

Develop the Python Script Push Data to the Cloud

Team ID	PNT2022TMID05975
Project Name	Real-Time River Water Quality Monitoring and Control System

Python Code:

```
import
time
import sys
import
ibmiotf.application
import ibmiotf.device
import random

#Provide your IBM Watson Device
Credentials organization = "s2qhvm"
deviceType = "Laptop"
deviceId = "0410"
authMethod = "token"
authToken =
"20011004"

# Initialize GPIO
def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if
        status=="lighton
        ": print ("led is
        on")
    elif
        status=="lightoff".
```

```
    print ("led is off")  
else:  
    print("please send the proper command")
```

```
#print(cmd)
```

```
try:
```

```
    deviceOptions = {"org": organization, "type": deviceType, "id":  
deviceId, "auth-method": authMethod, "auth-token": authToken}  
    deviceCli = ibmiotf.device.Client(deviceOptions)  
    #.....
```

```
except Exception as e:
```

```
    print("Caught exception connecting device: %s" %  
    str(e)) sys.exit()
```

```
# Connect and send a datapoint "hello" with value "world" into the  
cloud as an event of type "greeting" 10 times  
deviceCli.connect()
```

```
while True:
```

```
    #Get Sensor Data from DHT11
```

```
    PH=random.randint(90,110)
```

```
    Turbidity=random.randint(60,100)
```

```
    data = { 'PH' : PH, 'Turbidity':
```

```
Turbidity } #print data
```

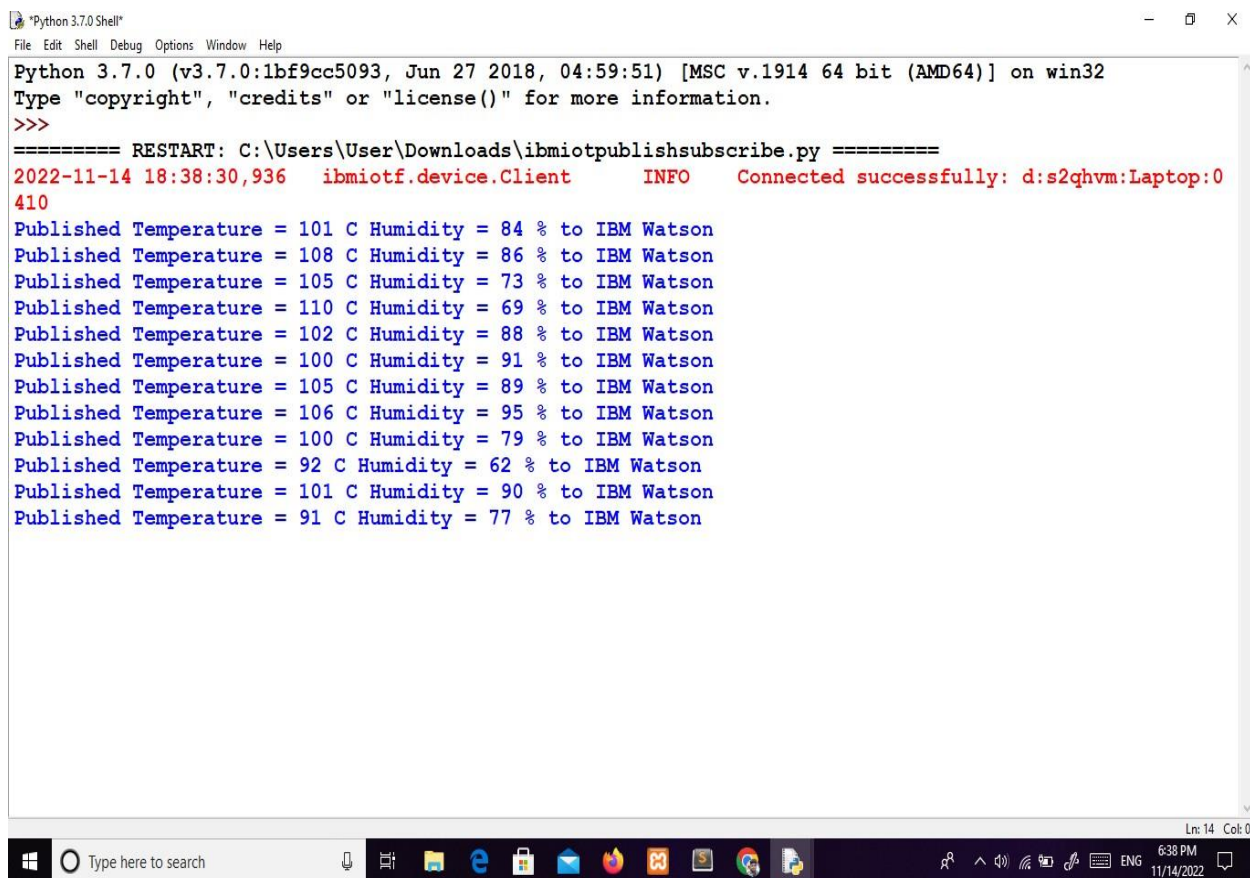
```
    def myOnPublishCallback():
```

```
        print ("Published PH value = %s C" % PH, "Turbidity= %s %%"  
% Turbidity, "to IBM Watson")
```

```
        success = deviceCli.publishEvent("IoTSensor", "json", data,  
qos=0, on_publish=myOnPublishCallback)
```

