## Develop a Python Script to Publish and Subscribe to IBM IoT Platform

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| Team ID | PNT2022TMID14459 |
| Project Name | SmartFarmer – IoT Enabled Smart Farming Application |

### Develop the Python Code

```
#IBM Watson IOT Platform
#pip install wiotp-sdk
import wiotp.sdk.device
import time
import random
ms=0
status='light off'
myConfig = {
 "identity": {
 "orgId": "62bxw0",
 "typeId": "Smartfarming",
 "deviceId":"123"
```

```
 },
 "auth": {
 "token": "98122123129"
 }
}
def myCommandCallback(cmd):
 print("Message received from IBM IoT Platform: %s" %
cmd.data['command'])
 m=cmd.data['command']
 if(m=="MOTOR ON"):
     print("MOTOR IS ON")
     status='motor on'
     myData={'temperature':temp, 'humidity':hum,'soilmoisture':sm_percentage,'status':status}
     client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0, onPublish=None)
     print("Published data Successfully: %s", myData)
     time.sleep(2)
 elif(m=="MOTOR OFF"):
     print("MOTOR IS OFF")
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        status='motor off'
        myData={'temperature':temp,'humidity':hum,'soilmoisture':sm_percentage,'status':status}
        client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0, onPublish=None)
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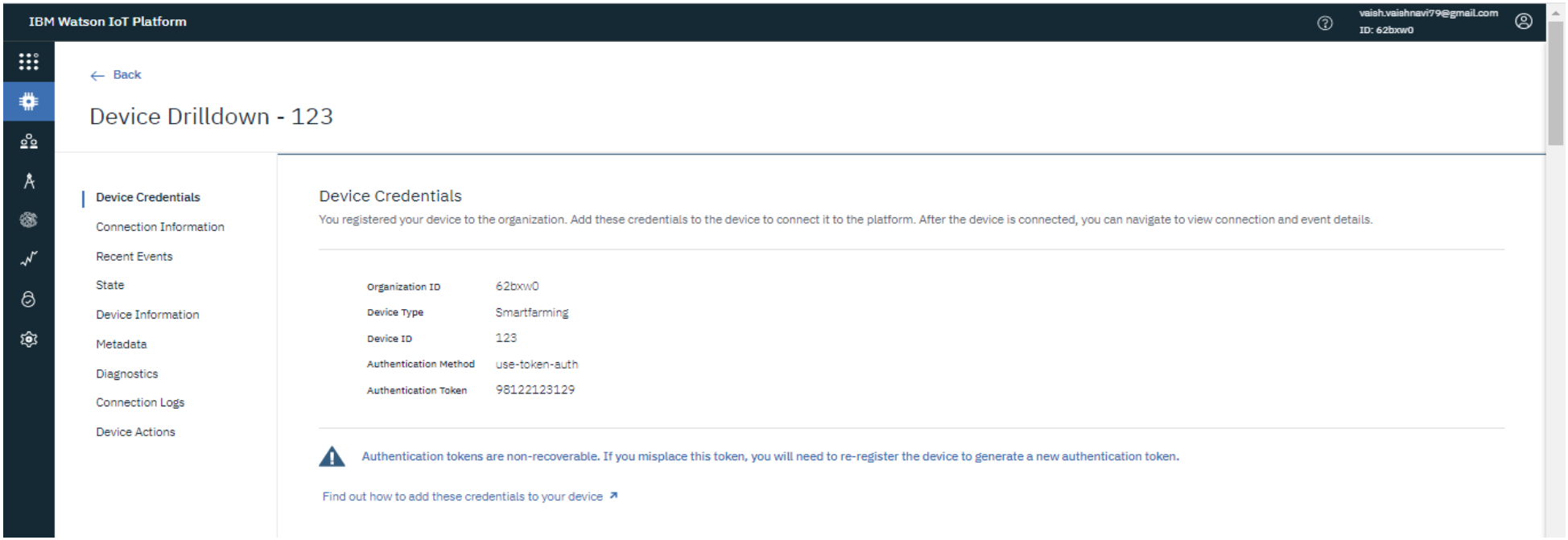
        time.sleep(2)
client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()
while True:
 temp=random.randint(-20,125)
 hum=random.randint(0,100)
 soilmoisture=random.randint(0,1023)
 sm_percentage=(soilmoisture/1023)*100
 sm_percentage=int(sm_percentage)
 myData={'temperature':temp, 'humidity':hum,'soilmoisture':sm_percentage}
 client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0, onPublish=None)
 print("Published data Successfully: %s", myData)
 client.commandCallback = myCommandCallback
 time.sleep(2)
```

time.sleep(2)

client.disconnect()



*smartfarm.py - C:/Users/hp/smartfarm.py (3.9.6)*

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 soilmoisture=random.randint(0,1023)#analog sensor
```

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