

Develop a python script Publish Data to the IBM Cloud

Date	12 November 2022
Team ID	PNT2022TMID29179
Project Name	Project - Signs with smart connectivity for Better road safety
Maximum Marks	4 Marks

Signs with smart connectivity for Better road safety

The screenshot shows a Python script in a text editor and its execution in a terminal. The script, named `publish.py`, imports `paho.mqtt.client`, `time`, and `random`. It defines a function `on_publish` that prints "Publish the data". The script then creates a `paho.Client`, connects to `broker.mqttdashboard.com` on port 1883, and enters a `while True` loop. Inside the loop, it generates a random integer between 1 and 30, publishes it to the topic `iottopic` with a QoS of 1, prints the value, and sleeps for 10 seconds.

```
#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 terminal output shows the Python version (3.6.5), the timestamp (Mar 28 2018, 17:00:18), and the platform (win32). It then displays the output of the script: "Publish the data" followed by the values 7, 19, 10, and 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 in a text editor and its execution in a terminal. The script, named `subscribe.py`, imports `paho.mqtt.client`. It defines two functions: `on_subscribe`, which prints the subscription status, and `on_message`, which prints the received message. The script then creates a `paho.Client`, connects to `broker.mqttdashboard.com` on port 1883, subscribes to the topic `iottopic` with a QoS of 1, and starts the `loop_forever`.

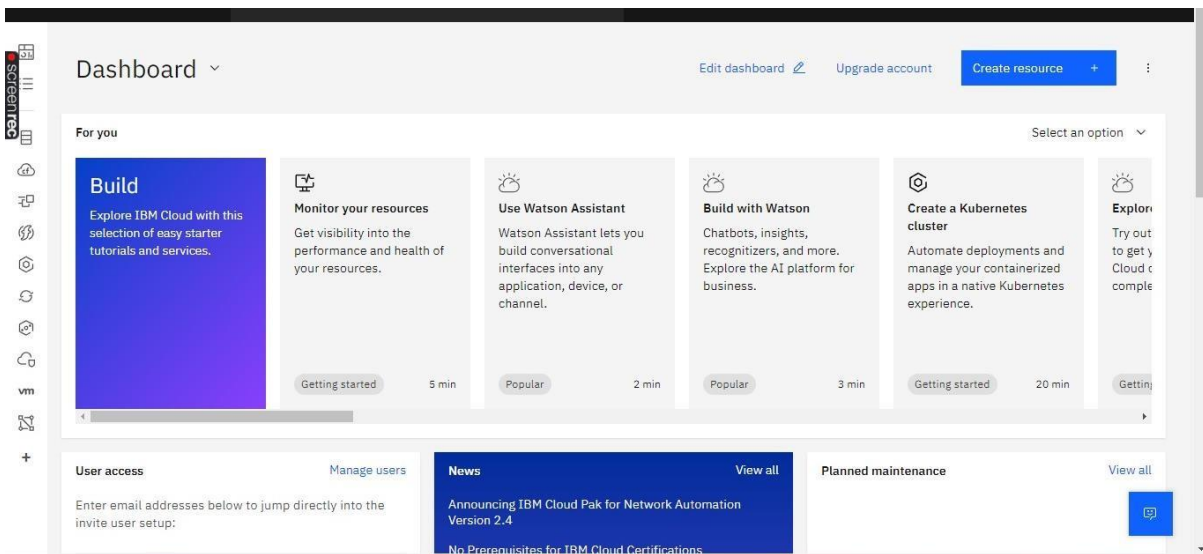
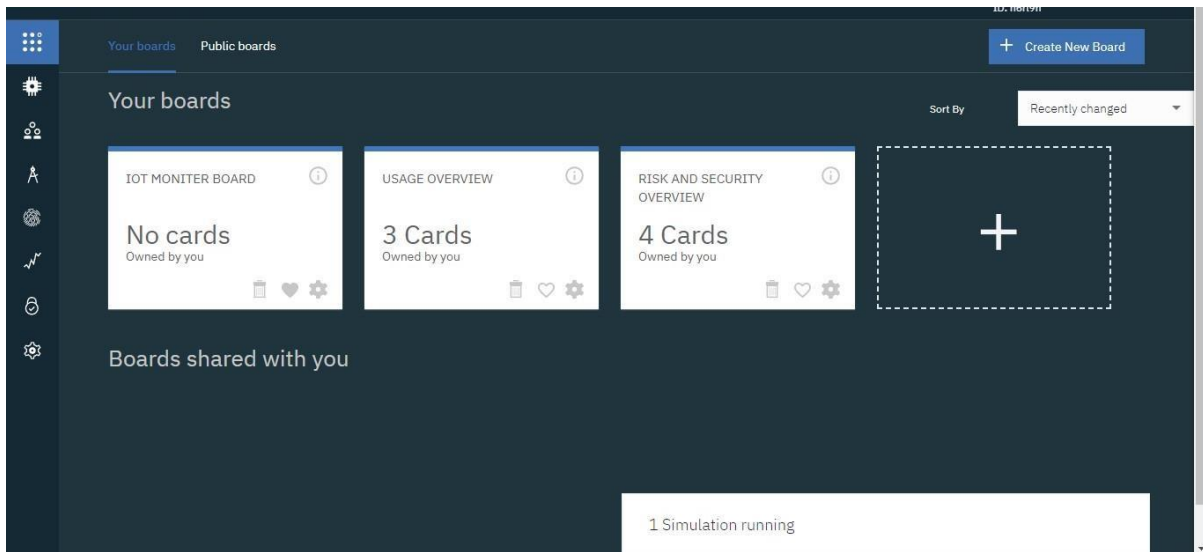
```
import paho.mqtt.client as paho
def on_subscribe(client,userdata,mid,grated_qos):
    print("subscriber:" + str(mid)+str(granted_qos))

