

Ros-ininstall-steps

#ROS install Steps:

1-Download VM VirtualBox 6.1.34 All download steps are by clicking Next, then Install.

2-after download VirtualBox 6.1.34 We leave and then download ubuntu 20.04.4 64bit.

We open VirtualBox Then press New, and then fill in the data

4- and then next and the Memory Size:1000MB then create a virtual hard disk now and the Size is the limit on the amount of file data that a virtual machine will be able to store on the .hard disk 20GB and then create

5- Finally, the main interface of the program, Virtual Box, will appear Finally, the main interface of the program, Virtual Box, will appear, then we will** click on Settings** to set up the Ubuntu file in Ros and choose Storage, then from the CD tab, choose the Ubuntu .20.04.4 file, then save

6-We return to the main page of the interface of the Virtual Box program and press Start, then choose Install Ubuntu and complete the rest of the steps by pressing Continue, then we fill in the following data: My Name and Password. 7.After that, we open a terminal to write :the commands to download Rose in Ubuntu

Configure your Ubuntu repositories

```
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 your 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

```
sudo apt update
```

Desktop-Full Install:

```
sudo apt install ros-noetic-desktop-full
```

Environment setup

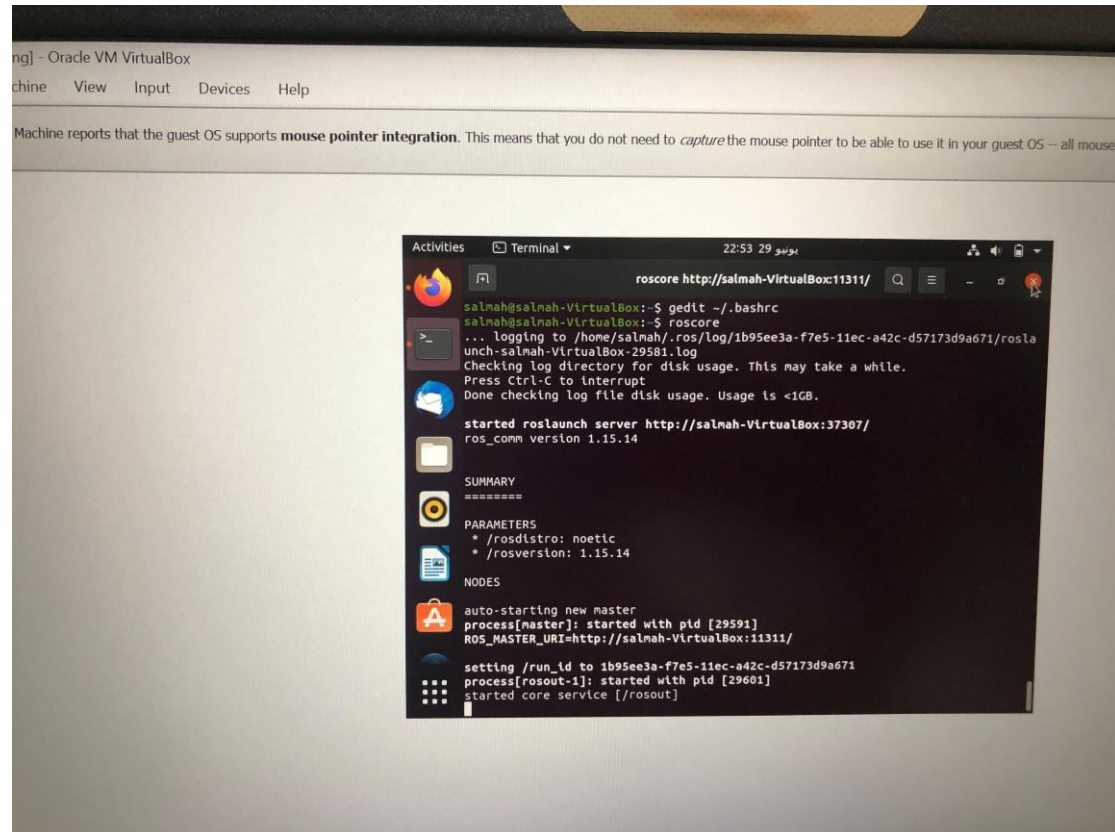
```
source /opt/ros/noetic/setup.bash
```

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

```
gedit ~/.bashrc
```

With these commands, Rose was downloaded successfully. To make sure, we type the command:

Roscore



The screenshot shows a terminal window titled "Terminal" with the address bar "roscore http://salmah-VirtualBox:11311/". The terminal output is as follows:

```
salmah@salmah-VirtualBox:~$ gedit ~/.bashrc
salmah@salmah-VirtualBox:~$ roscore
... logging to /home/salmah/.ros/log/1b95ee3a-f7e5-11ec-a42c-d57173d9a671/ros1a
unch-salmah-VirtualBox-29581.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://salmah-VirtualBox:37307/
ros_comm version 1.15.14

SUMMARY
=====
PARAMETERS
* /rostdistro: noetic
* /rosversion: 1.15.14
NODES
auto-starting new master
process[master]: started with pid [29591]
ROS_MASTER_URI=http://salmah-VirtualBox:11311/

setting /run_id to 1b95ee3a-f7e5-11ec-a42c-d57173d9a671
process[rosout-1]: started with pid [29601]
started core service [/rosout]
```