

Sprint 1 Python Code

TEAM ID	PNT2022TMID12914
PROJECT NAME	Smart Farmer - IoT enabled Smart Farming Application

Program Coding:

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

```
#IBM
organization = "jztdcw"
deviceType = "NodeMCU"
deviceId = " node-mcu-4321 "
authMethod = "use-token-auth"
authToken = "987654321"
```

```
#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 proper command")
```

```
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()
```

```
#CONNECCT
deviceCli.connect()
```

```
while True:
    temp=random.randint(0,100)
    hum=random.randint(0,100)
```

```
data={'temp':temp,'hum':hum}
```

```
def myOnPublishCallback():
```

```
    print("Published Temperature = %s C"%temp,"Humidity = %s %%" %hum, "to IBM  
    Watson")
```

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

```
    on_publish=myOnPublishCallback)
```

```
    if not success:
```

```
        print("Not connected to IoTF")
```

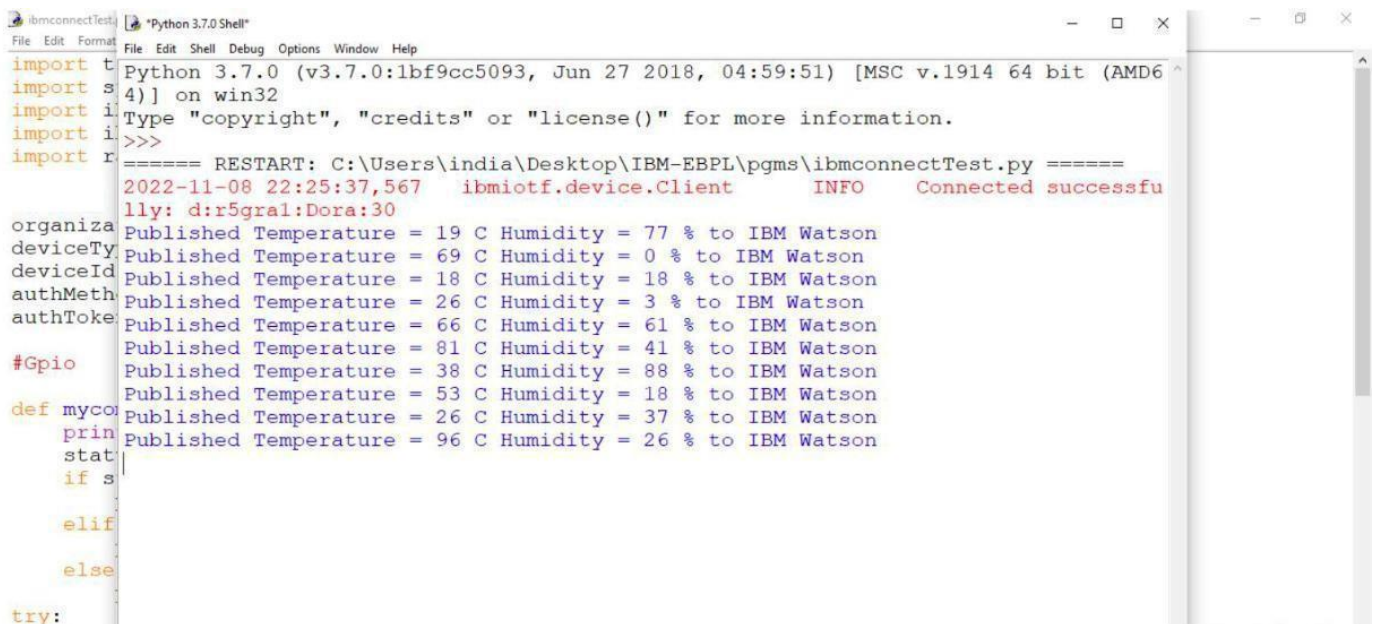
```
    time.sleep(10)
```

```
deviceCli.commandCallback = mycommandCallback
```

```
#Disconnect
```

```
deviceCli.disconnect()
```

Screenshots:



```
ibmconnectTest 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\india\Desktop\IBM-EBPL\pgms\ibmconnectTest.py =====
2022-11-08 22:25:37,567 ibmiotf.device.Client INFO Connected successfully: d:r5gral:Dora:30
Published Temperature = 19 C Humidity = 77 % to IBM Watson
Published Temperature = 69 C Humidity = 0 % to IBM Watson
Published Temperature = 18 C Humidity = 18 % to IBM Watson
Published Temperature = 26 C Humidity = 3 % to IBM Watson
Published Temperature = 66 C Humidity = 61 % to IBM Watson
Published Temperature = 81 C Humidity = 41 % to IBM Watson
Published Temperature = 38 C Humidity = 88 % to IBM Watson
Published Temperature = 53 C Humidity = 18 % to IBM Watson
Published Temperature = 26 C Humidity = 37 % to IBM Watson
Published Temperature = 96 C Humidity = 26 % to IBM Watson
def myco
    prin
    stat
    if s
    elif
    else
try:
```

	Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
▼	node-mcu-4321	Disconnected	NodeMCU	Device	Nov 10, 2022 10:27 PM	→ ...

Identity	Device Information	Recent Events	State	Logs
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The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
event2	{"Alert!! Alert!! Distance":65.03}	json	a few seconds ago
event2	{"Alert!! Alert!! Distance":64.96}	json	a few seconds ago
event2	{"Alert!! Alert!! Distance":64.96}	json	a few seconds ago
event2	{"Alert!! Alert!! Distance":64.96}	json	a few seconds ago
event2	{"Alert!! Alert!! Distance":64.96}	json	a few seconds ago