Smart Method

Task1

2022

Zeina assassa

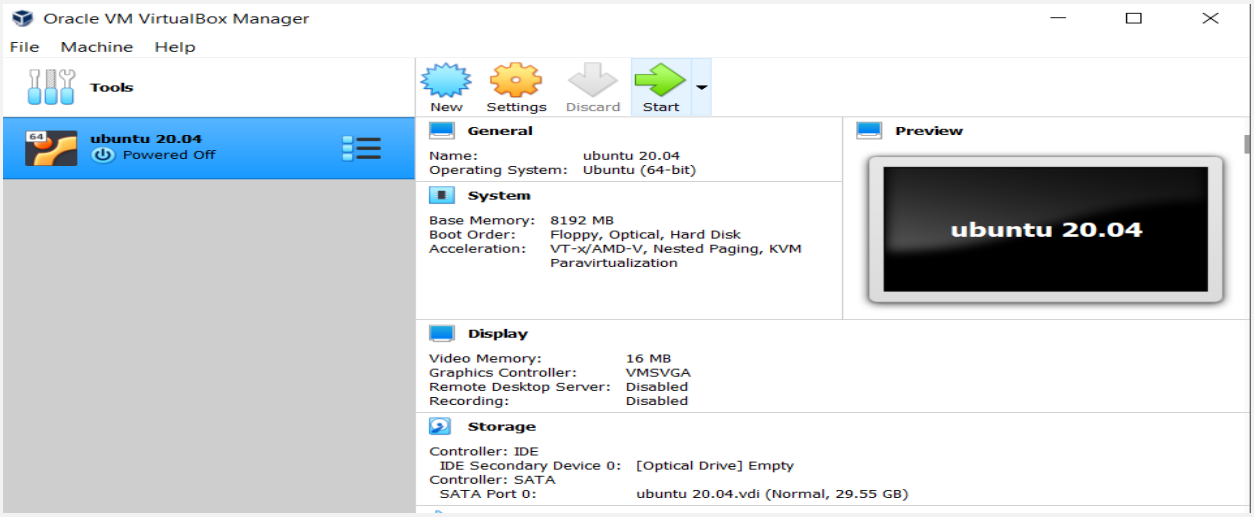
زينة موفق عصاصة

Install ROS on Ubuntu 20.04:

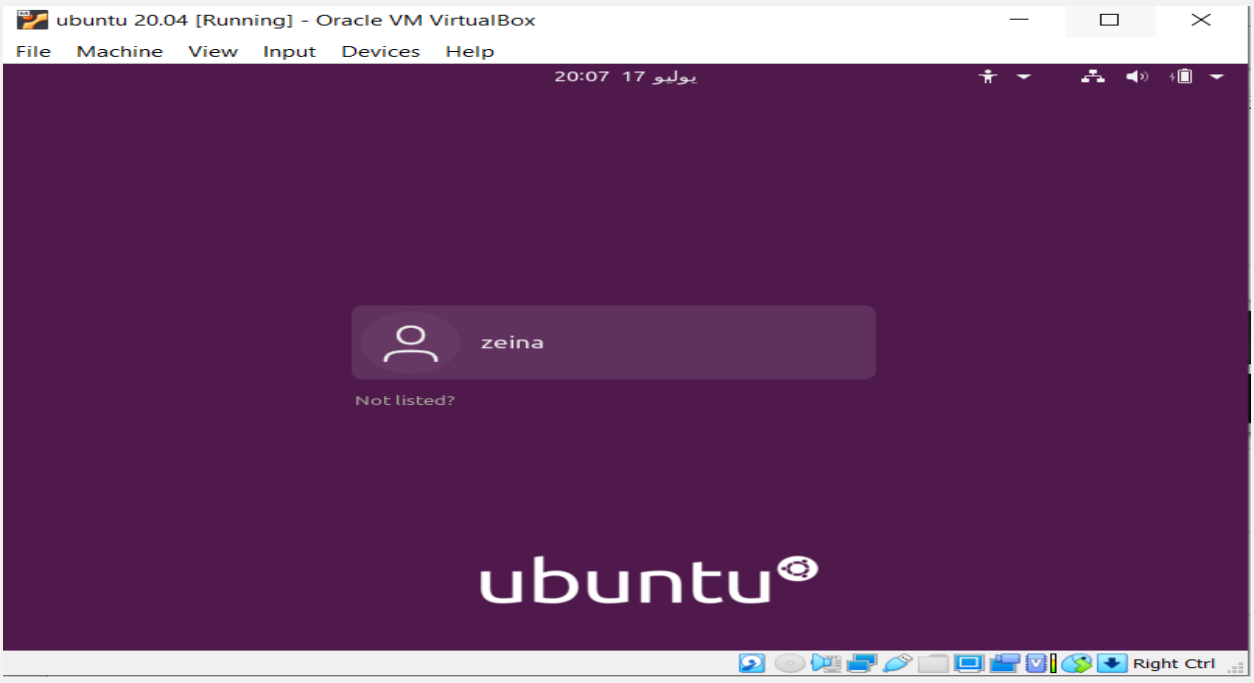
- First: Download Virtual Box to allow us to install Ubuntu

You can Download it from site: https://www.virtualbox.org/ and chose the platform packages.

