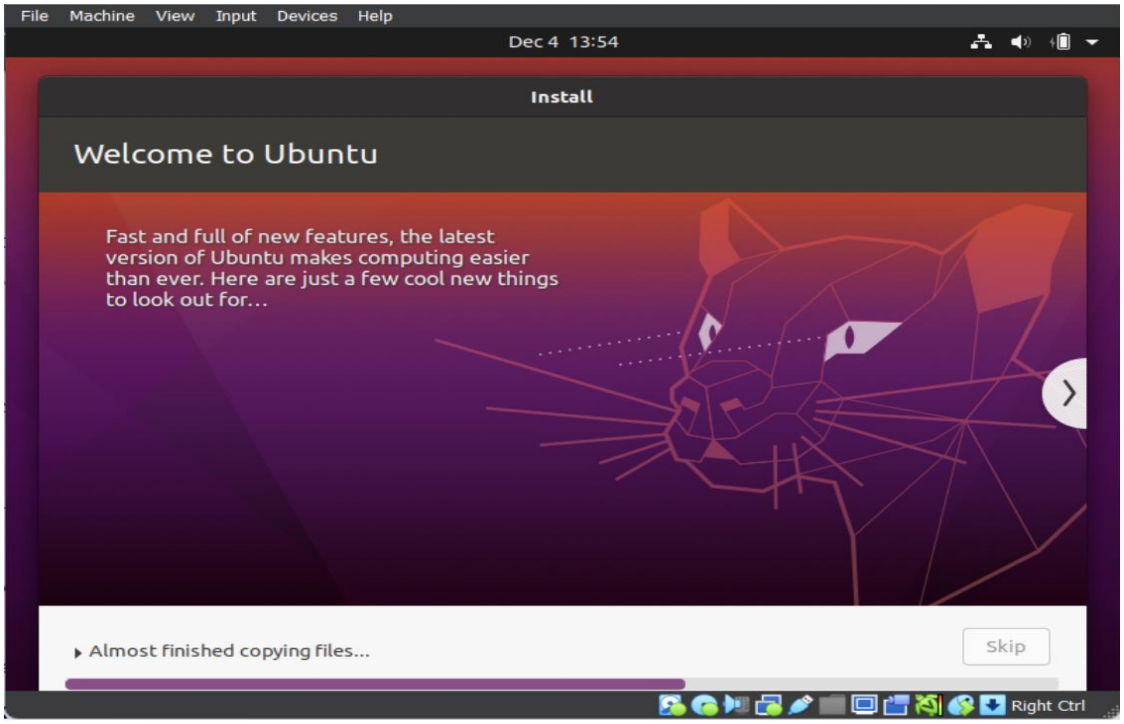
18) Click **"Continue"**



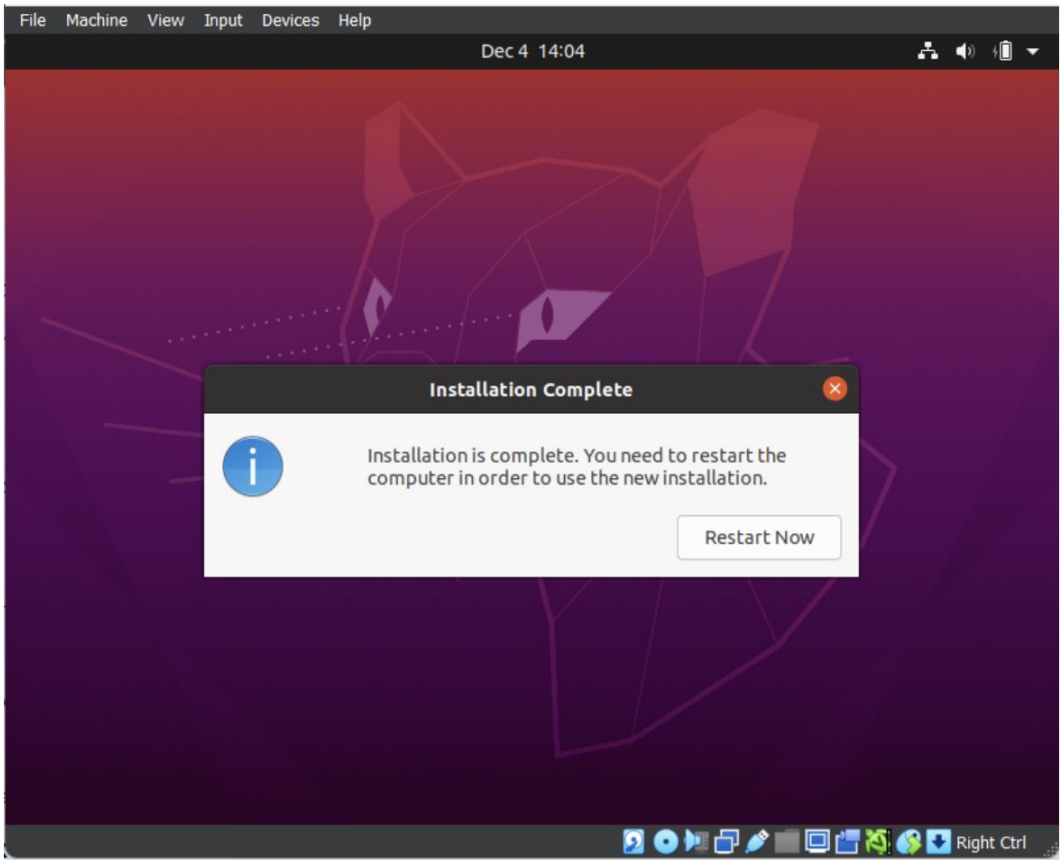
19) Click create a **Username and a Password**



20) Almost finished . . .

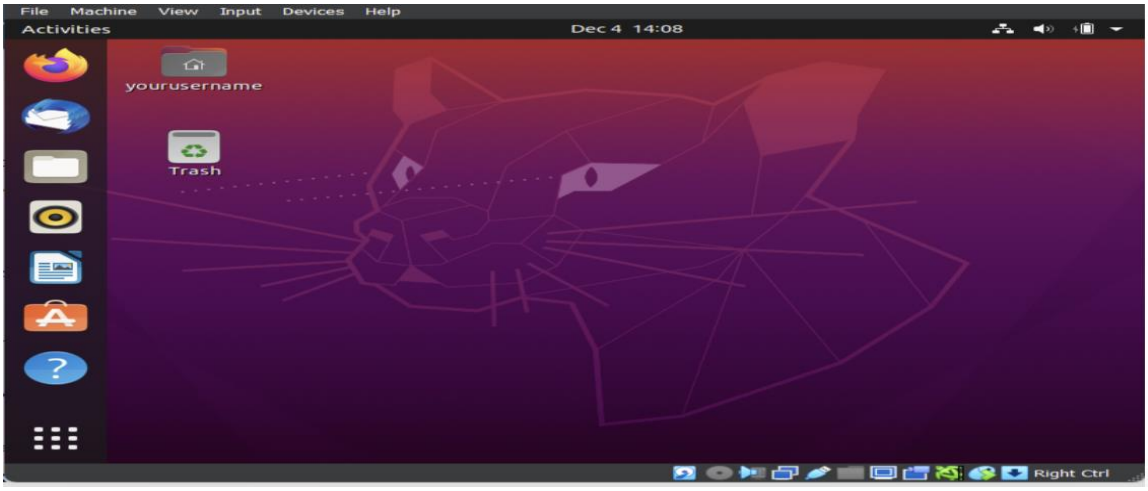


21) Then click on **"Restart Now"**. This action only restarts the virtual machine in VirtualBox.



22) The desktop screen has scroll bars at the bottom and the side. Scroll up and down and back and forth to see the full extent of the screen, or just maximize it, but make sure that you can see all the menu buttons and options on the desktop. By exploring the menu options, such as the **"File Manager"**, you can access the internet, and the terminal for Linux commands.

(See the next 3 screenshots.) That's it. You are using Linux in a VirtualBox. You did it!



