

Panduan Instalasi Anaconda untuk *Workshop Data Science Indonesia JATIM CAMP ke 4*



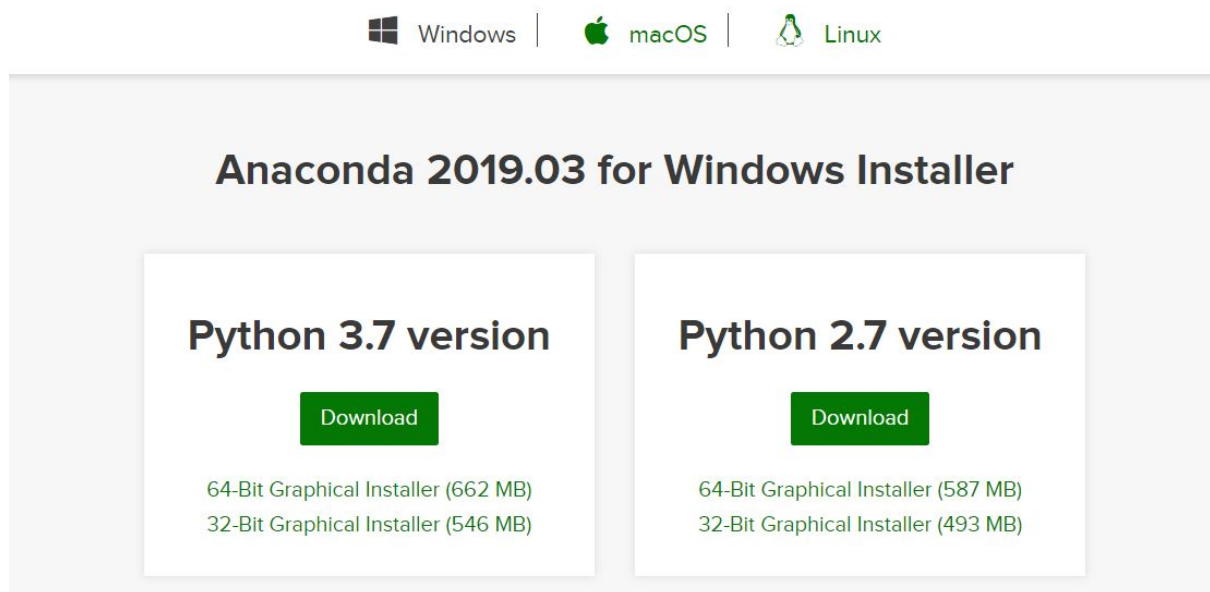
Anaconda merupakan sebuah *platform* interaktif yang mudah digunakan untuk melakukan hal-hal yang berkaitan dengan *data science* dan *machine learning*. Anaconda dapat diunduh secara gratis dan dapat dijalankan pada sistem operasi Windows, Linux, dan Mac. Pada sesi *workshop* dengan Python, kita nantinya akan menggunakan Jupyter Notebook yang terdapat di dalam Anaconda. Berikut ini adalah cara pemasangan Anaconda pada sistem operasi Windows dan Linux :

A. Sistem Operasi Windows :

1. Unduh *Anaconda Distribution* melalui situs resminya dengan menuju tautan berikut :

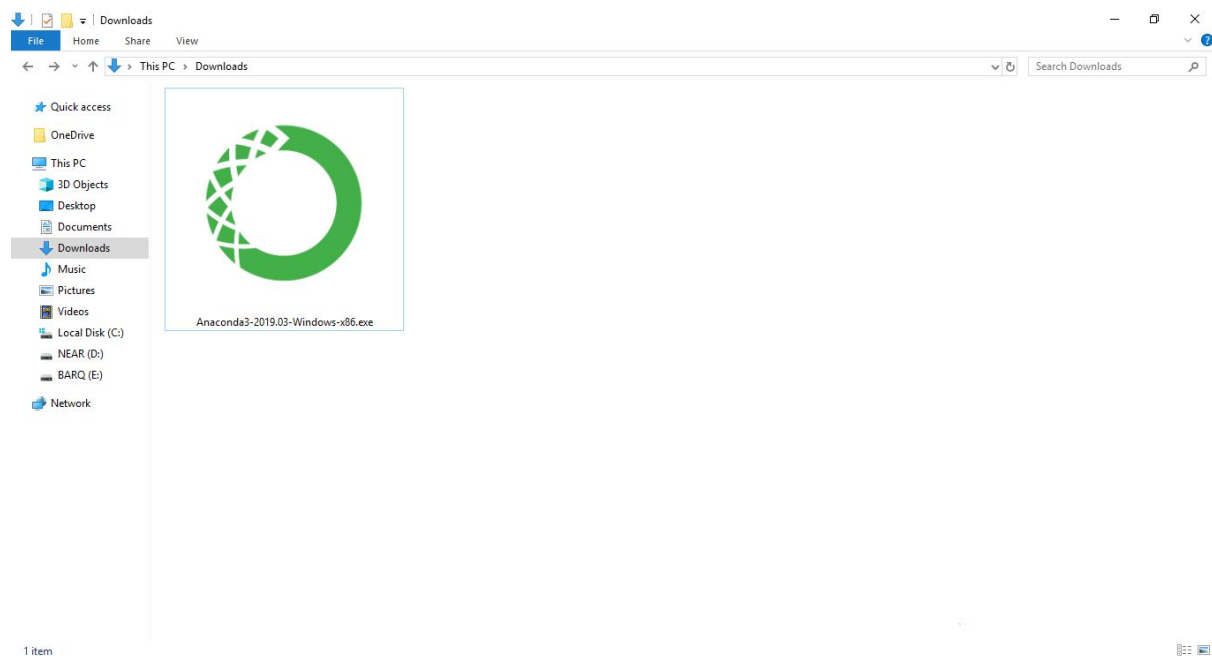
<https://www.anaconda.com/distribution/#download-section>

2. Pilih menu Windows



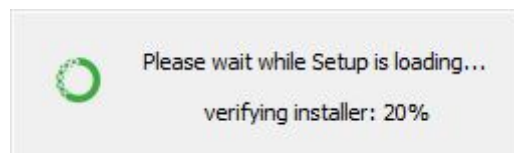
Kemudian klik tombol **Download** yang berada pada **Python 3.7 version** untuk memulai mengunduh berkasnya. Apabila laptop anda berarsitektur 32-bit maka klik saja link yang bertuliskan **32-Bit Graphical Installer (546 MB)**.

3. Apabila berkas sudah terunduh jalankan saja seperti biasa

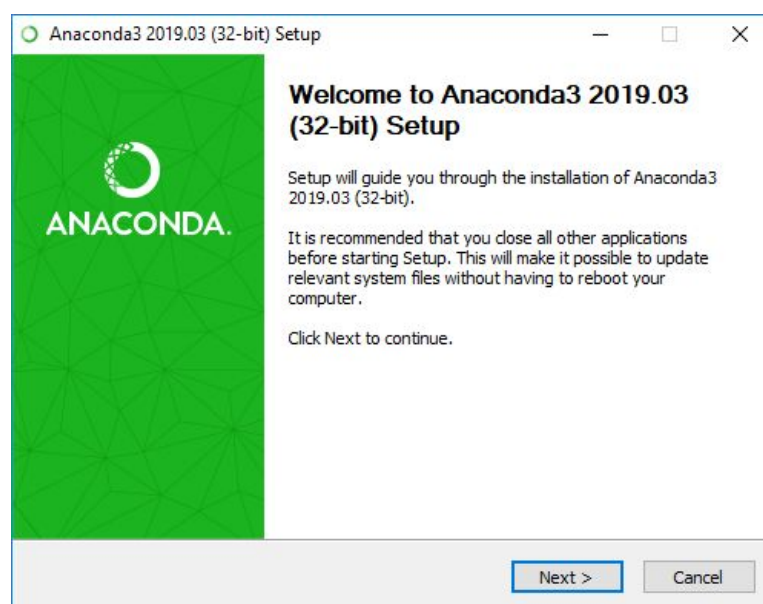


Pada panduan ini kami mengunduh Anaconda untuk laptop berarsitektur 32-bit. Apabila anda mengunduh untuk laptop berarsitektur 64-bit maka berkas unduhannya nanti bernama **Anaconda3-2019.03-Windows-x86_64.exe**.

4. Tunggu hingga 100%

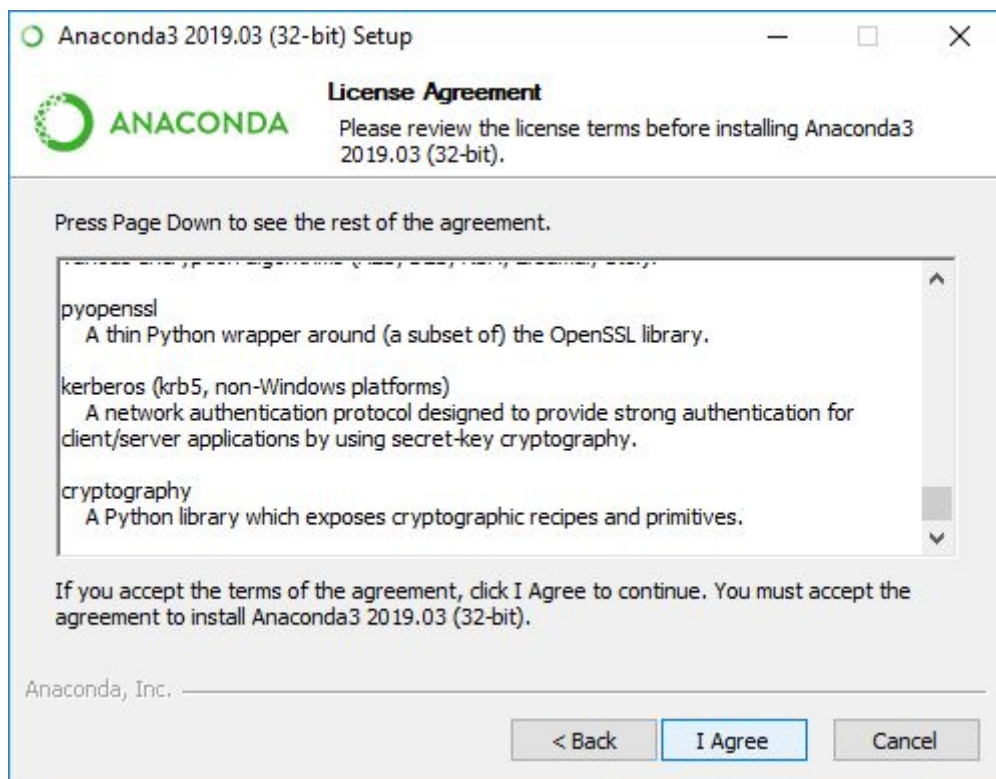


5. Tampilan awal instalasi Anaconda



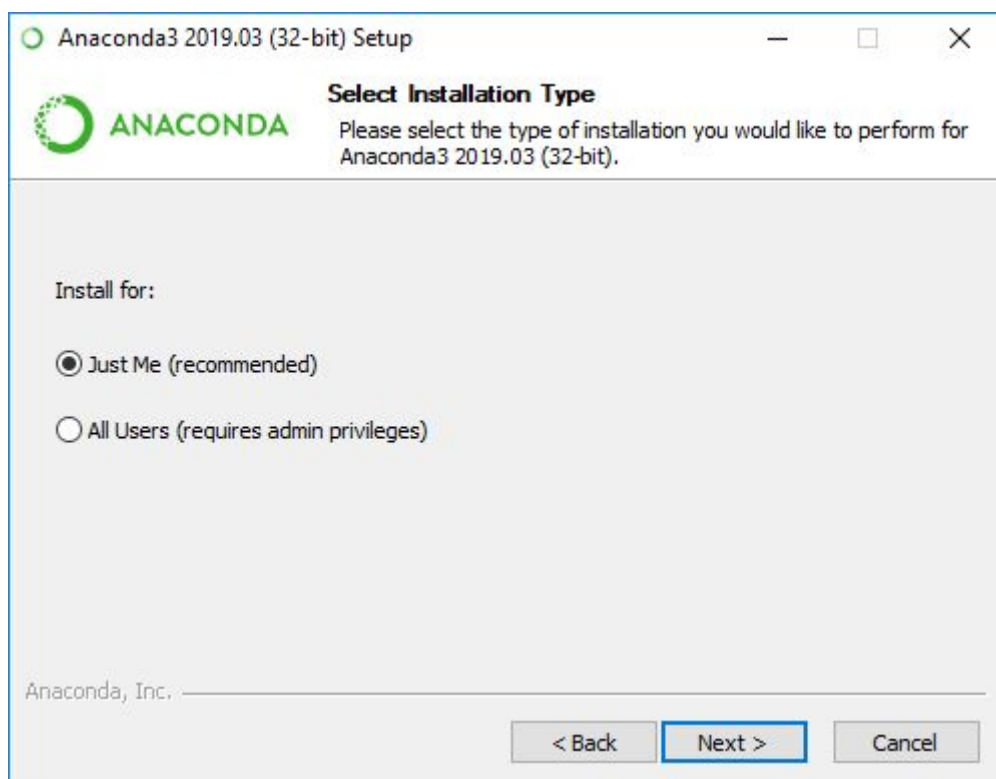
Klik **Next >** untuk melanjutkan proses instalasi

