Project Development Phase

Sprint-2

Date	05 Nov 2022
Team ID	PNT2022TMID46771
Project Name	Smart farmer-IOT Enabled smart farming application

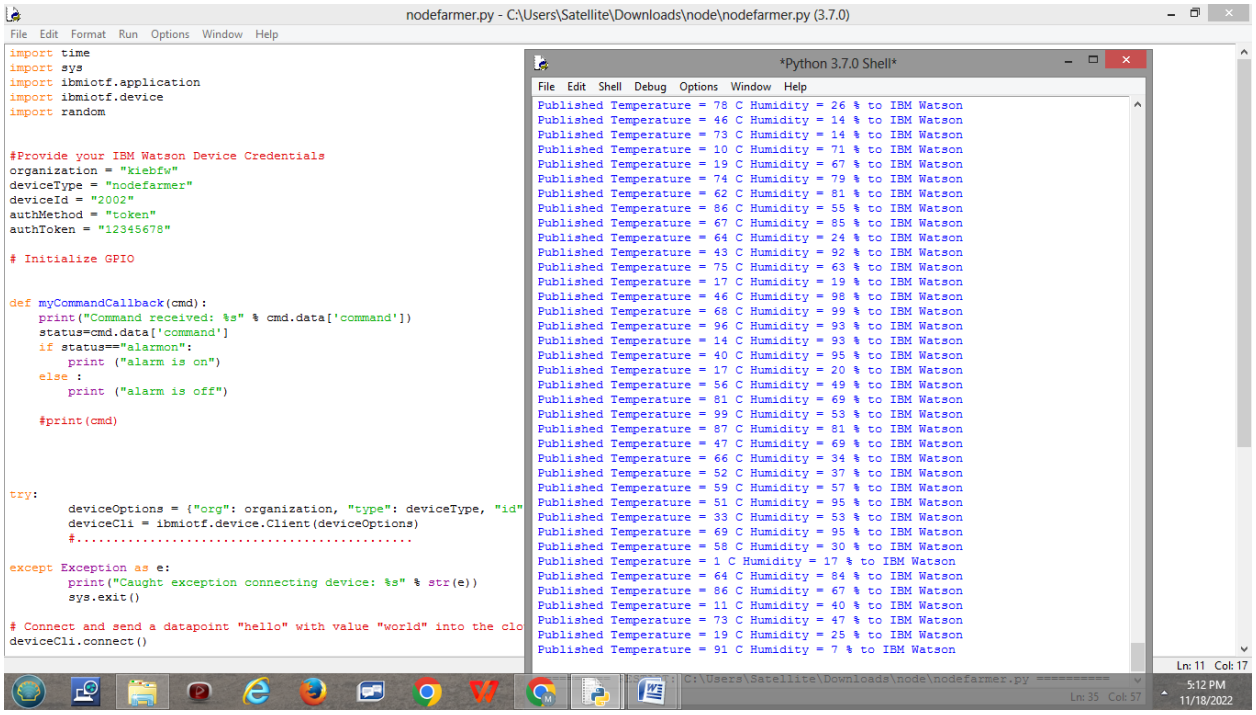
Step-1

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


#Provide your IBM Watson Device Credentials
organization = "kiebfw"
deviceType = "nodefarmer"
deviceId = "2002"
authMethod = "token"
authToken = "12345678"


# Initialize GPIO


def myCommandCallback(cmd):
```

```
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="alarmon":
        print ("alarm is on")
    else :
        print ("alarm 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
```

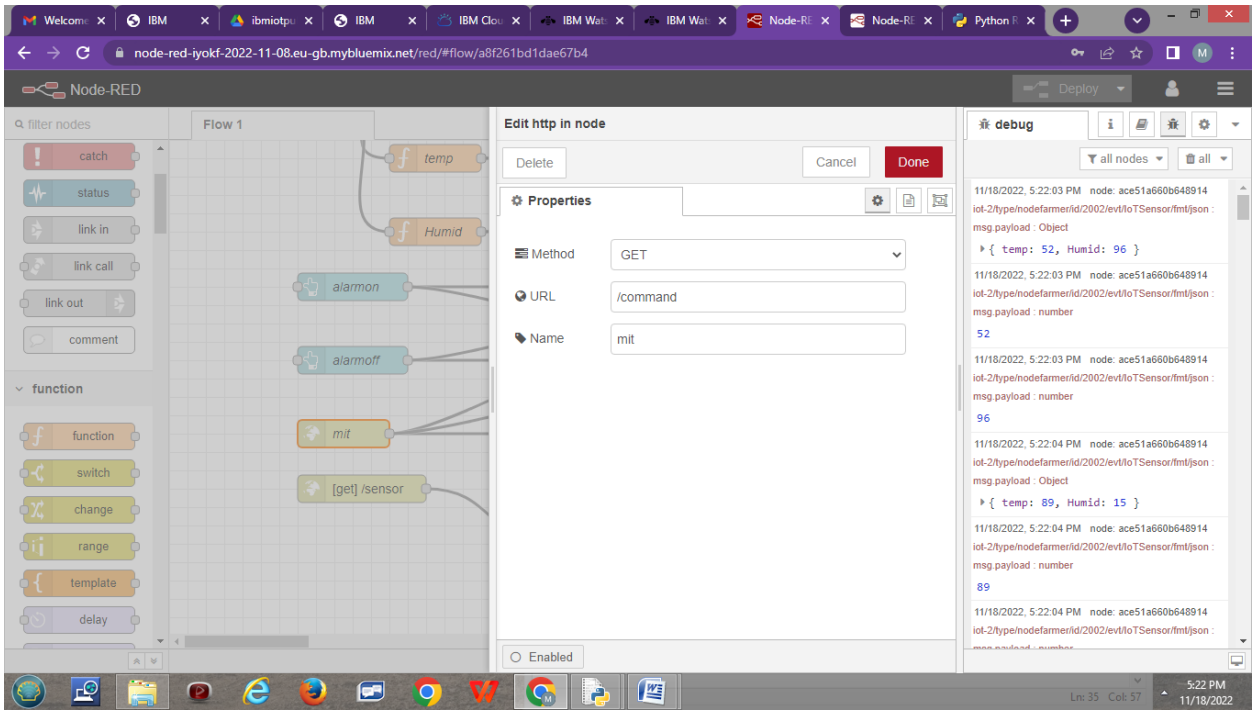
```
        temp=random.randint(0,100)
        Humid=random.randint(0,100)

