

Final Deliverables

Team ID : PNT2022TMID29941

IBM ID : IBM-Project-31889-1660205917

CODE:

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

#provide Your IBM Watson Device Credentials
organization = "6hr21b"
deviceType = "mainproject005"
deviceID = "finalproject"
authMethod = "token"
authToken = "1234567890"

#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" info the cloud as an event of
type"greetings"10 times
deviceCli.connect()

while True:
    #Get sensor Data from DHT11

    temp=random.randint(0,100)
    humid=random.randint(0,100)
    fleamlevel=random.randint(-296,97)
```

```

data = { 'Temperature' : temp , 'Humidity': humid, 'Fleamlevel': fleamlevel }
#print data
def myOnPublishCallback():
    print ("published Temperature = %s C" % temp, "Humidity = is %s %" % humid,
"Fleamlevel= is %s %" % fleamlevel,"to IBM Watson")

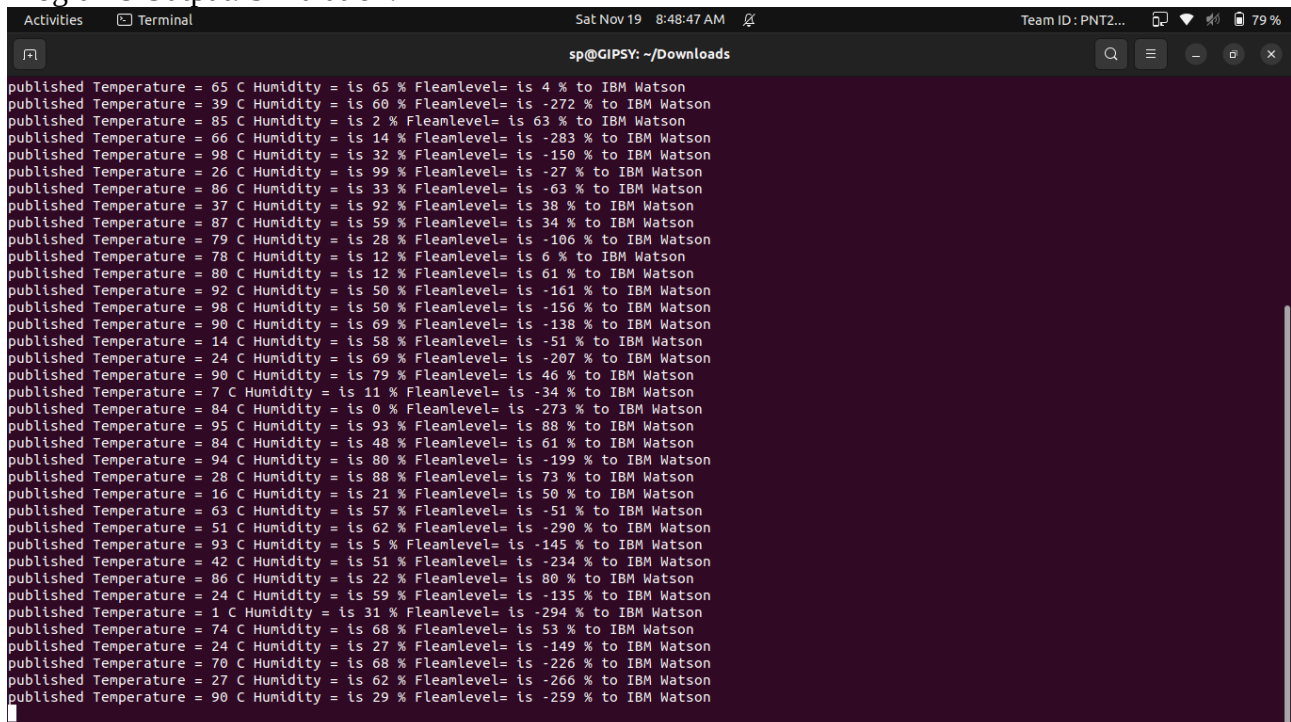
    success = deviceCli.publishEvent("IOTSensor",
"json",data,qos=0,on_publish=myOnPublishCallback)
    if not success:
        print("Not connected to IOTF")
        time.sleep(10)

    deviceCli.commandCallback = myCommandCallback

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

```

Program&Output: Simulation:



```

Sat Nov 19 8:48:47 AM
Team ID: PNT2...
sp@GIPSY: ~/Downloads

published Temperature = 65 C Humidity = is 65 % Fleamlevel= is 4 % to IBM Watson
published Temperature = 39 C Humidity = is 60 % Fleamlevel= is -272 % to IBM Watson
published Temperature = 85 C Humidity = is 2 % Fleamlevel= is 63 % to IBM Watson
published Temperature = 66 C Humidity = is 14 % Fleamlevel= is -283 % to IBM Watson
published Temperature = 98 C Humidity = is 32 % Fleamlevel= is -150 % to IBM Watson
published Temperature = 26 C Humidity = is 99 % Fleamlevel= is -27 % to IBM Watson
published Temperature = 86 C Humidity = is 33 % Fleamlevel= is -63 % to IBM Watson
published Temperature = 37 C Humidity = is 92 % Fleamlevel= is 38 % to IBM Watson
published Temperature = 87 C Humidity = is 59 % Fleamlevel= is 34 % to IBM Watson
published Temperature = 79 C Humidity = is 28 % Fleamlevel= is -106 % to IBM Watson
published Temperature = 78 C Humidity = is 12 % Fleamlevel= is 6 % to IBM Watson
published Temperature = 80 C Humidity = is 12 % Fleamlevel= is 61 % to IBM Watson
published Temperature = 92 C Humidity = is 50 % Fleamlevel= is -161 % to IBM Watson
published Temperature = 98 C Humidity = is 50 % Fleamlevel= is -156 % to IBM Watson
published Temperature = 90 C Humidity = is 69 % Fleamlevel= is -138 % to IBM Watson
published Temperature = 14 C Humidity = is 58 % Fleamlevel= is -51 % to IBM Watson
published Temperature = 24 C Humidity = is 69 % Fleamlevel= is -207 % to IBM Watson
published Temperature = 90 C Humidity = is 79 % Fleamlevel= is 46 % to IBM Watson