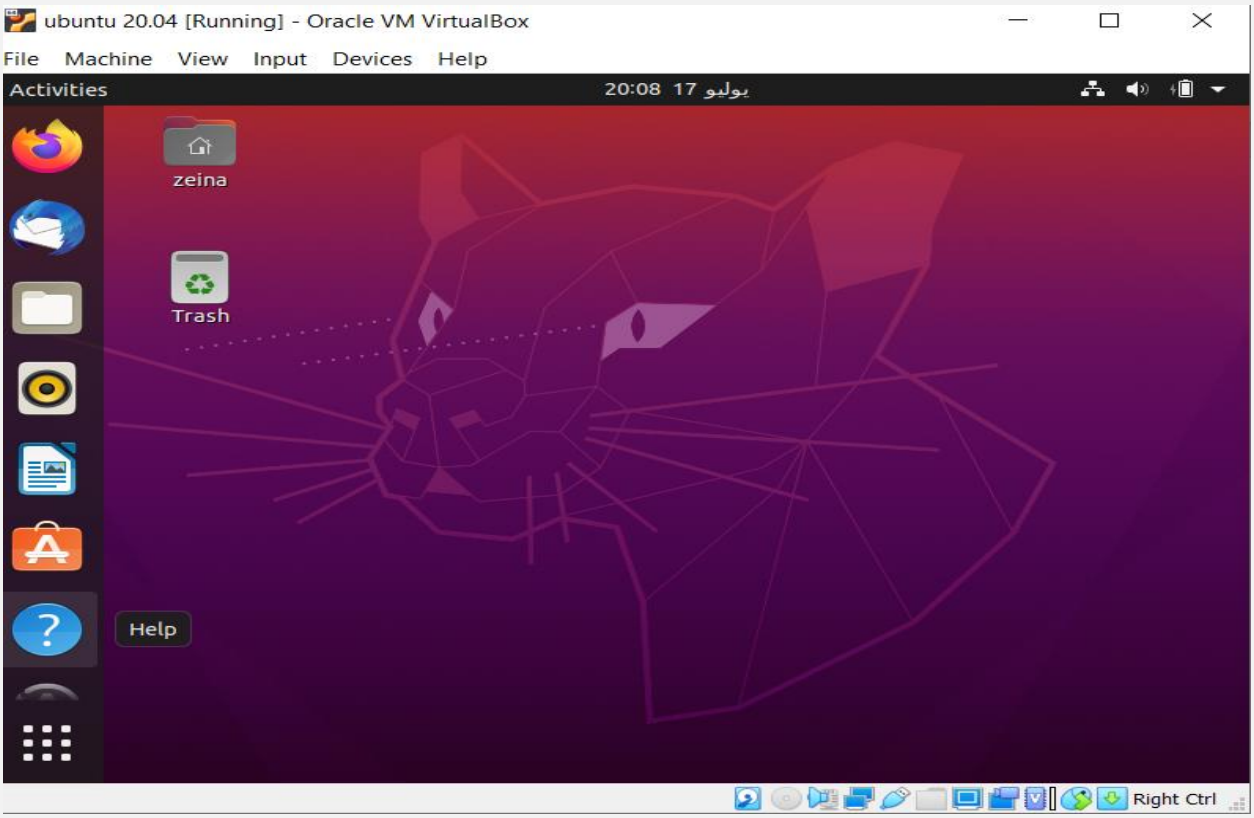
- Then, open virtual box and add the ubuntu 20.04

