

DEVELOP A PYTHON SCRIPT TO PUBLISH AND SUBSCRIBE TO IBM IOT PLATFORM

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|--------------|-----------------------------------------------------|
| Date | 06 November 2022 |
| Team ID | PNT2022TMID41919 |
| Project Name | SmartFarmer - IoT Enabled Smart Farming Application |

PROGRAM CODE:

```
import wiotp.sdk.device
import time
import random
myConfig = {
    "identity": {
        "orgId": "5myh1a",
        "typeId": "iot_device",
        "deviceId": "12344321"
    },
    "auth": {
        "token": "9894976519"
    }
}

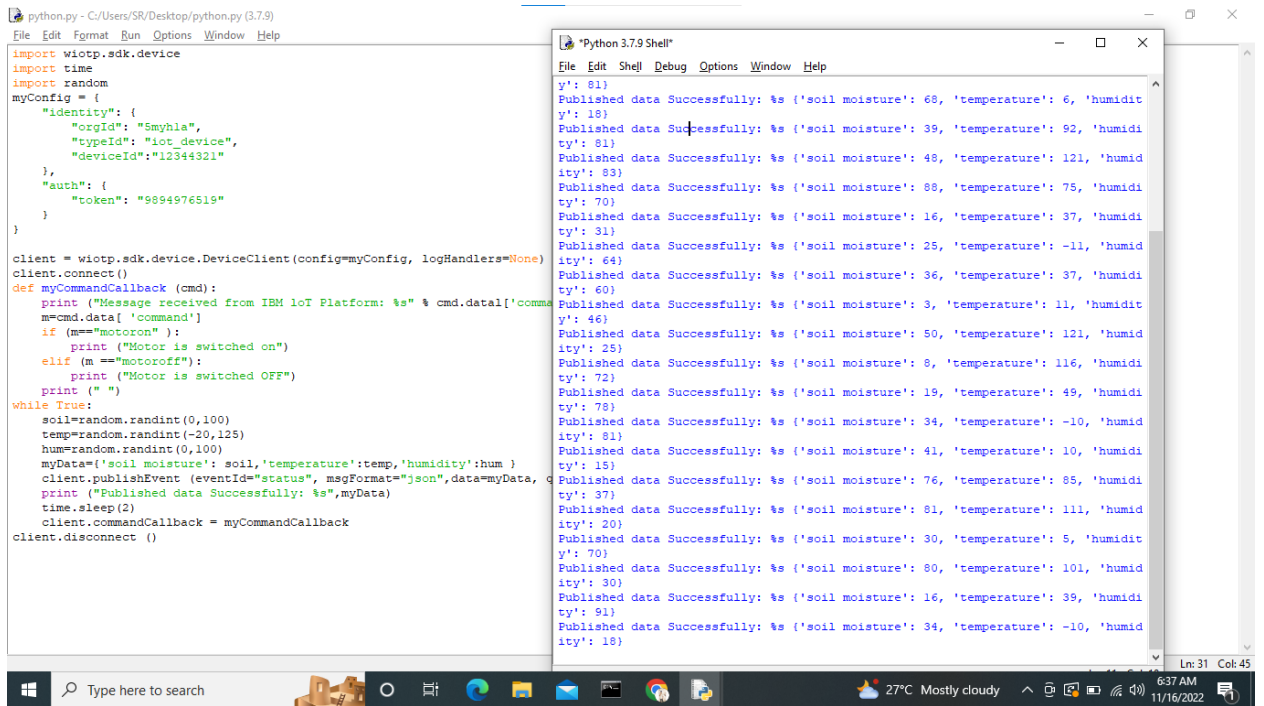
client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()
def myCommandCallback (cmd):
    print ("Message received from IBM IoT Platform: %s" % cmd.data['command'])
    m=cmd.data[ 'command']
    if (m=="motoron" ):
        print ("Motor is switched on")
    elif (m == "motoroff"):
        print ("Motor is switched OFF")
    print (" ")
while True:
    soil=random.randint(0,100)
    temp=random.randint(-20,125)
```

```

hum=random.randint(0,100)
myData={'soil moisture': soil,'temperature':temp,'humidity':hum }
client.publishEvent (eventId="status", msgFormat="json",data=myData, qos=0 ,
onPublish=None)
print ("Published data Successfully: %s",myData)
time.sleep(2)
client.commandCallback = myCommandCallback
client.disconnect ()