6. Baca seluruh *license agreement*



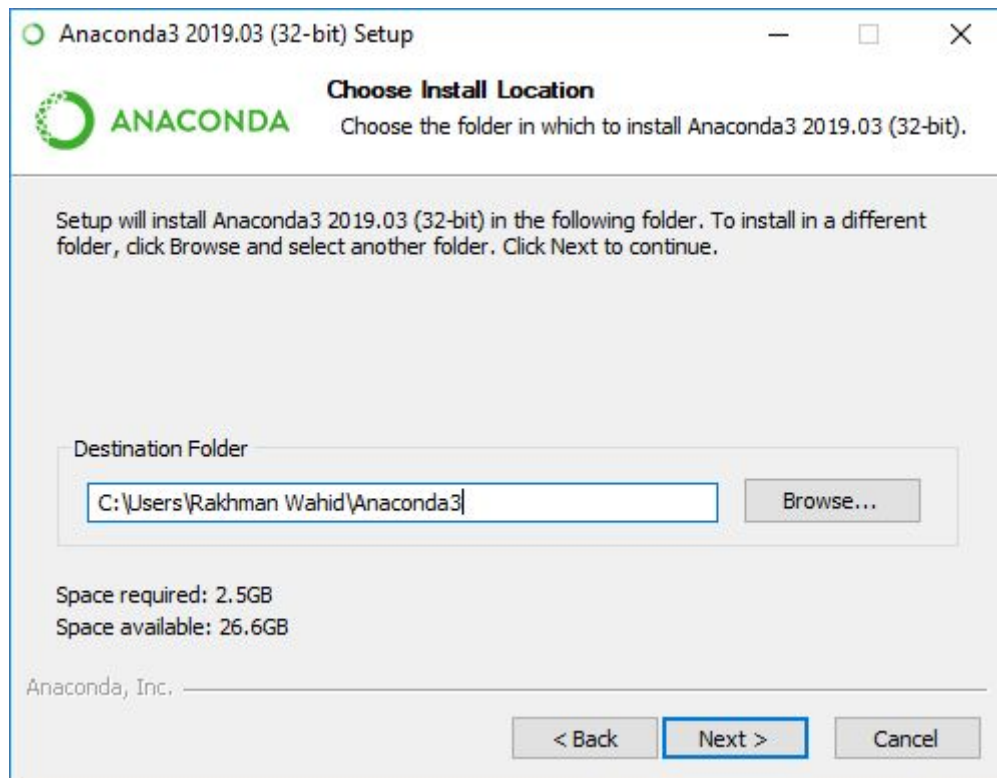
Kemudian klik **I Agree** untuk melanjutkan proses instalasi

7. Pilih pilihan yang direkomendasikan



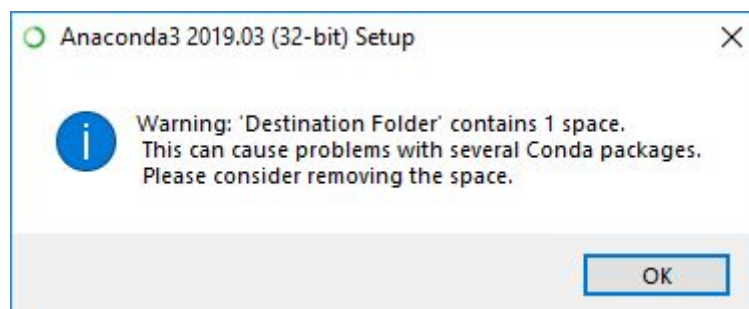
Klik **Next >** untuk melanjutkan proses instalasi

8. Tentukan direktori di mana Anda akan menaruh seluruh *files* hasil instalasi Anaconda



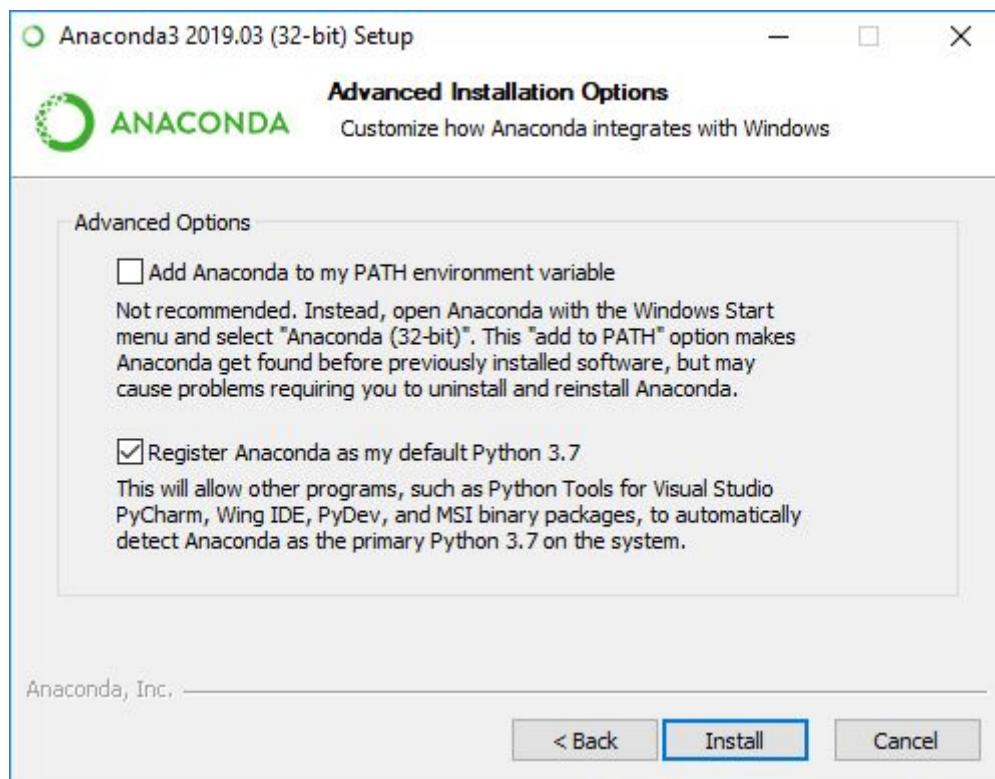
Pastikan masih ada ruangan tersisa sebesar 2.5 GB untuk menaruh *files* instalasi Anaconda. Klik **Next >** untuk melanjutkan proses instalasi.

9. Muncul peringatan



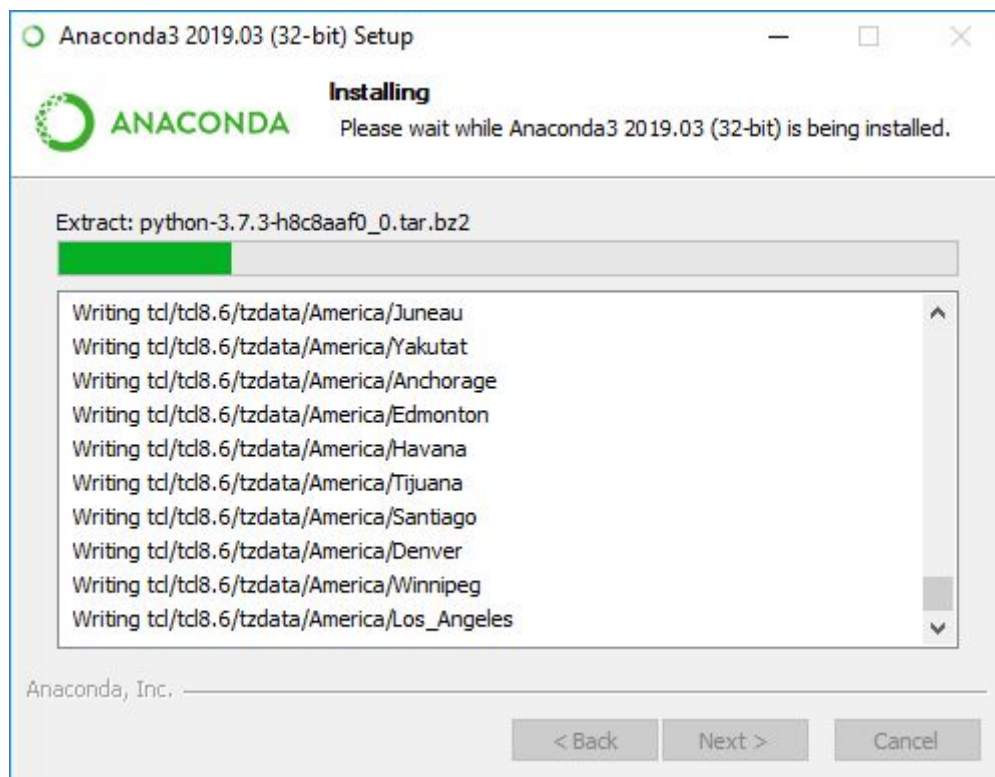
Peringatan ini muncul karena pada direktori instalasi Anaconda terdapat spasi. Jika ini diteruskan maka bisa mengakibatkan masalah di beberapa modul/pustaka/paket kelak. Coba ganti direktori instalasi Anaconda Anda, pastikan tidak ada spasi pada direktori/folder penyimpanan instalasi Anaconda. Anda masih bisa meneruskan instalasi Anaconda dengan mengklik **OK** namun ada baiknya anda kembali **< Back** untuk mengubah destinasi direktori penyimpanan *files* Anaconda Anda. Dalam kasus ini direktori penyimpanan pada langkah ke 8 telah diubah ke **C:\ProgramData\Anaconda**