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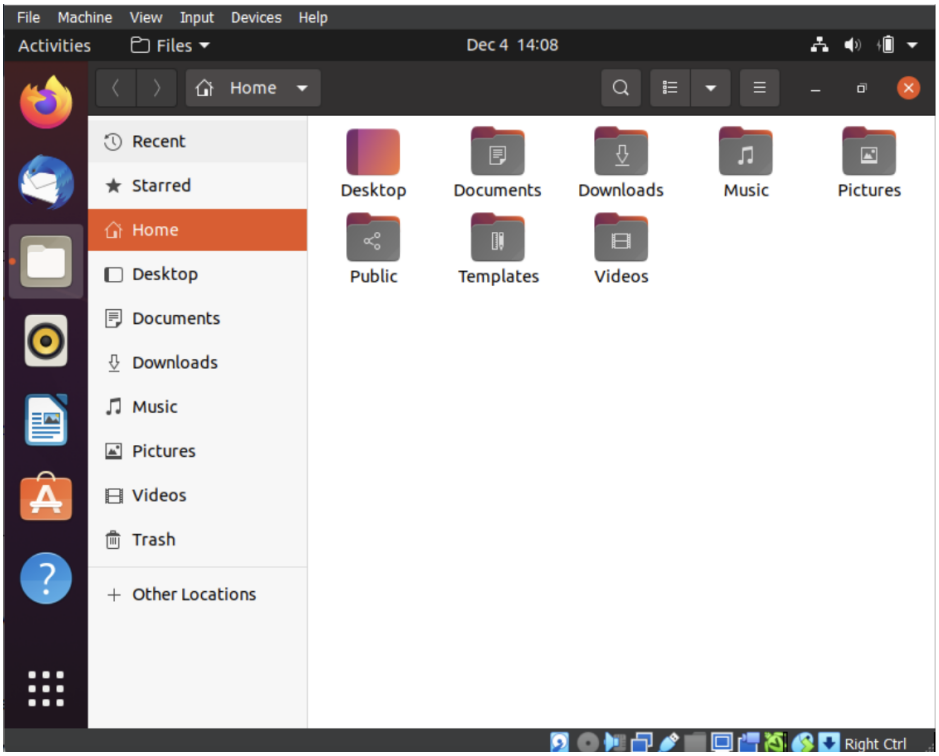
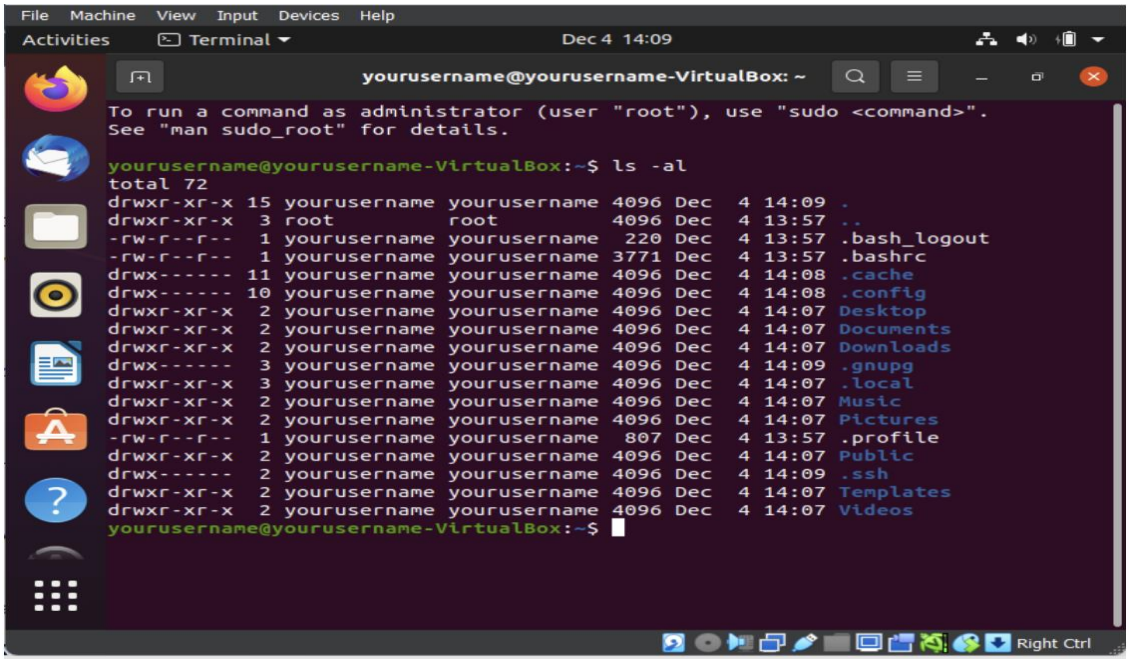
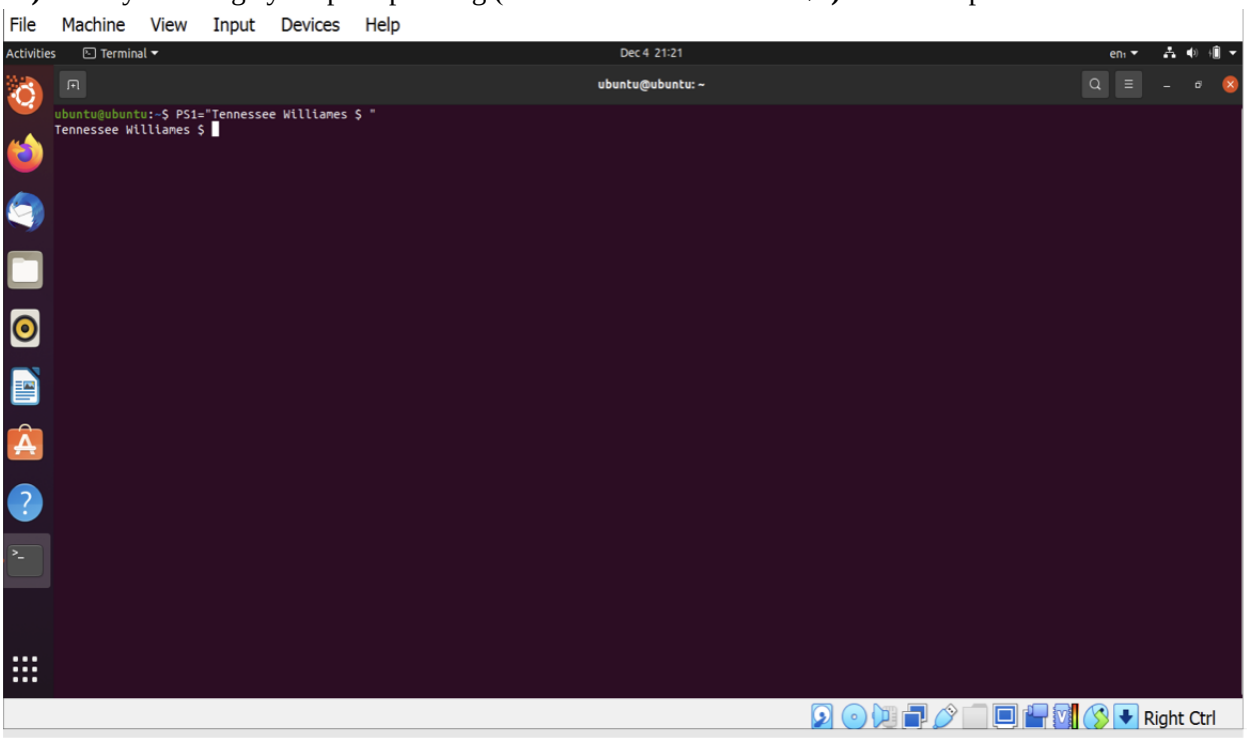


