Advantech AE Technical Share Document

Date	2021 / 07 / 05	Related Product	All DAQ products	
Category	■ FAQ □ SOP			
Abstract	Python examples introduction and how to test it			
Keyword	Python, DAQ, DAQNavi, Navigator			
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Revision History				
Date	Version	Author	Reviewer	Description
2021 / 07/ 05	V1.0	Watson.Liu	Owen.Chang	OS: Windows10 20H2 Utility: DAQNavi_4.1.8.0

■ **Problem Description & Architecture:**

Python programing language is getting more popular and it's more widely used in data analysis. DAQNavi SDK keep following on it then it starts support Python in the 2021's released package.

This document is used to help user to get Python example of DAQNavi and how to test example both on Windows and Linux system.
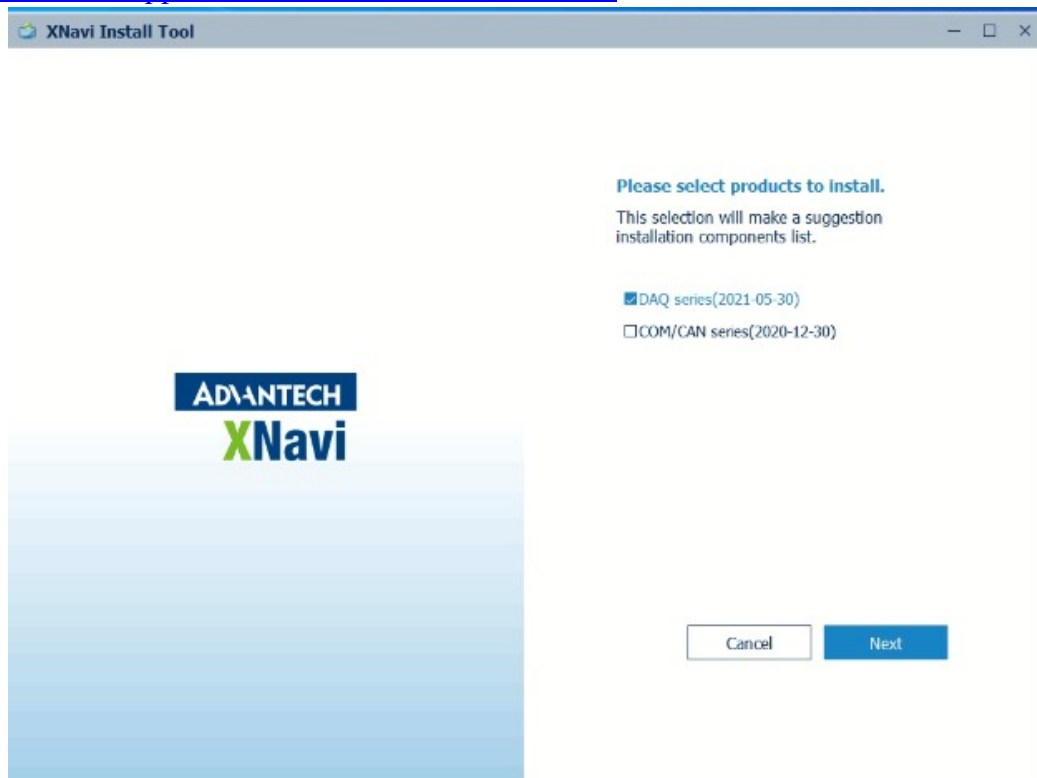
■ **Brief Solution - Step by Step:**

