

How to install ROS

طريقة تثبيت الروز

The steps:

الخطوات

1)Download VirtualBox in Windows 10

تحميل جهاز افتراضي على ويندوز 10

2)Install Ubuntu 20.04 LTS on VirtualBox in Windows 10

تثبيت نظام اوبنتو لينكس 20.04 على الجهاز الافتراضي

3)Install ROS Neotic on Ubuntu 20.04

تثبيت الروز على نظام اوبنتو لينكس 20.04

To download them follow the next steps

لتحميل البرامج اتبع الخطوات التالية

First, download VirtualBox through the link

اولا , قم بتحميل الجهاز الافتراضي باستخدام الرابط التالي

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



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VirtualBox binaries

By downloading, you agree to the terms and conditions of the respective license.

If you're looking for the latest VirtualBox 6.0 packages, see [VirtualBox 6.0 builds](#). Please also use version 6.0 if you need to run VMs with software virtualization, as this has been discontinued in 6.1. Version 6.0 will remain supported until July 2020.

If you're looking for the latest VirtualBox 5.2 packages, see [VirtualBox 5.2 builds](#). Please also use version 5.2 if you still need support for 32-bit hosts, as this has been discontinued in 6.0. Version 5.2 will remain supported until July 2020.

VirtualBox 6.1.10 platform packages

- Windows hosts
- OS X hosts
- Linux distributions
- Solaris hosts

The binaries are released under the terms of the GPL version 2.

See the [changelog](#) for what has changed.

You might want to compare the checksums to verify the integrity of downloaded packages. *The SHA256 checksums should be favored as the MD5 algorithm must be treated as insecure!*

The VirtualBox will be downloaded

النظام الافتراضي يتم تنزيله

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After downloaded you just need to install it by click on some next buttons

بعد تنزيله تحتاج الى تثبيته بواسطة الضغط على بعض من ايقونة التالي

After installed VirtualBox its going to look like this window

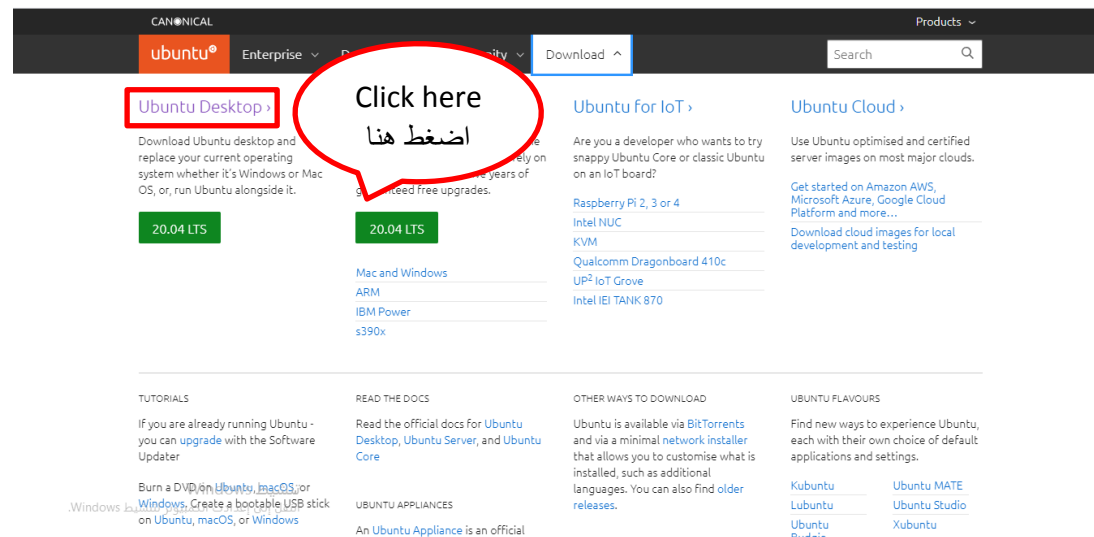
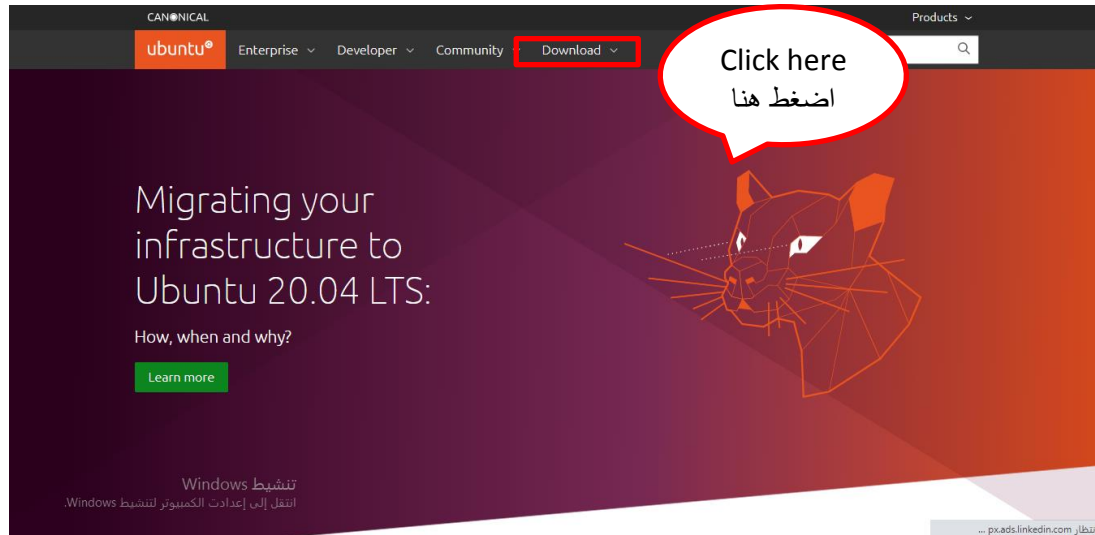
بعد تثبيت النظام الافتراضي ستظهر هذه النافذة

