

TEAM ID	PNT2022TMID53005
PROJECT NAME	Smart Waste Management System for Metropolitan Cities

Publish Data to the IBM Cloud

#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()
```



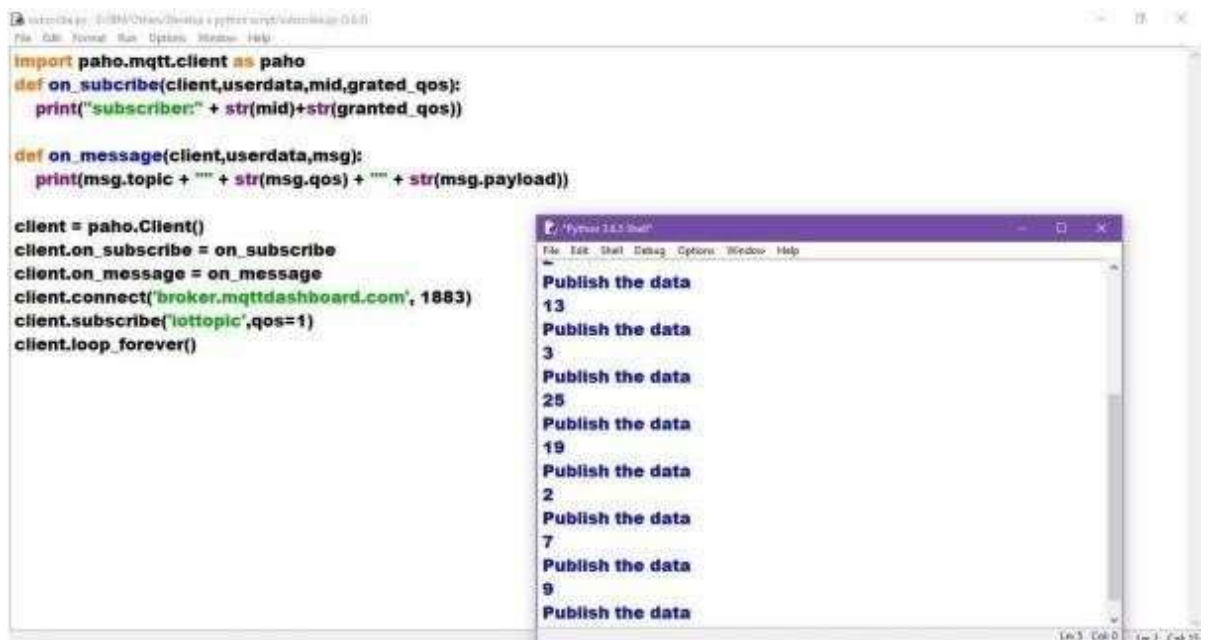
The screenshot shows a Python script in a text editor and its execution in a Python 3.6.5 Shell. The script, titled 'publish.py', is designed to publish data to an MQTT broker. It imports the paho.mqtt.client module, time, and random. A function 'on_publish' is defined to print 'Publish the data'. The client is initialized and connected to 'broker.mqttdashboard.com' on port 1883. A loop publishes random data to 'iottopic' every 10 seconds. The shell output shows the script being restarted and the 'Publish the data' message being printed multiple times with different random values.

```
#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)
```

```
Python 3.6.5 Shell
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 informatio
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, titled 'subscriber.py', is designed to subscribe to an MQTT broker. It imports the paho.mqtt.client module. Functions 'on_subscribe' and 'on_message' are defined to handle subscription and message reception. The client is initialized and connected to 'broker.mqttdashboard.com' on port 1883. It subscribes to 'iottopic' and enters a forever loop. The shell output shows the script being restarted and the 'Publish the data' message being printed multiple times with different random values.

```
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()
```

```
Python 3.6.5 Shell
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
```

IBM Watson IoT Platform

101 hydraform

ADD DEVICE

Browse Action Device Types Interfaces

DEVICE LIST

DEVICE TYPE LASTS LIST LASTS HISTORY

abcd Disconnected 123 Device 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

Simulator/Device/Interface/ID: (select org)

Collect data from

Cars

and make value from it

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