This part will inform how to install DAQNavi installation package and let user know where can find the Python example.
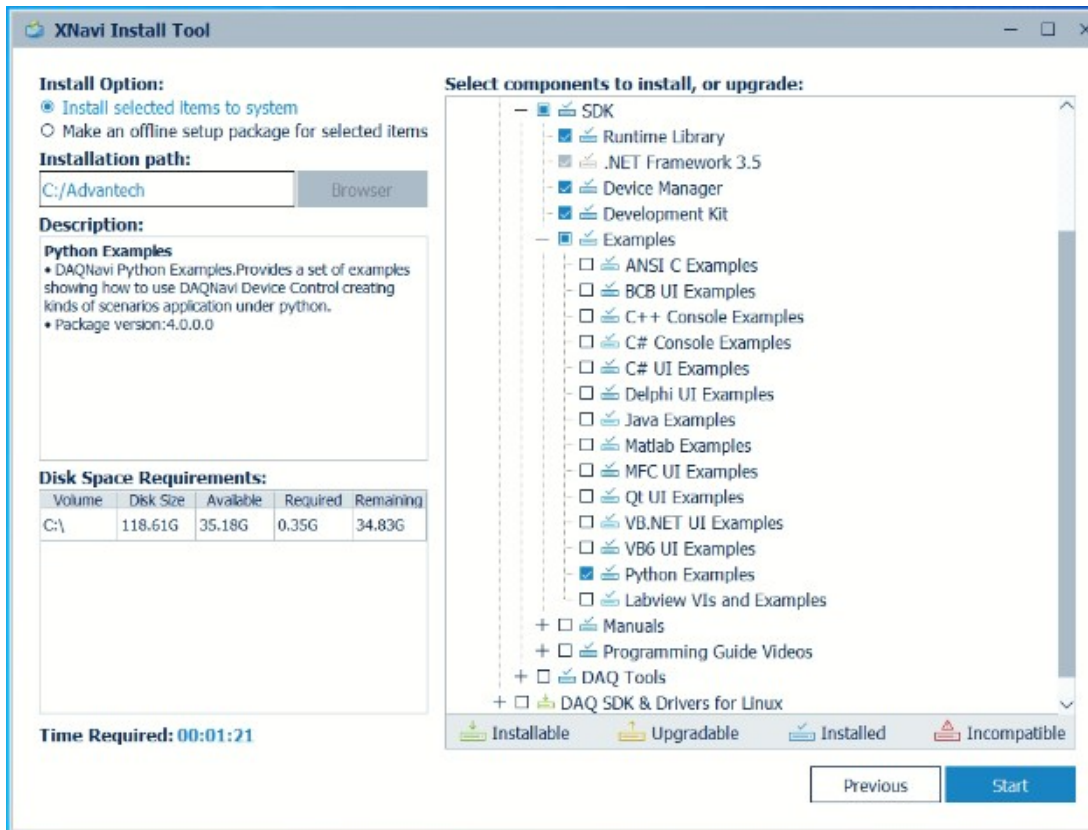
a. Install DAQNavi in Windows system.

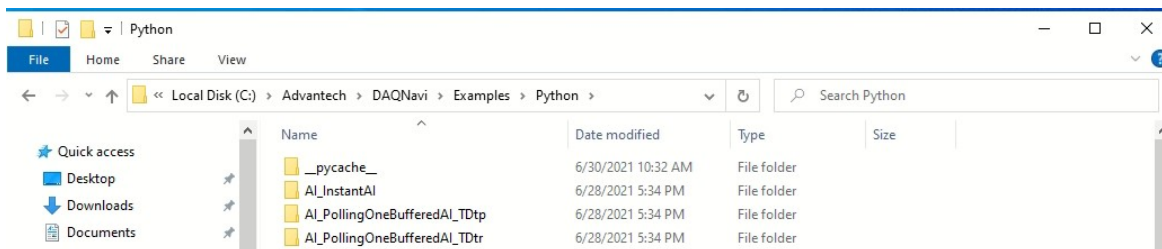1. Download installation package from Advantech website and the double click XNavi.exe.

