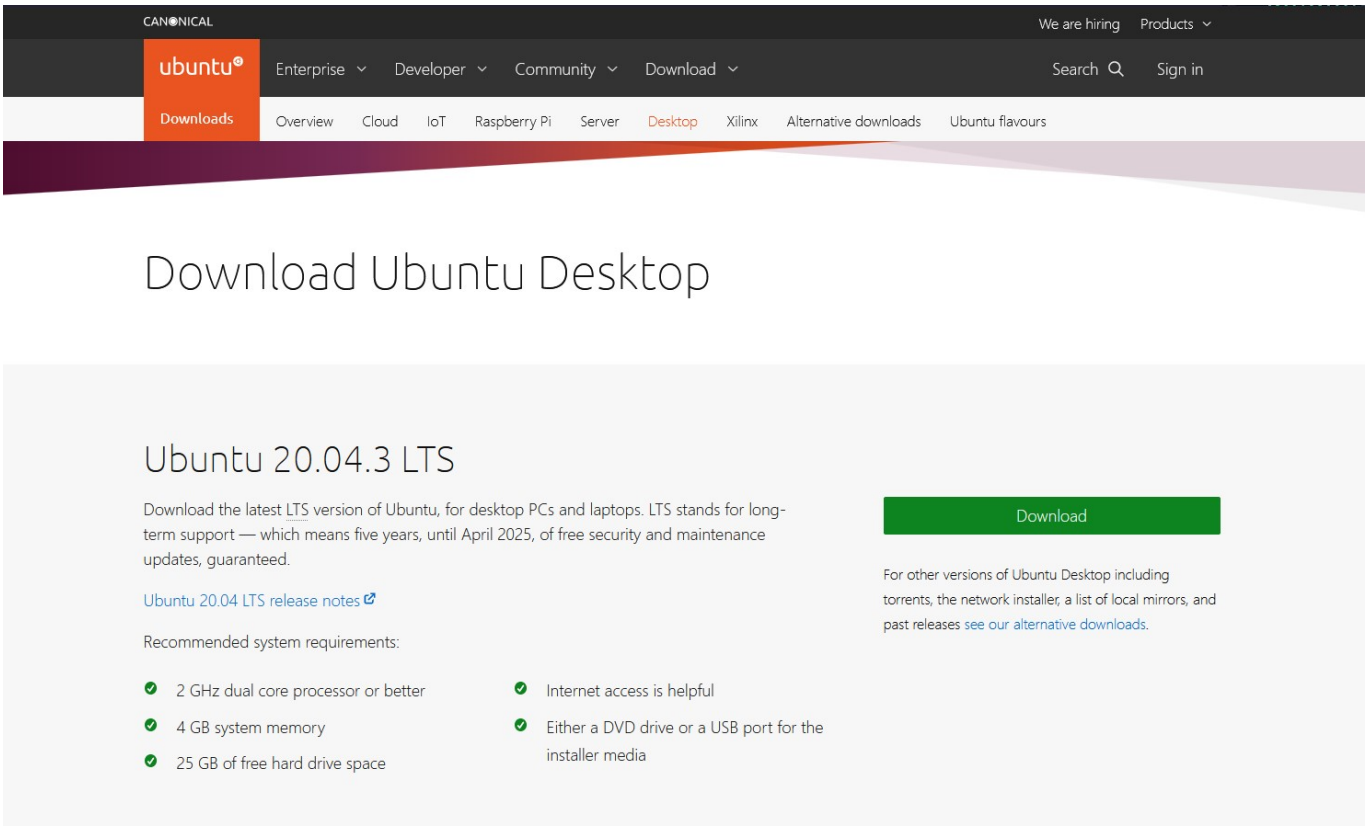
Deliverable 3

- Deliverable 3
  - Installation
  - Setup
  - Install software using the command line as well as the software center
  - Basic commands
  - Every-day-use applications
  - Entertainment
  - School work
  - Help and troubleshooting tips - Citations

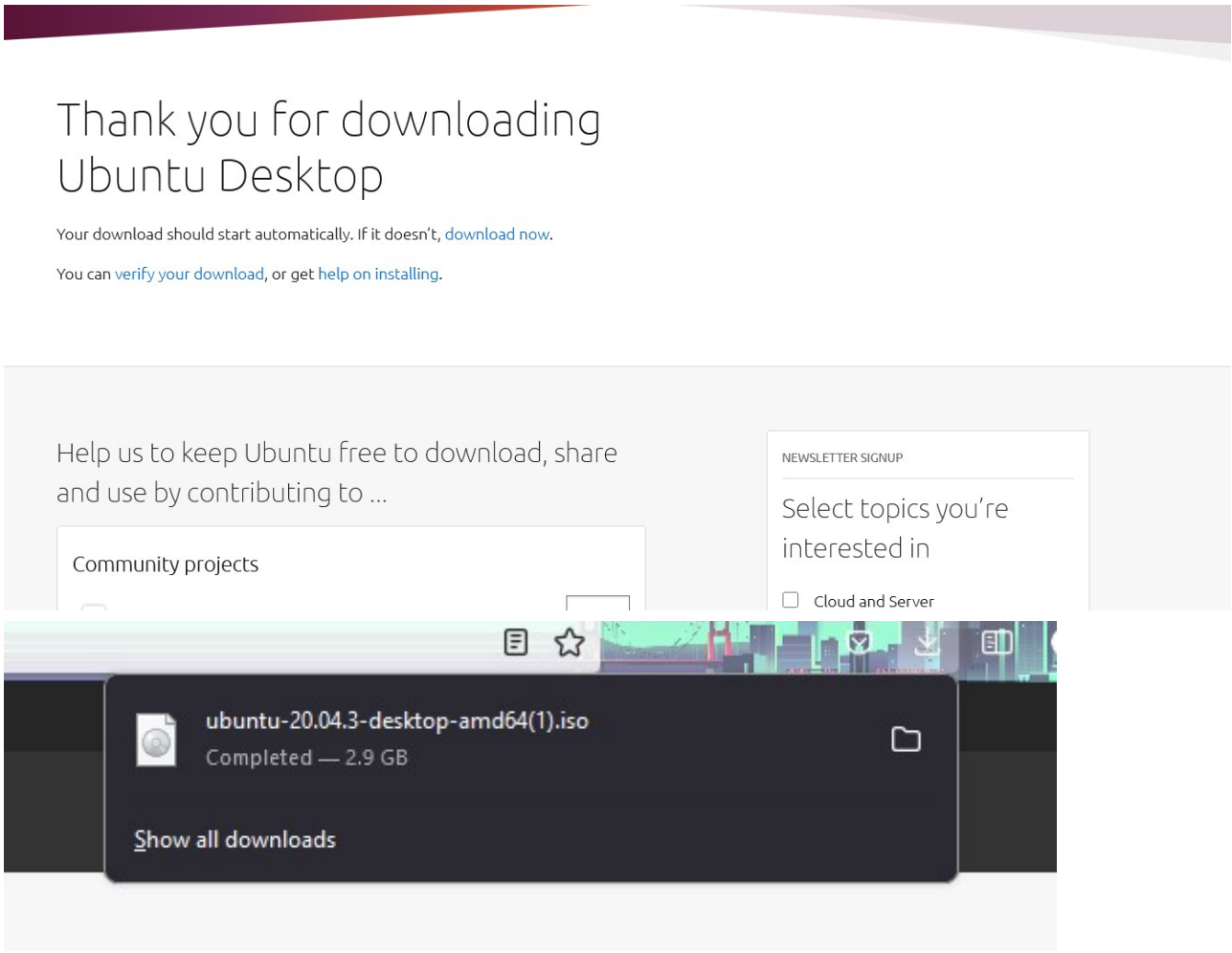
For this Project I will be showing a tutorial on how to install Ubuntu and giving an explanation of the basic applications and aspects of the Operating System.

Installation

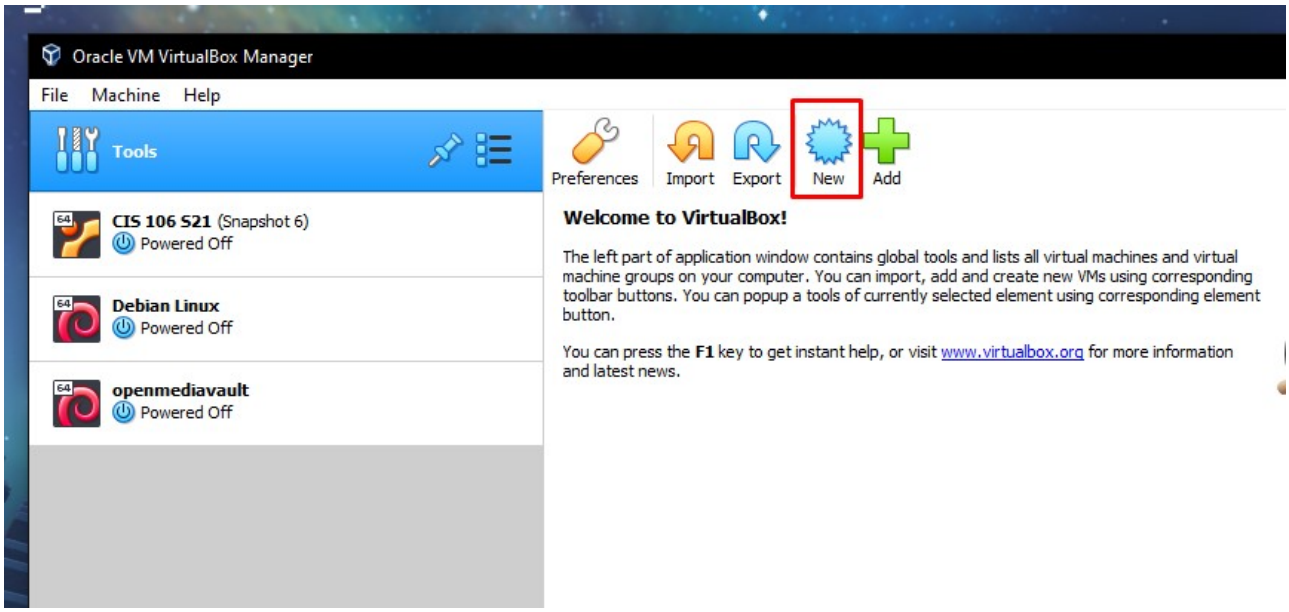
- The first step to entering the world of linux and installing Ubuntu inside a virtual machine.
- Inside the Ubuntu Official website there is a download option, when clicked it will begin the download for the iso file. This file serves as the installation medium to be able to install Ubuntu.

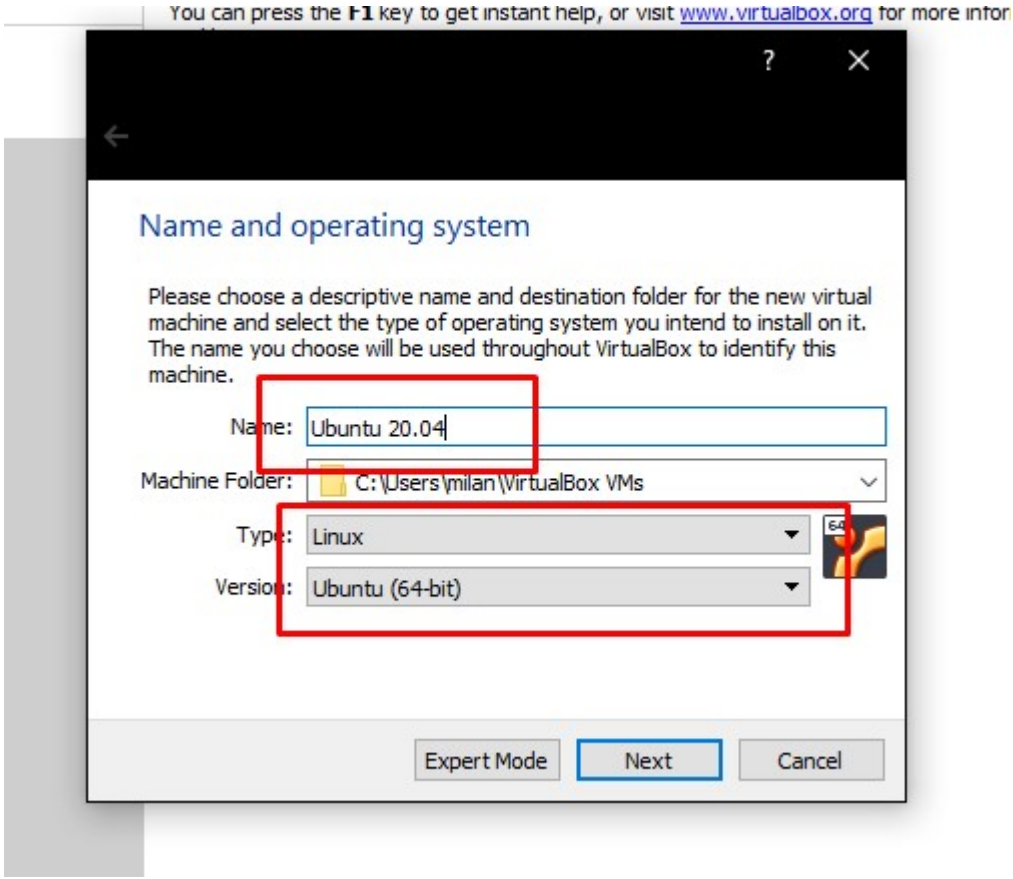


- Once the iso file has downloaded you can open up virtual box and begin the setup for starting up the virtual machine.

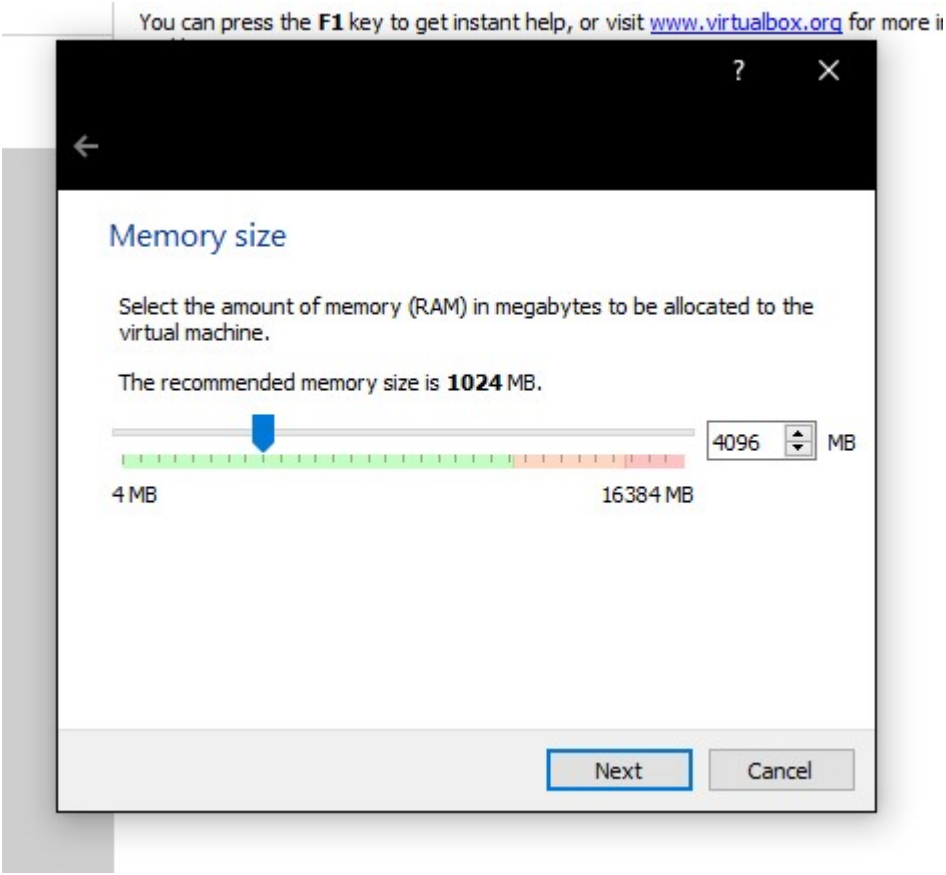


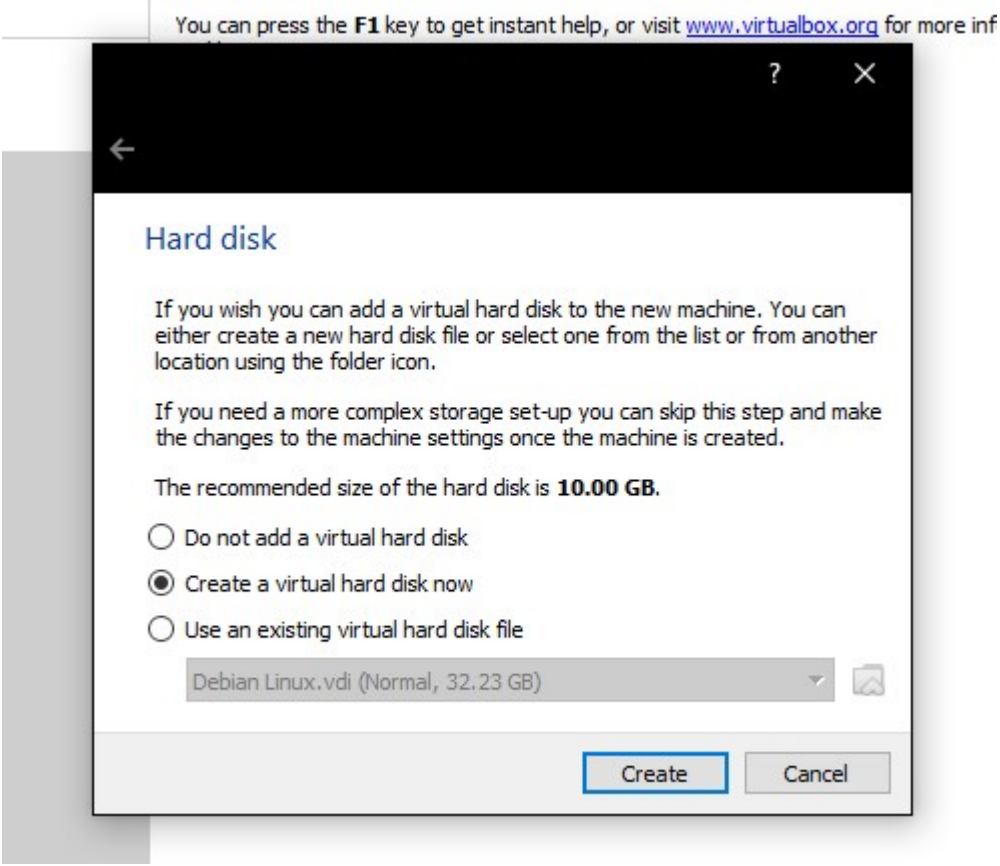
- When creating it, selecting "NEW", then name your virtual machine and select what type of OS will be used. In the is case it is an Ubuntu machine so we will select it.


Oracle VM VirtualBox Manager
File Machine Help
Tools
CIS 106 S21 (Snapshot 6)
Powered Off
Debian Linux
Powered Off
openmediavault
Powered Off
Preferences
Import
Export
New
Add
Welcome to VirtualBox!
The left part of application window contains global tools and lists all virtual machines and virtual machine groups on your computer. You can import, add and create new VMs using corresponding toolbar buttons. You can popup a tools of currently selected element using corresponding element button.
You can press the F1 key to get instant help, or visit www.virtualbox.org for more information and latest news.

