



How to: User Guide for Setting Up the Jupyter Notebook

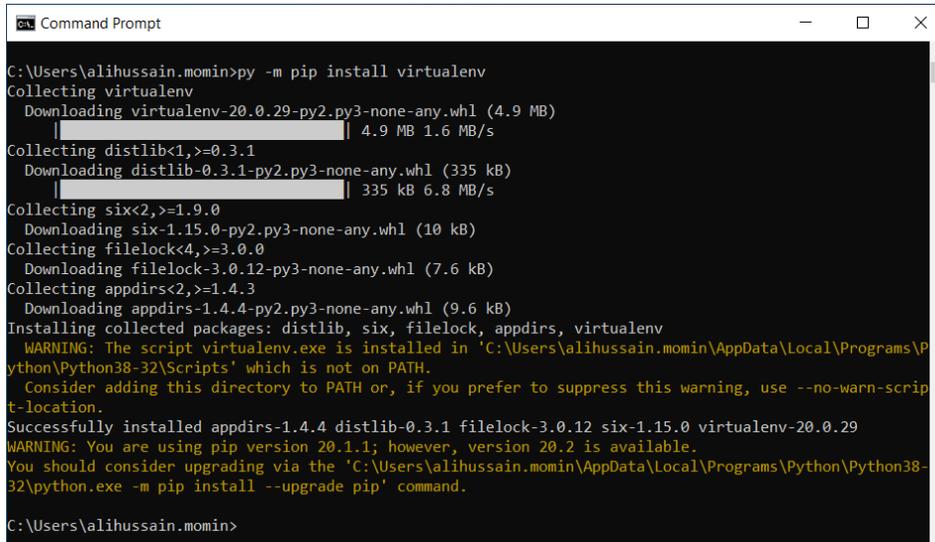
Abstract

A step-by-step guide to use the Jupyter Notebook environment to explore the capabilities of the DS28C50 device.

1. Install python 3.8.

2. Install the 'virtualenv' package:

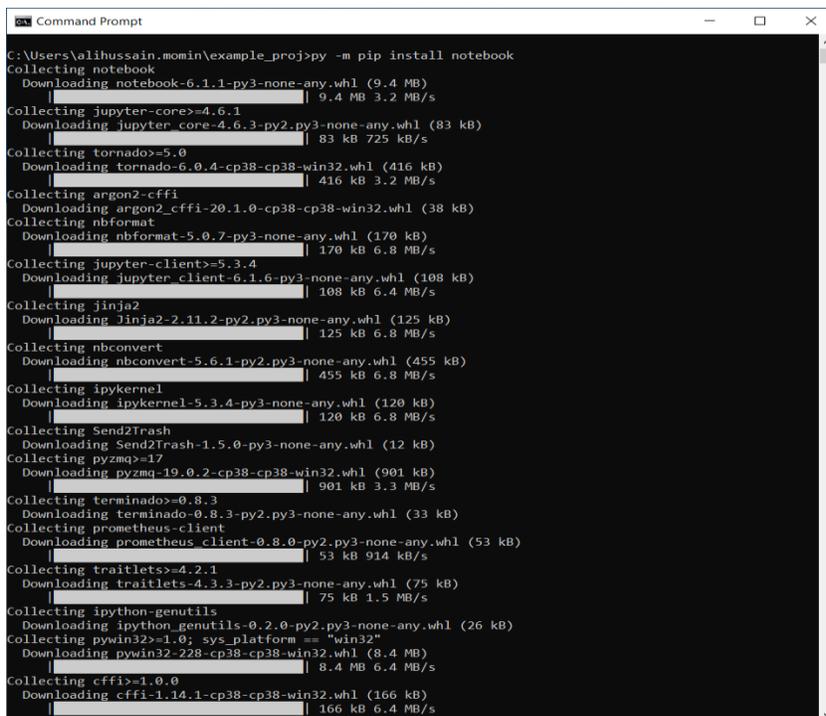
In the terminal, type the command: `py -m pip install virtualenv`.



```
Command Prompt
C:\Users\alihussain.momin>py -m pip install virtualenv
Collecting virtualenv
  Downloading virtualenv-20.0.29-py2.py3-none-any.whl (4.9 MB)
    |#####| 4.9 MB 1.6 MB/s
Collecting distlib<1,>=0.3.1
  Downloading distlib-0.3.1-py2.py3-none-any.whl (335 kB)
    |#####| 335 kB 6.8 MB/s
Collecting six<2,>=1.9.0
  Downloading six-1.15.0-py2.py3-none-any.whl (10 kB)
Collecting filelock<4,>=3.0.0
  Downloading filelock-3.0.12-py3-none-any.whl (7.6 kB)
Collecting appdirs<2,>=1.4.3
  Downloading appdirs-1.4.4-py2.py3-none-any.whl (9.6 kB)
Installing collected packages: distlib, six, filelock, appdirs, virtualenv
  WARNING: The script virtualenv.exe is installed in 'C:\Users\alihussain.momin\AppData\Local\Programs\Python\Python38-32\Scripts' which is not on PATH.
  Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.
Successfully installed appdirs-1.4.4 distlib-0.3.1 filelock-3.0.12 six-1.15.0 virtualenv-20.0.29
WARNING: You are using pip version 20.1.1; however, version 20.2 is available.
You should consider upgrading via the 'C:\Users\alihussain.momin\AppData\Local\Programs\Python\Python38-32\python.exe -m pip install --upgrade pip' command.
C:\Users\alihussain.momin>
```