https://www.advantech.com/support/details/driver?id=1-1YPCECD

2. Select the device driver needed and remember to check "Python" list in examples.

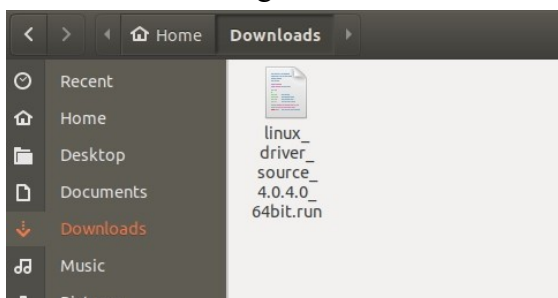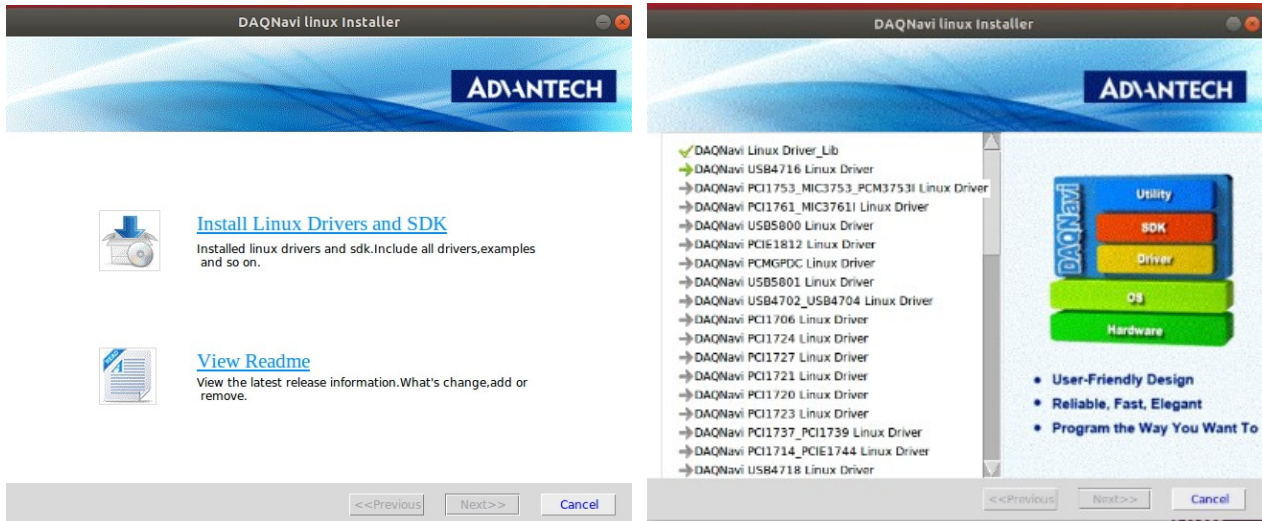3. User can find Python example located "C:\Advantech\DAQNavi\Examples" as below.

b. Install DAQNavi in Linux system.
1. Download installation package from Advantech's website based on the OS you used.
https://www.advantech.tw/support/details/driver?id=1-LXHFQJ
2. Run "linux_driver_source_4.X.X.X" in Linux. User can run with UI or silent mode which can reference some guide in readme file.

