كيفية تحميل نظام Ubuntu
How to install Ubuntu OS

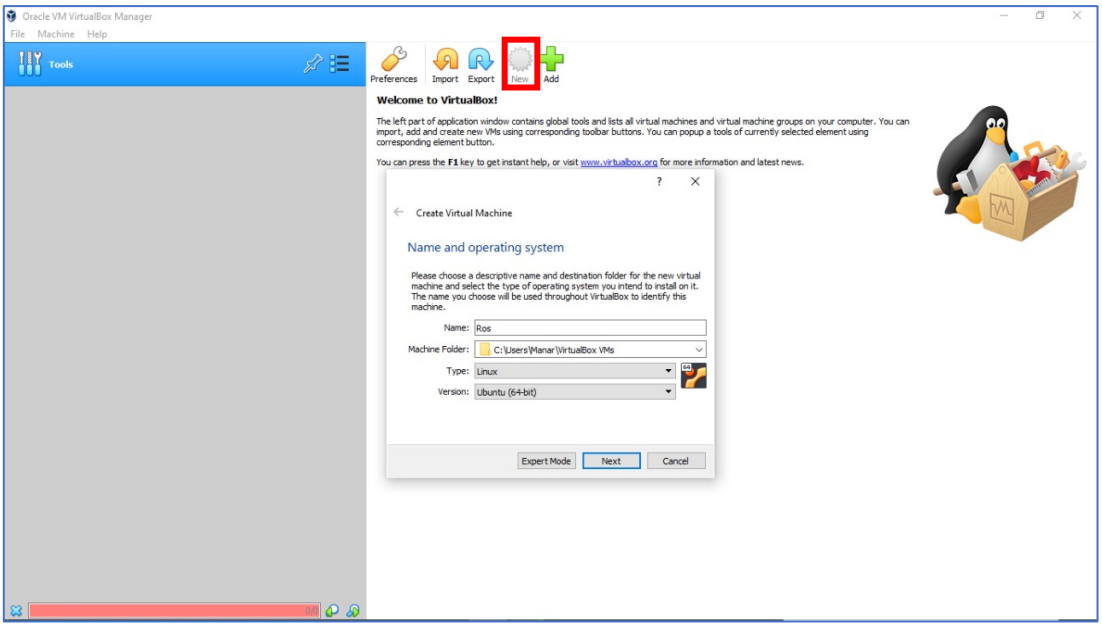
1. نبدأ بتحميل Virtual Box ثم تثبيته.

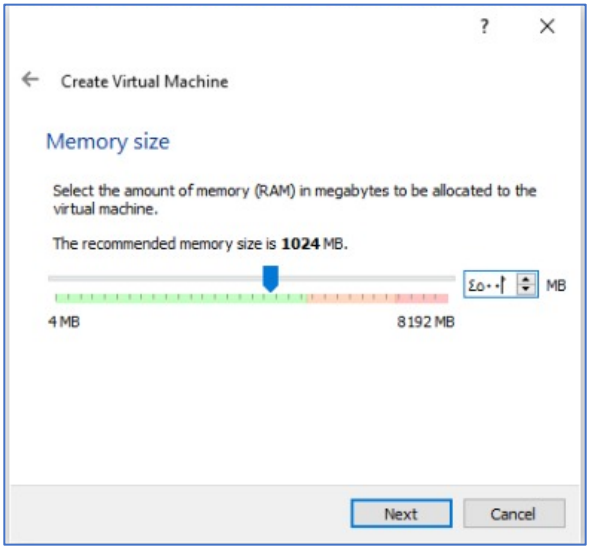
1. Download Virtual Box then install it.

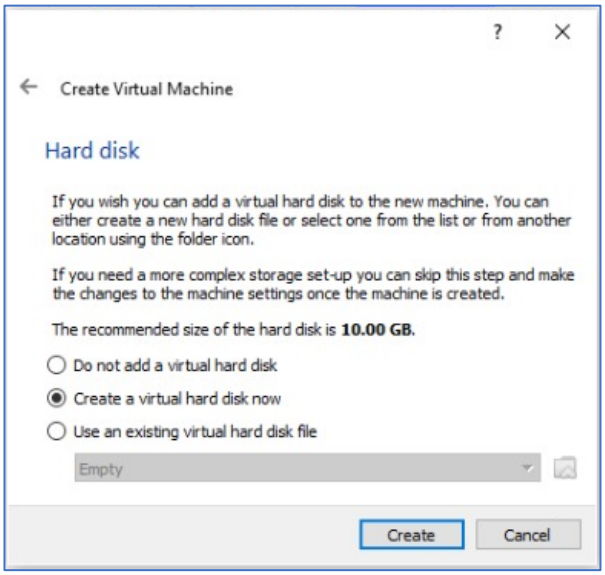
رابط التحميل/Download link: https://www.virtualbox.org/wiki/Downloads

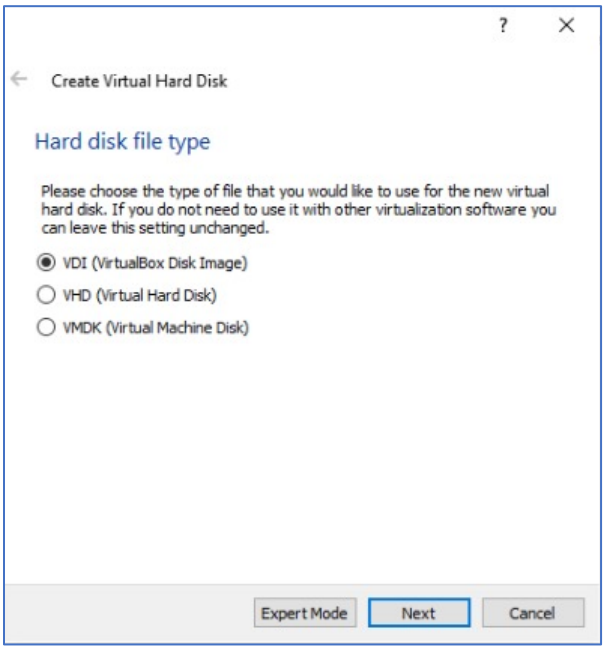
2. انقر على New ثم قم بكتابة Name واختر Type: Linux و Version: ubuntu في الاخير انقر على Next.

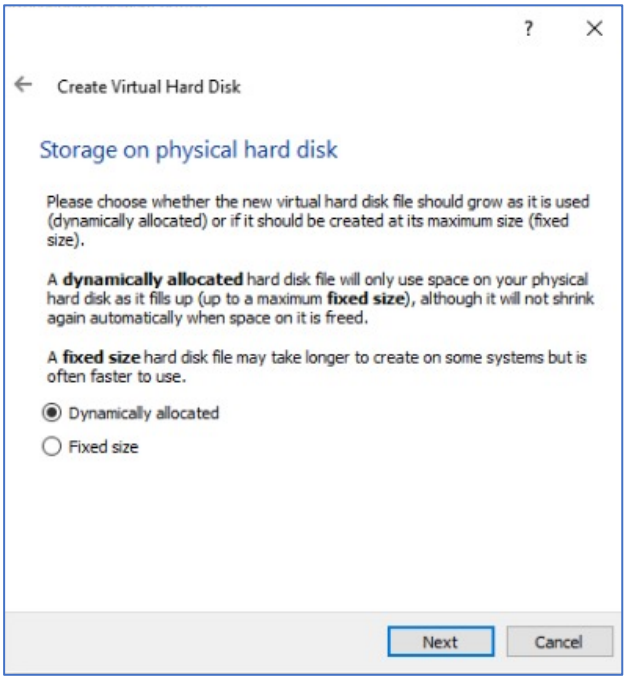
2. Click on New then write the Name and choose Type: Linux and Version: ubuntu after that click on Next.

