Sprint 4

Date	15 November 2022
Team ID	PNT2022TMID31297
Project	Smart Farmer-IOT enabled smart farming application
Marks	Maximum 4 Marks

Receiving commands from IBM cloud using Python program

```
import time
import sys

import ibmiotf.application

import ibmiotf.device

import random

#Provide your IBM Watson Device

organization = "1xl08d"

deviceType = "abcd"

deviceId = "12"

authMethod = "token"

authToken = "12345678"


# 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 proper command”)

#print(cmd)

try:
deviceOptions = {"org": organization, "type": deviceType, "id": deviceId,
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
of type "greeting" 10 times deviceCli.connect()
while True:
#Get Sensor Data from DHT11
temp=random.randint(90,110)
Humid=random.randint(60,100)
Mois=random.randint(20,100)
data = { 'temp' : temp, 'Humid': Humid ,’Mois’:Mois}
#print data
def myOnPublishCallback():
print ("Published Temperature = %s C" % temp, "Humidity = %s %%" % Humid,
", Moisture = %s deg c" % Mois, to IBM Watson")
success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0,
```

on_publish=myOnPublishCallback)

if not success:

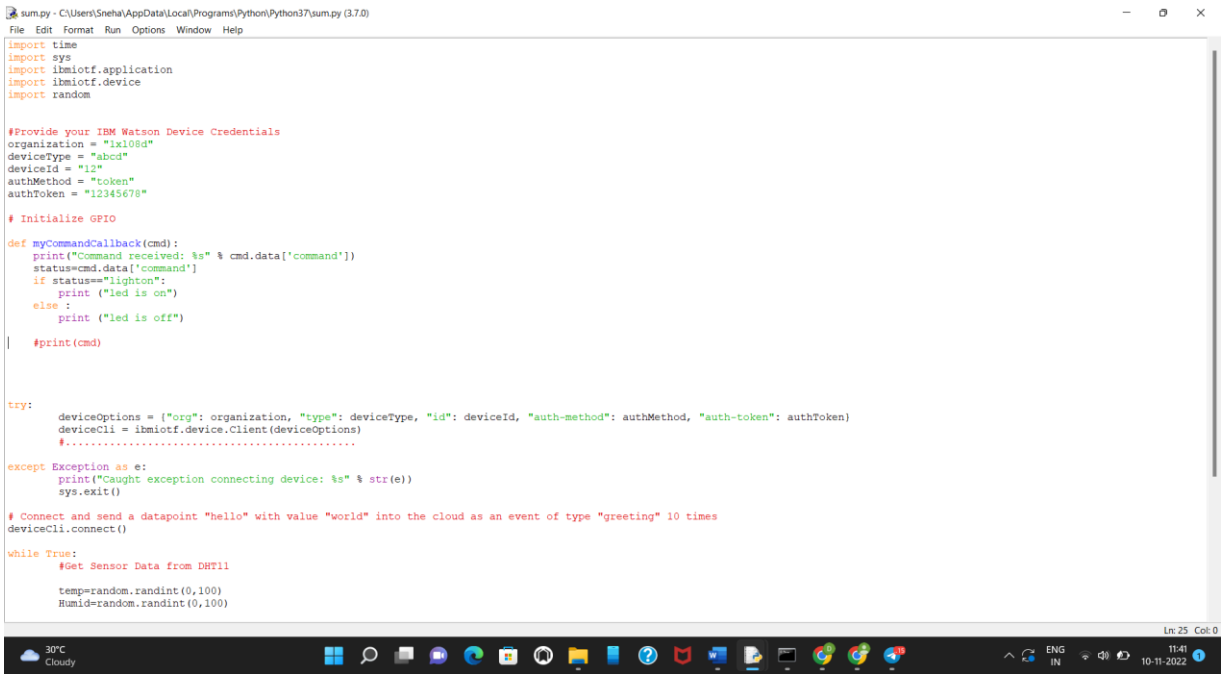
print("Not connected to IoTF")

time.sleep(1)