3. User can find Python example located "/opt/advantech/examples".
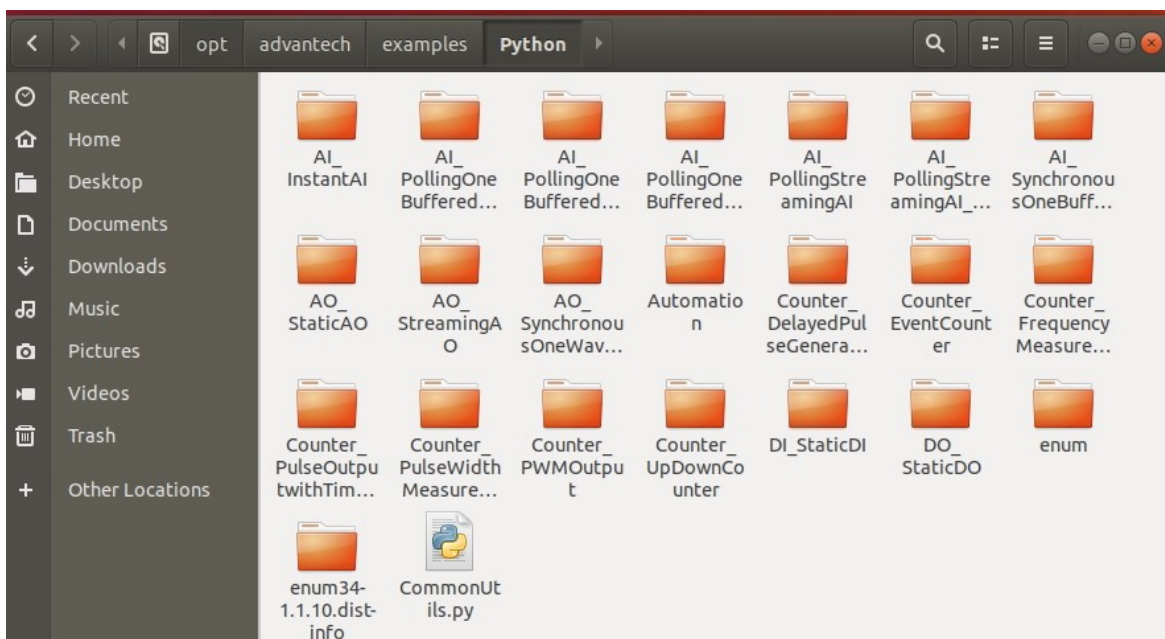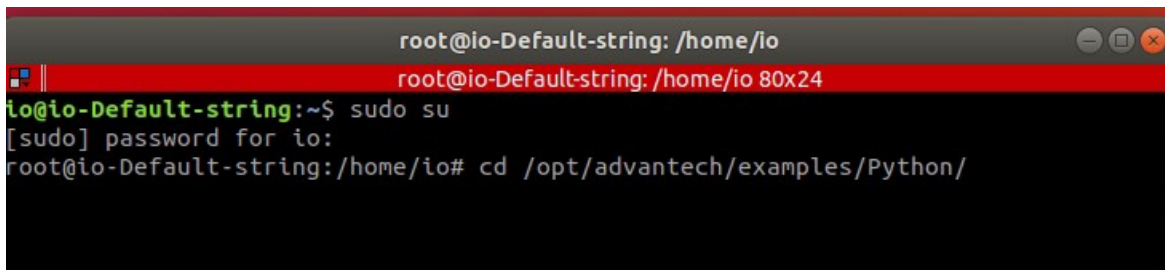
**The following topic is a reference about install Python IDE released from Python website.**
(If you already install any Python IDE in your system then you can ignore this part.)
a. How to install Python IDE in Windows system. (Both version 2.x.x.x or 3.x.x.x are suitable.)
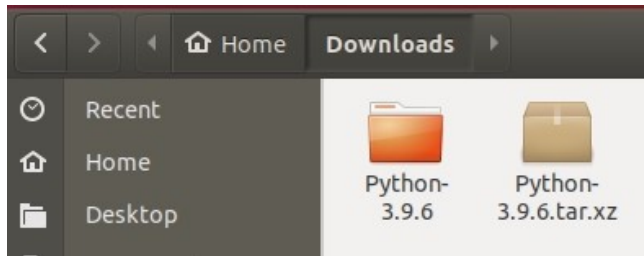1. Download the installation package from Python website with the version you need.

