Sprint 2

Date	31 October 2022
Team ID	PNT2022TMID32051
Project Name	Project - IoT Based Smart Crop Protection System for Agriculture

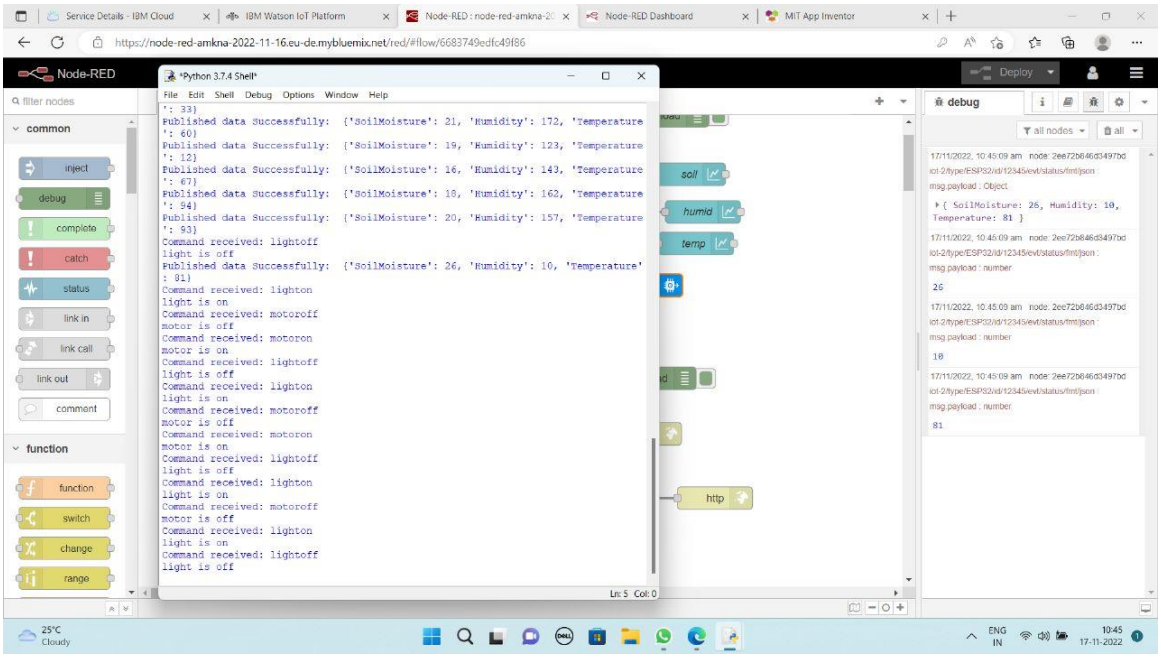
PROGRAM:

```
import json
import wiotp.sdk.device
import time
import random
import ibmiotf.application
import ibmiotf.device

myConfig = {
    "identity": {
        "orgId": "gtlwge,
        "typeId": "NodeMCU"",
        "deviceId":"12345"
    },
    "auth": {
        "token": "12345678"
    }
}
def myCommandCallback(cmd):
    print("Command received: %s" %
cmd.data['command'])
    status=cmd.data['command']
    if status=="lighton":
        print ("light is on")
    elif status == "lightoff":
        print ("light is off")
```

```
    elif status == "motoron":
        print ("motor is on")
    elif status == "motoroff":
        print ("motor is off")
    else :
        print ("please send proper command")

client =
wiotp.sdk.device.DeviceClient(config=myConfig,
logHandlers=None)
client.connect()

while True:
    soil=random.randint(0,30)
    humid=random.randint(0,200)
    temp=random.randint(1,100)
    pir=random.randint(0,1)

myData={'SoilMoisture':soil,'Humidity':humid,'Te
mperature':temp,'PIRmotion':pir}
    client.publishEvent(eventId="status",
msgFormat="json", data=myData, qos=0,
onPublish=None)
    print("Published data Successfully: ",
myData)
    time.sleep(20)

    client.commandCallback = myCommandCallback

client.disconnect()
```

Output:


Python 3.7.9 Shell
File Edit Shell Debug Options Window Help
Python 3.7.9 (tags/v3.7.9:13c94747c7, Aug 17 2020, 18:58:18) [MSC v.1900 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
=== RESTART: C:\Users\rthan\AppData\Local\Programs\Python\Python37\bhavya.py ===
2022-11-18 15:43:24,560 wiotp.sdk.device.client.DeviceClient INFO Connected successfully: d:vwcvi9:ESP32:12345
Published data Successfully: {'SoilMoisture': 12, 'Humidity': 5, 'Temperature': 24, 'PIRmotion': 1}
Published data Successfully: {'SoilMoisture': 9, 'Humidity': 134, 'Temperature': 51, 'PIRmotion': 0}
Published data Successfully: {'SoilMoisture': 15, 'Humidity': 75, 'Temperature': 72, 'PIRmotion': 1}
Published data Successfully: {'SoilMoisture': 21, 'Humidity': 85, 'Temperature': 18, 'PIRmotion': 0}
Published data Successfully: {'SoilMoisture': 9, 'Humidity': 67, 'Temperature': 33, 'PIRmotion': 1}
Published data Successfully: {'SoilMoisture': 6, 'Humidity': 144, 'Temperature': 58, 'PIRmotion': 1}
Published data Successfully: {'SoilMoisture': 18, 'Humidity': 85, 'Temperature': 48, 'PIRmotion': 0}
Published data Successfully: {'SoilMoisture': 21, 'Humidity': 87, 'Temperature': 9, 'PIRmotion': 1}
Published data Successfully: {'SoilMoisture': 26, 'Humidity': 171, 'Temperature': 65, 'PIRmotion': 1}
Published data Successfully: {'SoilMoisture': 3, 'Humidity': 99, 'Temperature': 57, 'PIRmotion': 1}
Published data Successfully: {'SoilMoisture': 11, 'Humidity': 70, 'Temperature': 47, 'PIRmotion': 1}
Published data Successfully: {'SoilMoisture': 27, 'Humidity': 192, 'Temperature': 36, 'PIRmotion': 1}
Published data Successfully: {'SoilMoisture': 6, 'Humidity': 199, 'Temperature': 56, 'PIRmotion': 1}
Published data Successfully: {'SoilMoisture': 22, 'Humidity': 79, 'Temperature': 73, 'PIRmotion': 1}
Published data Successfully: {'SoilMoisture': 8, 'Humidity': 142, 'Temperature': 36, 'PIRmotion': 1}
Published data Successfully: {'SoilMoisture': 6, 'Humidity': 167, 'Temperature': 71, 'PIRmotion': 1}
Published data Successfully: {'SoilMoisture': 19, 'Humidity': 61, 'Temperature': 89, 'PIRmotion': 1}
Published data Successfully: {'SoilMoisture': 10, 'Humidity': 127, 'Temperature': 42, 'PIRmotion': 1}
Published data Successfully: {'SoilMoisture': 26, 'Humidity': 83, 'Temperature': 19, 'PIRmotion': 1}
Published data Successfully: {'SoilMoisture': 28, 'Humidity': 130, 'Temperature': 27, 'PIRmotion': 0}
Published data Successfully: {'SoilMoisture': 11, 'Humidity': 44, 'Temperature': 13, 'PIRmotion': 1}
Published data Successfully: {'SoilMoisture': 17, 'Humidity': 88, 'Temperature': 6, 'PIRmotion': 0}
Published data Successfully: {'SoilMoisture': 30, 'Humidity': 102, 'Temperature': 73, 'PIRmotion': 1}
Published data Successfully: {'SoilMoisture': 5, 'Humidity': 173, 'Temperature': 70, 'PIRmotion': 0}
Published data Successfully: {'SoilMoisture': 9, 'Humidity': 22, 'Temperature': 71, 'PIRmotion': 0}
Published data Successfully: {'SoilMoisture': 0, 'Humidity': 45, 'Temperature': 56, 'PIRmotion': 0}
Published data Successfully: {'SoilMoisture': 21, 'Humidity': 121, 'Temperature': 20, 'PIRmotion': 0}
Published data Successfully: {'SoilMoisture': 12, 'Humidity': 194, 'Temperature': 89, 'PIRmotion': 1}
Published data Successfully: {'SoilMoisture': 23, 'Humidity': 180, 'Temperature': 11, 'PIRmotion': 0}
Published data Successfully: {'SoilMoisture': 4, 'Humidity': 63, 'Temperature': 45, 'PIRmotion': 0}
Published data Successfully: {'SoilMoisture': 14, 'Humidity': 187, 'Temperature': 58, 'PIRmotion': 1}
Published data Successfully: {'SoilMoisture': 2, 'Humidity': 1, 'Temperature': 38, 'PIRmotion': 1}
Published data Successfully: {'SoilMoisture': 9, 'Humidity': 120, 'Temperature': 58, 'PIRmotion': 0}
Published data Successfully: {'SoilMoisture': 27, 'Humidity': 151, 'Temperature': 24, 'PIRmotion': 1}


Service Details - IBM Cloud
IBM Watson IoT Platform
Node-RED : node-red-amkna-2
Node-RED Dashboard
MIT App Inventor
https://node-red-amkna-2022-11-16.eu-de.mybluemix.net/red/#flow/6683749edfc49f86
Node-RED
Deploy
filter nodes
common
inject
debug
complete
catch
status
link in
link call
link out
comment
function
function
switch
change
range
soil
humid
temp
http
debug
all nodes
Python 3.7.4 Shell
File Edit Shell Debug Options Window Help
Published data Successfully: {'SoilMoisture': 21, 'Humidity': 172, 'Temperature': 60}
Published data Successfully: {'SoilMoisture': 19, 'Humidity': 123, 'Temperature': 12}
Published data Successfully: {'SoilMoisture': 16, 'Humidity': 143, 'Temperature': 67}
Published data Successfully: {'SoilMoisture': 18, 'Humidity': 162, 'Temperature': 94}
Published data Successfully: {'SoilMoisture': 20, 'Humidity': 157, 'Temperature': 93}
Command received: lightoff
light is off
Published data Successfully: {'SoilMoisture': 26, 'Humidity': 10, 'Temperature': 81}
Command received: lighton
light is on
Command received: motoroff
motor is off
Command received: motoron
motor is on
Command received: lightoff
light is off
Command received: lighton
light is on
Command received: motoroff
motor is off
Command received: motoron
motor is on
Command received: lightoff
light is off
Command received: lighton
light is on
Command received: motoroff
motor is off
Command received: lighton
light is on
Command received: lightoff
light is off
Ln: 5 Col: 0
{ SoilMoisture: 26, Humidity: 10, Temperature: 81 }
26
10
81
25°C
Cloudy
ENG
IN
10:45
17-11-2022