

WPC_7steps_Of_Python_Project_ Workflow_r6

WPC Systems Ltd.

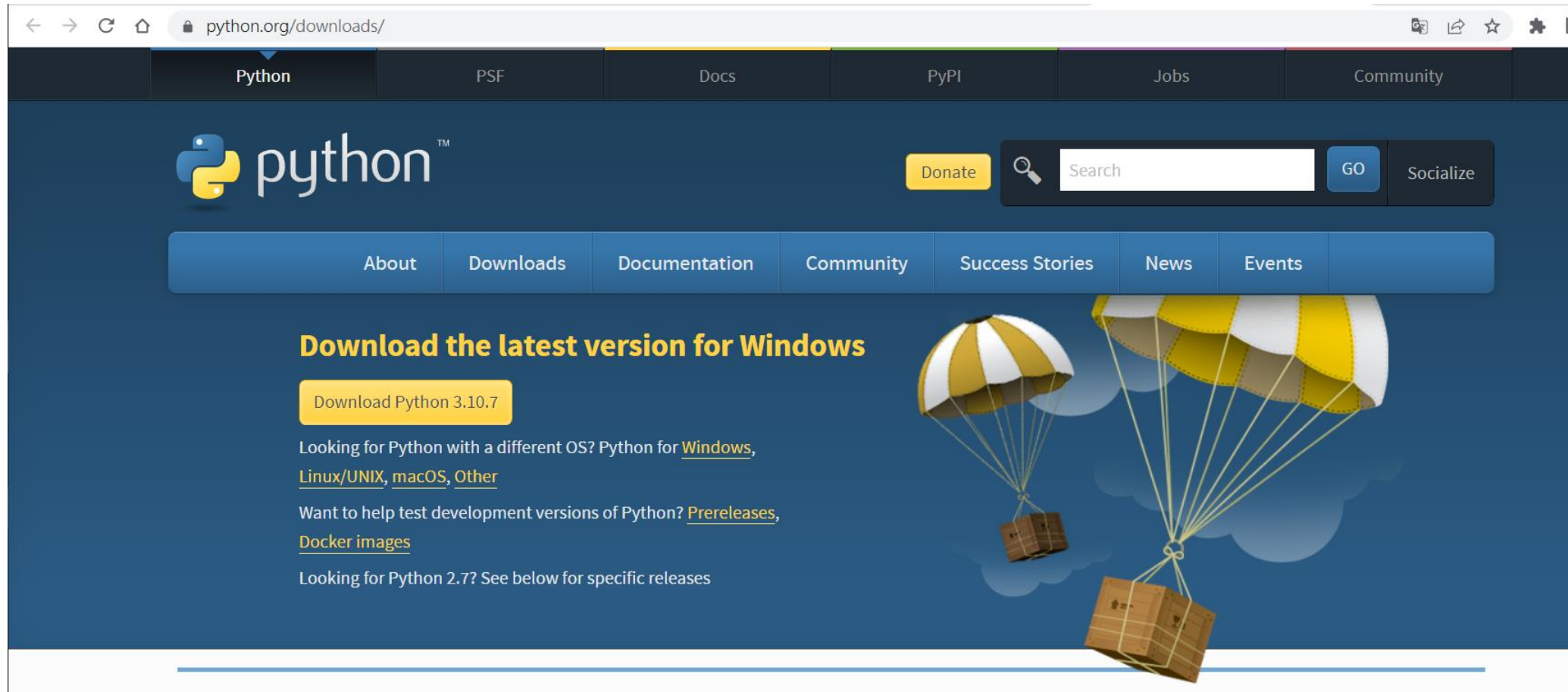
Justin Wu

2022-09-14

