

**Develop a python script
Publish Data to the IBM Cloud**

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Team ID	PNT2022TMID24735
Project Name	SMART WASTE MANAGEMENT SYSTEM FOR METROPOLITIAN CITIES
Maximum Marks	4 Marks

**SMART WASTE MANAGEMENT SYSTEM FOR
METROPOLITIAN CITIES**

The screenshot shows a Python script in a text editor and its execution in a Python 3.6.5 Shell. The script is designed to publish random data to an MQTT broker.

```
#Through python coding we are going to access the subscriber
import paho.mqtt.client as paho
import time
import random

def on_publish(client, userdata, mid):
    print("Publish the data ")

client = paho.Client()
client.on_publish = on_publish
client.connect('broker.mqttdashboard.com', 1883)
client.loop_start()
while True:
    temp = random.randint(1,30)
    (re,mid) = client.publish('iottopic',str(temp),qos=1)
    print(temp)
    time.sleep(10)
```

The shell output shows the following sequence of events:

```
Python 3.6.5 (v3.6.5:f59c0932b4, Mar 28 2018, 17:00:18) [MS
C v.1900 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more informati
n.
>>>
===== RESTART: E:/IBM/Others/Develop a python script/
publish.py =====
7
Publish the data
19
Publish the data
10
Publish the data
```

The screenshot shows a Python script in a text editor and its execution in a Python 3.6.5 Shell. The script is designed to subscribe to an MQTT broker and print the received data.

```
import paho.mqtt.client as paho
def on_subscribe(client,userdata,mid,grated_qos):
    print("subscriber:" + str(mid)+str(granted_qos))

def on_message(client,userdata,msg):
    print(msg.topic + "" + str(msg.qos) + "" + str(msg.payload))

client = paho.Client()
client.on_subscribe = on_subscribe
client.on_message = on_message
client.connect('broker.mqttdashboard.com', 1883)
client.subscribe('iottopic',qos=1)
client.loop_forever()
```

The shell output shows the following sequence of events:

```
Publish the data
13
Publish the data
3
Publish the data
25
Publish the data
19
Publish the data
2
Publish the data
7
Publish the data
9
Publish the data
```

Device ID: abcd, Status: Disconnected, Device type: 123, Class ID: Device, Date Added: Nov 4, 2022 11:51 AM

Identity | Device Information | **Recent Events** | State | Logs

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

Event	Value	Format	Last Received
event_1	{\"randomNumber\":75}	json	a few seconds ago
event_1	{\"randomNumber\":5}	json	a few seconds ago
event_1	{\"randomNumber\":33}	json	a few seconds ago
event_1	{\"randomNumber\":56}	json	a few seconds ago
event_1	{\"randomNumber\":67}	json	a few seconds ago

1 Simulation running

IBM Watson IoT Platform

210419104143@smartin... ID: (select org)

Collect data from

Things

and make value from it

Learn More

internetofthings.ibmcloud.com

Program :

#IBM Watson IOT Platform

#pip install wiotp-sdk

import wiotp.sdk.device

```

import time

import random

myConfig = { "identity":
{
    "orgId": "hj5fmy",
    "typeId": "NodeMCU",
    "deviceId": "12345" },
    "auth": { "token": "12345678" }
}

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()

while True:
    temp=random.randint(-20,125)
    hum=random.randint(0,100)
    myData={'temperature':temp, 'humidity':hum}
    client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0, onPublish=None)
    print("Published data Successfully: %s", myData)
    client.commandCallback = myCommandCallback
    time.sleep(2)
client.disconnect()

```