published Temperature = 7 C Humidity = is 11 % Fleamlevel= is -34 % to IBM Watson
published Temperature = 84 C Humidity = is 0 % Fleamlevel= is -273 % to IBM Watson
published Temperature = 95 C Humidity = is 93 % Fleamlevel= is 88 % to IBM Watson
published Temperature = 84 C Humidity = is 48 % Fleamlevel= is 61 % to IBM Watson
published Temperature = 94 C Humidity = is 80 % Fleamlevel= is -199 % to IBM Watson
published Temperature = 28 C Humidity = is 88 % Fleamlevel= is 73 % to IBM Watson
published Temperature = 16 C Humidity = is 21 % Fleamlevel= is 50 % to IBM Watson
published Temperature = 63 C Humidity = is 57 % Fleamlevel= is -51 % to IBM Watson
published Temperature = 51 C Humidity = is 62 % Fleamlevel= is -290 % to IBM Watson
published Temperature = 93 C Humidity = is 5 % Fleamlevel= is -145 % to IBM Watson
published Temperature = 42 C Humidity = is 51 % Fleamlevel= is -234 % to IBM Watson
published Temperature = 86 C Humidity = is 22 % Fleamlevel= is 80 % to IBM Watson
published Temperature = 24 C Humidity = is 59 % Fleamlevel= is -135 % to IBM Watson
published Temperature = 1 C Humidity = is 31 % Fleamlevel= is -294 % to IBM Watson
published Temperature = 74 C Humidity = is 68 % Fleamlevel= is 53 % to IBM Watson
published Temperature = 24 C Humidity = is 27 % Fleamlevel= is -149 % to IBM Watson
published Temperature = 70 C Humidity = is 68 % Fleamlevel= is -226 % to IBM Watson
published Temperature = 27 C Humidity = is 62 % Fleamlevel= is -266 % to IBM Watson
