Develop A Python Script To Publish And Subscribe To IBM IoT Platform

Date	07 November 2022
Team ID	PNT2022TMID18981
Project Name	Project - SmartFarmer - IoT Enabled Smart Farming Application

Python Code:

```python
#IBM Watson IOT Platform

#pip install wiotp-sdk

import wiotp.sdk.device

import time

import random

import requests

import json

myConfig = {

  "identity": {

    "orgId": "drhkpn",

    "typeId": "Smart-Farmer",

    "deviceId":"9192"

  },

  "auth": {

    "token": "SO_kL5!_*299@q6i4r"

  }

}

def myCommandCallback(cmd):
```

```python
if(cmd.data['cm']=="flon"):

    print("-----Light 1 is ON---- ")


if(cmd.data['cm']=="floff"):

    print("-----Light 1 is OFF---- ")


if(cmd.data['cm']=="mton"):

    print("-----Motor is ON---- ")


if(cmd.data['cm']=="mtoff"):

    print("-----Motor is OFF---- ")


if(cmd.data['cm']=="slon"):

    print("-----Light 2 is ON---- ")


if(cmd.data['cm']=="sloff"):

    print("-----Light 2 is OFF---- ")


if(cmd.data['cm']=="fton"):

    print("-----Trap 1 is ON---- ")


if(cmd.data['cm']=="ftoff"):

    print("-----Trap 1 is OFF---- ")
```

```python
if(cmd.data['cm']=="ston"):

    print("-----Trap 2 is ON---- ")


if(cmd.data['cm']=="stoff"):

    print("-----Trap 2 is OFF---- ")


if(cmd.data['cm']=="tton"):

    print("-----Trap 3 is ON---- ")


if(cmd.data['cm']=="ttoff"):

    print("-----Trap 3 is OFF---- ")


if(cmd.data['cm']=="futon"):

    print("-----Light 4 is ON---- ")


if(cmd.data['cm']=="futoff"):

    print("-----Trap 4 is OFF---- ")


if(cmd.data['cm']=="fvon"):

    print("-----Gate Valve 1 is ON---- ")


if(cmd.data['cm']=="fvoff"):

    print("-----Gate Valve 1 is OFF---- ")


if(cmd.data['cm']=="svon"):
```

```python
        print("-----Gate Valve 2 is ON---- ")


    if(cmd.data['cm']=="svoff"):

        print("-----Gate Valve 2 is OFF---- ")


    if(cmd.data['cm']=="tvon"):

        print("-----Gate Valve 3 is ON---- ")


    if(cmd.data['cm']=="tvoff"):

        print("-----Gate Valve 3 is OFF---- ")


    if(cmd.data['cm']=="fuvon"):

        print("-----Gate Valve 4 is ON---- ")


    if(cmd.data['cm']=="fuvoff"):

        print("-----Gate Valve 4 is OFF---- ")


    if(cmd.data['cm']=="fivon"):

        print("-----Gate Valve 5 is ON---- ")


    if(cmd.data['cm']=="fivoff"):

        print("-----Gate Valve 5 is OFF---- ")
client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()
while(True):
```

```python
weatherdata = requests.get('https://api.openweathermap.org/data/2.5/weather?q=Chennai&appid=3942dd61b26410206c466575e5addfbf')

a=weatherdata.text

b=json.loads(a)

c=(b["main"]["temp"]-273.15)

d=(b["main"]["humidity"])

myData={'temp':c, 'humid':d}

client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0, onPublish=None)

print("Published data Successfully: %s", myData)

client.commandCallback = myCommandCallback

time.sleep(2)

print()

client.disconnect()
```