3. Install the jupyter notebook:

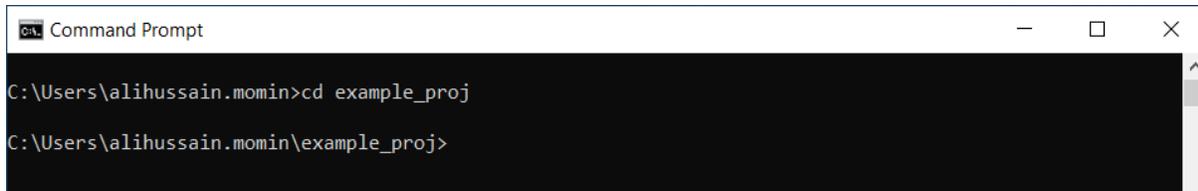
Type the command: `py -m pip install notebook`.



```
Command Prompt
C:\Users\alihussain.momin\example_proj>py -m pip install notebook
Collecting notebook
  Downloading notebook-6.1.1-py3-none-any.whl (9.4 MB)
    |#####| 9.4 MB 3.2 MB/s
Collecting jupyter-core>=4.6.1
  Downloading jupyter_core-4.6.3-py2.py3-none-any.whl (83 kB)
    |#####| 83 kB 725 kB/s
Collecting tornado>=5.0
  Downloading tornado-6.0.4-cp38-cp38-win32.whl (416 kB)
    |#####| 416 kB 3.2 MB/s
Collecting argon2-cffi
  Downloading argon2_cffi-20.1.0-cp38-cp38-win32.whl (38 kB)
Collecting nbformat
  Downloading nbformat-5.0.7-py3-none-any.whl (170 kB)
    |#####| 170 kB 6.8 MB/s
Collecting jupyter-client>=5.3.4
  Downloading jupyter_client-6.1.6-py3-none-any.whl (108 kB)
    |#####| 108 kB 6.4 MB/s
Collecting Jinja2
  Downloading Jinja2-2.11.2-py2.py3-none-any.whl (125 kB)
    |#####| 125 kB 6.8 MB/s
Collecting nbconvert
  Downloading nbconvert-5.6.1-py2.py3-none-any.whl (455 kB)
    |#####| 455 kB 6.8 MB/s
Collecting ipykernel
  Downloading ipykernel-5.3.4-py3-none-any.whl (120 kB)
    |#####| 120 kB 6.8 MB/s
Collecting Send2Trash
  Downloading Send2Trash-1.5.0-py3-none-any.whl (12 kB)
Collecting pyzmq>=17
  Downloading pyzmq-19.0.2-cp38-cp38-win32.whl (901 kB)
    |#####| 901 kB 3.3 MB/s
Collecting terminado>=0.8.3
  Downloading terminado-0.8.3-py2.py3-none-any.whl (33 kB)
Collecting prometheus-client
  Downloading prometheus_client-0.8.0-py2.py3-none-any.whl (53 kB)
    |#####| 53 kB 914 kB/s
Collecting traitlets>=4.2.1
  Downloading traitlets-4.3.3-py2.py3-none-any.whl (75 kB)
    |#####| 75 kB 1.5 MB/s
Collecting ipython-genutils
  Downloading ipython_genutils-0.2.0-py2.py3-none-any.whl (26 kB)
Collecting pywin32>=1.0; sys_platform == "win32"
  Downloading pywin32-228-cp38-cp38-win32.whl (8.4 MB)
    |#####| 8.4 MB 6.4 MB/s
Collecting cffi>=1.0.0
  Downloading cffi-1.14.1-cp38-cp38-win32.whl (166 kB)
    |#####| 166 kB 6.4 MB/s
```