10. Centang saja Register Anaconda as my default Python 3.7



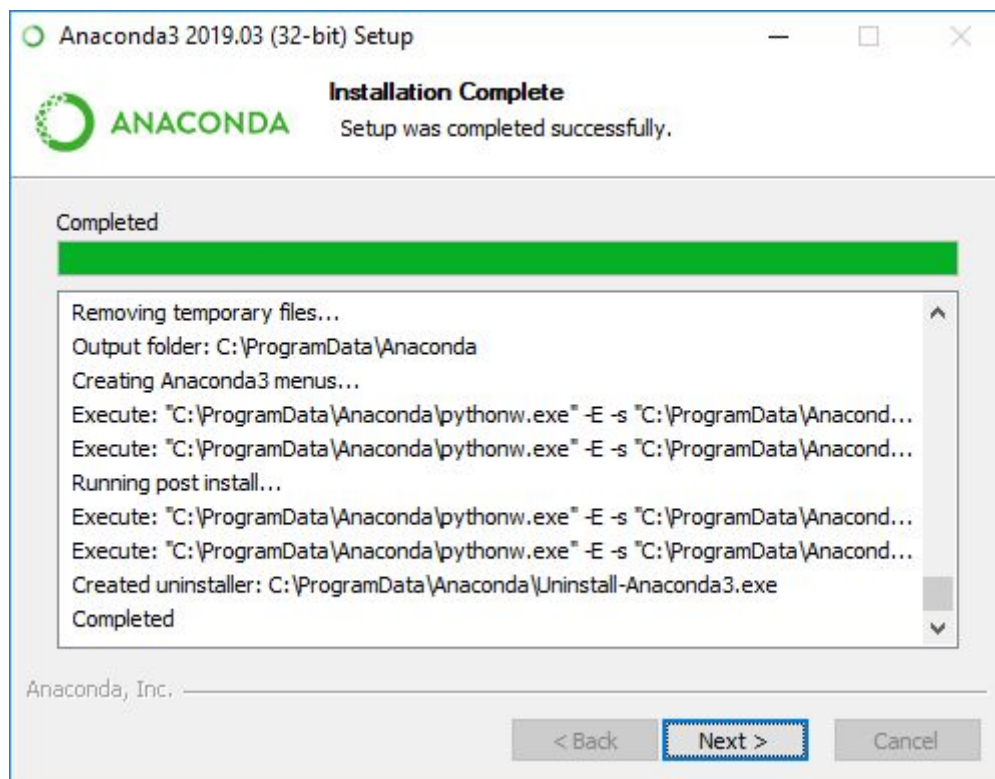
Klik **Install** untuk memulai proses instalasi

11. Tunggu proses instalasi selesai



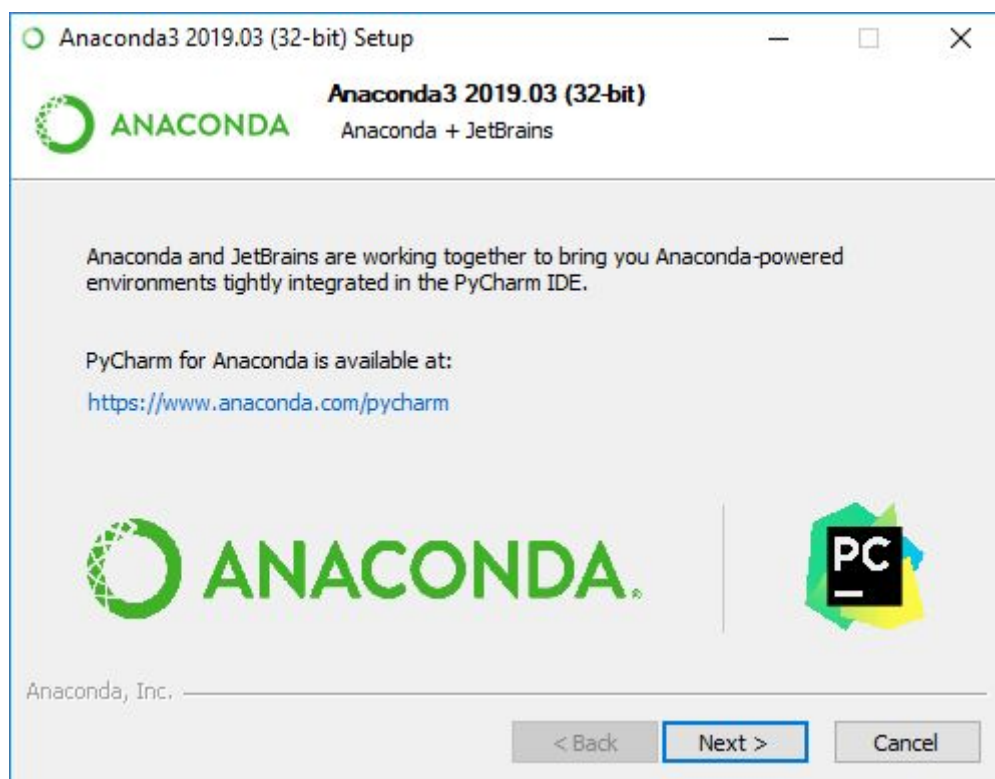
Sedikit memakan waktu lama

12. Proses instalasi selesai!

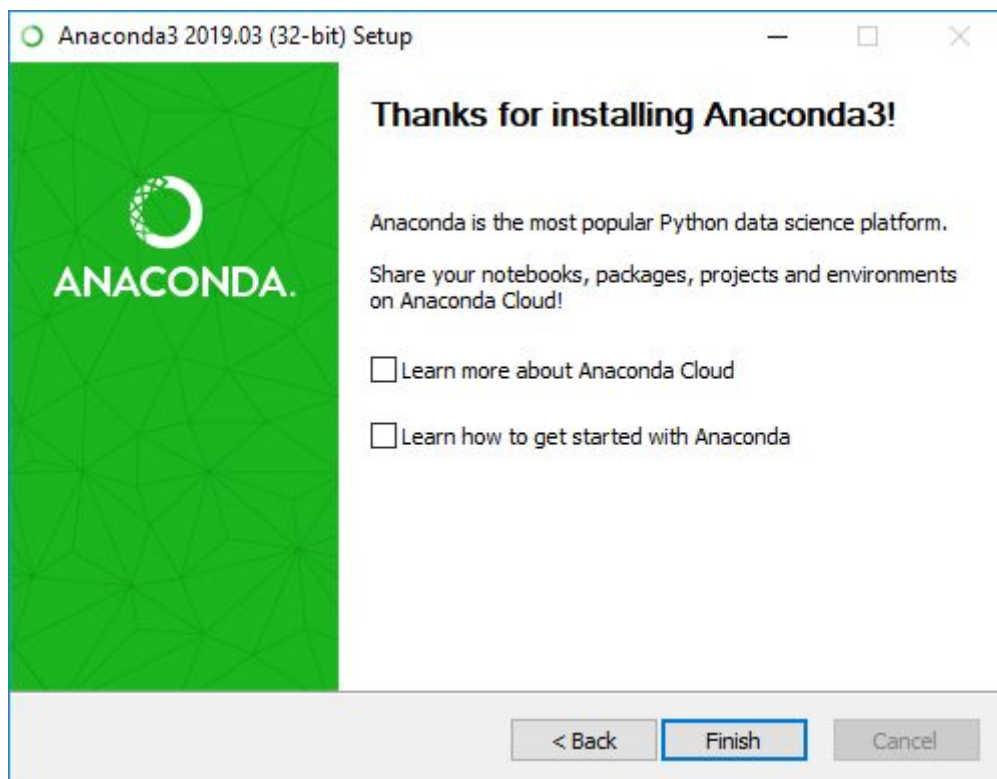


Klik **Next >** untuk menyelesaikan proses instalasi.

13. Klik **Next >**(lagi) untuk menyelesaikan proses instalasi.

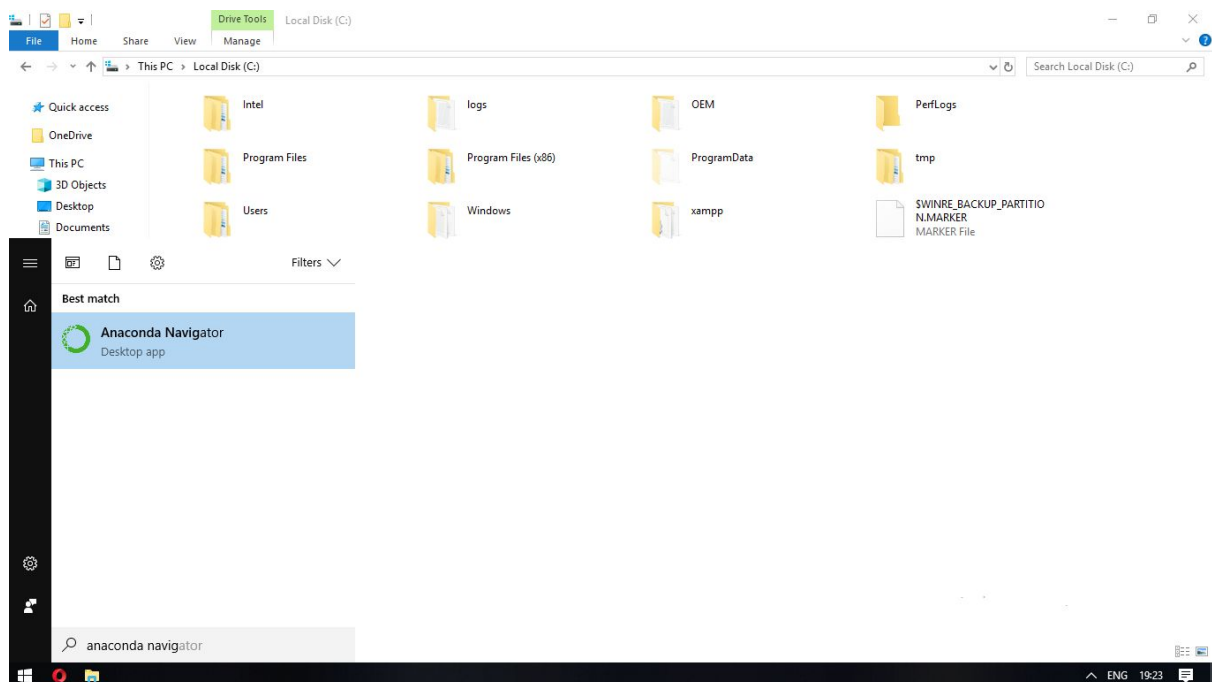


14. Klik Finish untuk menutup instalasi Anaconda'nya



Hapus saja centang pada kedua kotak yang bertuliskan “Learn....”

15. Cari dan jalankan Anaconda Navigator



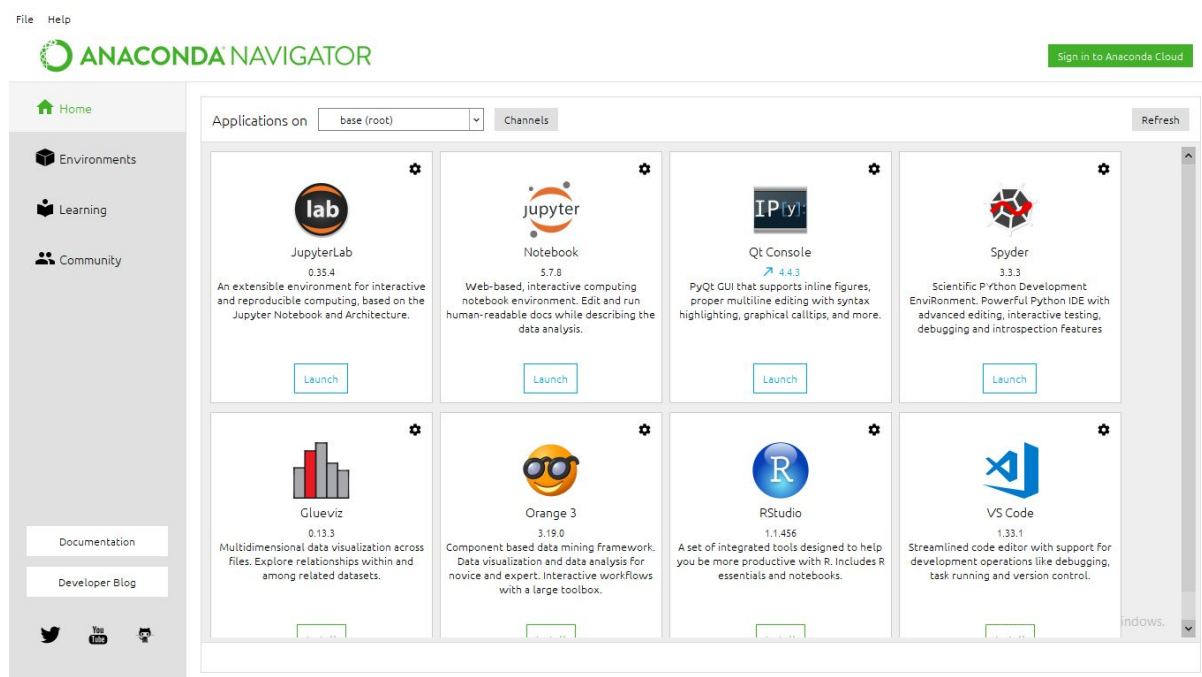
Anda dapat mencarinya melalui tombol *start* pada Windows

