

Develop A Python Script To Publish And Subscribe To  
IBM IoT Platform-**Develop The Python Code**

Date	16/11/2022
Team ID	PNT2022TMID18361
Project Name	Smart Farmer-IoT Enabled smart Farming Application

**Python code:**

```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random

Organization_ID="Im9xem"
Device_Type = "sensor"
Device_ID = "9182"
```

```
Authentication_Method="token"
```

```
Authentication_Token="12345678"
```

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

```
    print("Command received: %s" % cmd.data['command'])
```

```
    status = cmd.data['command']
```

```
    if status=="motoron":
```

```
        print ("Motor is on")
```

```
    elif status == "motoroff":
```

```
        print ("Motor is off")
```

```
    else :
```

```
        print ("please send proper command")
```

```
try:
```

```
    deviceOptions = {"org" : Organization_ID, "type": Device_Type, "id" : Device_ID,  
"auth-method": Authentication_Method, "auth-token":Authentication_Token}
```

```
    deviceCli = ibmiotf.device.Client(deviceOptions)
```

```
    #.....
```

```
except Exception as e:
```

```
    print("Caught exception connecting device: %s" % str(e))
```

```
    sys.exit()
```

```
deviceCli.connect()
```

```
while True:
```

```
temp=random.randint(90,110)

hum=random.randint(60,100)

moist=random.randint(20,60)

data = {'temperature':temp, 'Humidity':hum, 'SoilMoisture':moist}

#print data

def myOnPublishCallback():

    print("Published Temperature = %s C" %temp, "Humidity = %s %" %hum, "Soil
    Moisture = %s %" %moist, "to IBM Watson")

    success = deviceCli.publishEvent("IoT_Sensor", "json", data, qos=0,
    on_publish=myOnPublishCallback)

    if not success:

        print("Not connected to IoT")

    time.sleep(10)

    deviceCli.commandCallback = myCommandCallback

#Disconnect the device and application from the cloud

deviceCli.disconnect()
```

## Output

```
Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
Python 3.7.0 (tags/v3.7.0:104f803b9, Jun 27 2018, 06:59:31) [AMD64 v.1614 64-bit (AMD64)] on win32
Type "copyright", "credits()" or "license()" for more information.
>>>
>>> from REGISTRY import C:\Users\Beeba\AppData\Local\Programs\Python\Python37\com.py com
2022-11-06 21:28:21.212 - connect_device: class: INFO Connected successfully! driver0000000000
Published Temperature = 24 C Humidity = 6 % to 100% Watson
Published Temperature = 30 C Humidity = 77 % to 100% Watson
Published Temperature = 14 C Humidity = 4 % to 100% Watson
Published Temperature = 73 C Humidity = 60 % to 100% Watson
Published Temperature = 13 C Humidity = 57 % to 100% Watson
Published Temperature = 14 C Humidity = 63 % to 100% Watson
Published Temperature = 40 C Humidity = 80 % to 100% Watson
Published Temperature = 5 C Humidity = 71 % to 100% Watson
Published Temperature = 10 C Humidity = 3 % to 100% Watson
Published Temperature = 16 C Humidity = 30 % to 100% Watson
Published Temperature = 34 C Humidity = 73 % to 100% Watson
Published Temperature = 15 C Humidity = 46 % to 100% Watson
Command executed: lighton
led is on
Published Temperature = 59 C Humidity = 60 % to 100% Watson
Published Temperature = 14 C Humidity = 61 % to 100% Watson
Published Temperature = 14 C Humidity = 4 % to 100% Watson
Published Temperature = 41 C Humidity = 19 % to 100% Watson
Published Temperature = 11 C Humidity = 25 % to 100% Watson
```