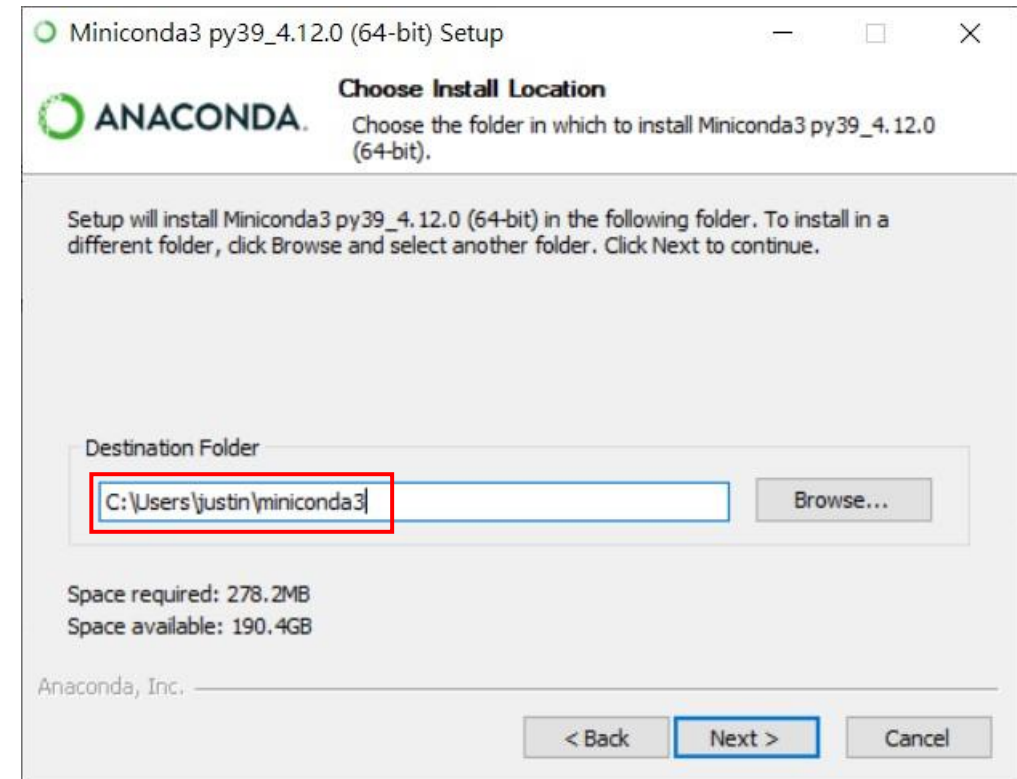
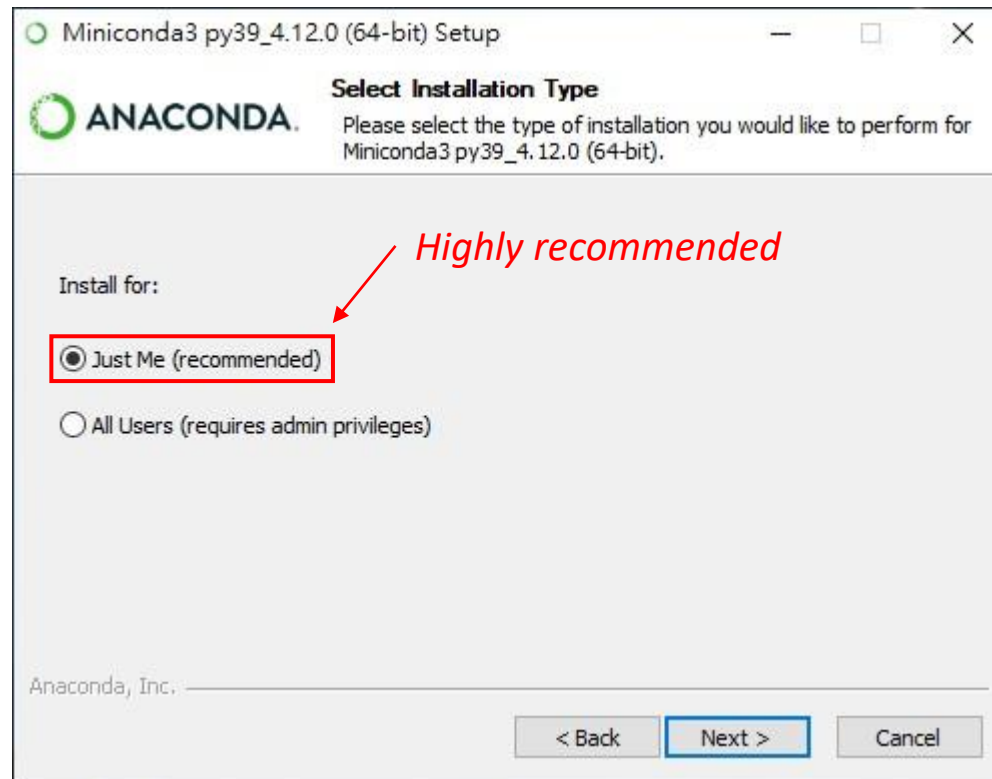
7 steps of WPC Python project workflow

