How to install ROS On windows 10

1. Before installing ROS ,ubuntu must be installed
   Because ROS does not run smoothly on Windows, it may cause some problems which is you will not find explanations or solutions on the Internet easily

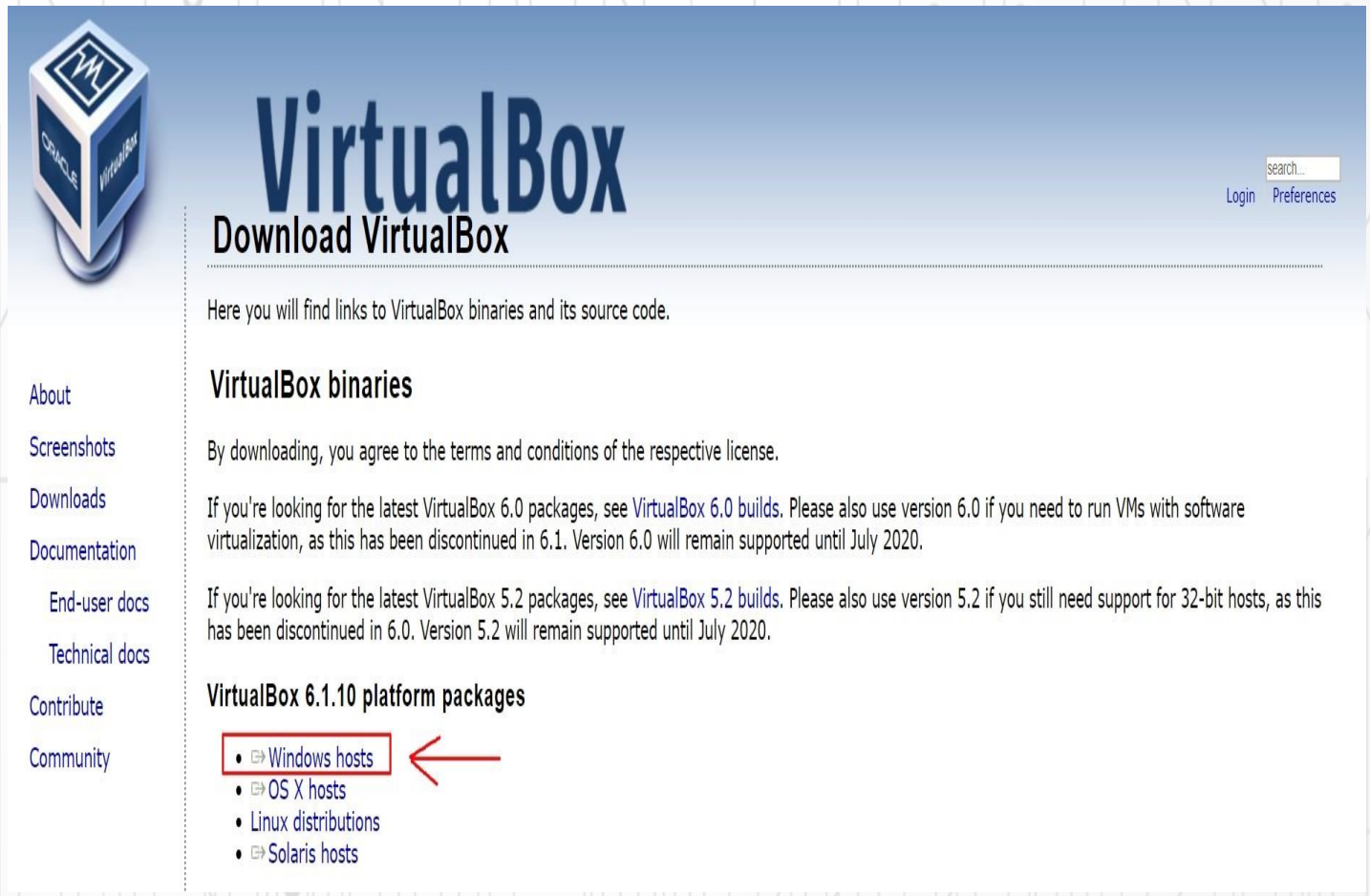
2. First, what is Ubuntu?
   Without getting into too much complication it is an open source operating system