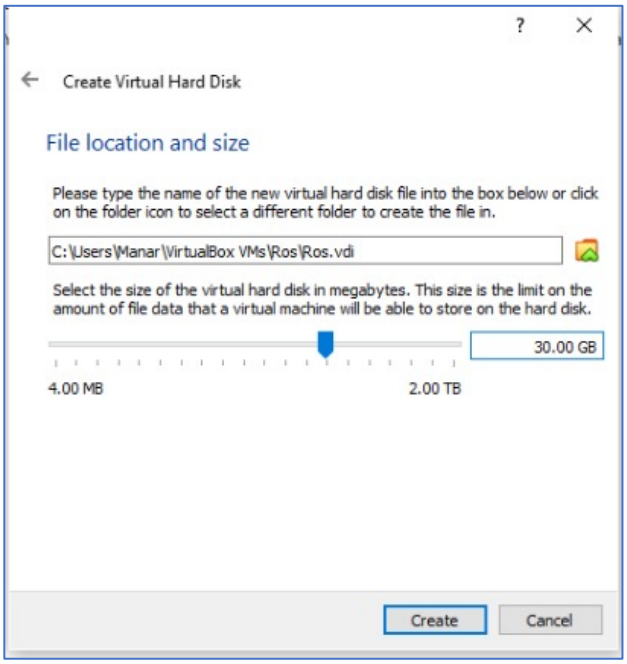


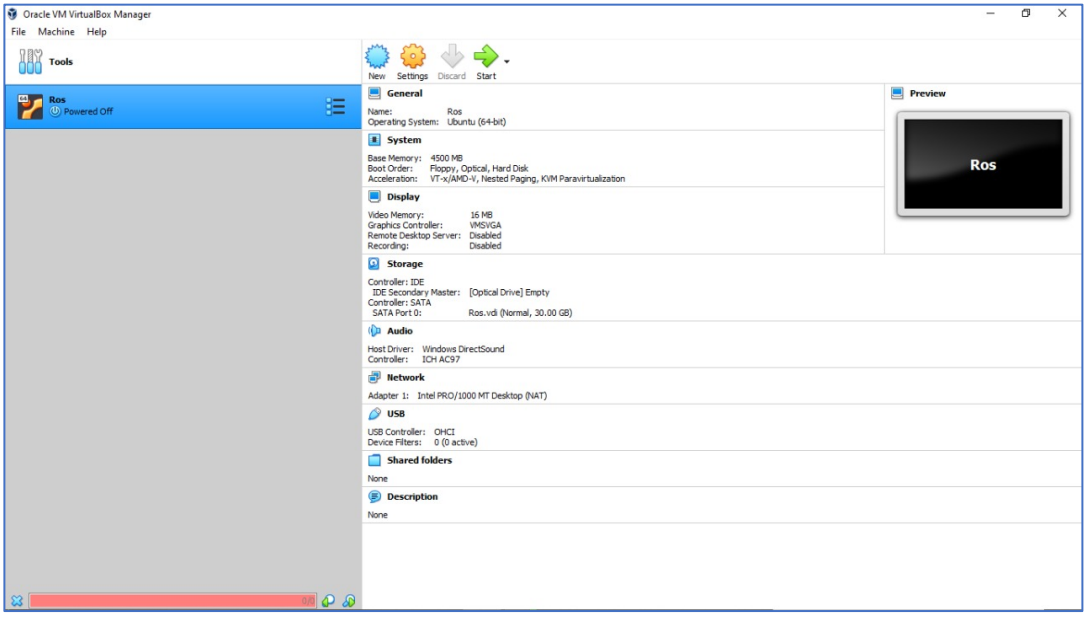

Create Virtual Machine
Memory size
Select the amount of memory (RAM) in megabytes to be allocated to the virtual machine.
The recommended memory size is 1024 MB.
MB
4 MB
8192 MB
Next
Cancel


Create Virtual Machine
Hard disk
If you wish you can add a virtual hard disk to the new machine. You can either create a new hard disk file or select one from the list or from another location using the folder icon.
If you need a more complex storage set-up you can skip this step and make the changes to the machine settings once the machine is created.
The recommended size of the hard disk is 10.00 GB.
Do not add a virtual hard disk
Create a virtual hard disk now
Use an existing virtual hard disk file
Empty
Create
Cancel


Create Virtual Hard Disk
Hard disk file type
Please choose the type of file that you would like to use for the new virtual hard disk. If you do not need to use it with other virtualization software you can leave this setting unchanged.
VDI (VirtualBox Disk Image)
VHD (Virtual Hard Disk)
VMDK (Virtual Machine Disk)
Expert Mode
Next
Cancel


Create Virtual Hard Disk
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

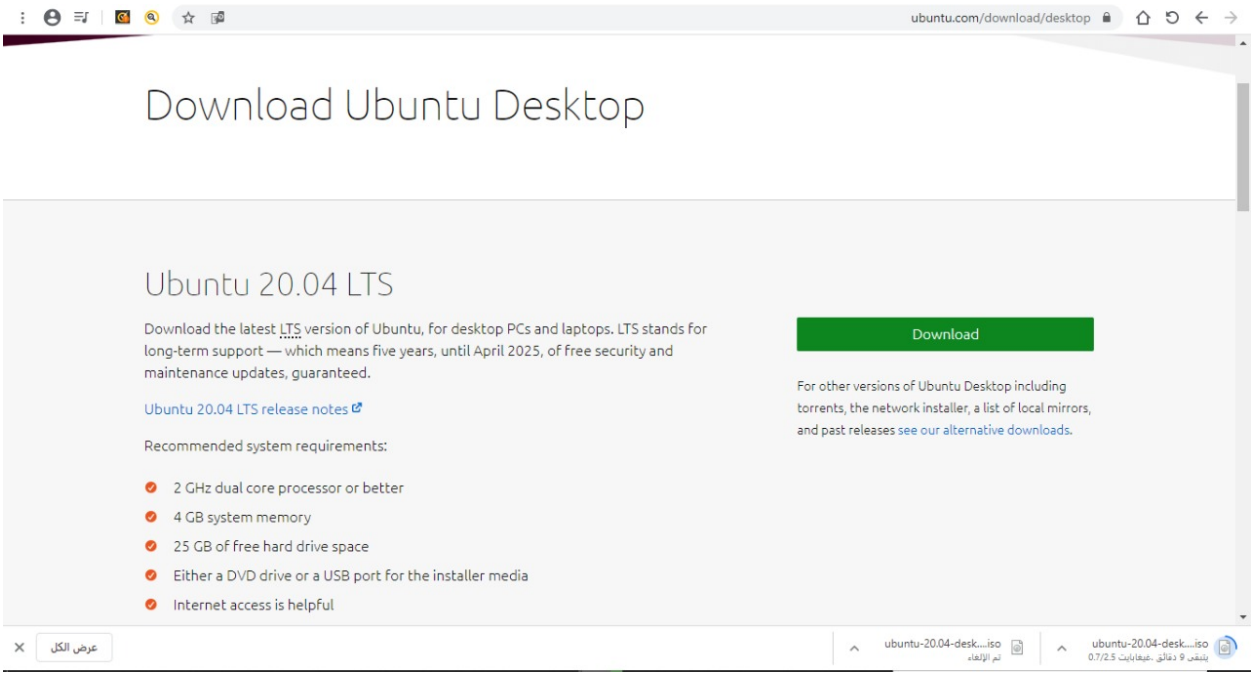

Create Virtual Hard Disk
File location and size
Please type the name of the new virtual hard disk file into the box below or click on the folder icon to select a different folder to create the file in.
C:\Users\Manar\VirtualBox VMs\Ros\Ros.vdi
Select the size of the virtual hard disk in megabytes. This size is the limit on the amount of file data that a virtual machine will be able to store on the hard disk.
30.00 GB
4.00 MB
2.00 TB
Create
Cancel


Oracle VM VirtualBox Manager
File Machine Help
Tools
Ros
Powered Off
New Settings Discard Start
General
Name: Ros
Operating System: Ubuntu (64-bit)
System
Base Memory: 4500 MB
Boot Order: Floppy, Optical, Hard Disk
Acceleration: VT-x/AMD-V, Nested Paging, KVM Paravirtualization
Display
Video Memory: 16 MB
Graphics Controller: VMSVGA
Remote Desktop Server: Disabled
Recording: Disabled
Storage
Controller: IDE
IDE Secondary Master: [Optical Drive] Empty
Controller: SATA
SATA Port 0: Ros.vdi (Normal, 30.00 GB)
Audio
Host Driver: Windows DirectSound
Controller: ICH AC97
Network
Adapter 1: Intel PRO/1000 MT Desktop (NAT)
USB
USB Controller: OHCI
Device Filters: 0 (0 active)
Shared folders
None
Description
None
Preview
Ros

3.الآن نبدأ بتحميل Ubuntu

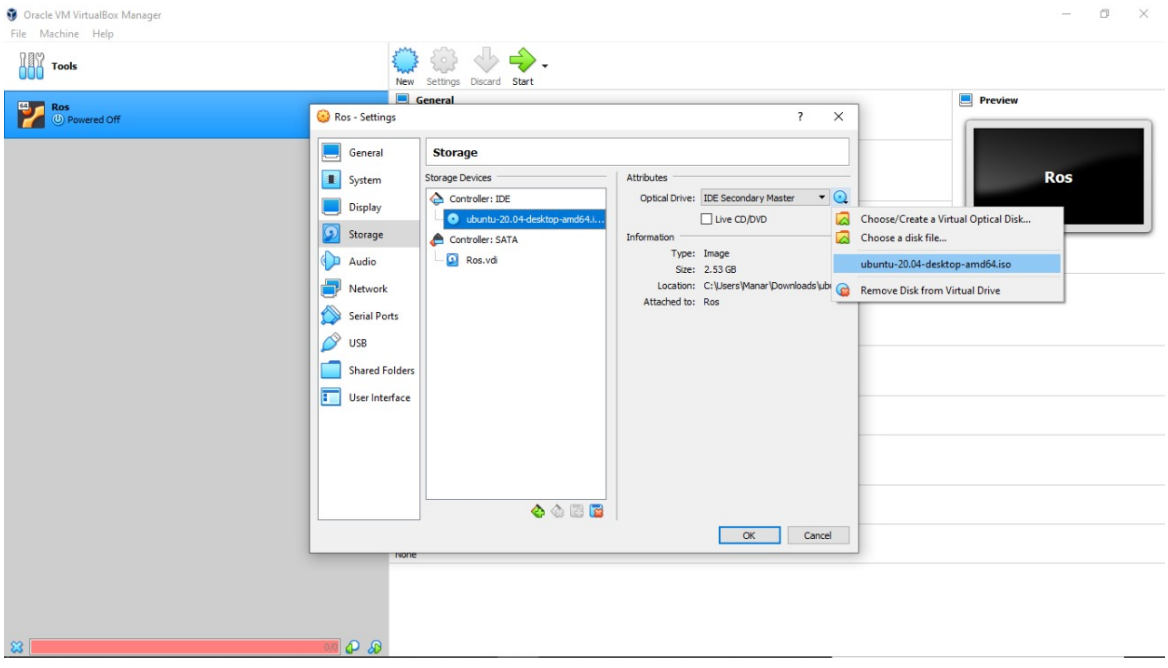
3. Now download Ubuntu

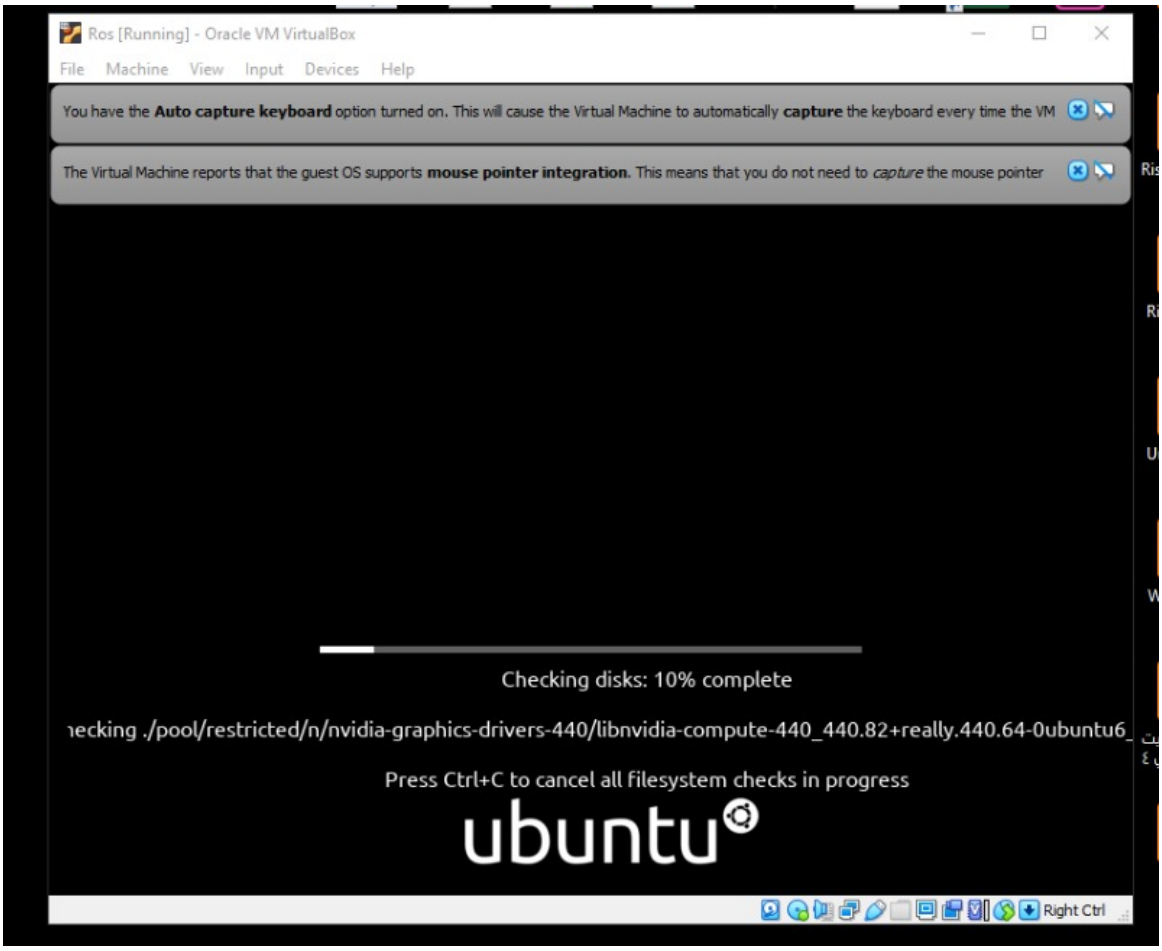
رابط التحميل/ Download link: https://ubuntu.com/download/desktop

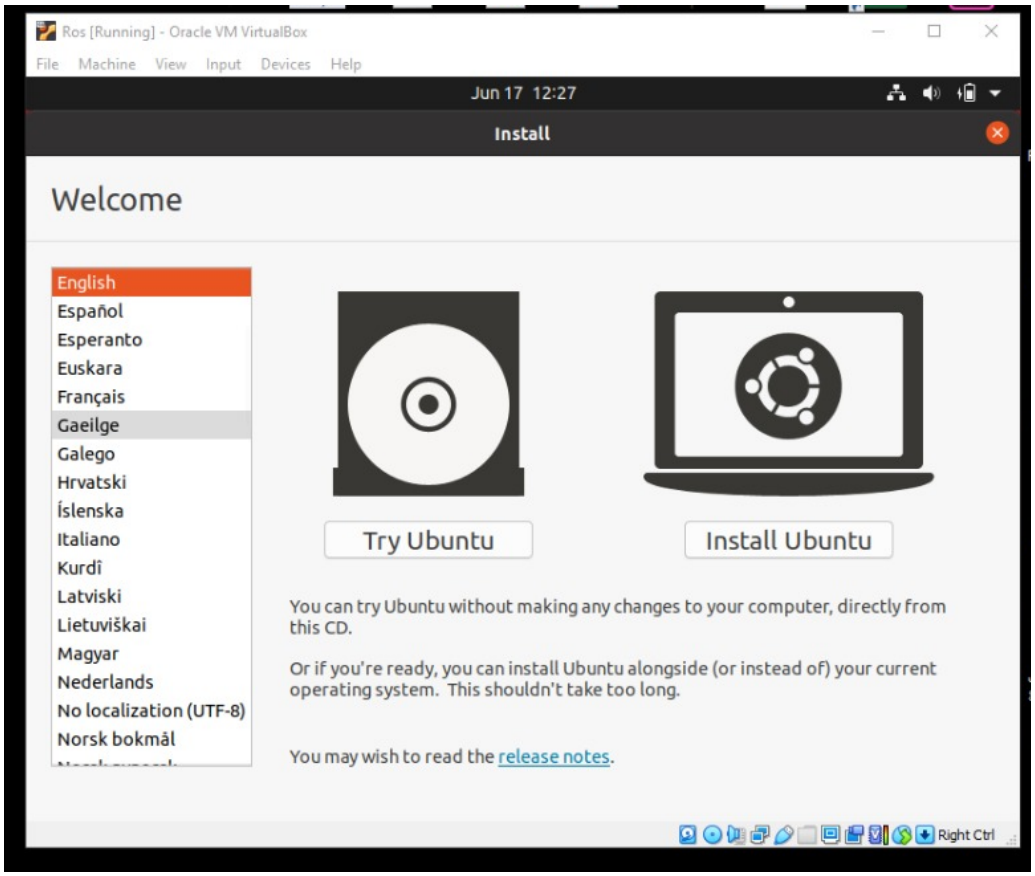


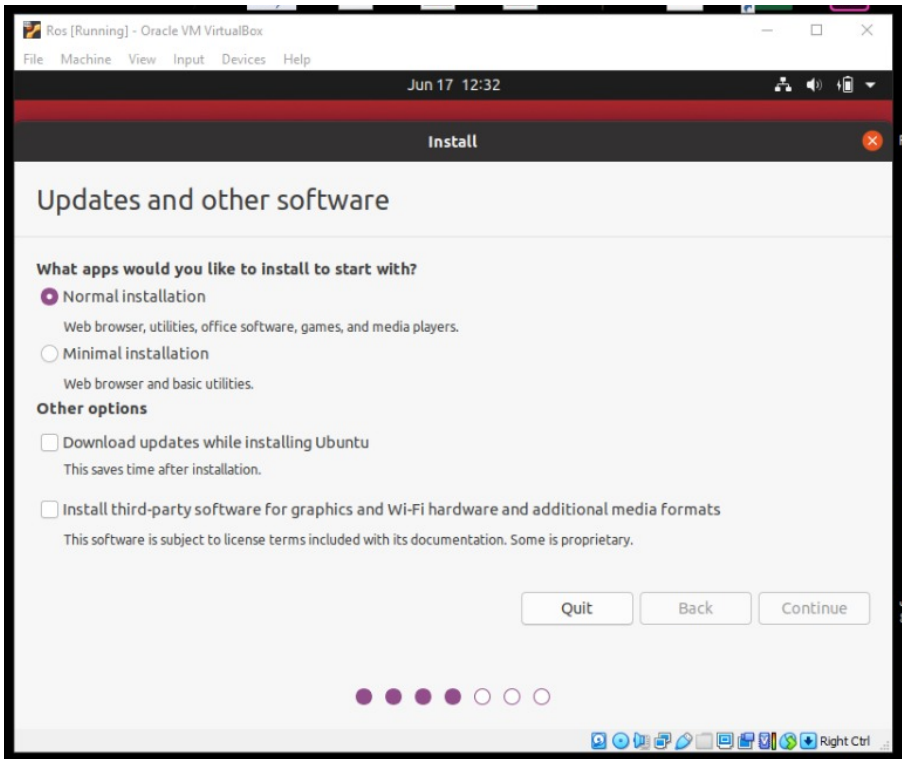
3. بعد الانتهاء من تحميل Ubuntu. انقر على Setting ثم Storage ثم اختر Ubuntu في حال لم يكن ظاهر لك فقم باختياره من Choose a disk file