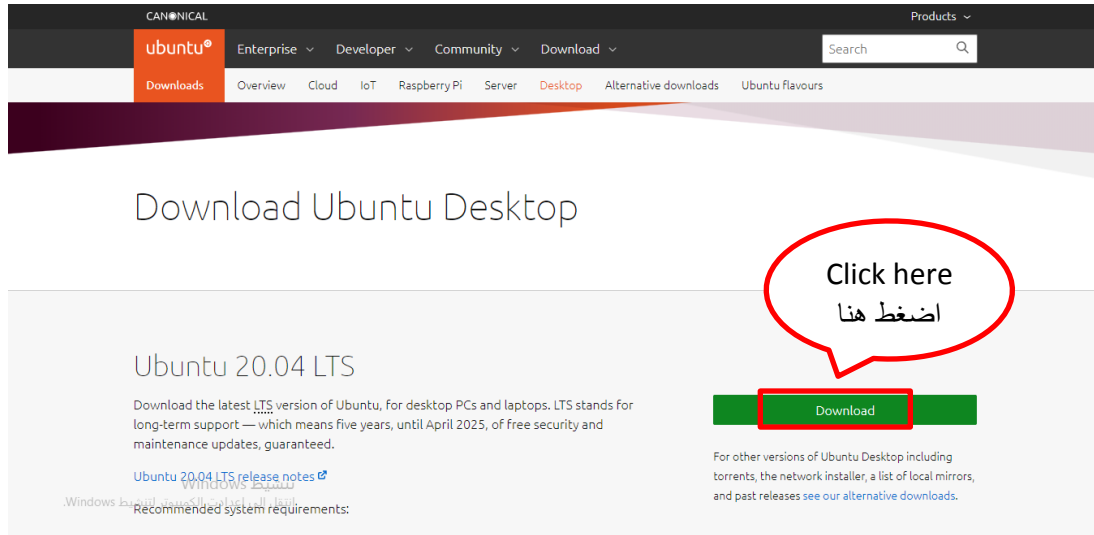


Secondly, download the ISO file which is required to install Ubuntu on VirtualBox through the link