Attention: Installing the Ubuntu system directly on your device may lead to deleting your files, as it will change the device system from Windows to Linux so that it is difficult for you to work on your device if you are not used to it
Can this problem be avoided? Yes, definitely you can

3. To avoid the above, you must use VirtualBox
   What is VirtualBox?
   It is a virtual tool that simulates the work of your device, in case you do not want your system to malfunction or change during the installation of Ubuntu then the use of VirtualBoX will not affect your device

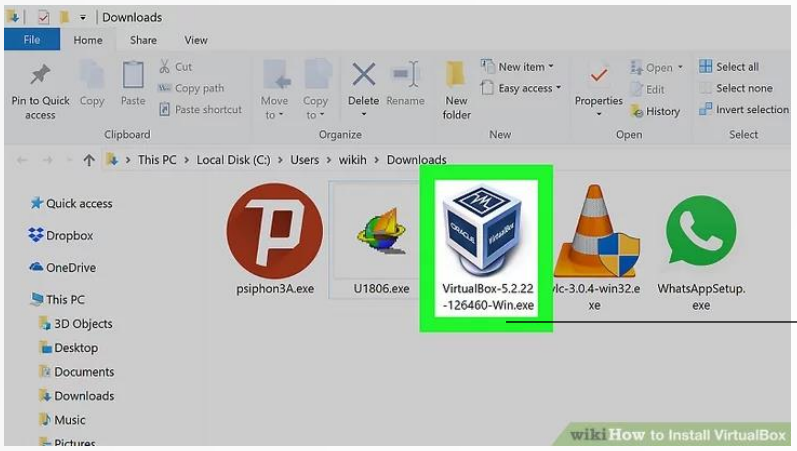
Download Link

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



4 After downloading it is installed like any other program and here are some simple steps

You open the virtualboxEXE file where it was downloaded

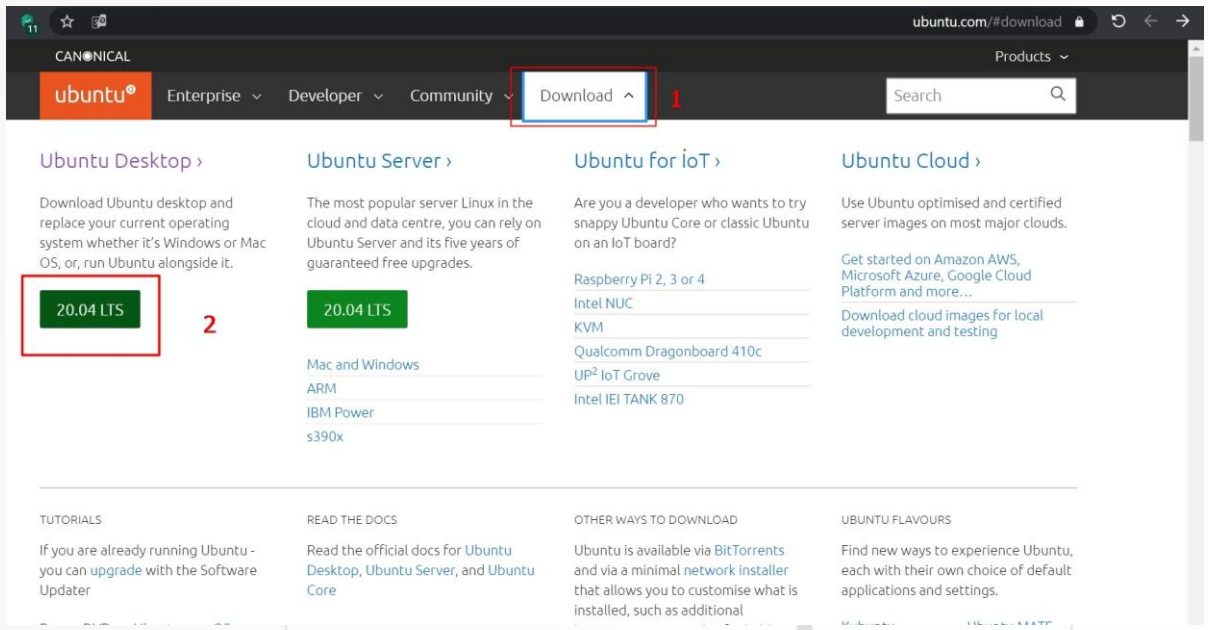


Follow the steps as shown in the picture

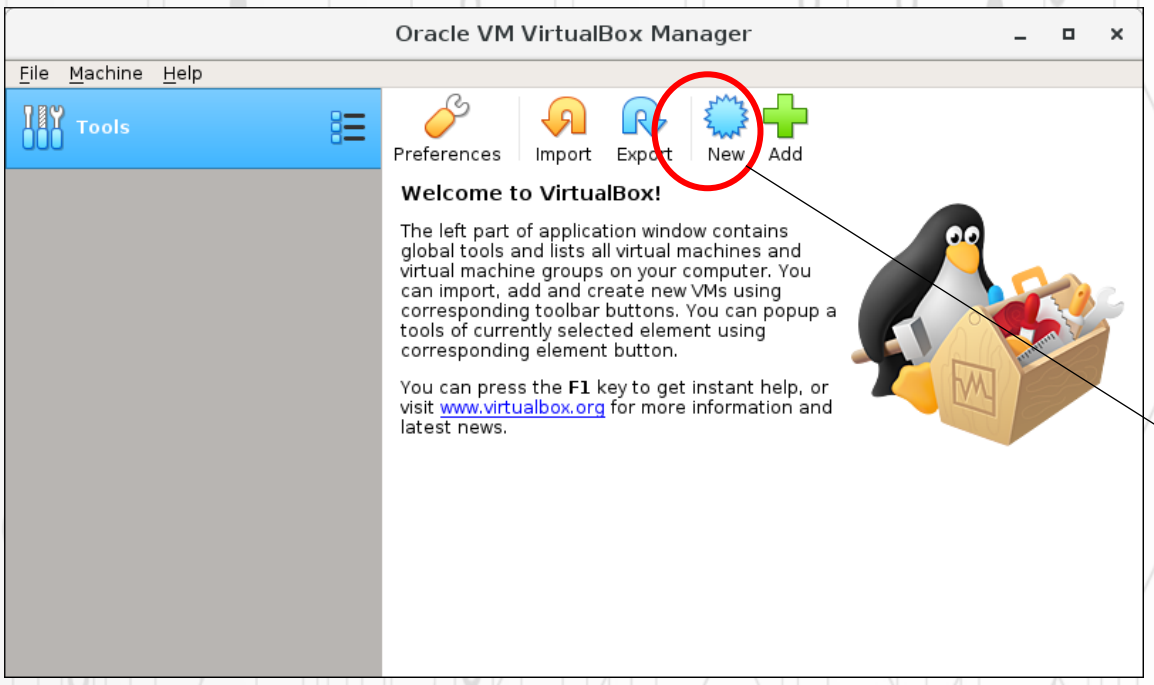
Source images :https://www.wikihow.com/Install-VirtualBox