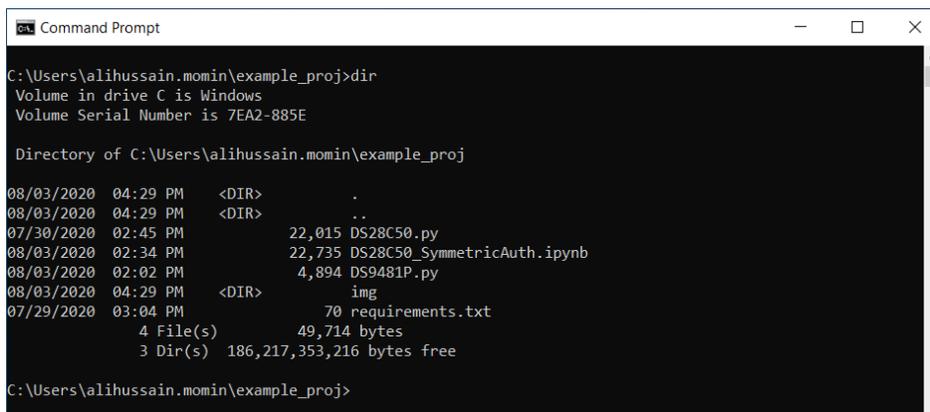
4. Create and go to the project directory (named here as: `example_proj`) .

```
cd example_proj
```



```
Command Prompt
C:\Users\alihussain.momin>cd example_proj
C:\Users\alihussain.momin\example_proj>
```

5. Put the jupyter notebook files in the project directory.



```
Command Prompt
C:\Users\alihussain.momin\example_proj>dir
Volume in drive C is Windows
Volume Serial Number is 7EA2-885E

Directory of C:\Users\alihussain.momin\example_proj

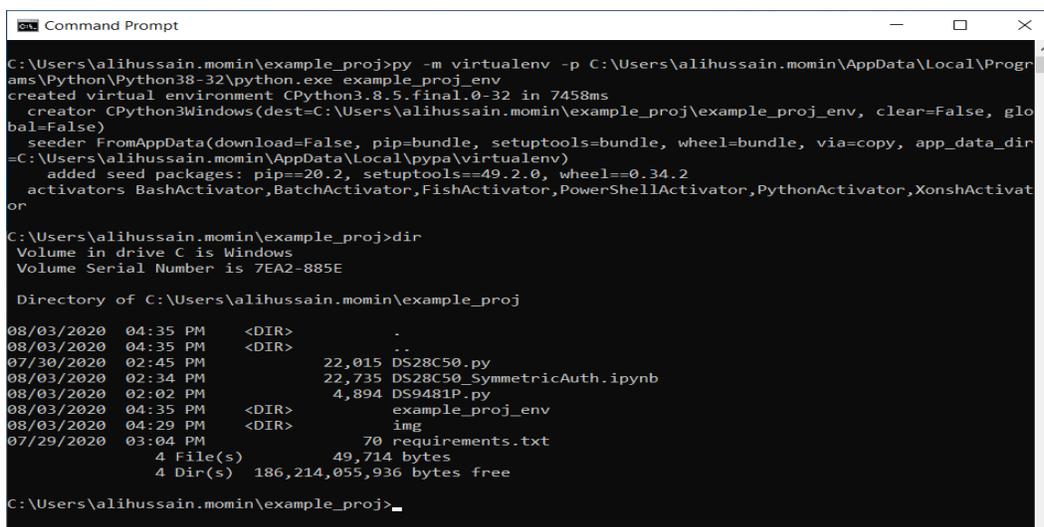
08/03/2020  04:29 PM  <DIR>          .
08/03/2020  04:29 PM  <DIR>          ..
07/30/2020  02:45 PM                22,015 DS28C50.py
08/03/2020  02:34 PM                22,735 DS28C50_SymmetricAuth.ipynb
08/03/2020  02:02 PM                4,894 DS9481P.py
08/03/2020  04:29 PM  <DIR>          img
07/29/2020  03:04 PM                70 requirements.txt
               4 File(s)          49,714 bytes
               3 Dir(s)  186,217,353,216 bytes free

C:\Users\alihussain.momin\example_proj>
```

