

Develop the Python Script

(Publish data to IBM cloud)

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Team ID	PNT2022TMID53637
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 output in a terminal window. The script, named `publish.py`, is designed to publish data to an MQTT broker. It imports `paho.mqtt.client` as `paho`, `time`, and `random`. It defines a function `on_publish` that prints "Publish the data". The script then creates a `paho.Client` object, sets `on_publish` as the callback, connects to `broker.mqttdashboard.com` on port 1883, and starts the loop. A `while True` loop generates random integers between 1 and 30, publishes them to the `iottopic` with QoS=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 window shows the output of the script, which is "Publish the data" followed by the numbers 7, 19, and 10, each on a new line.

The screenshot shows a Python script in a text editor and its execution output in a terminal window. The script, named `subscribe.py`, is designed to subscribe to an MQTT broker. It imports `paho.mqtt.client` as `paho`. It defines a function `on_subscribe` that prints "subscriber:" followed by the mid and granted_qos. It also defines a function `on_message` that prints the message topic, qos, and payload. The script then creates a `paho.Client` object, sets `on_subscribe` and `on_message` as callbacks, connects to `broker.mqttdashboard.com` on port 1883, subscribes to the `iottopic` with QoS=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 window shows the output of the script, which is "Publish the data" followed by the numbers 13, 3, 25, 19, 2, 7, 9, and 15, each on a new line.

IBM Watson IoT Platform

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Browse Action Device Types Interfaces

Add Device +

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":94,"Humidity":95}	json	a few seconds ago
event_1	{"Temperature":73,"Humidity":43}	json	a few seconds ago
event_1	{"Temperature":72,"Humidity":22}	json	a few seconds ago
event_1	{"Temperature":57,"Humidity":55}	json	a few seconds ago
event_1	{"Temperature":64,"Humidity":53}	json	a few seconds ago

1 Simulation running

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Buildings

Collect data from

and make value from it

Cookie Preferences

Show all

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()

```