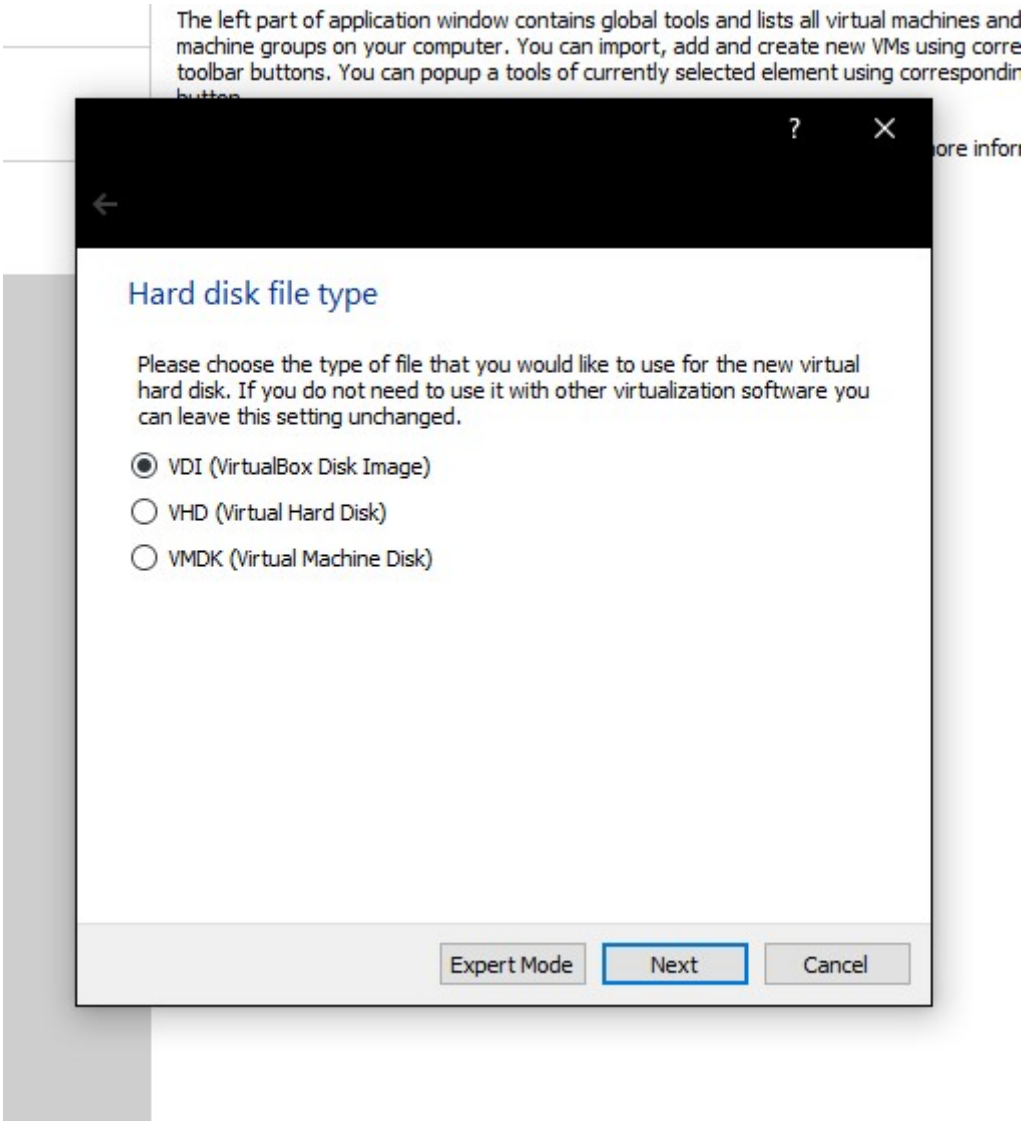

You can press the F1 key to get instant help, or visit www.virtualbox.org for more infor
Name and operating system
Please choose a descriptive name and destination folder for the new virtual machine and select the type of operating system you intend to install on it. The name you choose will be used throughout VirtualBox to identify this machine.
Name: Ubuntu 20.04
Machine Folder: C:\Users\milan\VirtualBox VMs
Type: Linux
Version: Ubuntu (64-bit)
Expert Mode
Next
Cancel

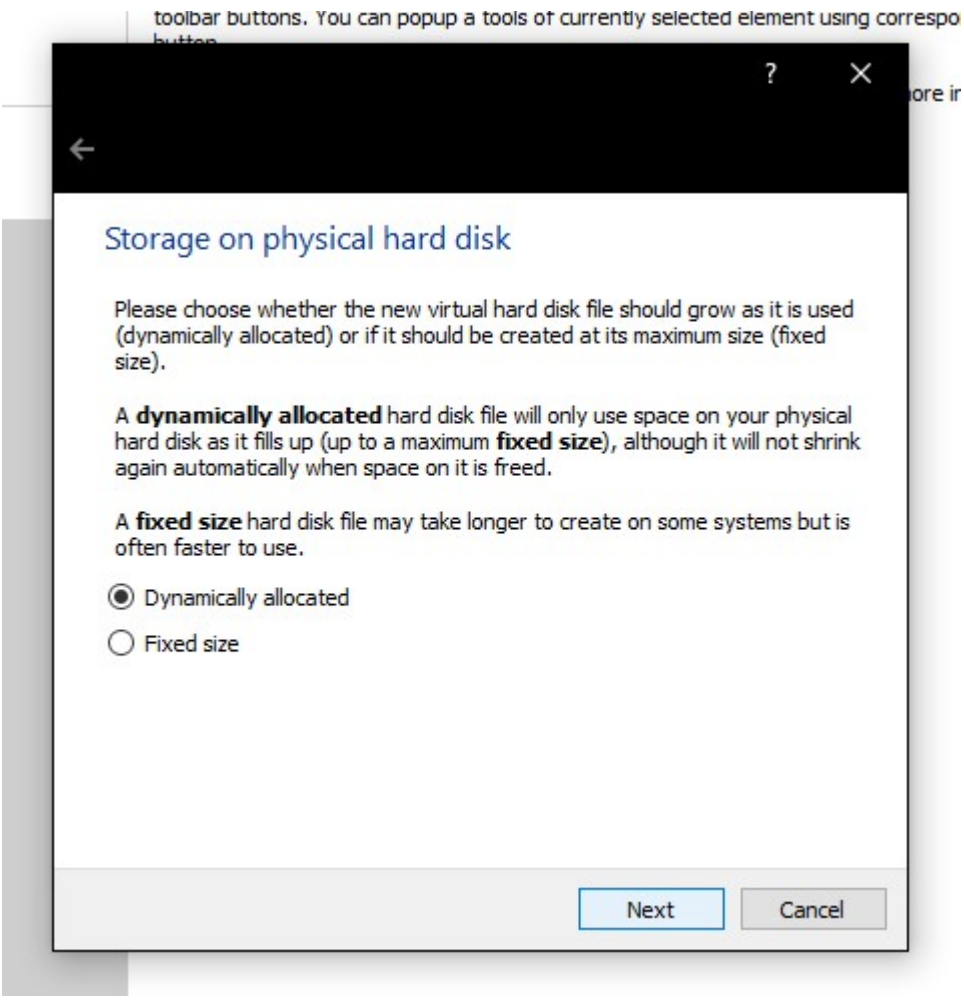
- After that its a matter of allocating memory, and hard drive space.

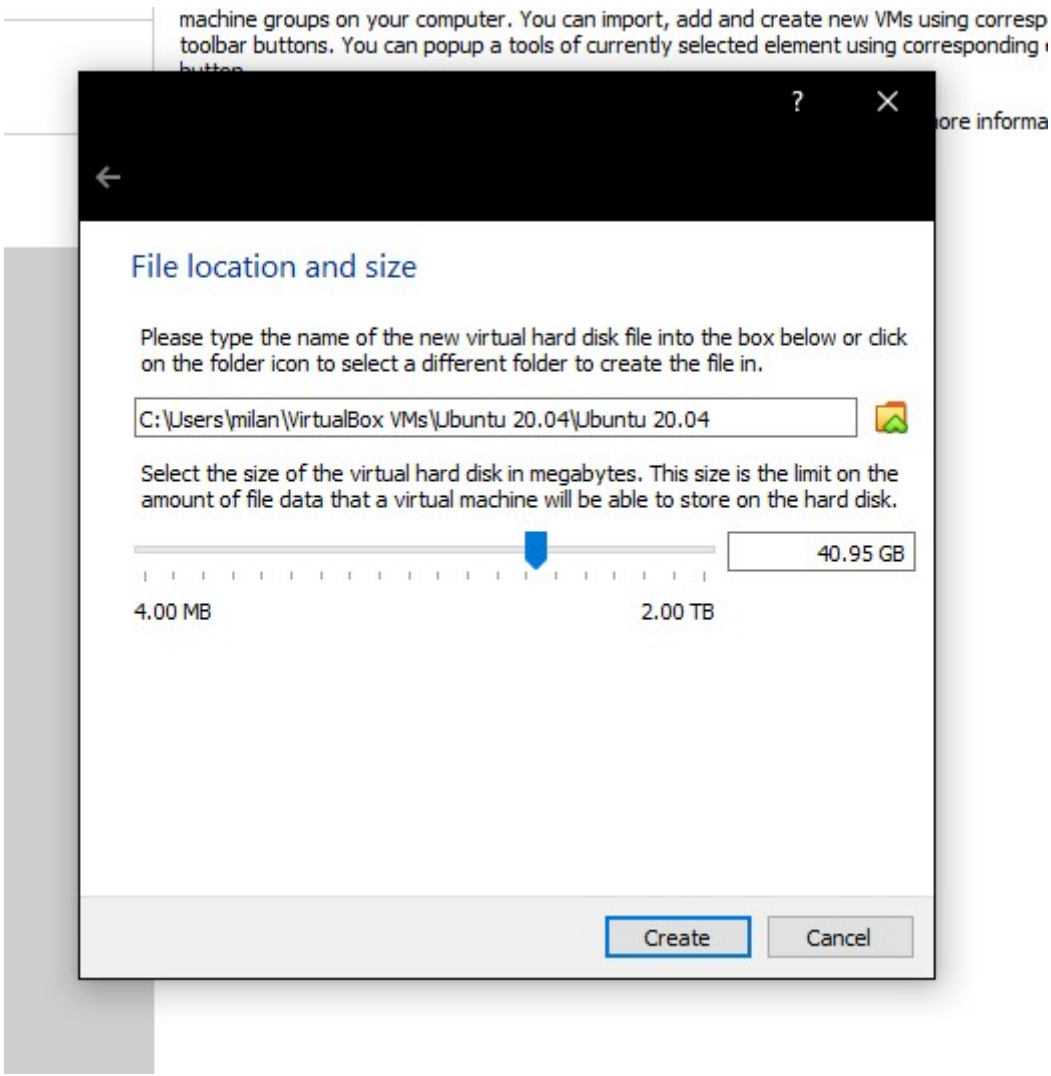




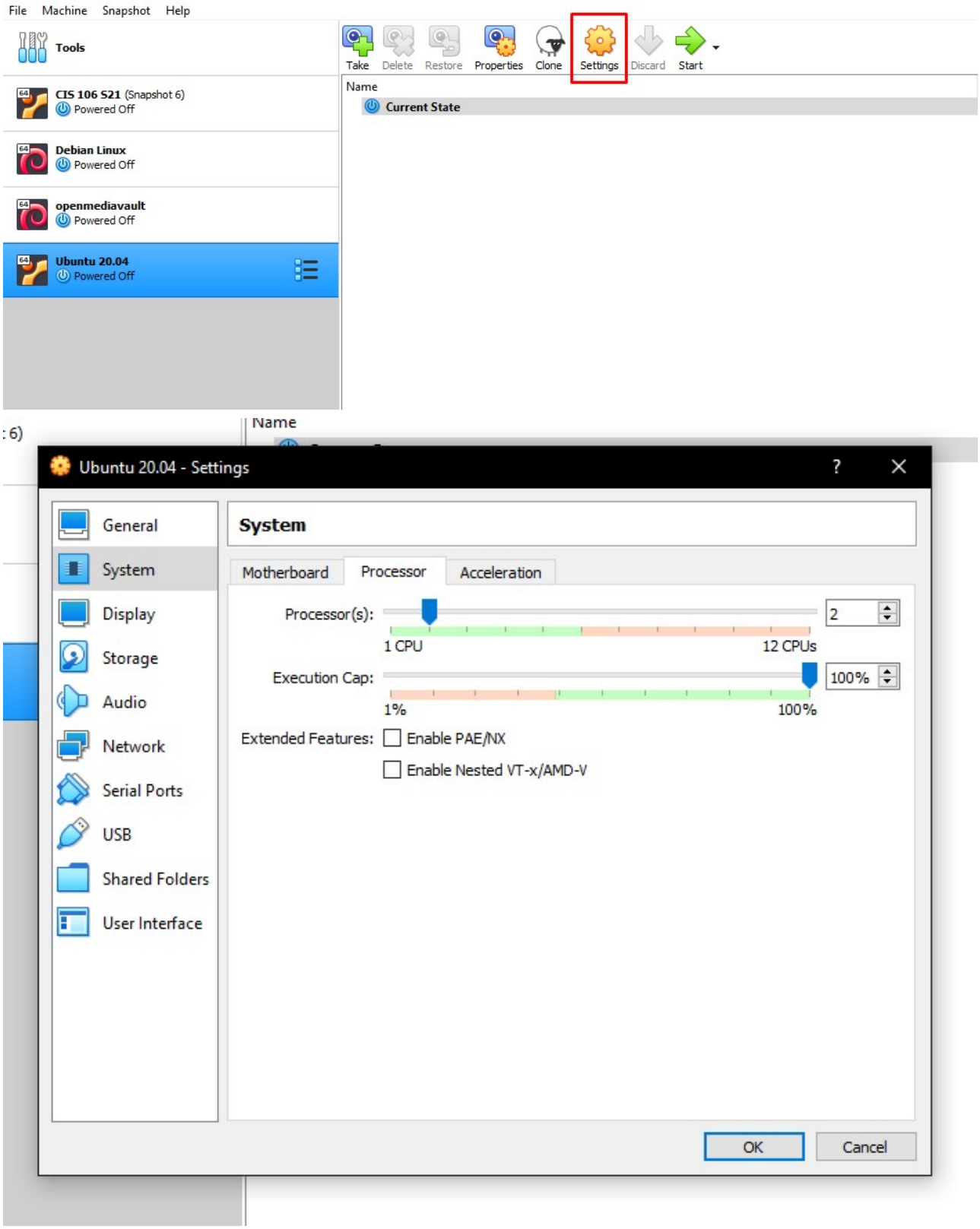
- Make sure to set the storage to be dynamically allocated otherwise you will lose storage from your regular OS.



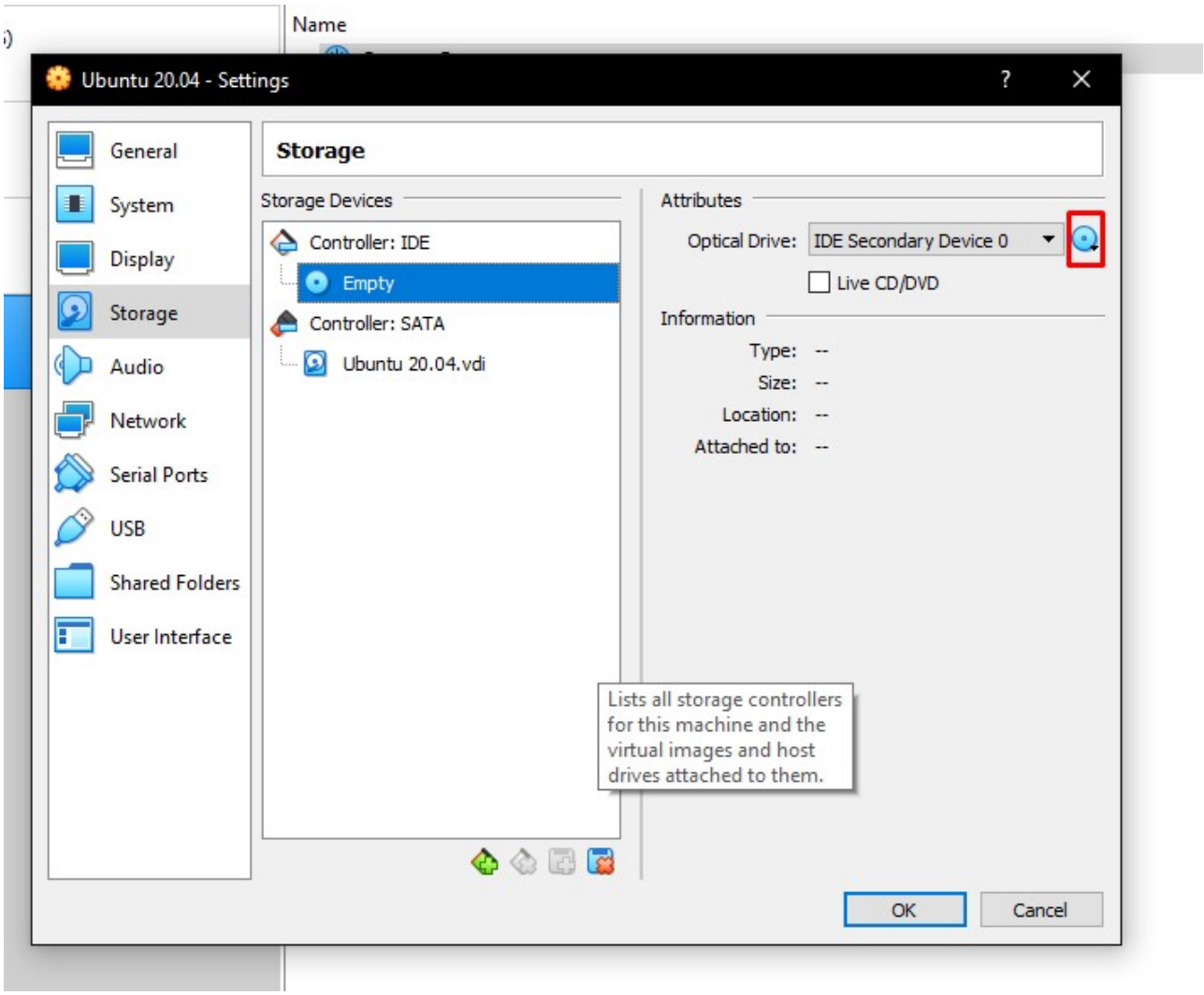

toolbar buttons. You can popup a tools of currently selected element using correspo
Storage on physical hard disk
Please choose whether the new virtual hard disk file should grow as it is used (dynamically allocated) or if it should be created at its maximum size (fixed size).
A dynamically allocated hard disk file will only use space on your physical hard disk as it fills up (up to a maximum fixed size), although it will not shrink again automatically when space on it is freed.
A fixed size hard disk file may take longer to create on some systems but is often faster to use.
Dynamically allocated
Fixed size
Next
Cancel

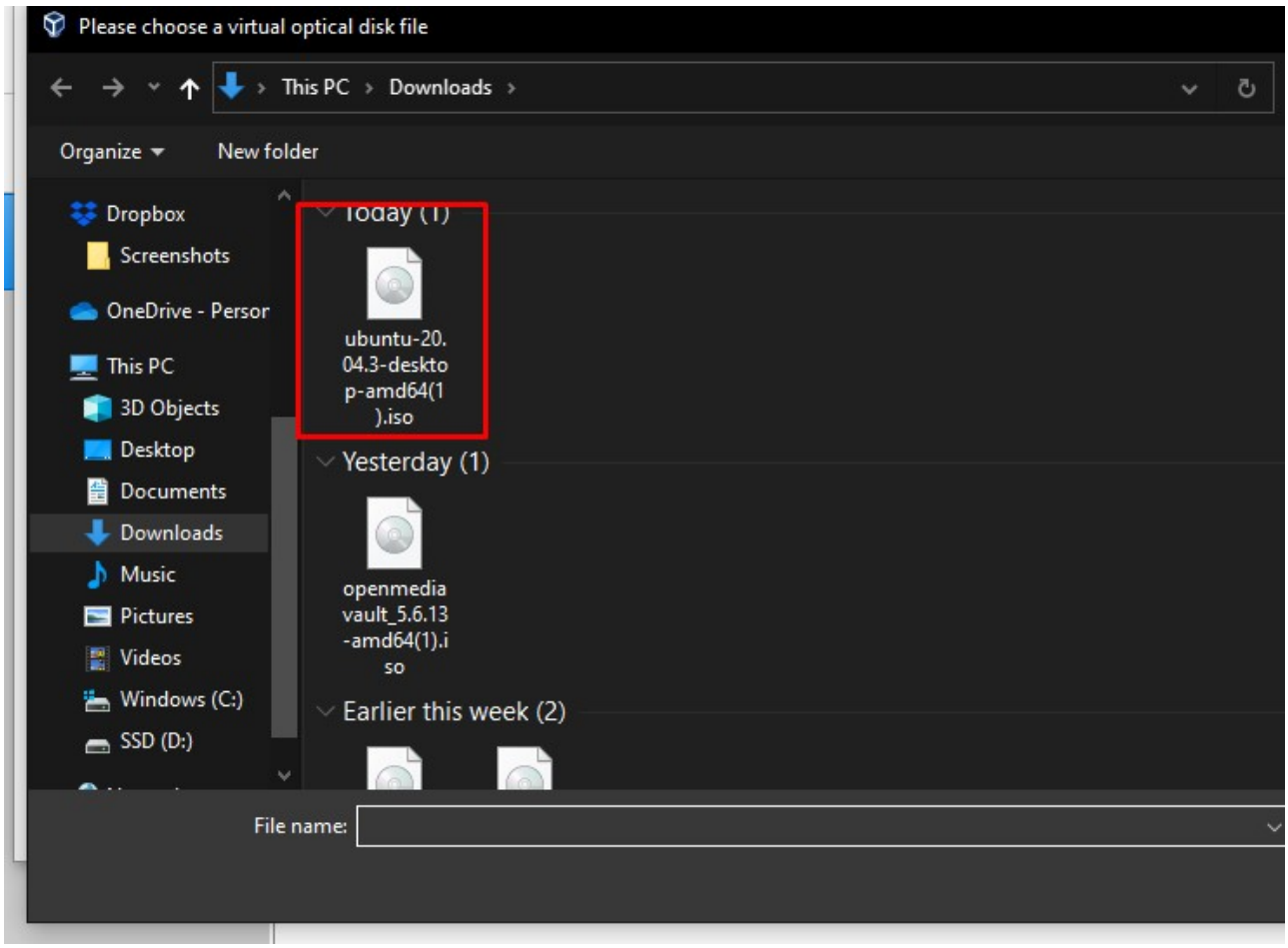


- After finishing this first set up we will go into settings and give the machine the processor cores required to run the machine efficiently.