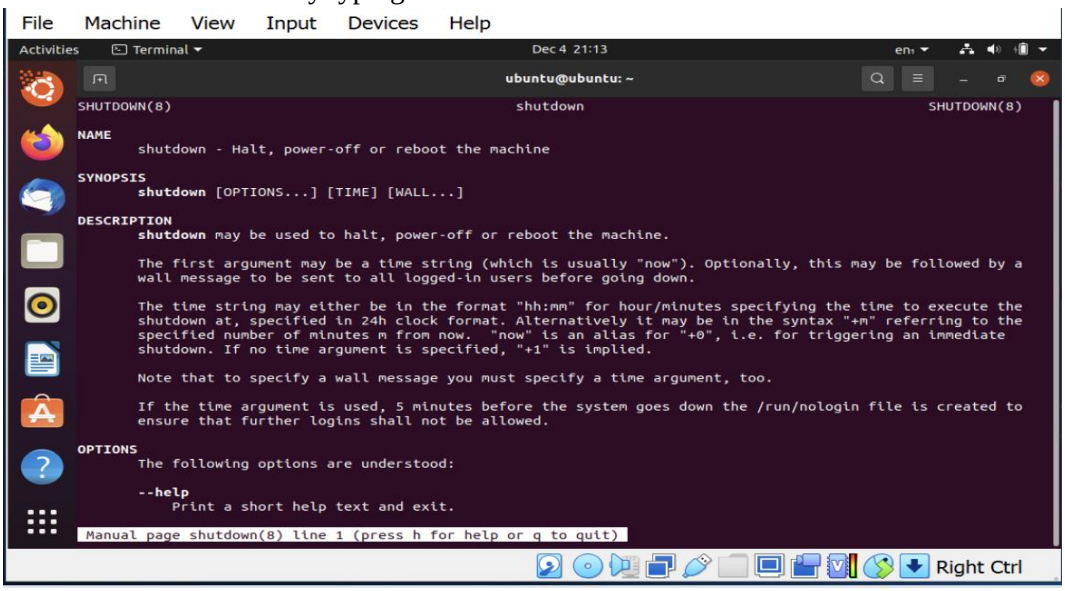
23) This is the terminal window which brings up the command line. Many administrative tasks are done from the terminal window command line.



