

Develop The Python Code

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Project Name	SMART FARMER – IOT ENABLED SMART FARMING APPLICATION SYSTEM.

Develop The Python Code

Develop the python code to publish and subscribe to the commands from the IBM cloud.

CODE:

```
import wiotp.sdk.device
import time
import os
import datetime
import random
myConfig = {
    "identity":{
        "orgId": "bjj5tn",
        "typeId": "FIRE",
        "deviceId": "WATER"
    },
    "auth": {
        "token": "16431653"
    }
}
client = wiotp.sdk.device.DeviceClient (config=myConfig,
logHandlers=None)
client.connect()
```

```

def myCommandCallback(cmd) :
    print("Message received from IBM IoT Platform: %s" %
cmd.data['command'])
    m=cmd.data['command']
    if(m== "motoron"):
        print("Motor is switched on")
    elif (m== "motoroff"):
        print ("Motor is switched OFF")
    print(" ")

while True:
    soil=random.randint(0,100)
    temp=random.randint(-20,125)
    hum=random.randint(0,100)
    myData={'soil_moisture': soil, 'temperature':temp,
'humidity':hum}
    client.publishEvent(eventId="status",
msgFormat="json", data=myData, qos=0, onPublish=None)
    print("Published data Successfully: %s", myData)
    time.sleep(100)
    client.commandCallback = myCommandCallback
    client.disconnect ()

```

OUTPUT:

IBM

IBM Academic Initiative & ...Webmail LoginIBM Watson IoT PlatformUsing applications - IBM ...New Tab

bjj5tn.internetofthings.ibmcloud.com/dashboard/devices/browse

7114519104701@bharatinternz.comID: bjj5tn

IBM Watson IoT Platform

BrowseActionDevice TypesInterfacesAdd Device

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
ABCD_1	Disconnected	ABCD	Device	29 Oct 2022 16:14	
AJAY	Disconnected	ABCD	Device	29 Oct 2022 12:49	
COLD	Disconnected	HOT	Device	2 Nov 2022 10:53	
WATER	Connected	FIRE	Device	29 Oct 2022 15:26	

IdentityDevice InformationRecent EventsStateLogs

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
status	["soil_moisture":20,"temperature":92,"humidity":3}	json	a few seconds ago
status	["soil_moisture":11,"temperature":0,"humidity":3}	json	a few seconds ago

0 Simulations running

29°C Cloudy

12:35 02-11-2022

Python 3.7.4 Shell

File Edit Shell Debug Options Window Help

Python 3.7.4 (tags/v3.7.4:09359112e, Jul 8 2019, 20:34:20) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
RESTART: C:/Users/roman/AppData/Local/Programs/Python/Python37/Smartagril.py
2022-11-02 12:34:20.433 wiotp.sdk.device.client.DeviceClient INFO Connected successfully: d:bjj5tn:FIRE:WATER
Published data Successfully: ts {"soil_moisture": 20, "temperature": 92, "humidity": 34}

29°C Cloudy

12:34 02-11-2022