# Smart Farmer - IOT Enabled Smart Farming Application

## DEVELOP A PYTHON SCRIPT TO PUBLISH AND SUBSCRIBE TO IBM IOT PLATFORM

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|---|---|
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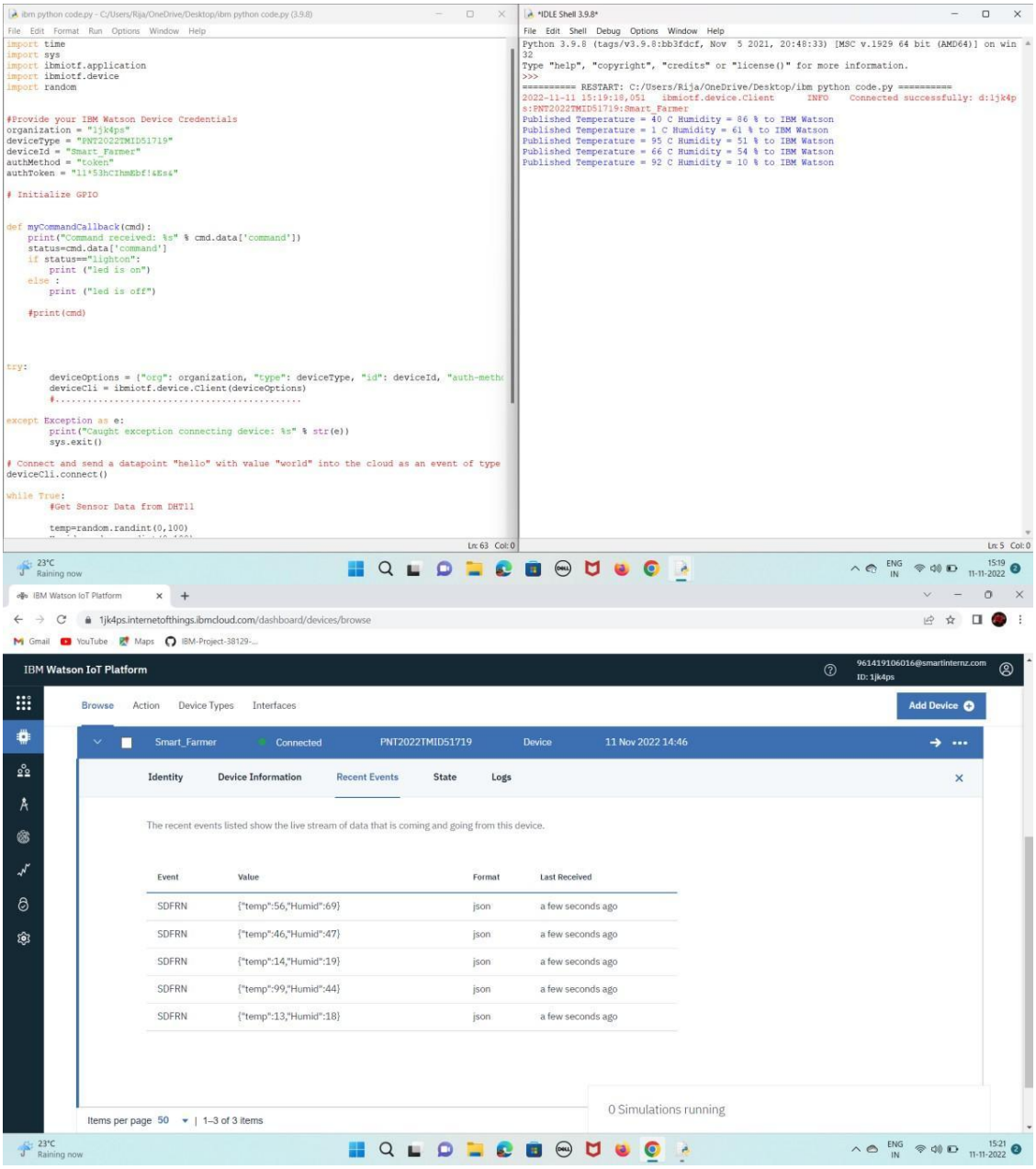
**CODE:**