published Temperature = 90 C Humidity = is 29 % Fleamlevel= is -259 % to IBM Watson

```

Ibm watson iot platform connection:

The screenshot displays the IBM Watson IoT Platform interface. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A search bar labeled 'Search by Device ID' is present. The main content area shows a list of devices. The 'mainproject' device is selected, showing its status as 'Connected' and details in the 'Device Information' tab.

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
mainprj	Disconnected	sprint004	Device	Nov 13, 2022 12:28 PM	
mainproject	Connected	sprint004	Device	Nov 13, 2022 1:37 PM	
sprint03	Disconnected	sprint003	Device	Nov 13, 2022 12:38 PM	

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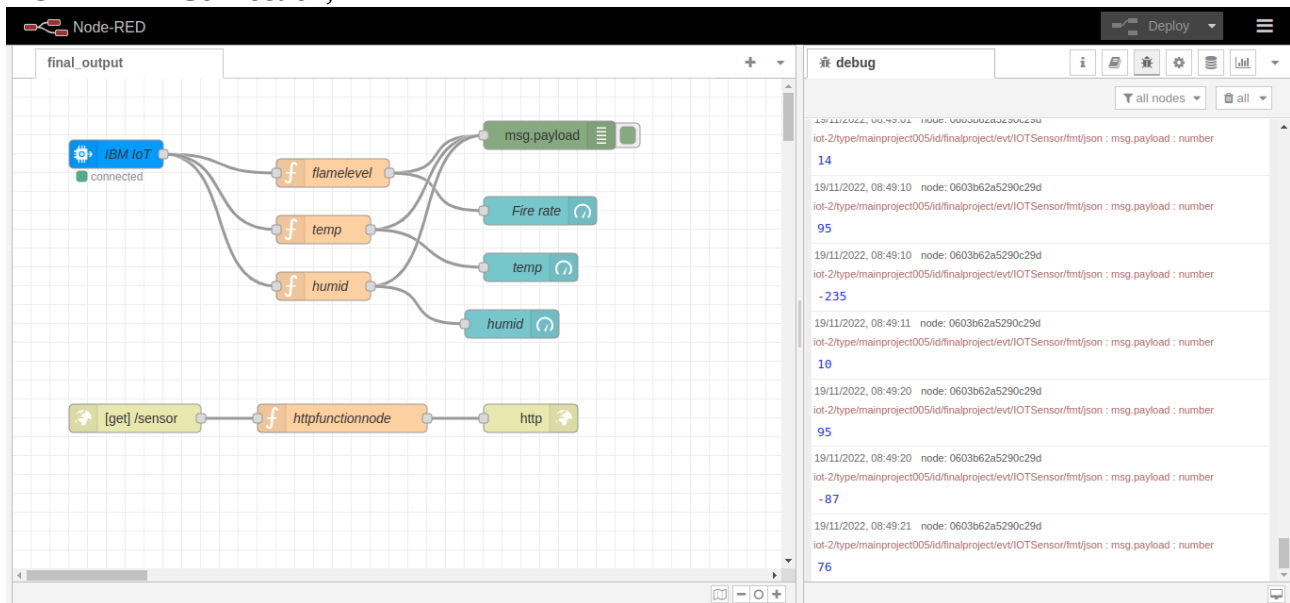
1 of 1 page

Watson output event:

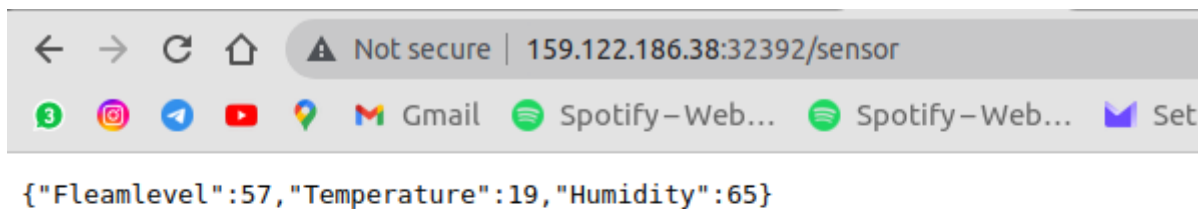
The screenshot displays the IBM Watson IoT Platform interface, specifically the 'Recent Events' tab for the 'mainproject' device. The events are listed in a table showing a live stream of data.

Event	Value	Format	Last Received
Data	{"flamelevel":3,"msg":"chill"}	json	a few seconds ago
Data	{"flamelevel":3,"msg":"chill"}	json	a few seconds ago
Data	{"flamelevel":3,"msg":"chill"}	json	a few seconds ago
Data	{"flamelevel":3,"msg":"chill"}	json	a few seconds ago
Data	{"flamelevel":3,"msg":"chill"}	json	a few seconds ago

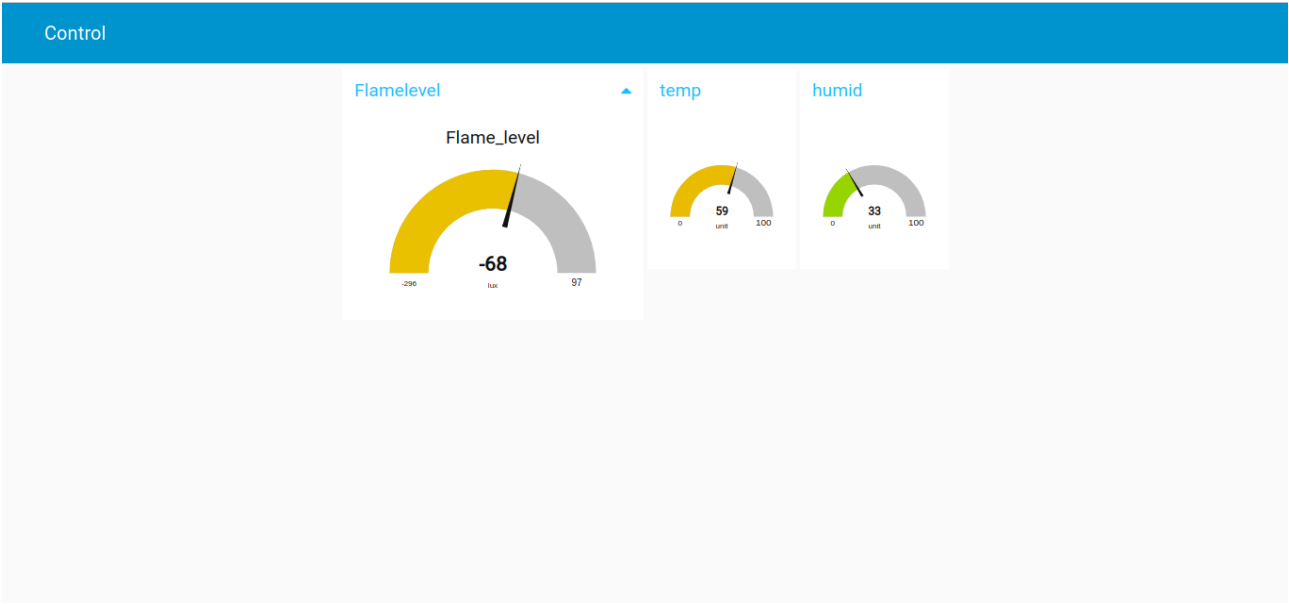
NODE-RED Connection;



NODE-RED /sensor output:



NODE-RED UI output:



MIT APP OUTPUT;



Flamelevel : -144

Temprature: 48

Humidity: 69