16. Pra Tampilan Anaconda Navigator

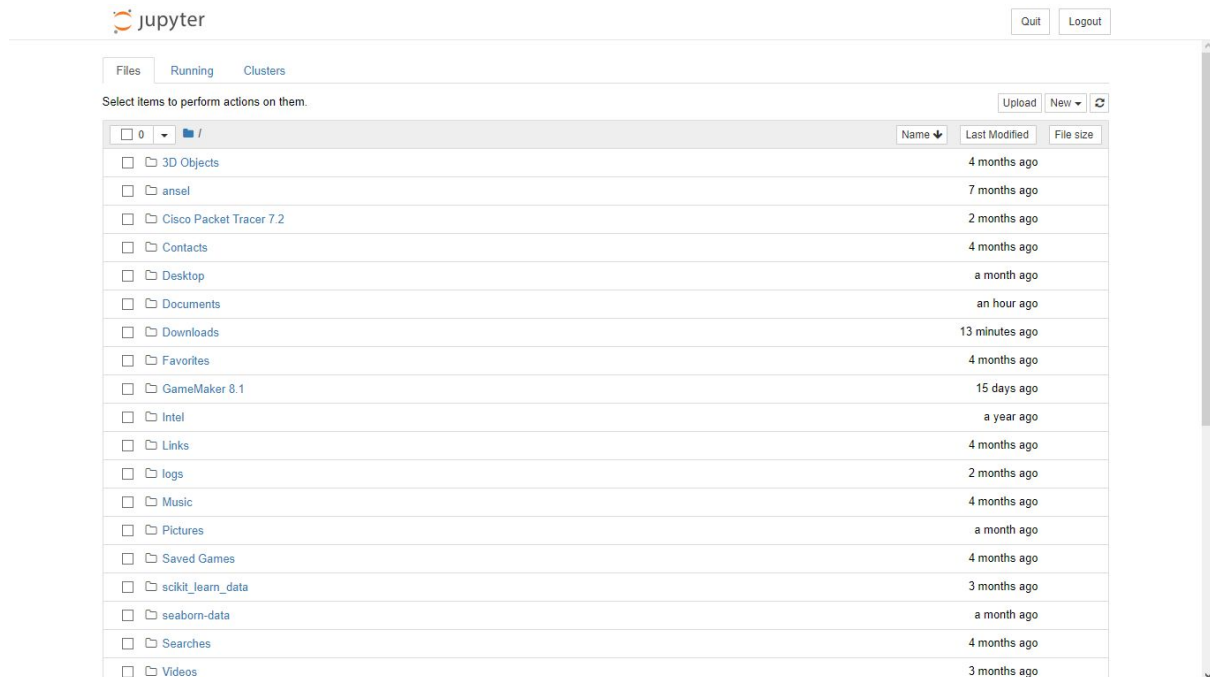


Untuk penggunaan pertama akan muncul kotak dialog. Anda boleh untuk menghapus centang pada **Yes, I'd like to help improve Anaconda** kemudian klik **Ok, and don't show again**.

17. Tampilan Anaconda Navigator

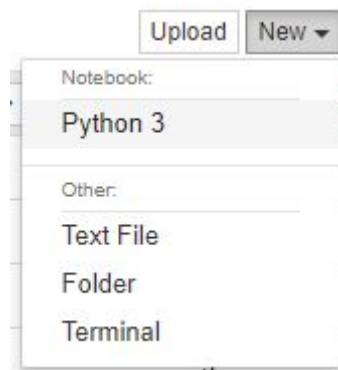


Seperti yang sudah dijelaskan di awal, pada sesi *workshop* nantinya kita akan menggunakan Jupyter Notebook. Oleh karena itu klik **Launch** pada Jupyter Notebook. Kemudian Anda akan diarahkan menuju *web browser* Anda seperti gambar berikut :

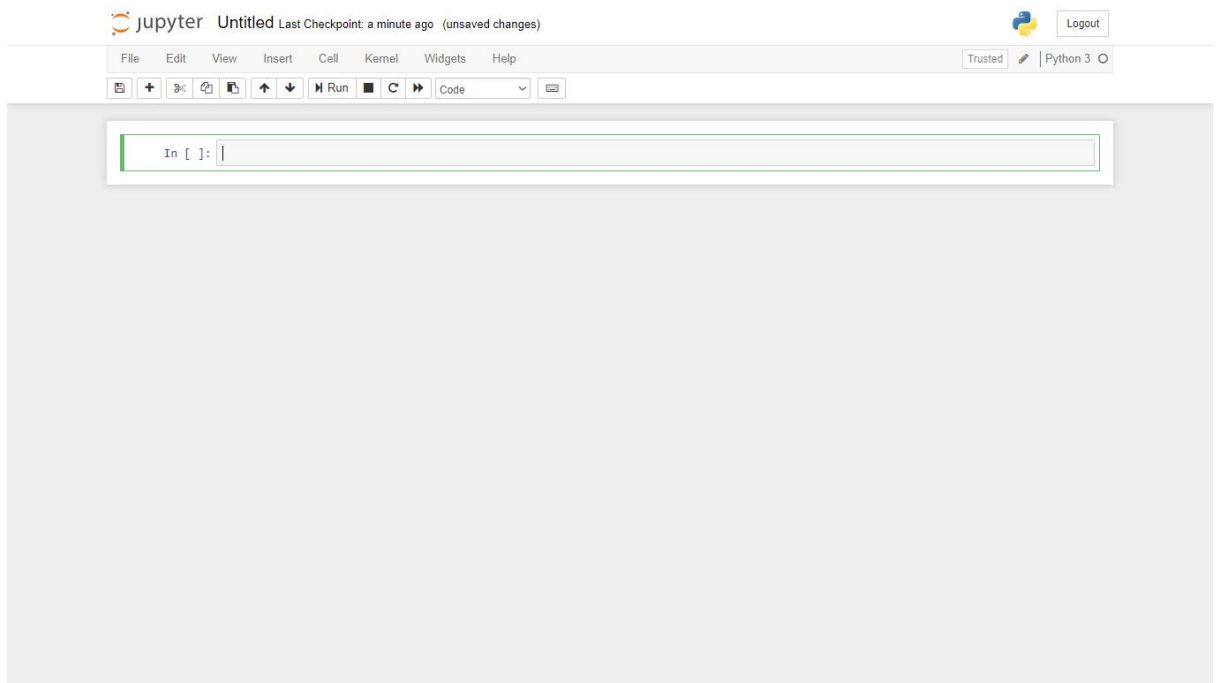


Direktori yang dimunculkan adalah **C:\Users\Nama_User**

18. Buat *notebook* baru



Klik tombol **New** dengan anak panah yang menunjuk ke bawah(kanan atas) lalu pilih menu **Python 3**. Browser akan membuka satu **tab** baru seperti gambar di bawah ini :



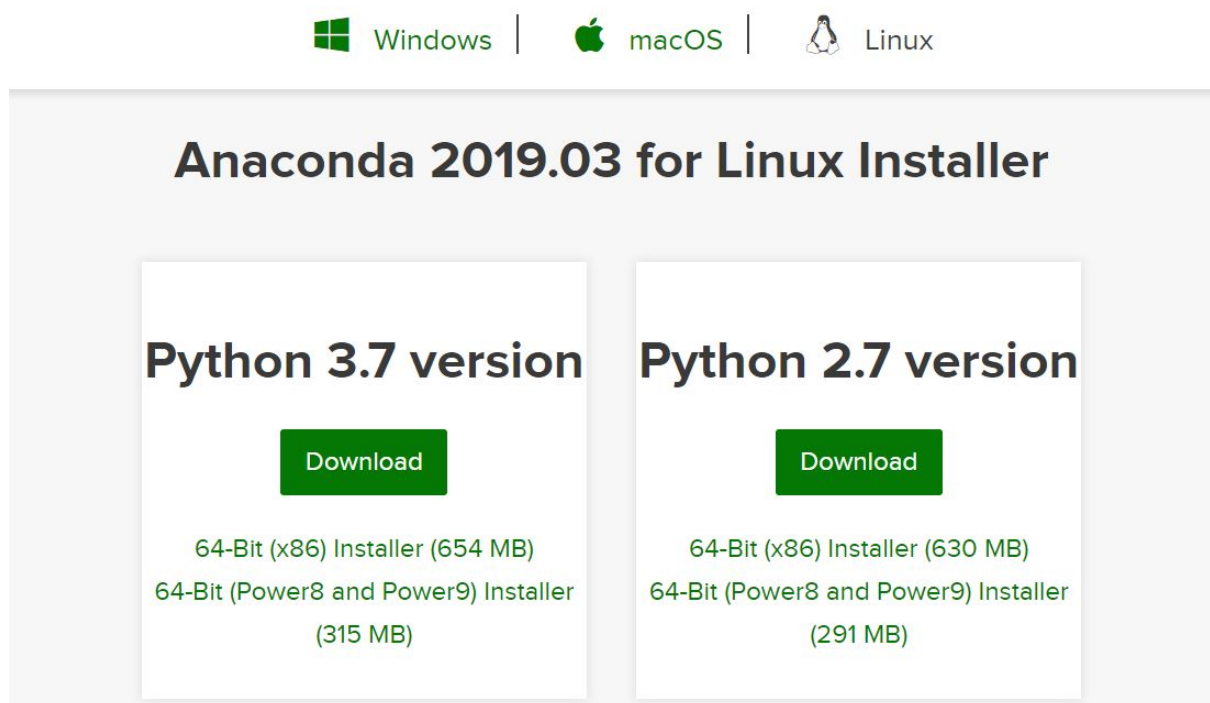
Apabila laman tersebut sudah muncul maka Anda siap untuk mengikuti *workshop* JATIM CAMP ke 4, selamat! :)

B. Sistem Operasi Linux :

1. Unduh *Anaconda Distribution* melalui situs resminya dengan menuju tautan berikut :

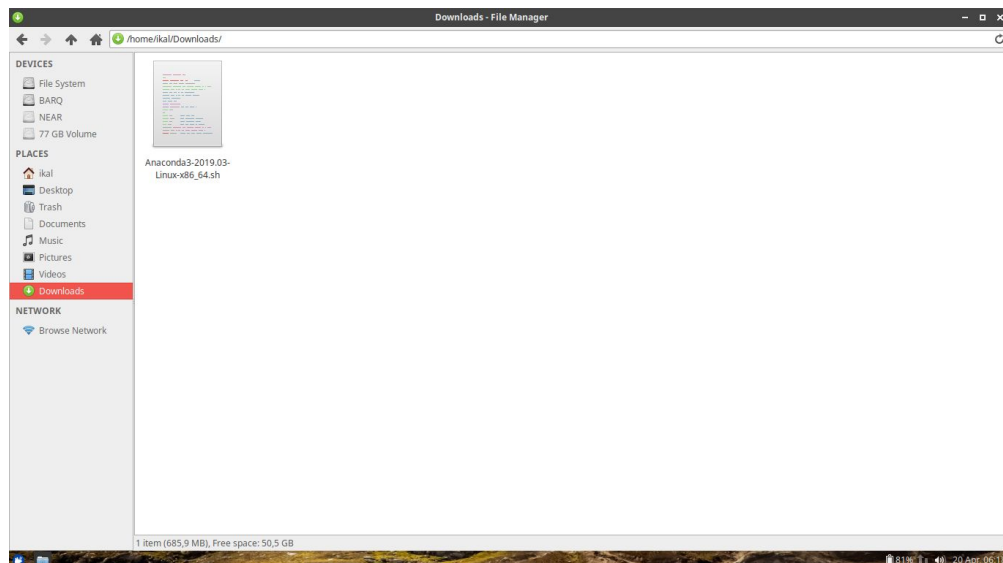
<https://www.anaconda.com/distribution/#download-section>

