

SPRINT-2

Date	02.11.2022
Team Id	PNT2022TMID02873
Project Name	Smart Farmer - IoT Enabled Smart Farming Application

Develop a Python Script:

- Develop the python script to publish the data and subscribe the data from the IBM Watson IoT Platform.
- Install the package wiot-sdk to make use of the watson iot platform functions in python script.
- Get the device credentials from the iot platform device.

Python Code:

#import packages

```
import wiotp.sdk.device
import time
import os
import datetime
import random
```

#Callback function to receive the commands from cloud

```
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(" ")
```

#Device credentials

```
myConfig = {
    "identity": {
        "orgId": "dzlyo8",
        "typeId": "device1",
        "deviceId": "1234"
    },
    "auth": {
        "token": "123456789"
    }
}
```

#Making Connection to cloud

```
client = wiotp.sdk.device.DeviceClient(config=myConfig,
logHandlers=None)
client.connect()
```

#Sending data for every 2 seconds to cloud

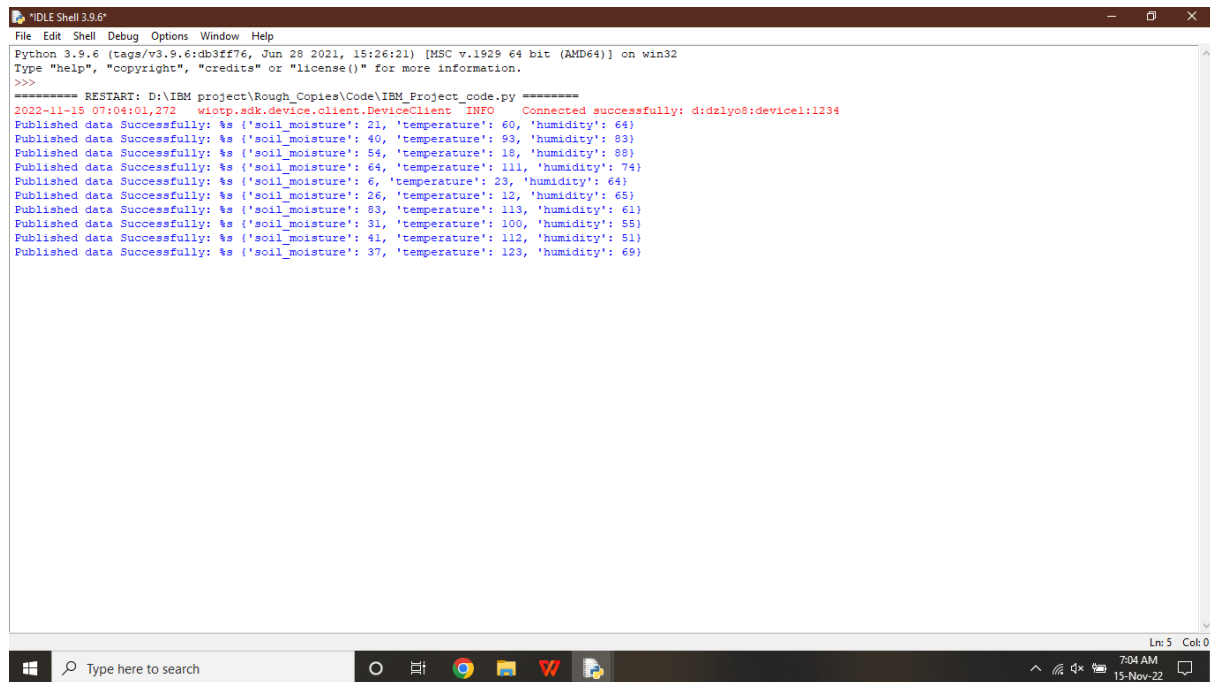
```
while True:
    soil=random.randint(0, 100)
    temp=random.randint(-20,125)
    hum=random.randint(0, 100)
    myData={'soil_moisture': soil, 'temperature': temp, 'humidity':hum}
    client.publishEvent(eventId="status", msgFormat="json",
data=myData, qos=0, onPublish = None)
```

```
print("Published data Successfully: %s", myData)
time.sleep(2)
client.commandCallback = myCommandCallback
```