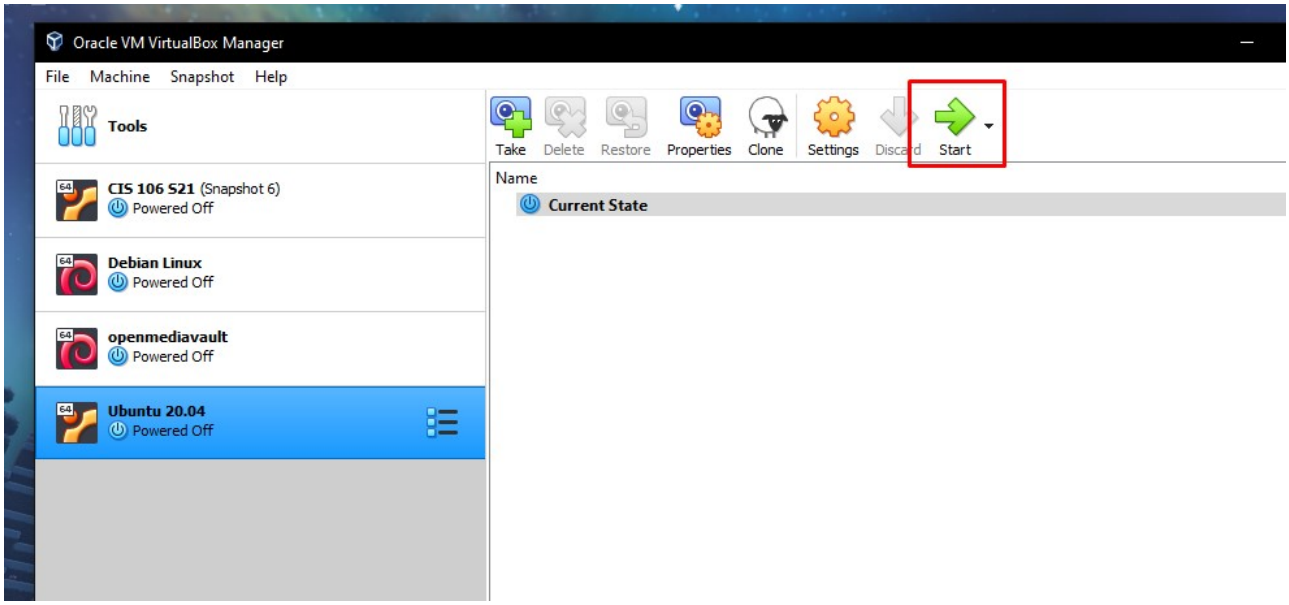


- Select storage, in the IDE controller you want to add the ISO image that we downloaded from the Ubuntu website.


Name
Ubuntu 20.04 - Settings
General
System
Display
Storage
Audio
Network
Serial Ports
USB
Shared Folders
User Interface
Storage
Storage Devices
Controller: IDE
Empty
Controller: SATA
Ubuntu 20.04.vdi
Attributes
Optical Drive: IDE Secondary Device 0
Live CD/DVD
Information
Type: --
Size: --
Location: --
Attached to: --
Lists all storage controllers for this machine and the virtual images and host drives attached to them.
OK
Cancel

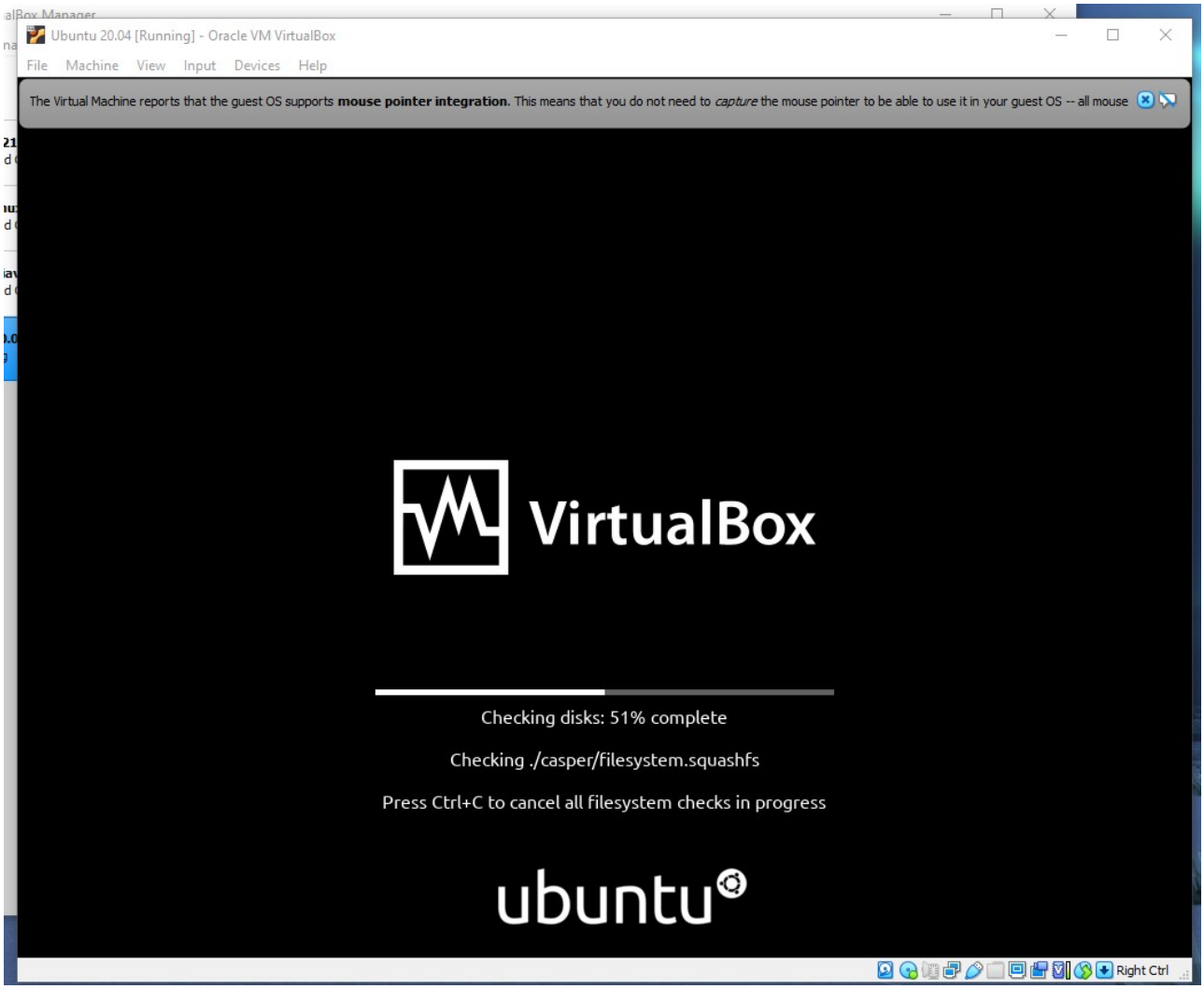

Please choose a virtual optical disk file
This PC
Downloads
Organize
New folder
Dropbox
Screenshots
OneDrive - Persor
This PC
3D Objects
Desktop
Documents
Downloads
Music
Pictures
Videos
Windows (C:)
SSD (D:)
Today (1)
ubuntu-20.04.3-desktop-amd64(1).iso
Yesterday (1)
openmediavault_5.6.13-amd64(1).iso
Earlier this week (2)
File name:

- From here we will start the machine and begin installing and setting up Ubuntu.

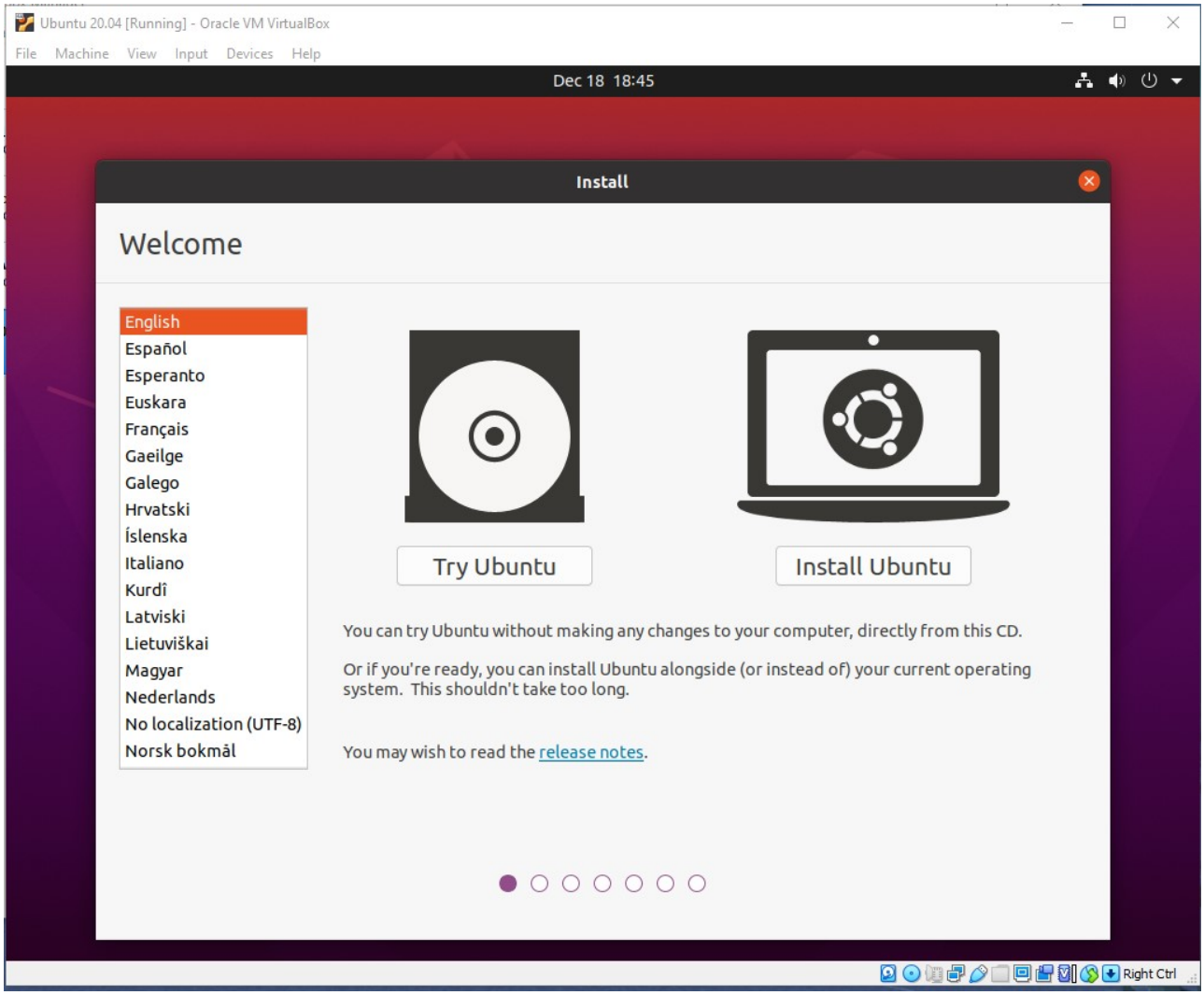


Setup

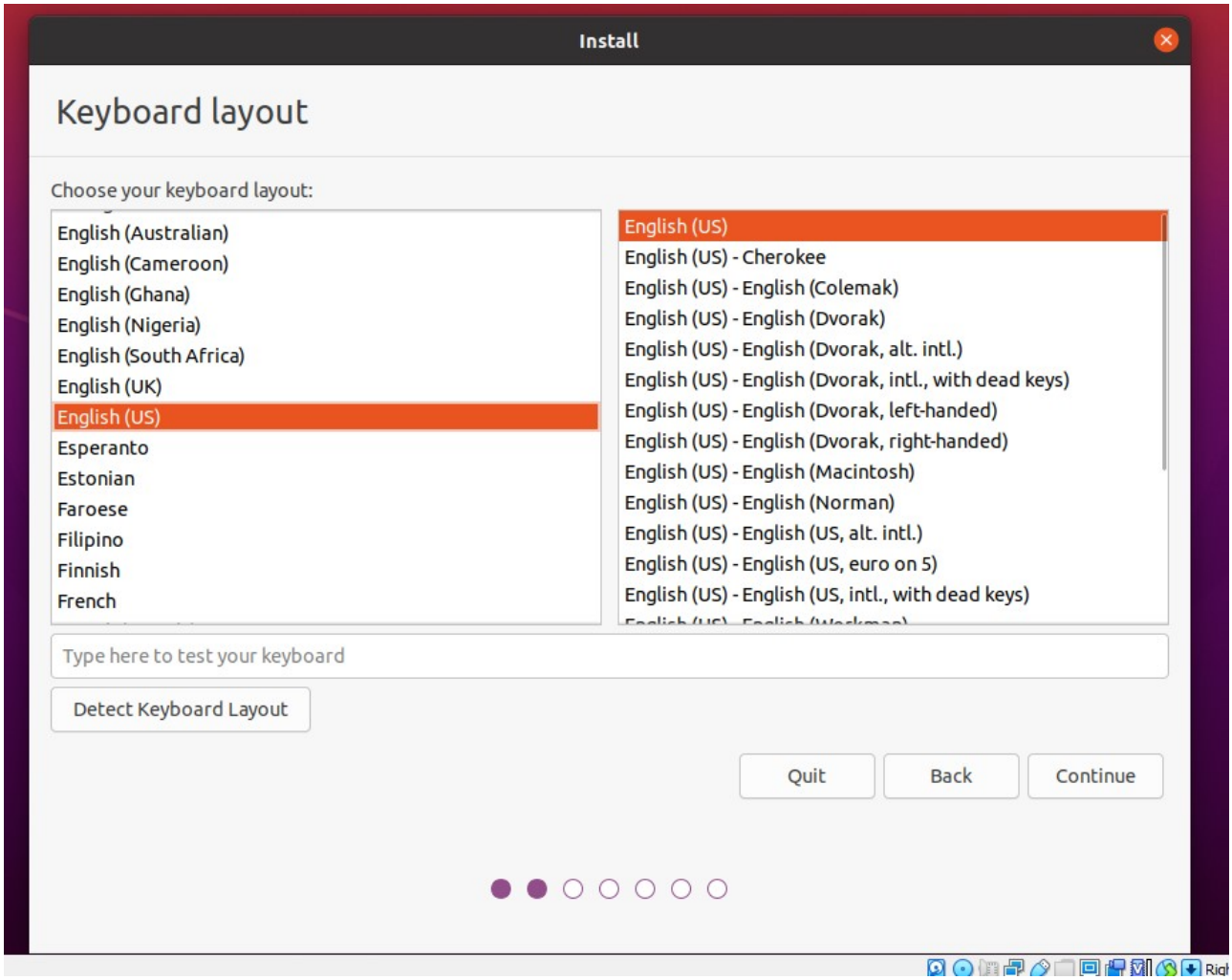
- After starting the virtual machine you will begin the installation setup for the OS.



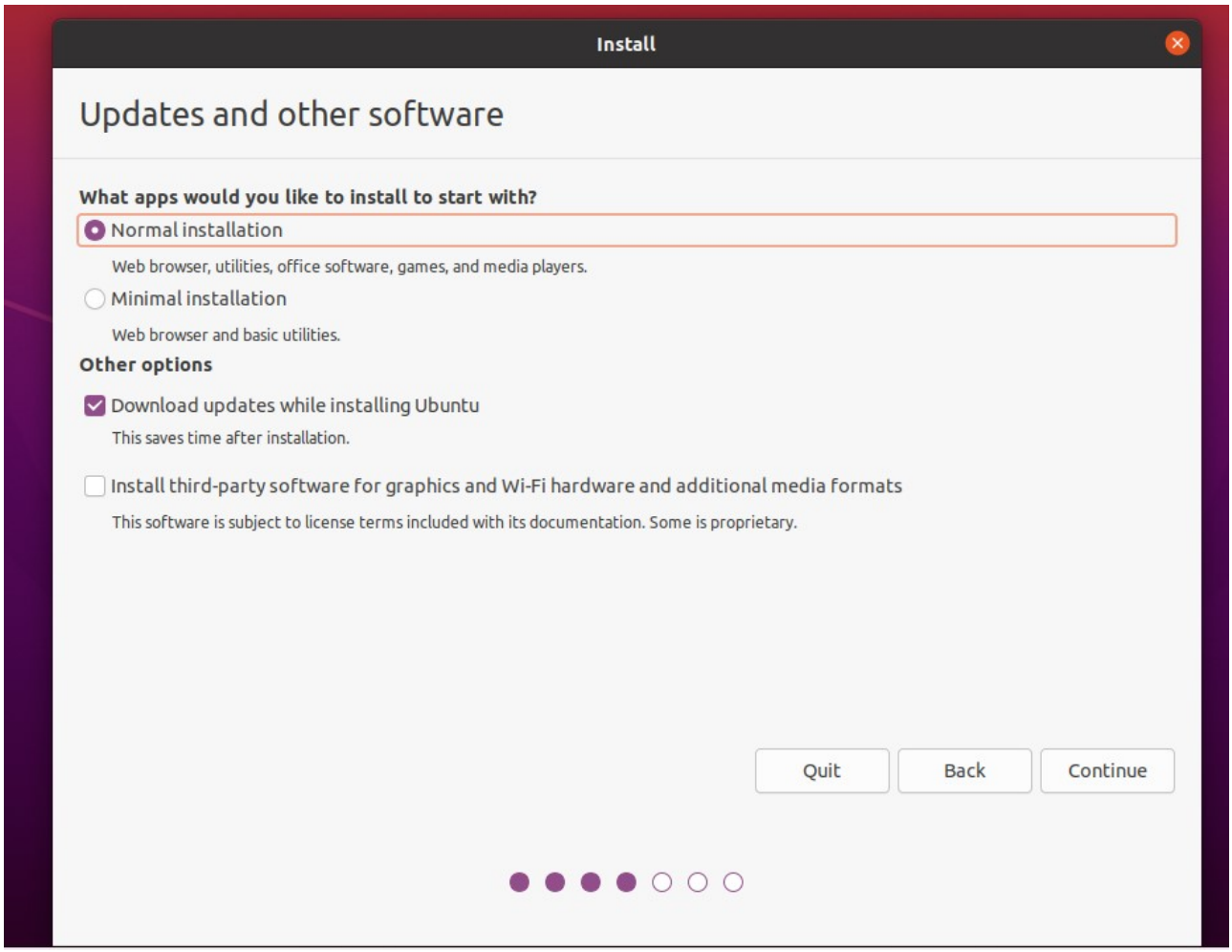
- You will select the "Install Ubuntu" button to continue.