2. Pilih menu Linux



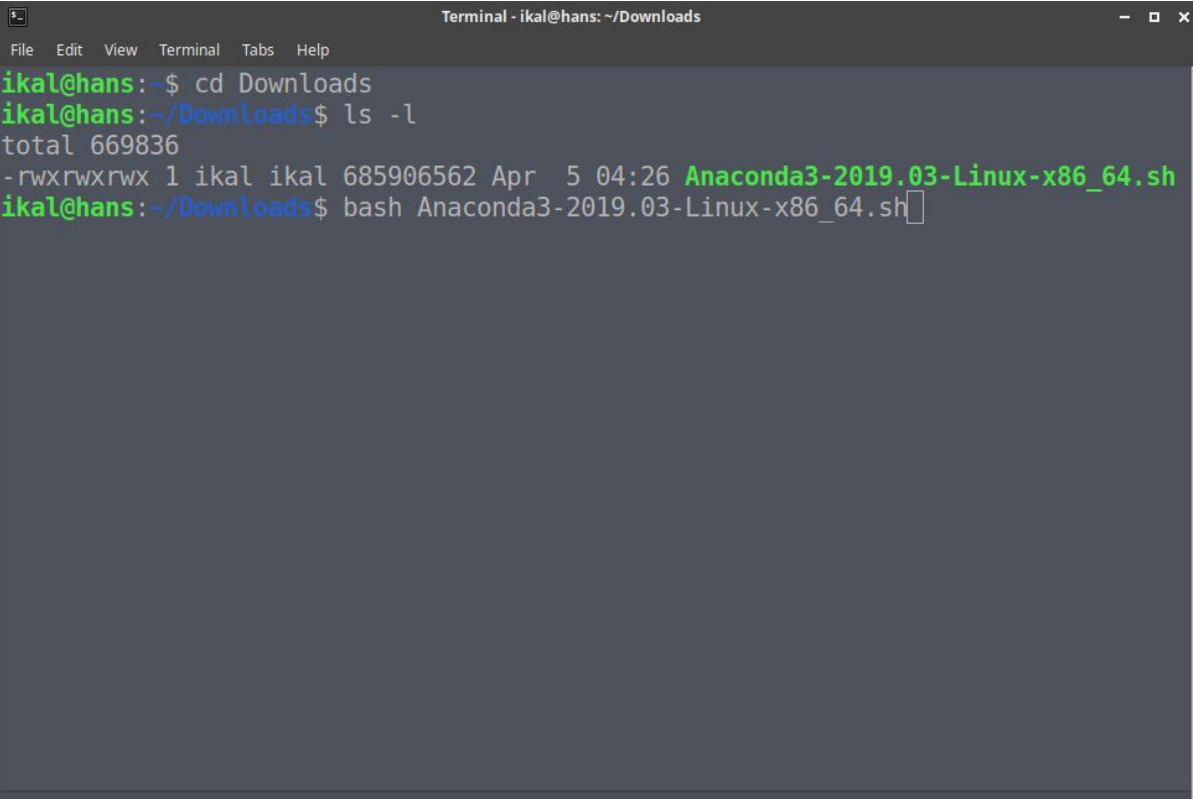
Kemudian klik tombol **Download** yang berada pada **Python 3.7 version** untuk memulai mengunduh berkasnya.

3. Apabila berkas sudah terunduh



Buka terminal dengan mengetik **Ctrl + Alt + t**

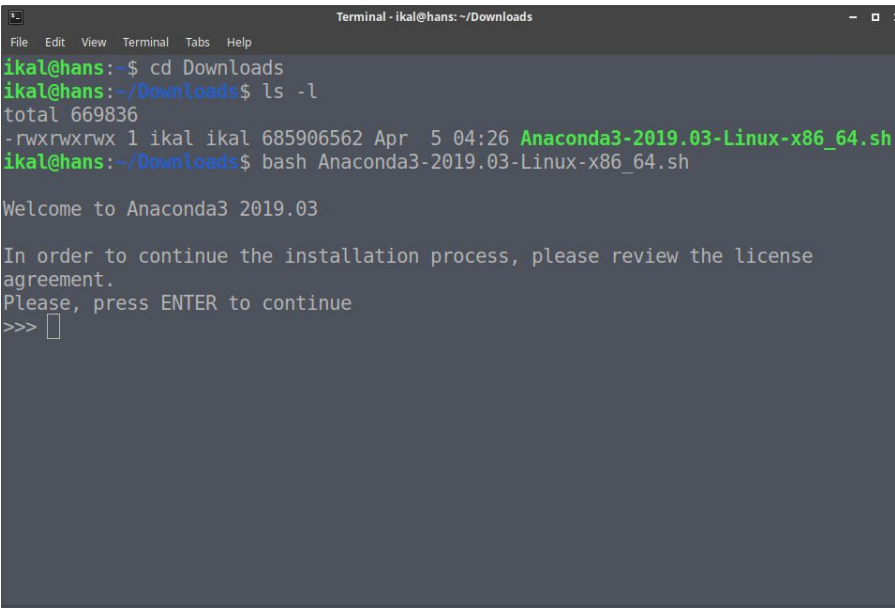
4. Masuk ke dalam direktori di mana Anda menempatkan berkas unduhan Anaconda

A terminal window titled "Terminal - ikal@hans: ~/Downloads" with a menu bar (File, Edit, View, Terminal, Tabs, Help). The user enters the command `cd Downloads`. The prompt changes to `ikal@hans:~/Downloads$`. Then, the user enters `ls -l`, and the terminal displays the output: `total 669836` followed by a line showing file permissions, owner, size, date, and filename: `-rwxrwxrwx 1 ikal ikal 685906562 Apr 5 04:26 Anaconda3-2019.03-Linux-x86_64.sh`. Finally, the user enters `bash Anaconda3-2019.03-Linux-x86_64.sh` and a cursor is shown at the end of the command.

```
Terminal - ikal@hans: ~/Downloads
File Edit View Terminal Tabs Help
ikal@hans:~$ cd Downloads
ikal@hans:~/Downloads$ ls -l
total 669836
-rwxrwxrwx 1 ikal ikal 685906562 Apr 5 04:26 Anaconda3-2019.03-Linux-x86_64.sh
ikal@hans:~/Downloads$ bash Anaconda3-2019.03-Linux-x86_64.sh
```

Dalam kasus ini berkas unduhan Anaconda terdapat pada direktori/*folder* Downloads oleh karena itu kita masuk ke dalam direktori tersebut dengan perintah **cd Downloads** kemudian cek isi dari direktori tersebut dengan perintah **ls -l** lalu jalankan instalasi Anaconda dengan perintah **bash nama_file.sh** atau **bash Anaconda3-2019.03-Linux-x86_64.sh**.

5. Instalasi Anaconda dimulai!

A terminal window titled "Terminal - ikal@hans: ~/Downloads" with a menu bar (File, Edit, View, Terminal, Tabs, Help). The user enters the command `cd Downloads`. The prompt changes to `ikal@hans:~/Downloads$`. Then, the user enters `ls -l`, and the terminal displays the output: `total 669836` followed by a line showing file permissions, owner, size, date, and filename: `-rwxrwxrwx 1 ikal ikal 685906562 Apr 5 04:26 Anaconda3-2019.03-Linux-x86_64.sh`. Finally, the user enters `bash Anaconda3-2019.03-Linux-x86_64.sh`. The terminal displays the following text: `Welcome to Anaconda3 2019.03`, `In order to continue the installation process, please review the license agreement.`, `Please, press ENTER to continue`, and `>>>` with a cursor at the end of the line.

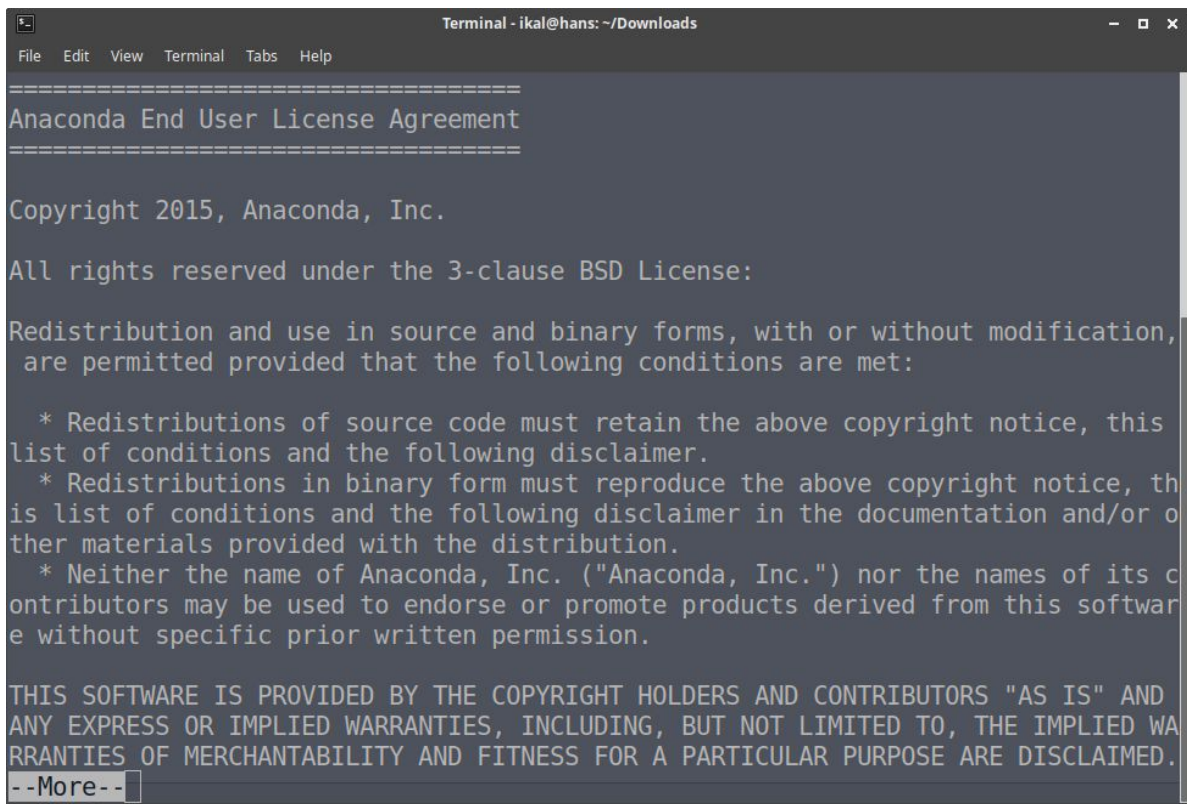
```
Terminal - ikal@hans: ~/Downloads
File Edit View Terminal Tabs Help
ikal@hans:~$ cd Downloads
ikal@hans:~/Downloads$ ls -l
total 669836
-rwxrwxrwx 1 ikal ikal 685906562 Apr 5 04:26 Anaconda3-2019.03-Linux-x86_64.sh
ikal@hans:~/Downloads$ bash Anaconda3-2019.03-Linux-x86_64.sh

Welcome to Anaconda3 2019.03

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

Tekan saja **Enter** untuk melanjutkan proses Instalasi Anaconda

6. Baca *Anaconda End User License Agreement* sampai habis

A terminal window titled "Terminal - ikal@hans: ~/Downloads" showing the Anaconda End User License Agreement. The text is as follows:

```
=====
Anaconda End User License Agreement
=====

Copyright 2015, Anaconda, Inc.