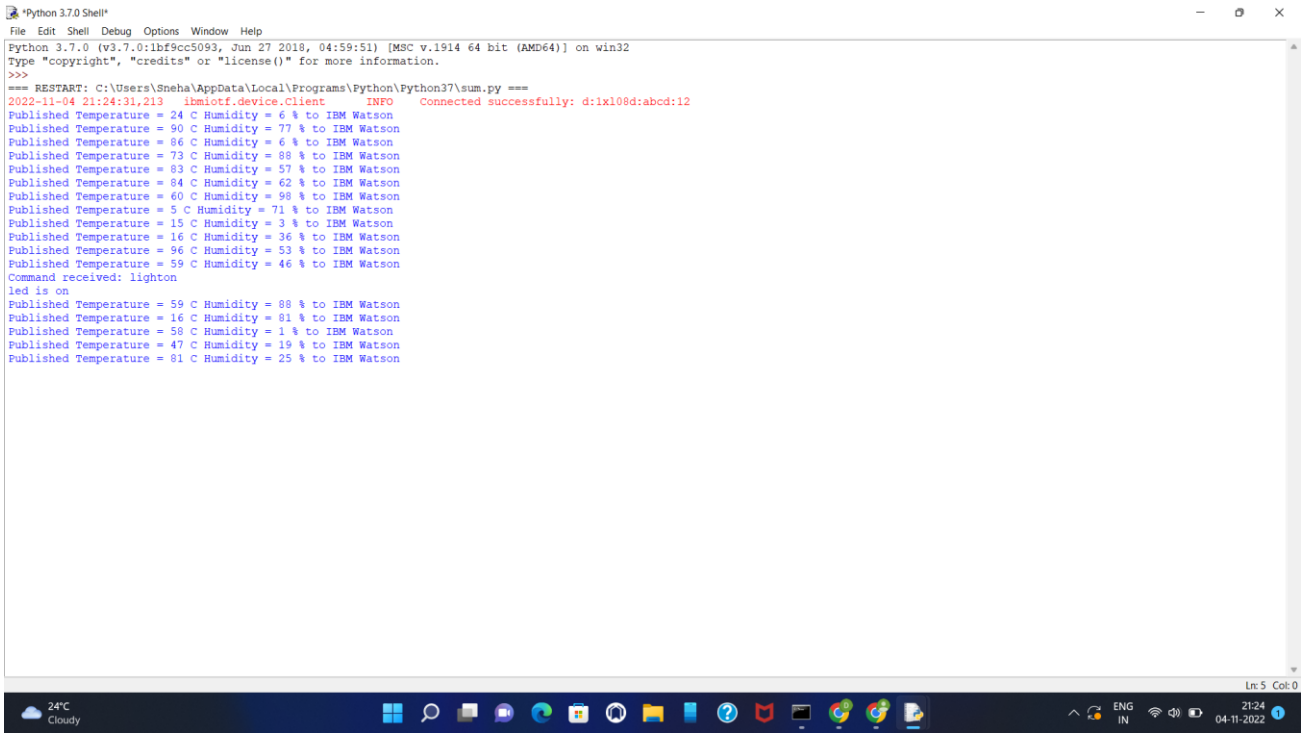
deviceCli.commandCallback = myCommandCallback

