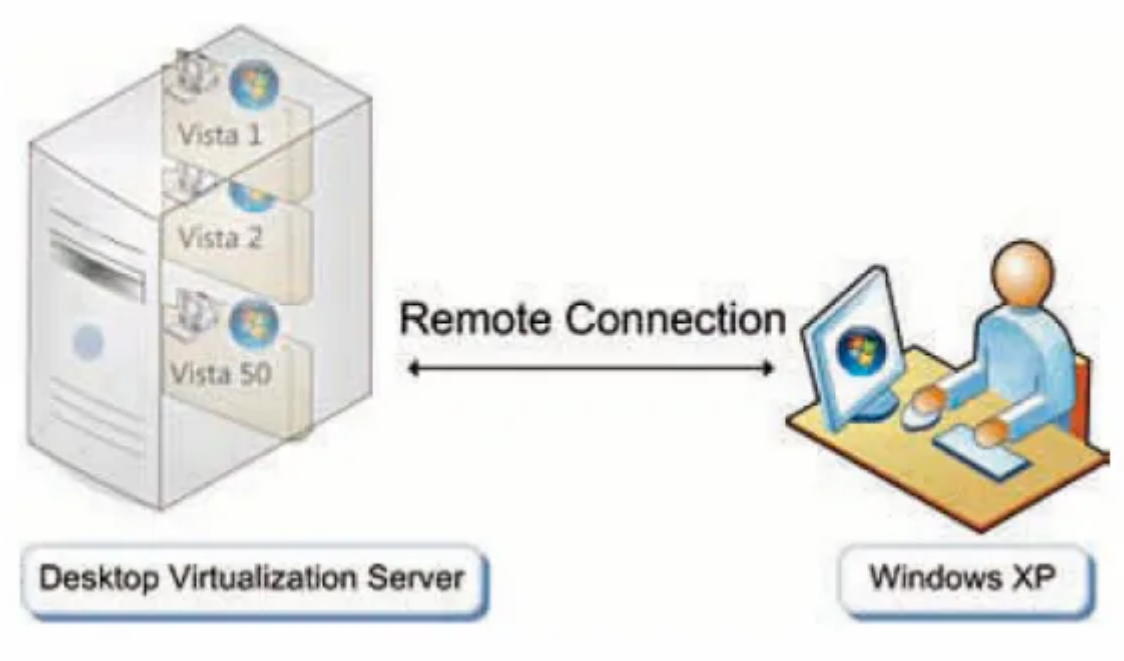
What is Virtualization?

Virtualization is a type of computer technology that replicates actual hardware capabilities in order to construct software-based IT services such as applications, servers, storage, and networks. Virtualization allows businesses to cut hardware expenses and boost productivity by producing a virtual version of a resource or device (such as a desktop computer) from a single computer system.



VirtualBox

VirtualBox is a robust x86 and AMD64/Intel64 virtualization tool that can be used in both the workplace and at home. VirtualBox is not only a feature-rich, high-performance product for corporate clients, but it is also the only professional solution that is freely accessible as Open Source Software.

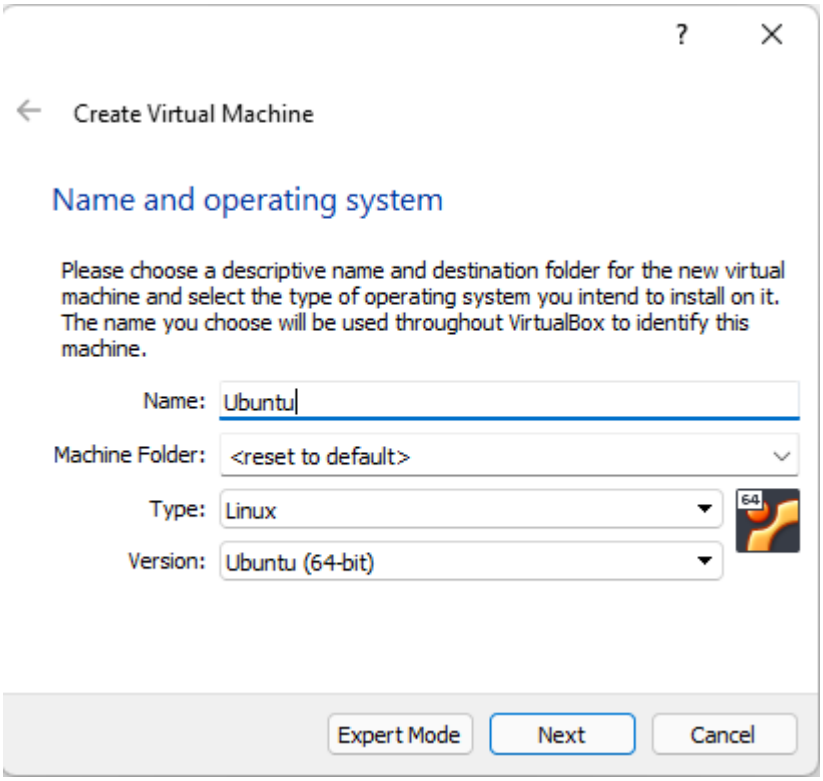
How to install VirtualBox in Windows 10.

1. Download the installer from this link Virtualbox.
2. Start Installer.
3. Once Installer is done, Install extension path from this link ExtesionPath

