

# 步驟流程圖：啟動 Conda 環境

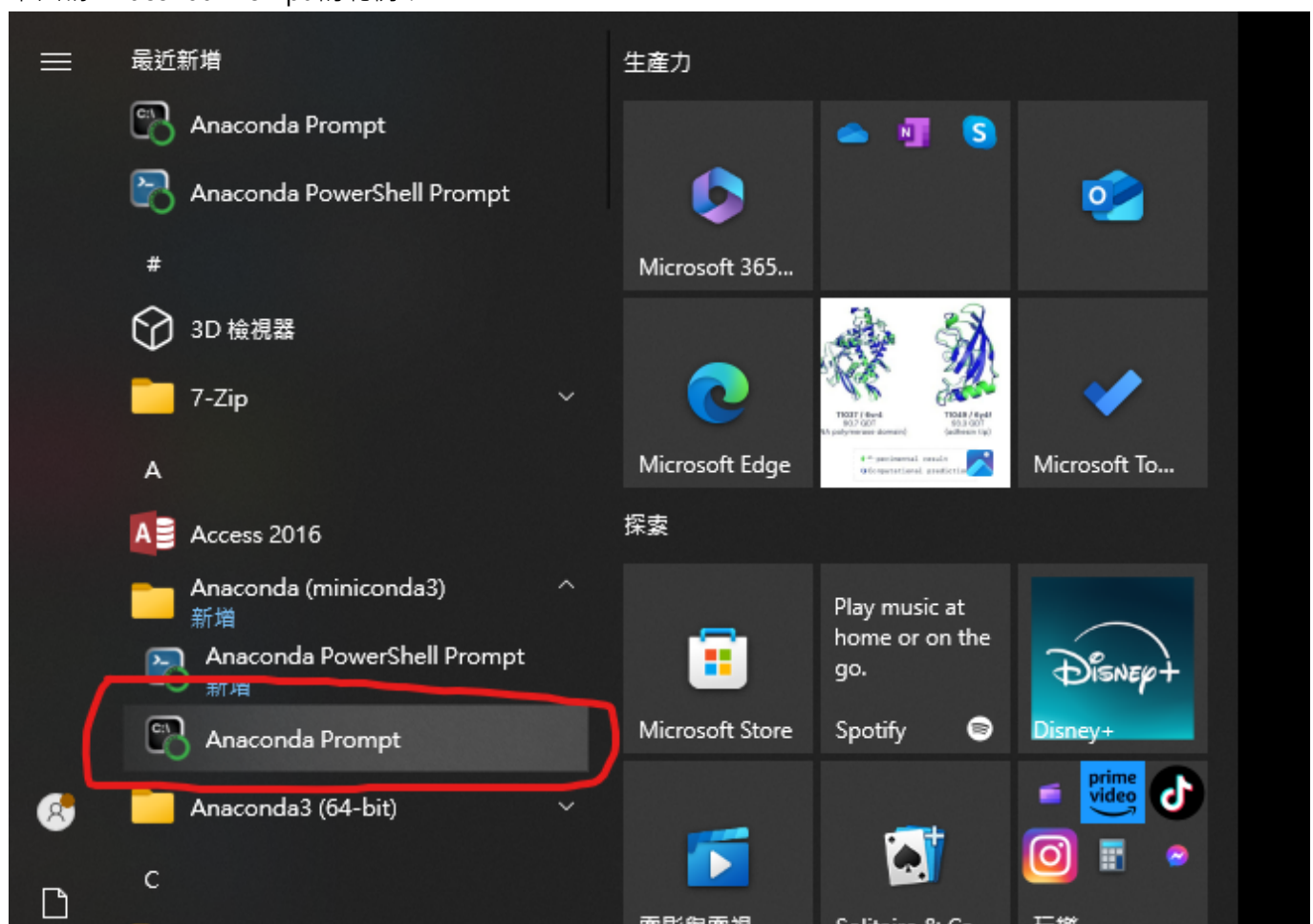
## 步驟 1：確認 Conda 已安裝

請確認您已安裝 Anaconda 或 Miniconda。如果尚未安裝，可以前往以下連結下載 Miniconda：[下載 Miniconda](#)