 # Disconnect the device and application from the

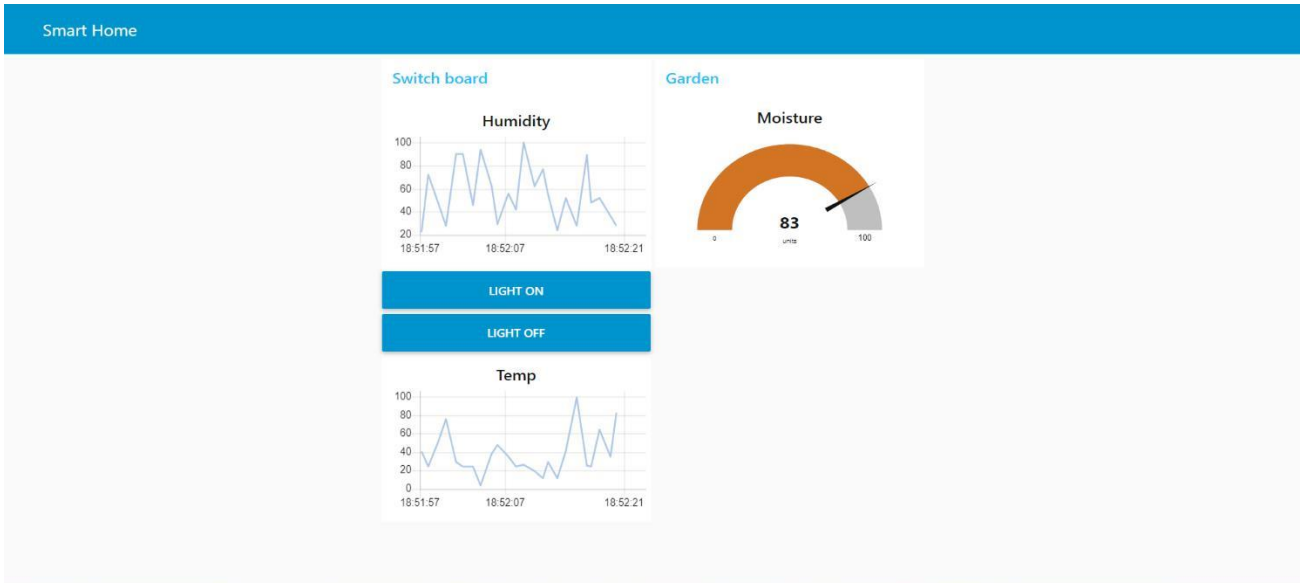
deviceCli.disconnect()



Output


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\Sneha\AppData\Local\Programs\Python\Python37\sum.py ===
2022-11-04 21:24:31,213 ibmiotf.device.Client INFO Connected successfully: d:1xl08d:abcd:12
Published Temperature = 24 C Humidity = 6 % to IBM Watson
Published Temperature = 90 C Humidity = 77 % to IBM Watson
Published Temperature = 86 C Humidity = 6 % to IBM Watson
Published Temperature = 73 C Humidity = 88 % to IBM Watson
Published Temperature = 83 C Humidity = 57 % to IBM Watson
Published Temperature = 84 C Humidity = 62 % to IBM Watson
Published Temperature = 60 C Humidity = 98 % to IBM Watson
Published Temperature = 5 C Humidity = 71 % to IBM Watson
Published Temperature = 15 C Humidity = 3 % to IBM Watson
Published Temperature = 16 C Humidity = 36 % to IBM Watson
Published Temperature = 96 C Humidity = 53 % to IBM Watson
Published Temperature = 59 C Humidity = 46 % to IBM Watson
Command received: lighton
led is on
Published Temperature = 59 C Humidity = 88 % to IBM Watson
Published Temperature = 16 C Humidity = 81 % to IBM Watson
Published Temperature = 58 C Humidity = 1 % to IBM Watson
Published Temperature = 47 C Humidity = 19 % to IBM Watson
Published Temperature = 81 C Humidity = 25 % to IBM Watson
Ln: 5 Col: 0
24°C
Cloudy
ENG
IN
21:24
04-11-2022

Web APP UI


Smart Home
Switch board
Humidity
100
80
60
40
20
18:51:57
18:52:07
18:52:21
LIGHT ON
LIGHT OFF
Temp
100
80
60
40
20
0
18:51:57
18:52:07
18:52:21
Garden
Moisture
83
0
100

Mobile APP UI: