

Develop a Python Code To Publish And Subscribe To IBM IoT Platform

Project Title	SmartFarmer - IoT Enabled Smart Farming Application
Team ID	PNT2022TMID48820
Content	Python Script

Code :

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

organization = "0ooi4r"
devicetype = "Test_device"
deviceId = "262626"
authMethod = "token"
authToken = "hQXR (VA) Myh@UuMYAi "

def myCommandCallback(cmd):
    print("Command Received: %s" % cmd.data['command'])
    if status == "motoron":
        print(" m on")
    elif status == "motoroff":
        print("m off")
    elif status == "motor30":
        print("motor is on for 30 min")

try:
    deviceOptions = {"org": organization, "type": devicetype, "id": deviceId,
"auth-method":authMethod, "auth-token": authToken}

    deviceCli = ibmiotf.device.Client(deviceOptions)
except Exception as e:
    print("caught exception connecting device: %s" % str(e))
    sys.exit()

deviceCli.connect()
```

```

while True:

    temperature = random.randint(0,100)
    humidity = random.randint(0,100)
    soil_moisture = random.randint(0,100)

    data = {"temperature": temperature, "humidity": humidity,
"soil_moisture": soil_moisture}

    def myOnPublicCallback():
        print("Published Temperature = %s c" % temperature, "Humidity = %s
%%" % humidity, "soil_moisture = %s %%" % soil_moisture, "to IBM watson")

    success = deviceCli.publishEvent("IotSensor", "json", data, qos = 0,
on_publish = myOnPublicCallback )
    if not success:
        print("Not connected to iotf")
        time.sleep(5)

    deviceCli.commandCallback = myCommandCallback

deviceCli.disconnect()

```

```
C:\Windows\System32\cmd.exe - python iotdemo.py
2022-11-16 18:33:56,431 ibmiotf.device.Client INFO Connected successfully: d:00014r:Test_device:262626
Published Temperature = 37 c Humidity = 4 % soil_moisture = 99 % to IBM watson
2022-11-16 18:34:00,420 ibmiotf.device.Client ERROR Unexpected disconnect from the IBM Watson IoT Platform: 7
Not connected to iotf
2022-11-16 18:34:07,462 ibmiotf.device.Client INFO Connected successfully: d:00014r:Test_device:262626
Published Temperature = 74 c Humidity = 98 % soil_moisture = 11 % to IBM watson
2022-11-16 18:34:11,455 ibmiotf.device.Client ERROR Unexpected disconnect from the IBM Watson IoT Platform: 7
Published Temperature = 99 c Humidity = 15 % soil_moisture = 26 % to IBM watson
2022-11-16 18:34:15,447 ibmiotf.device.Client INFO Connected successfully: d:00014r:Test_device:262626
Published Temperature = 70 c Humidity = 95 % soil_moisture = 63 % to IBM watson
2022-11-16 18:34:19,433 ibmiotf.device.Client ERROR Unexpected disconnect from the IBM Watson IoT Platform: 7
2022-11-16 18:34:23,415 ibmiotf.device.Client INFO Connected successfully: d:00014r:Test_device:262626
Published Temperature = 95 c Humidity = 70 % soil_moisture = 62 % to IBM watson
2022-11-16 18:34:27,382 ibmiotf.device.Client ERROR Unexpected disconnect from the IBM Watson IoT Platform: 7
Not connected to iotf
2022-11-16 18:34:31,342 ibmiotf.device.Client INFO Connected successfully: d:00014r:Test_device:262626
Published Temperature = 88 c Humidity = 2 % soil_moisture = 100 % to IBM watson
2022-11-16 18:34:35,321 ibmiotf.device.Client ERROR Unexpected disconnect from the IBM Watson IoT Platform: 7
Published Temperature = 48 c Humidity = 38 % soil_moisture = 67 % to IBM watson
2022-11-16 18:34:39,378 ibmiotf.device.Client INFO Connected successfully: d:00014r:Test_device:262626
2022-11-16 18:34:43,377 ibmiotf.device.Client ERROR Unexpected disconnect from the IBM Watson IoT Platform: 7
Not connected to iotf
2022-11-16 18:34:47,436 ibmiotf.device.Client INFO Connected successfully: d:00014r:Test_device:262626
Published Temperature = 70 c Humidity = 71 % soil_moisture = 96 % to IBM watson
2022-11-16 18:34:51,455 ibmiotf.device.Client ERROR Unexpected disconnect from the IBM Watson IoT Platform: 7
Published Temperature = 35 c Humidity = 95 % soil_moisture = 81 % to IBM watson
2022-11-16 18:34:55,439 ibmiotf.device.Client INFO Connected successfully: d:00014r:Test_device:262626
Published Temperature = 40 c Humidity = 15 % soil_moisture = 2 % to IBM watson
2022-11-16 18:34:59,407 ibmiotf.device.Client ERROR Unexpected disconnect from the IBM Watson IoT Platform: 7
2022-11-16 18:35:03,422 ibmiotf.device.Client INFO Connected successfully: d:00014r:Test_device:262626
Published Temperature = 17 c Humidity = 24 % soil_moisture = 99 % to IBM watson
2022-11-16 18:35:07,450 ibmiotf.device.Client ERROR Unexpected disconnect from the IBM Watson IoT Platform: 7
Not connected to iotf
2022-11-16 18:35:11,488 ibmiotf.device.Client INFO Connected successfully: d:00014r:Test_device:262626
Published Temperature = 6 c Humidity = 76 % soil_moisture = 79 % to IBM watson
2022-11-16 18:35:15,559 ibmiotf.device.Client ERROR Unexpected disconnect from the IBM Watson IoT Platform: 7
Published Temperature = 48 c Humidity = 17 % soil_moisture = 63 % to IBM watson
2022-11-16 18:35:19,560 ibmiotf.device.Client INFO Connected successfully: d:00014r:Test_device:262626
Published Temperature = 52 c Humidity = 19 % soil_moisture = 93 % to IBM watson
2022-11-16 18:35:23,542 ibmiotf.device.Client ERROR Unexpected disconnect from the IBM Watson IoT Platform: 7
2022-11-16 18:35:27,544 ibmiotf.device.Client INFO Connected successfully: d:00014r:Test_device:262626
Published Temperature = 22 c Humidity = 30 % soil_moisture = 16 % to IBM watson
2022-11-16 18:35:31,550 ibmiotf.device.Client ERROR Unexpected disconnect from the IBM Watson IoT Platform: 7
Published Temperature = 88 c Humidity = 75 % soil_moisture = 9 % to IBM watson
```

Service Details - IBM Cloud | IBM Watson IoT Platform

Dooolr.internetofthings.ibmcloud.com/dashboard/devices/browse

ahmedreshmace@gmail.com
ID: 00014r

Browse Action Device Types Interfaces

Errors: 10 get started, you can add devices by using the Add Device button, or by using API.

Search by Device ID

Device Simulator ☒

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
> 262605	Disconnected	device0	Device	Nov 5, 2022 11:29 AM	
262626	Connected	Test_device	Device	Nov 15, 2022 11:58 PM	
> Test_device_1	Disconnected	Test_device	Device	Nov 16, 2022 12:01 AM	
> device2id	Disconnected	device2	Device	Nov 16, 2022 12:18 PM	

Items per page: 50 | 1-4 of 4 items

Simulations

1/50 Simulations Running

+ New Simulation

Device Type: Test_device

1 Device

262626

1x Create Simulated Device Use Registered Device

912 events sent (3 failed) 51.74 KB sent