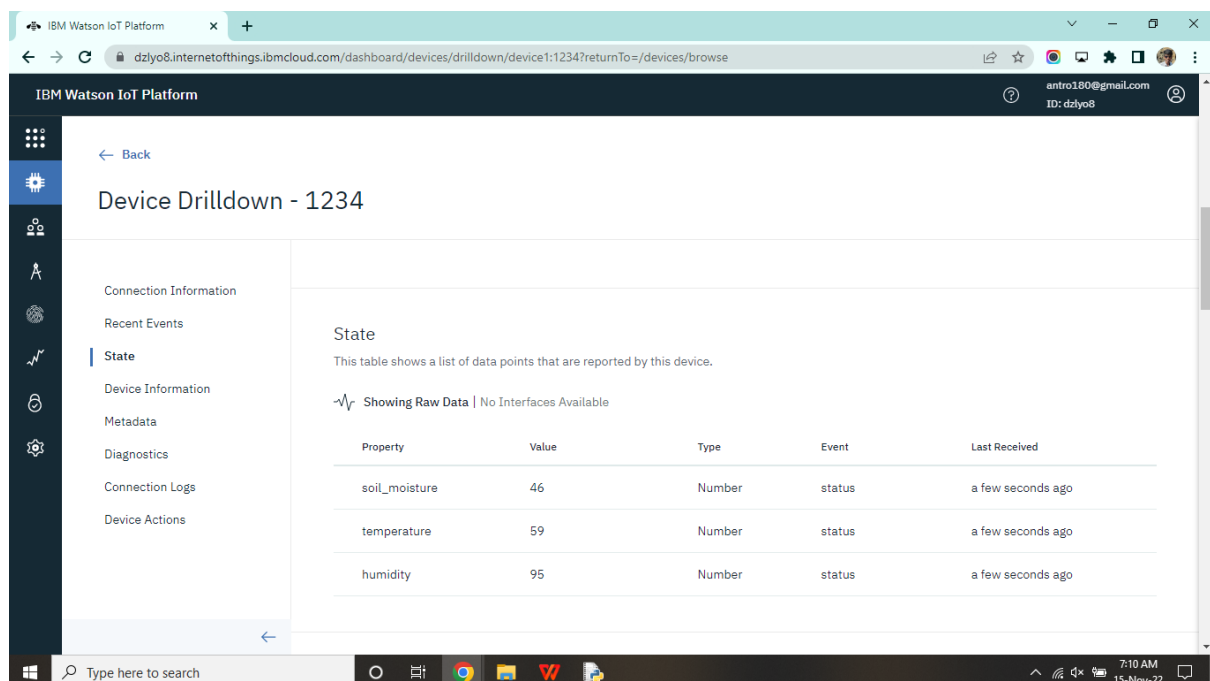
#Disconnected from cloud

```
client.disconnect()
```

Output:



```
Python 3.9.6 (tags/v3.9.6:db3ff76, Jun 28 2021, 15:26:21) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:\IBM project\Rough_Copies\Code\IBM_Project_code.py =====
2022-11-15 07:04:01,272 wiotp.sdk.device.client.DeviceClient INFO Connected successfully: d1dzlyo8:device1:1234
Published data Successfully: %s {'soil_moisture': 21, 'temperature': 60, 'humidity': 64}
Published data Successfully: %s {'soil_moisture': 40, 'temperature': 93, 'humidity': 83}
Published data Successfully: %s {'soil_moisture': 54, 'temperature': 18, 'humidity': 88}
Published data Successfully: %s {'soil_moisture': 64, 'temperature': 111, 'humidity': 74}
Published data Successfully: %s {'soil_moisture': 6, 'temperature': 23, 'humidity': 64}
Published data Successfully: %s {'soil_moisture': 26, 'temperature': 12, 'humidity': 65}
Published data Successfully: %s {'soil_moisture': 83, 'temperature': 113, 'humidity': 61}
Published data Successfully: %s {'soil_moisture': 31, 'temperature': 100, 'humidity': 55}
Published data Successfully: %s {'soil_moisture': 41, 'temperature': 112, 'humidity': 51}
Published data Successfully: %s {'soil_moisture': 37, 'temperature': 123, 'humidity': 69}
```



IBM Watson IoT Platform

Device Drilldown - 1234

Connection Information

Recent Events

State

This table shows a list of data points that are reported by this device.

Showing Raw Data | No Interfaces Available

Property	Value	Type	Event	Last Received
soil_moisture	46	Number	status	a few seconds ago
temperature	59	Number	status	a few seconds ago
humidity	95	Number	status	a few seconds ago