All rights reserved under the 3-clause BSD License:

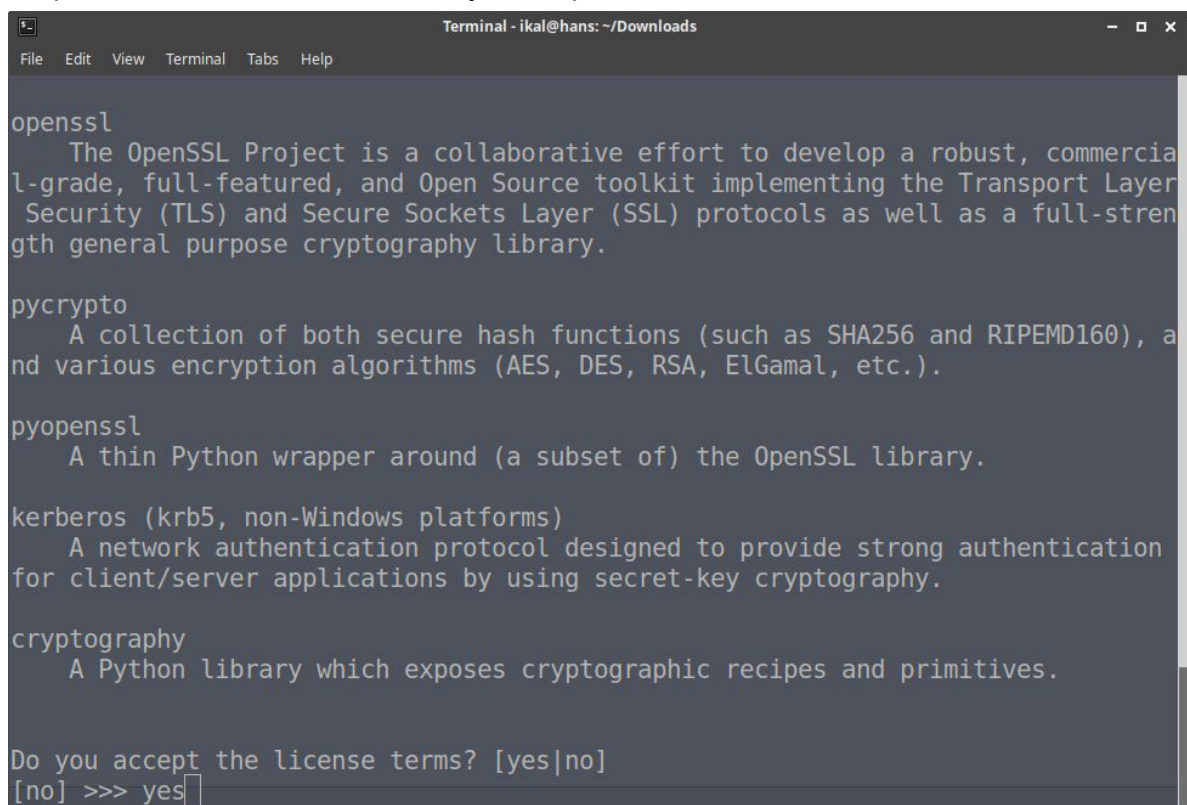
Redistribution and use in source and binary forms, with or without modification,
are permitted provided that the following conditions are met:

    * Redistributions of source code must retain the above copyright notice, this
    list of conditions and the following disclaimer.
    * Redistributions in binary form must reproduce the above copyright notice, th
    is list of conditions and the following disclaimer in the documentation and/or o
    ther materials provided with the distribution.
    * Neither the name of Anaconda, Inc. ("Anaconda, Inc.") nor the names of its c
    ontributors may be used to endorse or promote products derived from this softwar
    e without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WA
RRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
--More--
```

Tekan Enter untuk melanjutkan membaca

7. Apabila Anda telah membacanya sampai habis

A terminal window titled "Terminal - ikal@hans: ~/Downloads" showing the Anaconda End User License Agreement and the prompt to accept the license terms. The text is as follows:

```
openssl
    The OpenSSL Project is a collaborative effort to develop a robust, commercia
l-grade, full-featured, and Open Source toolkit implementing the Transport Layer
Security (TLS) and Secure Sockets Layer (SSL) protocols as well as a full-stren
gth general purpose cryptography library.

pycrypto
    A collection of both secure hash functions (such as SHA256 and RIPEMD160), a
nd various encryption algorithms (AES, DES, RSA, ElGamal, etc.).

pyopenssl
    A thin Python wrapper around (a subset of) the OpenSSL library.

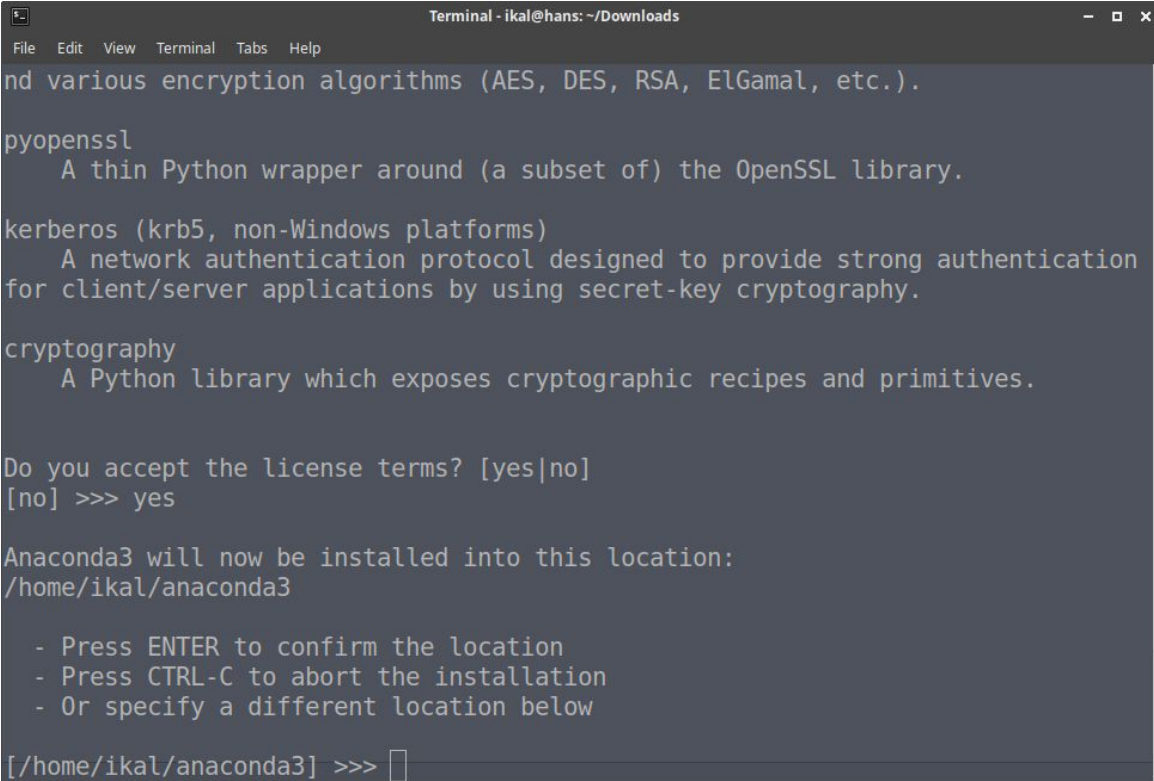
kerberos (krb5, non-Windows platforms)
    A network authentication protocol designed to provide strong authentication
for client/server applications by using secret-key cryptography.

cryptography
    A Python library which exposes cryptographic recipes and primitives.

Do you accept the license terms? [yes|no]
[no] >>> yes
```

ketik **yes** lalu tekan **Enter**

8. Pilih direktori untuk menyimpan seluruh berkas instalasi Anaconda

A terminal window titled "Terminal - ikal@hans: ~/Downloads" showing the Anaconda installation process. The window has a menu bar with "File", "Edit", "View", "Terminal", "Tabs", and "Help". The output shows descriptions for various encryption algorithms (AES, DES, RSA, ElGamal, etc.), pyopenssl, kerberos, and cryptography. It then asks for license acceptance, which is confirmed with "yes". The installation location is set to "/home/ikal/anaconda3".

```
Terminal - ikal@hans: ~/Downloads
File Edit View Terminal Tabs Help
nd various encryption algorithms (AES, DES, RSA, ElGamal, etc.).

pyopenssl
  A thin Python wrapper around (a subset of) the OpenSSL library.

kerberos (krb5, non-Windows platforms)
  A network authentication protocol designed to provide strong authentication
  for client/server applications by using secret-key cryptography.

cryptography
  A Python library which exposes cryptographic recipes and primitives.

Do you accept the license terms? [yes|no]
[no] >>> yes

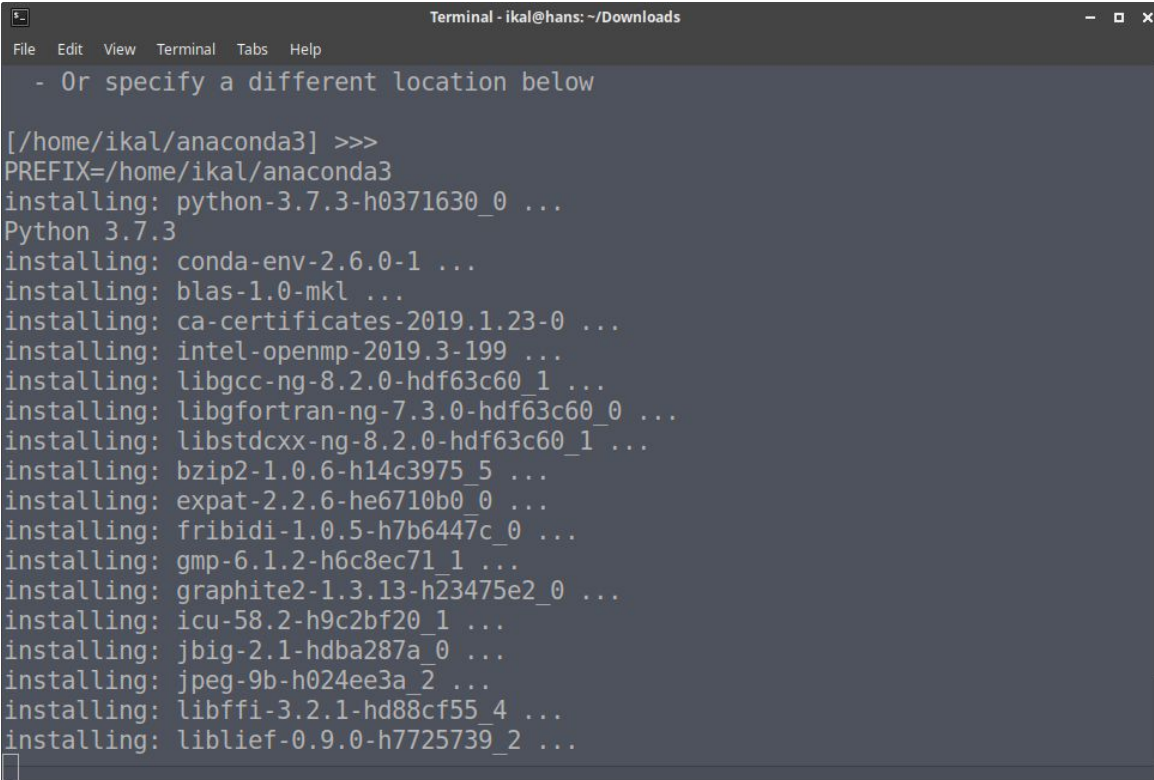
Anaconda3 will now be installed into this location:
/home/ikal/anaconda3

