

Homework 1

CIS 490I/590K

1. Install Anaconda 3 with Linux on VirtualBox

STEP 1 : Download VirtualBox and Ubuntu20.04.iso (any version # is fine)

The image shows two web pages. The top page is the VirtualBox website, which has a blue header with the VirtualBox logo and the text 'Welcome to VirtualBox.org!'. Below this, there is a large green button that says 'Download VirtualBox 6.0'. The bottom page is the Ubuntu website, which has a dark header with the Ubuntu logo and navigation links. Below the header, there are four columns of content: 'Ubuntu Desktop', 'Ubuntu Server', 'Ubuntu for IoT', and 'Ubuntu Cloud'. Each column has a description and a 'Get Ubuntu' button. At the bottom of the Ubuntu page, there are four sections: 'TUTORIALS', 'READ THE DOCS', 'OTHER WAYS TO DOWNLOAD', and 'UBUNTU FLAVOURS'.

VirtualBox Website:

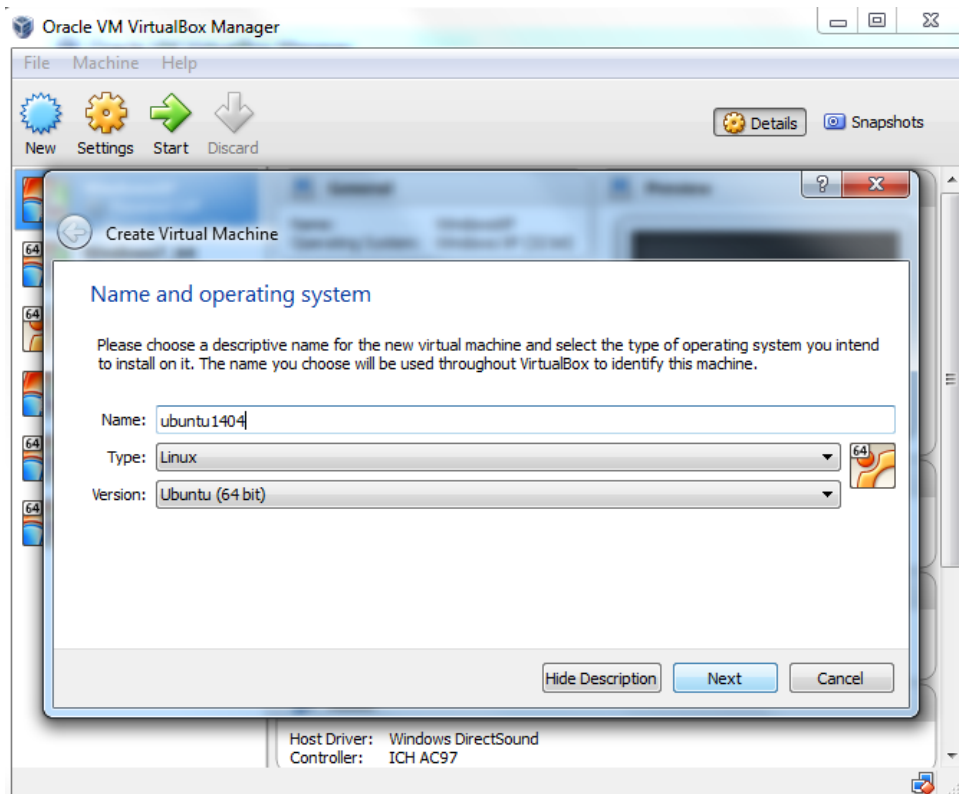
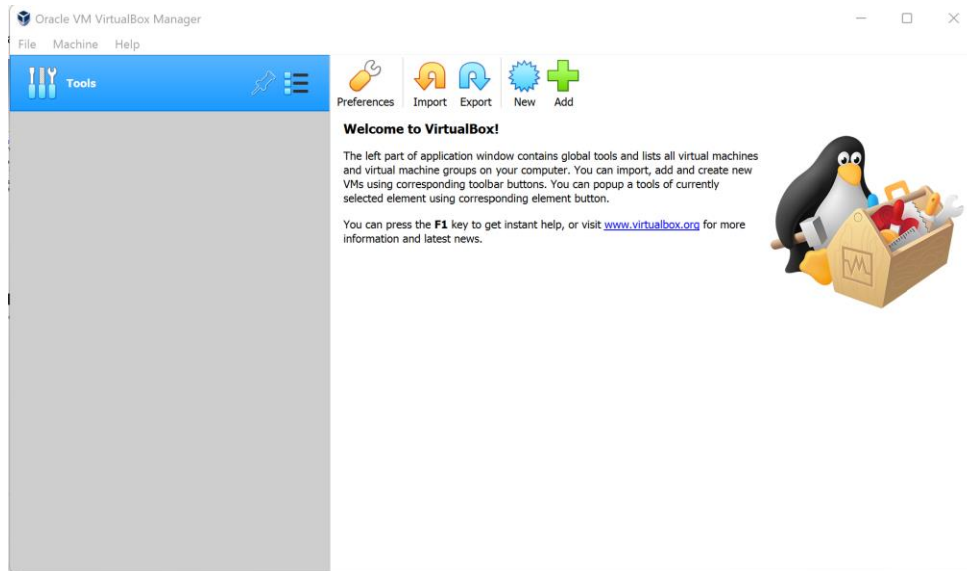
- Header: VirtualBox
- Section: Welcome to VirtualBox.org!
- Text: VirtualBox is a powerful x86 and AMD64/Intel64 virtualization product for enterprise as well as home use. Not only is VirtualBox an extremely feature rich the only professional solution that is freely available as Open Source Software under the terms of the GNU General Public License (GPL) version 2. See '...'
- Text: Presently, VirtualBox runs on Windows, Linux, Macintosh, and Solaris hosts and supports a large number of [guest operating systems](#) including but not limited to Windows 7, Windows 8, Windows 10, DOS/Windows 3.x, Linux (2.4, 2.6, 3.x and 4.x), Solaris and OpenSolaris, OS/2, and OpenBSD.
- Text: VirtualBox is being actively developed with frequent releases and has an ever growing list of features, supported guest operating systems and platforms company: everyone is encouraged to contribute while Oracle ensures the product always meets professional quality criteria.
- Button: Download VirtualBox 6.0

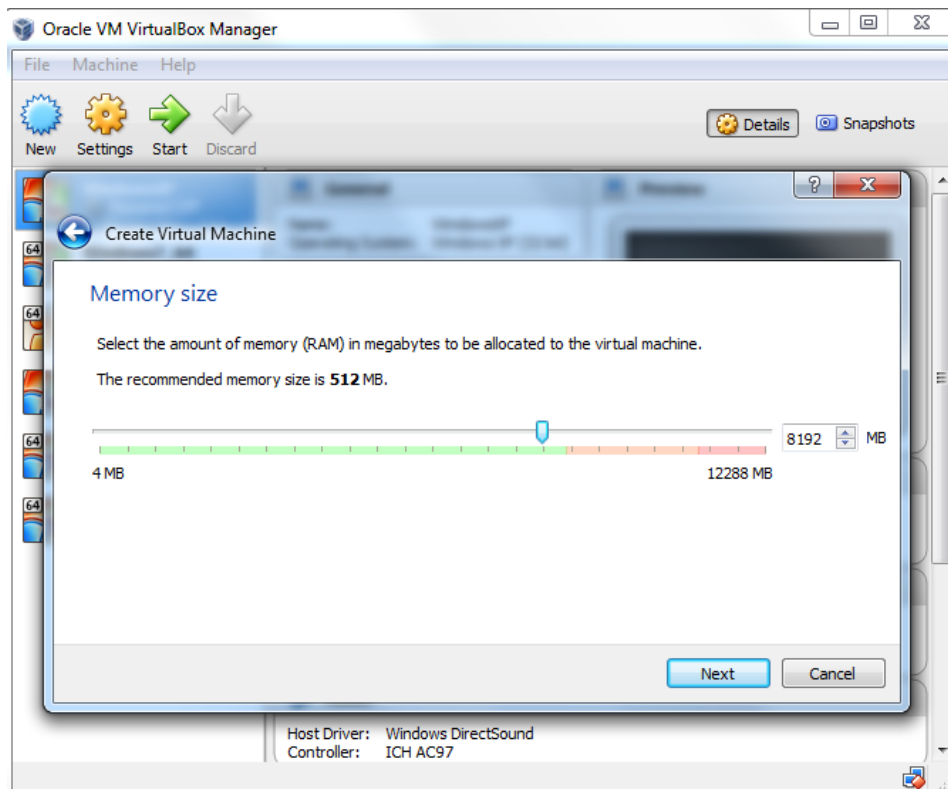
Ubuntu Website:

- Header: ubuntu® Enterprise Developer Community Download
- Navigation: We are hiring Products Search Sign in
- Sections:
 - Ubuntu Desktop**: Download Ubuntu desktop and replace your current operating system whether it's Windows or Mac OS, or, run Ubuntu alongside it. Buttons: 20.04 LTS, 21.10.
 - Ubuntu Server**: The most popular server Linux in the cloud and data centre, you can rely on Ubuntu Server and its five years of guaranteed free upgrades. Button: Get Ubuntu Server. Sub-sections: Mac and Windows, ARM, IBM Power, s390x.
 - Ubuntu for IoT**: Are you a developer who wants to try snappy Ubuntu Core or classic Ubuntu on an IoT board? Sub-sections: Raspberry Pi, Intel IoT platforms, Intel NUC, KVM, Qualcomm Dragonboard 410c, Intel IEL TANK 870, Xilinx Evaluation kits & SOMs.
 - Ubuntu Cloud**: Use Ubuntu optimised and certified server images on most major clouds. Sub-sections: Get started on Amazon AWS, Microsoft Azure, Google Cloud Platform and more..., Download cloud images for local development and testing.
- Footer:
 - TUTORIALS**: If you are already running Ubuntu - you can upgrade with the Software Updater. Burn a DVD on Ubuntu, macOS, or Windows. Create a bootable USB stick on Ubuntu, macOS, or Windows. Installation guides for Ubuntu Desktop and Ubuntu Server. You can learn how to try Ubuntu before you install.
 - READ THE DOCS**: Read the official docs for Ubuntu Desktop, Ubuntu Server, and Ubuntu Core. UBUNTU APPLIANCES: An Ubuntu Appliance is an official system image which blends a single application with Ubuntu Core. Certified to run on Raspberry Pi and PC boards.
 - OTHER WAYS TO DOWNLOAD**: Ubuntu is available via BitTorrents and via a minimal network installer that allows you to customise what is installed, such as additional languages. You can also find older releases.
 - UBUNTU FLAVOURS**: Find new ways to experience Ubuntu, each with their own choice of default applications and settings. Sub-sections: Kubuntu, Ubuntu MATE, Lubuntu, Ubuntu Studio, Ubuntu Budgie, Xubuntu, Ubuntu Kylin.