```

OUTPUT:



The screenshot shows a Python IDE window on the left and a terminal window on the right. The IDE window displays the following code:

```

python.py - C:/Users/SR/Desktop/python.py (3.7.9)
File Edit Format Run Options Window Help
import wiotp.sdk.device
import time
import random
myConfig = {
    "identity": {
        "orgId": "5myhla",
        "typeId": "iot_device",
        "deviceId": "12344321"
    },
    "auth": {
        "token": "9894976519"
    }
}
client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()
def myCommandCallback (cmd):
    print ("Message received from IBM IoT Platform: %s" % cmd.data['command'])
    m=cmd.data[ 'command']
    if (m=="motoron" ):
        print ("Motor is switched on")
    elif (m=="motoroff"):
        print ("Motor is switched OFF")
    print (" " )
while True:
    soil=random.randint(0,100)
    temp=random.randint(-20,125)
    hum=random.randint(0,100)
    myData={'soil moisture': soil,'temperature':temp,'humidity':hum }
    client.publishEvent (eventId="status", msgFormat="json",data=myData,
    print ("Published data Successfully: %s",myData)
    time.sleep(2)
    client.commandCallback = myCommandCallback
client.disconnect ()

```

The terminal window on the right shows the output of the script, which consists of multiple lines of 'Published data Successfully' messages with JSON data. The output is as follows:

```

Python 3.7.9 Shell
File Edit Shell Debug Options Window Help
y': 81}
Published data Successfully: %s {'soil moisture': 68, 'temperature': 6, 'humidit
y': 18}
Published data Successfully: %s {'soil moisture': 39, 'temperature': 92, 'humidi
ty': 81}
Published data Successfully: %s {'soil moisture': 48, 'temperature': 121, 'humid
ity': 83}
Published data Successfully: %s {'soil moisture': 88, 'temperature': 75, 'humidi
ty': 70}
Published data Successfully: %s {'soil moisture': 16, 'temperature': 37, 'humidi
ty': 31}
Published data Successfully: %s {'soil moisture': 25, 'temperature': -11, 'humidi
ty': 64}
Published data Successfully: %s {'soil moisture': 36, 'temperature': 37, 'humidi
ty': 60}
Published data Successfully: %s {'soil moisture': 3, 'temperature': 11, 'humidit
y': 46}
Published data Successfully: %s {'soil moisture': 50, 'temperature': 121, 'humid
ity': 25}
Published data Successfully: %s {'soil moisture': 8, 'temperature': 116, 'humidi
ty': 72}
Published data Successfully: %s {'soil moisture': 19, 'temperature': 49, 'humidi
ty': 78}
Published data Successfully: %s {'soil moisture': 34, 'temperature': -10, 'humid
ity': 81}
Published data Successfully: %s {'soil moisture': 41, 'temperature': 10, 'humidi
ty': 15}
Published data Successfully: %s {'soil moisture': 76, 'temperature': 85, 'humidi
ty': 37}
Published data Successfully: %s {'soil moisture': 81, 'temperature': 111, 'humid
ity': 20}
Published data Successfully: %s {'soil moisture': 30, 'temperature': 5, 'humidit
y': 70}
Published data Successfully: %s {'soil moisture': 80, 'temperature': 101, 'humid
ity': 30}
Published data Successfully: %s {'soil moisture': 16, 'temperature': 39, 'humidi
ty': 91}
Published data Successfully: %s {'soil moisture': 34, 'temperature': -10, 'humid
ity': 18}

```