6. Create the virtual environment with the following command:

```
py -m virtualenv -p <path to python exe> <environment name >
```

NOTE: If only python 3.8 is installed and the option to include it in the PATH is selected, omit the `-p` path argument and `<path to python exe>`. Otherwise, include the `-p` and the path to its location (e.g., `C:\Users<user name>\AppData\Local\Programs\Python\Python38-32\python.exe`).



```
Command Prompt
C:\Users\alihussain.momin\example_proj>py -m virtualenv -p C:\Users\alihussain.momin\AppData\Local\Programs\Python\Python38-32\python.exe example_proj_env
created virtual environment CPython3.8.5.final.0-32 in 7458ms
creator CPython3Windows(dest=C:\Users\alihussain.momin\example_proj\example_proj_env, clear=False, global=False)
seeder FromAppData(download=False, pip=bundle, setuptools=bundle, wheel=bundle, via=copy, app_data_dir=C:\Users\alihussain.momin\AppData\Local\pypa\virtualenv)
added seed packages: pip==20.2, setuptools==49.2.0, wheel==0.34.2
activators BashActivator,BatchActivator,FishActivator,PowerShellActivator,PythonActivator,XonshActivator

C:\Users\alihussain.momin\example_proj>dir
Volume in drive C is Windows
Volume Serial Number is 7EA2-885E

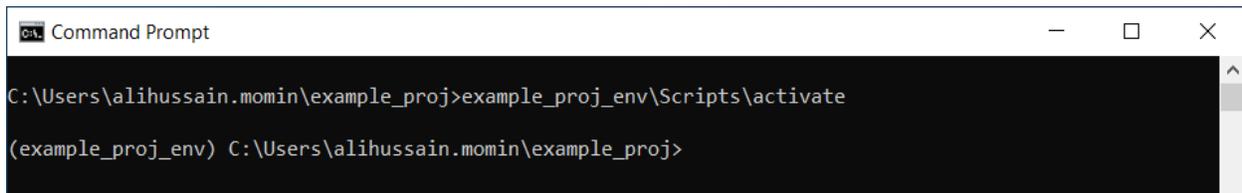
Directory of C:\Users\alihussain.momin\example_proj

08/03/2020  04:35 PM  <DIR>          .
08/03/2020  04:35 PM  <DIR>          ..
07/30/2020  02:45 PM                22,015 DS28C50.py
08/03/2020  02:34 PM                22,735 DS28C50_SymmetricAuth.ipynb
08/03/2020  02:02 PM                4,894 DS9481P.py
08/03/2020  04:35 PM  <DIR>          example_proj_env
08/03/2020  04:29 PM  <DIR>          img
07/29/2020  03:04 PM                70 requirements.txt
               4 File(s)          49,714 bytes
               4 Dir(s)  186,214,055,936 bytes free

C:\Users\alihussain.momin\example_proj>
```

