

DEVELOP A PYTHON SCRIPT TO PUBLISH AND SUBSCRIBE TO IBM IOT PLATFORM

DEVELOP A PYTHON CODE

Team ID	PNT2022TMID21246
Project Name	Smart Farmer – IoT based smart farming application

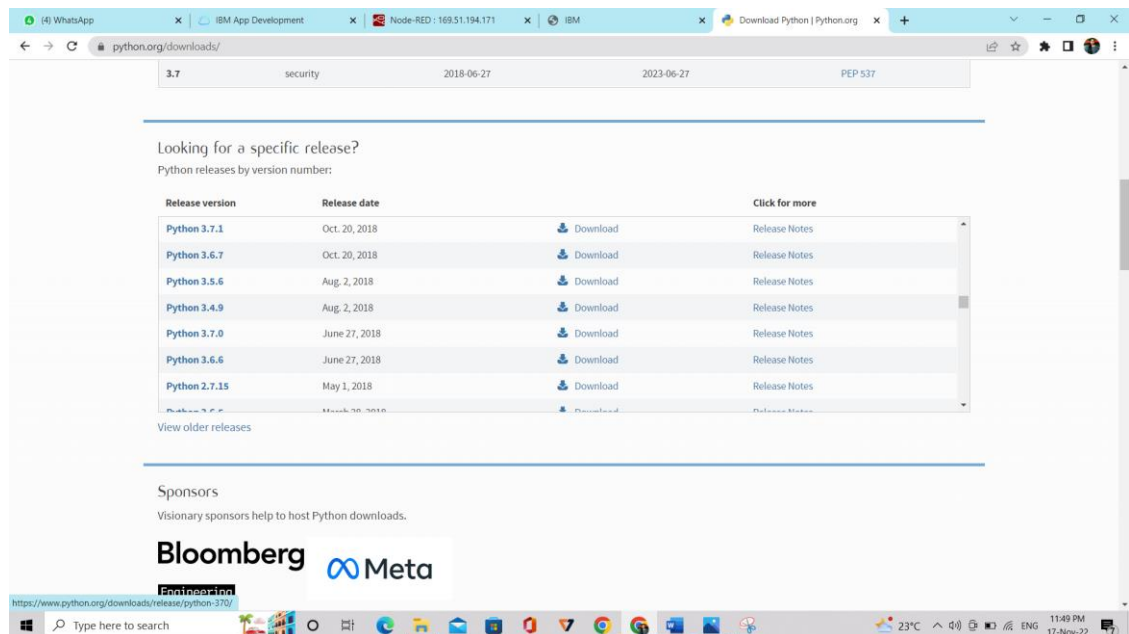
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INSTALL PYTHON VERSION 3.7.0 FROM PYTHON.ORG:



INSTALL IBMIOTF IN COMMAND PROMPT:

```
cmd Command Prompt
Microsoft Windows [Version 10.0.19044.1889]
(c) Microsoft Corporation. All rights reserved.

C:\Users\DELL>pip install ibmiotf --user
Requirement already satisfied: ibmiotf in c:\python311\lib\site-packages (0.4.0)
Requirement already satisfied: iso8601>=0.1.12 in c:\python311\lib\site-packages (from ibmiotf) (1.1.0)
Requirement already satisfied: pytz>=2017.3 in c:\python311\lib\site-packages (from ibmiotf) (2022.6)
Requirement already satisfied: paho-mqtt>=1.3.1 in c:\python311\lib\site-packages (from ibmiotf) (1.6.1)
Requirement already satisfied: requests>=2.18.4 in c:\python311\lib\site-packages (from ibmiotf) (2.28.1)
Requirement already satisfied: requests_toolbelt>=0.8.0 in c:\python311\lib\site-packages (from ibmiotf) (0.10.1)
Requirement already satisfied: charset-normalizer<3,>=2 in c:\python311\lib\site-packages (from requests>=2.18.4->ibmiotf) (2.1.1)
Requirement already satisfied: idna<4,>=2.5 in c:\python311\lib\site-packages (from requests>=2.18.4->ibmiotf) (3.4)
Requirement already satisfied: urllib3<1.27,>=1.21.1 in c:\python311\lib\site-packages (from requests>=2.18.4->ibmiotf) (1.26.12)
Requirement already satisfied: certifi>=2017.4.17 in c:\python311\lib\site-packages (from requests>=2.18.4->ibmiotf) (2022.9.24)

C:\Users\DELL>
```

PYTHON CODE:

PUBLISH AND SUBSCRIBE:

```

import time

import sys

import ibmiotf.application
import ibmiotf.device

import random


organization= "nt30c0"
deviceType= "abcd"
deviceId= "1234"
authMethod= "token"
authToken= "12345678"


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")


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()

```

```
deviceCli.connect()
```

```
while True:
```

```
    temp=random.randint(90,110)
```

```
    humid=random.randint(60,100)
```

```
    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:
```

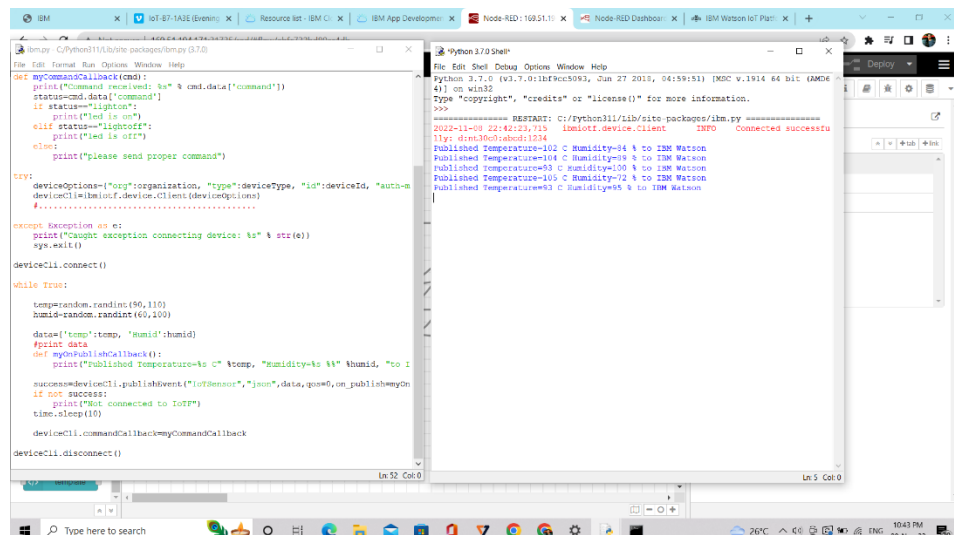
```
        print("Not connected to IoTF")
```

```
    time.sleep(10)
```

```
    deviceCli.commandCallback=myCommandCallback
```

```
deviceCli.disconnect()
```

OUTPUT OF THE PYTHON CODE IN PYTHON IDLE:



```
File Edit Shell Debug Options Window Help
Python 3.7.0 Shell
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:/Python311/Lib/site-packages/ibm.py =====
2022-11-09 22:42:23,715 ibmiot.device.Client INFO Connected successfully
11y: dcmMcLahed:1014
Published Temperature=102 C Humidity=94 % to IBM Watson
Published Temperature=104 C Humidity=9 % to IBM Watson
Published Temperature=93 C Humidity=20 % to IBM Watson
Published Temperature=105 C Humidity=72 % to IBM Watson
Published Temperature=93 C Humidity=95 % to IBM Watson
```