5 Now you can download Ubuntu through the following link but do not open it

Download link: https://ubuntu.com/



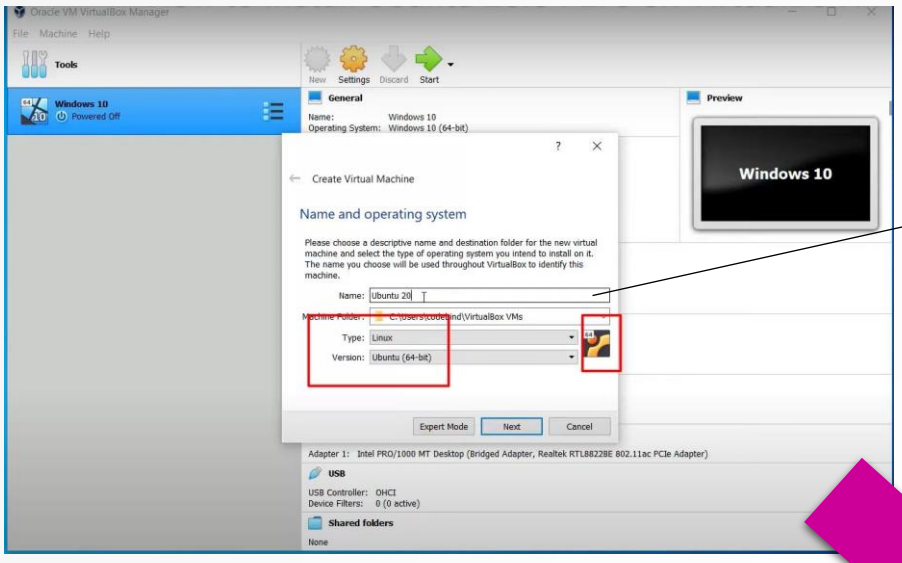
6 After completing the download, follow the steps below



Open VirtualBox
and You will see a window like this

Click on new

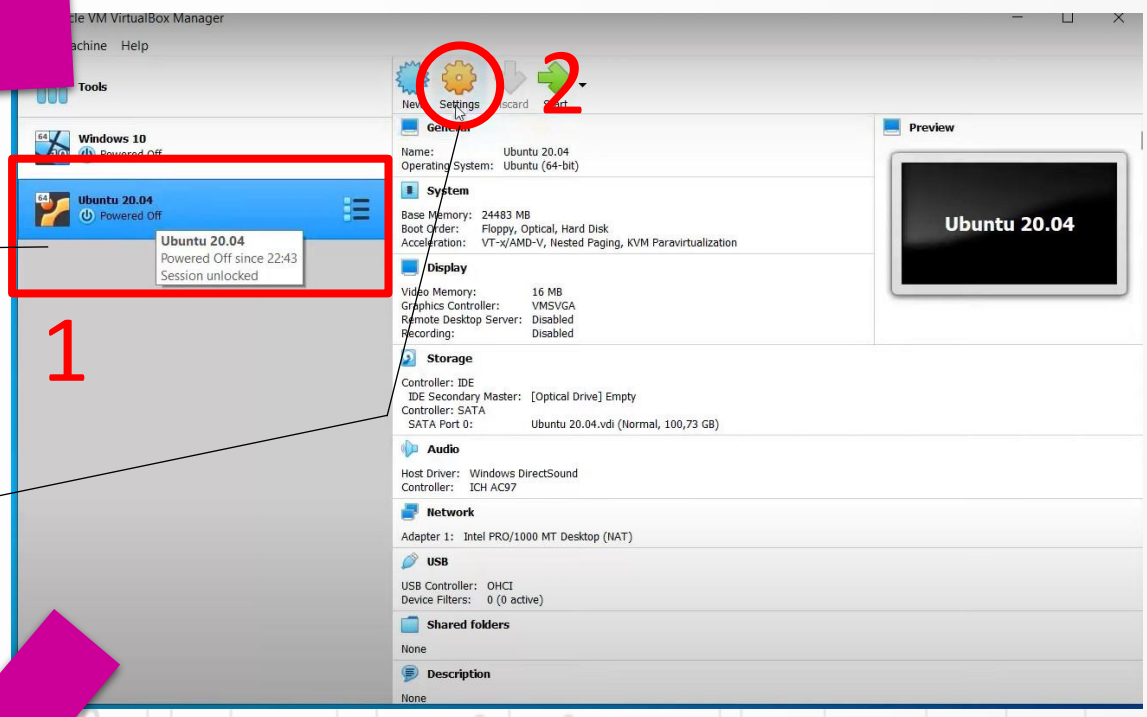
7 When this window appears, type ubuntu and the program will recognize the file quickly