7. Activate the virtual environment with the following command:

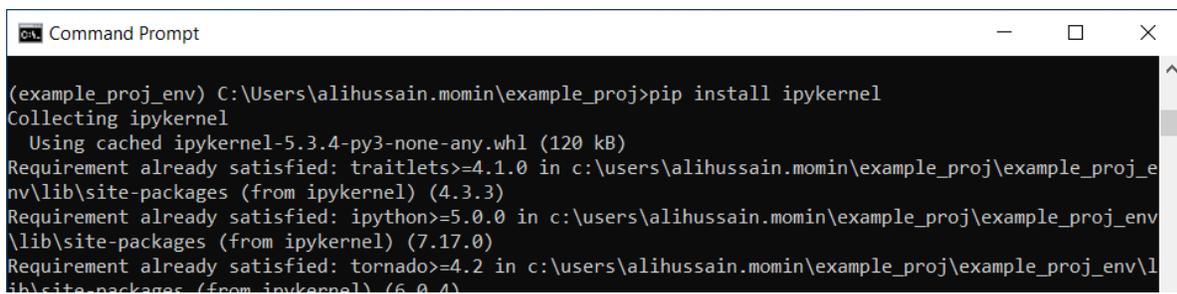
```
<environment name>\Scripts\activate
```



```
Command Prompt
C:\Users\alihussain.momin\example_proj>example_proj_env\Scripts\activate
(example_proj_env) C:\Users\alihussain.momin\example_proj>
```

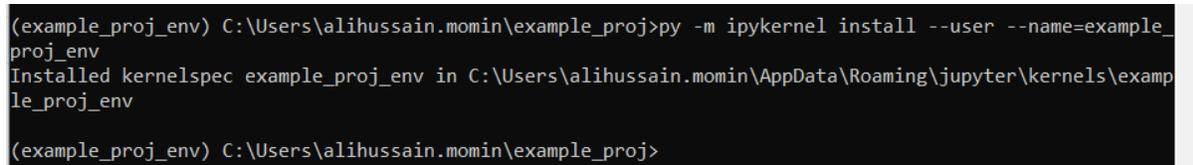
8. Install 'ipykernel' to use the virtual environment with the jupyter notebook. Run the following commands:

```
pip install ipykernel
```



```
Command Prompt
(example_proj_env) C:\Users\alihussain.momin\example_proj>pip install ipykernel
Collecting ipykernel
  Using cached ipykernel-5.3.4-py3-none-any.whl (120 kB)
Requirement already satisfied: traitlets>=4.1.0 in c:\users\alihussain.momin\example_proj\example_proj_env\lib\site-packages (from ipykernel) (4.3.3)
Requirement already satisfied: ipython>=5.0.0 in c:\users\alihussain.momin\example_proj\example_proj_env\lib\site-packages (from ipykernel) (7.17.0)
Requirement already satisfied: tornado>=4.2 in c:\users\alihussain.momin\example_proj\example_proj_env\lib\site-packages (from ipykernel) (6.0.4)
```

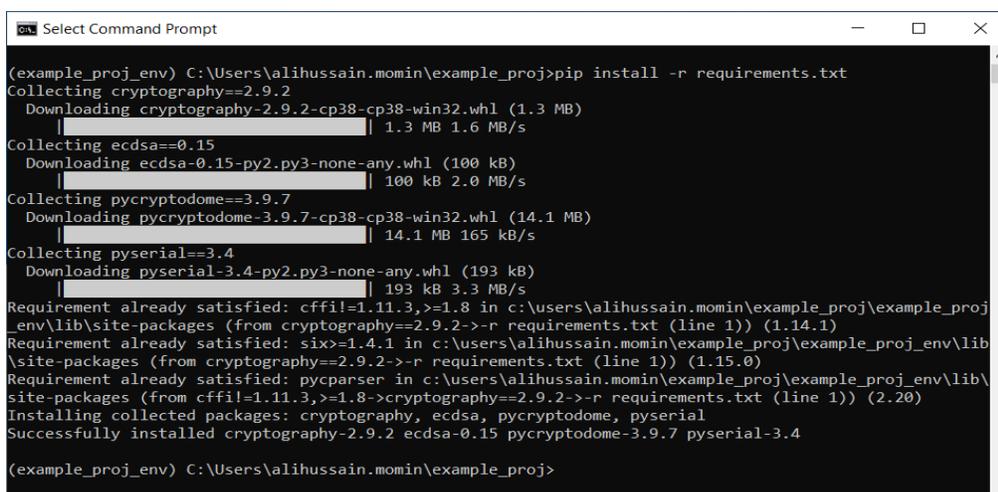
```
py -m ipykernel install --user --name=<environment name>
```



```
(example_proj_env) C:\Users\alihussain.momin\example_proj>py -m ipykernel install --user --name=example_proj_env
Installed kernelspec example_proj_env in C:\Users\alihussain.momin\AppData\Roaming\jupyter\kernels\example_proj_env
(example_proj_env) C:\Users\alihussain.momin\example_proj>
```