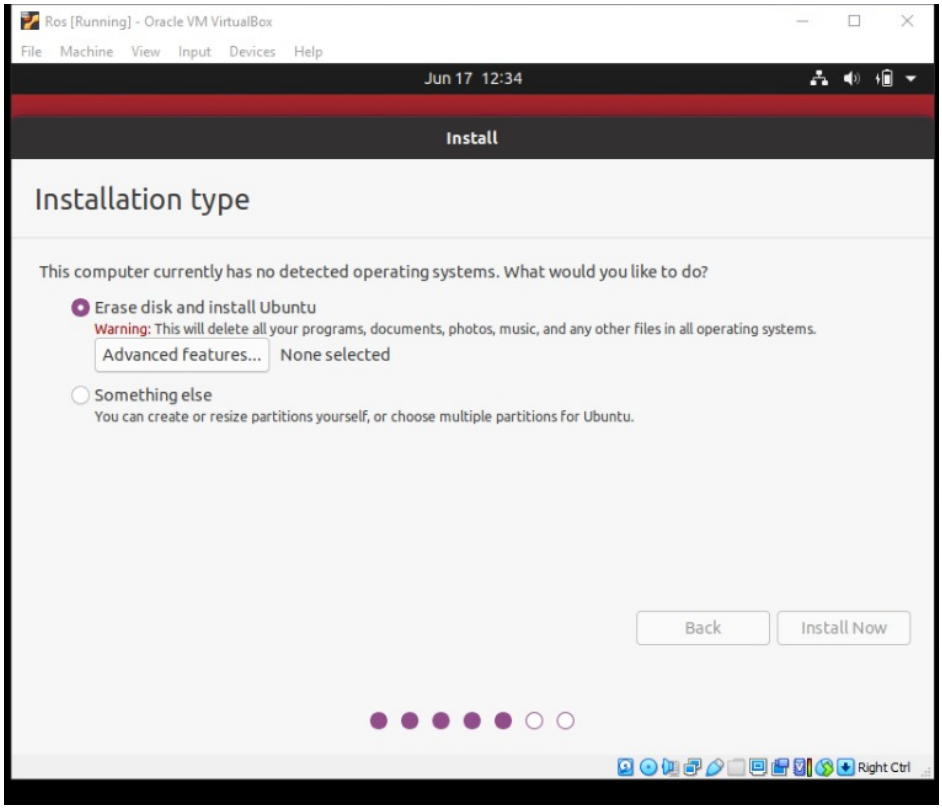
4. After completing the download of Ubuntu. Click on Setting then Storage then choose Ubuntu, if it is not apparent to you click on Choose a disk file

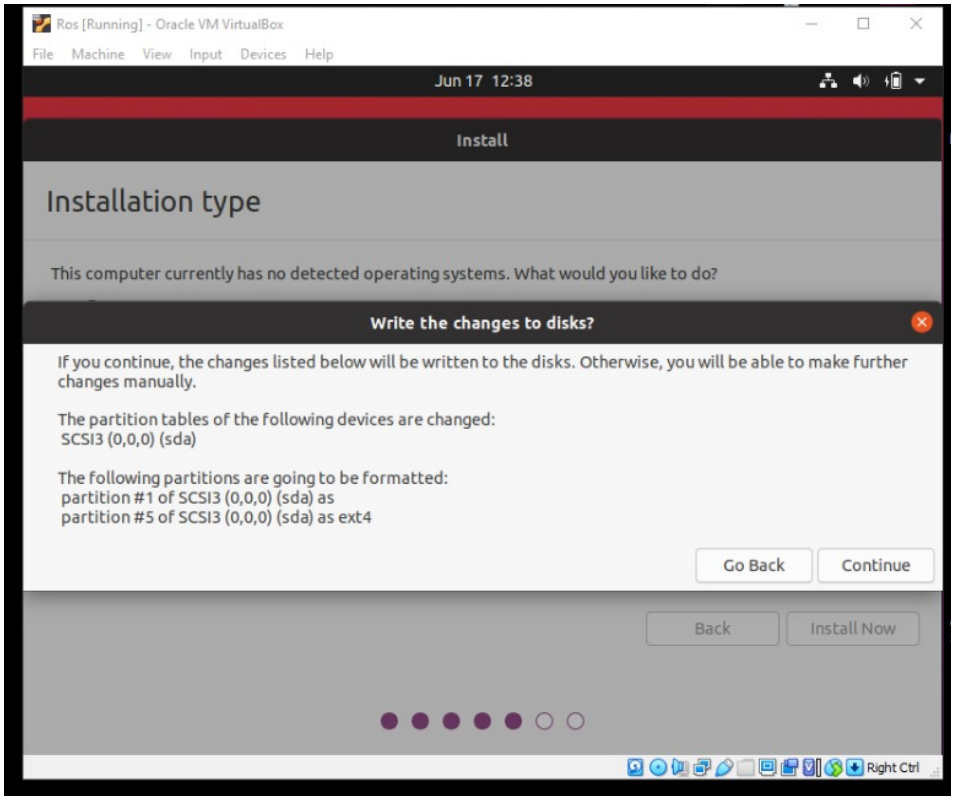


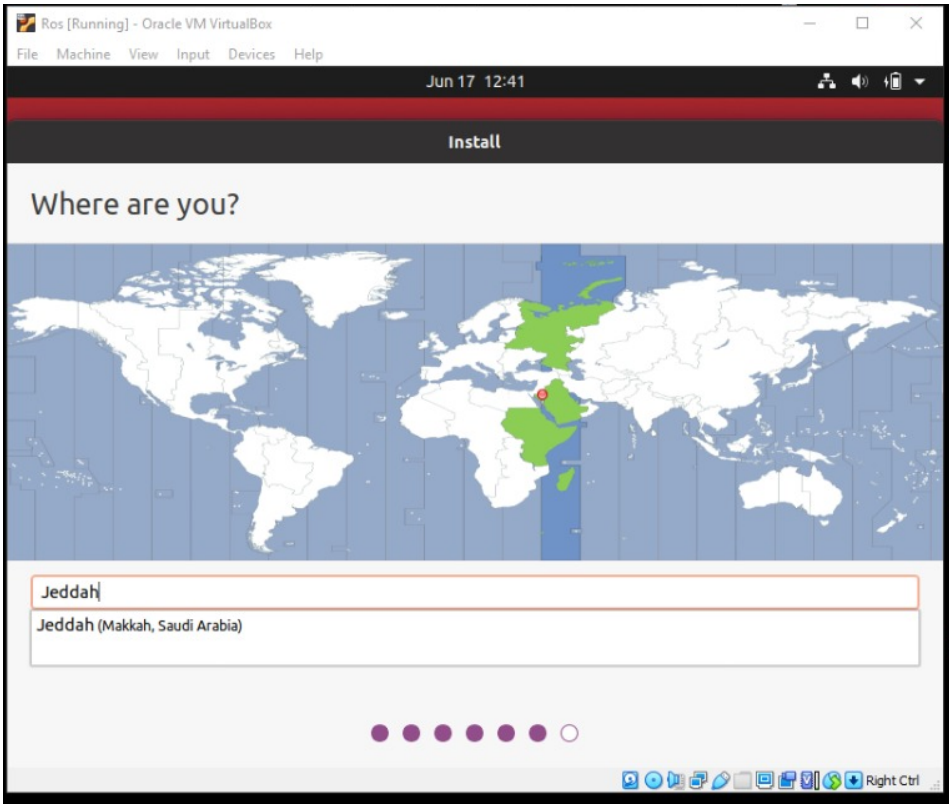

Ros [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
You have the Auto capture keyboard option turned on. This will cause the Virtual Machine to automatically capture the keyboard every time the VM
The Virtual Machine reports that the guest OS supports mouse pointer integration. This means that you do not need to capture the mouse pointer
Checking disks: 10% complete
ıecking ./pool/restricted/n/nvidia-graphics-drivers-440/libnvidia-compute-440_440.82+really.440.64-0ubuntu6_
Press Ctrl+C to cancel all filesystem checks in progress
ubuntu
Right Ctrl