if not success:

```
    print("Not connected to  
    IoT") time.sleep(1  
    deviceCli.commandCallback =  
myCommandCallback # Disconnect the device and  
application from the cloud deviceCli.disconnect()
```



```
Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:59:51) [MSC v.1914 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\User\Downloads\ibmiotpublishsubscribe.py =====
2022-11-14 18:38:30,936 ibmiotf.device.Client INFO Connected successfully: d:s2qhv:Laptop:0
410
Published Temperature = 101 C Humidity = 84 % to IBM Watson
Published Temperature = 108 C Humidity = 86 % to IBM Watson
Published Temperature = 105 C Humidity = 73 % to IBM Watson
Published Temperature = 110 C Humidity = 69 % to IBM Watson
Published Temperature = 102 C Humidity = 88 % to IBM Watson
Published Temperature = 100 C Humidity = 91 % to IBM Watson
Published Temperature = 105 C Humidity = 89 % to IBM Watson
Published Temperature = 106 C Humidity = 95 % to IBM Watson
Published Temperature = 100 C Humidity = 79 % to IBM Watson
Published Temperature = 92 C Humidity = 62 % to IBM Watson
Published Temperature = 101 C Humidity = 90 % to IBM Watson
Published Temperature = 91 C Humidity = 77 % to IBM Watson
```

Watson IoT Platform

Browse Action

Add Device

Identity DeO<enforananon Recent Events State Logs

Device	Value	State	Time
IoT Sensor	["temp":100,"Humid":80]	jzon	a few seconds ago
IoT Sensor	["temp":103,"Humid":95]	j5cn	a few seconds ago
IoT Sensor	["temp":95,"Humid":77]	j-cn	"e...": seconds ago
IoT Sensor	["temp":91,"Humid":77]	j cn	a few seconds ago

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IBM Watson IoT Platform

Browse Action Device Types Interfaces

Add Device

The recent events listed show the live stream of data that is coming and going

Device	Value
IoT Sensor	["temp":102,"Humid":91]
IoT Sensor	["temp":90,"Humid":78]
IoT Sensor	["temp":209,"Humid":78]
IoT Sensor	["temp":208,"Humid":71]
IoT Sensor	["temp":90,"Humid":66]

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:s2qhvml:Laptop:0410

Published Temperature = 96 C Humidity = 65 % to IBM Watson
 Published Temperature = 94 C Humidity = 84 % to IBM Watson
 Published Temperature = 106 C Humidity = 77 % to IBM Watson
 Published Temperature = 90 C Humidity = 64 % to IBM Watson
 Published Temperature = 108 C Humidity = 97 % to IBM Watson
 Published Temperature = 99 C Humidity = 74 % to IBM Watson
 Published Temperature = 102 C Humidity = 93 % to IBM Watson
 Published Temperature = 90 C Humidity = 66 % to IBM Watson
 Published Temperature = 106 C Humidity = 71 % to IBM Watson
 Published Temperature = 109 C Humidity = 87 % to IBM Watson
 Published Temperature = 90 C Humidity = 78 % to IBM Watson
 Published Temperature = 102 C Humidity = 91 % to IBM Watson
 Published Temperature = 95 C Humidity = 91 % to IBM Watson