9. Install the required modules.

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

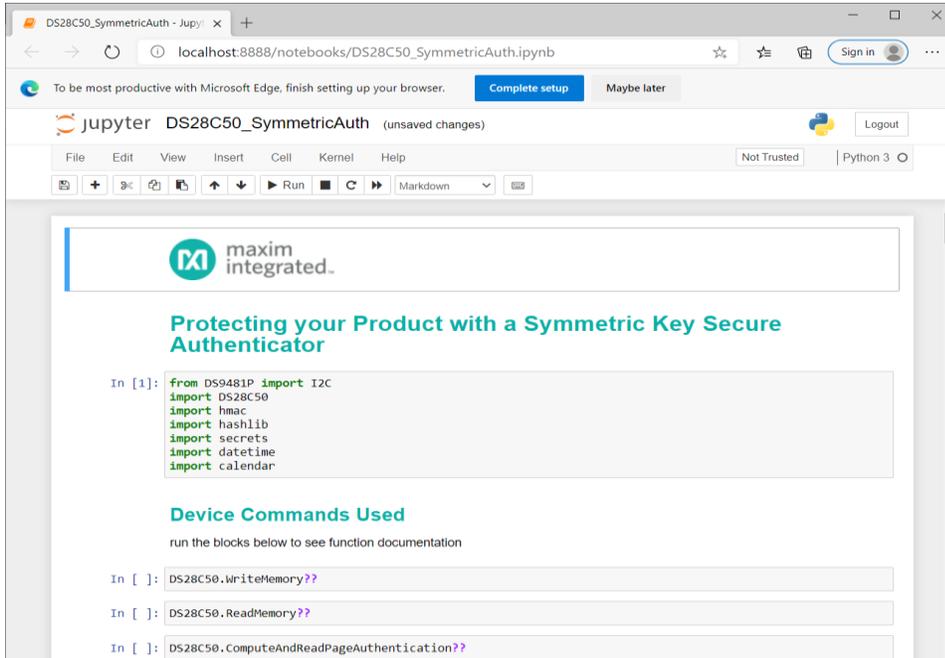


```
Select Command Prompt
(example_proj_env) C:\Users\alihussain.momin\example_proj>pip install -r requirements.txt
Collecting cryptography==2.9.2
  Downloading cryptography-2.9.2-cp38-cp38-win32.whl (1.3 MB)
  |-----| 1.3 MB 1.6 MB/s
Collecting ecdsa==0.15
  Downloading ecdsa-0.15-py2.py3-none-any.whl (100 kB)
  |-----| 100 kB 2.0 MB/s
Collecting pycryptodome==3.9.7
  Downloading pycryptodome-3.9.7-cp38-cp38-win32.whl (14.1 MB)
  |-----| 14.1 MB 165 kB/s
Collecting pyserial==3.4
  Downloading pyserial-3.4-py2.py3-none-any.whl (193 kB)
  |-----| 193 kB 3.3 MB/s
Requirement already satisfied: cffi>=1.11.3, >=1.8 in c:\users\alihussain.momin\example_proj\example_proj_env\lib\site-packages (from cryptography==2.9.2->-r requirements.txt (line 1)) (1.14.1)
Requirement already satisfied: six>=1.4.1 in c:\users\alihussain.momin\example_proj\example_proj_env\lib\site-packages (from cryptography==2.9.2->-r requirements.txt (line 1)) (1.15.0)
Requirement already satisfied: pycparser in c:\users\alihussain.momin\example_proj\example_proj_env\lib\site-packages (from cffi>=1.11.3, >=1.8->cryptography==2.9.2->-r requirements.txt (line 1)) (2.20)
Installing collected packages: cryptography, ecdsa, pycryptodome, pyserial
Successfully installed cryptography-2.9.2 ecdsa-0.15 pycryptodome-3.9.7 pyserial-3.4
(example_proj_env) C:\Users\alihussain.momin\example_proj>
```

