

DEVELOP A PYTHON SCRIPT

TEAM ID	PNT2022TMID27900
PROJECT NAME	IOT BASED SMART CROP PROTECTIONSYSTEM FOR AGRICULTURE

PROGRAM:

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

#Provide your IBM Watson Device Credentials
organization = "fl9pj"
deviceType = "NodeMCU"
deviceId = "12345"
authMethod = "token"
authToken = "oZDx3WdXYxtZ3Ixd-c"

# Initialize GPIO
def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="sprinkleron":
        print ("sprinkler is on")
    elif status == "sprinkleroff":
        print ("sprinkler 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()

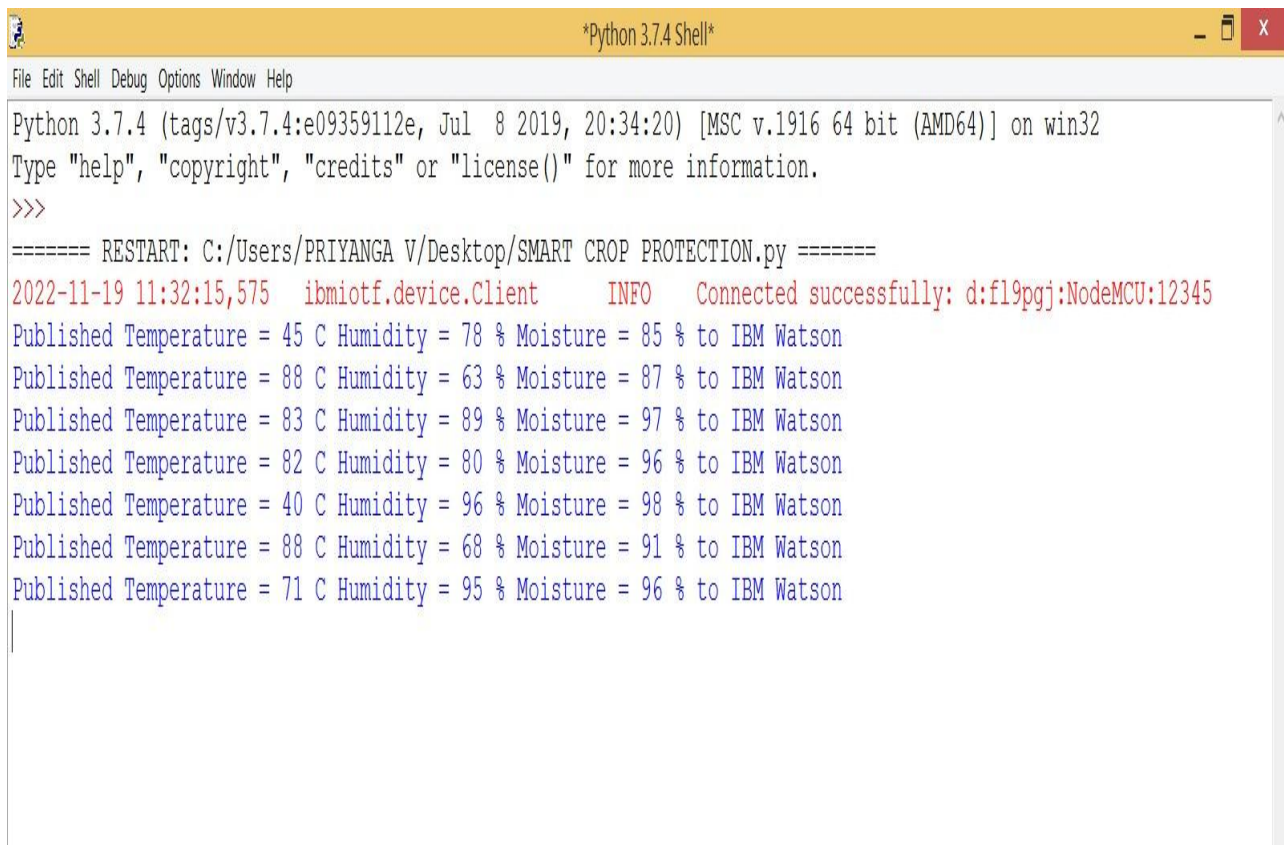
while True:
    #Get Sensor Data from DHT11
    temp=random.randint(40,90)
    Humid=random.randint(60,100)
    Moisture=random.randint(80,100)
    data = { 'temp' : temp, 'Humid': Humid, 'Moisture': Moisture }
    #print data
    def myOnPublishCallback():
```

```
        print ("Published Temperature = %s C" % temp, "Humidity = %s %% " %
Humid,"Moisture = %s %% " % Moisture, "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
```

```
# Disconnect the device and application from the cloud
deviceCli.disconnect()
```



```
*Python 3.7.4 Shell*
File Edit Shell Debug Options Window Help
Python 3.7.4 (tags/v3.7.4:e09359112e, 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/PRIYANGA V/Desktop/SMART CROP PROTECTION.py =====
2022-11-19 11:32:15,575 ibmiotf.device.Client INFO Connected successfully: d:f19pgj:NodeMCU:12345
Published Temperature = 45 C Humidity = 78 % Moisture = 85 % to IBM Watson
Published Temperature = 88 C Humidity = 63 % Moisture = 87 % to IBM Watson
Published Temperature = 83 C Humidity = 89 % Moisture = 97 % to IBM Watson
Published Temperature = 82 C Humidity = 80 % Moisture = 96 % to IBM Watson
Published Temperature = 40 C Humidity = 96 % Moisture = 98 % to IBM Watson
Published Temperature = 88 C Humidity = 68 % Moisture = 91 % to IBM Watson
Published Temperature = 71 C Humidity = 95 % Moisture = 96 % to IBM Watson
```