- Many windows will appear Leave their settings as they are and click Next

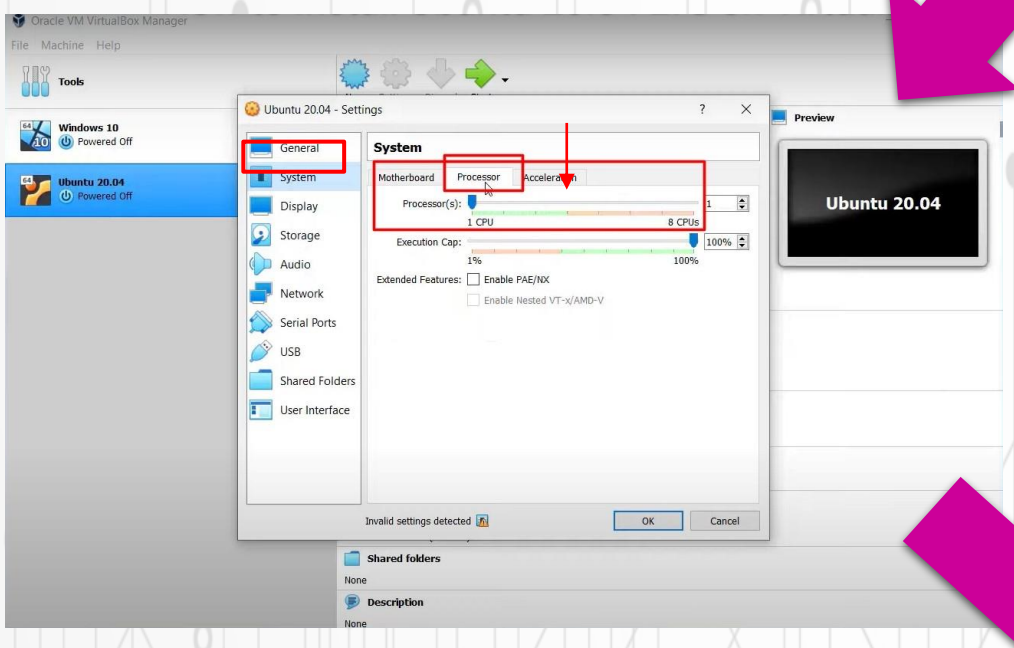
8 1-Ubuntu will appear to the left of the screen under Tools, if you don't see it then you should check out your steps

