

PREPARATION PHASE

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

TEAM ID	PNT2022TMID13531
PROJECT NAME	SmartFarmer – IoT Enabled Smart Farming Application

DEVELOP THE PYTHON CODE

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

```
import time
```

```
import os
```

```
import datetime
```

```
import random
```

```
myConfig = {
```

```
    "identity":{
```

```
        "orgId":"nqhzg5",
```

```
        "typeId":"Node-red",
```

```
        "deviceId":"1234"
```

```
    },
```

```
    "auth":{
```

```
        "token":"12345678"
```

```
    }
```

```
}
```

```
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 SCREENSHOT:

```
Python 3.7.4 Shell
File Edit Shell Debug Options Window Help
Python 3.7.4 (tags/v3.7.4:09359112e, Jul 8 2019, 20:34:20) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\python\Python37\SmartFarmer.py =====
2022-11-14 23:13:23.296 wiotp.sdk.device.client.DeviceClient INFO Connected successfully: d:nghzg5:Node-red:1234
Published data successfully: {'soil_moisture': 53, 'temperature': 113, 'humidity': 69}
Published data successfully: {'soil_moisture': 4, 'temperature': 51, 'humidity': 41}
Published data successfully: {'soil_moisture': 12, 'temperature': 111, 'humidity': 86}
Published data successfully: {'soil_moisture': 9, 'temperature': 98, 'humidity': 82}
Published data successfully: {'soil_moisture': 31, 'temperature': 95, 'humidity': 50}
Published data successfully: {'soil_moisture': 53, 'temperature': 87, 'humidity': 36}
Published data successfully: {'soil_moisture': 48, 'temperature': 99, 'humidity': 39}
Published data successfully: {'soil_moisture': 75, 'temperature': 14, 'humidity': 52}
Published data successfully: {'soil_moisture': 43, 'temperature': 4, 'humidity': 91}
Published data successfully: {'soil_moisture': 71, 'temperature': 47, 'humidity': 96}
Published data successfully: {'soil_moisture': 86, 'temperature': 106, 'humidity': 19}
Published data successfully: {'soil_moisture': 66, 'temperature': 28, 'humidity': 16}
Published data successfully: {'soil_moisture': 5, 'temperature': 55, 'humidity': 49}
Published data successfully: {'soil_moisture': 22, 'temperature': 79, 'humidity': 86}
Published data successfully: {'soil_moisture': 82, 'temperature': 4, 'humidity': 21}
Published data successfully: {'soil_moisture': 50, 'temperature': 121, 'humidity': 37}
Published data successfully: {'soil_moisture': 74, 'temperature': 107, 'humidity': 54}
Published data successfully: {'soil_moisture': 33, 'temperature': 111, 'humidity': 95}
Published data successfully: {'soil_moisture': 55, 'temperature': 37, 'humidity': 6}
Published data successfully: {'soil_moisture': 57, 'temperature': 3, 'humidity': 77}
Published data successfully: {'soil_moisture': 39, 'temperature': 59, 'humidity': 41}
Published data successfully: {'soil_moisture': 15, 'temperature': 21, 'humidity': 61}
Published data successfully: {'soil_moisture': 53, 'temperature': 76, 'humidity': 41}
Published data successfully: {'soil_moisture': 93, 'temperature': 53, 'humidity': 36}
Published data successfully: {'soil_moisture': 12, 'temperature': 100, 'humidity': 12}
Published data successfully: {'soil_moisture': 86, 'temperature': 65, 'humidity': 98}
Published data successfully: {'soil_moisture': 11, 'temperature': 63, 'humidity': 5}
Published data successfully: {'soil_moisture': 90, 'temperature': 1, 'humidity': 44}
Published data successfully: {'soil_moisture': 22, 'temperature': 106, 'humidity': 51}
Published data successfully: {'soil_moisture': 8, 'temperature': 33, 'humidity': 6}
Published data successfully: {'soil_moisture': 61, 'temperature': 108, 'humidity': 5}
Published data successfully: {'soil_moisture': 93, 'temperature': 100, 'humidity': 73}
Published data successfully: {'soil_moisture': 32, 'temperature': 7, 'humidity': 99}
Published data successfully: {'soil_moisture': 11, 'temperature': -6, 'humidity': 34}
```