## 步驟 2：啟動 Conda

1. 開啟 Windows 的「開始」功能表。
2. 找到 **Anaconda Prompt** 或 **Miniconda Prompt**。
3. 點擊啟動對應的命令提示符環境。

下圖為 Anaconda Prompt 的範例：



4. 開啟後會出現如下畫面：
  - 畫面前綴顯示 **(base)**，這代表目前正在 Conda 的虛擬環境中。

下圖為啟動後的畫面：

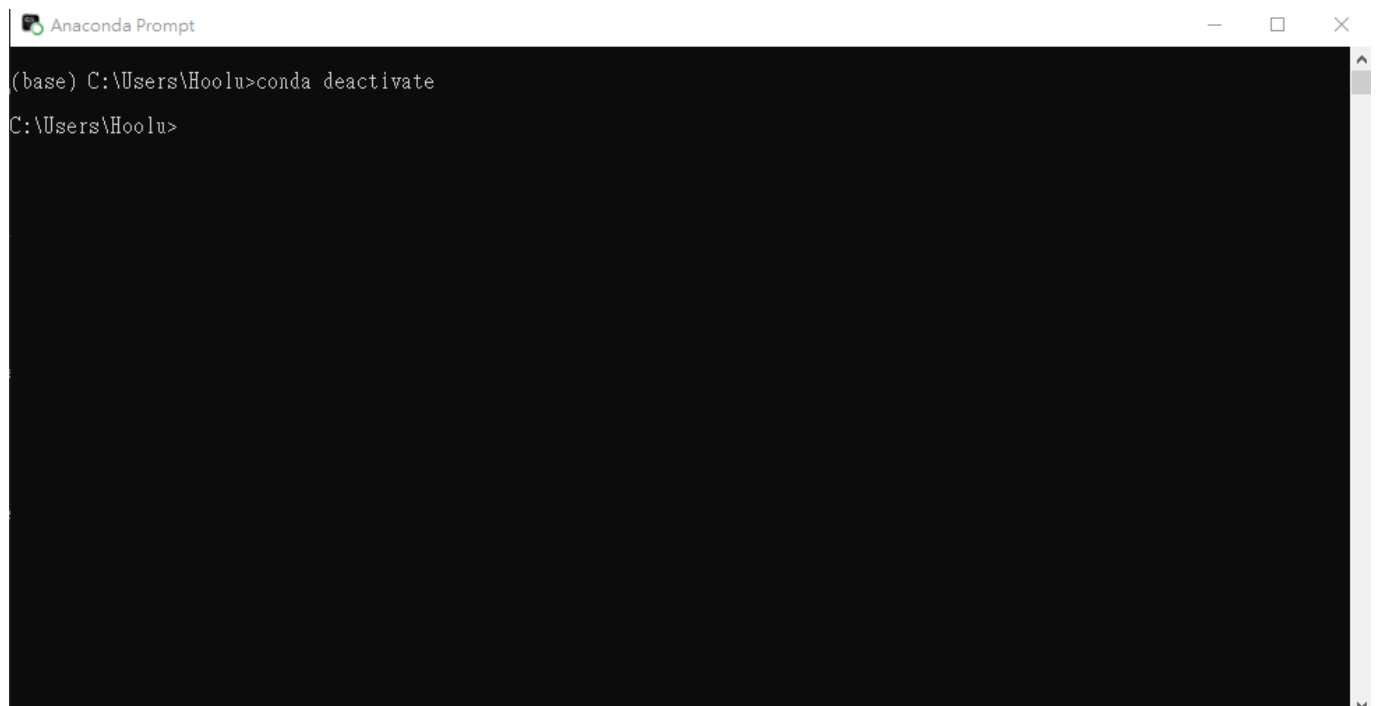


### 步驟 3：退出 base 環境

1. 在目前的命令提示符中輸入以下指令，退出 **base** 虛擬環境(如果前面沒有虛擬環境就不用做這一步驟)：

```
conda deactivate
```

結果會如下圖:



### 步驟 4：切換至程式檔案資料夾

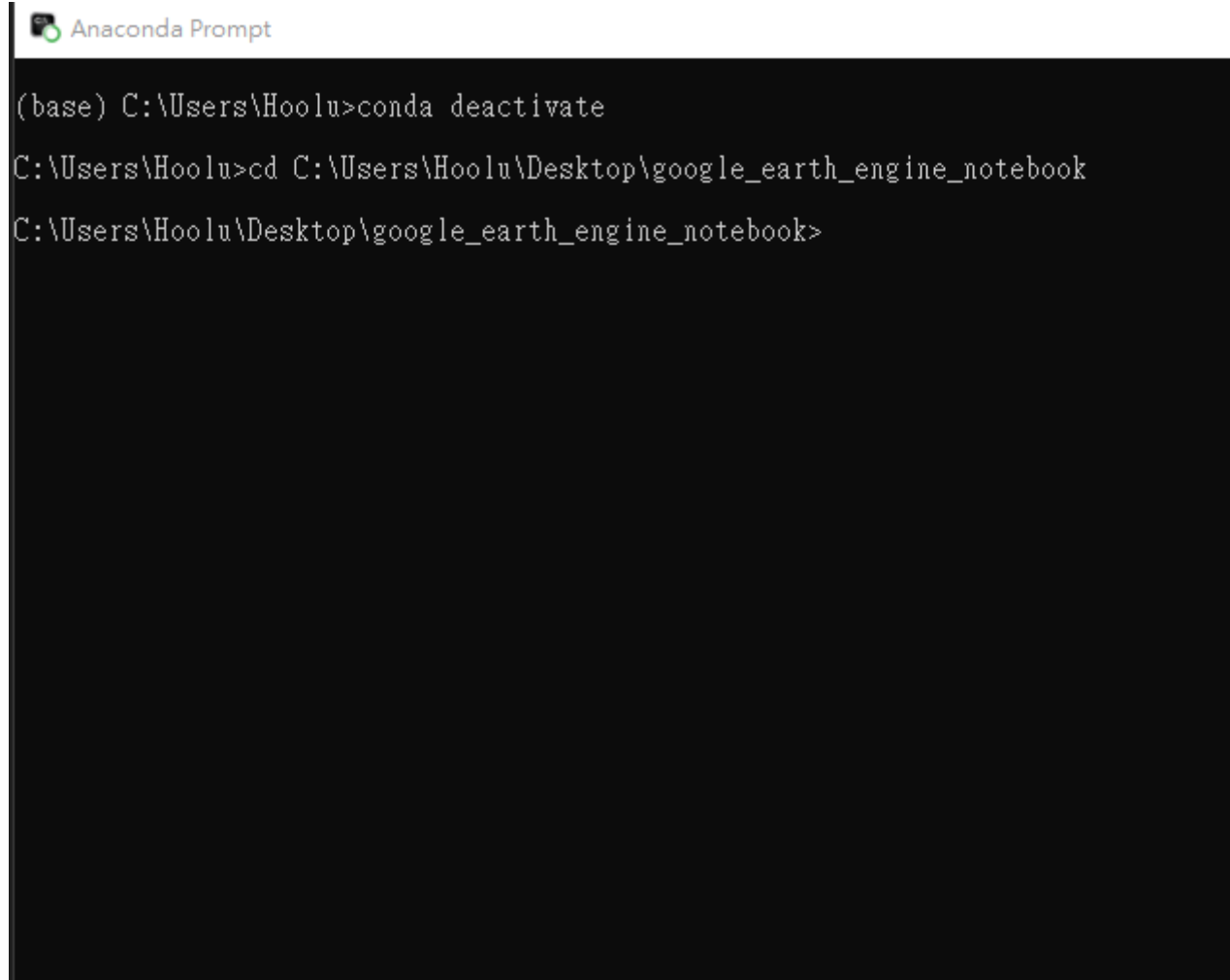
1. 請確認下載整個程式檔案資料夾，而不是單獨下載某個程式檔案。下載後，不需要更動資料夾中的內容。
2. 在 Conda Prompt 中，將當前工作路徑切換至程式檔案所在的資料夾。例如：如果程式檔案資料夾的路徑是 **C:\Users\Hoolu\Desktop\google\_earth\_engine\_notebook**，請在命令提示符中輸入：

```
cd C:\Users\Hoolu\Desktop\google_earth_engine_notebook
```