1. Download and install Python 3.10 and Miniconda
2. Create virtual environment <myenv310> for Python 3.10
 - > conda create --name *myenv310* python=3.10
3. Enter virtual environment <myenv310>
 - > conda activate *myenv310*
4. Install wpcsys package (only for win10 x64) via pip
 - > pip install wpcsys
5. Download example code from Github
 - https://github.com/WPC-Systems-Ltd/WPC_Python_driver_release
6. Get one WPC product and run example code under example folder
 - www.wpc.com.tw
 - > python *main.py*
7. Build your own executable(EXE)
 - > wpcEXEbuild *main.py*

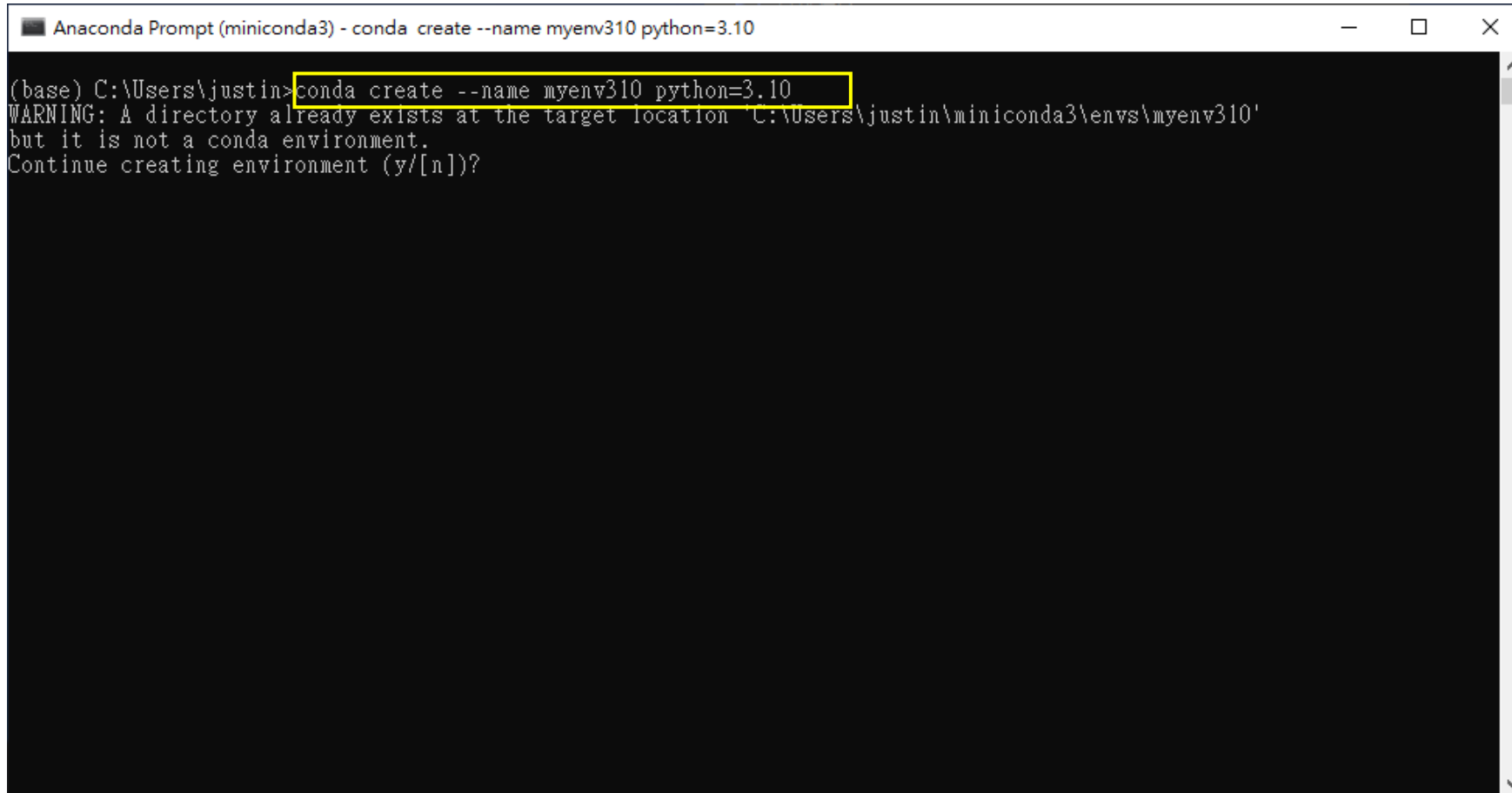
1.1 Download and install Python 3.10



1.2 Download and install Miniconda



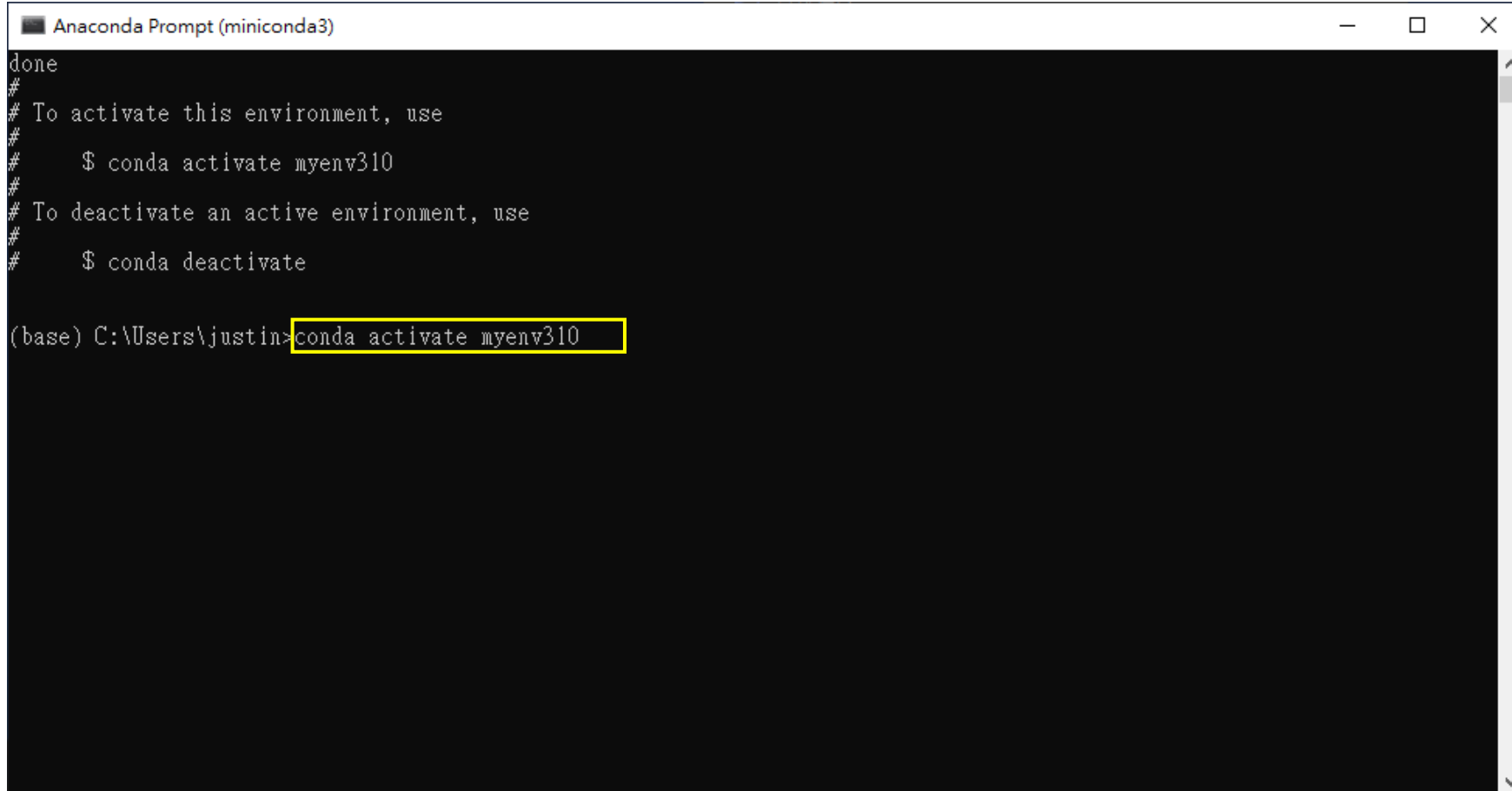
2. Create virtual environment <myenv310> for Python 3.10



```