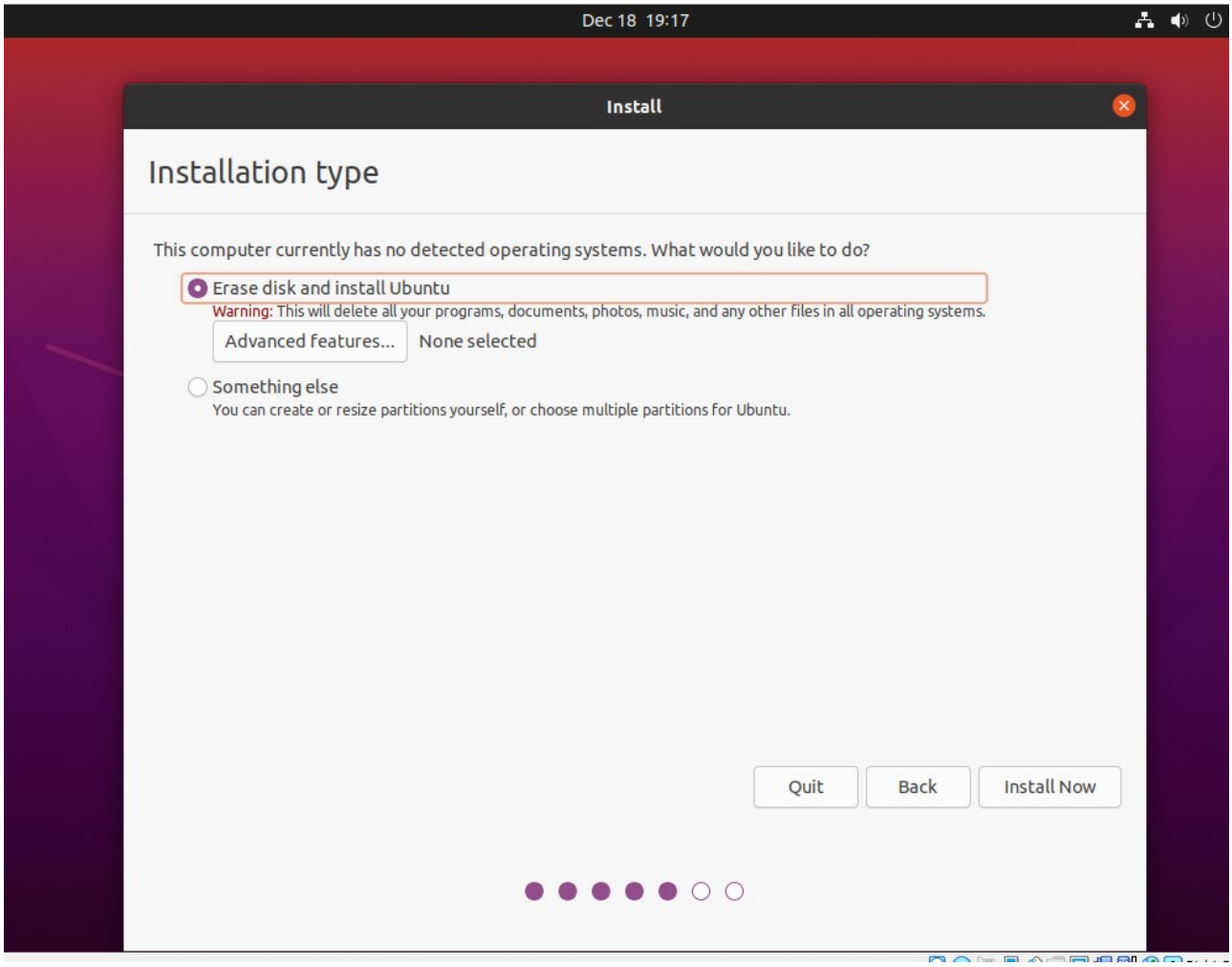
- You will be given the option to select the keyboard layout as well as the language.



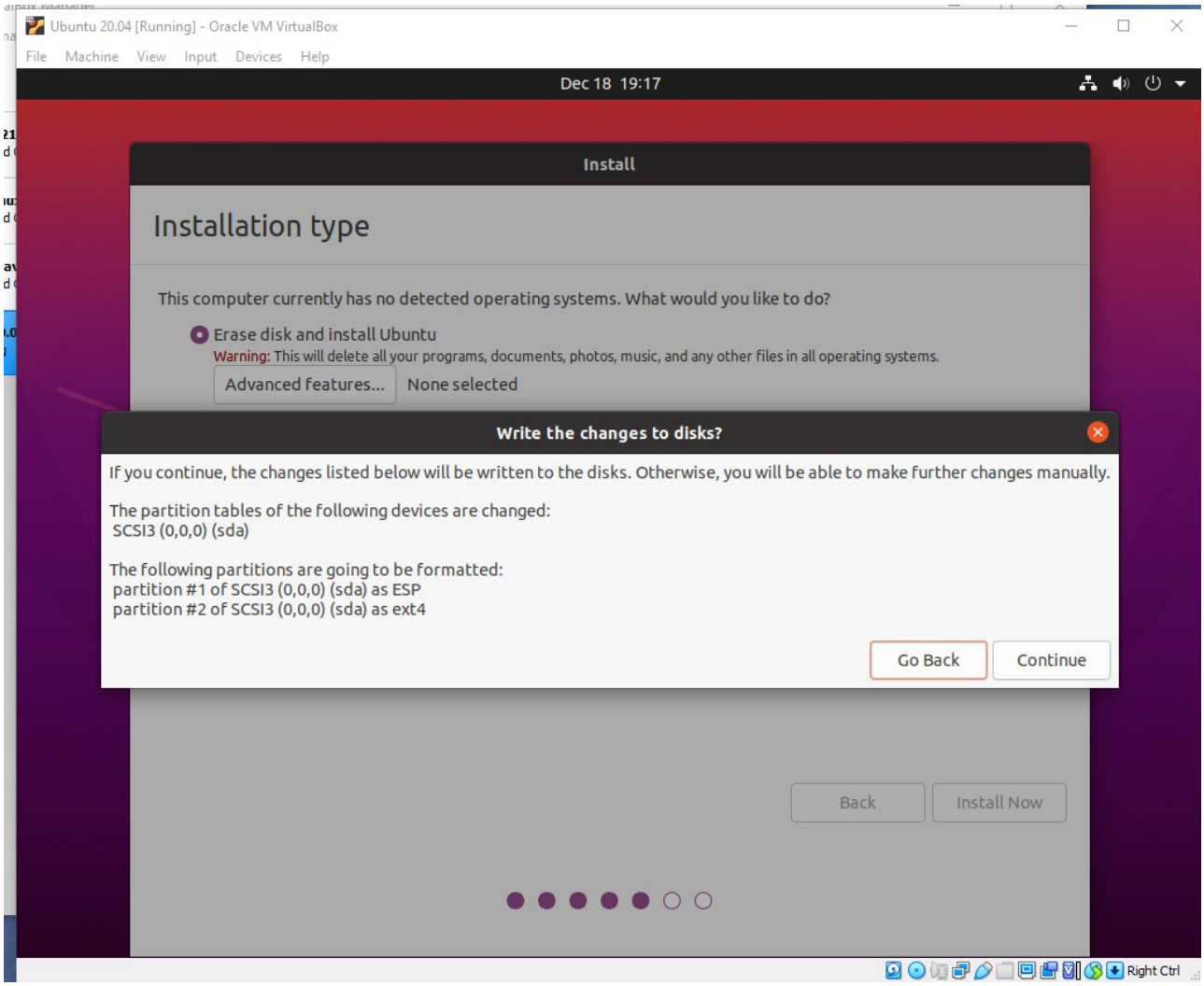
- There are options for installing a full package with utilities for regular use or minimal installation, this is for the most basic installation for people that want to customize the OS by themselves.


Install
Updates and other software
What apps would you like to install to start with?
Normal installation
Web browser, utilities, office software, games, and media players.
Minimal installation
Web browser and basic utilities.
Other options
Download updates while installing Ubuntu
This saves time after installation.
Install third-party software for graphics and Wi-Fi hardware and additional media formats
This software is subject to license terms included with its documentation. Some is proprietary.
Quit
Back
Continue

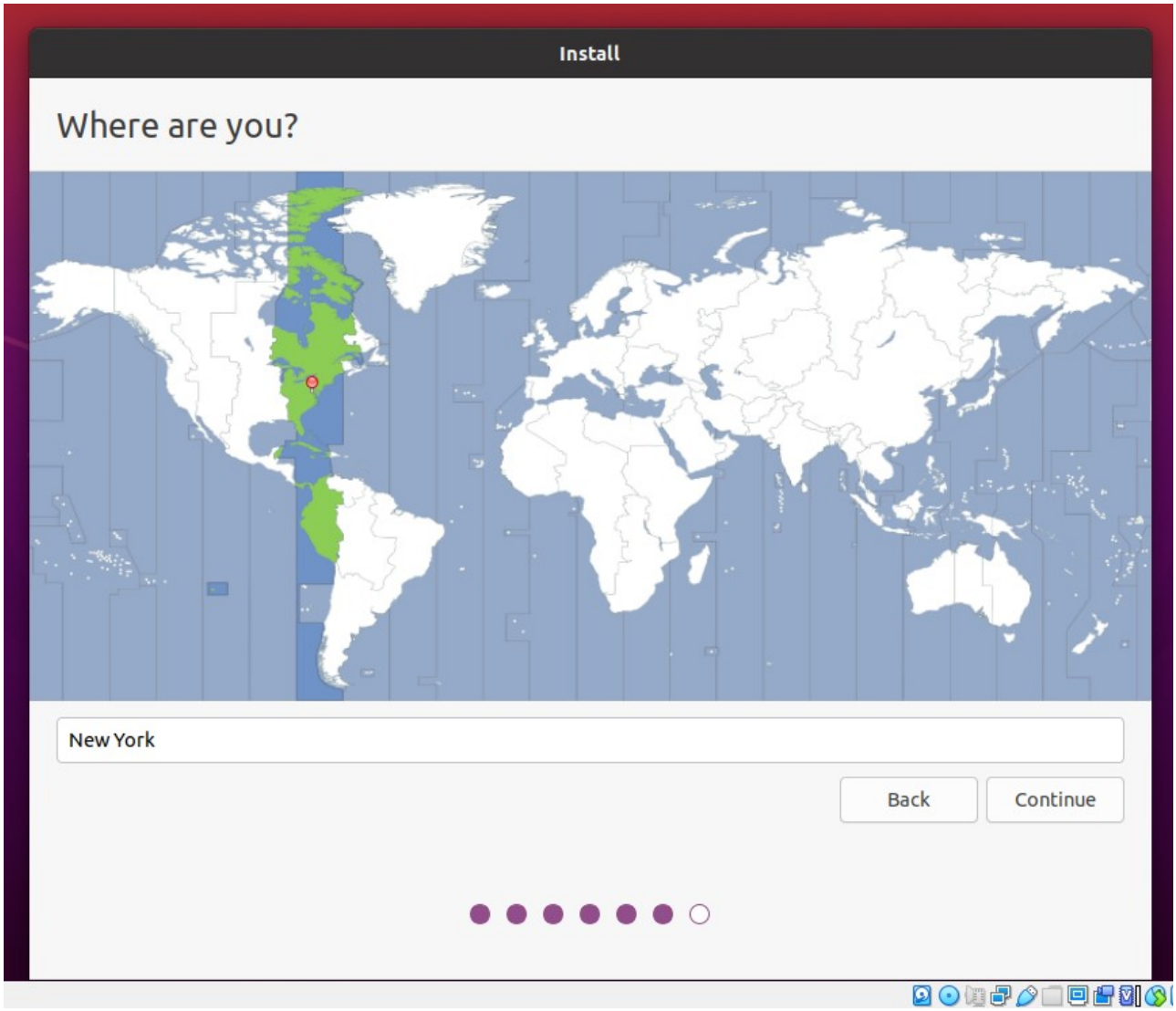
- It will also install updates if you want.

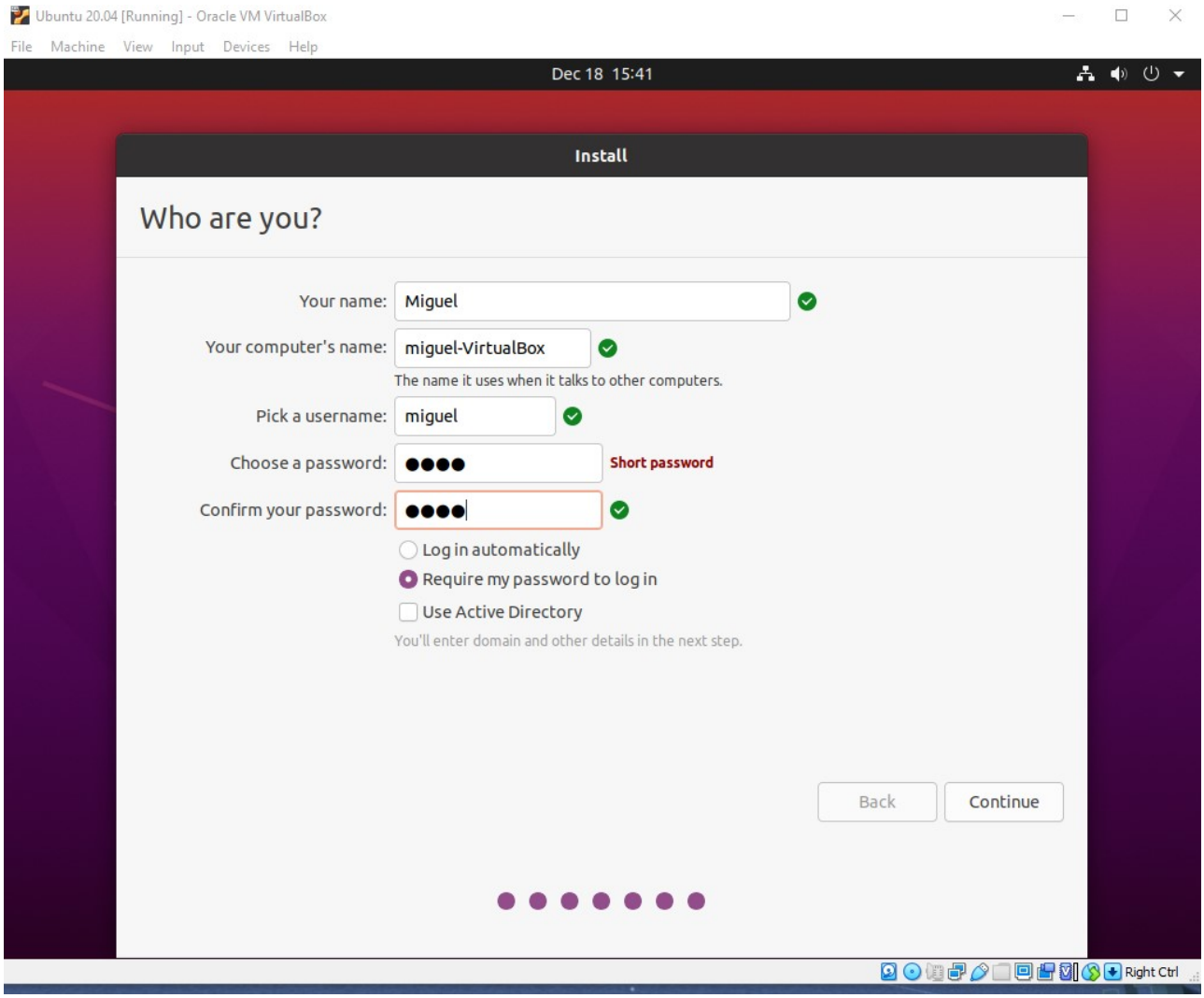


- After that its a bit more of setting up the hard drive and formatting it for the OS to work (since this is a virtual machine it will not have consequences)

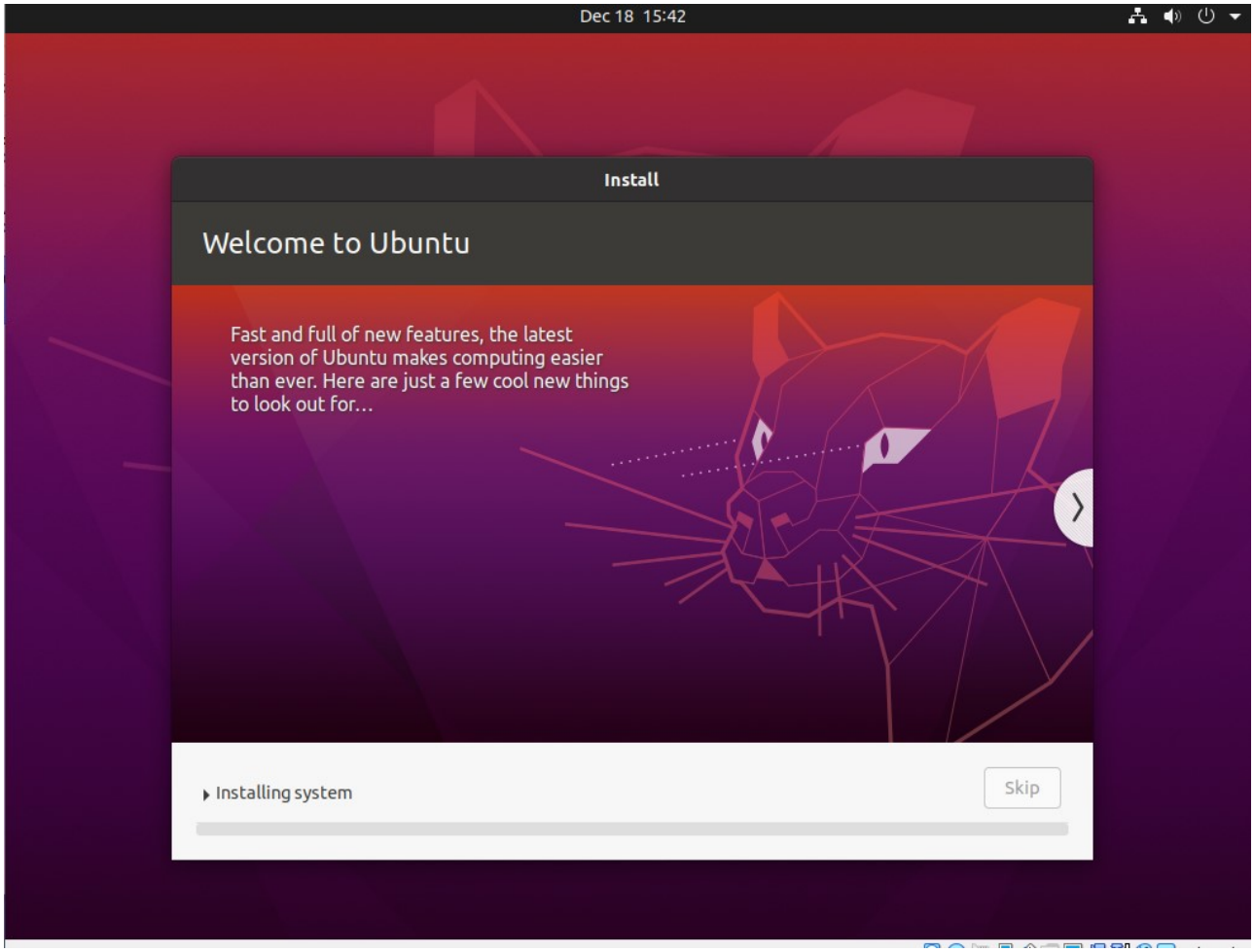

Ubuntu 20.04 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Dec 18 19:17
Install
Installation type
This computer currently has no detected operating systems. What would you like to do?
Erase disk and install Ubuntu
Warning: This will delete all your programs, documents, photos, music, and any other files in all operating systems.
Advanced features...
None selected
Write the changes to disks?
If you continue, the changes listed below will be written to the disks. Otherwise, you will be able to make further changes manually.
The partition tables of the following devices are changed:
SCSI3 (0,0,0) (sda)
The following partitions are going to be formatted:
partition #1 of SCSI3 (0,0,0) (sda) as ESP
partition #2 of SCSI3 (0,0,0) (sda) as ext4
Go Back
Continue
Back
Install Now
Right Ctrl

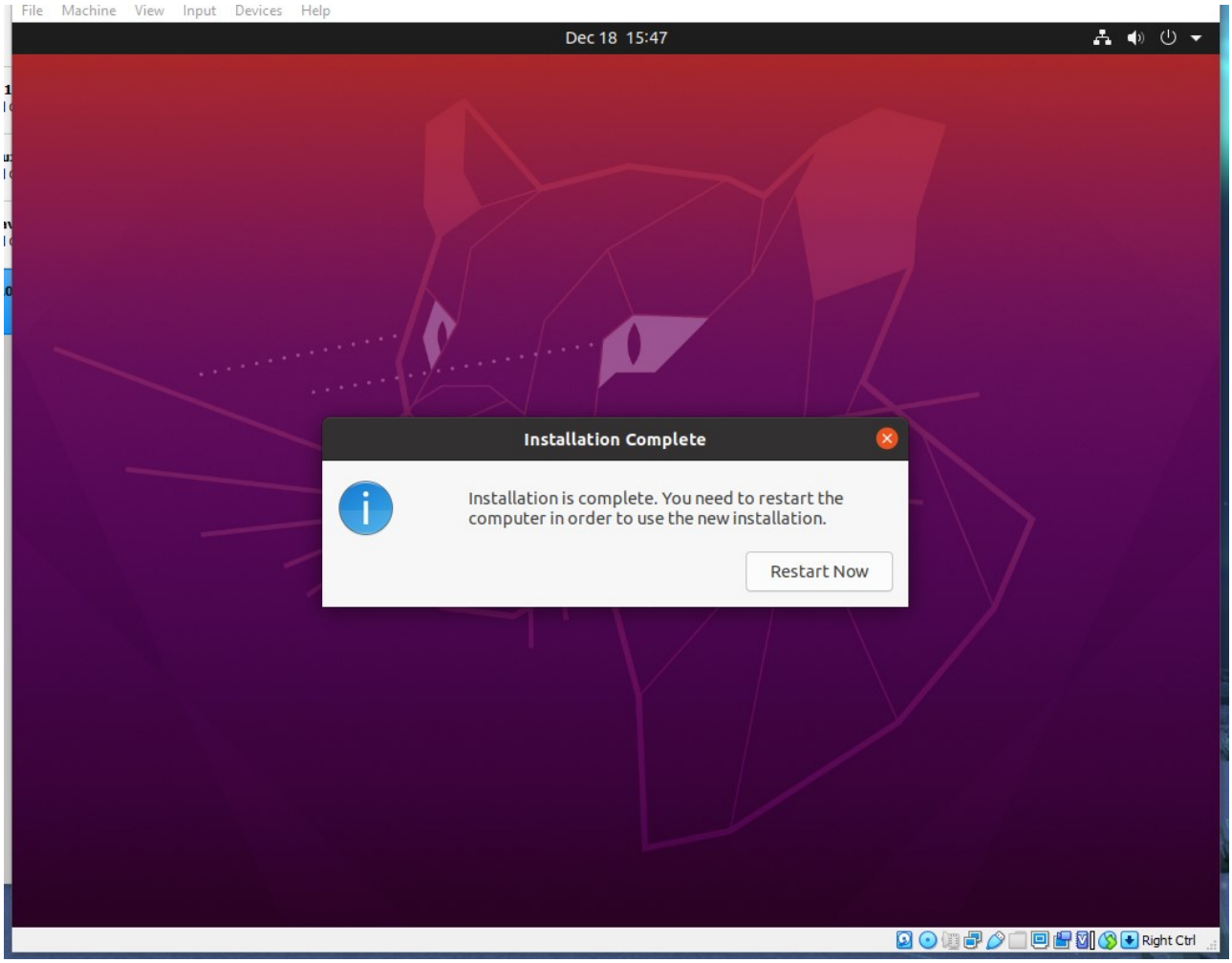
- Select the time zone, and finally create a user for the OS.

