SOURCE CODE

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PROJECT TITLE: IoT BASED SMART CROP PROTECTION SYSTEM FOR AGRICULTURE

PYTHON SOURCE CODE:

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

#Provide your IBM Watson Device Credentials
organization = "iritj7"
deviceType = "abcd"
deviceId = "12345"
authMethod = "token"
authToken = "12345678"



# Initialize GPIO
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()


# Connect and send a datapoint "hello" with value "world" into the cloud as
an event of type "greeting" 10 times
deviceCli.connect()


while True:
    #Get Sensor Data from DHT11


    temp=random.randint(90,110)
    Humid=random.randint(60,100)
    Moist=random.randint(20,100)
    Animal_dect=random.randint(1,20)
```

```
        data = { 'temp' : temp, 'Humid': Humid, 'Moist' : Moist, 'Animal_dect' : Animal_dect }
        #print data
        def myOnPublishCallback():
            print ("Published Temperature = %s C" % temp, "Humidity = %s %%" % Humid, "to IBM Watson", "Published Moisture= %s" % Moist, "Published Animal detection = " , Animal_dect)

        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()
```

NODE-RED SOURCE CODE:

TEMPERATURE:

```
msg.payload=msg.payload.”temp”
return msg;
```

HUMIDITY:

```
msg.payload=msg.payload.”Humid”
```

return msg;

MOISTURE:

msg.payload=msg.payload.”Moist”

return msg;

ANIMAL DETECTION:

msg.payload=msg.payload.”Animal_dect”

return msg;