ثانياً, قم بتحميل ملف ISO لتنشيط نظام اوبنتو لينكس باستخدام الرابط التالي

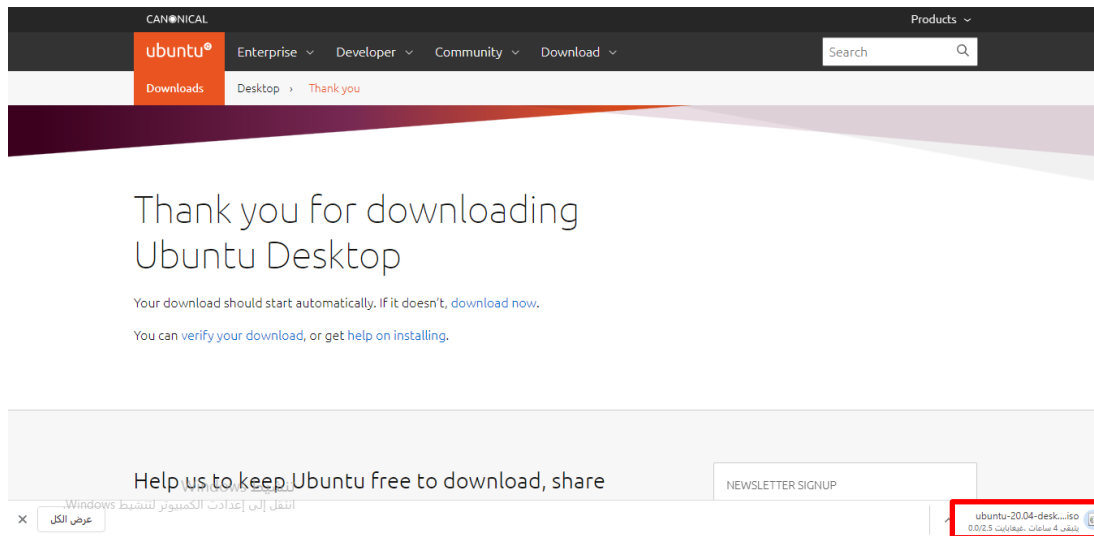
<https://ubuntu.com/>





The ISO file will be downloaded

ملف ISO يتم تنزيله



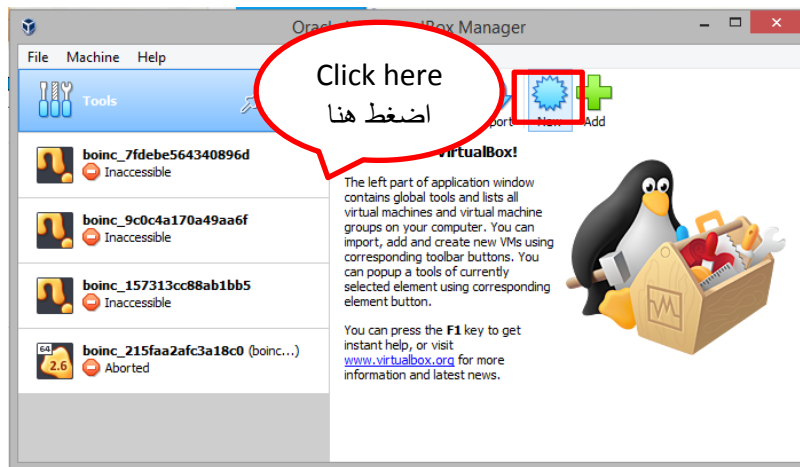
After downloaded the ISO its going to look like this

بعد تحميل ملف ISO سيظهر بهذا الشكل

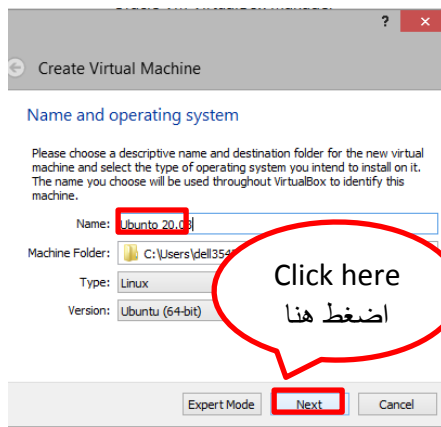


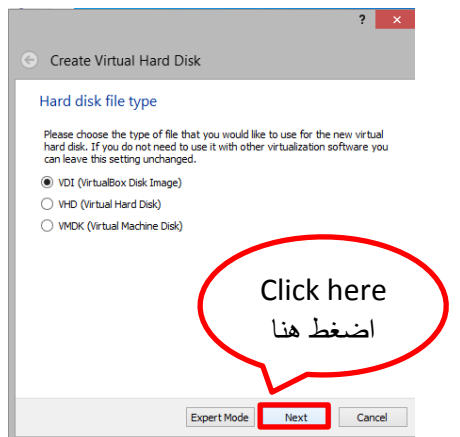
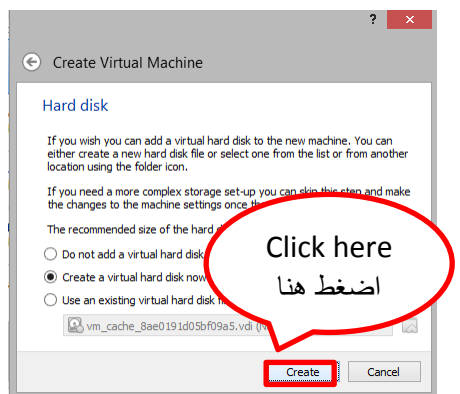
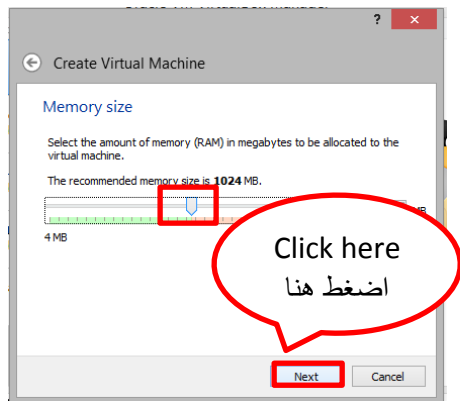
ubuntu-20.04-de
sktop-amd64

