

PYTHON SCRIPT TO PUBLISH DATA TO IBM CLOUD

Date	10 November 2022
Team ID	PNT2022TMID42279
Project Name	Project -Smart Waste Management System in Metropolitan Cities.
Maximum Marks	8 Marks

PYTHON CODE:

```
#IBM Watson IOT Platform
```

```
#pip install wiotp-sdk
```

```
import wiotp.sdk.device
```

```
import time
```

```
import random
```

```
myConfig = {
```

```
    "identity": {
```

```
        "orgId": "udgvx5",
```

```
        "typeId": "Python",
```

```
        "deviceId": "Test1"
```

```
    },
```

```
    "auth": {
```

```
        "token": "IBM_TEAM@123"
```

```
    }
```

```
}
```

```
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)

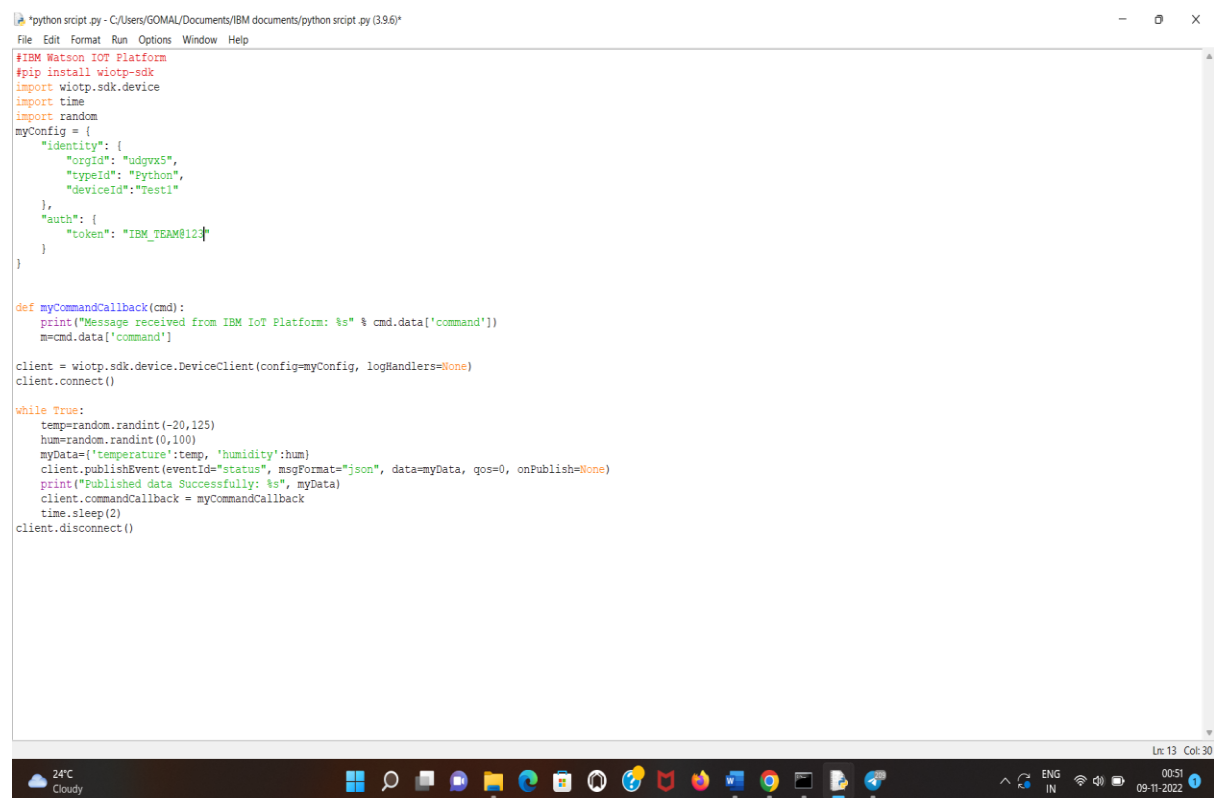
print("Published data Successfully: %s", myData)

client.commandCallback = myCommandCallback

time.sleep(2)

client.disconnect()
```

PYTHON CODE:



```
*python script.py - C:/Users/GOMAL/Documents/IBM documents/python script.py (3.9.6)
File Edit Format Run Options Window Help

#IBM Watson IoT Platform
#pip install wiotp-sdk
import wiotp.sdk.device
import time
import random

myConfig = {
    "identity": {
        "orgId": "udgvx5",
        "typeId": "Python",
        "deviceId": "Test1"
    },
    "auth": {
        "token": "IBM_TEAM8123"
    }
}

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()
```

