

Develop the Python Script

(Publish data to IBM cloud)

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Team ID	PNT2022TMID13566
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, named 'publish.py', imports the paho.mqtt.client module, time, and random. It defines a function 'on_publish' that prints 'Publish the data'. The main code creates a paho.Client, sets the on_publish callback, connects to 'broker.mqttdashboard.com' on port 1883, and enters a loop where it 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.

```
publish.py - E:\IBM\Others\Develop a python script\publish.py (3.6.5)
File Edit Format Run Options Window Help

#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 informati
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, named 'subscribe.py', imports the paho.mqtt.client module. It defines two functions: 'on_subscribe' which prints subscription details, and 'on_message' which prints the received message. The main code creates a paho.Client, sets the on_subscribe and on_message callbacks, connects to 'broker.mqttdashboard.com' on port 1883, subscribes to 'iottopic', and enters a loop to receive messages. The shell output shows the script being restarted and the 'Publish the data' message being received multiple times.

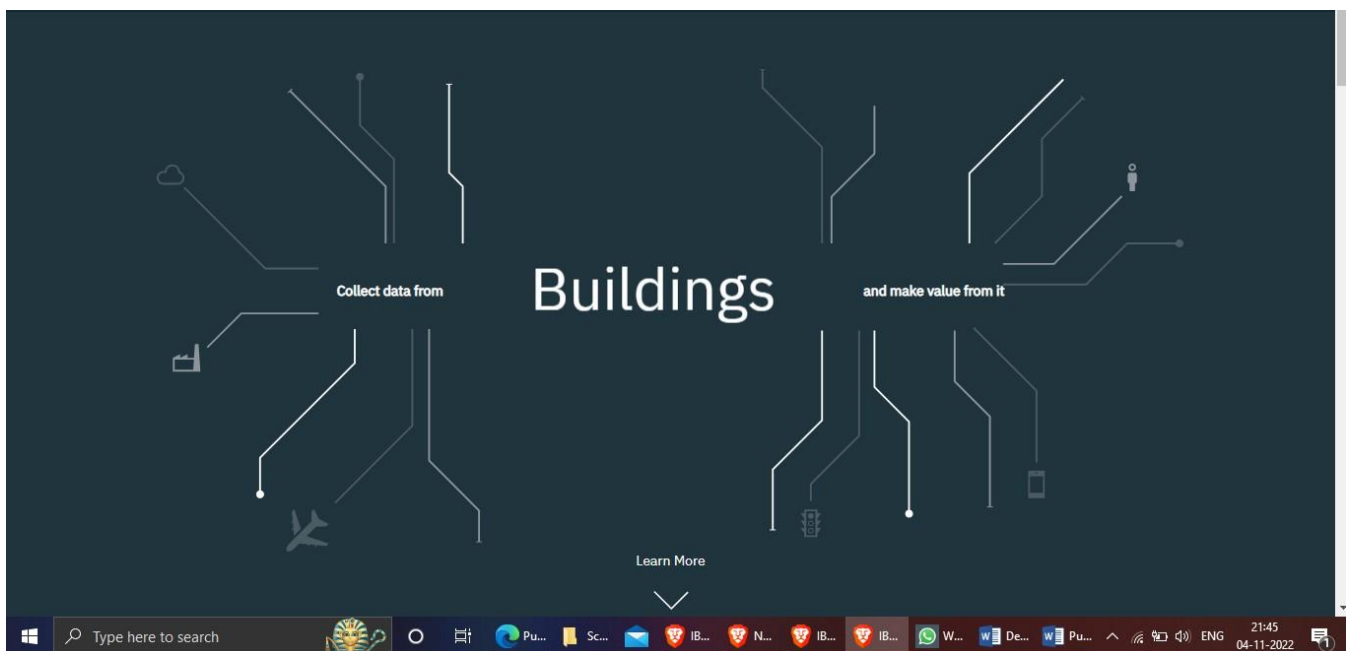
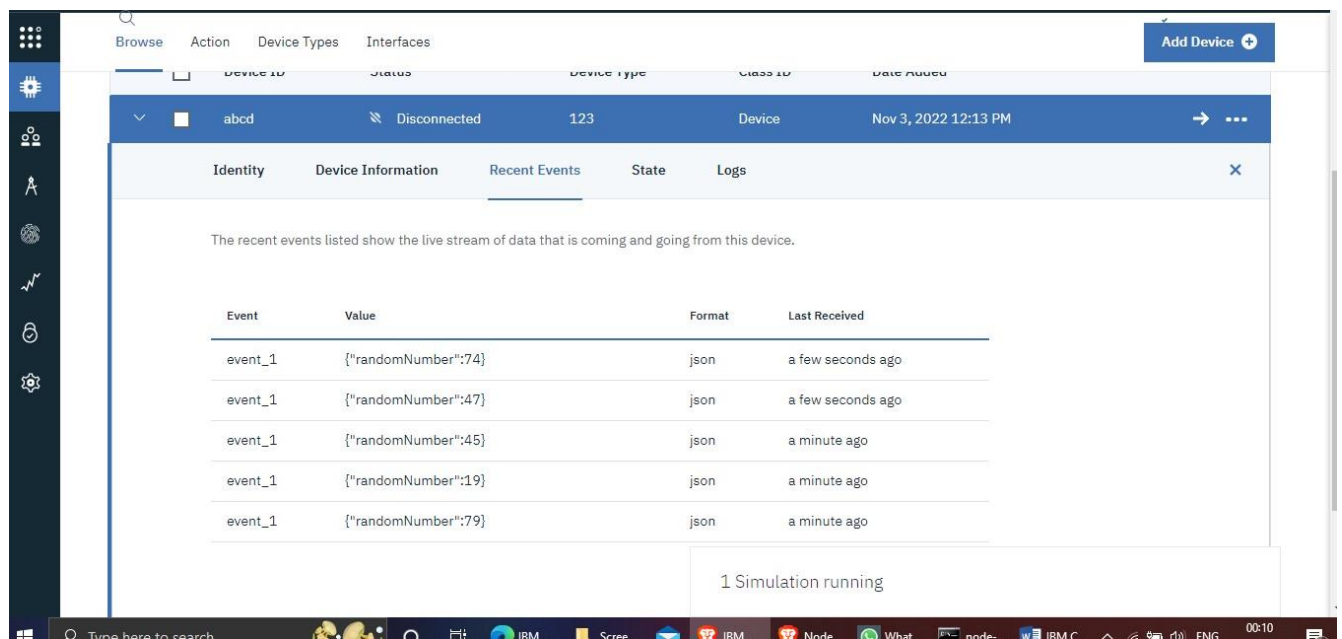
```
subscribe.py - E:\IBM\Others\Develop a python script\subscribe.py (3.6.5)
File Edit Format Run Options Window Help

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



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()

```