

TEAM ID	PNT2022TMID13026
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()
```



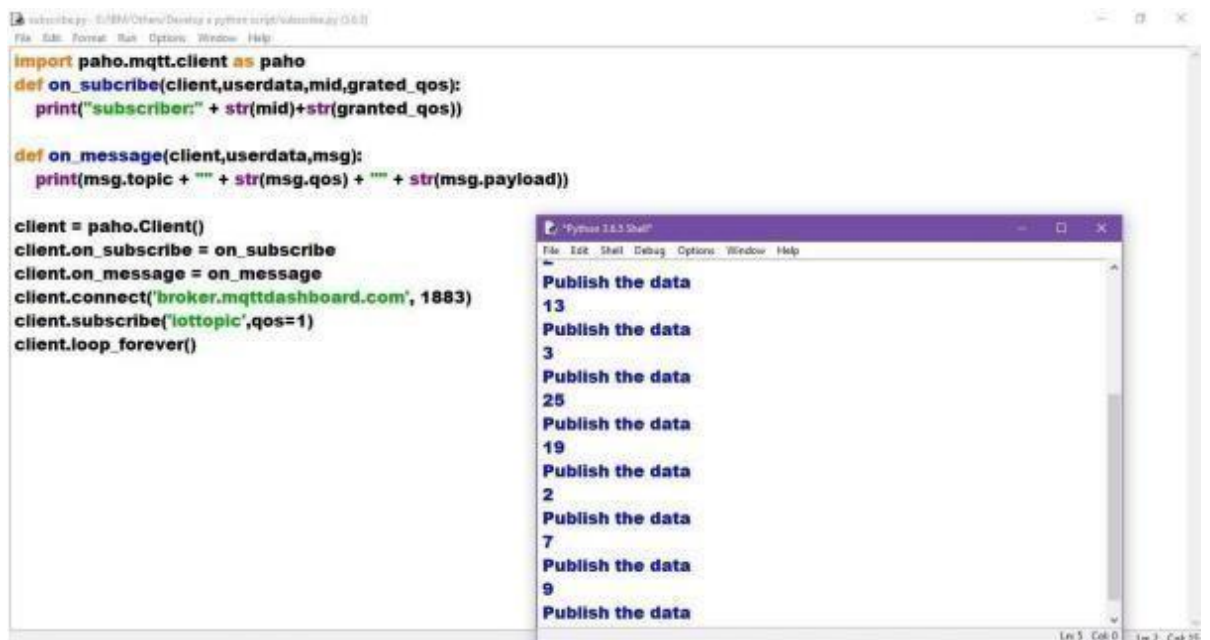
The screenshot shows a Python script named 'publish.py' in a text editor. The script imports 'paho.mqtt.client as paho', 'time', and 'random'. It defines a function 'on\_publish' that prints 'Publish the data'. The main code creates a 'paho.Client()', sets 'on\_publish' as the callback, connects to 'broker.mqttdashboard.com' on port 1883, starts the loop, and enters a 'while True' loop where it generates a random number between 1 and 30, publishes it to the topic 'iottopic' with qos=1, prints the value, and sleeps for 10 seconds. To the right, a 'Python 3.6.5 Shell' window shows the output: 'Publish the data' followed by the numbers 19, 10, and 10, each on a new line.

```
#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 (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 named 'subscribe.py' in a text editor. It imports 'paho.mqtt.client as paho' and defines two functions: 'on\_subscribe' which prints the subscriber ID and granted qos, and 'on\_message' which prints the topic, qos, and payload. The main code creates a 'paho.Client()', sets the callbacks, connects to 'broker.mqttdashboard.com' on port 1883, subscribes to 'iottopic' with qos=1, and calls 'client.loop\_forever()'. To the right, a 'Python 3.6.5 Shell' window shows the output: 'Publish the data' followed by a list of numbers (13, 3, 25, 19, 2, 7, 9) each on a new line.

```
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
```