10. Double click the. ipynb file to run the jupyter notebook.

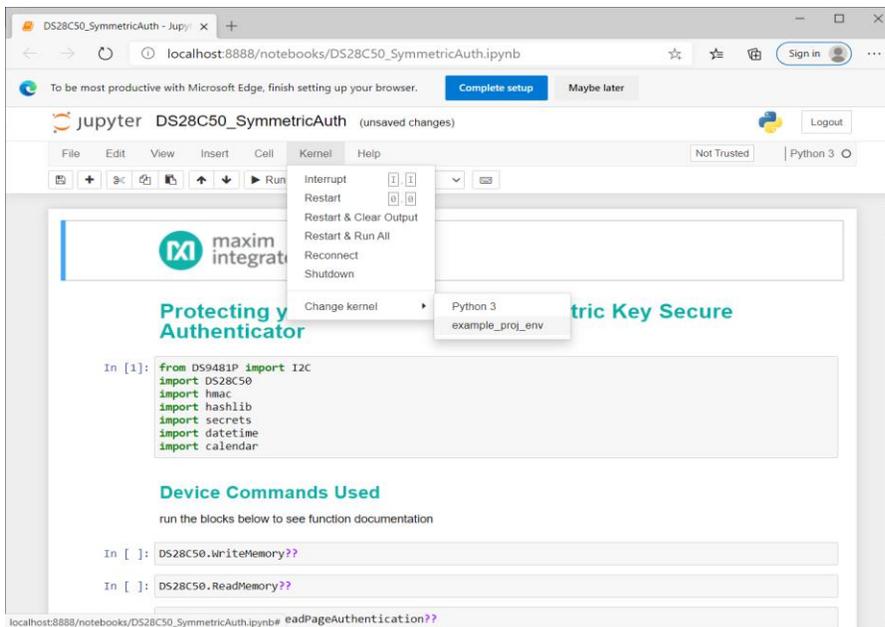
Windows may ask what to open the file with. Use jupyter-notebook.exe. found in:
C:\Users\\AppData\Local\Programs\Python\PythonNN\Scripts

It opens in the web browser:

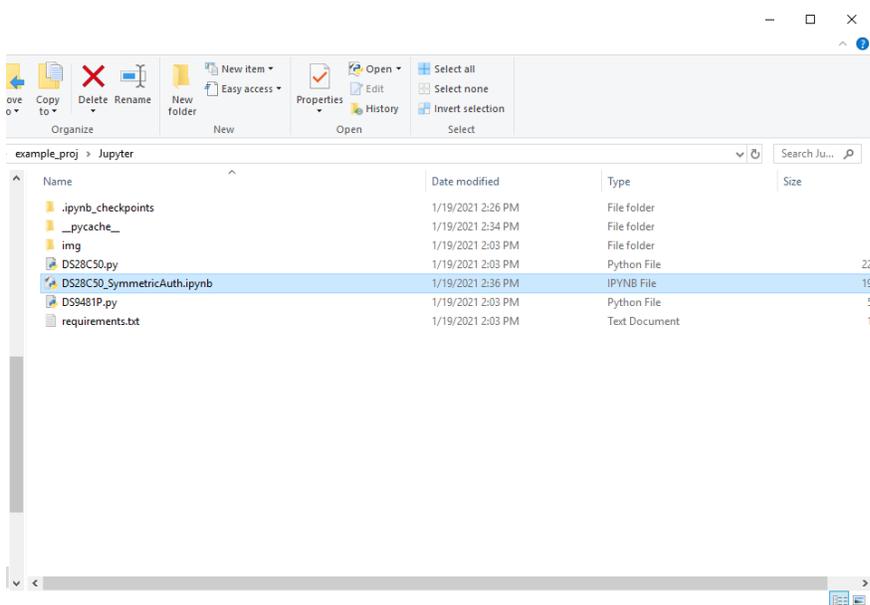


11. Select the environment kernel:

Kernel → Change kernel → example_proj_env



For future access: Use the DS28C50_SymmetricAuth.ipynb file and change the kernel as shown in step 11.



Revision History

REVISION NUMBER	REVISION DATE	DESCRIPTION	PAGES CHANGED
0	03/21	Initial release	—

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