2-Then click on the settings

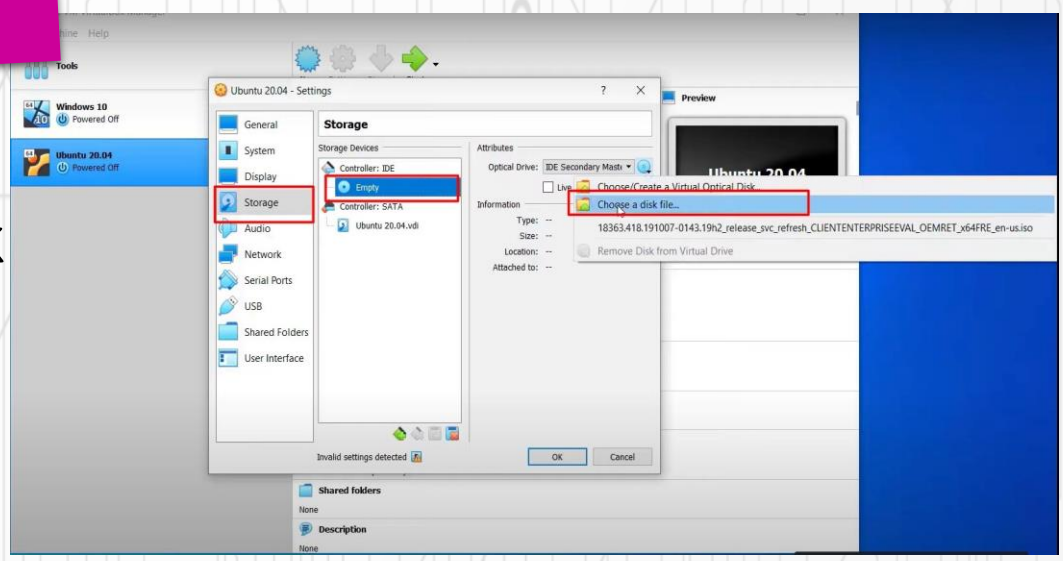


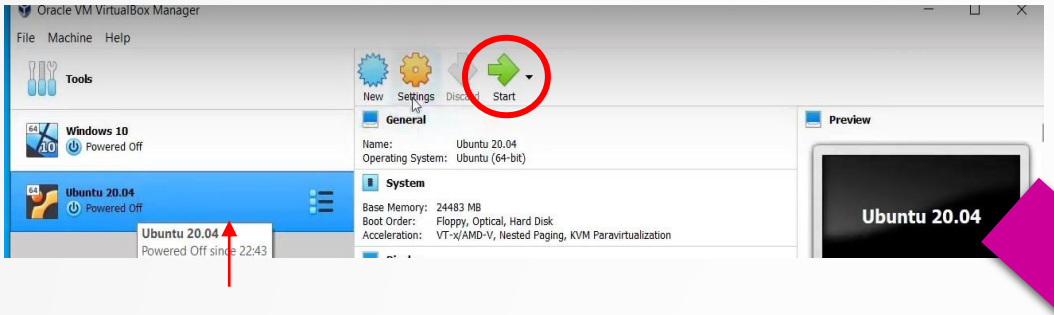
9 Click on system> processor Then move the cpu to the middle

The purpose of this process is to maximize the operation of the system



10 1 2 3 Storage> empty> choose a disk file ..> Choose the Ubuntu file[4] you downloaded





11

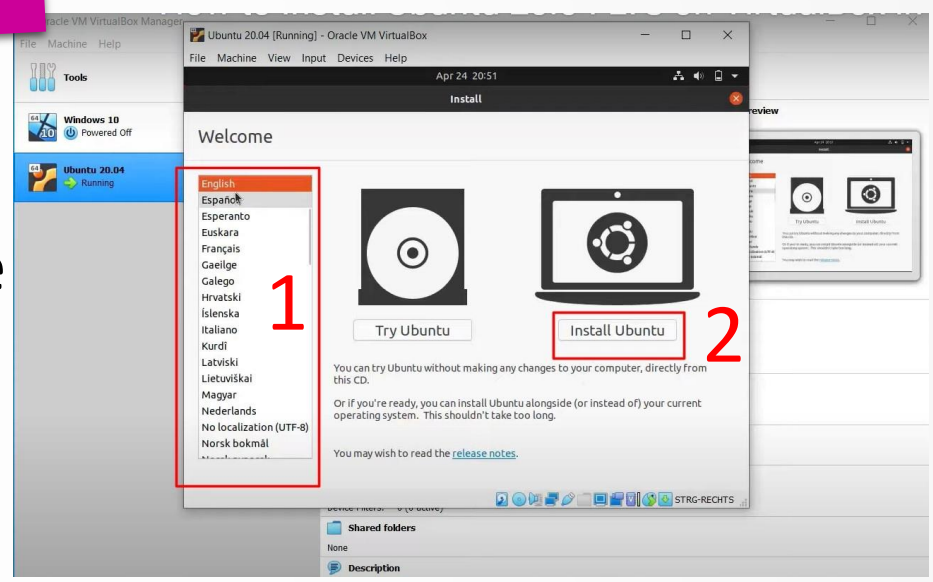
You can either click on the start icon or double click on ubuntu