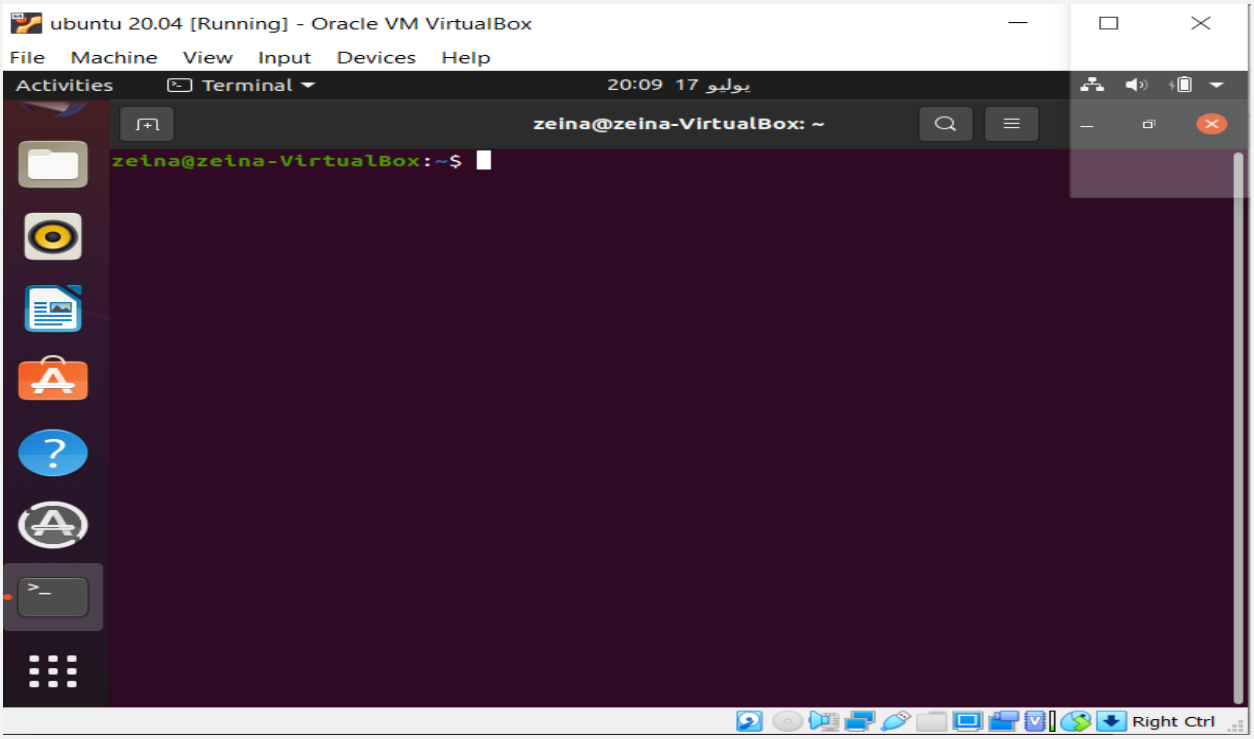


- After that, start Ubuntu 20.04, log in, and accept to continue downloading.



- It will be ready to install ROS through Terminal Box





- Start to write these commands and follow thiers:

Configure Ubuntu repositories:

========

Configure Ubuntu repositories to allow "restricted," "universe," and "multiverse."

Setup sources.list to accept software from packages.ros.org:

=========

> sudo sh -c 'echo "deb http://packages.ros.org/ros/ubuntu $(lsb_release -sc) main" > /etc/apt/sources.list.d/ros-latest.list'

Set up the keys:

=========

> sudo apt install curl # if you haven't already installed curl

curl -s https://raw.githubusercontent.com/ros/rosdistro/master/ros.asc | sudo apt-key add -

Installation:

========

it must make sure the Debian package index is up-to-date...

=

> sudo apt update

> sudo apt install ros-noetic-desktop-full

Environment setup:

=======

> source /opt/ros/noetic/setup.bash

> echo "source /opt/ros/noetic/setup.bash" >> ~/.bashrc

Dependencies for building packages:

=======

Up to now you have installed what you need to run the core ROS packages. To create and manage your own ROS workspaces, there are various tools and requirements that are distributed separately. For example, rosinstall is a frequently used command-line tool that enables you to easily download many source trees for ROS packages with one command.

> sudo apt install python3-rosdep python3-rosinstall python3-rosinstall-generator python3-wstool build-essential

> sudo apt install python3-rosdep

With the following, you can initialize rosdep:

========

> sudo rosdep init

> rosdep update

Now, to test your installation, please proceed to the ROS Tutorials.

To check if the ROS is installed and everything is done, we can write on terminal:

========

> roscore

it will show the result and make sure that every thing is fine and show this message:

========

... logging to /home/zeina/.ros/log/b2be9c78-0544-11ed-9374-a580fb158bae/roslaunch-zeina-VirtualBox-31972.log

Checking log directory for disk usage. This may take a while.

Press Ctrl-C to interrupt

Done checking log file disk usage. Usage is <1GB.

started roslaunch server http://zeina-VirtualBox:39335/

ros_comm version 1.15.14

SUMMARY

========

PARAMETERS

 * /rosdistro: noetic

 * /rosversion: 1.15.14

NODES

auto-starting new master

process[master]: started with pid [31982]

ROS_MASTER_URI=http://zeina-VirtualBox:11311/

setting /run_id to b2be9c78-0544-11ed-9374-a580fb158bae

process[rosout-1]: started with pid [31992]

started core service [/rosout]

```
zeina@zeina-VirtualBox:~$ roscore
... logging to /home/zeina/.ros/log/5be5fa42-05ec-11ed-a05d-c1b476e1996c/roslau
nch-zeina-VirtualBox-3494.log
Checking log directory for disk usage. This may take a while.
Press Ctrl-C to interrupt
Done checking log file disk usage. Usage is <1GB.

started roslaunch server http://zeina-VirtualBox:40053/
ros_comm version 1.15.14


SUMMARY
========

PARAMETERS
 * /rosdistro: noetic
 * /rosversion: 1.15.14

NODES

auto-starting new master
process[master]: started with pid [3502]
ROS_MASTER_URI=http://zeina-VirtualBox:11311/

setting /run_id to 5be5fa42-05ec-11ed-a05d-c1b476e1996c
process[rosout-1]: started with pid [3512]
started core service [/rosout]
```

- Everythings is ok and the ROS has been installed successfully.