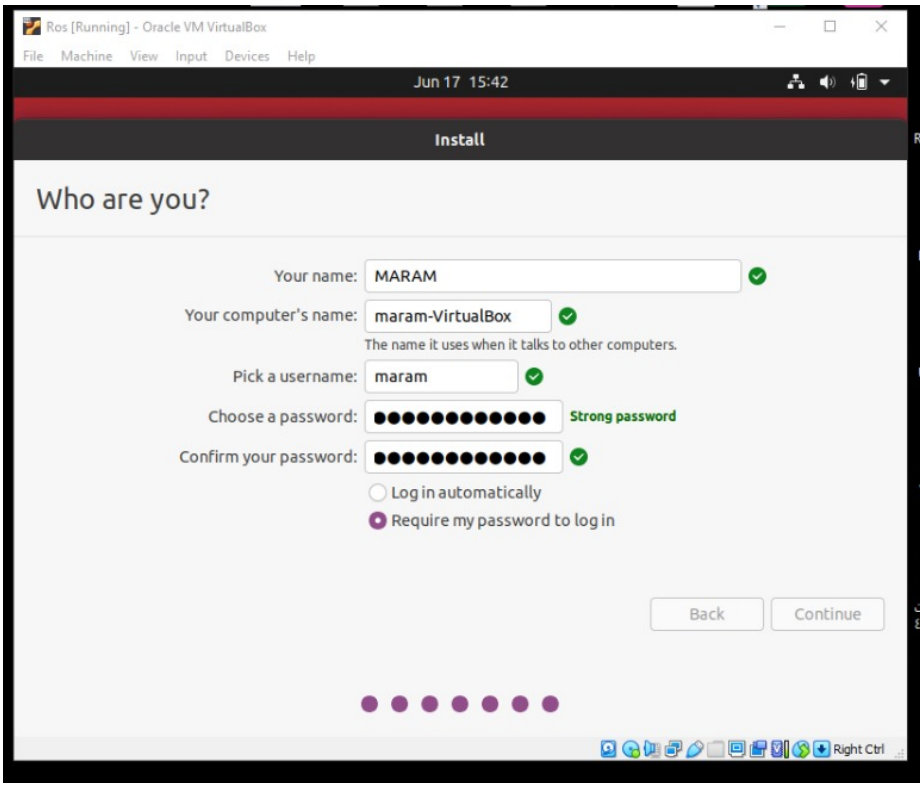

Ros [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Jun 17 12:27
Install
Welcome
English
Español
Esperanto
Euskara
Français
Gaeilge
Galego
Hrvatski
Íslenska
Italiano
Kurdî
Latviski
Lietuviškai
Magyar
Nederlands
No localization (UTF-8)
Norsk bokmål
Try Ubuntu
Install Ubuntu
You can try Ubuntu without making any changes to your computer, directly from this CD.
Or if you're ready, you can install Ubuntu alongside (or instead of) your current operating system. This shouldn't take too long.
You may wish to read the release notes.
Right Ctrl

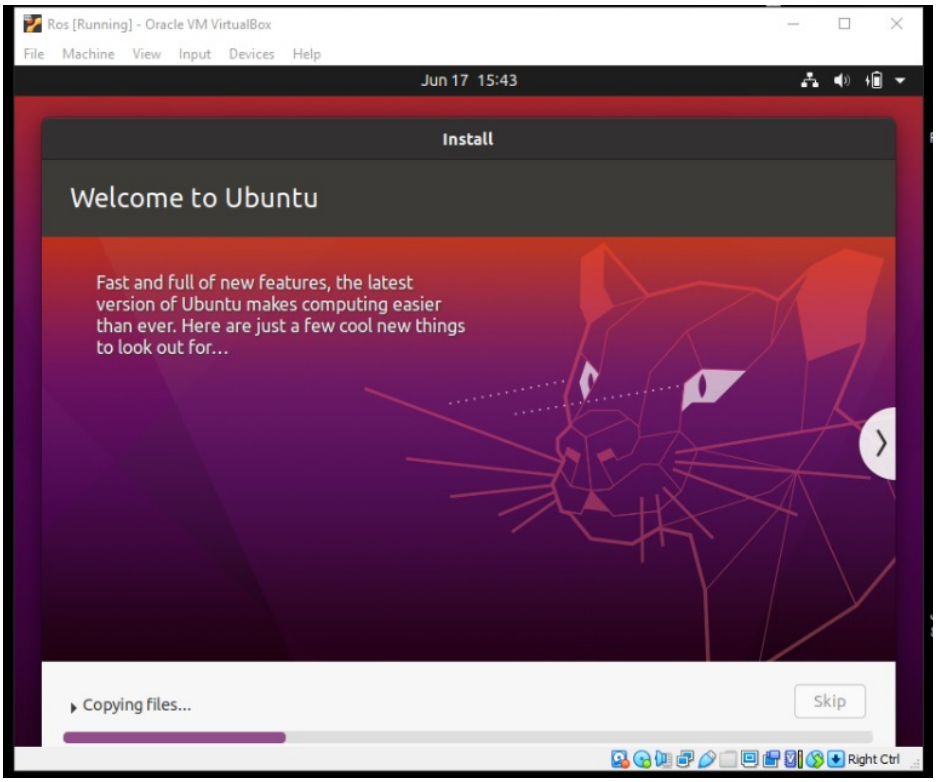

Ros [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Jun 17 12:32
Install
Updates and other software
What apps would you like to install to start with?
Normal installation
Web browser, utilities, office software, games, and media players.
Minimal installation
Web browser and basic 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
Right Ctrl

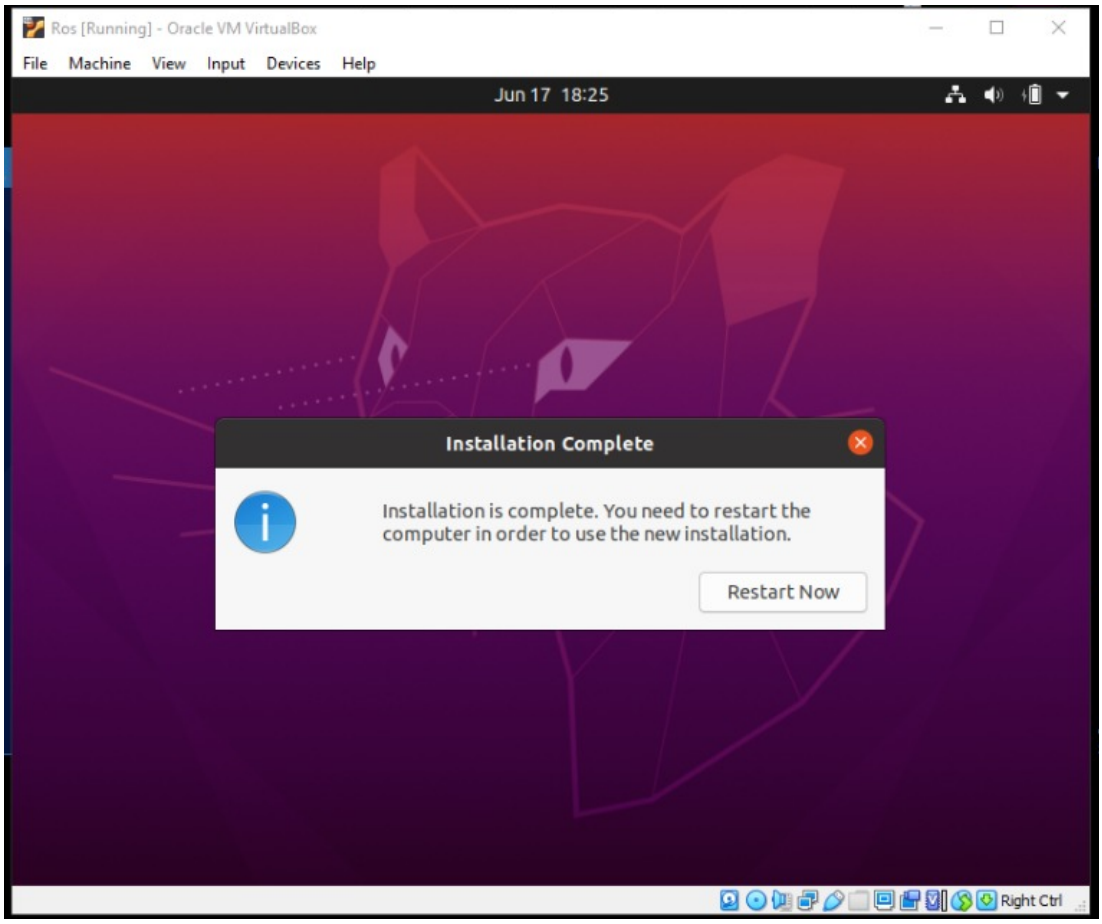

Ros [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Jun 17 12:34
Install
Installation type
This computer currently has no detected operating systems. What would you like to do?
Erase disk and install Ubuntu
Warning: This will delete all your programs, documents, photos, music, and any other files in all operating systems.
Advanced features...
None selected
Something else
You can create or resize partitions yourself, or choose multiple partitions for Ubuntu.
Back
Install Now
Right Ctrl