python-3.9.6-amd64
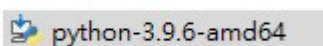
2. You can see the IDE in Start Menu after installing Python successfully.
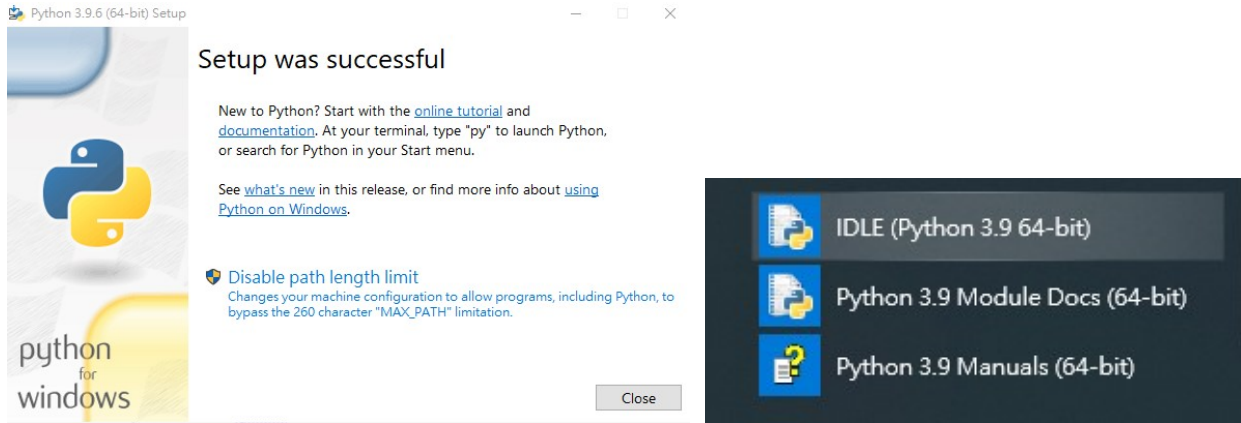
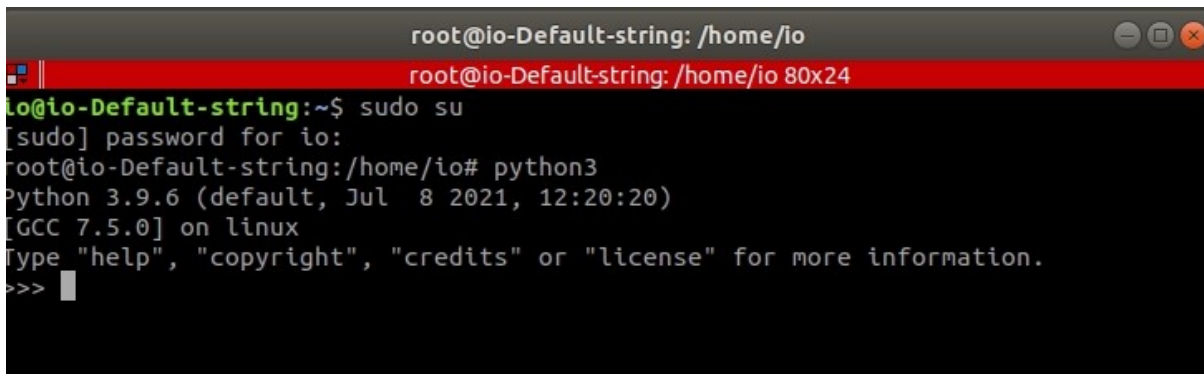b. How to install Python in Linux system.
1. Download the installation package from Python website with the version you need.

2. You can use the command below to confirm the IDE version after installing Python successfully.

\>> python (if install Python version 2.x.x.x)
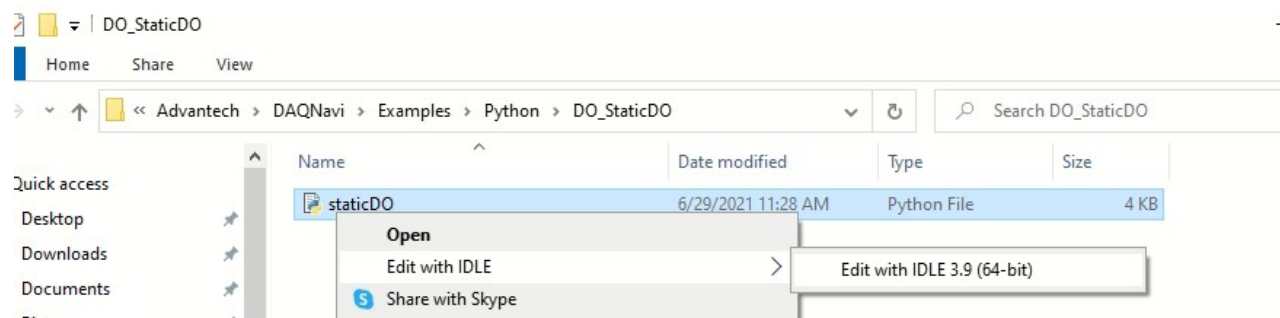
\>> python3 (if install Python version 3.x.x.x)