Anaconda Prompt (miniconda3) - conda create --name myenv310 python=3.10

(base) C:\Users\justin>conda create --name myenv310 python=3.10
WARNING: A directory already exists at the target location 'C:\Users\justin\miniconda3\envs\myenv310'
but it is not a conda environment.
Continue creating environment (y/[n])?
```

3. Enter virtual environment <myenv310>



```
Anaconda Prompt (miniconda3)
done
#
# To activate this environment, use
#
#   $ conda activate myenv310
#
# To deactivate an active environment, use
#
#   $ conda deactivate

(base) C:\Users\justin>conda activate myenv310
```

4. Install wpcsys package via pip

```
done
#
# To activate this environment, use
#
#     $ conda activate myenv310
#
# To deactivate an active environment, use
#
#     $ conda deactivate

(base) C:\Users\justin>conda activate myenv310
(myenv310) C:\Users\justin>pip install wpcsys
Collecting wpcsys
  Using cached wpcsys-0.2.3.2-py2.py3-none-any.whl (517 kB)
Collecting qasync>=0.23.0
  Using cached qasync-0.23.0-py3-none-any.whl (13 kB)
Collecting matplotlib>=3.5.2
  Using cached matplotlib-3.5.3-cp310-cp310-win_amd64.whl (7.2 MB)
Collecting PyQt5-sip>=12.11.0
  Using cached PyQt5_sip-12.11.0-cp310-cp310-win_amd64.whl (78 kB)
Collecting numpy>=1.23.0
  Using cached numpy-1.23.2-cp310-cp310-win_amd64.whl (14.6 MB)
Collecting PyQt5-Qt5>=5.15.2
  Using cached PyQt5_Qt5-5.15.2-py3-none-win_amd64.whl (50.1 MB)
Collecting wpcEXEbuild>=0.0.1
  Using cached wpcEXEbuild-0.0.1-py2.py3-none-any.whl (3.3 kB)
Collecting PyQt5>=5.15.7
  Using cached PyQt5-5.15.7-cp37-abi3-win_amd64.whl (6.8 MB)
Collecting pyusb>=1.2.1
  Using cached pyusb-1.2.1-py3-none-any.whl (58 kB)
Collecting pillow>=6.2.0
```