12

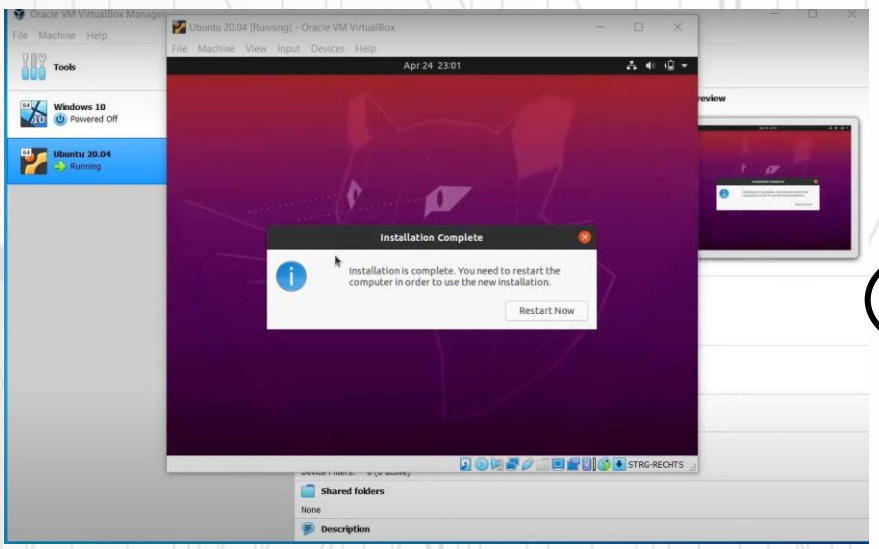
Wait a while for this screen to appear

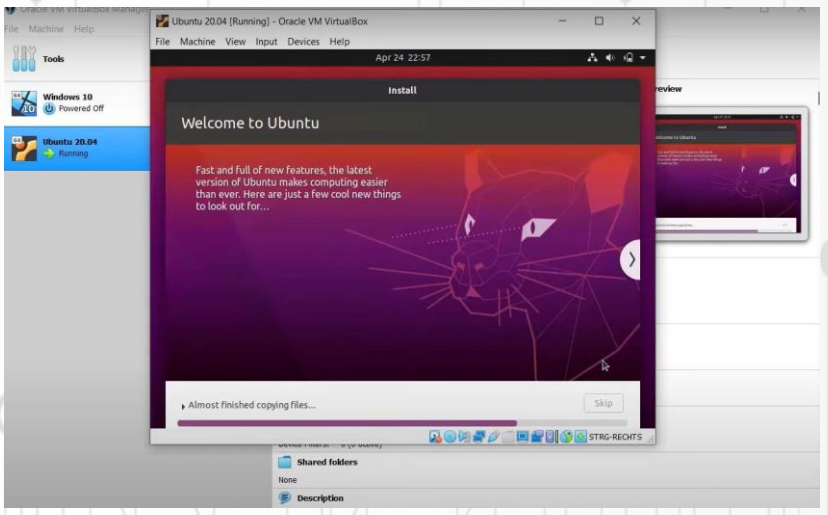
1- From here you can choose the language of the operating system

