

SPRINT 1

Sensors and Wi-Fi module with python code

Date	30 October 2022
Team ID	PNT2022TMID49483
Project Name	Smart Farmer IoT enabled smart farming

```
#IBM Watson IOT Platform
```

```
#pip install wiotp-sdk
```

```
import wiotp.sdk.device
```

```
import time
```

```
import random
```

```
myConfig = {
```

```
    "identity": {
```

```
        "orgId": "0lz4tn",
```

```
        "typeId": "NodeMCU",
```

```
        "deviceId": "24680"
```

```
    },
```

```
    "auth": {
```

```
        "token": "1133557799"
```

```
    }
```

```
}
```

```
def myCommandCallback(cmd):
```

```
    print("Message received from IBM IoT Platform: %s" % cmd.data['command'])
```

```
    m=cmd.data['command']
```

```
if(m==motoron):  
    print("Motor is switched ON")  
elif(m==motoroff):  
    print("Motor is switched OFF")  
print(" ")
```

```
client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)  
client.connect()
```

```
while True:  
    temp=random.randint(0,100)  
    hum=random.randint(0,100)  
    soil=random.randint(0,100)  
    myData={'Temperature':temp,  
            'Humidity':hum,  
            'SoilMoisture':soil}  
    client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0,  
onPublish=None)  
    print("Published data Successfully: %s", myData)  
    if(soil<20):  
        print("Less moisture is detected")  
    else:  
        print("Moisture is sufficient")  
    time.sleep(2)  
    client.commandCallback = myCommandCallback  
client.disconnect()
```

ibm-mit.py - C:\Users\Admin\Desktop\lakshya\ibm-mit.py (3.7.0)

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```
#IBM Watson IoT Platform
#pip install wiotp-sdk
import wiotp.sdk.device
import time
import random
myConfig = {
    "identity": {
        "orgId": "0lz4tn",
        "typeId": "NodeMCU",
        "deviceId": "24680"
    },
    "auth": {
        "token": "1133557799"
    }
}

def myCommandCallback(cmd):
    print("Message received from IBM IoT Platform: %s" % cmd.data['command'])
    m=cmd.data['command']
    if(m=="motoron"):
        print("Motor is switched ON")
    elif(m=="motoroff"):
        print("Motor is switched OFF")
    print(" ")

client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()

while True:
    temp=random.randint(0,100)
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    soil=random.randint(0,100)
    myData={'Temperature':temp,
            'Humidity':hum,
            'SoilMoisture':soil}
    client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0, onPublish=None)
    print("Published data Successfully: %s", myData)
    if(soil<20):
        print("Less moisture is detected")
    else:
        print("Moisture is sufficient")
    time.sleep(2)
```

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Python 3.7.0 Shell

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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:\Users\Admin\Desktop\lakshya\ibm-mit.py =====

2022-11-13 09:49:20,671 wiotp.sdk.device.client.DeviceClient INFO Connected successfully: d:01z4tn:NodeMCU:24680

Published data Successfully: %s ('Temperature': 8, 'Humidity': 75, 'SoilMoisture': 56)

Moisture is sufficient

Published data Successfully: %s ('Temperature': 13, 'Humidity': 69, 'SoilMoisture': 27)

Moisture is sufficient

Published data Successfully: %s ('Temperature': 95, 'Humidity': 77, 'SoilMoisture': 28)

Moisture is sufficient

Published data Successfully: %s ('Temperature': 6, 'Humidity': 60, 'SoilMoisture': 55)

Moisture is sufficient

Published data Successfully: %s ('Temperature': 19, 'Humidity': 28, 'SoilMoisture': 73)

Moisture is sufficient

Published data Successfully: %s ('Temperature': 95, 'Humidity': 40, 'SoilMoisture': 51)

Moisture is sufficient

Published data Successfully: %s ('Temperature': 96, 'Humidity': 45, 'SoilMoisture': 11)

Less moisture is detected

Published data Successfully: %s ('Temperature': 42, 'Humidity': 36, 'SoilMoisture': 6)

Less moisture is detected

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13-Nov-2022