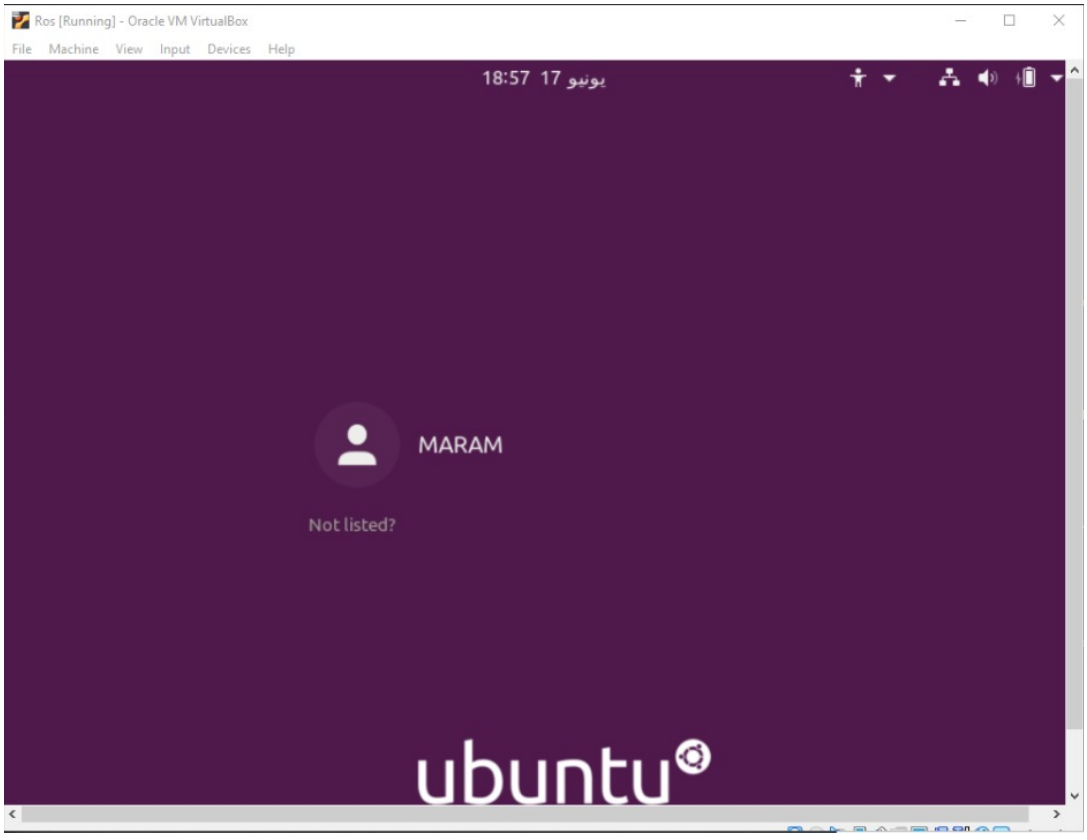

Ros [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Jun 17 12:38
Install
Installation type
This computer currently has no detected operating systems. What would you like to do?
Write the changes to disks?
If you continue, the changes listed below will be written to the disks. Otherwise, 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
partition #5 of SCSI3 (0,0,0) (sda) as ext4
Go Back
Continue
Back
Install Now
Right Ctrl


Ros [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Jun 17 12:41
Install
Where are you?
Jeddah
Jeddah (Makkah, Saudi Arabia)
Right Ctrl


Ros [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Jun 17 15:42
Install
Who are you?
Your name: MARAM
Your computer's name: maram-VirtualBox
The name it uses when it talks to other computers.
Pick a username: maram
Choose a password: Strong password
Confirm your password:
Log in automatically
Require my password to log in
Back
Continue
Right Ctrl


Ros [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Jun 17 15:43
Install
Welcome to Ubuntu
Fast and full of new features, the latest version of Ubuntu makes computing easier than ever. Here are just a few cool new things to look out for...
Copying files...
Skip
Right Ctrl


Ros [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Jun 17 18:25
Installation Complete
Installation is complete. You need to restart the computer in order to use the new installation.
Restart Now
Right Ctrl

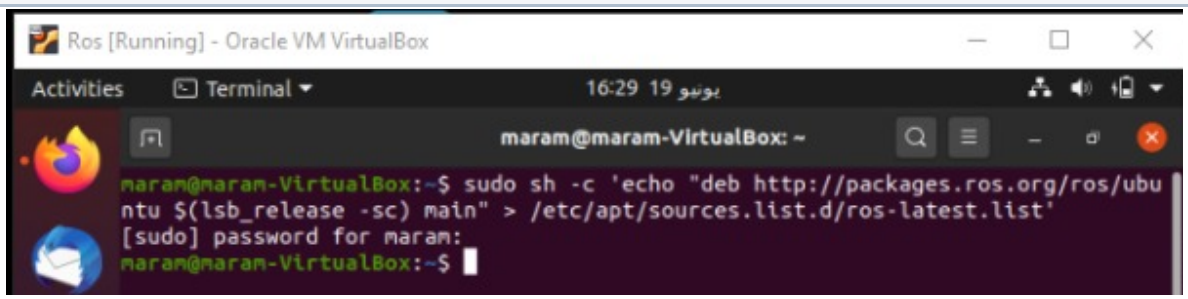

Ros [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
18:57 17 يونيو
MARAM
Not listed?
ubuntu

كيفية تحميل نظام ROSعلى نظامUbuntu

How to install ROS on Ubuntu OS

1- Open Terminal then write the command for Set-up your computer to accept software from packages.ros.org.
١-قم بفتح Terminal ثم قم بكتابة أمر إعداد الكمبيوتر لقبول البرامج.

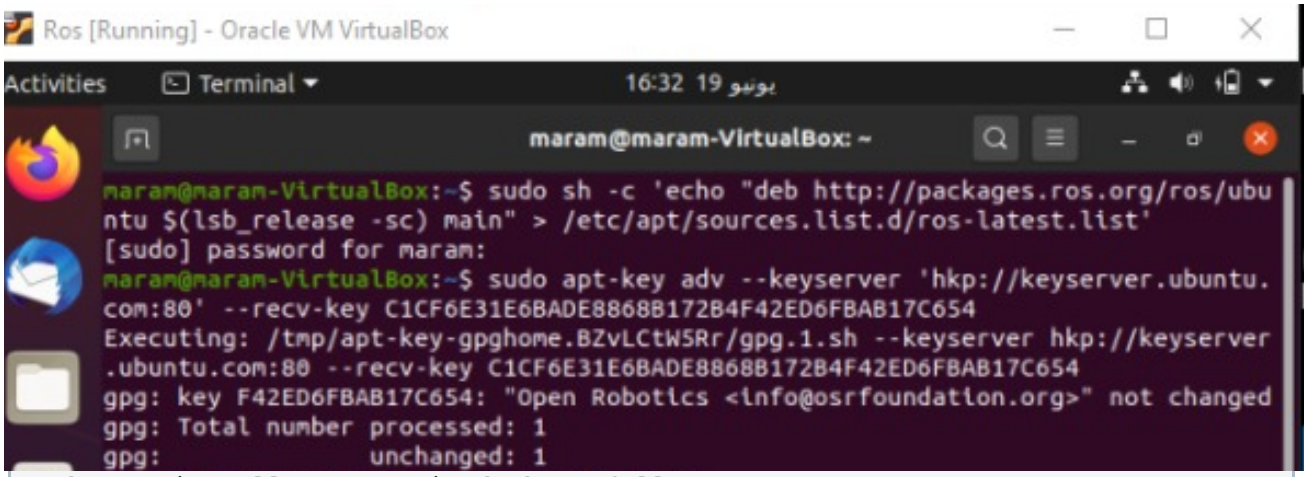
```
sudo sh -c 'echo "deb http://packages.ros.org/ros/ubuntu $(lsb_release -sc) main" > /etc/apt/sources.list.d/ros-latest.list'
```