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


#Provide your IBM Watson Device Credentials
organization = "1jk4ps"
deviceType = "PNT2022TMID12161"
deviceId = "Smart_Farmer"
authMethod = "token"
```

```
authToken = "l1*53hClhmEbf!&Es&"

# Initialize GPIO


def myCommandCallback(cmd):
   print("Command received: %s" % cmd.data['command'])
   status=cmd.data['command']
   if status=="lighton":
      print ("led is on")
   else :
      print ("led is

   off") #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

        temp=random.randint(0,100)
        Humid=random.randint(0,100
        )

        data = { 'temp' : temp, 'Humid': Humid }
        #print data
        def myOnPublishCallback():
            print ("Published Temperature = %s C" % temp, "Humidity = %s %%" %
Humid, "to IBM Watson")

        success = deviceCli.publishEvent("SDFRN", "json", data, qos=0,
on_publish=myOnPublishCallback)
        if not success:
            print("Not connected to IoTF")
        time.sleep(1)

        deviceCli.commandCallback = myCommandCallback

# Disconnect the device and application from the cloud
deviceCli.disconnect()
```

OUTPUT:


ibm python code.py - C:/Users/Rija/OneDrive/Desktop/ibm python code.py (3.9.8)
File Edit Format Run Options Window Help
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random
#Provide your IBM Watson Device Credentials
organization = "1jk4ps"
deviceType = "PNT2022TMID51719"
deviceId = "Smart_Farmer"
authMethod = "token"
authToken = "ll*53hCIhmKbf!&Es&"
# Initialize GPIO
def myCommandCallback(cmd):
print("Command received: %s" % cmd.data['command'])
status=cmd.data['command']
if status="lighton":
print ("led is on")
else :
print ("led is off")
#print(cmd)
try:
deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-meth
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
deviceCli.connect()
while True:
#Get Sensor Data from DHT11
temp=random.randint(0,100)
Ln: 63 Col: 0
*IDLE Shell 3.9.8*
File Edit Shell Debug Options Window Help
Python 3.9.8 (tags/v3.9.8:bb3fdcf, Nov 5 2021, 20:48:33) [MSC v.1929 64 bit (AMD64)] on win
32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: C:/Users/Rija/OneDrive/Desktop/ibm python code.py ==========
2022-11-11 15:19:18,051 ibmiotf.device.Client INFO Connected successfully: d:1jk4p
s:PNT2022TMID51719:Smart_Farmer
Published Temperature = 40 C Humidity = 86 % to IBM Watson
Published Temperature = 1 C Humidity = 61 % to IBM Watson
Published Temperature = 95 C Humidity = 51 % to IBM Watson
Published Temperature = 66 C Humidity = 54 % to IBM Watson
Published Temperature = 92 C Humidity = 10 % to IBM Watson
Ln: 5 Col: 0
23°C
Raining now
ENG
IN
15:19
11-11-2022
IBM Watson IoT Platform
1jk4ps.internetofthings.ibmcloud.com/dashboard/devices/browse
Gmail
YouTube
Maps
IBM-Project-38129-...
IBM Watson IoT Platform
961419106016@smartinternz.com
ID: 1jk4ps
Browse
Action
Device Types
Interfaces
Add Device
Smart_Farmer
Connected
PNT2022TMID51719
Device
11 Nov 2022 14:46
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
SDFRN
{"temp":56,"Humid":69}
json
a few seconds ago
SDFRN
{"temp":46,"Humid":47}
json
a few seconds ago
SDFRN
{"temp":14,"Humid":19}
json
a few seconds ago
SDFRN
{"temp":99,"Humid":44}
json
a few seconds ago
SDFRN
{"temp":13,"Humid":18}
json
a few seconds ago
Items per page 50
1–3 of 3 items
0 Simulations running
23°C
Raining now
ENG
IN
15:21
11-11-2022