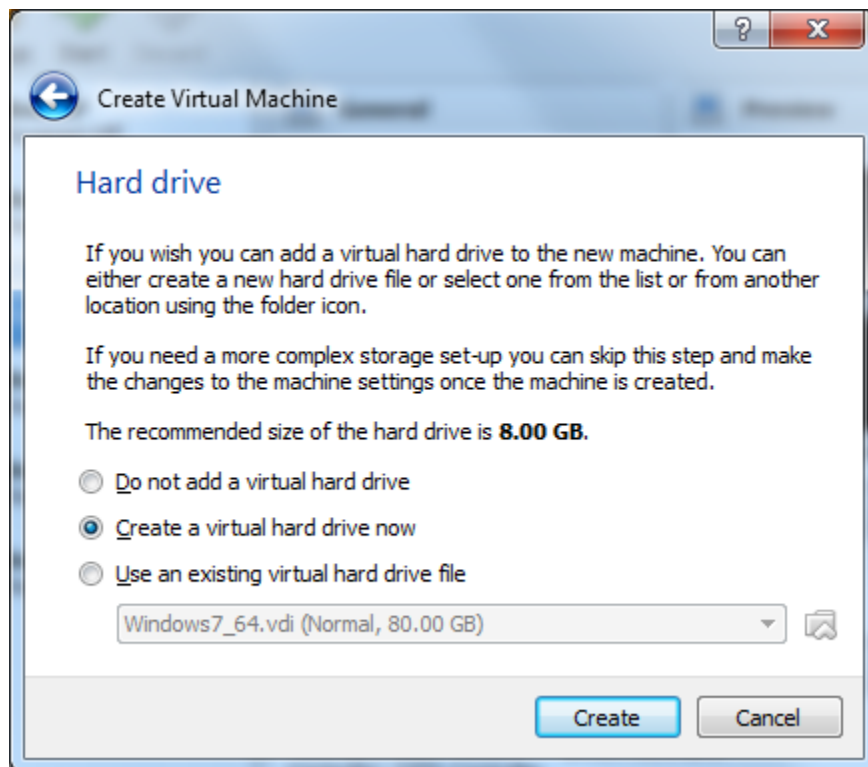
VirtualBox Download Ubuntu Download

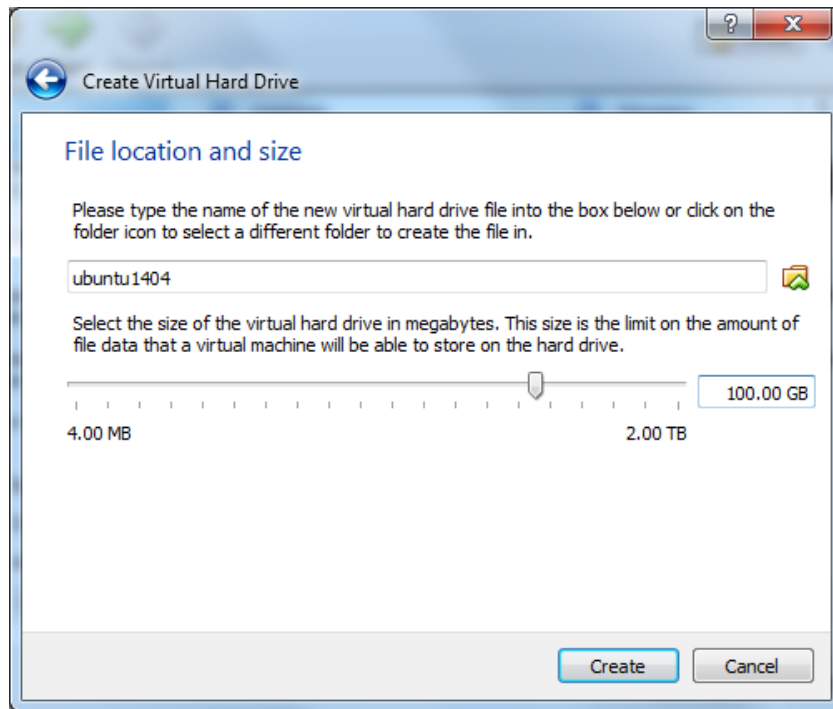
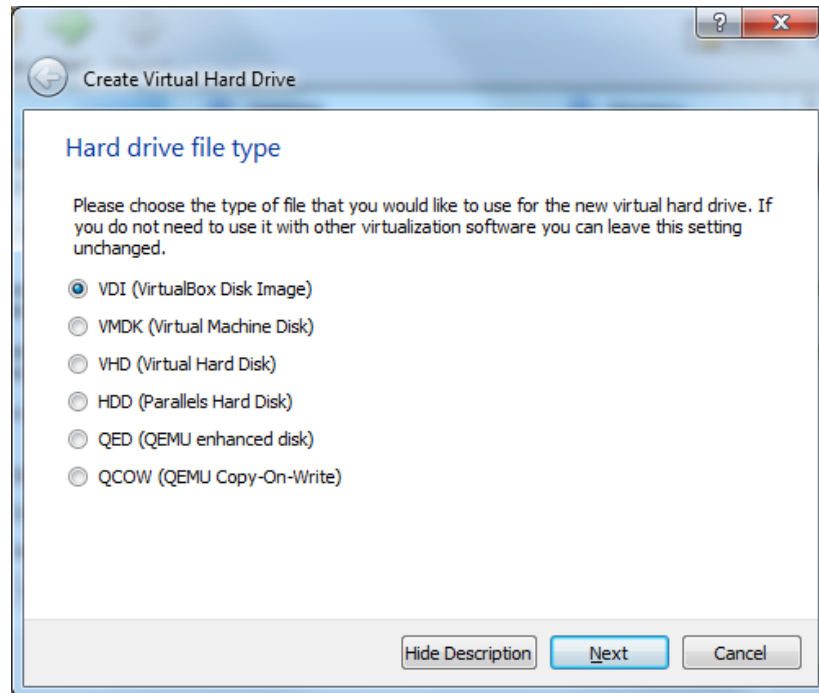
STEP 2 : Open Oracle VM VirtualBox and Click 'New' to create a new Virtual machine





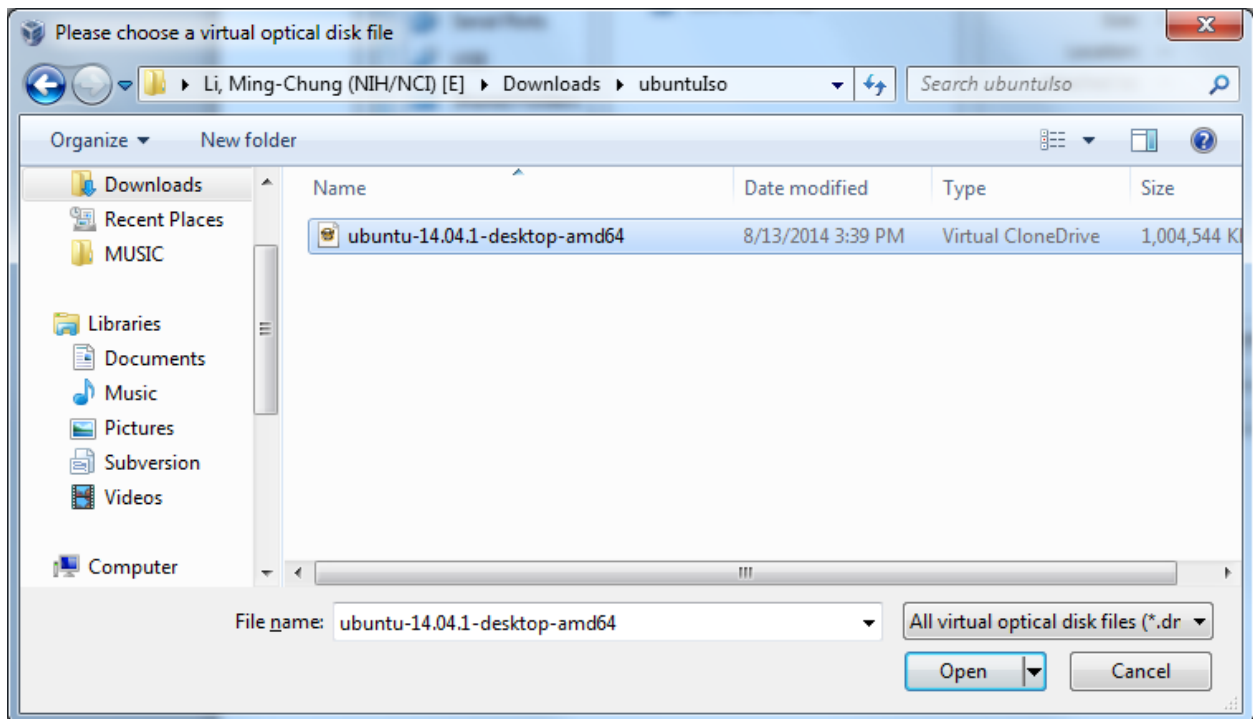
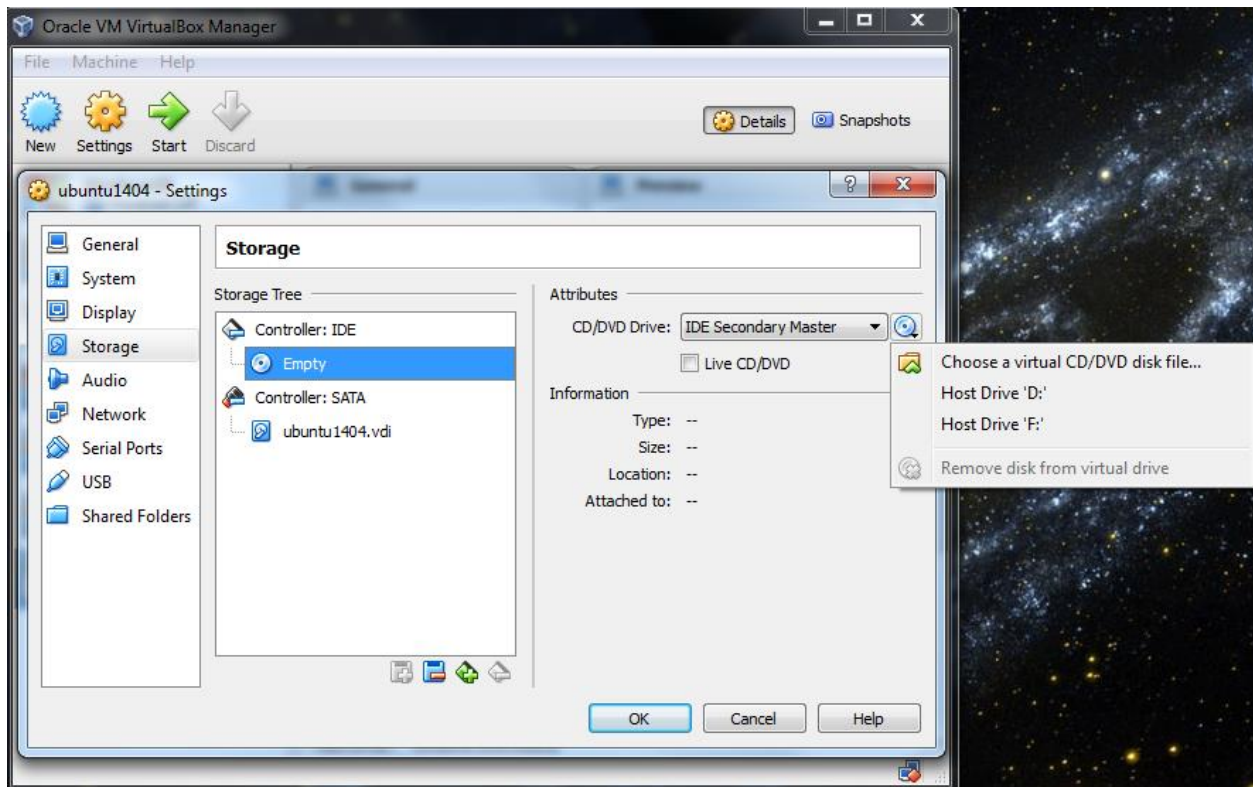
Just follow the image's setting or you can give your computer more RAM and space

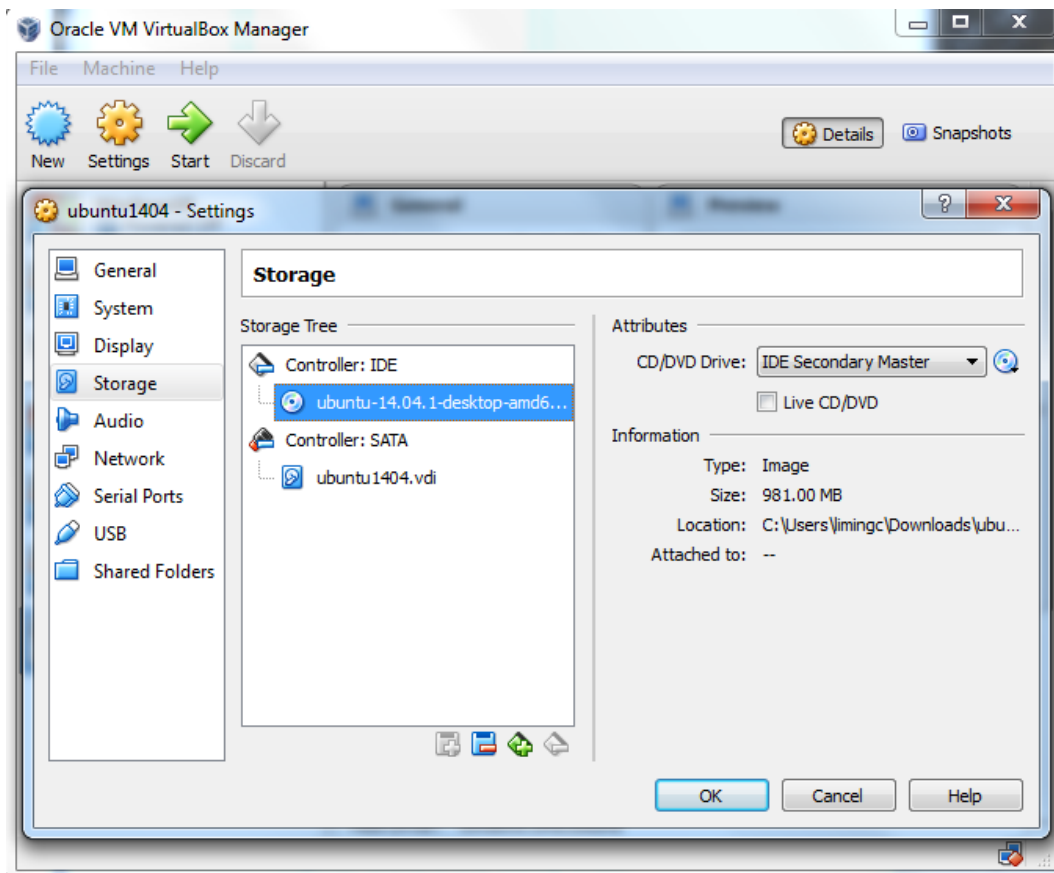




Now the virtual machine is created. We are ready to install Ubuntu in this virtual machine. Select your new virtual machine and click 'Settings' button. Click on 'Storage' category and then 'Empty' under Controller:IDE. Click "CD/DVD" icon on right hand side and select the ubuntu ISO file to mount.

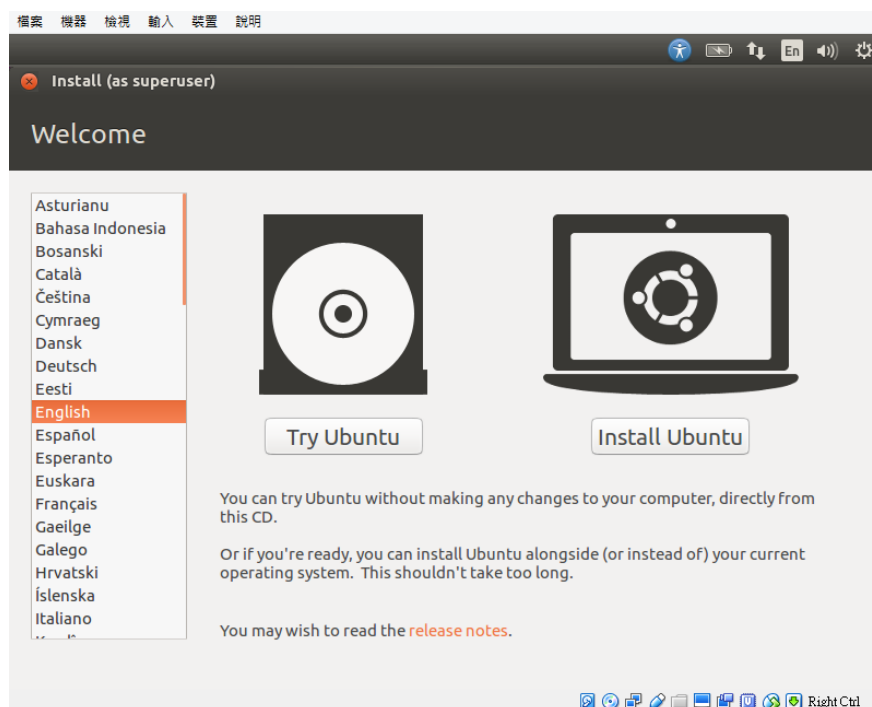
Also make sure the **VT-x/Virtualization Technology** has been enabled in your computer's BIOS/Basic Input Output System.

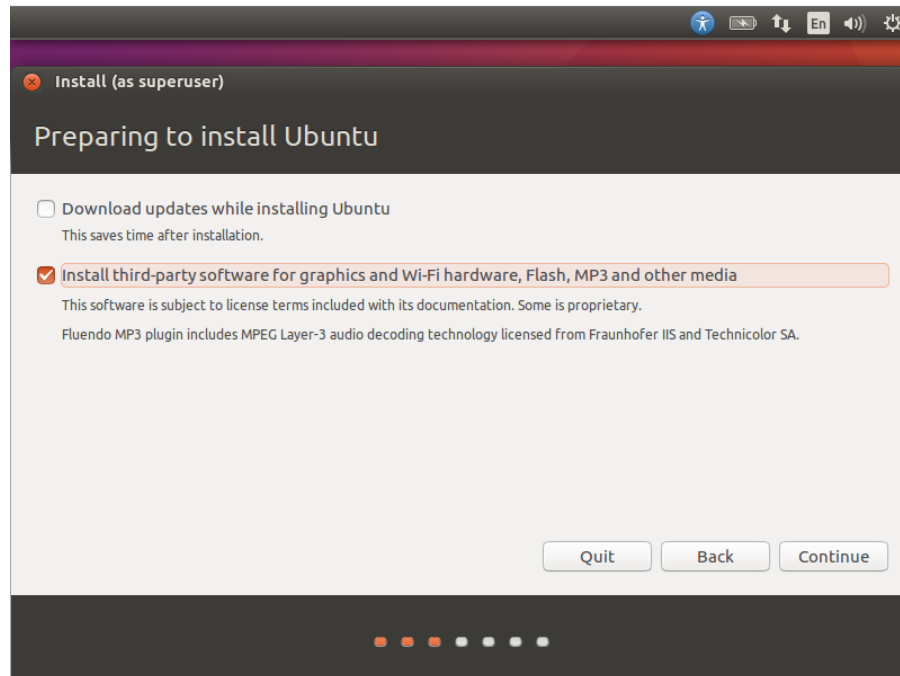




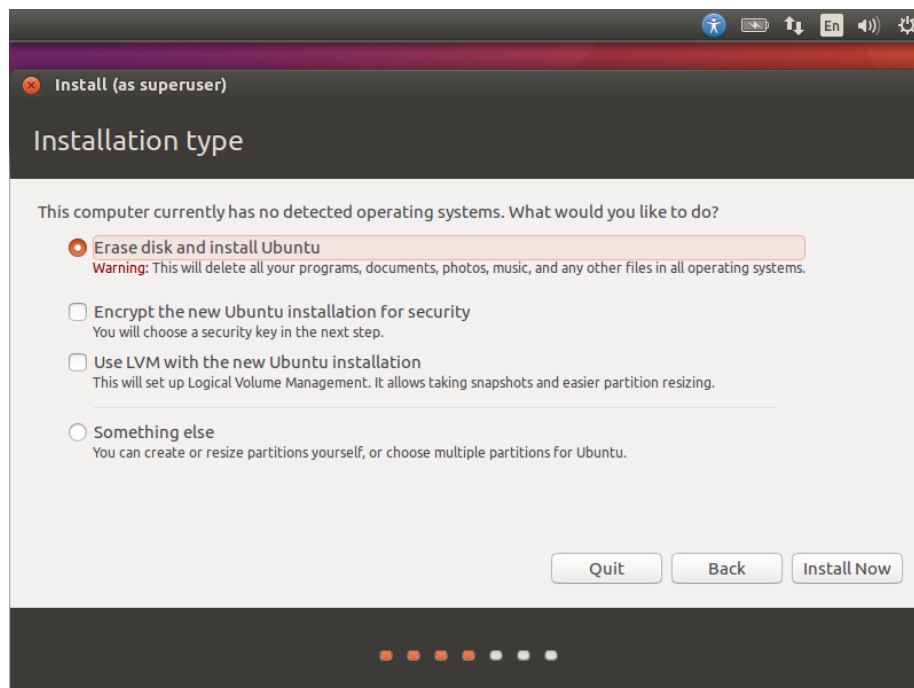
Choose your Ubuntu.iso in DVD site and ready to install it.

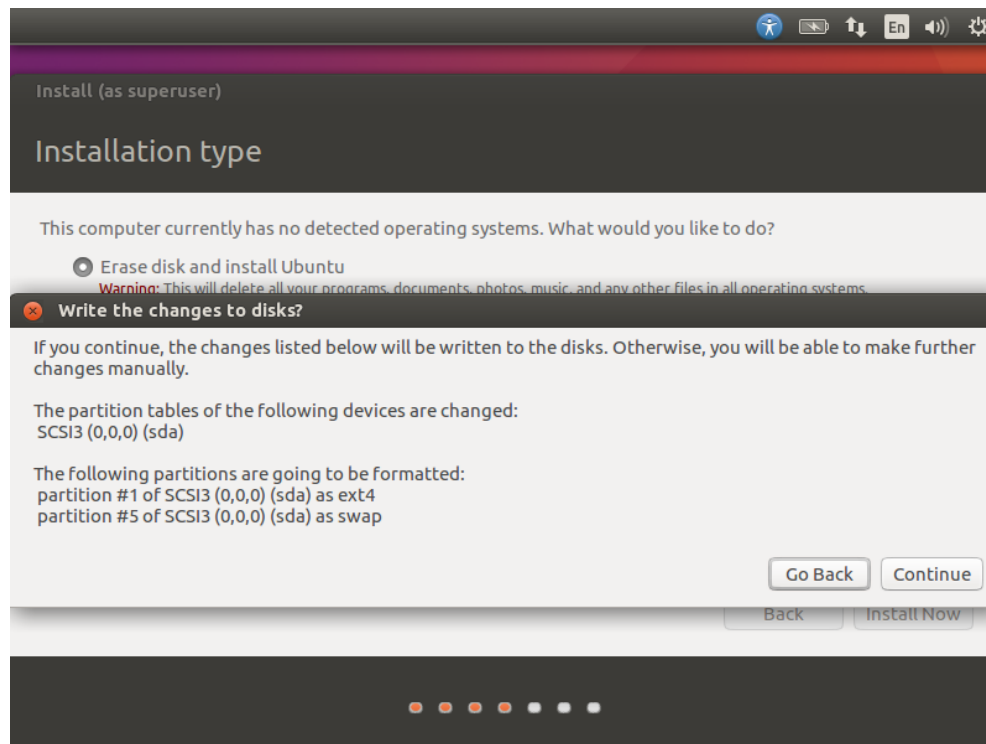
STEP 3 : Start install the Ubuntu in to your Virtual machine



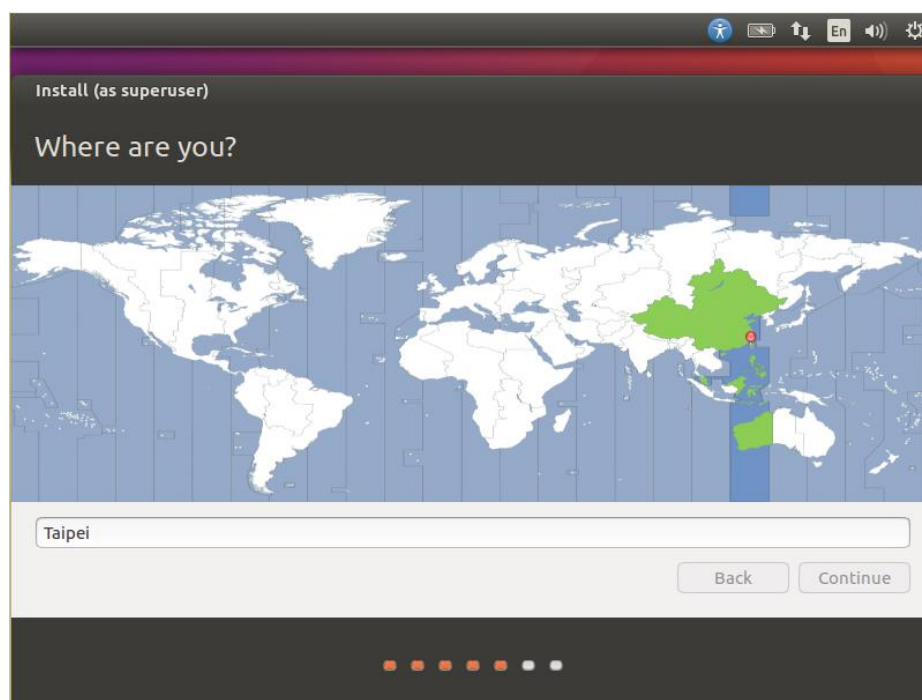


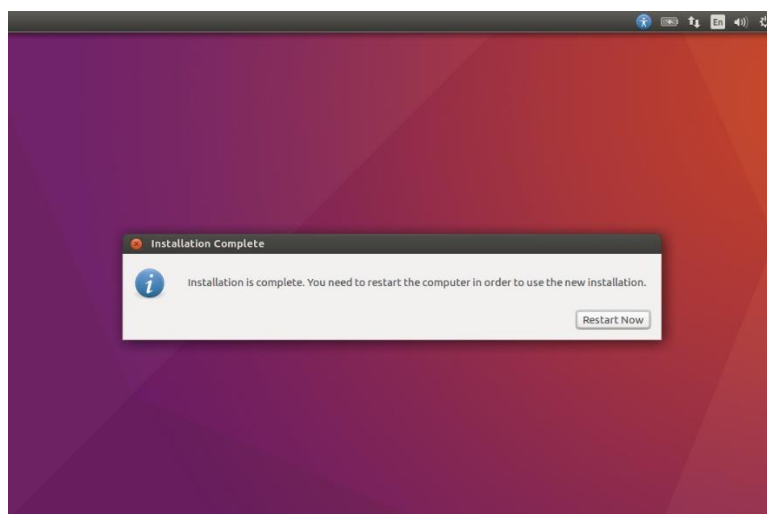
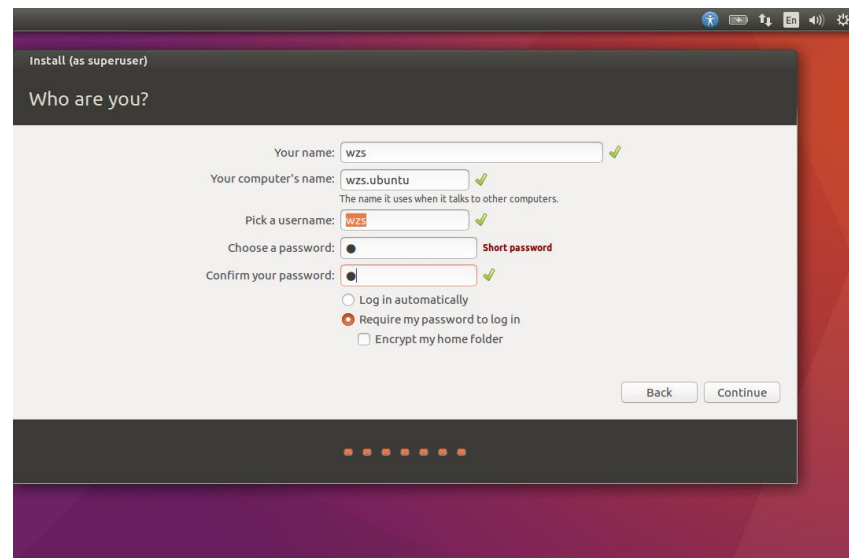
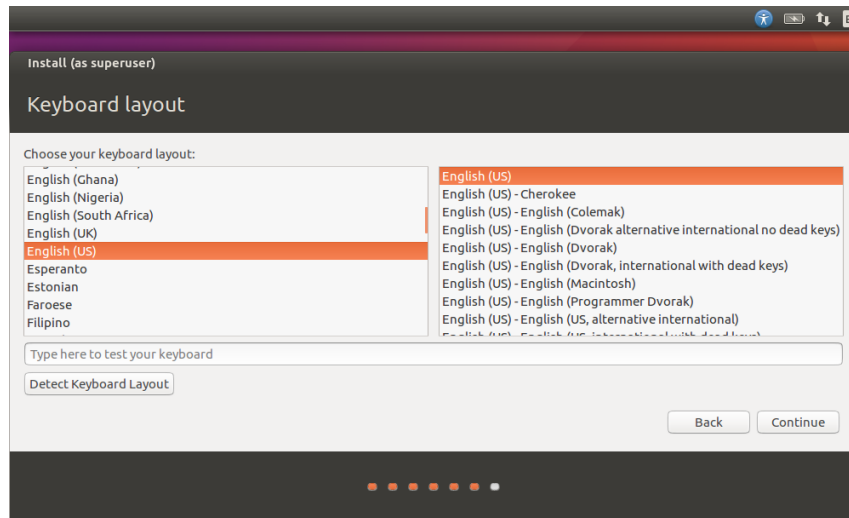
follow the image and continue every steps





if your machine are new and empty just Ease disk and install Ubuntu !





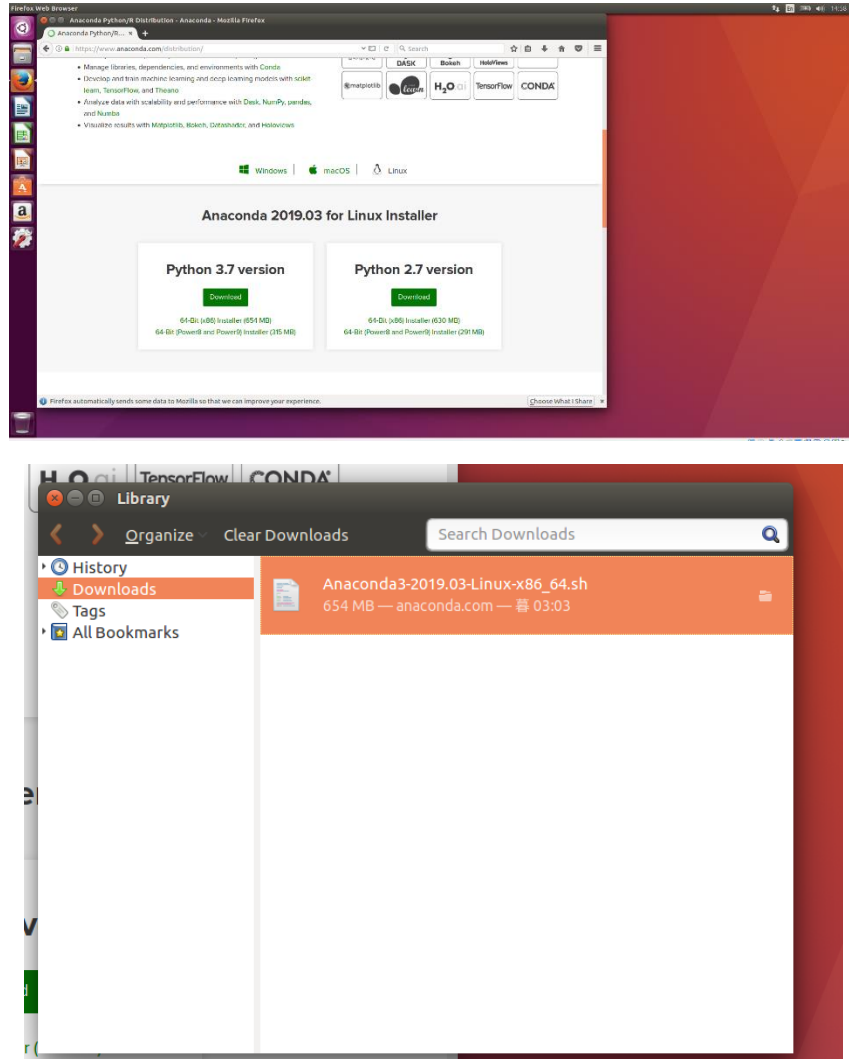
keep continuing and you will install it.

Take your own screenshots of the Ubuntu UI page.

STEP 4 : Install Python by using the command in the terminal

```
sudo apt install python3.8
```

Download Anaconda online.



Download website — <https://www.anaconda.com/distribution/#download-section>

STEP 5 : install Anaconda3

```
wzs@wzs: ~/Downloads
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

wzs@wzs:~$ cd Downloads/
wzs@wzs:~/Downloads$ ls
Anaconda3-2019.03-Linux-x86_64.sh
wzs@wzs:~/Downloads$ bash Anaconda3-2019.03-Linux-x86_64.sh

Welcome to Anaconda3 2019.03

In order to continue the installation process, please review the license
agreement.
Please, press ENTER to continue
>>> 
```

```
wzs@wzs: ~/Downloads
Please answer 'yes' or 'no':
>>>
Please answer 'yes' or 'no':
>>>
Please answer 'yes' or 'no':
>>>
Please answer 'yes' or 'no':
>>>
Please answer 'yes' or 'no':
>>>
Please answer 'yes' or 'no':
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Please answer 'yes' or 'no':
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Please answer 'yes' or 'no':
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Please answer 'yes' or 'no':
>>>
Please answer 'yes' or 'no':
>>>
Please answer 'yes' or 'no':
>>>
Please answer 'yes' or 'no':
>>>
Please answer 'yes' or 'no':
>>> yes
```

Open terminals and find Anaconda to install, and then press enter to start, then keep typing yes to keep installing it

```
wzs@wzs: ~/Downloads
>>>
Please answer 'yes' or 'no':
>>>
Please answer 'yes' or 'no':
>>>
Please answer 'yes' or 'no':
>>>
Please answer 'yes' or 'no':
>>>
Please answer 'yes' or 'no':
>>>
Please answer 'yes' or 'no':
>>>
Please answer 'yes' or 'no':
>>> yes

Anaconda3 will now be installed into this location:
/home/wzs/anaconda3

- Press ENTER to confirm the location
- Press CTRL-C to abort the installation
- Or specify a different location below

[/home/wzs/anaconda3] >>> |
```

```
wzs@wzs: ~/Downloads
installing: mkl_fft-1.0.10-py37ha843d7b_0 ...
installing: numpy-1.16.2-py37h7e9f1db_0 ...
installing: numba-0.43.1-py37h962f231_0 ...
installing: numexpr-2.6.9-py37h9e4a6bb_0 ...
installing: pandas-0.24.2-py37he6710b0_0 ...
installing: pytest-arraydiff-0.3-py37h39e3cac_0 ...
installing: pytest-doctestplus-0.3.0-py37_0 ...
installing: pywavelets-1.0.2-py37hdd07704_0 ...
installing: scipy-1.2.1-py37h7c811a0_0 ...
installing: bkcharts-0.2-py37_0 ...
installing: dask-1.1.4-py37_1 ...
installing: patsy-0.5.1-py37_0 ...
installing: pytables-3.5.1-py37h71ec239_0 ...
installing: pytest-astropy-0.5.0-py37_0 ...
installing: scikit-image-0.14.2-py37he6710b0_0 ...
installing: scikit-learn-0.20.3-py37hd81dba3_0 ...
installing: astropy-3.1.2-py37h7b6447c_0 ...
installing: statsmodels-0.9.0-py37h035aef0_0 ...
installing: seaborn-0.9.0-py37_0 ...
installing: anaconda-2019.03-py37_0 ...
installation finished.
Do you wish the installer to initialize Anaconda3
by running conda init? [yes/no]
[no] >>> yes
```

if you don't need to change your installed location just press ENTER and keeping install

```
wzs@wzs: ~
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

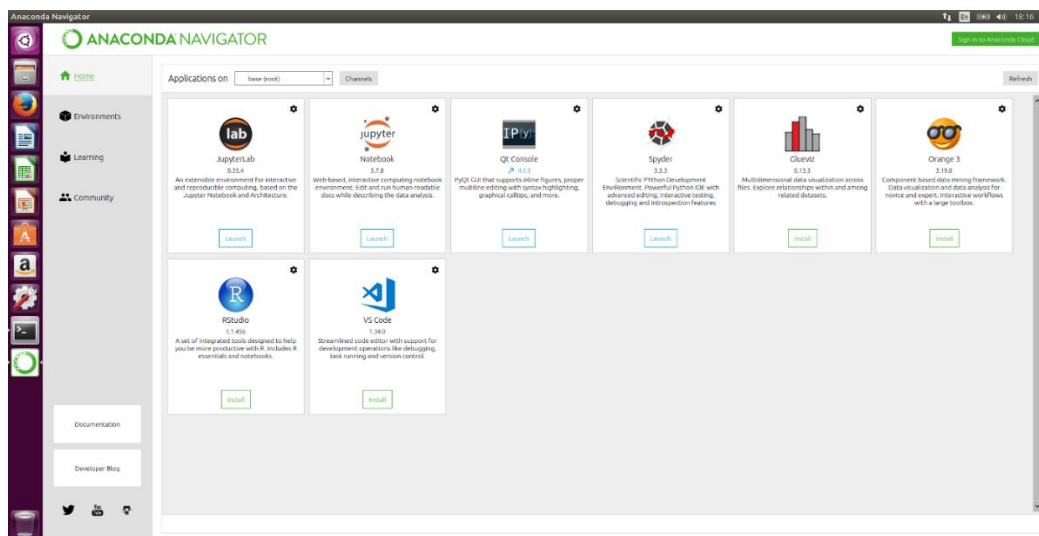
(base) wzs@wzs:~$ python
Python 3.7.3 (default, Mar 27 2019, 22:11:17)
[GCC 7.3.0] :: Anaconda, Inc. on linux
Type "help", "copyright", "credits" or "license" for more information.
>>> |
```

```
WZS@WZS: ~
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

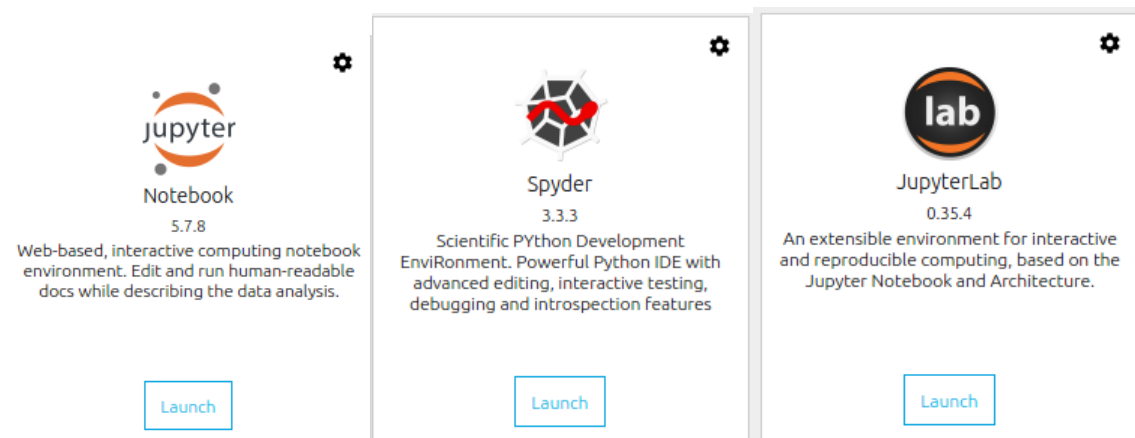
(base) WZS@WZS:~$ anaconda
anaconda          anaconda-navigator  anaconda-project
(base) WZS@WZS:~$ anaconda-navigator
```

after installed try to press python and anaconda-navigator to open anaconda

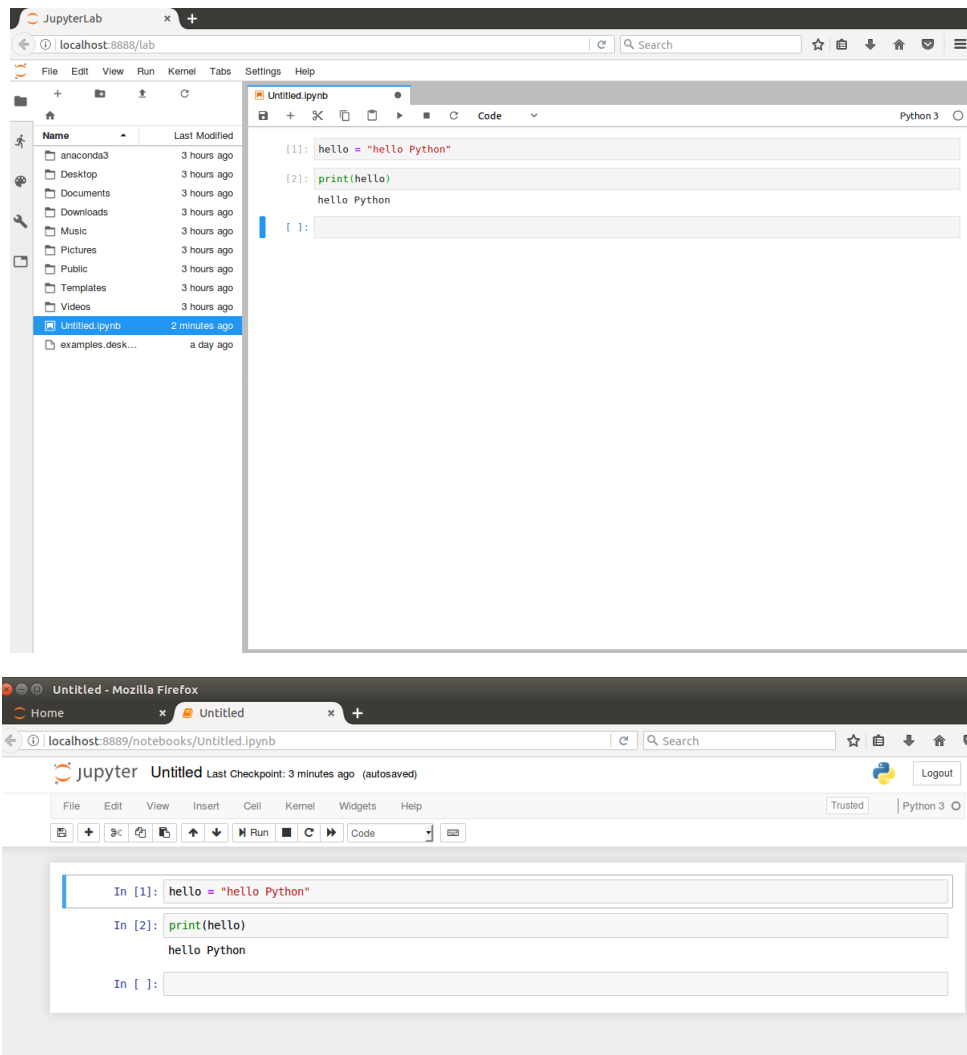
STEP 6 : Start Anaconda



After pressing anaconda-navigator you will see this menu.



and now you can try to Launch Notebook,Spyder or JupyterLab.



Left site was “Lab” Right site was “notebook” you can try each to see which was suitable to you
Congratulations! Now you can coding on your own computer.

Take your own screenshots of the Jupiter book page.

2. Intalling Keras and Tensorflow

In this step, we will install Python libraries used for deep learning, specifically: TensorFlow, and Keras.
Install the TensorFlow deep learning library (all except Windows) by typing:

1 Conda install -c conda-forge tensorflow

Alternatively, you may choose to install using pip and a specific version of tensorflow for your platform.

Install Keras by typing:

```
1 pip install keras
```

Confirm your deep learning environment is installed and working correctly.

Create a script that prints the version numbers of each library.

```
1# tensorflow
2import tensorflow
3print('tensorflow: %s' % tensorflow.__version__)
4# keras
5import keras
6print('keras: %s' % keras.__version__)
```

Save the script to a file *deep_versions.py*. Run the script by typing:

```
1python deep_versions.py
```

You should see output like:

```
2tensorflow: 0.12.1
3Using TensorFlow backend.
4keras: 1.2.1
```

Take your own screenshots of the Tensorflow/Keras version output.



Adding Missing Modules

By now you should feel comfortable installing modules using the conda command. If you need a specific module, simply Google something along the following lines:

Anaconda LibraryNameYouWant Install

If you encounter any problems search the web. Is most likely that you're not the first person to encounter a given error.