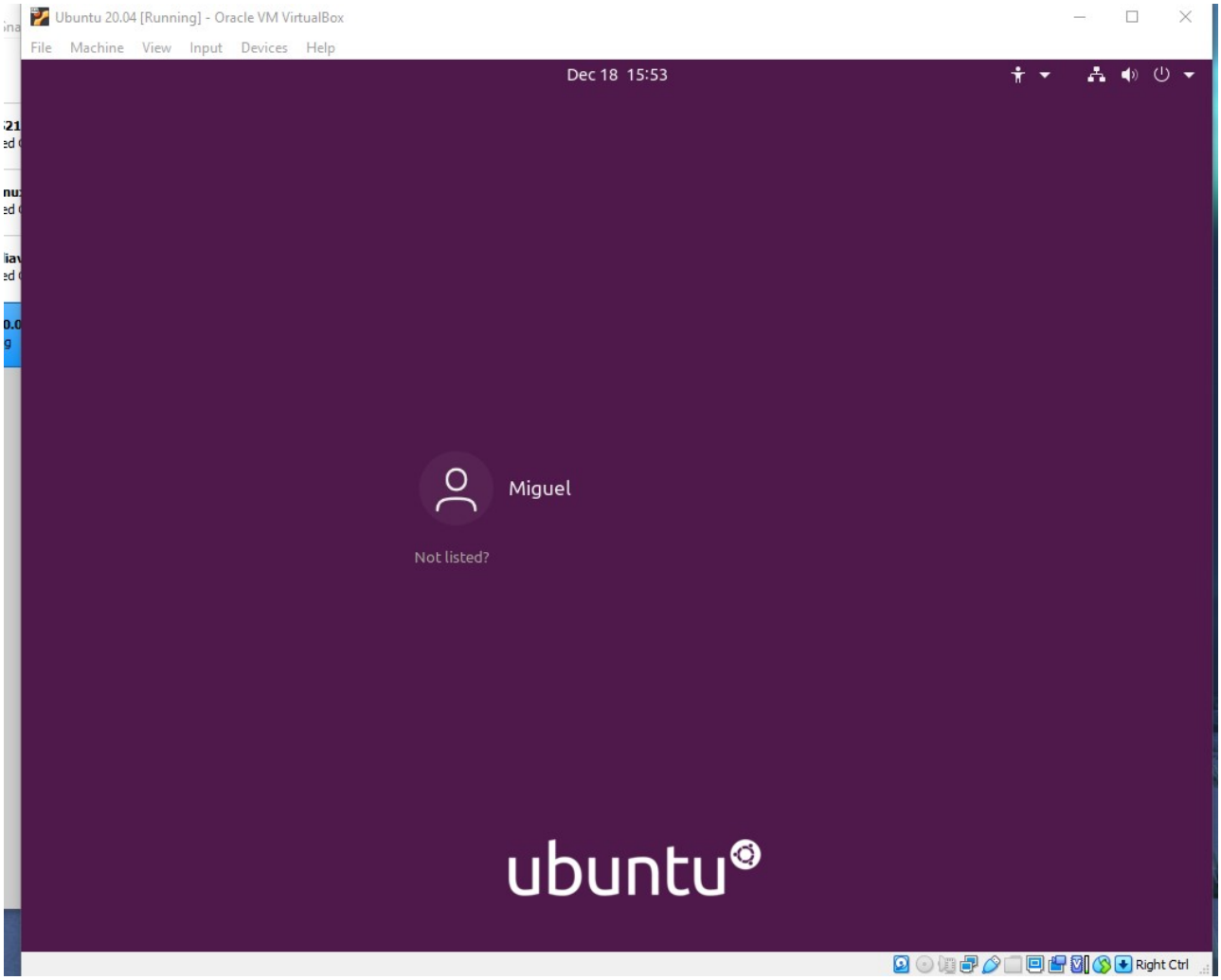



Ubuntu 20.04 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Dec 18 15:41
Install
Who are you?
Your name: Miguel
Your computer's name: miguel-VirtualBox
The name it uses when it talks to other computers.
Pick a username: miguel
Choose a password: ●●●●
Short password
Confirm your password: ●●●●
Log in automatically
Require my password to log in
Use Active Directory
You'll enter domain and other details in the next step.
Back
Continue
Right Ctrl

- The next step is waiting until Ubuntu finishes installing and then reboot the system (virtual machine)

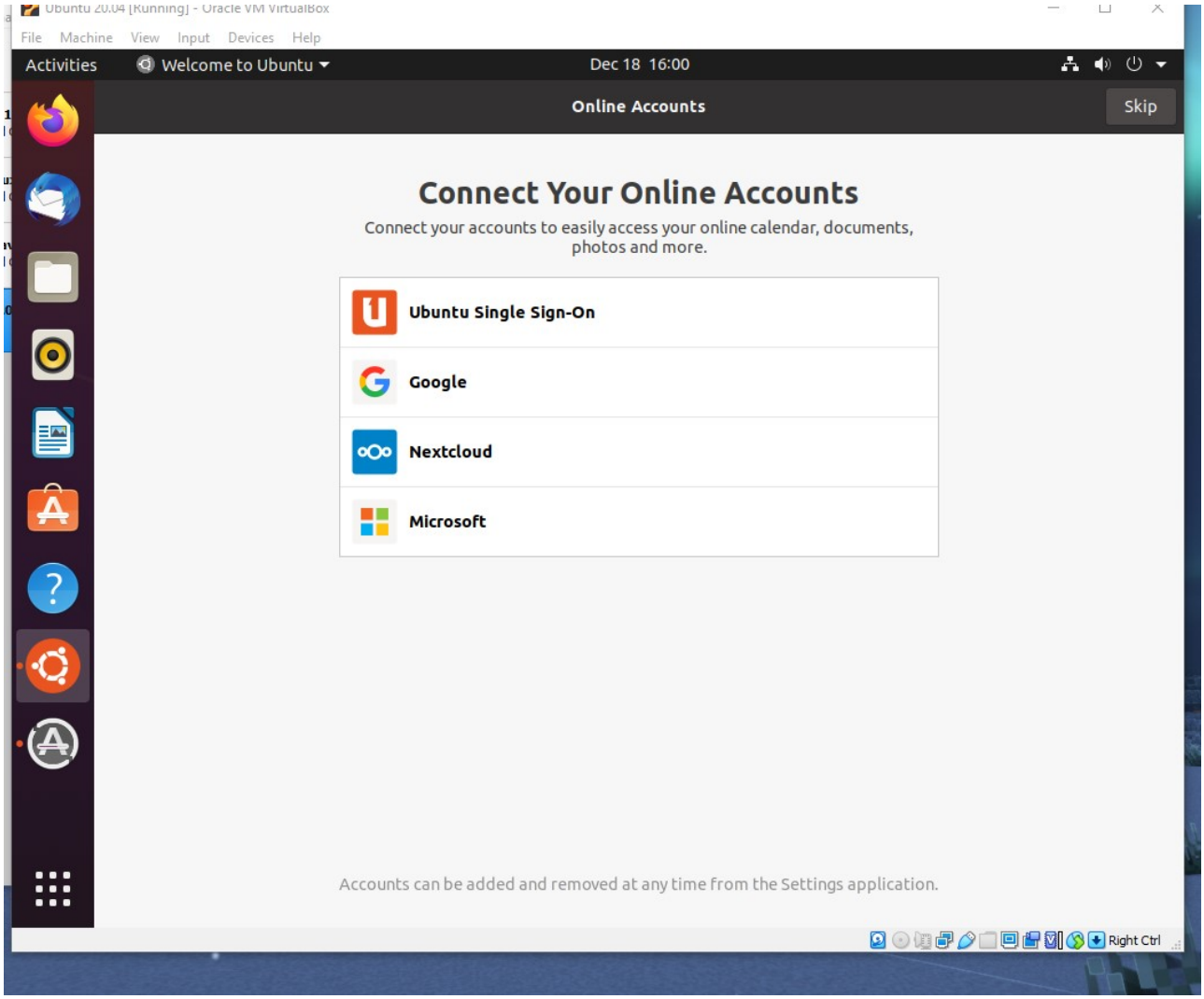


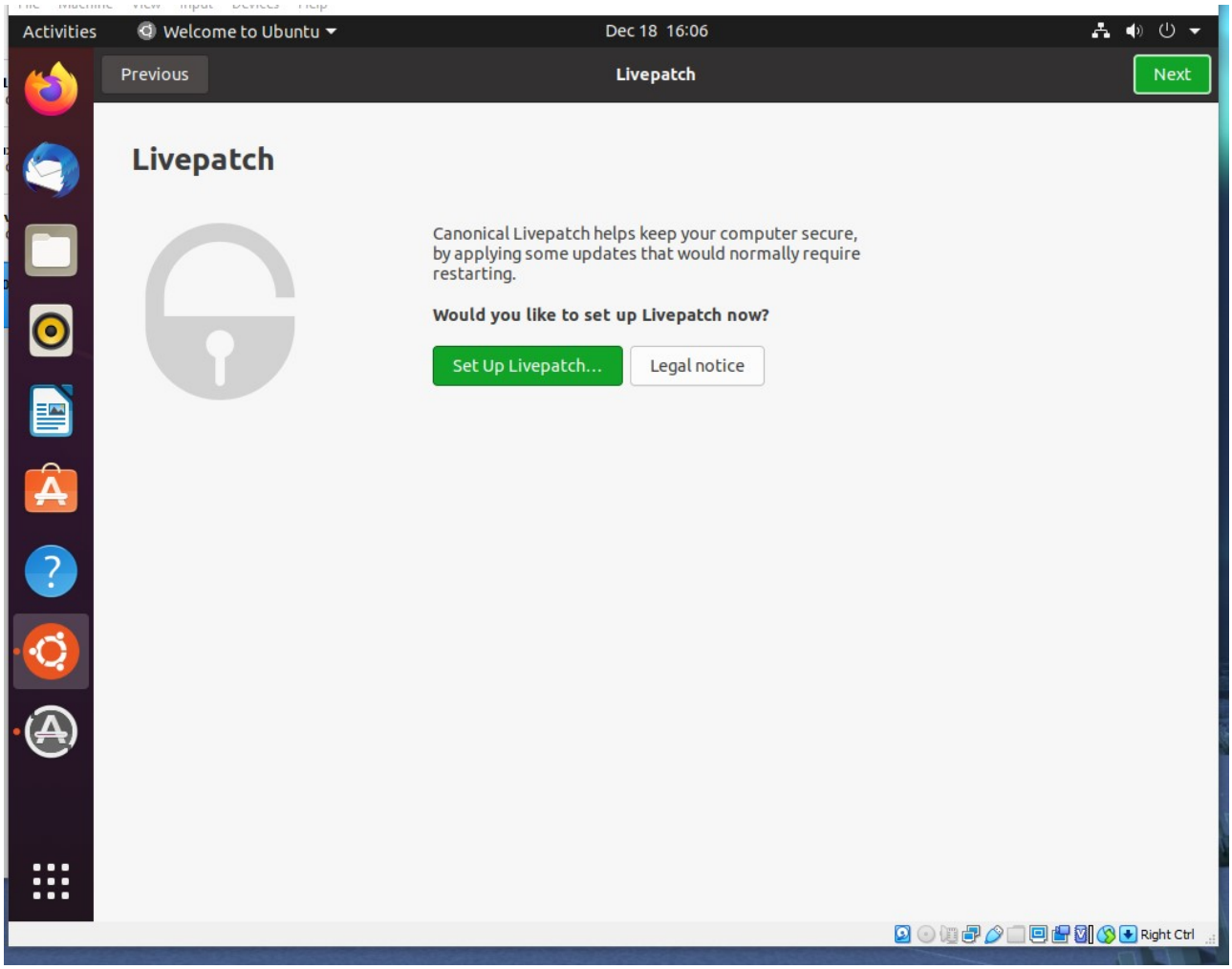

File Machine View Input Devices Help
Dec 18 15:47
Installation Complete
Installation is complete. You need to restart the computer in order to use the new installation.
Restart Now
Right Ctrl


Ubuntu 20.04 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Dec 18 15:53
Miguel
Not listed?
ubuntu
Right Ctrl

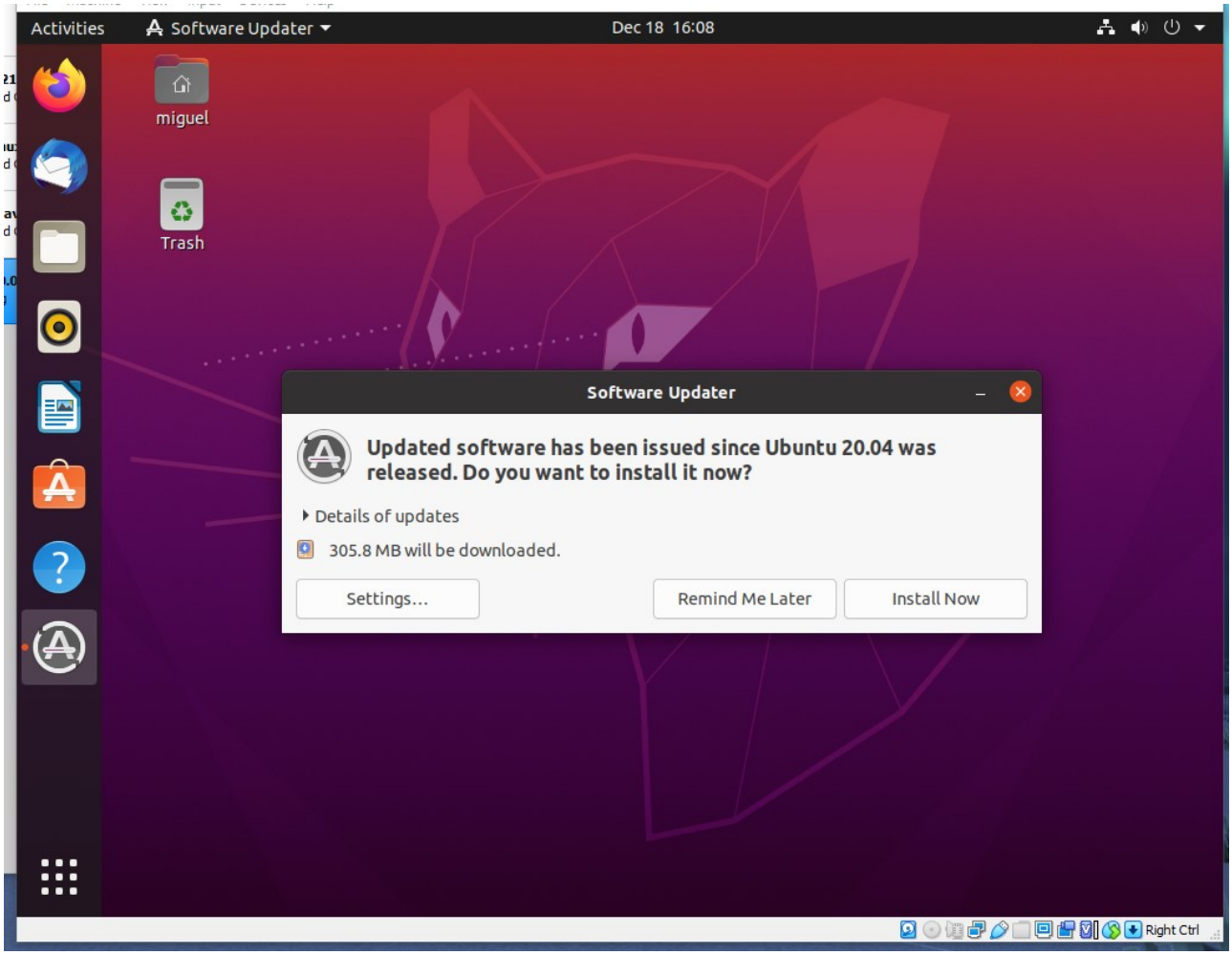
Install software using the command line as well as the software center

- After logging into the user account you will be greeted by a another small setup page, but this one is for more minor things and also gives tips for new users.