資料夾路徑如下圖:

在conda prompt下完指令後的結果:



```
Anaconda Prompt

(base) C:\Users\Hoolu>conda deactivate

C:\Users\Hoolu>cd C:\Users\Hoolu\Desktop\google_earth_engine_notebook

C:\Users\Hoolu\Desktop\google_earth_engine_notebook>
```


## 步驟 5：建立 Google Earth Engine 的 Conda 虛擬環境

1. 在程式資料夾路徑下，輸入以下指令來建立專屬於 Google Earth Engine 的 Conda 虛擬環境

```
conda create -n google_earth_engine python=3.10
```

2. 請注意，Python 環境需求為 3.10 或以上，否則會無法正常運行。
3. 執行後，系統會出現安裝提示，直接輸入 y 進行確認。

下圖為執行指令和確認的範例畫面：

 Anaconda Prompt - conda create -n google\_earth\_engine python=3.10

```
(base) C:\Users\Hoolu>conda deactivate
C:\Users\Hoolu>cd C:\Users\Hoolu\Desktop\google_earth_engine_notebook
C:\Users\Hoolu\Desktop\google_earth_engine_notebook>conda create -n google_earth_engine python=3.10
Channels:
 - defaults
Platform: win-64
Collecting package metadata (repodata.json): done
Solving environment: done

## Package Plan ##

  environment location: D:\miniconda3\envs\google_earth_engine


  added / updated specs:
    - python=3.10

The following NEW packages will be INSTALLED:

bzip2                pkgs/main/win-64::bzip2-1.0.8-h2bbff1b_6
ca-certificates      pkgs/main/win-64::ca-certificates-2024.12.31-haa95532_0
libffi               pkgs/main/win-64::libffi-3.4.4-hd77b12b_1
openssl              pkgs/main/win-64::openssl-3.0.15-h827c3e9_0
pip                  pkgs/main/win-64::pip-24.2-py310haa95532_0
python               pkgs/main/win-64::python-3.10.16-h4607a30_1
setuptools           pkgs/main/win-64::setuptools-75.1.0-py310haa95532_0
sqlite               pkgs/main/win-64::sqlite-3.45.3-h2bbff1b_0
tk                   pkgs/main/win-64::tk-8.6.14-h0416ee5_0
tzdata               pkgs/main/noarch::tzdata-2024b-h04d1e81_0
vc                   pkgs/main/win-64::vc-14.40-haa95532_2
vs2015_runtime       pkgs/main/win-64::vs2015_runtime-14.42.34433-h9531ae6_2
wheel                pkgs/main/win-64::wheel-0.44.0-py310haa95532_0
xz                   pkgs/main/win-64::xz-5.4.6-h8cc25b3_1
zlib                 pkgs/main/win-64::zlib-1.2.13-h8cc25b3_1

Proceed ([y]/n)?
```

執行完成的畫面:

 選取 Anaconda Prompt

```
(base) C:\Users\Hoolu>conda deactivate
C:\Users\Hoolu>cd C:\Users\Hoolu\Desktop\google_earth_engine_notebook
C:\Users\Hoolu\Desktop\google_earth_engine_notebook>conda create -n google_earth_engine python=3.10
Channels:
 - defaults
Platform: win-64
Collecting package metadata (repodata.json): done
Solving environment: done

## Package Plan ##

  environment location: D:\miniconda3\envs\google_earth_engine

  added / updated specs:
    - python=3.10

The following NEW packages will be INSTALLED:

 bzip2                pkgs/main/win-64::bzip2-1.0.8-h2bbff1b_6
 ca-certificates      pkgs/main/win-64::ca-certificates-2024.12.31-haa95532_0
 libffi               pkgs/main/win-64::libffi-3.4.4-hd77b12b_1
 openssl              pkgs/main/win-64::openssl-3.0.15-h827c3e9_0
 pip                  pkgs/main/win-64::pip-24.2-py310haa95532_0
 python                pkgs/main/win-64::python-3.10.16-h4607a30_1
 setuptools           pkgs/main/win-64::setuptools-75.1.0-py310haa95532_0
 sqlite               pkgs/main/win-64::sqlite-3.45.3-h2bbff1b_0
 tk                   pkgs/main/win-64::tk-8.6.14-h0416ee5_0
 tzdata               pkgs/main/noarch::tzdata-2024b-h04d1e81_0
 vc                   pkgs/main/win-64::vc-14.40-haa95532_2
 vs2015_runtime       pkgs/main/win-64::vs2015_runtime-14.42.34433-h9531ae6_2
 wheel                 pkgs/main/win-64::wheel-0.44.0-py310haa95532_0
 xz                   pkgs/main/win-64::xz-5.4.6-h8cc25b3_1
 zlib                 pkgs/main/win-64::zlib-1.2.13-h8cc25b3_1

Proceed ([y]/n)? y

Downloading and Extracting Packages:
Preparing transaction: done
Verifying transaction: done
Executing transaction: done
#
# To activate this environment, use
#
#   $ conda activate google_earth_engine
#
# To deactivate an active environment, use
#
#   $ conda deactivate
#
C:\Users\Hoolu\Desktop\google_earth_engine_notebook> █
```

## 步驟 6:進入 Google Earth Engine 的 Conda 虛擬環境 & 安裝相關套件

1. 在conda prompt下進入虛擬環境的指令即可\*\*conda activate <虛擬環境名稱>

```
conda activate google_earth_engine
```

結果如下圖:

```
Downloading and Extracting Packages:
Preparing transaction: done
Verifying transaction: done
Executing transaction: done
#
# To activate this environment, use
#
#     $ conda activate google_earth_engine
#
# To deactivate an active environment, use
#
#     $ conda deactivate

C:\Users\Hoolu\Desktop\google_earth_engine_notebook>conda activate google_earth_engine
(google_earth_engine) C:\Users\Hoolu\Desktop\google_earth_engine_notebook>
```