Check driver packages installed

```
Anaconda Prompt (miniconda3)
(myenv310) C:\Users\justin>pip list -v
Package            Version Location                                Installer
-----
altgraph            0.17.2  c:\users\justin\miniconda3\envs\myenv310\lib\site-packages pip
certifi             2022.6.15 c:\users\justin\miniconda3\envs\myenv310\lib\site-packages conda
cyclcr              0.11.0  c:\users\justin\miniconda3\envs\myenv310\lib\site-packages pip
fonttools           4.37.1  c:\users\justin\miniconda3\envs\myenv310\lib\site-packages pip
future              0.18.2  c:\users\justin\miniconda3\envs\myenv310\lib\site-packages pip
kiwisolver           1.4.4   c:\users\justin\miniconda3\envs\myenv310\lib\site-packages pip
matplotlib           3.5.3   c:\users\justin\miniconda3\envs\myenv310\lib\site-packages pip
numpy               1.23.2  c:\users\justin\miniconda3\envs\myenv310\lib\site-packages pip
packaging            21.3    c:\users\justin\miniconda3\envs\myenv310\lib\site-packages pip
pefile              2022.5.30 c:\users\justin\miniconda3\envs\myenv310\lib\site-packages pip
Pillow              9.2.0   c:\users\justin\miniconda3\envs\myenv310\lib\site-packages pip
pip                 22.1.2  c:\users\justin\miniconda3\envs\myenv310\lib\site-packages
pyinstaller          5.3     c:\users\justin\miniconda3\envs\myenv310\lib\site-packages pip
pyinstaller-hooks-contrib 2022.10 c:\users\justin\miniconda3\envs\myenv310\lib\site-packages pip
pyparsing            3.0.9   c:\users\justin\miniconda3\envs\myenv310\lib\site-packages pip
PyQt5               5.15.7  c:\users\justin\miniconda3\envs\myenv310\lib\site-packages pip
PyQt5-Qt5           5.15.2  c:\users\justin\miniconda3\envs\myenv310\lib\site-packages pip
PyQt5-sip           12.11.0 c:\users\justin\miniconda3\envs\myenv310\lib\site-packages pip
python-dateutil      2.8.2   c:\users\justin\miniconda3\envs\myenv310\lib\site-packages pip
pyusb               1.2.1   c:\users\justin\miniconda3\envs\myenv310\lib\site-packages pip
pywin32-ctypes       0.2.0   c:\users\justin\miniconda3\envs\myenv310\lib\site-packages pip
qasync              0.23.0  c:\users\justin\miniconda3\envs\myenv310\lib\site-packages pip
setuptools           63.4.1  c:\users\justin\miniconda3\envs\myenv310\lib\site-packages
six                  1.16.0  c:\users\justin\miniconda3\envs\myenv310\lib\site-packages pip
wheel                0.37.1  c:\users\justin\miniconda3\envs\myenv310\lib\site-packages
wincertstore         0.2     c:\users\justin\miniconda3\envs\myenv310\lib\site-packages
wpcEXEbuild         0.0.1   c:\users\justin\miniconda3\envs\myenv310\lib\site-packages pip
wpcsys              0.2.3.2 c:\users\justin\miniconda3\envs\myenv310\lib\site-packages pip
(myenv310) C:\Users\justin>
```