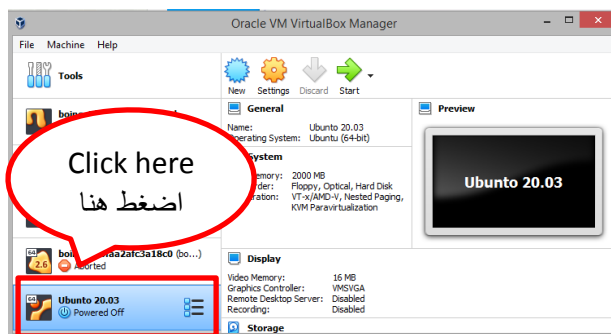
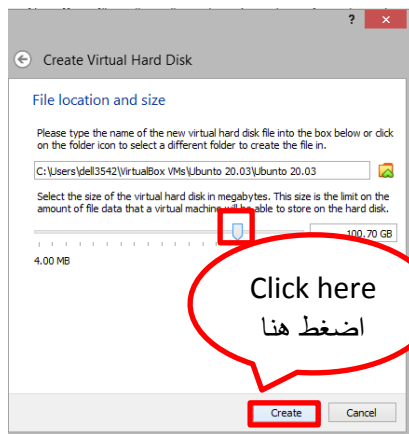
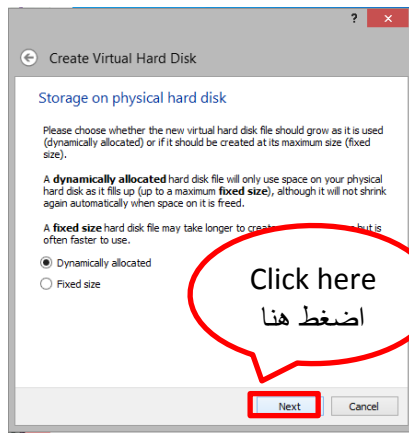
Now we are ready to install Ubuntu on our VirtualBox
الآن, نحن مستعدون لتثبيت نظام أوبنتو لينكس على النظام الافتراضي

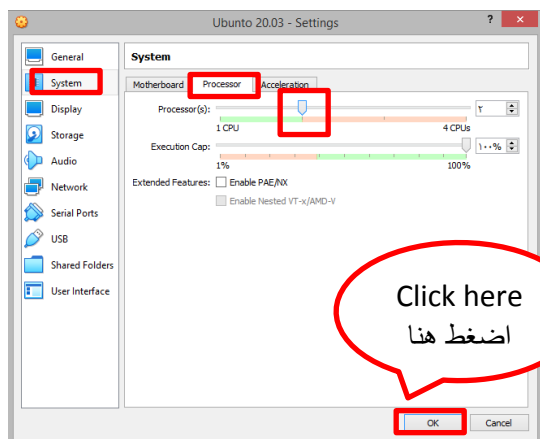
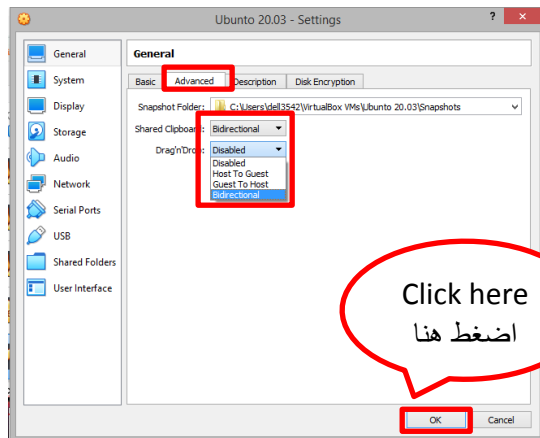
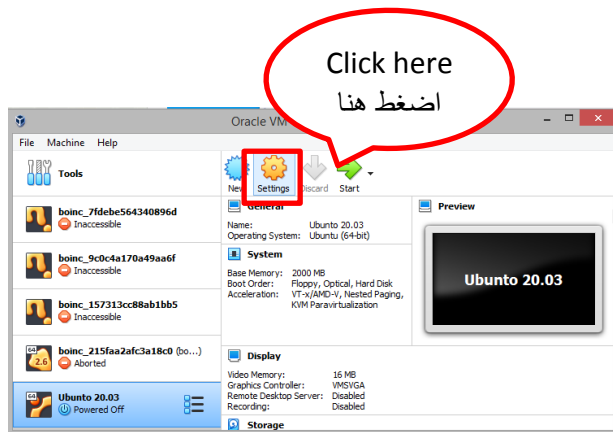