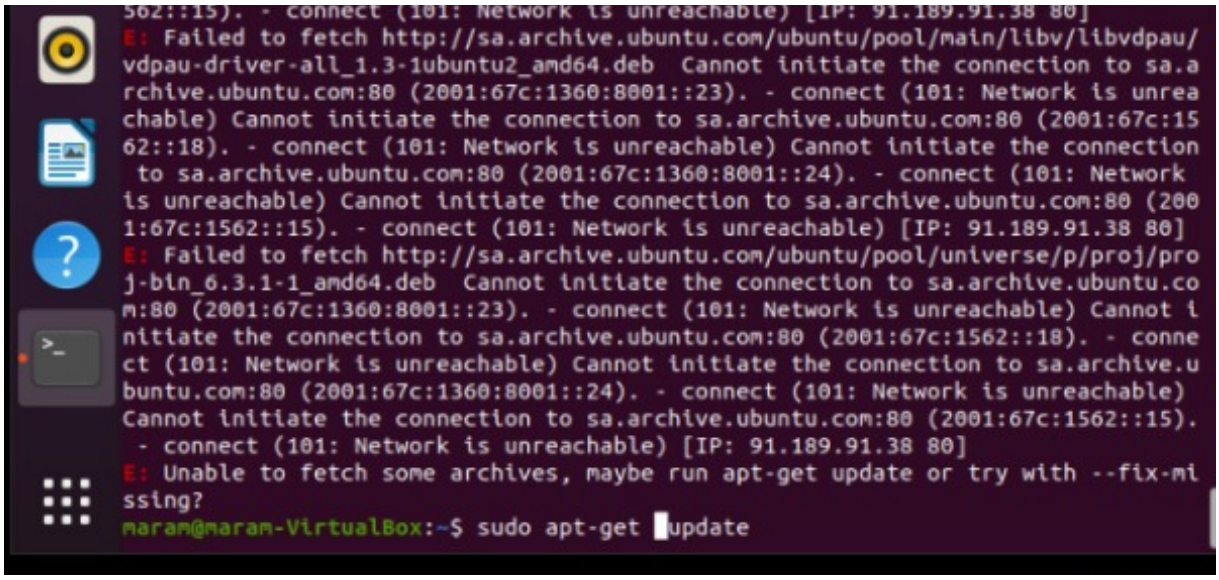
2- Set up your keys

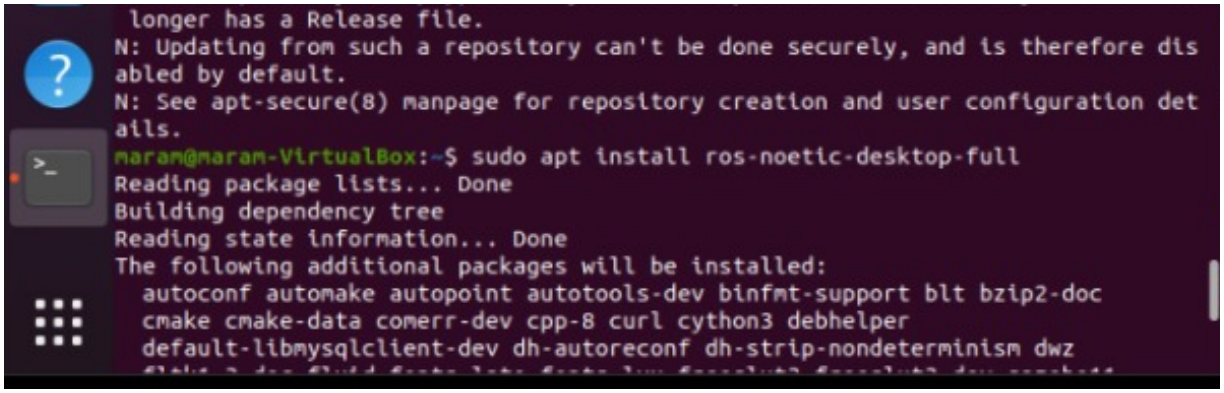
٢- قم بكتابة الأوامر التالية لبداية التحميل

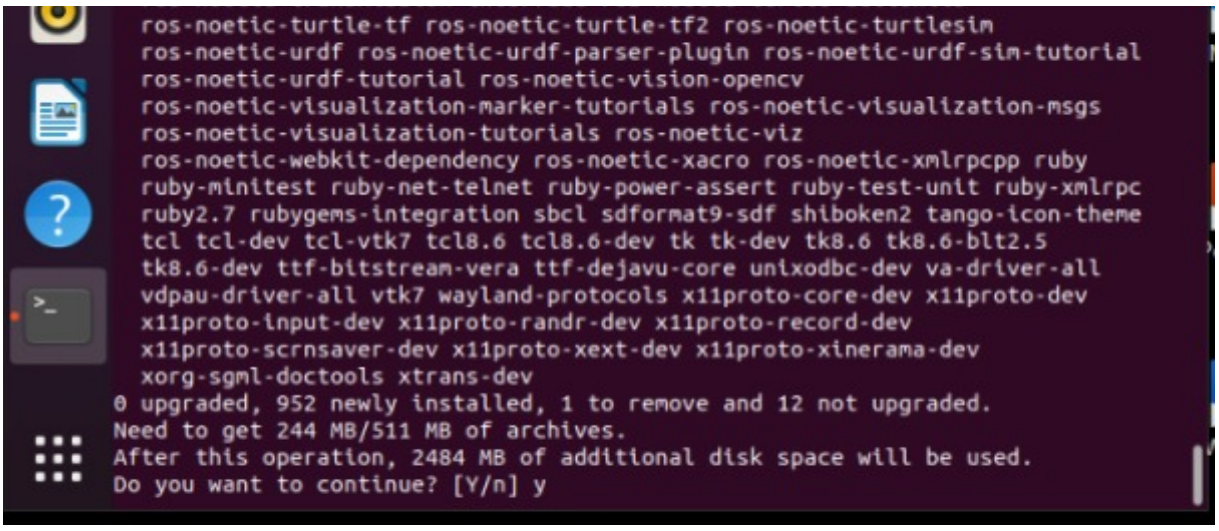
```
url -sSL 'http://keyserver.ubuntu.com/pks/lookup?op=get&search=0xC1CF6E31E6BADE8868B172B4F42ED6FBAB17C654' | sudo apt-key add -

sudo apt-get update
```




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







3- After the installation process, now we configure the environment.

٣- بعد عملية التثبيت ، نقوم الآن بعملية التهيئة.

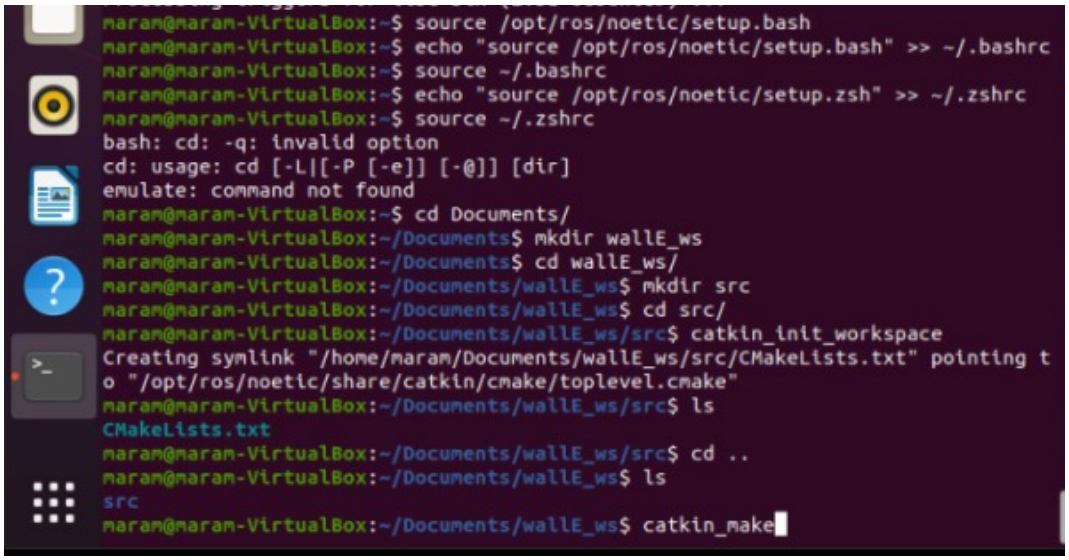
```
source /opt/ros/noetic/setup.bash
```

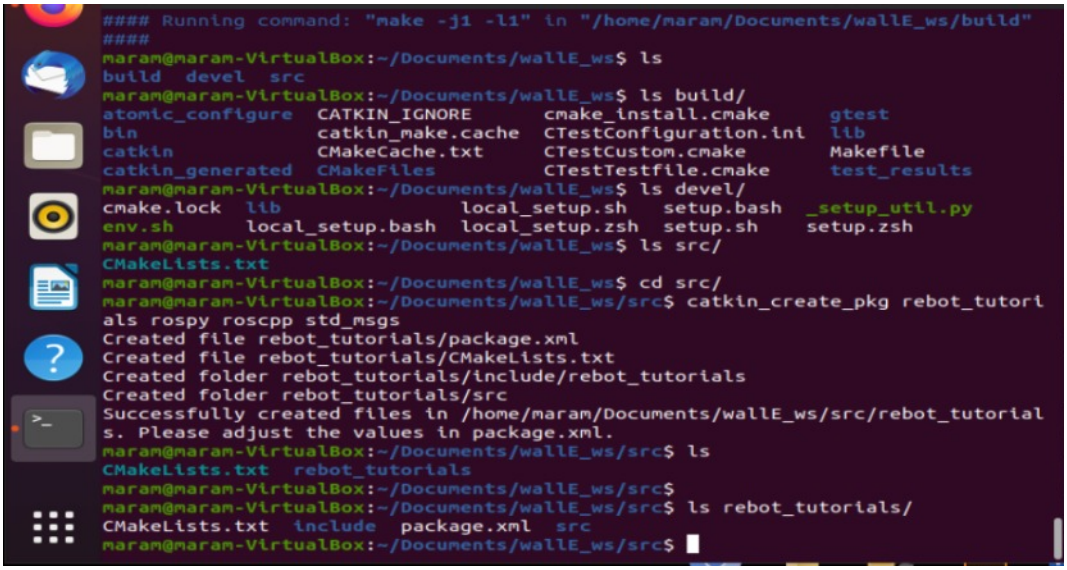
```
echo "source /opt/ros/noetic/setup.bash" >> ~/.bashrc
source ~/.bashrc
echo "source /opt/ros/noetic/setup.zsh" >> ~/.zshrc
source ~/.zshrc
```