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

        success = deviceCli.publishEvent("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 cloud
deviceCli.disconnect()
```

OUTPUT:

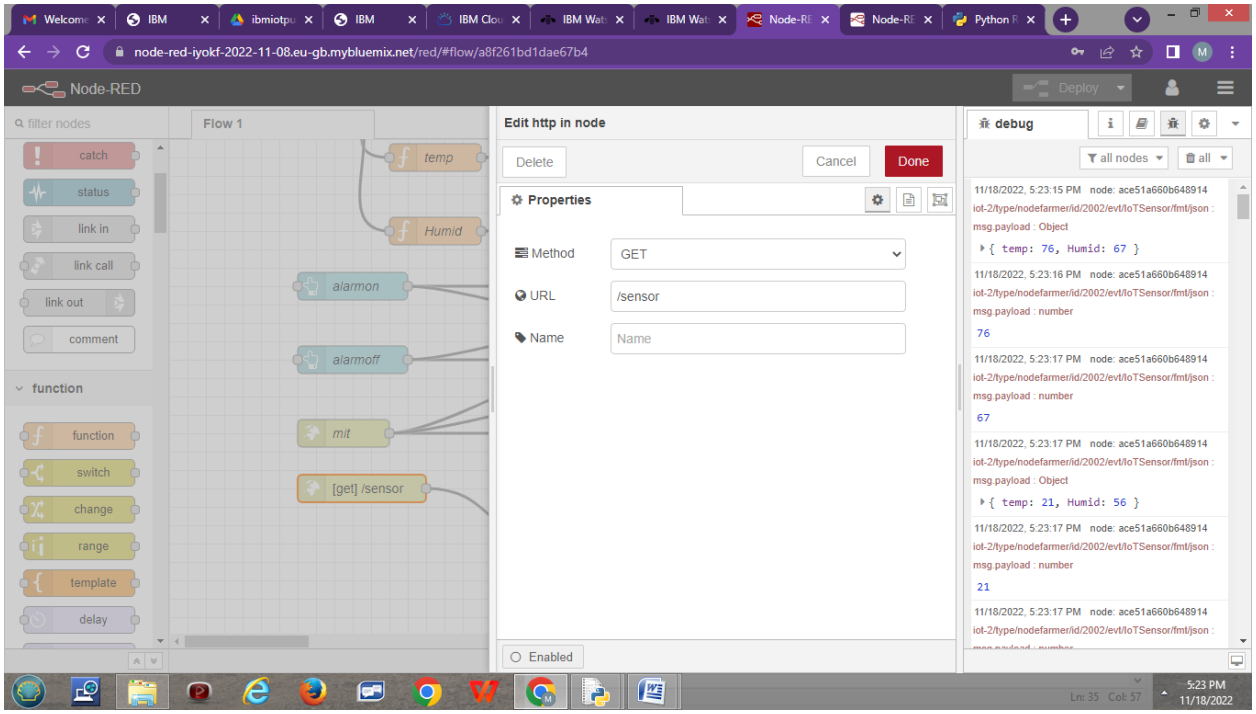


https://node-red-iyokf-2022-11-08.eu-gb.mybluemix.net/red/#flow/a8f261bd1dae67b4

Get /command



Get /sensor


node-red-iyokf-2022-11-08.eu-gb.mybluemix.net/red/#flow/a8f261bd1dae67b4
Node-RED
Deploy
filter nodes
Flow 1
catch
status
link in
link call
link out
comment
function
function
switch
change
range
template
delay
temp
Humid
alarmon
alarmoff
mit
[get] /sensor
Edit http in node
Delete
Cancel
Done
Properties
Method
GET
URL
/sensor
Name
Name
Enabled
debug
all nodes
all
11/18/2022, 5:23:15 PM node: ace51a660b648914
iot-2/type/nodefarmer/id/2002/evt/IoTSensor/fmt/json : msg.payload : Object
{ temp: 76, Humid: 67 }
11/18/2022, 5:23:16 PM node: ace51a660b648914
iot-2/type/nodefarmer/id/2002/evt/IoTSensor/fmt/json : msg.payload : number
76
11/18/2022, 5:23:17 PM node: ace51a660b648914
iot-2/type/nodefarmer/id/2002/evt/IoTSensor/fmt/json : msg.payload : number
67
11/18/2022, 5:23:17 PM node: ace51a660b648914
iot-2/type/nodefarmer/id/2002/evt/IoTSensor/fmt/json : msg.payload : Object
{ temp: 21, Humid: 56 }
11/18/2022, 5:23:17 PM node: ace51a660b648914
iot-2/type/nodefarmer/id/2002/evt/IoTSensor/fmt/json : msg.payload : number
21
11/18/2022, 5:23:17 PM node: ace51a660b648914
iot-2/type/nodefarmer/id/2002/evt/IoTSensor/fmt/json :
Ln: 35 Col: 57
5:23 PM
11/18/2022