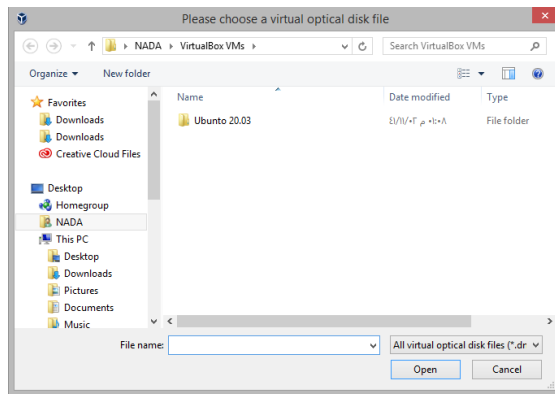
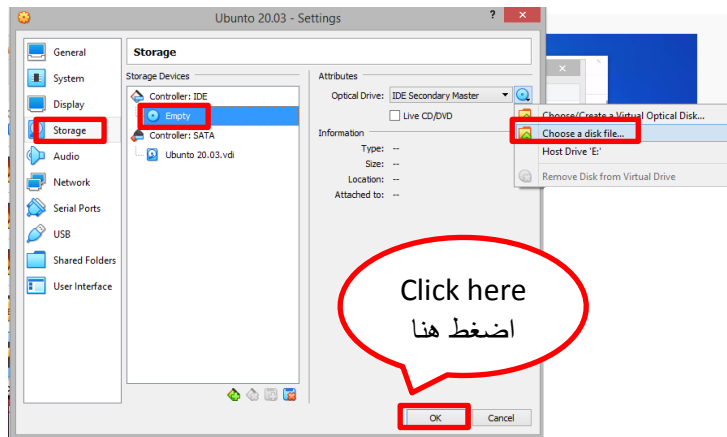
Name of your new machine
اكتب الاسم



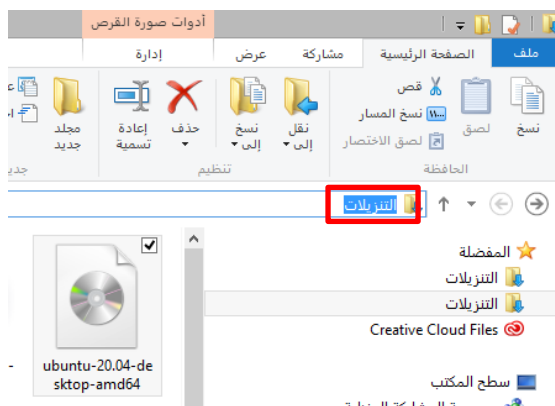






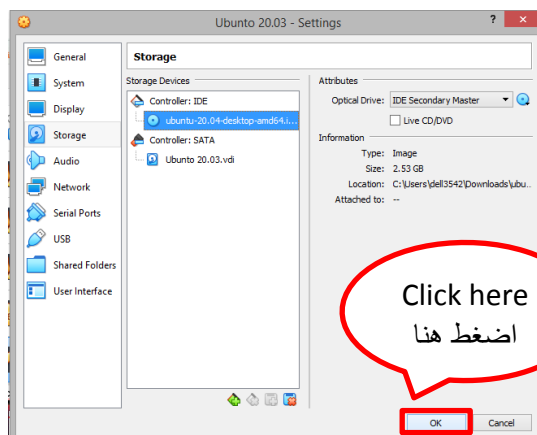
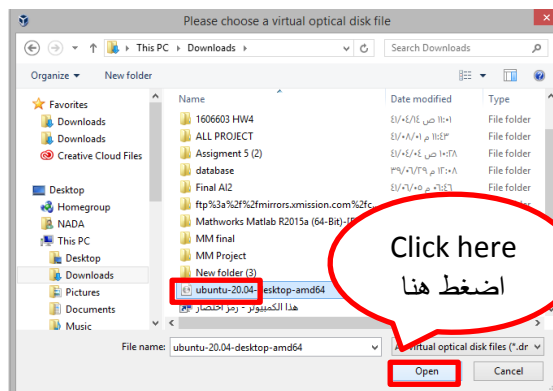
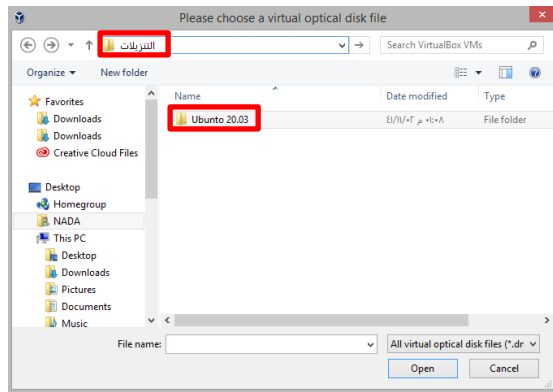


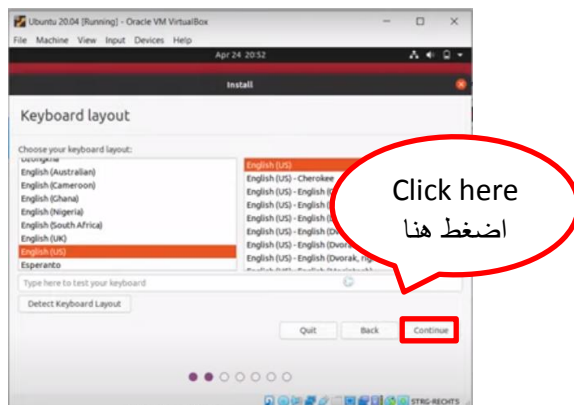
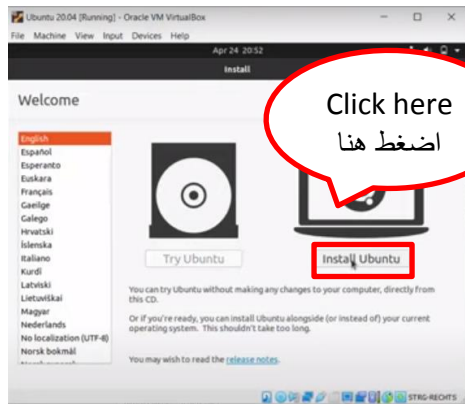
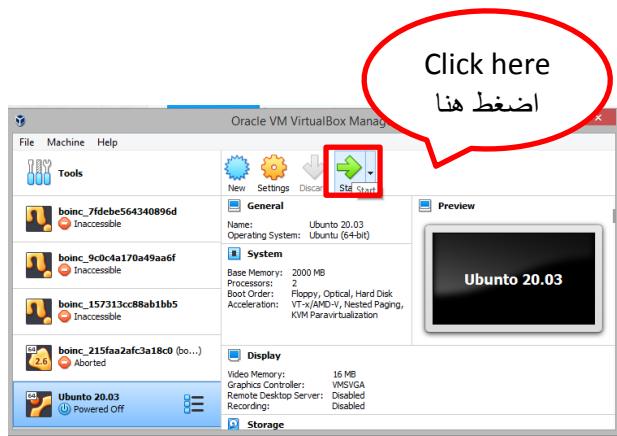
Copy the location of your Ubuntu
انسخ مكان ملف اوبنتو الذي تم انزله

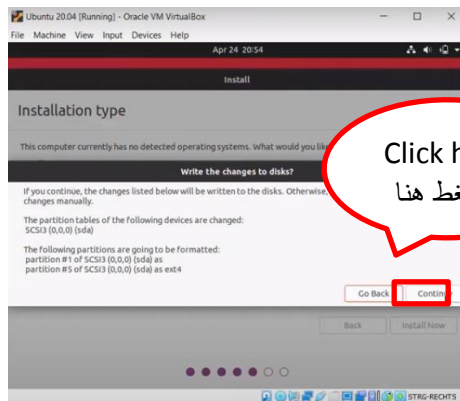
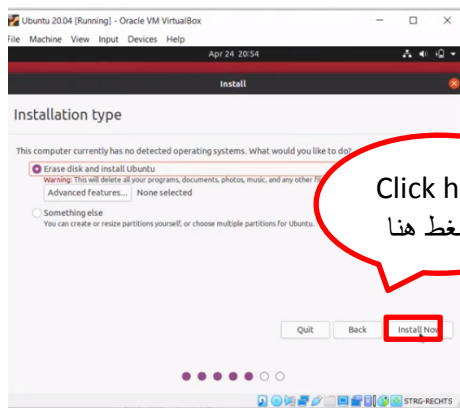
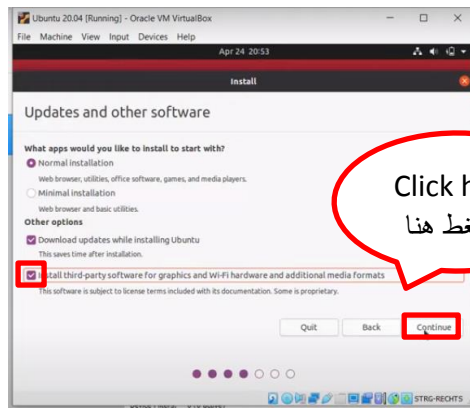