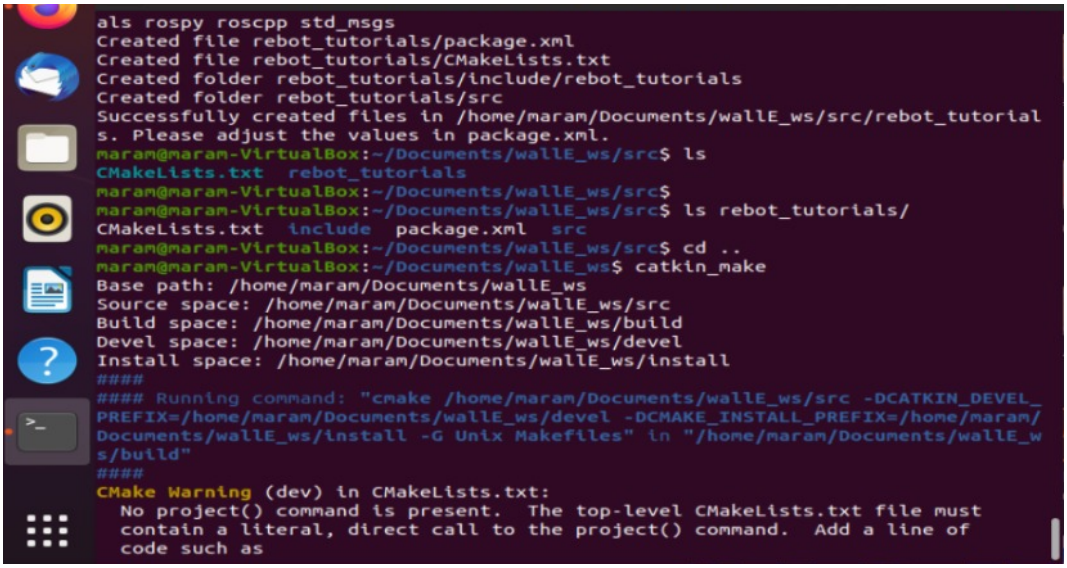
4- The last step: Create ROS packages

٤- الخطوة الأخيرة: إنشاء ملفات ROS

```
cd Documents/
mkdir wallE_ws
cd wallE_ws/
mkdir src
cd src/
catkin_init_workspace
ls
cd ..
ls
catkin_make
ls
ls build/
ls devel/
ls src/
cd src/
catkin_create_pkg rebot_tutorials rospy roscpp std_msgs
ls
ls rebot_tutorials/
cd ..
catkin_make
```

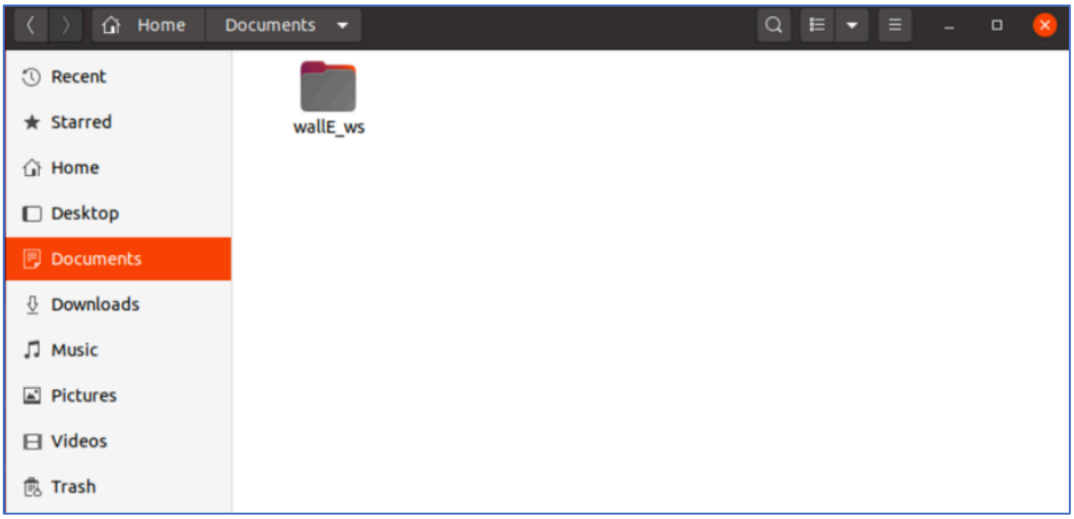


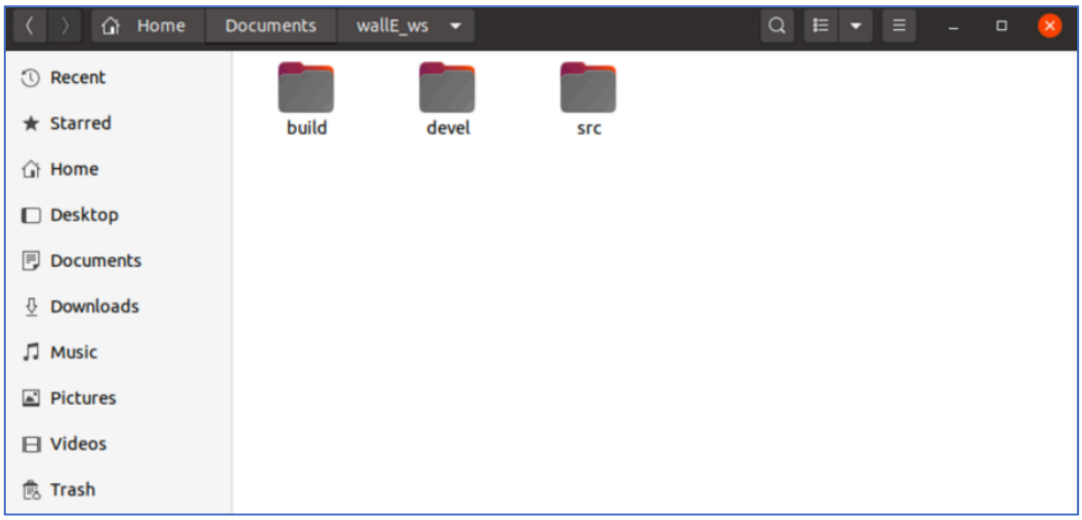


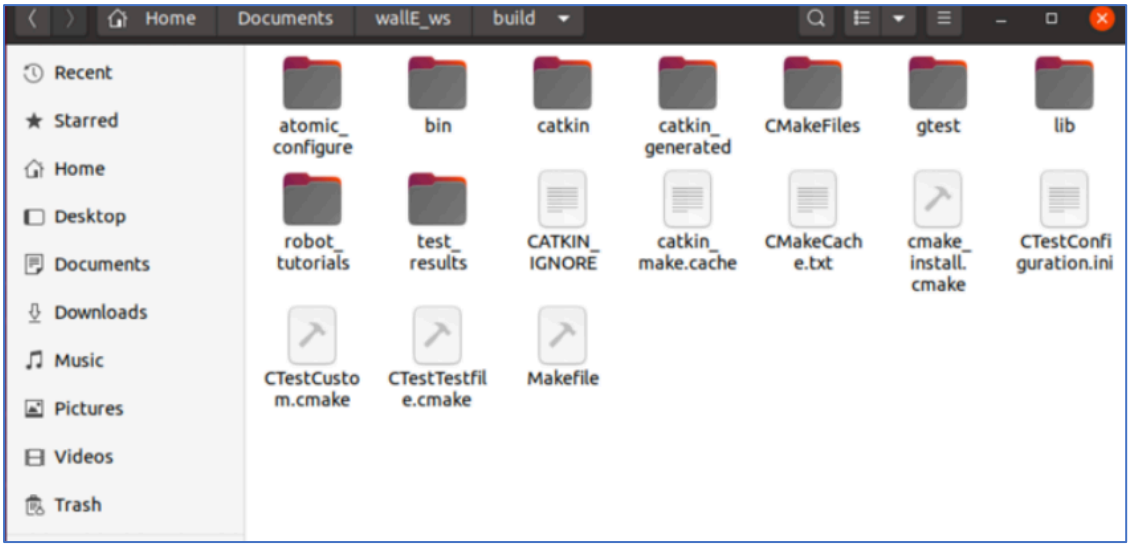


هكذا نكون قد انتهينا من انشاء Catkin init workspace

سنجد جميع الملفات الخاصة بالنظام بداخل Documents / wllE_ws







Done by: Maram Alsofiani