

Developing the Python Script

Date:	15 th November 2022
Team ID	PNT2022TMID27964
Project Name	Project – Smart Farmer- IoT basedSmartFarmingApplication

Python Code :

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

#Provide your IBM Watson Device Credentials
organization = "asgkbn"
deviceType = "smart_farming"
deviceId = "69696969"
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)
```

```

data = { 'temp' : temp, 'Humid': Humid }
#print data
defmyOnPublishCallback():
print ("Published Temperature = %s C" % temp, "Humidity = %s %" % Humid, "to IBM Watson")

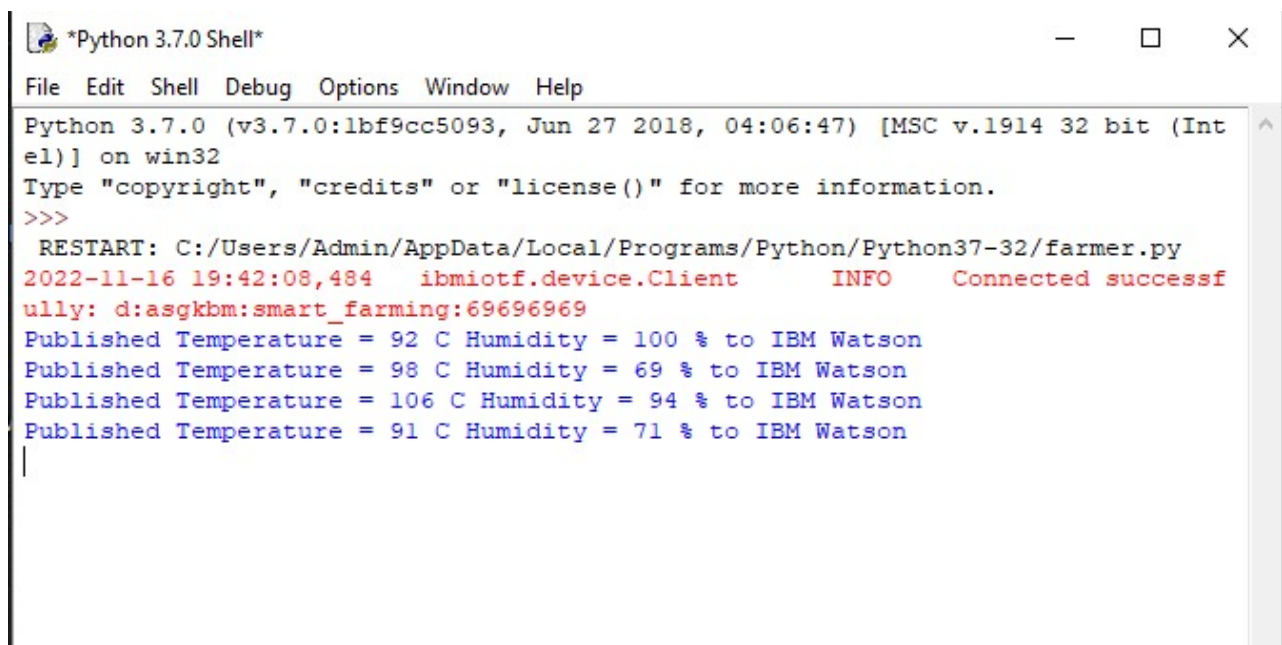
success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0, on_publish=myOnPublishCallback)
if not success:
print("Not connected to IoT")
time.sleep(10)

deviceCli.commandCallback = myCommandCallback

# Disconnect the device and application from the cloud
deviceCli.disconnect()

```

Output :



```

Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:06:47) [MSC v.1914 32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
RESTART: C:/Users/Admin/AppData/Local/Programs/Python/Python37-32/farmer.py
2022-11-16 19:42:08,484 ibmiotf.device.Client INFO Connected successfully: d:asgkbm:smart_farming:69696969
Published Temperature = 92 C Humidity = 100 % to IBM Watson
Published Temperature = 98 C Humidity = 69 % to IBM Watson
Published Temperature = 106 C Humidity = 94 % to IBM Watson
Published Temperature = 91 C Humidity = 71 % to IBM Watson

```

This data will now be shared to the IBM Watson from where it will be linked to the web application using Node Red .