看到前面出現了虛擬環境名稱就代表成功進入了

2. 安裝相關套件，已經把需要的套件都寫在requirements.txt裡面了，所以只需要把\*\*pip install packages指定到文字檔上即可，請不要自己亂安裝避免套件衝突

```
pip install -r requirements.txt
```

```
C:\Users\Hoolu\Desktop\google_earth_engine_notebook>conda activate google_earth_engine
(google_earth_engine) C:\Users\Hoolu\Desktop\google_earth_engine_notebook>pip install -r requirements.txt
Collecting geemap==0.32.0 (from -r requirements.txt (line 1))
  Using cached geemap-0.32.0-py2.py3-none-any.whl.metadata (14 kB)
Collecting tk==0.1.0 (from -r requirements.txt (line 2))
  Using cached tk-0.1.0-py3-none-any.whl.metadata (693 bytes)
Collecting ipykernel==6.29.5 (from -r requirements.txt (line 3))
  Downloading ipykernel-6.29.5-py3-none-any.whl.metadata (6.3 kB)
Collecting bqplot (from geemap==0.32.0->-r requirements.txt (line 1))
  Downloading bqplot-0.12.44-py2.py3-none-any.whl.metadata (6.4 kB)
Collecting colour (from geemap==0.32.0->-r requirements.txt (line 1))
  Using cached colour-0.1.5-py2.py3-none-any.whl.metadata (18 kB)
Collecting earthengine-api==0.1.347 (from geemap==0.32.0->-r requirements.txt (line 1))
  Downloading earthengine-api-1.4.5-py3-none-any.whl.metadata (1.8 kB)
Collecting eerepr==0.0.4 (from geemap==0.32.0->-r requirements.txt (line 1))
  Downloading eerepr-0.1.0-py3-none-any.whl.metadata (4.3 kB)
Collecting folium==0.13.0 (from geemap==0.32.0->-r requirements.txt (line 1))
  Downloading folium-0.19.4-py2.py3-none-any.whl.metadata (3.8 kB)
Collecting geocoder (from geemap==0.32.0->-r requirements.txt (line 1))
  Using cached geocoder-1.38.1-py2.py3-none-any.whl.metadata (14 kB)
Collecting jupyterlab (from geemap==0.32.0->-r requirements.txt (line 1))
```

[illegible]

```
conda install jupyter
```

```

pytz pkgs/main/win-64::pytz-2024.1-py310haa95532_0
pywin32 pkgs/main/win-64::pywin32-308-py310h5da7b33_0
pywinpty pkgs/main/win-64::pywinpty-2.0.14-py310h72d21ff_0
pyyaml pkgs/main/win-64::pyyaml-6.0.2-py310h827c3e9_0
pyzmq pkgs/main/win-64::pyzmq-26.2.0-py310h5da7b33_0
qt-main pkgs/main/win-64::qt-main-5.15.2-h19c9488_11
qtconsole pkgs/main/win-64::qtconsole-5.6.0-py310haa95532_0
qtpy pkgs/main/win-64::qtpy-2.4.1-py310haa95532_0
referencing pkgs/main/win-64::referencing-0.30.2-py310haa95532_0
requests pkgs/main/win-64::requests-2.32.3-py310haa95532_1
rfc3339-validator pkgs/main/win-64::rfc3339-validator-0.1.4-py310haa95532_0
rfc3986-validator pkgs/main/win-64::rfc3986-validator-0.1.1-py310haa95532_0
rpds-py pkgs/main/win-64::rpds-py-0.22.3-py310h636fa0f_0
send2trash pkgs/main/win-64::send2trash-1.8.2-py310haa95532_1
sip pkgs/main/win-64::sip-6.7.12-py310h5da7b33_1
six pkgs/main/noarch::six-1.16.0-pyhd3eb1b0_1
sniffio pkgs/main/win-64::sniffio-1.3.0-py310haa95532_0
soupsieve pkgs/main/win-64::soupsieve-2.5-py310haa95532_0
stack_data pkgs/main/noarch::stack_data-0.2.0-pyhd3eb1b0_0
terminado pkgs/main/win-64::terminado-0.17.1-py310haa95532_0
tinycss2 pkgs/main/win-64::tinycss2-1.2.1-py310haa95532_0
tomli pkgs/main/win-64::tomli-2.0.1-py310haa95532_0
tornado pkgs/main/win-64::tornado-6.4.2-py310h827c3e9_0
traitlets pkgs/main/win-64::traitlets-5.14.3-py310haa95532_0
typing-extensions pkgs/main/win-64::typing-extensions-4.12.2-py310haa95532_0
typing_extensions pkgs/main/win-64::typing_extensions-4.12.2-py310haa95532_0
urllib3 pkgs/main/win-64::urllib3-2.2.3-py310haa95532_0
wcwidth pkgs/main/noarch::wcwidth-0.2.5-pyhd3eb1b0_0
webencodings pkgs/main/win-64::webencodings-0.5.1-py310haa95532_1
websocket-client pkgs/main/win-64::websocket-client-1.8.0-py310haa95532_0
widgetsnbextension pkgs/main/win-64::widgetsnbextension-4.0.13-py310haa95532_0
win_inet_pton pkgs/main/win-64::win_inet_pton-1.1.0-py310haa95532_0
winpty pkgs/main/win-64::winpty-0.4.3-4
yaml pkgs/main/win-64::yaml-0.2.5-he774522_0
zeromq pkgs/main/win-64::zeromq-4.3.5-hd77b12b_0
zstd pkgs/main/win-64::zstd-1.5.6-h8880b57_0

