

Develop the Python Script

(Publish data to IBM cloud)

Date	13 November 2022
Team ID	PNT2022TMID26511
Project Name	Industry-specific intelligent fire management system
Maximum Marks	4 Marks

Industry-specific intelligent fire management system

The screenshot shows a Python script in a text editor and its execution in a Python 3.6.5 Shell. The script is titled 'publish.py' and is located at 'E:\IBM\Others\Develop a python script\publish.py (3.6.5)'. The script's purpose is to publish data to a subscriber. It imports the paho.mqtt.client module as paho, and the time and random modules. It defines a function on_publish(client, userdata, mid) that prints 'Publish the data '. The main code block creates a paho.Client object, sets on_publish as the callback, connects to 'broker.mqttdashboard.com' on port 1883, starts the loop, 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 generated number, and sleeps for 10 seconds. The Python Shell output shows the script being restarted and then printing 'Publish the data' followed by the numbers 7, 19, 10, and 7.

```
#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
File Edit Shell Debug Options Window Help
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 is titled 'subscribe.py' and is located at 'E:\IBM\Others\Develop a python script\subscribe.py (3.6.5)'. The script imports the paho.mqtt.client module as paho. It defines two functions: on_subscribe(client, userdata, mid, granted_qos) which prints 'subscriber:' followed by mid and granted_qos, and on_message(client, userdata, msg) which prints the message topic, qos, and payload. The main code block creates a paho.Client object, sets on_subscribe and on_message as callbacks, connects to 'broker.mqttdashboard.com' on port 1883, subscribes to the topic 'iottopic' with a QoS of 1, and starts the loop_forever. The Python Shell output shows the script being restarted and then printing 'Publish the data' followed by the numbers 13, 3, 25, 19, 2, 7, 9, and 9.

```
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
File Edit Shell Debug Options Window Help
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

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Browse Action Device Types Interfaces

Add Device

Search by Device ID

Device Simulator

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
sona22	Disconnected	sona22devicetype	Device	Nov 12, 2022 4:06 PM	

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	{"Temperature":90,"Humidity":68}	json	a few seconds ago
event_1	{"Temperature":80,"Humidity":49}	json	a few seconds ago
event_1	{"Temperature":29,"Humidity":96}	json	a few seconds ago
event_1	{"Temperature":81,"Humidity":70}	json	a few seconds ago
event_1	{"Temperature":12,"Humidity":10}	json	a few seconds ago

1 Simulation running

IBM Watson IoT Platform

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Collect data from

Buildings

and make value from it

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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()

```