

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

Date	12 Oct 2022
Team ID	PNT2022TMID26547
Project Name	Project -Smart farmer-IOT enabled smart Farming Application

**Step:1 Python Program**

```
#IBM Watson IOT Platform
```

```
#pip install wiotp-sdk
```

```
import wiotp.sdk.device
```

```
import time
```

```
import random
```

```
ms=0
```

```
status='light off'
```

```
myConfig = {
```

```
    "identity": {
```

```
        "orgId": "17lsro",
```

```
        "typeId": "MyDeviceType",
```

```
        "deviceId":"12345"
```

```
    },
```

```
    "auth": {
```

```
        "token": "GkatKdiUS?UVHKvnAD"
```

```
    }
```

```
}
```

```
def myCommandCallback(cmd):
```

```

    print("Message received from IBM IoT Platform: %s" %
cmd.data['command'])

    m=cmd.data['command']

    if(m=="MOTOR ON"):

        print("MOTOR IS ON")

        status='motor on'

        myData={'temperature':temp,
'humidity':hum,'soilmoisture':sm_percentage,'status':status}

        client.publishEvent(eventId="status", msgFormat="json", data=myData,
qos=0, onPublish=None)

        print("Published data Successfully: %s", myData)


        time.sleep(2)


    elif(m=="MOTOR OFF"):

        print("MOTOR IS OFF")

        status='motor off'

        myData={'temperature':temp,
'humidity':hum,'soilmoisture':sm_percentage,'status':status}

        client.publishEvent(eventId="status", msgFormat="json", data=myData,
qos=0, onPublish=None)

        print("Published data Successfully: %s", myData)


        time.sleep(2)

```

```

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

client.connect()

```

while True:

```
temp=random.randint(-20,125)
```

```
hum=random.randint(0,100)
```

```
soilmoisture=random.randint(0,1023)#analog sensor
```

```
sm_percentage=(soilmoisture/1023)*100
```

```
sm_percentage=int(sm_percentage)
```

```
myData={'temperature':temp, 'humidity':hum,'soilmoisture':sm_percentage}
```

```
client.publishEvent(eventId="status", msgFormat="json", data=myData,  
qos=0, onPublish=None)
```

```
print("Published data Successfully: %s", myData)
```

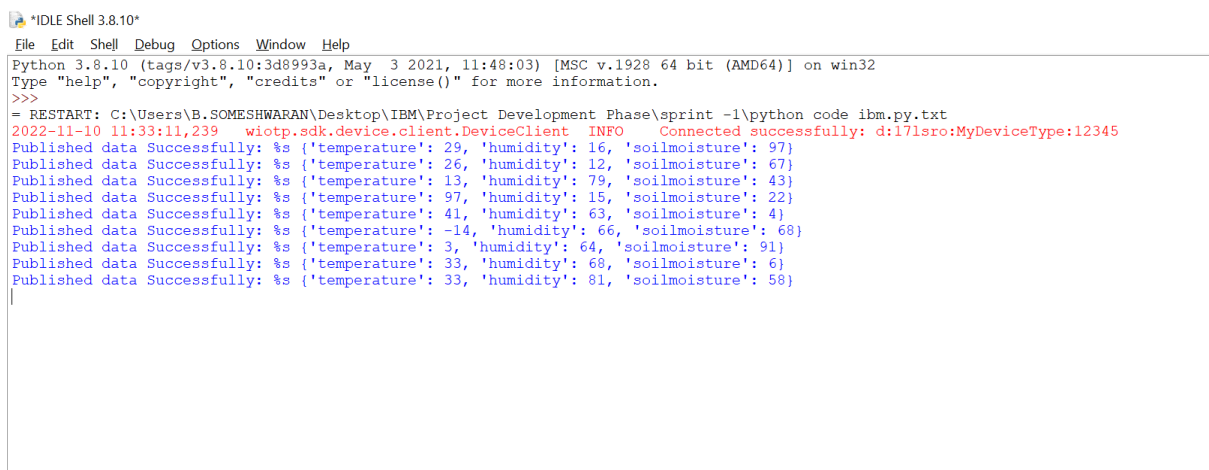
```
client.commandCallback = myCommandCallback
```

```
time.sleep(2)
```

```
time.sleep(2)
```

```
client.disconnect()
```

## Step:2 Run the Program



```
*IDLE Shell 3.8.10*
File Edit Shell Debug Options Window Help
Python 3.8.10 (tags/v3.8.10:3d8993a, May 3 2021, 11:48:03) [MSC v.1928 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:\Users\B.SOMESHWARAN\Desktop\IBM\Project Development Phase\sprint -1\python code ibm.py.txt
2022-11-10 11:33:11,239 wiotp.sdk.device.client.DeviceClient INFO Connected successfully: d:17lsro:MyDeviceType:12345
Published data Successfully: %s {'temperature': 29, 'humidity': 16, 'soilmoisture': 97}
Published data Successfully: %s {'temperature': 26, 'humidity': 12, 'soilmoisture': 67}
Published data Successfully: %s {'temperature': 13, 'humidity': 79, 'soilmoisture': 43}
Published data Successfully: %s {'temperature': 97, 'humidity': 15, 'soilmoisture': 22}
Published data Successfully: %s {'temperature': 41, 'humidity': 63, 'soilmoisture': 4}
Published data Successfully: %s {'temperature': -14, 'humidity': 66, 'soilmoisture': 68}
Published data Successfully: %s {'temperature': 3, 'humidity': 64, 'soilmoisture': 91}
Published data Successfully: %s {'temperature': 33, 'humidity': 68, 'soilmoisture': 6}
Published data Successfully: %s {'temperature': 33, 'humidity': 81, 'soilmoisture': 58}
```

## Step:3 Go To IBM WATSON IOT Platform, Under The Devices See the Status of Output

The screenshot shows the IBM Watson IoT Platform interface. The top header displays the platform name and user information. The left sidebar contains navigation icons. The main content area is titled 'Device Drilldown - 12345' and includes a 'Back' link. Below the title, there is a sidebar with navigation options: Connection Information, Recent Events (selected), State, Device Information, Metadata, Diagnostics, Connection Logs, and Device Actions. The 'Recent Events' section displays a table of recent events, including status updates with temperature, humidity, and soil moisture data. The 'State' section is currently empty, showing a message that no data points are reported by this device.

IBM Watson IoT Platform

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← Back

### Device Drilldown - 12345

Connection Information

**Recent Events**

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
status	{"temperature":108,"humidity":75,"soilmoisture":...	json	a few seconds ago
status	{"temperature":-9,"humidity":27,"soilmoisture":...	json	a few seconds ago
status	{"temperature":1,"humidity":29,"soilmoisture":57}	json	a few seconds ago
status	{"temperature":115,"humidity":89,"soilmoisture":...	json	a few seconds ago
status	{"temperature":119,"humidity":45,"soilmoisture":...	json	a few seconds ago

**State**

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

Showing Raw Data | No Interfaces Available