

## Sprint-3

DATE	15 NOVEMBER 2022
TEAM ID	PNT2022TMID44579
PROJECT NAME	IOT Based Smart Crop Protection System For Agriculture.
MAXIMU MARKS	20 MARKS

### PYTHON CODE:

```
import time

import sys

import ibmiotf.application

import ibmiotf.device

import random


#Provide your IBM Watson Device Credentials

organization ="8osflk"

deviceType = "cropprotection99"

deviceId = "cropprotection99"

authMethod="token"

authToken ="duiH-8z@4u@JXTmx20"

# InitializeGPIO

def myCommandCallback(cmd):

    print("Command received: %s" %cmd.data['command'])

    status =cmd.data['command']

    if status=="lighton":
```

```

        print("led on")
    else:
        print("led 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()

#Connectandsendadatapoint"hello"withvalue"world"intothecloudasaneventtye
"greeting"10times
deviceCli.connect()

while True:
    #GetSensorDatafromDHT11

    temp=random.randint(0,100)
    humid=random.randint(0,100)

```

```
data={'temperature':temp,'humidity':humid}

#printdata

def myOnPublishCallback():

    print("Published  Temperature=%s  C"  %temp,"Humidity=%s  %"  %
humid,"to IBMWatson")


success=deviceCli.publishEvent("IoTSensor","json",data,qos=0,on_publish=myO
nPublishCallback)


if not success:

    print("NotconnectedtoIoT")

    time.sleep(1)


deviceCli.commandCallback=myCommandCallback


#Disconnectthedeviceandapplicationfromthecloud
deviceCli.disconnect()
```

## OUTPUT:

```
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 win
32
Type "help", "copyright", "credits" or "license()" for more information.
>>> import time
import sys
import ibmiotf.application
import ibmiotf.device
import random

#Provide your IBM Watson Device Credentials
organization = "8osflk"
deviceType = "cropprotection99"
deviceId = "cropprotection99"
authMethod="token"
authToken = "duiH-8z@4u@JXTmx20"
# InitializeGPIO
def myCommandCallback(cmd):
    print("Command received: %s" %cmd.data['command'])
    status =cmd.data['command']
    if status=="lighton":
        print("led on")
    else:
        print("led off")
#print(cmd)
try:
```

```
Python 3.7.4 Shell
File Edit Shell Debug Options Window Help
while True:
    #GetSensorDatafromDHT11
    temp=random.randint(0,100)
    humid=random.randint(0,100)

    data={'temperature':temp,'humidity':humid}
    #printdata
    def myOnPublishCallback():
        print("Published Temperature=%s C" %temp,"Humidity=%s" % humid,"to IBMWatson")
    success=deviceCli.publishEvent("IoTSensor","json",data,qos=0,on_publish=myOnPublishCallback
)

    if not success:
        print("NotconnectedtoIoTf")
        time.sleep(1)

    deviceCli.commandCallback=myCommandCallback

#Disconnectthedeviceandapplicationfromthecloud
deviceCli.disconnect()
```

```
Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
Python 3.7.0 (tags/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: D:\crop\ibmiotpublishsubscribe.py =====
2022-11-19 14:32:02.583 ibmiot.device.Client INFO Connected successfully: d:60hw5g:10f:ultrasonic
Published Temperature = 66 C Humidity = 80 % to IBM Watson
Published Temperature = 53 C Humidity = 29 % to IBM Watson
Published Temperature = 75 C Humidity = 90 % to IBM Watson
Published Temperature = 69 C Humidity = 65 % to IBM Watson
Published Temperature = 34 C Humidity = 43 % to IBM Watson
Published Temperature = 20 C Humidity = 15 % to IBM Watson
Published Temperature = 17 C Humidity = 51 % to IBM Watson
Published Temperature = 52 C Humidity = 18 % to IBM Watson
Published Temperature = 22 C Humidity = 63 % to IBM Watson
Published Temperature = 28 C Humidity = 76 % to IBM Watson
Published Temperature = 54 C Humidity = 25 % to IBM Watson
Published Temperature = 9 C Humidity = 28 % to IBM Watson
Published Temperature = 61 C Humidity = 85 % to IBM Watson
Published Temperature = 34 C Humidity = 22 % to IBM Watson
Published Temperature = 97 C Humidity = 57 % to IBM Watson
Published Temperature = 87 C Humidity = 76 % to IBM Watson
Published Temperature = 21 C Humidity = 44 % to IBM Watson
Published Temperature = 17 C Humidity = 27 % to IBM Watson
Published Temperature = 96 C Humidity = 6 % to IBM Watson
Published Temperature = 92 C Humidity = 89 % to IBM Watson
Published Temperature = 86 C Humidity = 30 % to IBM Watson
Published Temperature = 95 C Humidity = 25 % to IBM Watson
Published Temperature = 23 C Humidity = 28 % to IBM Watson
Published Temperature = 64 C Humidity = 62 % to IBM Watson
Published Temperature = 74 C Humidity = 41 % to IBM Watson
Published Temperature = 4 C Humidity = 49 % to IBM Watson
Published Temperature = 11 C Humidity = 20 % to IBM Watson
Published Temperature = 30 C Humidity = 25 % to IBM Watson
Published Temperature = 54 C Humidity = 77 % to IBM Watson
Published Temperature = 34 C Humidity = 62 % to IBM Watson
Published Temperature = 67 C Humidity = 91 % to IBM Watson
Published Temperature = 39 C Humidity = 13 % to IBM Watson
Published Temperature = 41 C Humidity = 73 % to IBM Watson
Published Temperature = 98 C Humidity = 86 % to IBM Watson
Published Temperature = 79 C Humidity = 2 % to IBM Watson
Published Temperature = 72 C Humidity = 7 % to IBM Watson
Published Temperature = 65 C Humidity = 61 % to IBM Watson
Published Temperature = 18 C Humidity = 0 % to IBM Watson
```

## IBM WATSON IOT PLATFORM:

IBM Watson IoT Platform

910019106024@smartinternz.com  
ID: Bosflk

Browse Action Device Types Interfaces

Add Device

cropprotection99 Connected cropprotection99 Device Nov 6, 2022 11:27 AM

Identity Device Information Recent Events State Logs

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

Event	Value	Format	Last Received
IoTSensor	{"temperature":74,"humidity":67}	json	a few seconds ago
IoTSensor	{"temperature":23,"humidity":17}	json	a few seconds ago
IoTSensor	{"temperature":77,"humidity":59}	json	a few seconds ago
IoTSensor	{"temperature":57,"humidity":83}	json	a few seconds ago
IoTSensor	{"temperature":34,"humidity":50}	json	a few seconds ago