PYTHON OUTPUT:

```
Python 3.9.6 (tags/v3.9.6:db3ff76, Jun 28 2021, 15:26:21) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Users/GOMAL/Documents/IBM documents/python script .py =====
2022-11-09 00:51:28,095  wiotp.sdk.device.client.DeviceClient INFO Connected successfully: d:udgvx5:Python:Test1
Published data Successfully: %s ('temperature': 26, 'humidity': 43)
Published data Successfully: %s ('temperature': 72, 'humidity': 16)
Published data Successfully: %s ('temperature': 118, 'humidity': 44)
Published data Successfully: %s ('temperature': 93, 'humidity': 99)
Published data Successfully: %s ('temperature': -14, 'humidity': 46)
Published data Successfully: %s ('temperature': 65, 'humidity': 82)
Published data Successfully: %s ('temperature': 13, 'humidity': 3)
Published data Successfully: %s ('temperature': 9, 'humidity': 30)
Published data Successfully: %s ('temperature': 26, 'humidity': 17)
Published data Successfully: %s ('temperature': -7, 'humidity': 72)
Published data Successfully: %s ('temperature': -15, 'humidity': 96)
Published data Successfully: %s ('temperature': 49, 'humidity': 81)
|
```

```
Python 3.9.6 (tags/v3.9.6:db3ff76, Jun 28 2021, 15:26:21) [MSC v.1929 64 bit (AMD64)] on win
32
Type "help", "copyright", "credits" or "license()" for more information.
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===== RESTART: C:/Users/GOMAL/Documents/IBM documents/python script .py =====
2022-11-09 00:51:28,095  wiotp.sdk.device.client.DeviceClient INFO Connected successful
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Published data Successfully: %s ('temperature': 26, 'humidity': 43)
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Published data Successfully: %s ('temperature': -7, 'humidity': 72)
Published data Successfully: %s ('temperature': -15, 'humidity': 96)
Published data Successfully: %s ('temperature': 49, 'humidity': 81)
Published data Successfully: %s ('temperature': 20, 'humidity': 96)
Published data Successfully: %s ('temperature': 3, 'humidity': 33)
Published data Successfully: %s ('temperature': 31, 'humidity': 82)
Published data Successfully: %s ('temperature': 28, 'humidity': 22)
Published data Successfully: %s ('temperature': 75, 'humidity': 55)
Published data Successfully: %s ('temperature': 59, 'humidity': 35)
Published data Successfully: %s ('temperature': 110, 'humidity': 88)
Published data Successfully: %s ('temperature': 14, 'humidity': 84)
Published data Successfully: %s ('temperature': 90, 'humidity': 51)
Published data Successfully: %s ('temperature': 79, 'humidity': 26)
Published data Successfully: %s ('temperature': 96, 'humidity': 1)
Published data Successfully: %s ('temperature': -6, 'humidity': 45)
Published data Successfully: %s ('temperature': 46, 'humidity': 64)
Published data Successfully: %s ('temperature': 34, 'humidity': 30)
Published data Successfully: %s ('temperature': 63, 'humidity': 49)
Published data Successfully: %s ('temperature': 75, 'humidity': 76)
Published data Successfully: %s ('temperature': -8, 'humidity': 71)
Published data Successfully: %s ('temperature': 111, 'humidity': 89)
Published data Successfully: %s ('temperature': 45, 'humidity': 30)
|

python script.py - C:/Users/GOMAL/Documents/IBM documents/python script.py (3.9.6)
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#pip install wiotp-sdk
import wiotp.sdk.device
import time
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myConfig = {
    "orgId": "udgvx5",
    "typeId": "Python",
    "deviceId": "Test1"
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"auth": {
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    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()
```

IBM WATSON OUTPUT:

The screenshot displays the IBM Watson IoT Platform web interface. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A sidebar on the left contains various icons for navigation. The main content area shows a list of devices. The selected device, 'Test1', is shown with a status of 'Connected' and a programming language of 'Python'. Below this, the 'Recent Events' tab is active, displaying a table of live data streams. The table has four columns: 'Event', 'Value', 'Format', and 'Last Received'. It lists five status events with JSON values for temperature and humidity. A notification at the bottom right indicates '0 Simulations running'. The bottom of the image shows a Windows taskbar with the date and time as 09-11-2022, 00:52.

IBM Watson IoT Platform

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Browse Action Device Types Interfaces

Add Device

> [] DHT_22 [] Disconnected esp32 Device Nov 6, 2022 12:44 AM

Test1 [] Connected Python Device Nov 9, 2022 12:47 AM

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
status	{"temperature":75,"humidity":55}	json	a few seconds ago
status	{"temperature":28,"humidity":22}	json	a few seconds ago
status	{"temperature":31,"humidity":82}	json	a few seconds ago
status	{"temperature":3,"humidity":33}	json	a few seconds ago
status	{"temperature":20,"humidity":96}	json	a few seconds ago

0 Simulations running

24°C Cloudy

09-11-2022 00:52