2- Click to install the system



It takes several minutes and Ubuntu is installed on VirtualBox





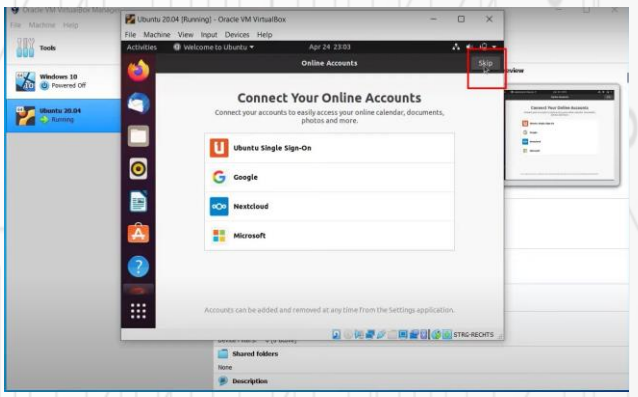
14

When finished, a window will appear asking you to restart, so click on restart

15

Then a welcome screen will appear that you can skip by clicking on skip and next

Congratulations, you have completed the installation of Ubuntu



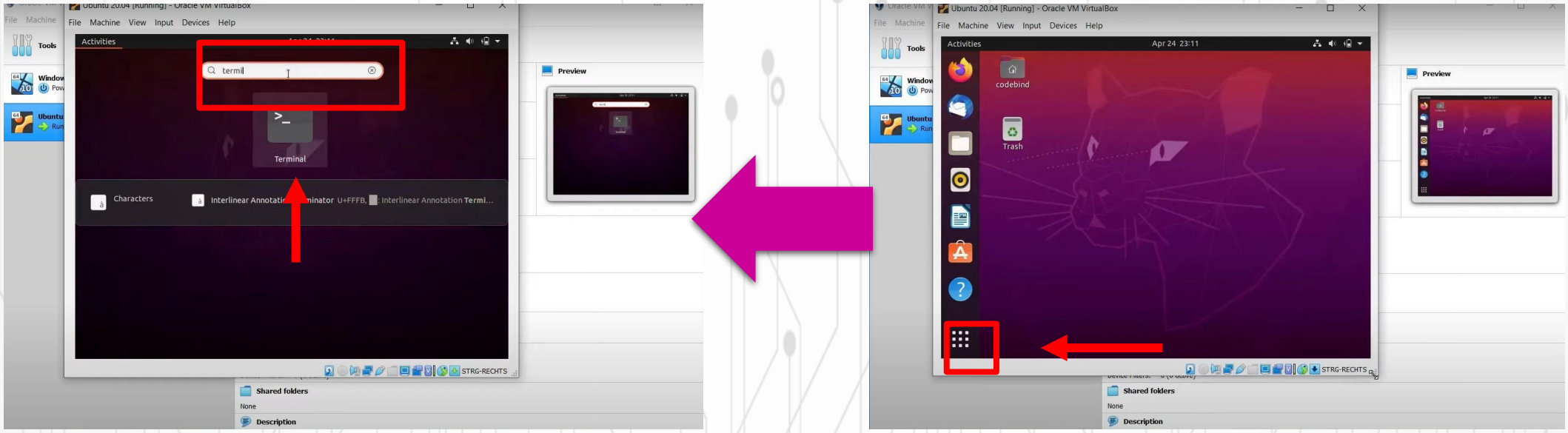
16 After completing installing Ubuntu on VirtualBox, you are now ready to install ROS

both ROS and Ubuntu have different versions
Some versions of Ubuntu are not compatible with ROS versions so make sure that the systems you want to install are compatible

In our case, the Ubuntu LTS 20.04 system is compatible with the ROS system called ROS Noetic. You can learn more by visiting the website: http://wiki.ros.org/Installation/Windows

Open the Terminal and type the following command line and ROS will be installed automatically

```
wget -c https://raw.githubusercontent.com/qboticslabs/ros_install_noetic/master/ros_install_noetic.sh && chmod
                                                    +x ./ros_install_noetic.sh && ./ros_install_noetic.sh
```



To confirm the installation of ROS, type the following in the Terminal:

Rosversion-d

If neotic appears, the installation is confirmed

Sources to clarify the steps :

install ubuntu : https://www.youtube.com/watch?v=x5MhydijWmc

install ROS: https://www.youtube.com/watch?v=IqrpSi2Xueg

Common problems :

1 -Full screen

Go to your virtualbox and in log in Ubuntu > Devices > Insert guest addition cd image (type in password) > once done with the installation hit enter and restart Ubuntu > after restarting press **RIGHT Ctrl + F**

2 -no space

By increasing the cpu as mentioned in step 9