5. Download example code from Github

https://github.com/WPC-Systems-Ltd/WPC_Python_driver_release

The screenshot shows the GitHub repository page for `WPC-Systems-Ltd/WPC_Python_driver_release`. The repository is public and has 30 stars and 0 forks. The 'Code' button is highlighted with a red box, and the 'Download ZIP' option is also highlighted with a red box. The repository contains a file tree with folders like `Examples`, `Material`, `Reference`, `docs`, and `wpcsys`, and files like `.gitattributes`, `.gitignore`, `Changelog.md`, `LICENSE`, `MANIFEST.in`, `README.md`, `requirements.txt`, and `setup.py`. The 'About' section describes the repository as a Python-based driver for WPC products, with a link to `wpc-systems-ltd.github.io/wpc_python_d...`. The 'Releases' section shows the latest release `v0.0.14` from 6 days ago. The 'Packages' section shows no packages published. The 'Contributors' section lists `chungleepeople` and `justinwua`.

6. Get one WPC product and run example code

Anaconda Prompt (miniconda3) - python main.py

```

(base) C:\Users\justin>conda activate myenv310
(myenv310) C:\Users\justin>d:
(myenv310) D:\>cd D:\GitHub Repo\WPC_Python_driver_release\examples\GUI\AIO\Example_analog_input
(myenv310) D:\GitHub Repo\WPC_Python_driver_release\examples\GUI\AIO\Example_analog_input>python main.py
Opened handle (Wifi-DAQ-E3-A)
WPC Python device driver - Version 0.2.3
D:\GitHub Repo\WPC_Python_driver_release\examples\GUI\AIO\Example_analog_input\main.py:243: UserWarning: Attempting to set identical left == right == 0 results in singular transformations; automatically expanding.
  self.ui.MplWidget.canvas.axes.set_xlim(x_min, x_max)

```

Example_analog_input

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This is example for AI streaming with WPC DAQ Device.

Connection Setting
IP: [192.168.5.78] Connect Disconnect

Operation
Start Stop

Acquisition Setting
Acq. mode: On Demand
Sampling rate (Hz): 1000
Num of sample (pts): 200

Plot Setting
Y scale max (V): 10
Y scale min (V): -10

☒ CH0 ☒ CH4
☒ CH1 ☒ CH5
☒ CH2 ☒ CH6
☒ CH3 ☒ CH7

Voltage (V)
Time (s)



7. Build your own executable(EXE)

```
選取 Anaconda Prompt (miniconda3) - wpcEXEbuild main.py

(base) C:\Users\justin>conda activate myenv310
(myenv310) C:\Users\justin>d:
(myenv310) D:\>cd D:\GitHub Repo\WPC_Python_driver_release\examples\GUI\AIO\Example_analog_input
(myenv310) D:\GitHub Repo\WPC_Python_driver_release\examples\GUI\AIO\Example_analog_input>dir
磁碟區 D 中的磁碟是 DATA DRIVE1
磁碟區字號: 06C5-E6B4

D:\GitHub Repo\WPC_Python_driver_release\examples\GUI\AIO\Example_analog_input 的目錄
09/07/2022 02:29 PM <DIR> .
09/07/2022 02:29 PM <DIR> ..
09/05/2022 02:12 PM 10,436 main.py
09/05/2022 02:12 PM <DIR> Material
08/24/2022 05:40 PM 1,563 mplwidget.py
08/24/2022 05:40 PM <DIR> UI_design
2 個檔案 11,999 位元組
4 個目錄 46,938,734,592 位元組可用

(myenv310) D:\GitHub Repo\WPC_Python_driver_release\examples\GUI\AIO\Example_analog_input>wpcEXEbuild main.py
395 INFO: PyInstaller: 5.3
396 INFO: Python: 3.10.4 (conda)
404 INFO: Platform: Windows-10-10.0.19044-SP0
739 INFO: wrote D:\GitHub Repo\WPC_Python_driver_release\examples\GUI\AIO\Example_analog_input\main.spec
742 INFO: UPX is not available.
747 INFO: Extending PYTHONPATH with paths
['D:\GitHub ']
```

main.exe will appear in “dist” folder