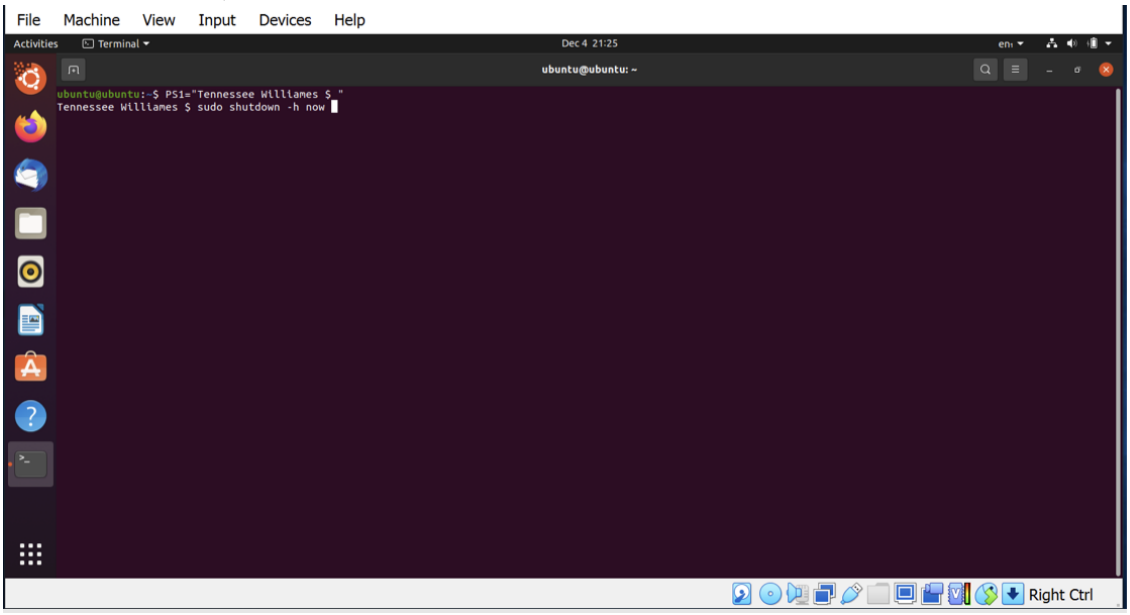
24) Modify or change your prompt string **(PS1=" First Last Name $")**. See example below.



25) Shutting down the virtual machine from the terminal window can be accomplished with several different commands. One of these is **"sudo shutdown –h now"**. You can read about the shutdown command in the manual by typing "man shutdown".



26) Press **q** to **quit** the **man** command and clear the screen. Then type the shutdown command **(sudo shutdown –h now)**



27) After typing in your password, the shutdown sequence is activated, and the virtual machine shuts down. Oracle VirtualBox however will still be open.

You are now ready to work on Linux Lab 1 and 2.