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

[/home/ikal/anaconda3] >>> 
```

Tekan **Enter** untuk pilih direktori *default* dan melanjutkan proses instalasi Anaconda

9. Proses instalasi Anaconda dimulai

A terminal window titled "Terminal - ikal@hans: ~/Downloads" showing the Anaconda installation process. The window has a menu bar with "File", "Edit", "View", "Terminal", "Tabs", and "Help". The output shows the installation of various dependencies like python-3.7.3, conda-env, blas, ca-certificates, intel-openmp, libgcc-ng, libgfortran-ng, libstdcxx-ng, bzip2, expat, fribidi, gmp, graphite2, icu, jbig, jpeg, libffi, and liblief.

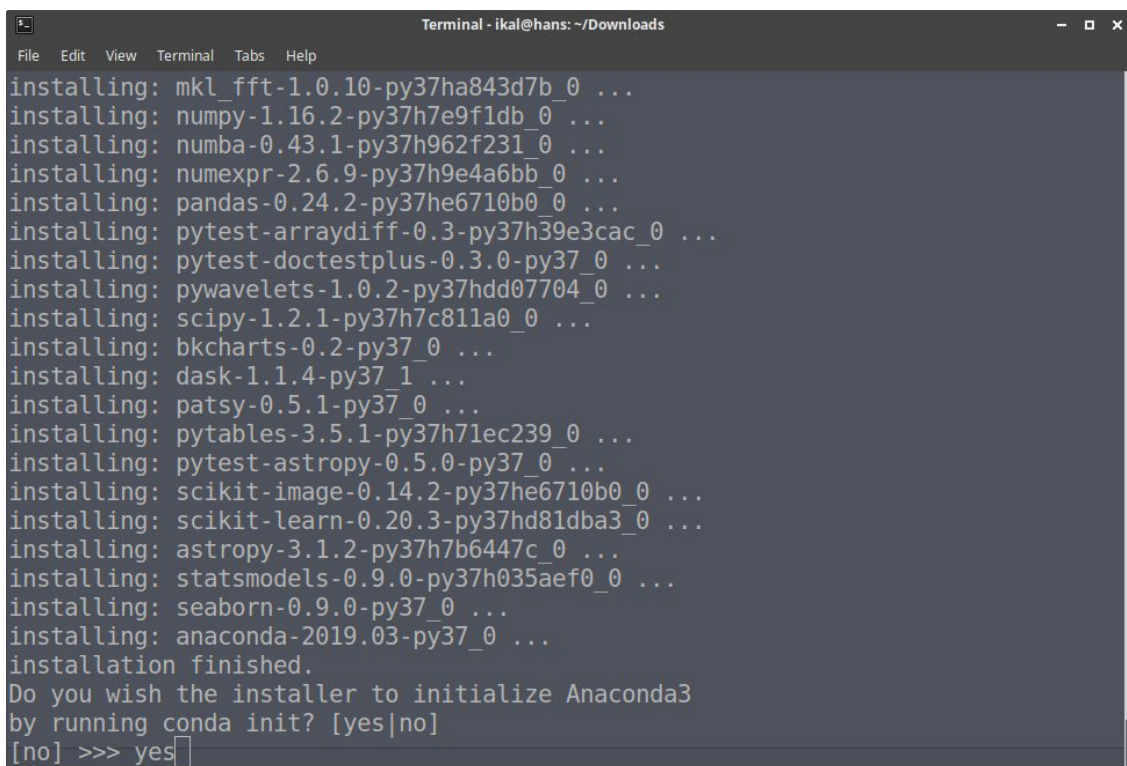
```
Terminal - ikal@hans: ~/Downloads
File Edit View Terminal Tabs Help
- Or specify a different location below

[/home/ikal/anaconda3] >>>
PREFIX=/home/ikal/anaconda3
installing: python-3.7.3-h0371630_0 ...
Python 3.7.3
installing: conda-env-2.6.0-1 ...
installing: blas-1.0-mkl ...
installing: ca-certificates-2019.1.23-0 ...
installing: intel-openmp-2019.3.199 ...
installing: libgcc-ng-8.2.0-hdf63c60_1 ...
installing: libgfortran-ng-7.3.0-hdf63c60_0 ...
installing: libstdcxx-ng-8.2.0-hdf63c60_1 ...
installing: bzip2-1.0.6-h14c3975_5 ...
installing: expat-2.2.6-he6710b0_0 ...
installing: fribidi-1.0.5-h7b6447c_0 ...
installing: gmp-6.1.2-h6c8ec71_1 ...
installing: graphite2-1.3.13-h23475e2_0 ...
installing: icu-58.2-h9c2bf20_1 ...
installing: jbig-2.1-hdba287a_0 ...
installing: jpeg-9b-h024ee3a_2 ...
installing: libffi-3.2.1-hd88cf55_4 ...
installing: liblief-0.9.0-h7725739_2 ...

```

Tunggu sampai selesai, tidak akan memakan waktu lama

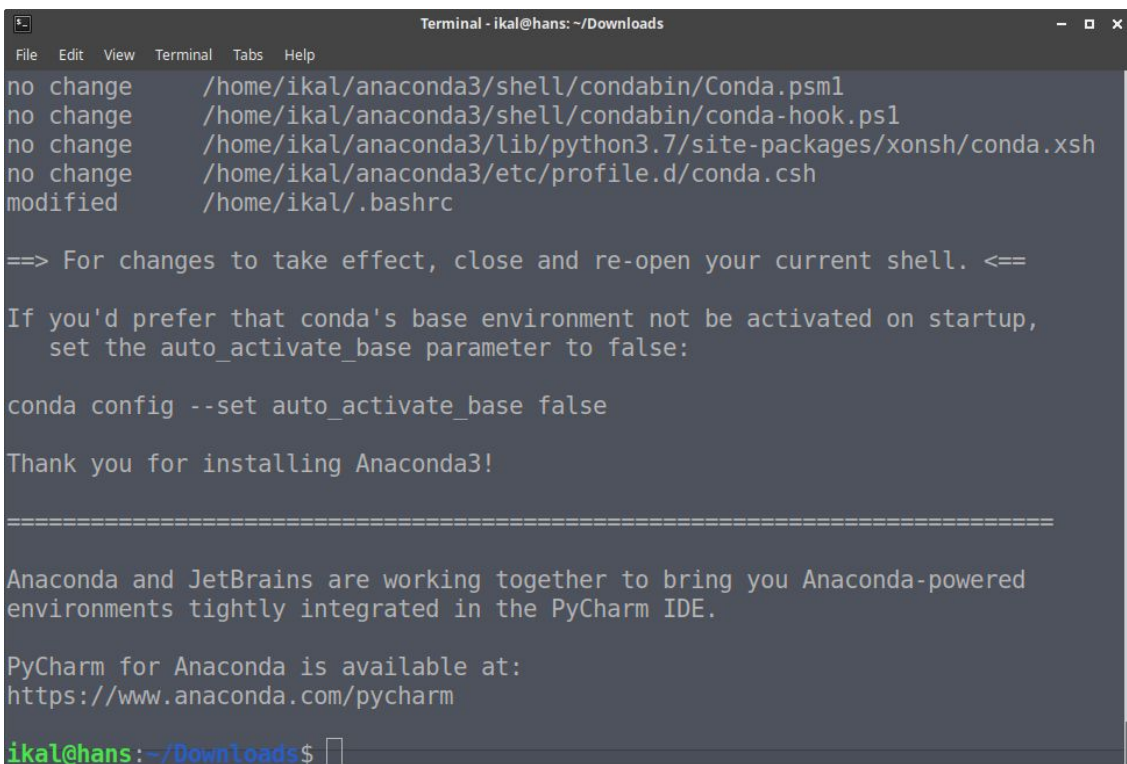
10. Proses instalasi selesai



```
Terminal - ikal@hans: ~/Downloads
File Edit View Terminal Tabs Help
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
```

ketikkan **yes** kemudian tekan **Enter** untuk melanjutkan proses

11. Proses instalasi Anaconda telah selesai!



```
Terminal - ikal@hans: ~/Downloads
File Edit View Terminal Tabs Help
no change      /home/ikal/anaconda3/shell/condabin/Conda.ps1
no change      /home/ikal/anaconda3/shell/condabin/conda-hook.ps1
no change      /home/ikal/anaconda3/lib/python3.7/site-packages/xonsh/conda.xsh
no change      /home/ikal/anaconda3/etc/profile.d/conda.csh
modified       /home/ikal/.bashrc

==> For changes to take effect, close and re-open your current shell. <==

If you'd prefer that conda's base environment not be activated on startup,
set the auto_activate_base parameter to false:

conda config --set auto_activate_base false

Thank you for installing Anaconda3!

=====

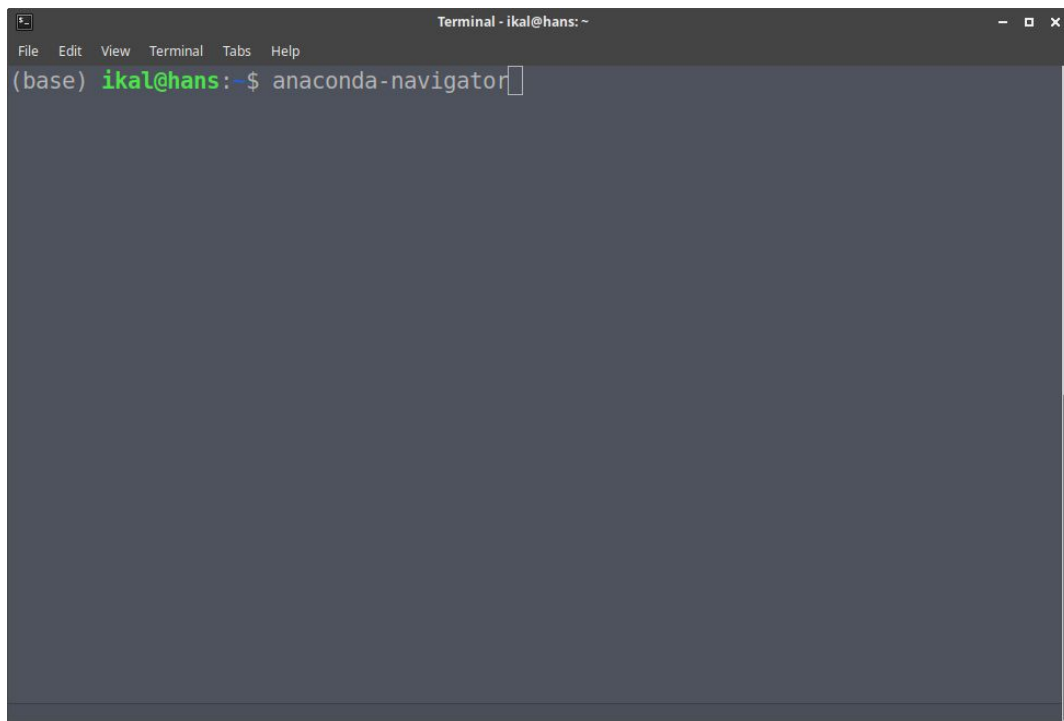
Anaconda and JetBrains are working together to bring you Anaconda-powered
environments tightly integrated in the PyCharm IDE.

PyCharm for Anaconda is available at:
https://www.anaconda.com/pycharm

ikal@hans:~/Downloads$
```

Silahkan tutup Terminal yang Anda gunakan untuk menginstal Anaconda kemudian buka Terminal baru

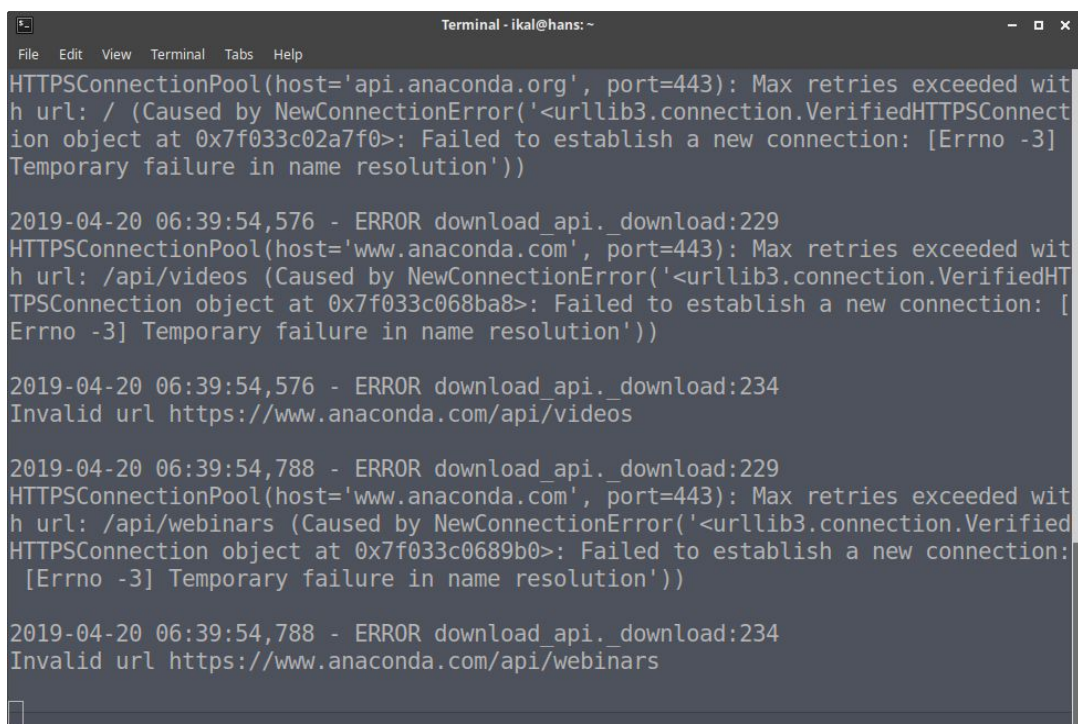
12. Tampilan terminal setelah proses instalasi Anaconda selesai



