

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

Date	06 November 2022
Team ID	PNT2022TMID41928
Project Name	Real time water quality monitoring and control system

PROGRAM CODE:

```
import wiotp.sdk.device
import time
import random
myConfig = {
    "identity": {
        "orgId": "y25b6a",
        "typeId": "ultra",
        "deviceId": "123456"
    },
    "auth": {
        "token": "123456789"
    }
}
def myCommandCallback (cmd):
    print ("Message received from IBM IoT Platform: %s" % cmd.data['command'])
    m=cmd.data['command']
client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()
def pub (data):
    client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0,
onPublish=None)
    print ("Published data Successfully: %s", myData)
while True:
    myData={'name': 'Train1', 'lat': 17.6387448, 'lon': 78.4754336}
    pub (myData)
    time.sleep (3)
    #myData={'name': 'Train2', 'lat': 17.6387448, 'lon': 78.4754336}
```

```

#pub (myData)
#time.sleep (3)
myData={'name': 'Train1', 'lat': 17.6341908, 'lon': 78.4744722}
pub(myData)
time.sleep(3)
myData={'name': 'Train1', 'lat': 17.6340889, 'lon': 78.4745052}
pub (myData)
time.sleep (3)
myData={'name': 'Train1', 'lat': 17.6248626, 'lon': 78.4720259}
pub (myData)
time.sleep (3)
myData={'name': 'Train1', 'lat': 17.6188577, 'lon': 78.4698726}
pub (myData)
time.sleep (3)
myData={'name': 'Train1', 'lat': 17.6132382, 'lon': 78.4707318}
pub (myData)
time.sleep (3)
client.commandCallback = myCommandCallback
client.disconnect ()

```

OUTPUT:

Develop a python code:

The image shows a Python script in a text editor and its execution output in a terminal window. The script defines a configuration, a command callback, and a loop that publishes data for 'Train1' at various coordinates. The terminal output shows the script being restarted and the successful publication of five data points.

```

HH.py - C:/Users/SR/Desktop/JAI/HH.py (3.7.9)
File Edit Format Run Options Window Help
import wiotp.sdk.device
import time
import random
myConfig = {
    "identity": {
        "orgId": "y25b6a",
        "typeId": "ultra",
        "deviceId": "123456"
    },
    "auth": {
        "token": "123456789"
    }
}

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

client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandler=
client.connect()

def pub (data):
    client.publishEvent(eventId="status", msgFormat="json", data=
    print ("Published data Successfully: %s", myData)

while True:
    myData={'name': 'Train1', 'lat': 17.6387448, 'lon': 78.4754336}
    pub (myData)
    time.sleep (3)
    #myData={'name': 'Train2', 'lat': 17.6387448, 'lon': 78.4754336}
    #pub (myData)
    #time.sleep (3)
    myData={'name': 'Train1', 'lat': 17.6341908, 'lon': 78.4744722}
    pub(myData)
    time.sleep(3)
    myData={'name': 'Train1', 'lat': 17.6340889, 'lon': 78.4745052}
    pub (myData)
    time.sleep (3)
    myData={'name': 'Train1', 'lat': 17.6248626, 'lon': 78.4720259}
    pub (myData)
    time.sleep (3)
    myData={'name': 'Train1', 'lat': 17.6188577, 'lon': 78.4698726}
    pub (myData)
    time.sleep (3)
    myData={'name': 'Train1', 'lat': 17.6132382, 'lon': 78.4707318}
    pub (myData)
    time.sleep (3)
    client.commandCallback = myCommandCallback
    client.disconnect ()

```

```

Python 3.7.9 Shell
File Edit Shell Debug Options Window Help
Python 3.7.9 (tags/v3.7.9:13c94747c7, Aug 17 2020, 18:58:18) [MSC v.1900 64 bit
(AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Users/SR/Desktop/JAI/HH.py =====
2022-11-16 07:44:44,680 wiotp.sdk.device.client.DeviceClient INFO Connecte
d successfully: diy25b6a:ultra:123456
Published data Successfully: %s {'name': 'Train1', 'lat': 17.6387448, 'lon': 78.
4754336}
Published data Successfully: %s {'name': 'Train1', 'lat': 17.6341908, 'lon': 78.
4744722}
Published data Successfully: %s {'name': 'Train1', 'lat': 17.6340889, 'lon': 78.
4745052}
Published data Successfully: %s {'name': 'Train1', 'lat': 17.6248626, 'lon': 78.
4720259}

```

Publish data to the IBM cloud:

The screenshot displays the IBM Watson IoT Platform interface. The top navigation bar includes tabs for 'Verify your identity', 'Service Details - IBM Cloud', and 'IBM Watson IoT Platform'. The main header shows the user's email '622519104014@selvamtech.edu.in' and ID 'y25b6a'. The left sidebar contains icons for various platform features. The main content area is titled 'Browse' and shows a list of devices. The selected device, '123456', is shown as 'Connected' with type 'ultra'. Below this, the 'Recent Events' tab is active, displaying a table of live data streams.

Device: 123456, Status: Connected, Type: ultra, Last Seen: Nov 16, 2022 9:12 PM

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

Event	Value	Format	Last Received
status	{"name":"Train1","lat":17.6188577,"lon":78.469...	json	a few seconds ago
status	{"name":"Train1","lat":17.6248626,"lon":78.472...	json	a few seconds ago
status	{"name":"Train1","lat":17.6340889,"lon":78.474...	json	a few seconds ago
status	{"name":"Train1","lat":17.6341908,"lon":78.474...	json	a few seconds ago
status	{"name":"Train1","lat":17.6387448,"lon":78.475...	json	a few seconds ago

At the bottom, a terminal window shows the command 'gh.py' and a 'Show all' button.