Finally, here shows how to quick test DAQNavi Python example.

a. Run example in Windows system.
1. Open Windows Explorer then find the path "C:\Advantech\DAQNavi\Examples\Python".
2. Right click .py file then select Python IDE to open example.

3. Modify the "deviceDescription" in example to be the same with the DAQ device you used.

4. Click "Run" button on IDE then it will show the running result in a new window(Shell).

b. Run example in Linux system.
1. Move to the path of example "/opt/advantech/examples/Python".
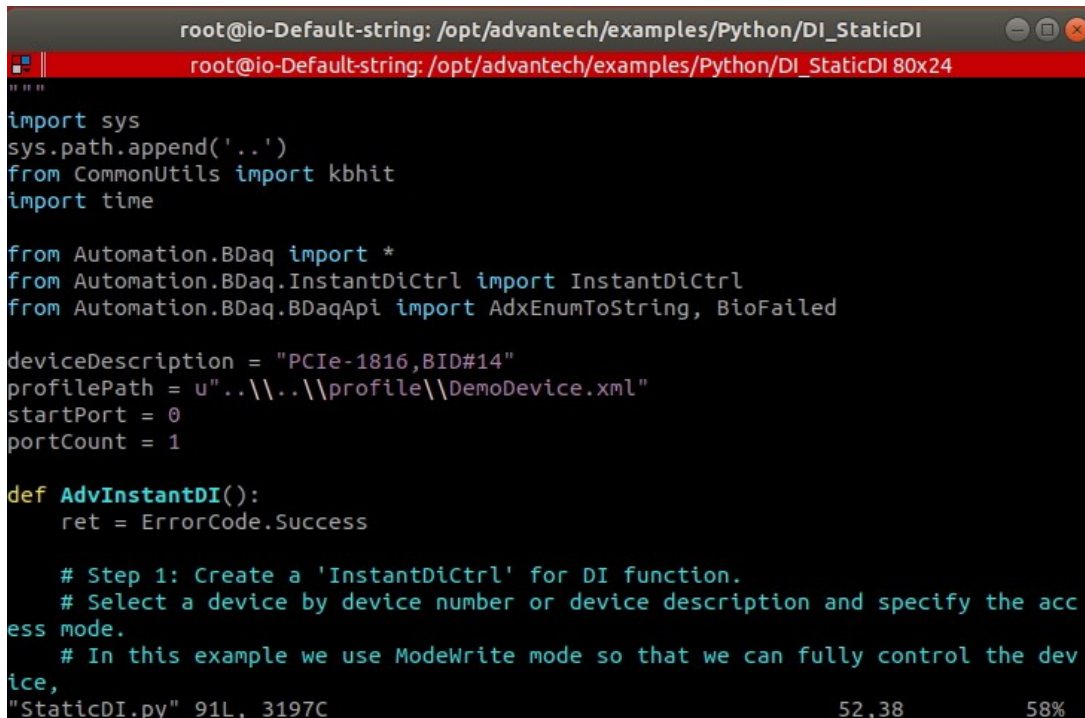
>> cd /opt/advantech/examples/Python