```
Terminal - ikal@hans: ~  
File Edit View Terminal Tabs Help  
(base) ikal@hans:~$ anaconda-navigator
```

Terdapat tulisan **(base)** di samping *root user*. Ini menandakan bahwa Anaconda sedang aktif. Jangan khawatirkan terlebih dahulu masalah ini karena nanti tulisan tersebut dapat dihilangkan. Ikuti dulu arahan dari kami :) ketikkan **anaconda-navigator** untuk membuka program Anaconda Navigator.

13. Tampilan Terminal



```
Terminal - ikal@hans: ~  
File Edit View Terminal Tabs Help  
HTTPSConnectionPool(host='api.anaconda.org', port=443): Max retries exceeded with url: / (Caused by NewConnectionError('<urllib3.connection.VerifiedHTTPSConnection object at 0x7f033c02a7f0>: Failed to establish a new connection: [Errno -3] Temporary failure in name resolution'))  
  
2019-04-20 06:39:54,576 - ERROR download_api._download:229  
HTTPSConnectionPool(host='www.anaconda.com', port=443): Max retries exceeded with url: /api/videos (Caused by NewConnectionError('<urllib3.connection.VerifiedHTTPSConnection object at 0x7f033c068ba8>: Failed to establish a new connection: [Errno -3] Temporary failure in name resolution'))  
  
2019-04-20 06:39:54,576 - ERROR download_api._download:234  
Invalid url https://www.anaconda.com/api/videos  
  
2019-04-20 06:39:54,788 - ERROR download_api._download:229  
HTTPSConnectionPool(host='www.anaconda.com', port=443): Max retries exceeded with url: /api/webinars (Caused by NewConnectionError('<urllib3.connection.VerifiedHTTPSConnection object at 0x7f033c0689b0>: Failed to establish a new connection: [Errno -3] Temporary failure in name resolution'))  
  
2019-04-20 06:39:54,788 - ERROR download_api._download:234  
Invalid url https://www.anaconda.com/api/webinars
```

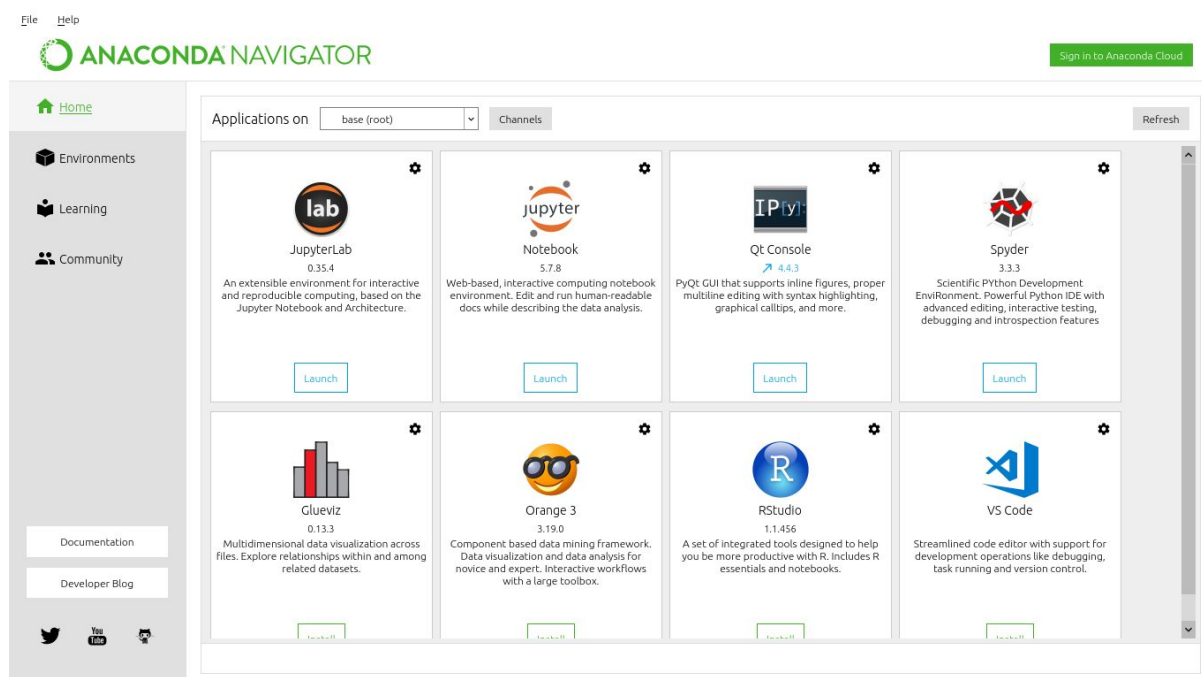
Untuk saat ini tidak usah diperhatikan isi Terminalnya

14. Pra Tampilan Anaconda Navigator



Untuk penggunaan pertama akan muncul kotak dialog. Anda boleh untuk menghapus centang pada **Yes, I'd like to help improve Anaconda** kemudian klik **Ok, and don't show again**.

15. Tampilan Anaconda Navigator

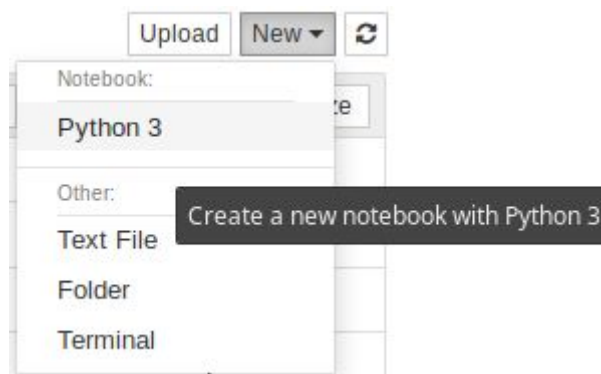


Seperti yang sudah dijelaskan di awal, pada sesi *workshop* nantinya kita akan menggunakan Jupyter Notebook. Oleh karena itu klik **Launch** pada Jupyter Notebook. Kemudian Anda akan diarahkan menuju *web browser* Anda seperti gambar berikut :

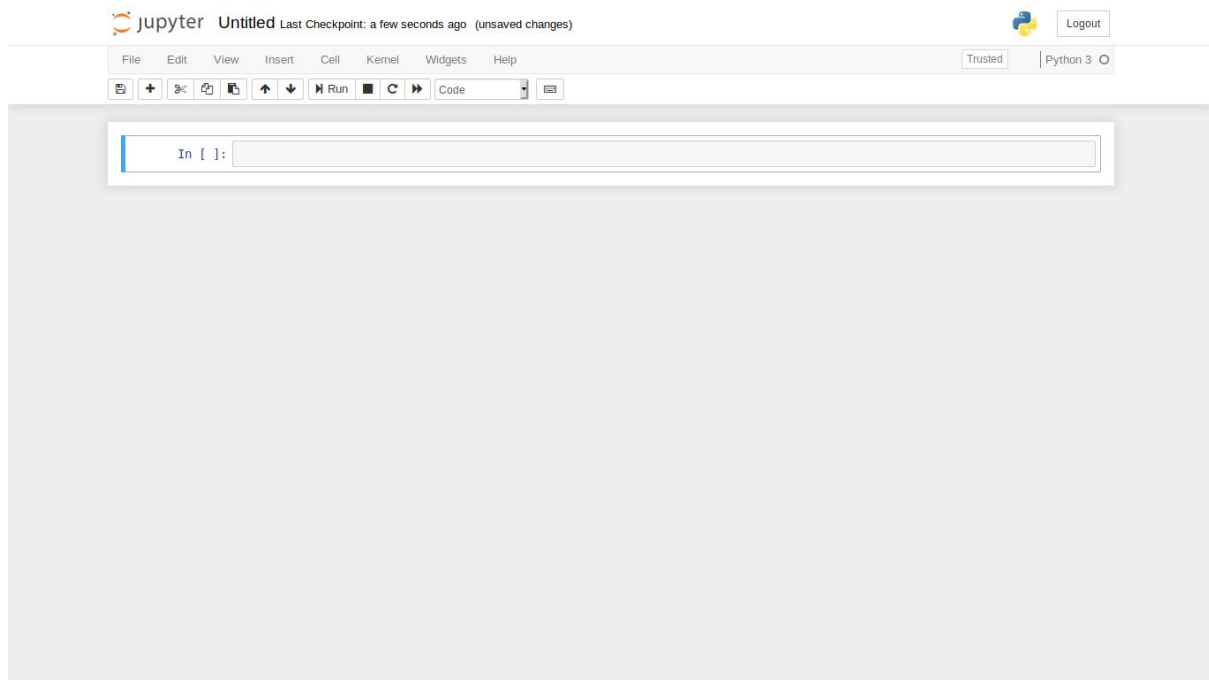


Direktori yang dimunculkan adalah **/home**

16. Buat notebook baru



Klik tombol **New** dengan anak panah yang menunjuk ke bawah(kanan atas) lalu pilih menu **Python 3**. Browser akan membuka satu **tab** baru seperti gambar di bawah ini :



Apabila laman tersebut sudah muncul maka Anda siap untuk mengikuti *workshop JATIM CAMP ke 4*, selamat! :)

17. Tambahan

```
Terminal - ikal@hans: ~
File Edit View Terminal Tabs Help
Temporary failure in name resolution'))
2019-04-20 06:39:54,576 - ERROR download_api._download:229
HTTPSConnectionPool(host='www.anaconda.com', port=443): Max retries exceeded with url: /api/videos (Caused by NewConnectionError('<urllib3.connection.VerifiedHTTPSConnection object at 0x7f033c068ba8>: Failed to establish a new connection: [Errno -3] Temporary failure in name resolution'))
2019-04-20 06:39:54,576 - ERROR download_api._download:234
Invalid url https://www.anaconda.com/api/videos
2019-04-20 06:39:54,788 - ERROR download_api._download:229
HTTPSConnectionPool(host='www.anaconda.com', port=443): Max retries exceeded with url: /api/webinars (Caused by NewConnectionError('<urllib3.connection.VerifiedHTTPSConnection object at 0x7f033c0689b0>: Failed to establish a new connection: [Errno -3] Temporary failure in name resolution'))
2019-04-20 06:39:54,788 - ERROR download_api._download:234
Invalid url https://www.anaconda.com/api/webinars
<urlopen error [Errno -3] Temporary failure in name resolution>
<urlopen error [Errno -3] Temporary failure in name resolution>
(base) ikal@hans:~$ conda deactivate
ikal@hans:~$
```

Untuk menghilangkan tulisan **(base)** maka cukup ketikkan **conda deactivate**. Ini akan menonaktifkan seluruh perintah-perintah pada Terminal yang berhubungan dengan Anaconda. Apabila Anda hendak menggunakan Anaconda lagi cukup

ketikkan saja **anaconda activate**. Ini akan mengaktifkan seluruh perintah-perintah pada Terminal yang berhubungan dengan Anaconda dengan konsekuensi tulisan **(base)** muncul kembali.

Sekian Panduan Instalasi Anaconda dari kami.
Apabila Anda menemukan kendala pada saat menginstal Anaconda jangan sungkan untuk menghubungi kami :)

Tertanda,

*Division of Research, Development, and Knowledge
Data Science Indonesia East Java Region*