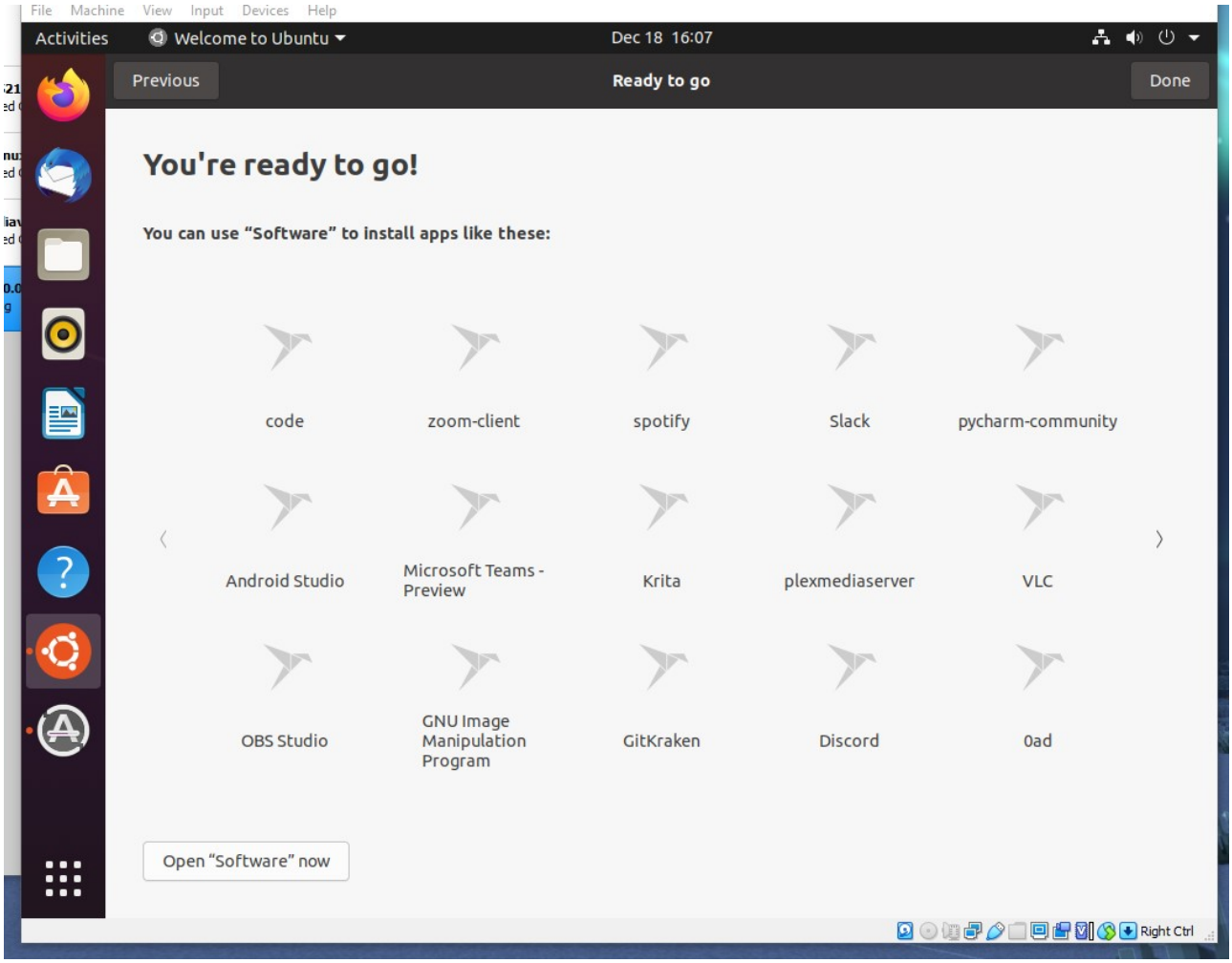

Ubuntu 20.04 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Activities
Welcome to Ubuntu
Dec 18 16:00
Online Accounts
Skip
Connect Your Online Accounts
Connect your accounts to easily access your online calendar, documents, photos and more.
Ubuntu Single Sign-On
Google
Nextcloud
Microsoft
Accounts can be added and removed at any time from the Settings application.
Right Ctrl


Activities
Welcome to Ubuntu
Dec 18 16:06
Previous
Livepatch
Next
Livepatch
Canonical Livepatch helps keep your computer secure, by applying some updates that would normally require restarting.
Would you like to set up Livepatch now?
Set Up Livepatch...
Legal notice
Right Ctrl

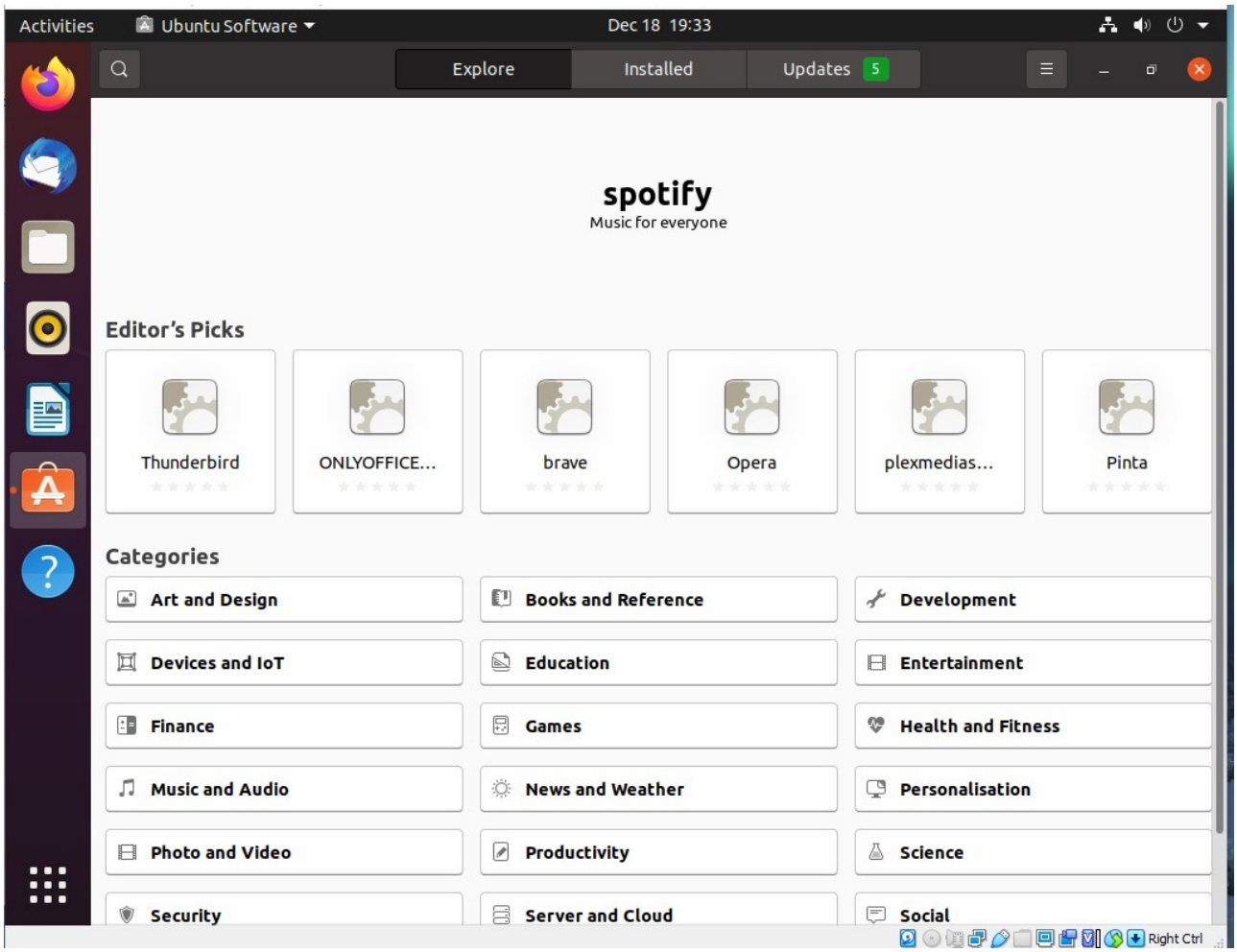
- It will also give you the ability to update your OS if you prefer.

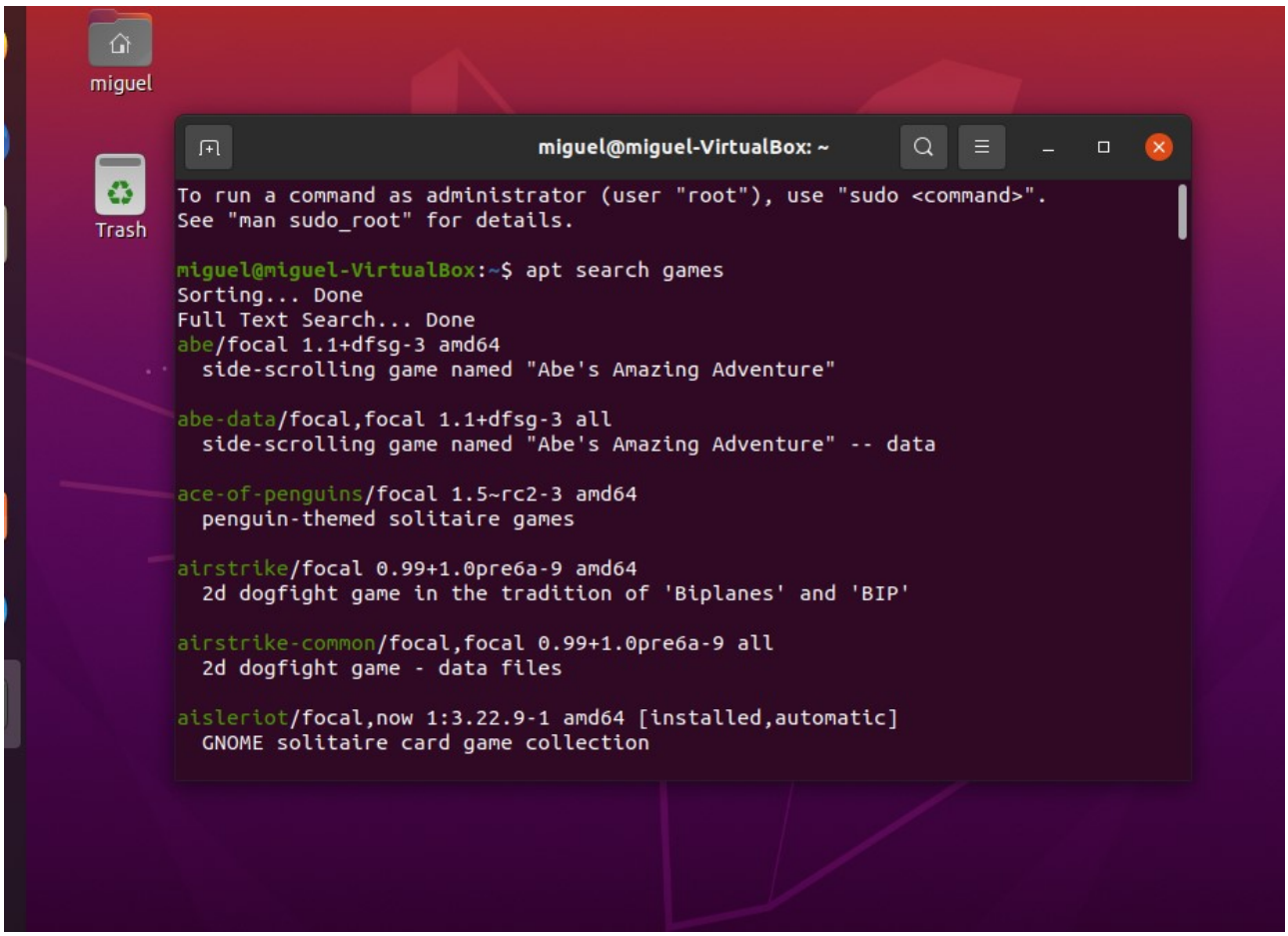


- One of the main helpful screens is the page showing the user that they are able to install different software using the "Software" option, this is the way to install things using the GUI.



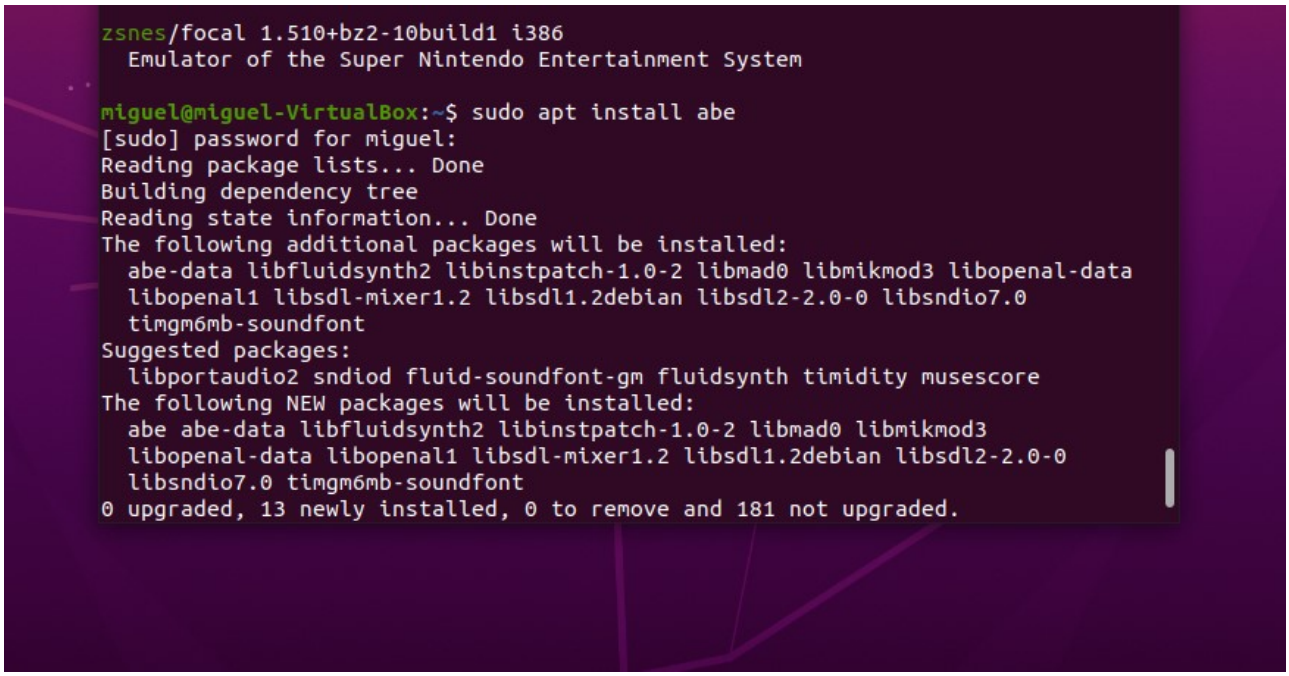
- There is a different way to install things in your system. The main way to install software in all other flavors of Linux is by using the command line.





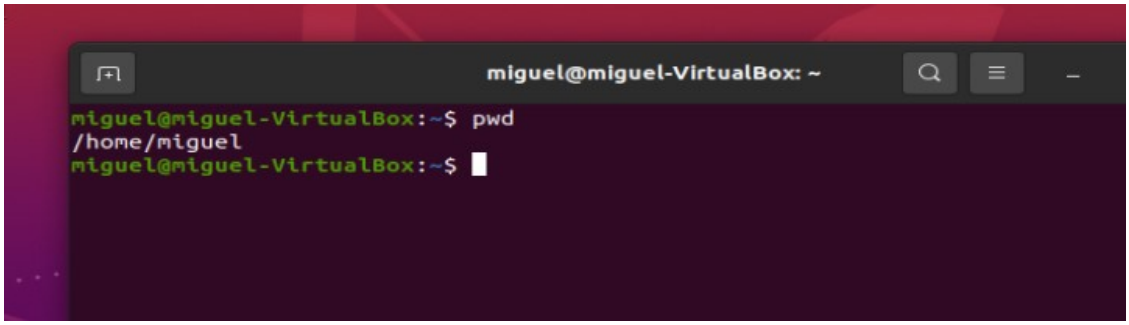
- All applications follow similar steps when installing through the GUI or command line.

- The `apt search <name of application>` will search for as many applications with a similar name that it can find and will show them to you.
- `sudo apt install <name of application>` will install the application that you have chosen.

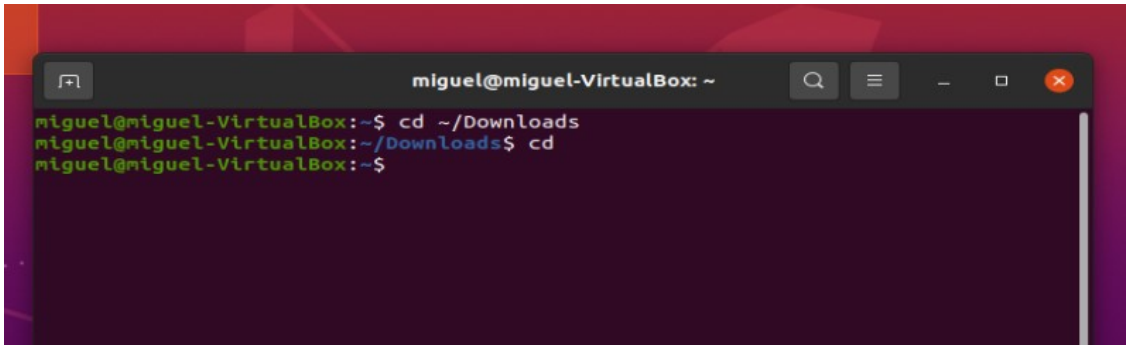


Basic commands

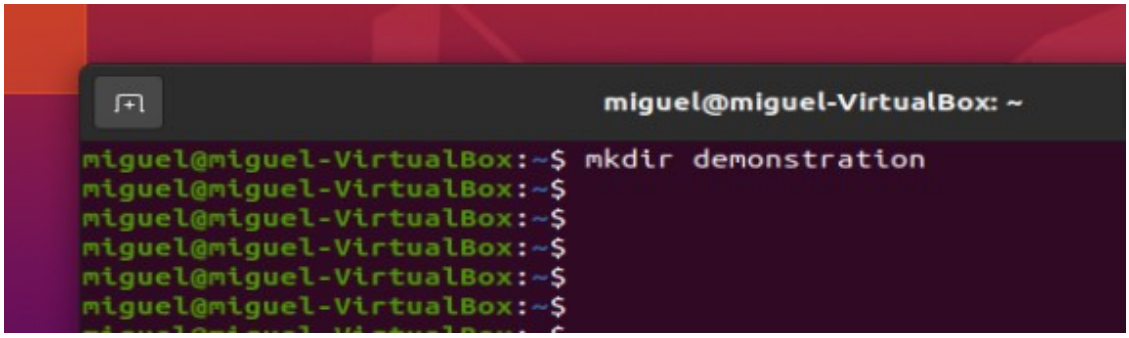
- Ubuntu is a beginners flavor of Linux, which means that it has multiple GUI features but can also be fully controlled through the command line as well.
- There are different basic commands that can make the experience of using Linux more interesting.
    - The basic commands needed to operate are:
        - `pdw` : This command shows the current working directory.



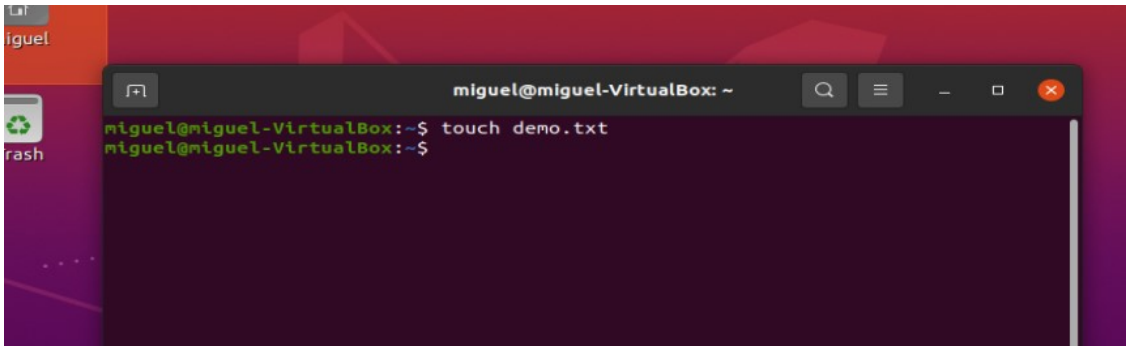
        - `cd` : Allows you to move back and forth between directories.



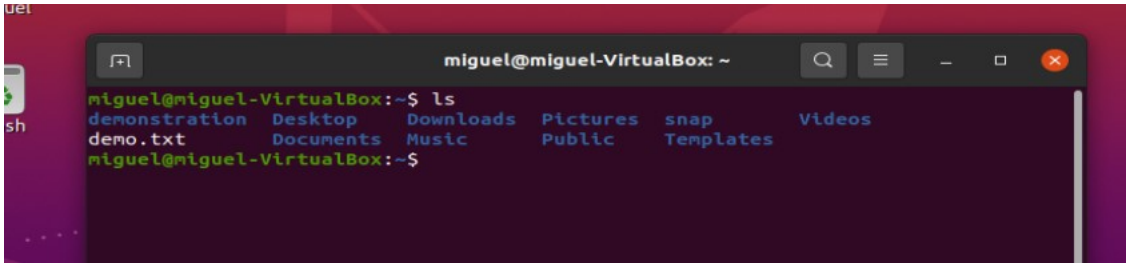
- `mkdir` :This command allows the user to make a directory.



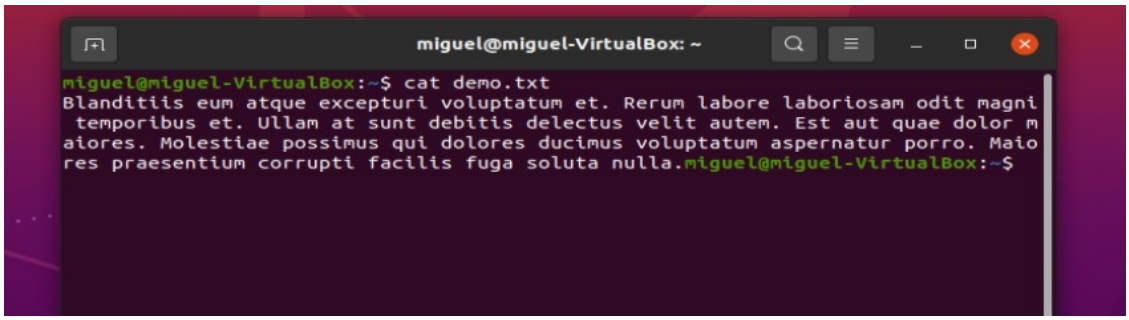
- `touch` :This command will allow you to create files.



