SPRINT-2

Date	31 October 2022
Team ID	PNT2022TMID31899
Project Name	IOT BASED CROP PROTECTION SYSTEM FOR AGRICULTURE

Description :

To generate the random values for temperature , humidity and soil moisture of the field . Below the python code is deployed and tested .

Python Code :

```
import time

import sys

import ibmiotf.application

import ibmiotf.device

import random

# Provide your IBM Watson Device Credentials

organization = "ebf2oy" # replace the ORG ID

deviceType = "Humidity" # replace the Device type

deviceId = "123456" # replace Device ID

authMethod = "token"

authToken = "C4b(zFIpnKm_OT_C+c" # Replace the authtoken

def myCommandCallback(cmd):

  print("Command received: %s" % cmd.data['command'])

  print(cmd)

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:

        temp=random.randint(0,100)

        pulse=random.randint(0,100)

        soil=random.randint(0,100)

        data = { 'temp' : temp, 'pulse': pulse ,'soil':soil}

        #print data

        def myOnPublishCallback():


            print ("Published Temperature = %s C" % temp, "Humidity = %s %%"% pulse,"Soil Moisture = %s %%" % soil,"to IBM Watson")

        success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0, on_publish=myOnPublishCallback)

        if not success:

          print("Not connected to IoTF")

        time.sleep(1)

        deviceCli.commandCallback = myCommandCallback

# Disconnect the device and application from the cloud

deviceCli.disconnect()
```

Output :


Python 3.7.4 Shell
File Edit Shell Debug Options Window Help
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul 8 2019, 20:34:20) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: C:\Users\darun\OneDrive\Documents\monitor.py ==========
2022-11-18 14:55:56,531 ibmiotf.device.Client INFO Connected successfully: d:ebf2oy:Humidity:123456
Published Temperature = 50 C Humidity = 24 % Soil Moisture = 26 % to IBM Watson
Published Temperature = 20 C Humidity = 16 % Soil Moisture = 35 % to IBM Watson
Published Temperature = 7 C Humidity = 82 % Soil Moisture = 47 % to IBM Watson
Published Temperature = 92 C Humidity = 19 % Soil Moisture = 42 % to IBM Watson
Published Temperature = 21 C Humidity = 10 % Soil Moisture = 98 % to IBM Watson
Published Temperature = 61 C Humidity = 37 % Soil Moisture = 75 % to IBM Watson
Published Temperature = 55 C Humidity = 2 % Soil Moisture = 6 % to IBM Watson
Published Temperature = 31 C Humidity = 42 % Soil Moisture = 65 % to IBM Watson
Published Temperature = 48 C Humidity = 1 % Soil Moisture = 58 % to IBM Watson
Published Temperature = 53 C Humidity = 18 % Soil Moisture = 65 % to IBM Watson
Published Temperature = 90 C Humidity = 14 % Soil Moisture = 88 % to IBM Watson
Published Temperature = 61 C Humidity = 63 % Soil Moisture = 22 % to IBM Watson
Published Temperature = 68 C Humidity = 36 % Soil Moisture = 52 % to IBM Watson
Published Temperature = 92 C Humidity = 54 % Soil Moisture = 4 % to IBM Watson
Published Temperature = 41 C Humidity = 97 % Soil Moisture = 61 % to IBM Watson
Published Temperature = 33 C Humidity = 72 % Soil Moisture = 0 % to IBM Watson
Published Temperature = 68 C Humidity = 36 % Soil Moisture = 79 % to IBM Watson
Type here to search
26°C
ENG