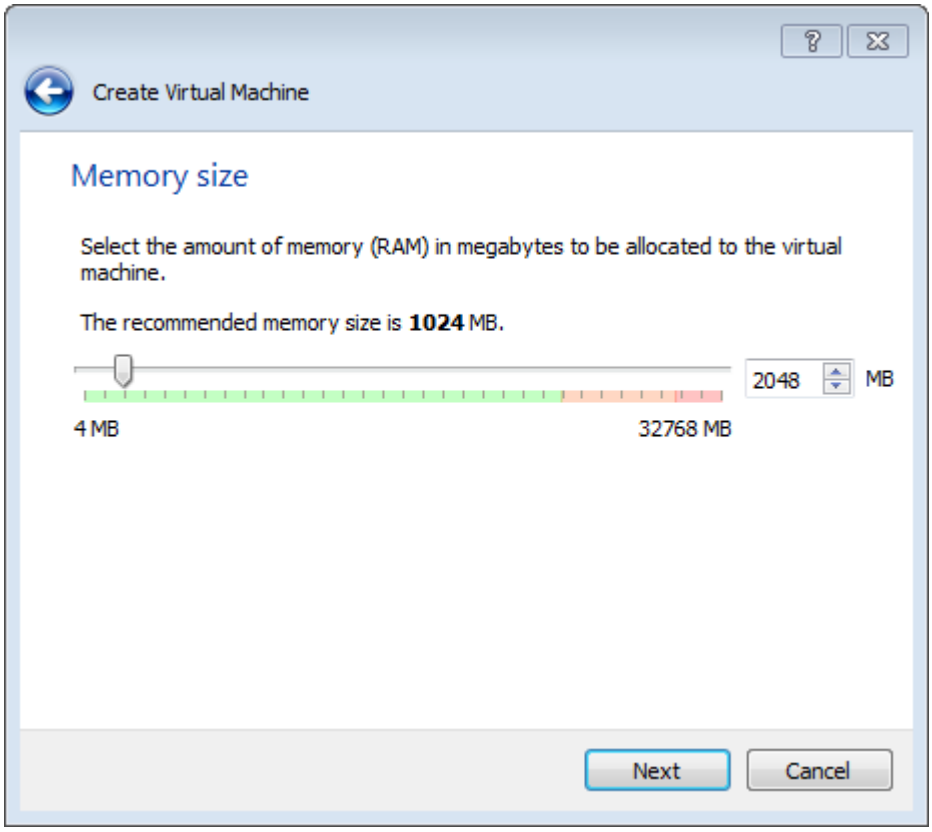
How to create a Virtual Machine

1. open VirtualBox 

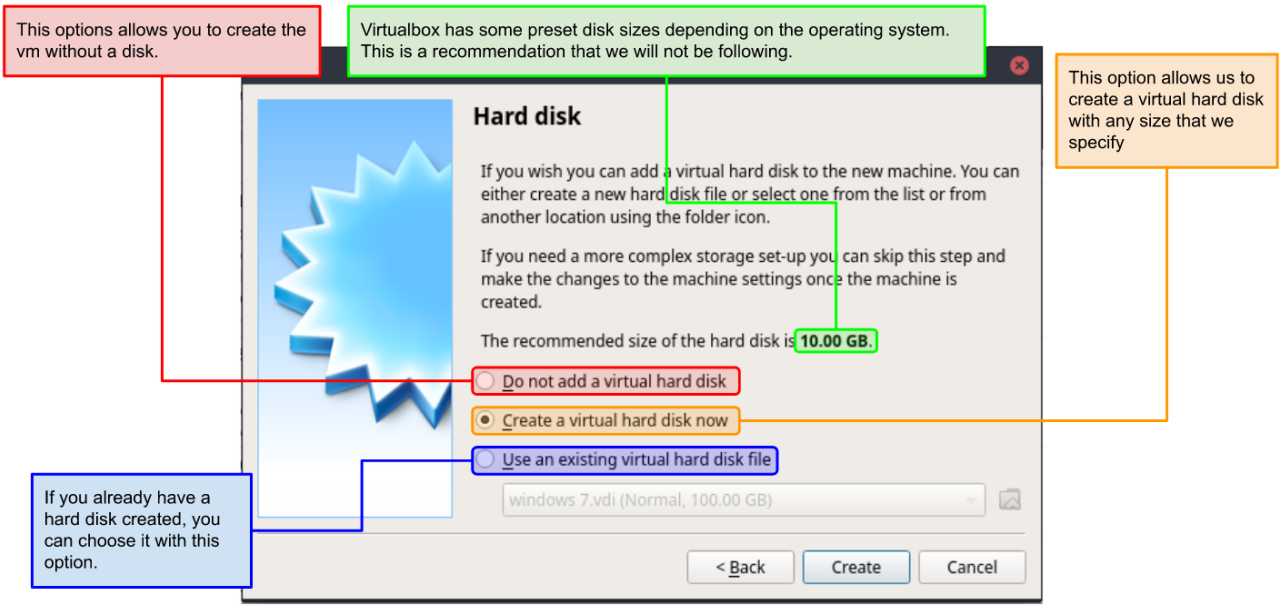
2. click on "New"
3. Fill out form **Name:** Ubuntu (it can be any name you want) **Machine Folder:** Here you can choose the driver where you want to install the virtual machine **Type:** Linux **Version:** Ubuntu 64-bit



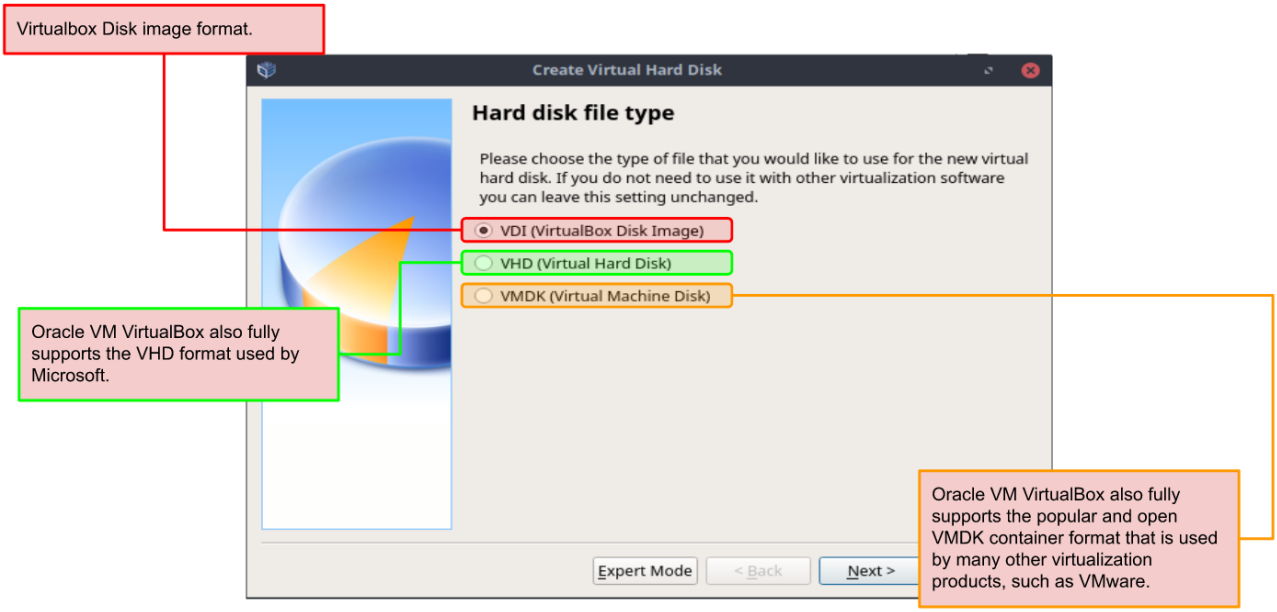
4. **Allocate a Minimum of "2048" MB of Memory (equal to 2 GiB)**



5. Use “Create a virtual hard disk now” for the Hard disk

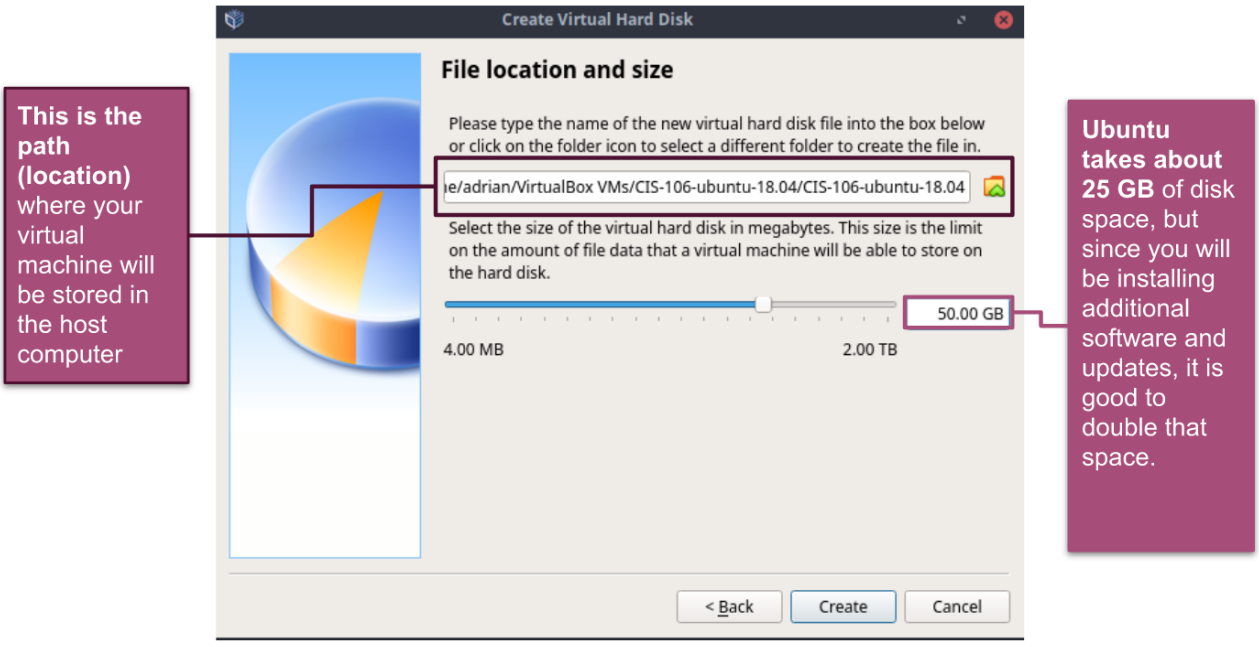


6. Use “VDI” to create a virtual hard disk

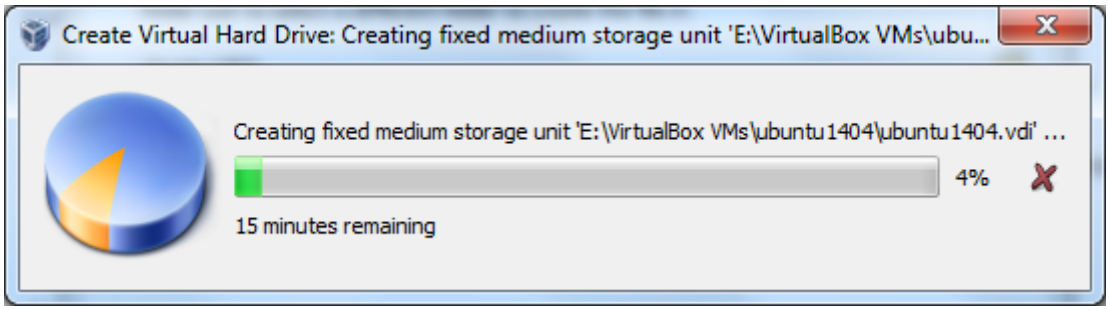


7. Choose “Dynamically allocated”

8. **Allocate at Minimum 25 GB (recommended 50 or more)**



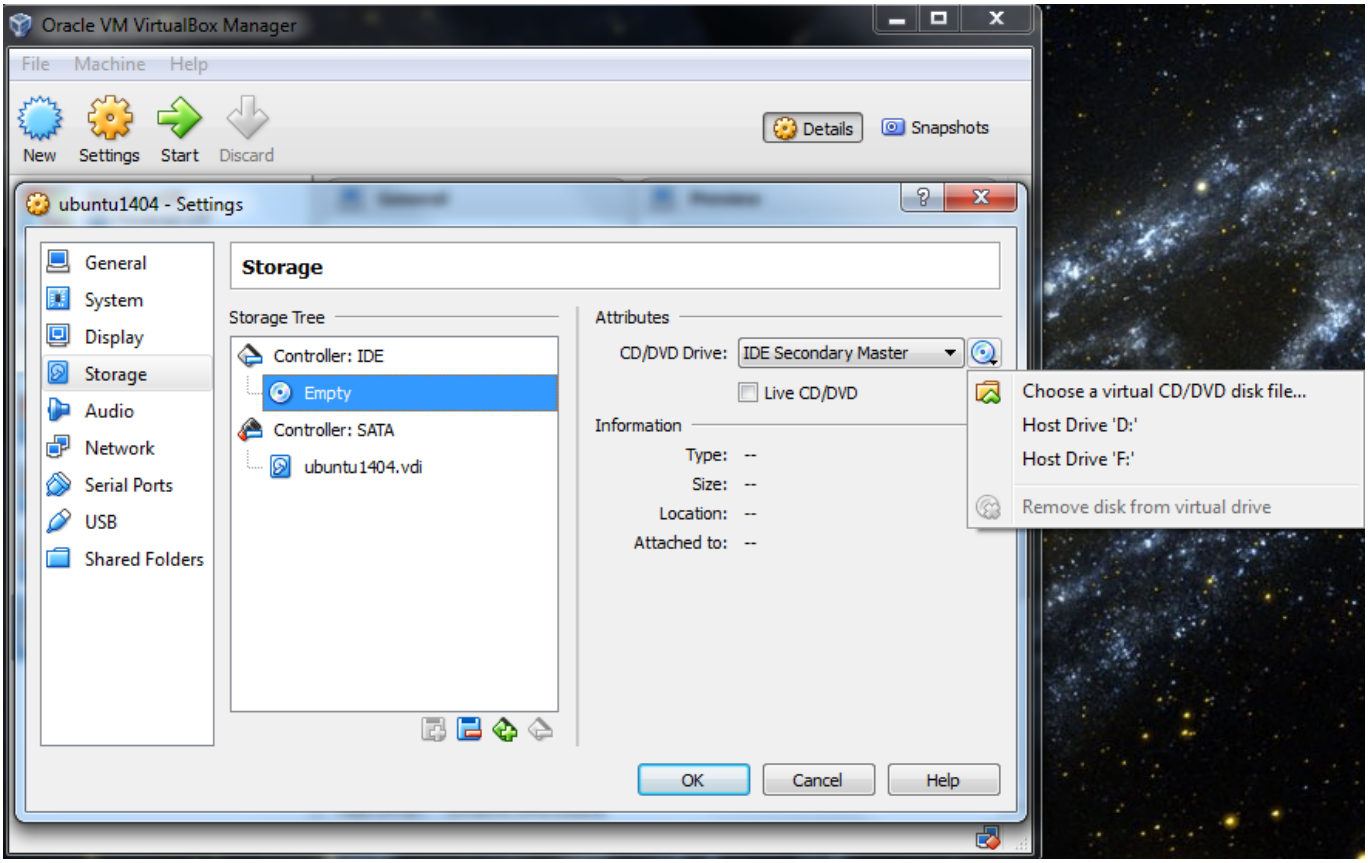
9. Click **Create** button and VirtualBox will generate Ubuntu virtual machine.



