

PYTHON CODING

Date	19 November
Team ID	PNT2022TMID29937
Project name	Project – Smart Farmer-IoT Enabled smart Farming Application

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

#Provide your IBM Watson Device Credentials

orgId = "nleaxk"
deviceType = "smartfarming"
deviceId = "TamilNadu"
Token = "q3(u4iv5-4L+OHY@wm"
authMethod = "use-token-auth"

# Initialize GPIO

def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="motoron":
        print ("motor is on")
    else:
        print ("motor is off")

    #print(cmd)

try:

    deviceOptions = {"org": orgId, "type": deviceType, "id": deviceId,
"auth-method": authMethod, "auth-token": Token}
    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(-20,125)
```

```

hum=random.randint(0,100)
soil=random.randint(0,100)
data = { 'temp' : temp, 'hum': hum , 'soil': soil}
#print data
def myOnPublishCallback( ):
    print (f"Published temp = {temp} C , hum = {hum} , soil = {soil} deg
c to IBM Watson")
    success = deviceCli.publishEvent("IoTSensor", "json", data,
qos=0,on_publish=myOnPublishCallback)
    if not success:
        print("Not connected to IoT")
        time.sleep(10)
deviceCli.commandCallback = myCommandCallback
# Disconnect the device and application from the cloud
deviceCli.disconnect()

```

The screenshot shows the IBM Watson IoT Platform dashboard. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A sidebar on the left contains various icons for navigation. The main content area displays a table of devices. One device, 'TamilNadu', is highlighted, and its details are shown in a modal window below the table. The device is of type 'smartfarming' and was added on '16 Nov 2022 9:40 PM'. Its status is 'Disconnected'.

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
TamilNadu	Disconnected	smartfarming	Device	16 Nov 2022 9:40 PM	

Identity	Device Information	Recent Events	State	Logs
Device ID	TamilNadu			
Device Type	smartfarming			
Date Added	16 Nov 2022 9:40 PM			
Added By	deepikams008.ece@dgct.ac.in			
Connection Status	Disconnected			

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1 Simulation running