```

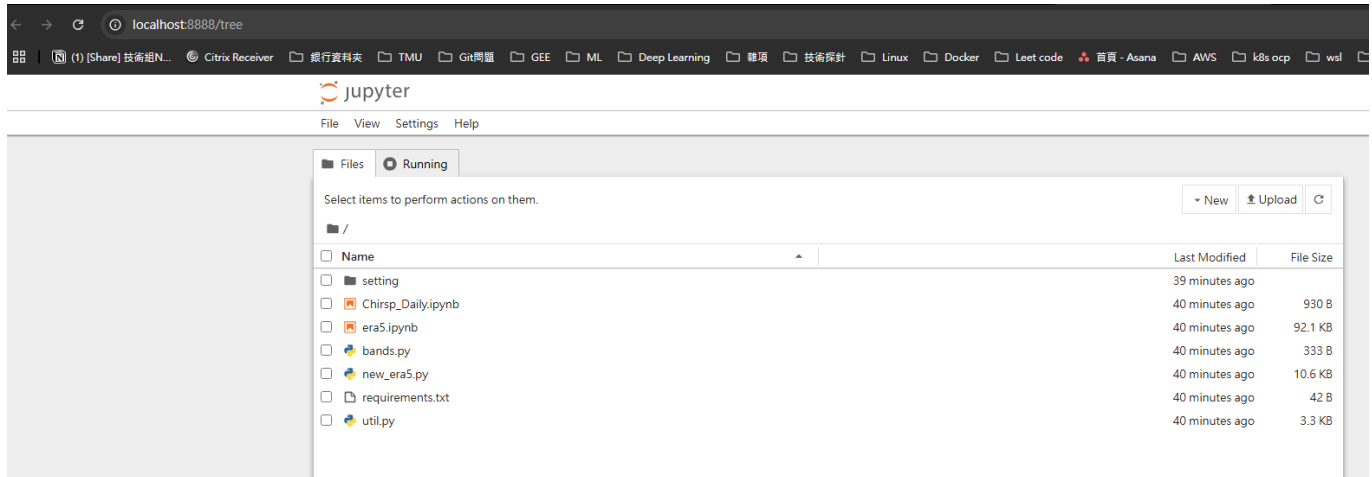
安裝完後會如下圖，可以直接下指令即可啟動:



## Jupyter Notebook

```
Anaconda Prompt - conda activate google_earth_engine - conda install jupyter
done
(google_earth_engine) C:\Users\Hoolu\Desktop\google_earth_engine_notebook>Jupyter Notebook
```

啟動後就會直接跳出程式資料夾，這樣就完成了：



## 註:之後的啟動方式

未來再打開conda prompt後發現虛擬環境不是google earth engine的環境，可以善用**conda deactivate**來退出當前環境，之後再用**conda activate <google earth engine虛擬環境名稱>**來進入到之前建立的google earth engine虛擬環境。

```
# 退出當前虛擬環境語法
conda deactivate

# 進入虛擬環境語法
conda activate <虛擬環境名稱>

# 查看虛擬環境清單
conda env list
```