10. **Note** that if you have not downloaded 64-bit Ubuntu ISO file, you can download from the publisher page ubuntu or use this link to download automatically ubuntuiso. When downloading Ubuntu ISO

file, make sure to select 64-bit version. Also make sure the VT-x/Virtualization Technology has been enabled in your computer's BIOS/Basic Input Output System. In order to access BIOS on a Windows PC, you must press your BIOS key set by your manufacturer which could be F10, F2, F12, F1, or DEL.

11.Choose your ubuntu setting,details,storage,controller:IDE and the location where you download your iso and click ok



Installing Ubuntu in Virtualbox

1. Back to Oracle VM VirtualBox Manager, click on the new Ubuntu virtual machine and hit 'Start' button. Now you shall see a 'Welcome' screen. Click 'Install Ubuntu' button.

Try Ubuntu: Starts Ubuntu live environment. You can launch the installer from the live environment.

Install Ubuntu: Starts Ubuntu installer. Ubuntu installer is called *Ubiquity*

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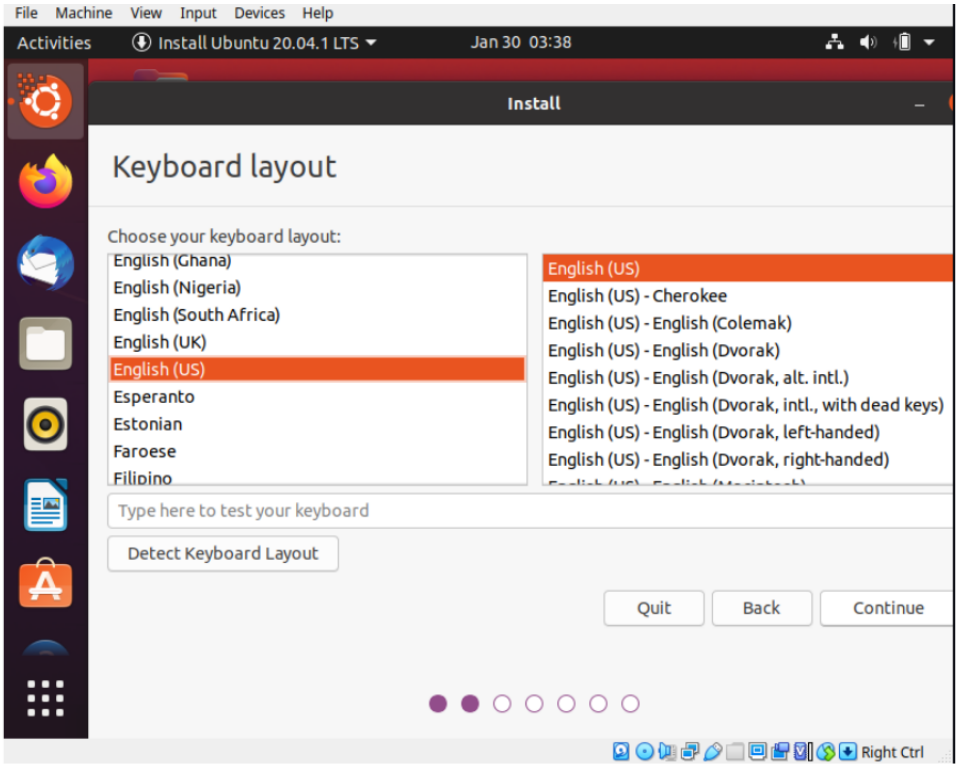
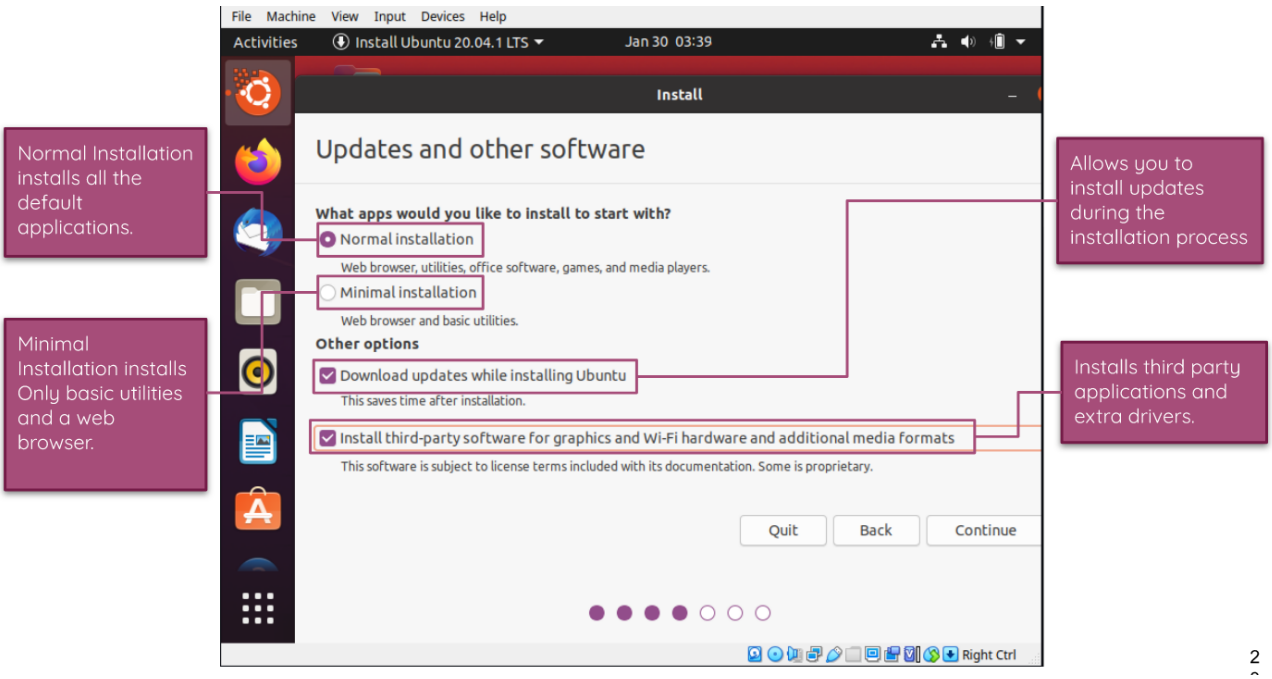
2.Choose your Keyboard layout

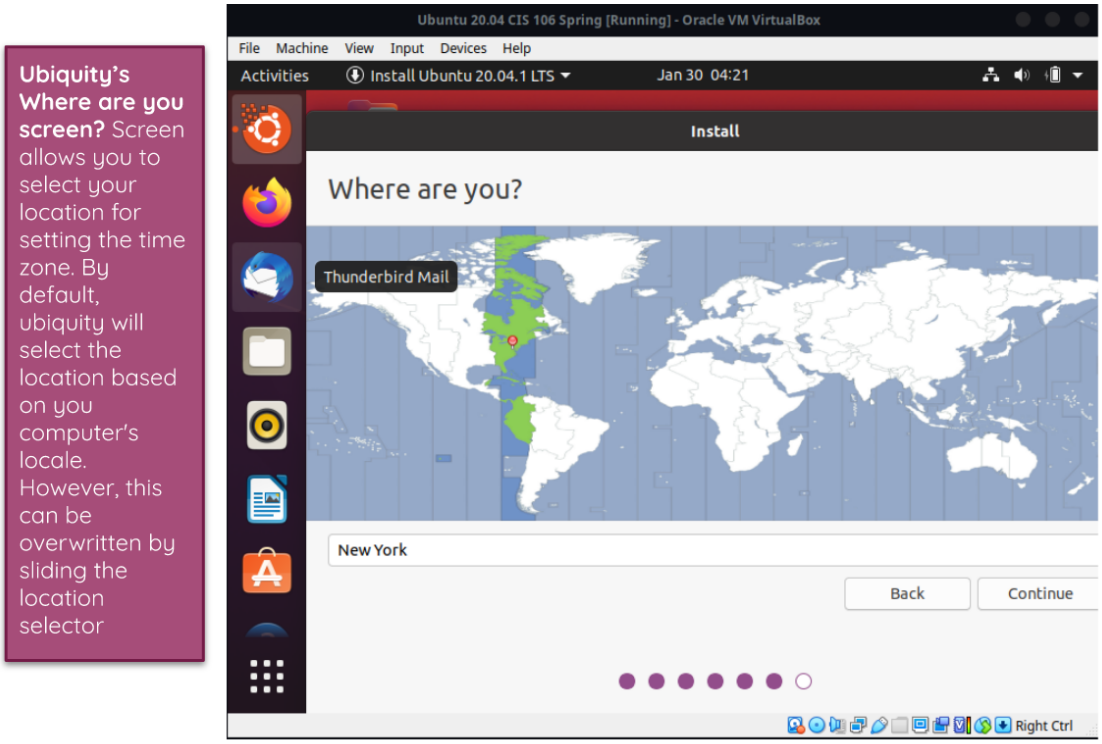
Ubiquity's keyboard layout screen will automatically detect your keyboard. However, if the default selection is not correct, you can use the "Detect Keyboard Layout" button to start a keyboard detection wizard.



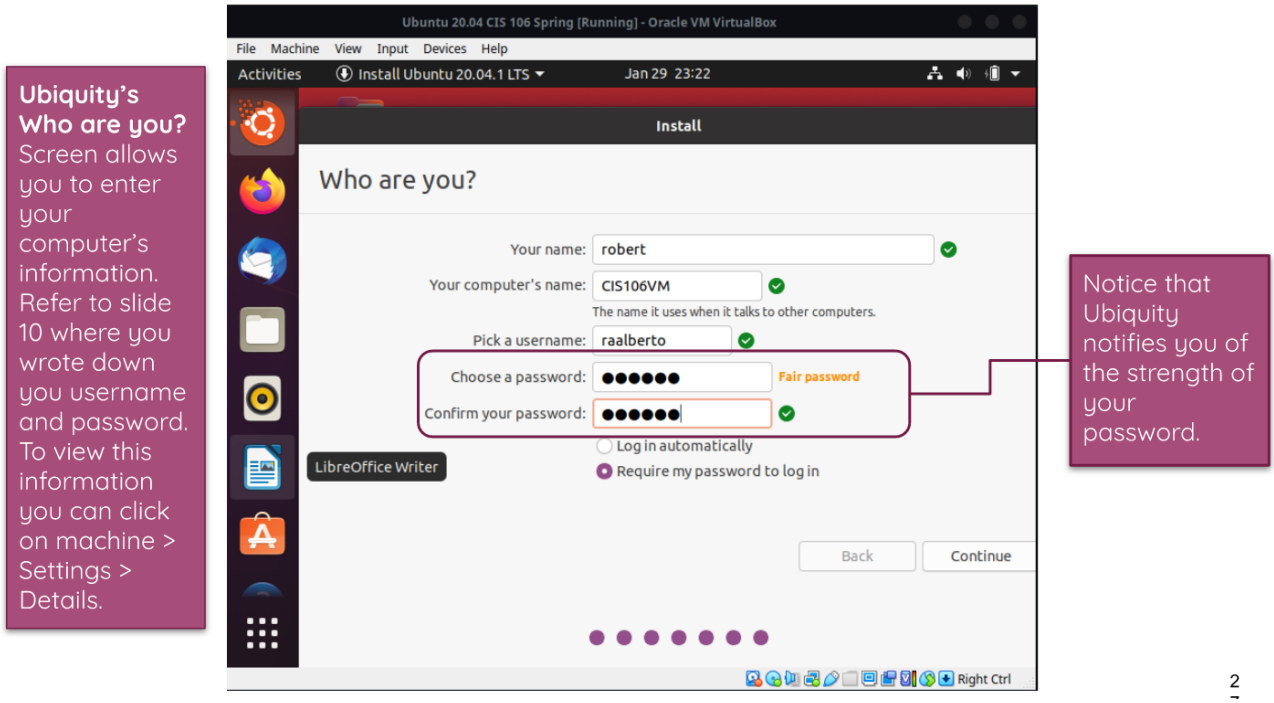
3. Choose Normal install/check both box on other option.