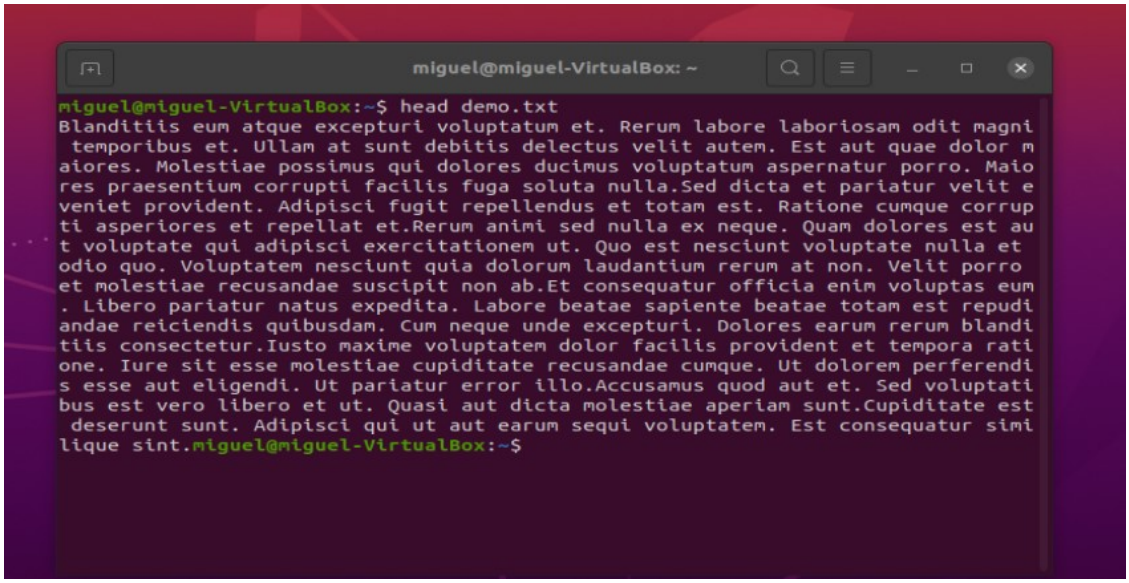
- `ls` : Allows the user to view the the inside of the current directory.



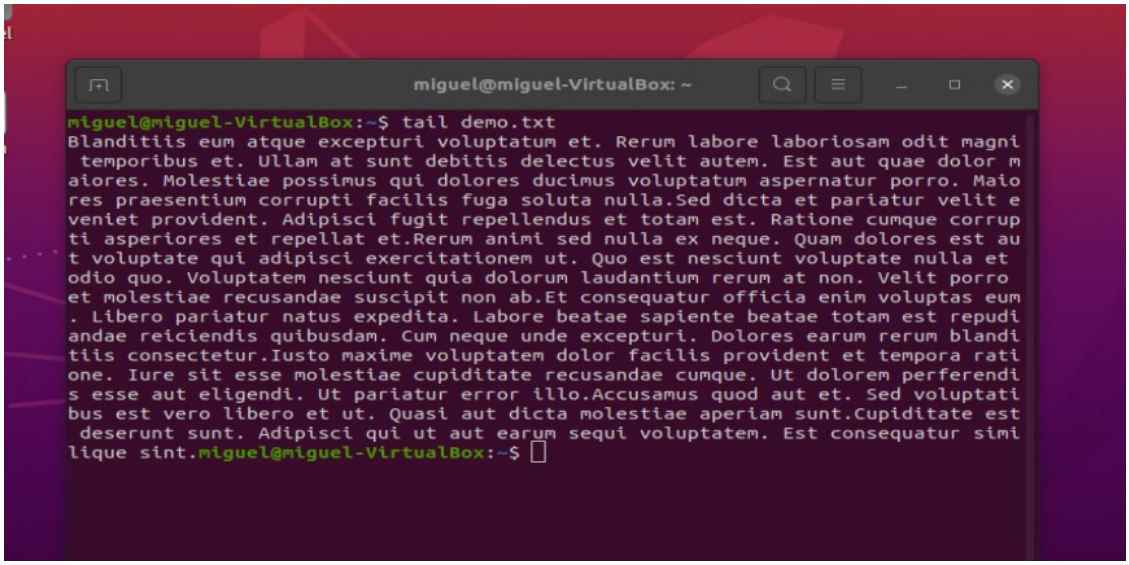
- `cat` : Will allow you to see the the inside of a file and all of its contents.



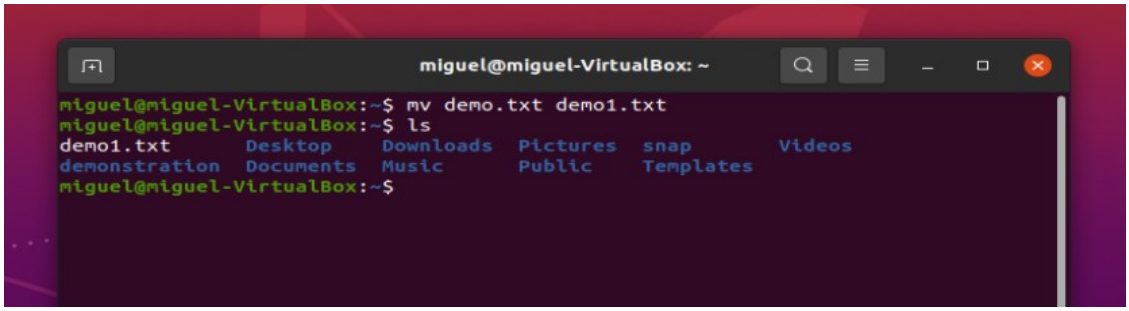
- `head` : Will allow the user to see the first 10 lines of a file.



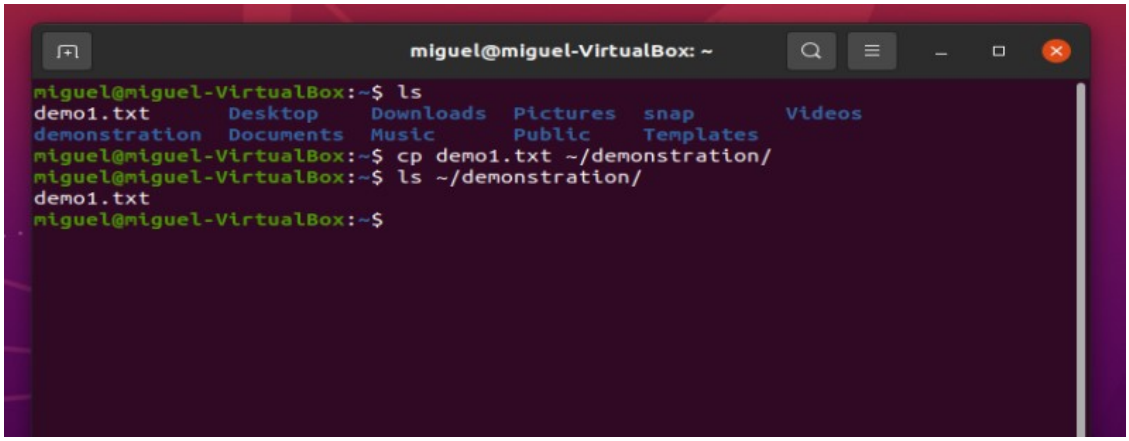
- `tail` : Will allow the user to see the last 10 lines of a file.



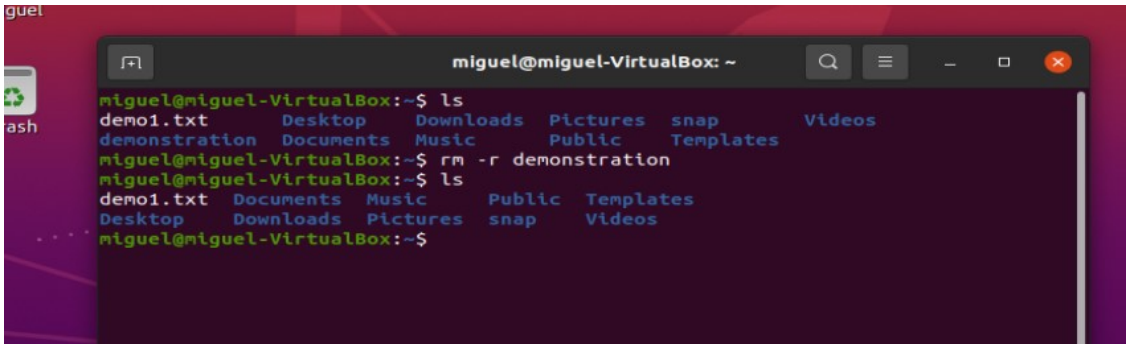
- `mv` : This command allows the user to move files as well as rename them.



- `cp` : This command will allow the user to copy a file and place it somewhere else.

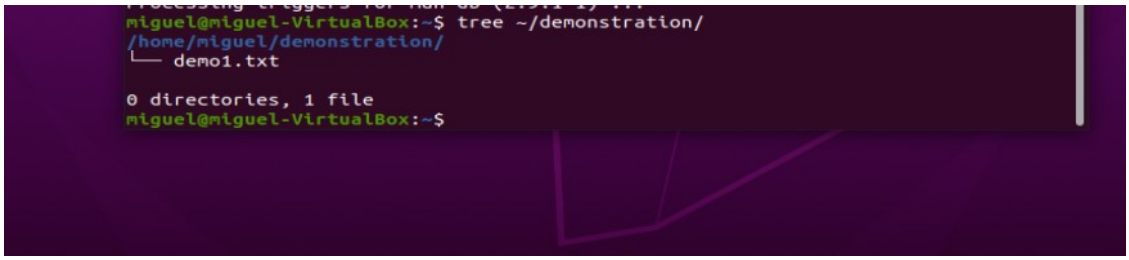


- `rm` : This command is for removing directories as well as files and by adding the -r option it will delete the directory as well as everything else inside of it.

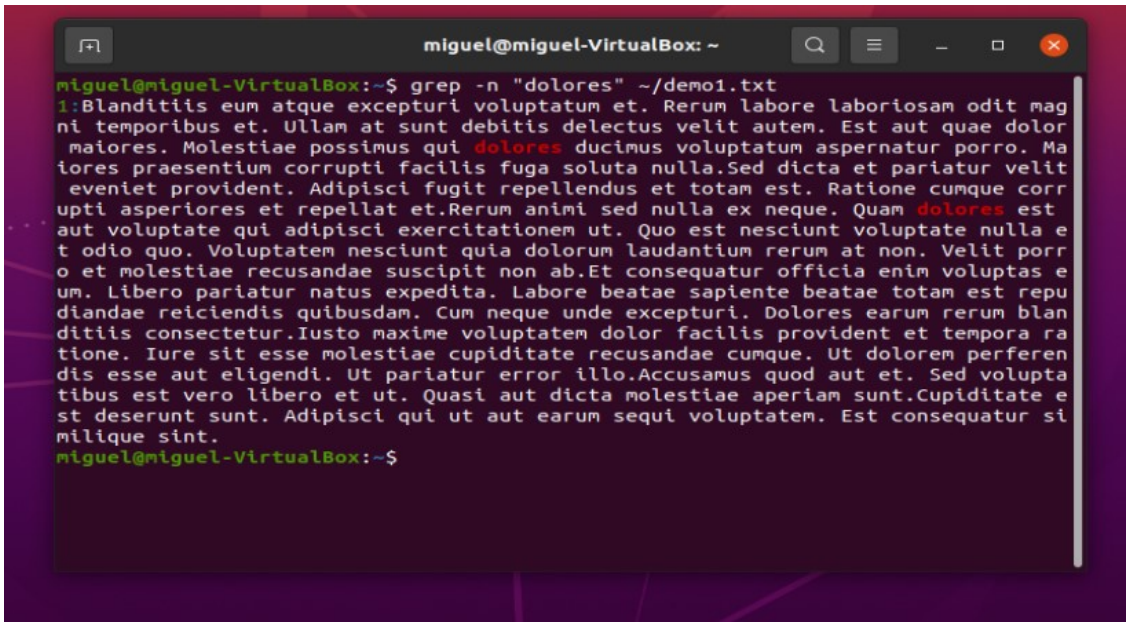


- `sudo` : This command will allow the user to enter the superuser permissions, they will have the same permissions as administrators.

- `tree` : This command will show the contents of a directory but in a more organized manner.



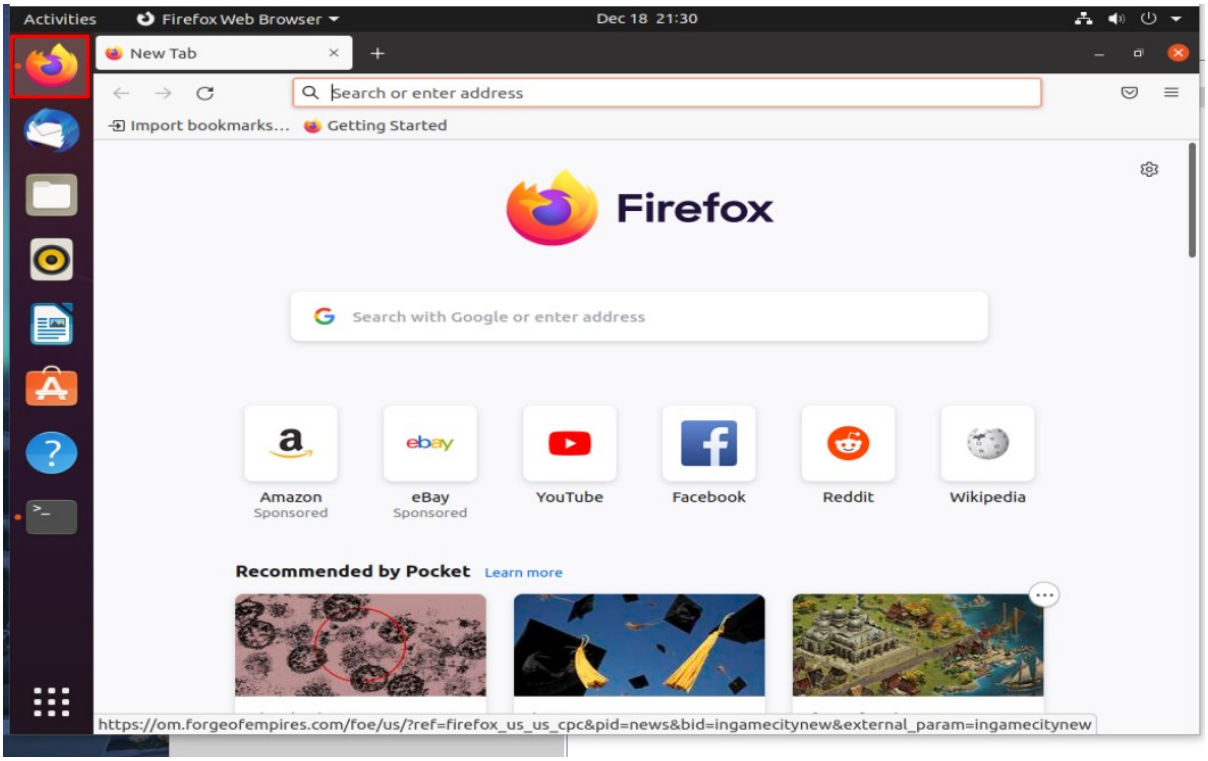
- `grep` : This command allows the user to search whatever given output and isolate it. It is very similar to how `ctrl+f` on windows.



- There are other types of commands but they are used for more advanced functionalities within linux.
- Adding options to commands will add or remove functionalities from the output of the commands.
- One function of using the command line is that when accessing files and directories, the absolute path or relative path must be used for the system to know where the files are located.

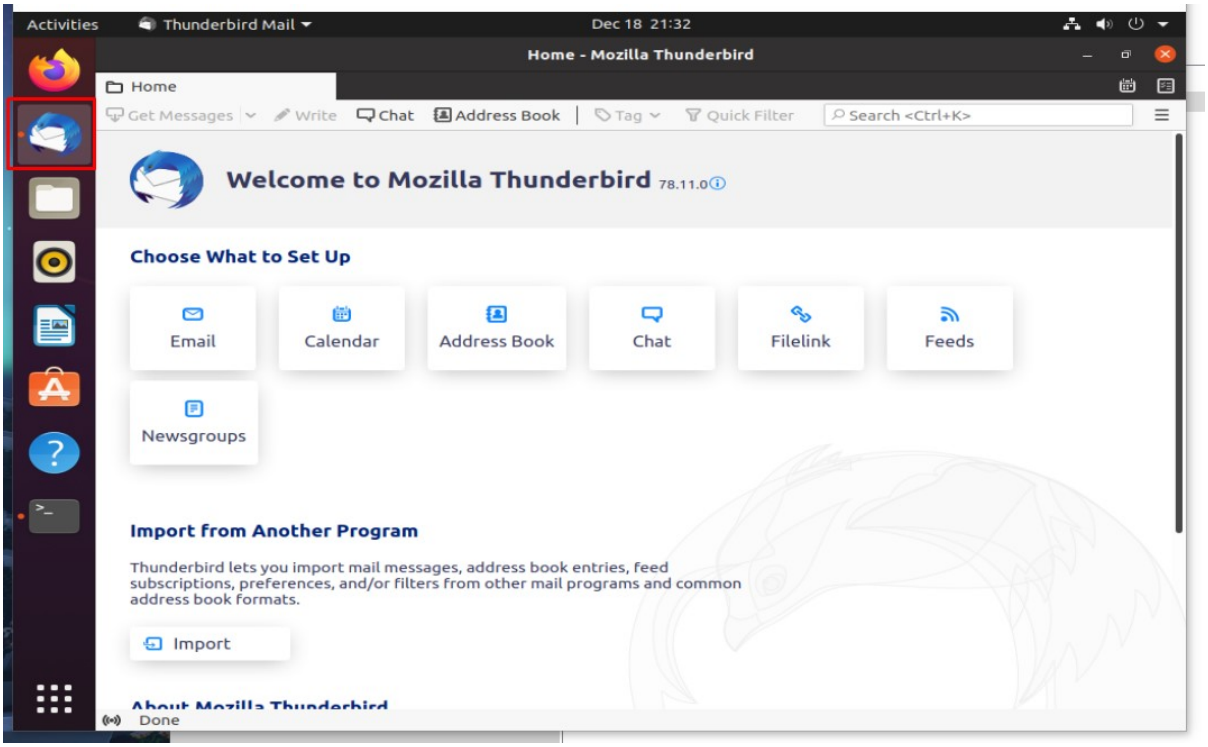
Every-day-use applications

- Internet Browsing.
    - The default browsing software that is added with Ubuntu is "Mozilla Firefox".
    - It is a regular web browser and there isn't anything different for it in linux.

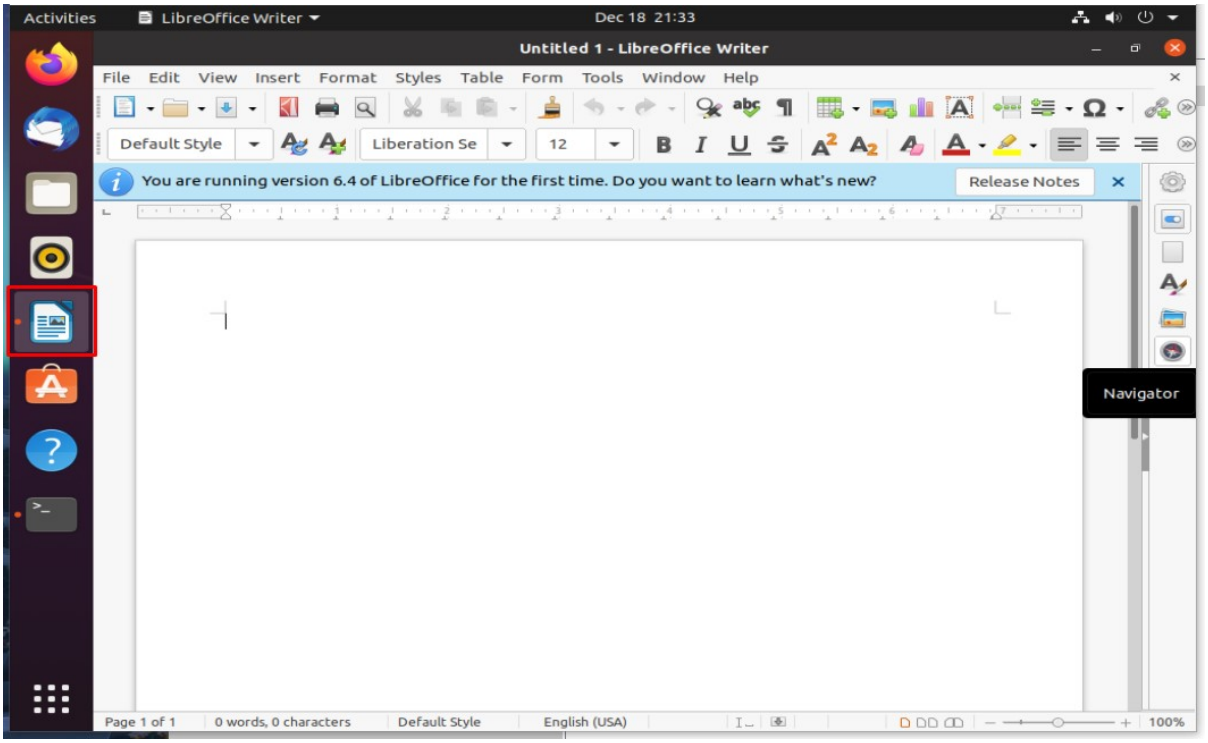


- Reading Email.