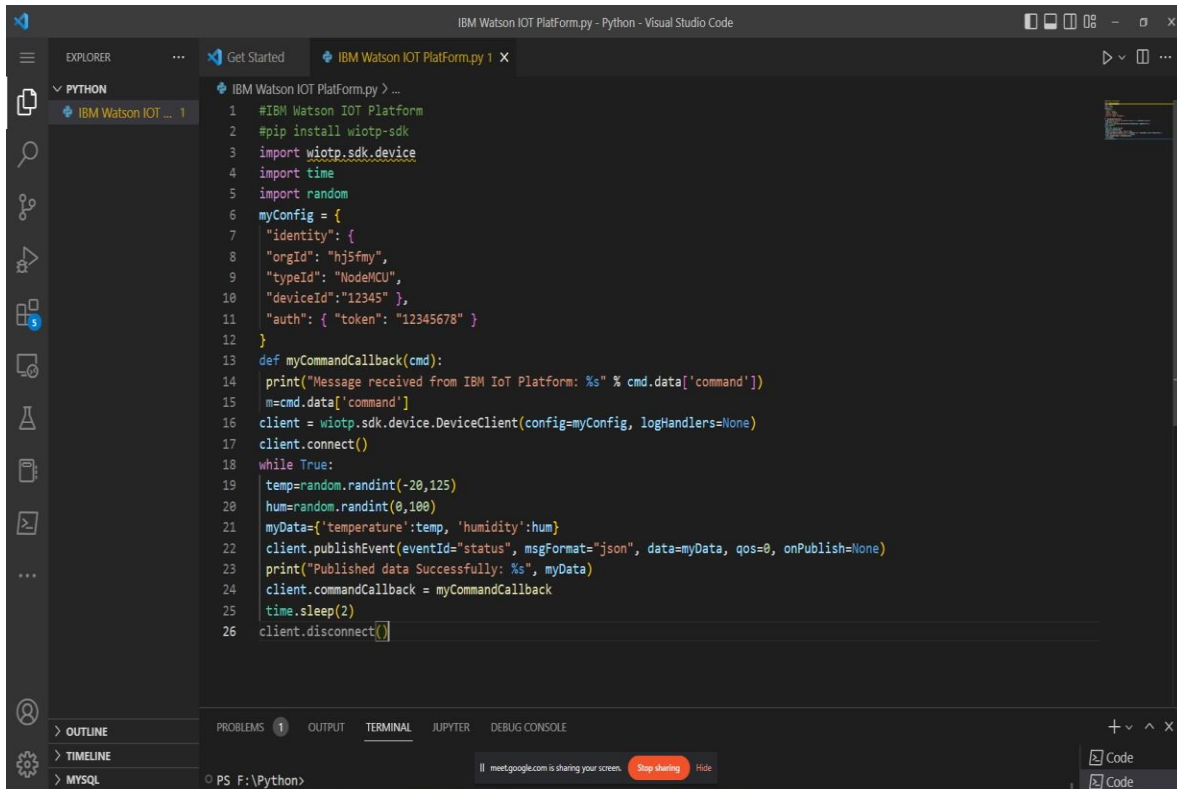
def on_message(client,userdata,msg):
    print(msg.topic + "" + str(msg.qos) + "" + str(msg.payload))

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 terminal output shows the subscription status: "subscriber: 13" and "subscriber: 3". It then displays the received messages: "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", and "Publish the data".

```
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
```





```
1 #IBM Watson IOT Platform
2 #pip install wiotp-sdk
3 import wiotp.sdk.device
4 import time
5 import random
6 myConfig = {
7     "identity": {
8         "orgId": "hj5fmy",
9         "typeId": "NodeMCU",
10        "deviceId": "12345" },
11    "auth": { "token": "12345678" }
12 }
13 def myCommandCallback(cmd):
14     print("Message received from IBM IoT Platform: %s" % cmd.data['command'])
15     m=cmd.data['command']
16     client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
17     client.connect()
18     while True:
19         temp=random.randint(-20,125)
20         hum=random.randint(0,100)
21         myData={'temperature':temp, 'humidity':hum}
22         client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0, onPublish=None)
23         print("Published data Successfully: %s", myData)
24         client.commandCallback = myCommandCallback
25         time.sleep(2)
26     client.disconnect()
```

CODE:

```
#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
```