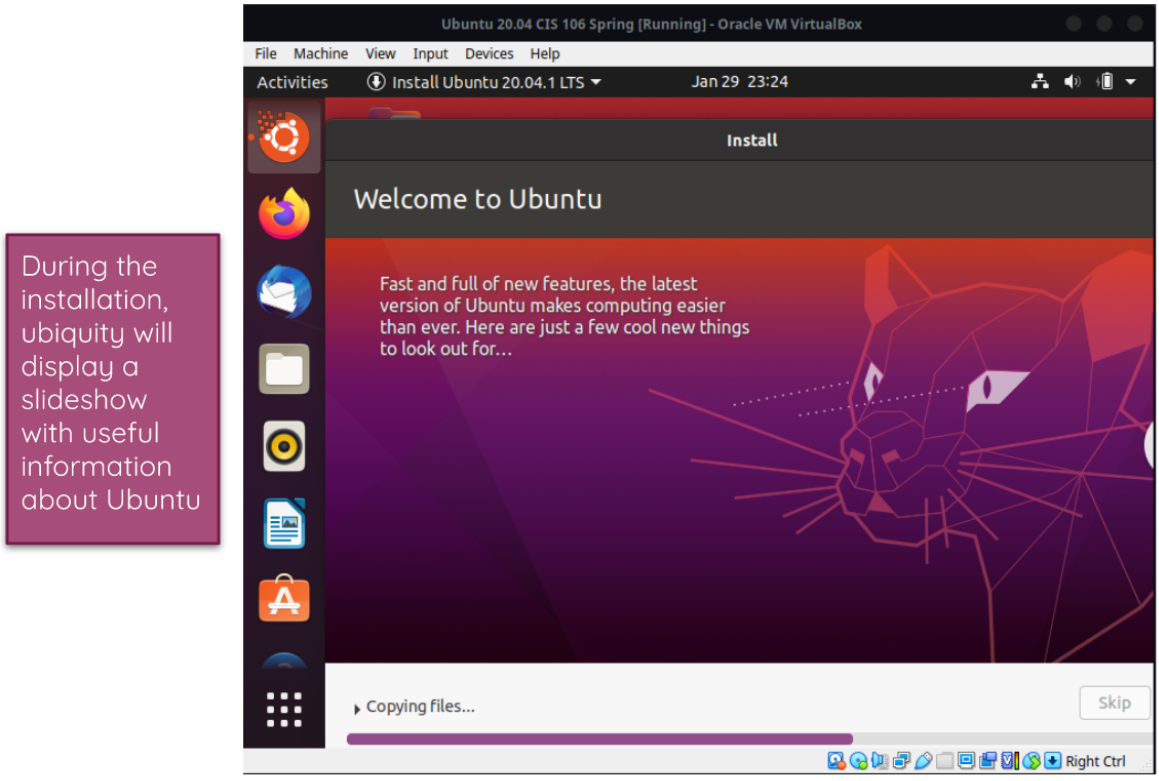
4. Choose your time zone.



5. In 'Who are you?' dialog, enter your preferred name, username and password. Note that this user will have root/sudo privilege. Click 'Continue' button.



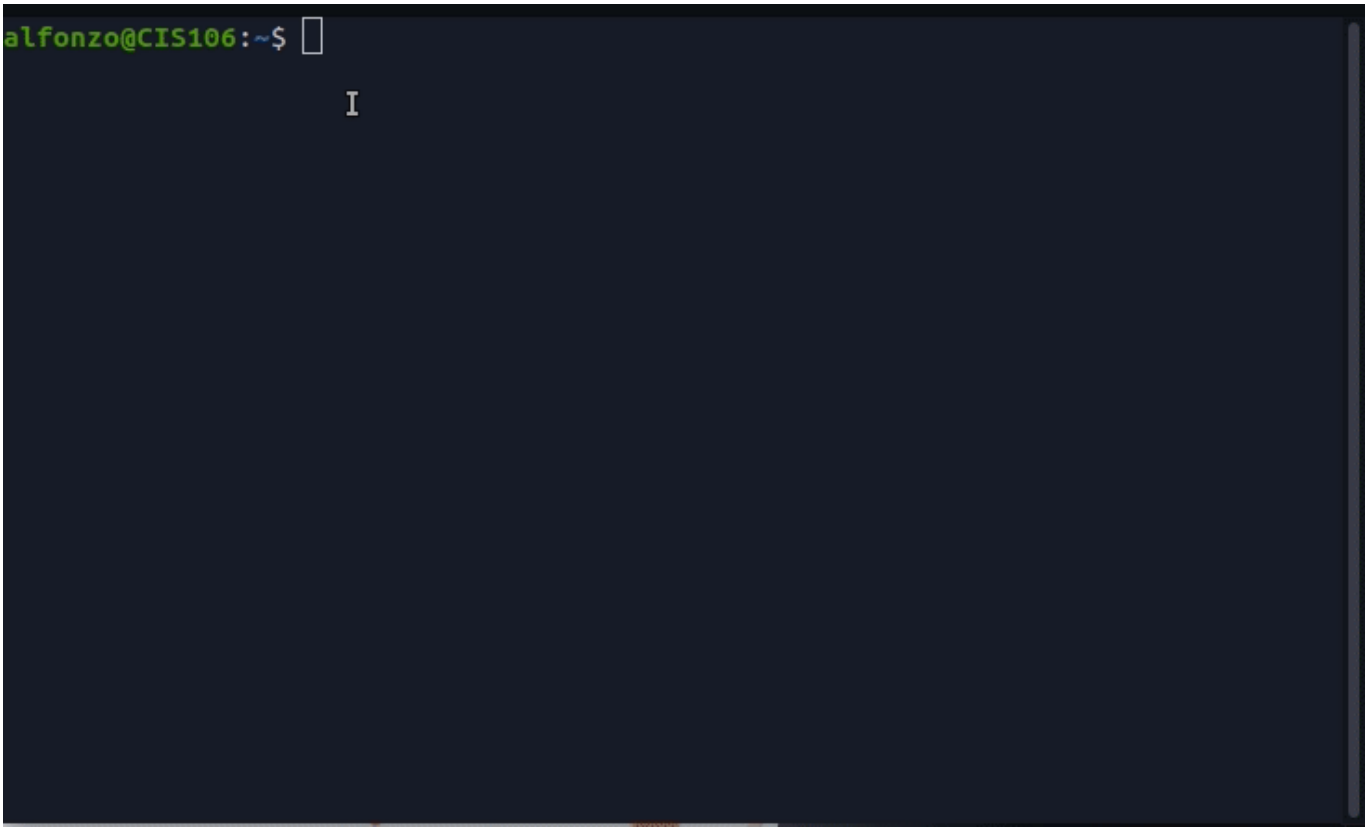
6.The installation will continue until it is finished.