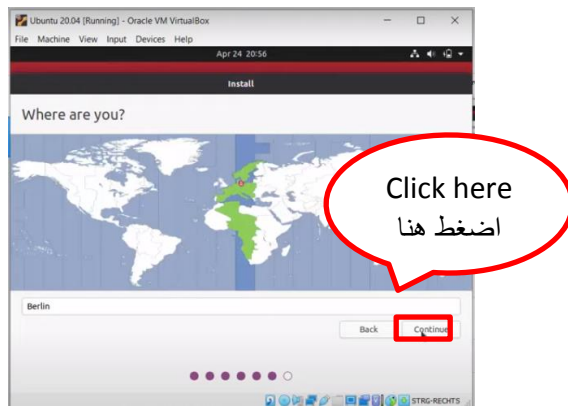
Paste the location of Ubuntu

الصق موقع اوبنتو الذي نسخته

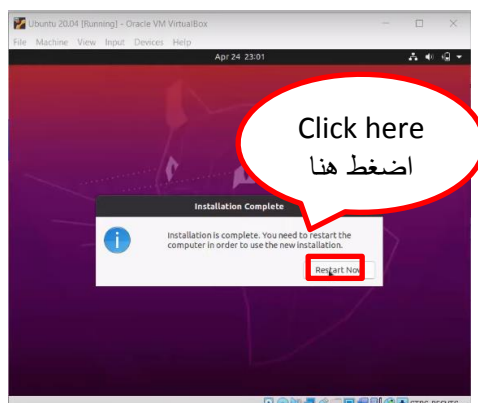
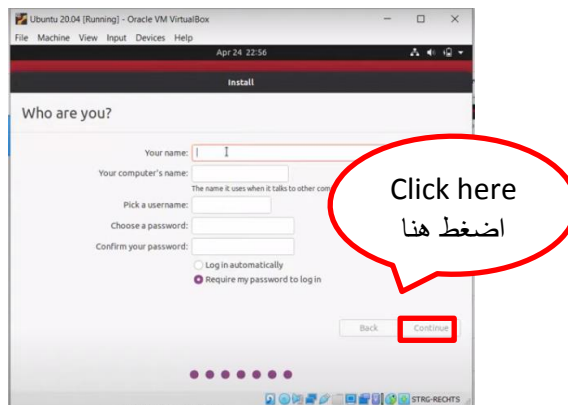








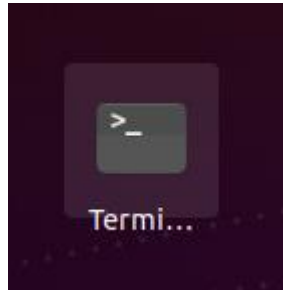
Fill the following and then click continue
قم بتعبئة التالي ثم اضغط استمر



Finally, Install ROS Neotic on your Ubuntu

اخيرا, تثبيت الروز على نظام اوبنتو لينكس

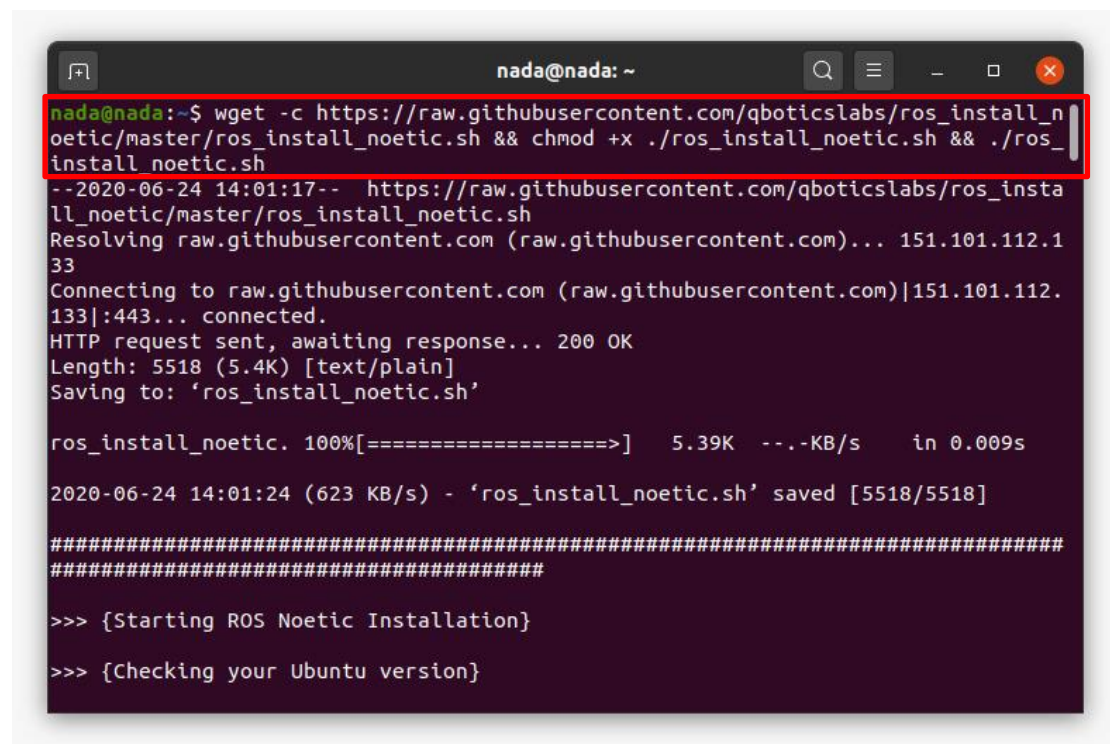
Open the Terminal on your Ubuntu Linux desktop
افتح التيرمينال الموجود في سطح المكتب على نظام اوبنتو لينكس



