

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

Date	12 Oct 2022
Team ID	PNT2022TMID17431
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:171sro: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

The screenshot displays the 'Device Drilldown - 12345' page in the IBM Watson IoT Platform. The interface includes a sidebar on the left with navigation links: Connection Information, Recent Events (selected), State, Device Information, Metadata, Diagnostics, Connection Logs, and Device Actions. The main content area is divided into two sections: 'Recent Events' and 'State'.

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.

of Output