Updating Ubuntu

1. To update ubuntu first you need to open your terminal by pressing ctrl + alt+ t .This will launch the terminal or you can search on the show application button. Next enter the command `sudo apt`

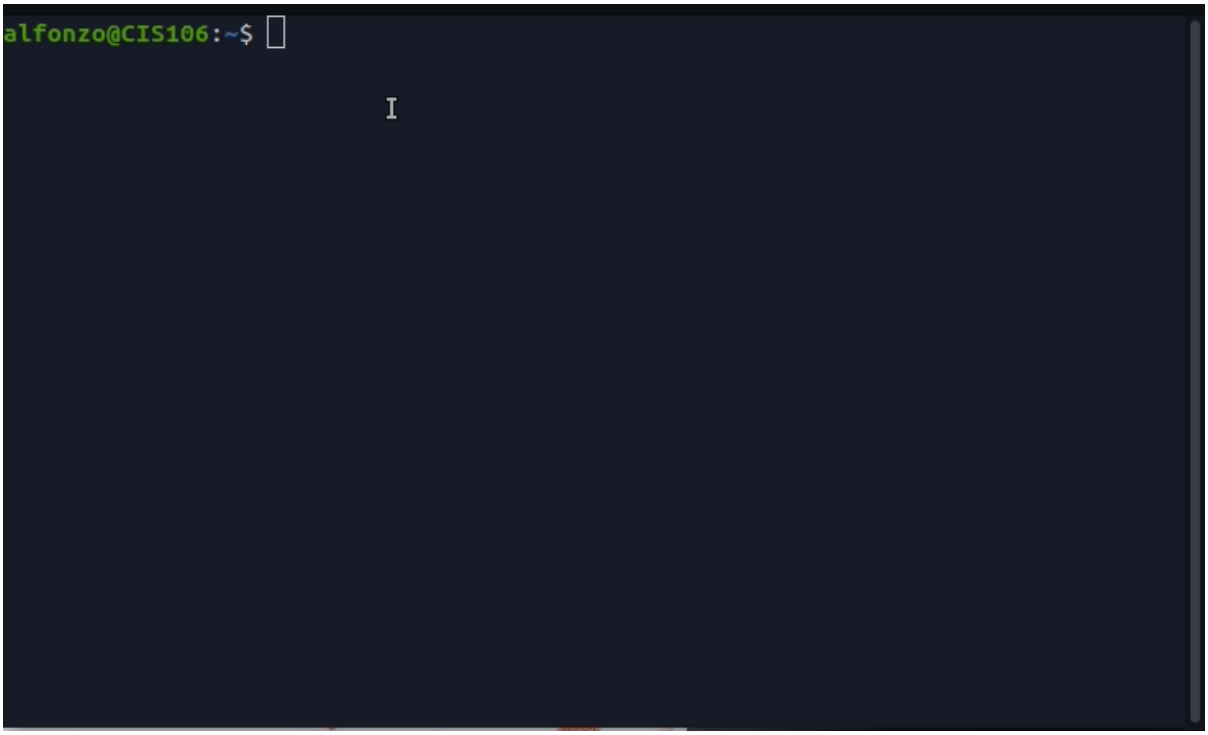
`update; sudo apt upgrade -y` this command will update the whole ubuntu ios and apps.



Installing Software in Ubuntu

- installation command Example
  - `sudo + apt + install + name of package`
- for example:

    - `sudo apt install airstrike` this will install 2d game call airstrike.



- Searching for Software.
    - `apt search "games"` this command will look for available games to install.
- Deleting Software
    - `sudo + apt + remove + name of package` for example :
        - `sudo apt remove airstrike -y` this would remove the game airstrike will previously download.

Basic Linux Command

Navigating the file system

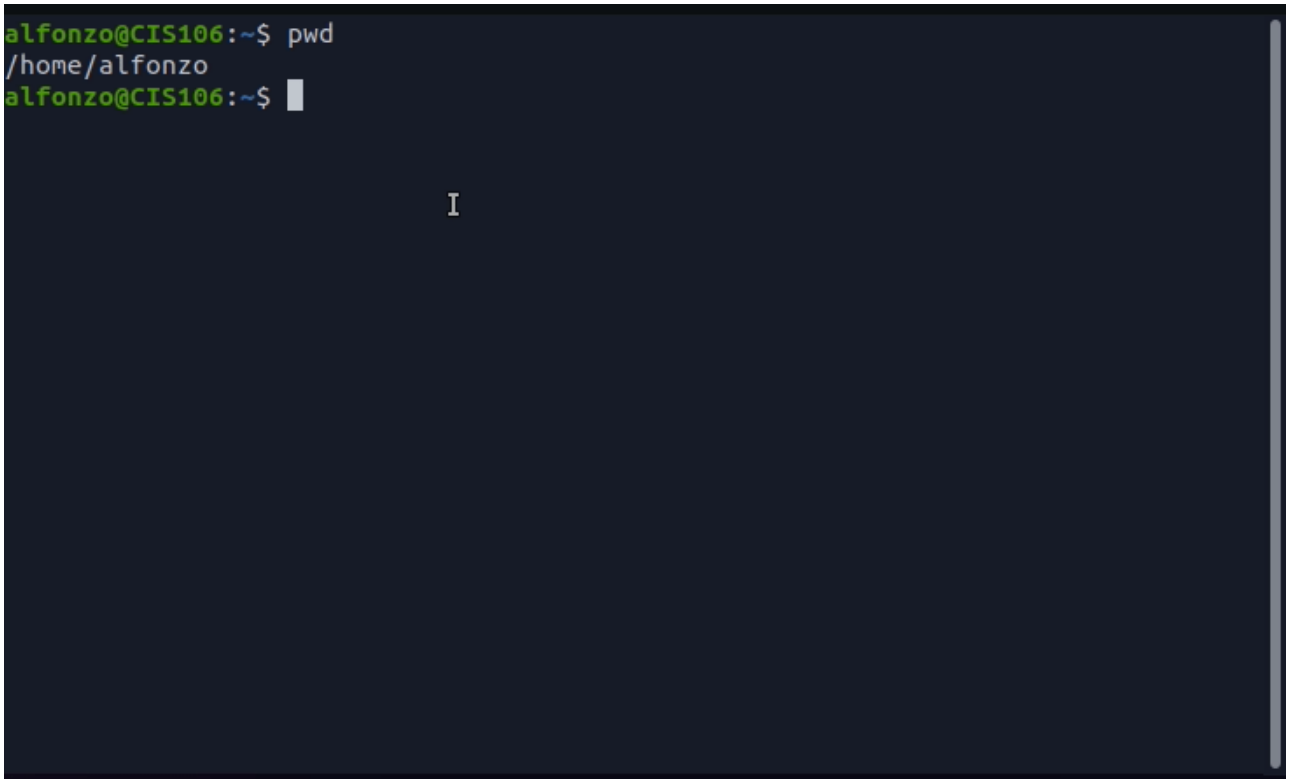
pwd

- Description : used for displaying your current working directory
- usage: `pwd`