Paste the following comment
الصق التعليق التالي

```
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
```

Then click Enter
ثم اضغط انتر

A screenshot of a terminal window titled 'nada@nada: ~'. The terminal shows the execution of a wget command to download a script from GitHub. The command is highlighted with a red box. The output shows the script being downloaded and saved as 'ros_install_noetic.sh'. The terminal then displays the start of the ROS Noetic installation process, including a check for the Ubuntu version.

```
nada@nada:~$ 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
--2020-06-24 14:01:17-- https://raw.githubusercontent.com/qboticslabs/ros_install_noetic/master/ros_install_noetic.sh
Resolving raw.githubusercontent.com (raw.githubusercontent.com)... 151.101.112.133
Connecting to raw.githubusercontent.com (raw.githubusercontent.com)|151.101.112.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 5518 (5.4K) [text/plain]
Saving to: 'ros_install_noetic.sh'

ros_install_noetic. 100%[=====] 5.39K --.-KB/s in 0.009s

2020-06-24 14:01:24 (623 KB/s) - 'ros_install_noetic.sh' saved [5518/5518]

#####
#####

>>> {Starting ROS Noetic Installation}

>>> {Checking your Ubuntu version}
```

Enter your password for Ubuntu
ادخل كلمة السر الخاصة بنظام اوبنتو

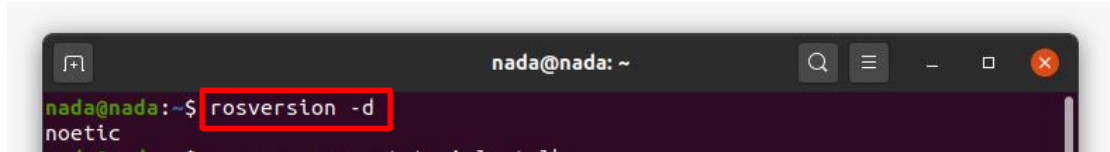
```
nada@nada: ~  
HTTP request sent, awaiting response... 200 OK  
Length: 5518 (5.4K) [text/plain]  
Saving to: 'ros_install_noetic.sh'  
  
ros_install_noetic. 100%[=====>] 5.39K --.-KB/s in 0.009s  
2020-06-24 14:01:24 (623 KB/s) - 'ros_install_noetic.sh' saved [5518/5518]  
  
#####  
#####  
  
>>> {Starting ROS Noetic Installation}  
>>> {Checking your Ubuntu version}  
>>> {Your Ubuntu version is: [Ubuntu focal 20.04]}  
>>> {Ubuntu Focal 20.04 is fully compatible with Ubuntu Focal 20.04}  
  
#####  
#####  
>>> {Step 1: Configure your Ubuntu repositories}  
[sudo] password for nada: 
```

```
nada@nada: ~  
Get:18 http://sa.archive.ubuntu.com/ubuntu focal-updates/universe amd64 DEP-11 M  
etadate [152 kB]  
Get:19 http://sa.archive.ubuntu.com/ubuntu focal-updates/universe amd64 c-n-f Me  
tadata [4164 B]  
Get:20 http://sa.archive.ubuntu.com/ubuntu focal-backports/universe amd64 DEP-11  
Metadata [532 B]  
Fetched 1493 kB in 6s (230 kB/s)  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
192 packages can be upgraded. Run 'apt list --upgradable' to see them.  
  
#####  
#####  
  
>>> {Step 5: Install ROS, you pick how much of ROS you would like to install.}  
[1. Desktop-Full Install: (Recommended) : Everything in Desktop plus 2D/3D  
simulators and 2D/3D perception packages ]  
  
[2. Desktop Install: Everything in ROS-Base plus tools like rqt and rviz]  
  
[3. ROS-Base: (Bare Bones) ROS packaging, build, and communication libraries.  
No GUI tools.]  
  
Enter your install (Default is 1): 
```

After finished the installation process

بعد الانتهاء من عملية التحميل

Enter this command to check your ROS
ادخل الامر التالي للتحقق من تنزيل ROS

A screenshot of a terminal window with a dark background. The window title is 'nada@nada: ~'. The prompt is 'nada@nada:~\$'. The command 'rosversion -d' is entered and highlighted with a red rectangular box. Below the command, the word 'noetic' is partially visible, indicating the output of the command.

```
nada@nada:~$ rosversion -d
noetic
```