- Ubuntu comes with its own email software, this one is called "Thunderbird Mail"



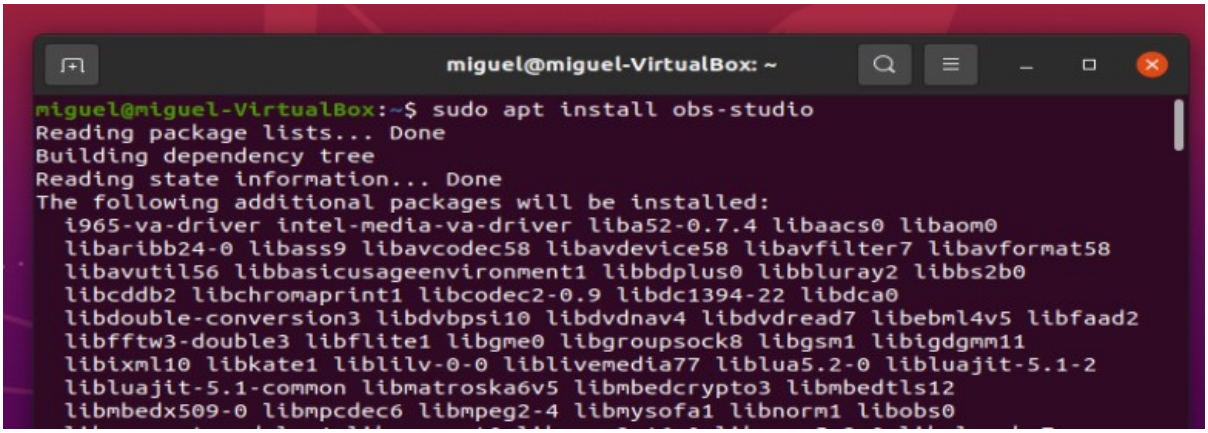
- Office Suite.
  - Libre Office is the Linux version of all the Microsoft Applications (Word, powerpoint, excel, etc.)

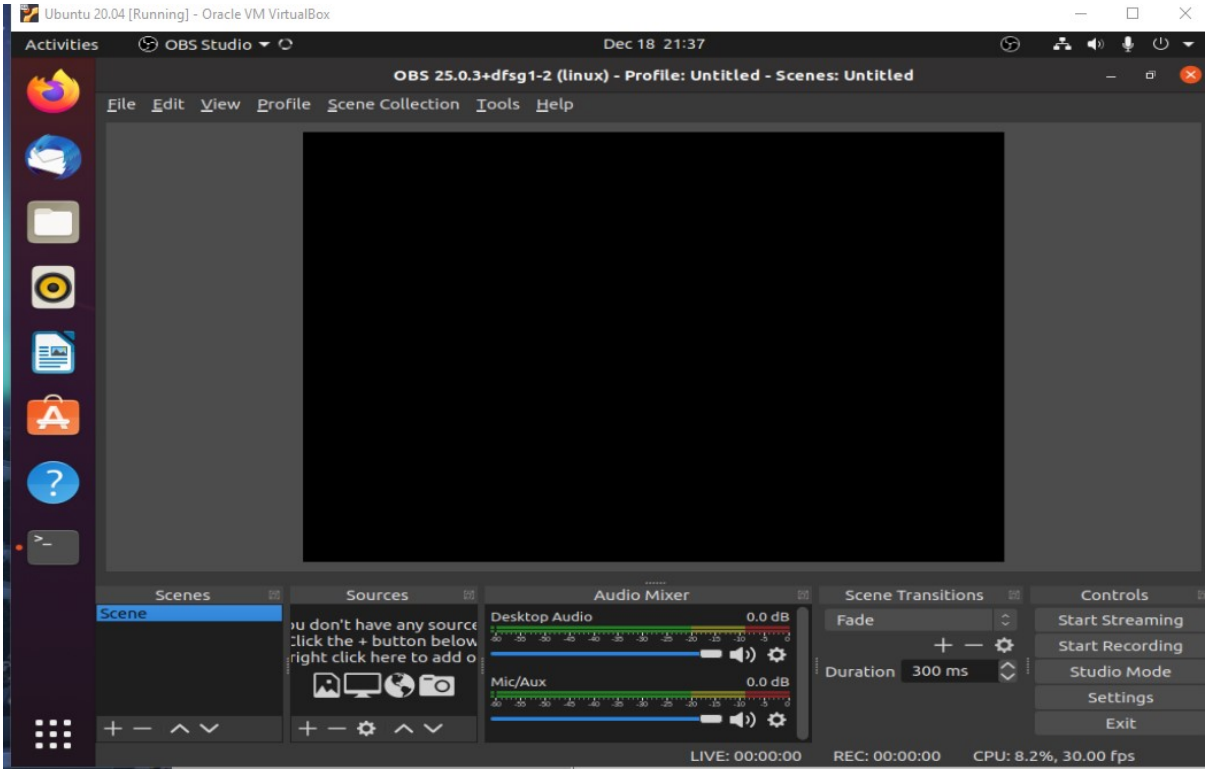


Entertainment

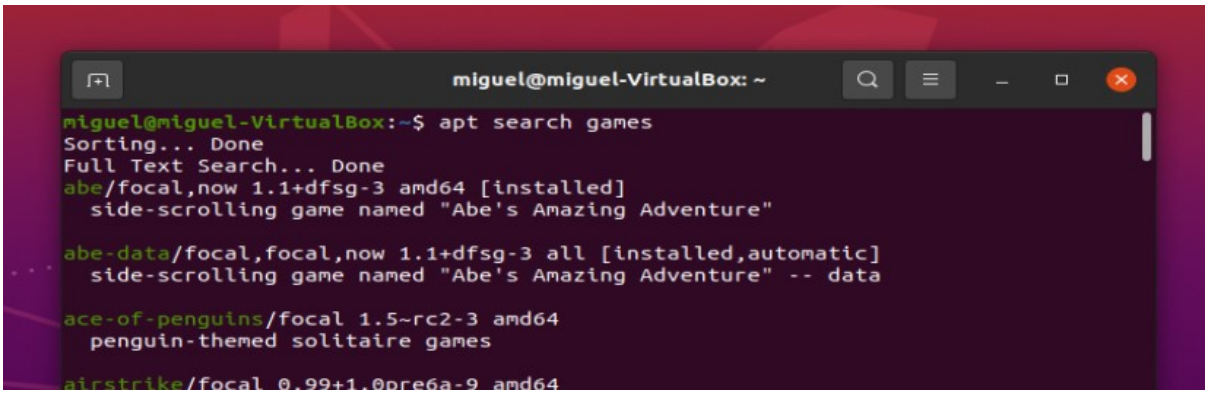
- Streaming media.

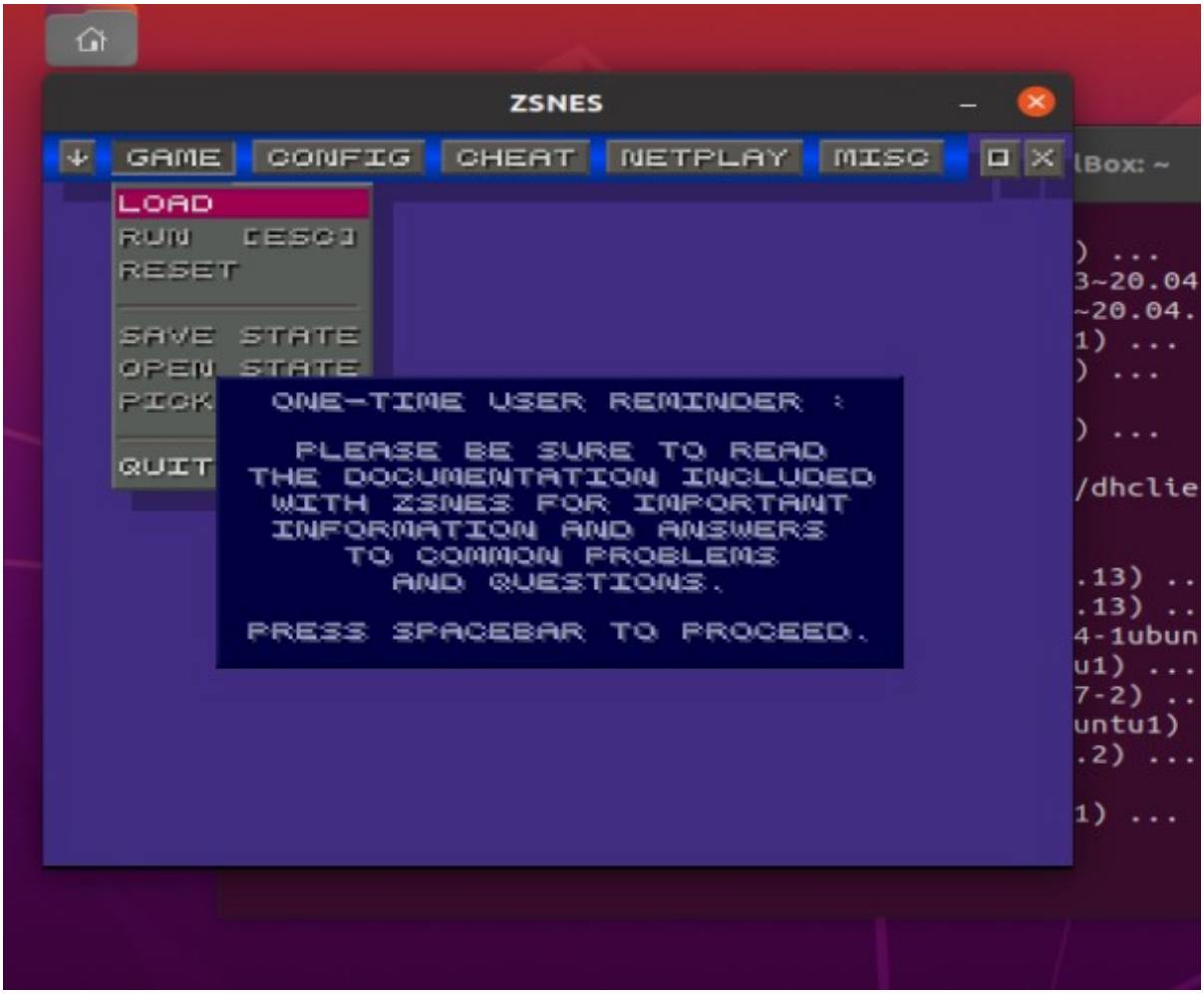
- OBS, a popular streaming and recording application can also be installed to Ubuntu.



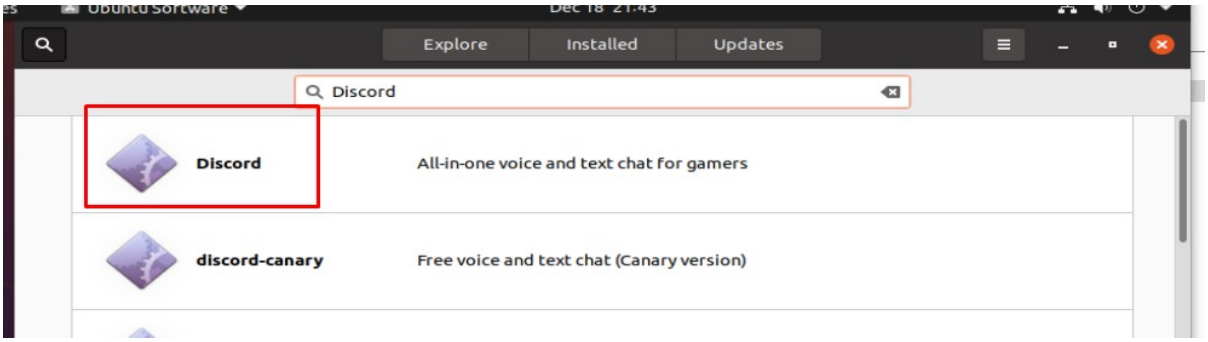


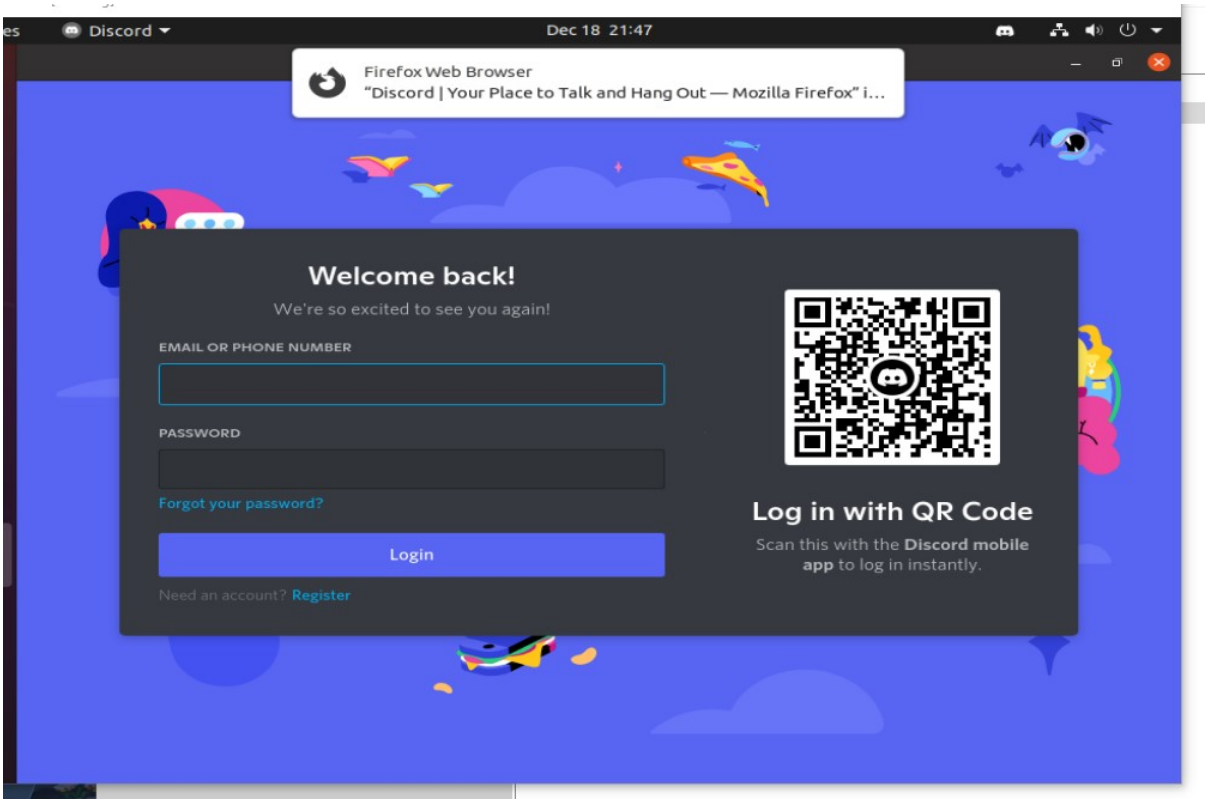
- Playing games.
  - It is possible to install games on Ubuntu. There are a large variety of games that can be installed when searching by category.





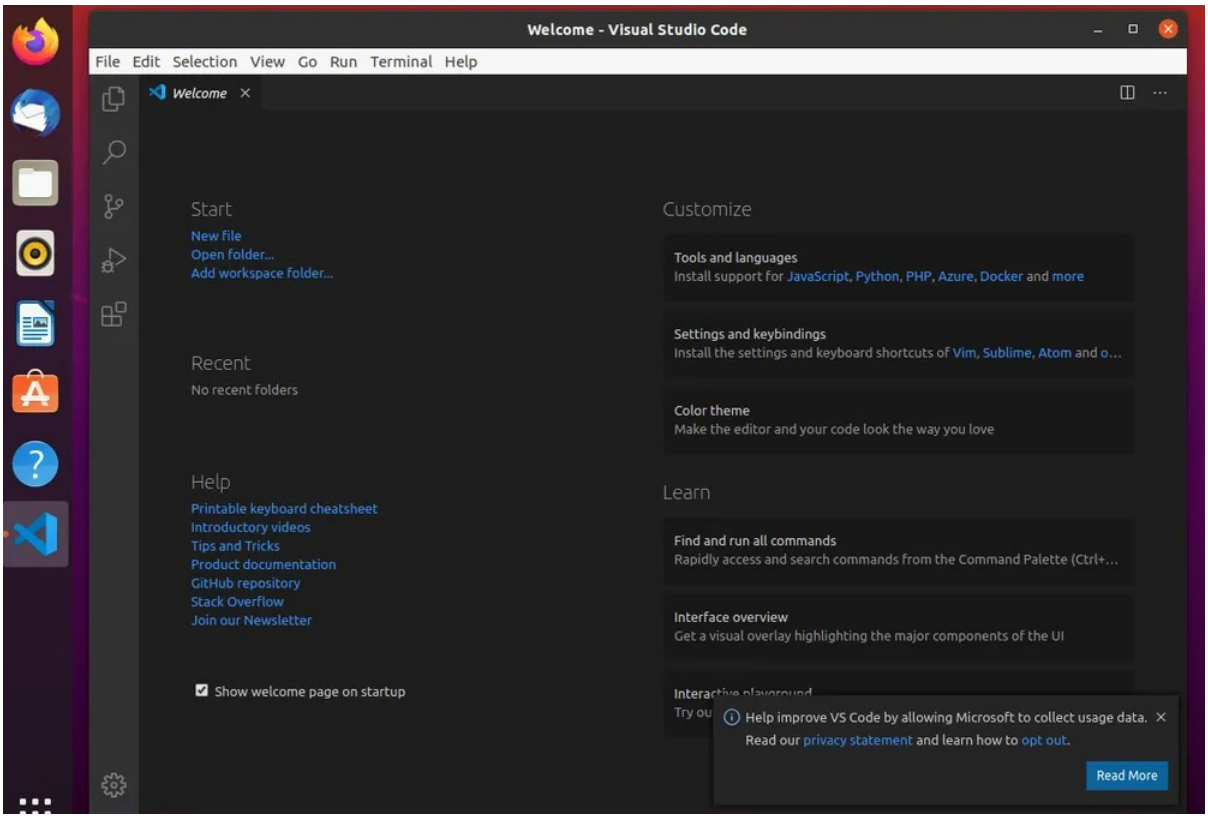
- Chat.
    - Discord, one of the most popular chatting applications for PC users can be installed and operated regularly through Ubuntu.





School work

- Programming.
    - The greatest tool used by many programmers can be installed in Ubuntu. VS code is a software used by many programmers to do their work. It is a very versatile application.



- Educational Apps.
    - Ubuntu also allows for educational software to be used installed, children and regular people can use this software to learn many different topics.
- Video Calling.
    - Zoom is also available on Linux, it is the most popular video calling app as of now due to its easy to use system. Image1

Help and troubleshooting tips

- When trying to troubleshoot or look for help when using commands the `man` command to see all the different options that a command can do.
- Another option is looking at guides online for more complex troubleshooting.
- Finally, the `/` is the root, it is the most powerful tool in the linux arsenal, its is so powerful that it can completely destroy the OS without any hope of recovering any data. Use only if needed.

Citations

"The Linux Command Line for Beginners." Ubuntu, ubuntu.com/tutorials/command-line-for-beginners#1-overview.

Prakash, Abhishek, and About Abhishek PrakashCreator of It's FOSS. An ardent Linux user & open source promoter. Huge fan of classic detective mysteries ranging from Agatha Christie and Sherlock Holmes to Detective Columbo & Ellery Queen. Also a movie buff with a soft corner for. "How to Connect to WIFI from the Terminal in Ubuntu Linux." It's FOSS, 31 Aug. 2021, itsfoss.com/connect-wifi-terminal-ubuntu/.

Rendek, Renata. “Ubuntu 20.04 Guide.” Linux Tutorials - Learn Linux Configuration, 11 Apr. 2020, linuxconfig.org/ubuntu-20-04-guide.