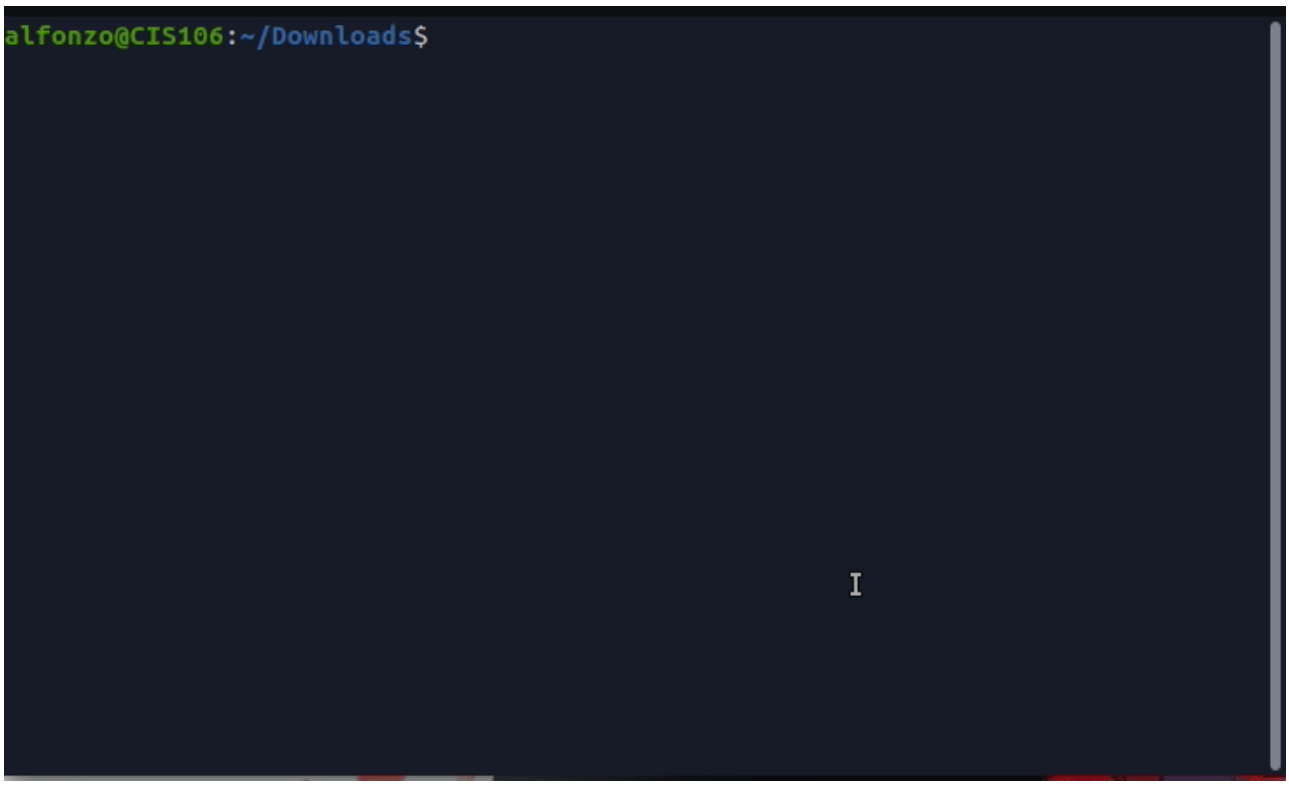
- Example:

cd

- Description : Use to change current working directory
- usage: `cd + Destination`
- Example : move from Home directory to Downloads folder.
- `cd Downloads`



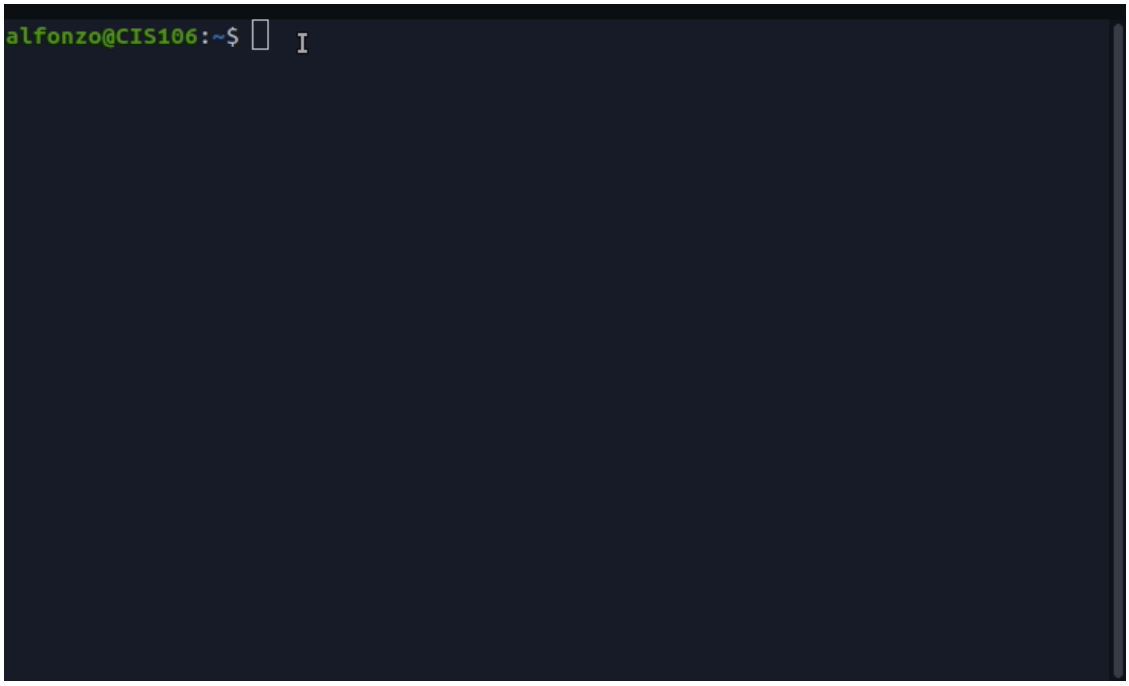
ls

- Description: used to display all files inside a give directory.
- usage : `ls + file/directory`
- Example: this will show all the files in the folder Downloads.
- `ls /Downloads`.
- 

Managin files and directories

- **mkdir**
    - Description: use for creating directories
    - usage: `mkdir + option + new directory path`
    - Example:
        - Create a directory in the present working directory.
        - `mkdir Wallpaper/`
        - Create a parent directory and child directory.

- `mkdir Wallpaper/cars/new`



touch

- Description : use to create files.
- usage : `touch + file name` .
- Example:
- Create a file in the Wallpaper/cars/new/ directory.
- `touch Wallpaper/cars/new/BMW.png` this will create a image png file.

rm

- Description : Remove files
- usage : `rm + file name`

- Example:
- remove a file
  - `rm file.txt`

mv

- Description : move and rename directories
- usage : `mv + source + destination`
- Example:
- to move and rename a file in the same command
- `mv Download/BMW.png Documents/BMW.png`

cp

- Description: Copy files/directories from a sourse to a destination
- usage: `cp + files to copy + destination`
- Example:
- to copy a file
- `cp Documents/BMW.png Picture/`