2. Move to any example want to test.
>> cd DI_StaticDI
3. Open .py file then modify "description" in the example with Python IDE.
>> vim StaticDI.py


```
"""
import sys
sys.path.append('..')
from CommonUtils import kbhit
import time

from Automation.BDaq import *
from Automation.BDaq.InstantDiCtrl import InstantDiCtrl
from Automation.BDaq.BDaqApi import AdxEnumToString, BioFailed

deviceDescription = "PCIe-1816,BID#14"
profilePath = u"..\\..\\profile\\DemoDevice.xml"
startPort = 0
portCount = 1

def AdvInstantDI():
    ret = ErrorCode.Success

    # Step 1: Create a 'InstantDiCtrl' for DI function.
    # Select a device by device number or device description and specify the acc
ess mode.
    # In this example we use ModeWrite mode so that we can fully control the dev
ice,
"StaticDI.py" 91L, 3197C                              52,38          58%
```
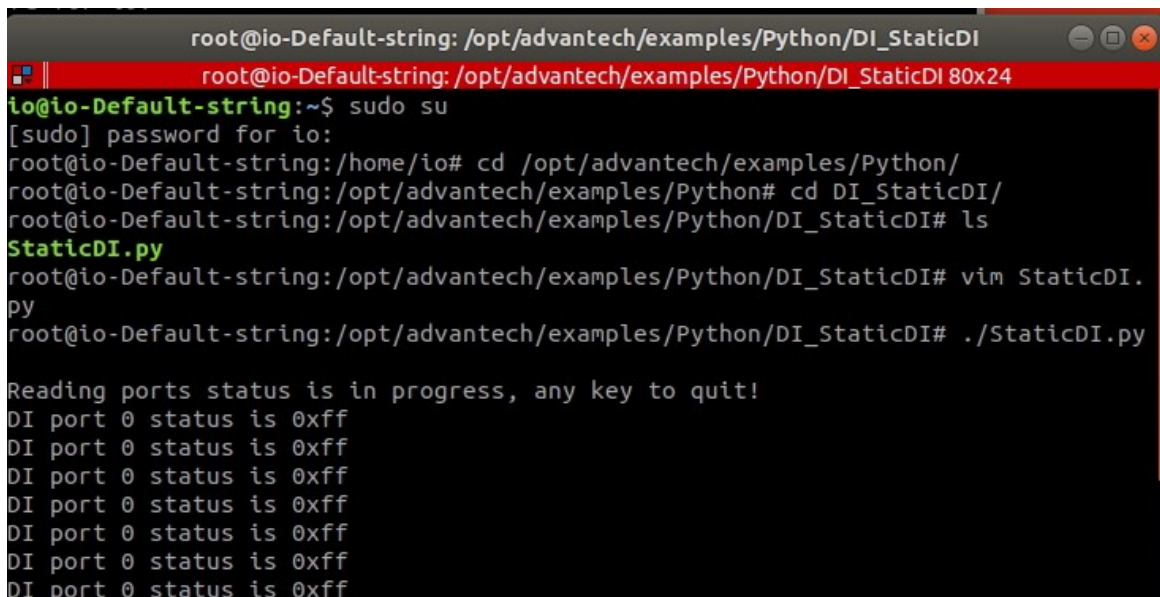
4. Run example.
>> ./StaticDI.py


```
io@io-Default-string:~$ sudo su
[sudo] password for io:
root@io-Default-string:/home/io# cd /opt/advantech/examples/Python/
root@io-Default-string:/opt/advantech/examples/Python# cd DI_StaticDI/
root@io-Default-string:/opt/advantech/examples/Python/DI_StaticDI# ls
StaticDI.py
root@io-Default-string:/opt/advantech/examples/Python/DI_StaticDI# vim StaticDI.
py
root@io-Default-string:/opt/advantech/examples/Python/DI_StaticDI# ./StaticDI.py

Reading ports status is in progress, any key to quit!
DI port 0 status is 0xff
DI port 0 status is 0xff
DI port 0 status is 0xff
DI port 0 status is 0xff
DI port 0 status is 0xff
DI port 0 status is 0xff
DI port 0 status is 0xff
```

■ **Reference:**
   1. DAQNavi manual.
   2. https://www.python.org/