

SPRINT-3
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CREATE A NODE RED WEBAPP

CODE:

```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random
#Provide your IBM Watson Device Credentials
organization = "owxp6u"
deviceType = "Smartbin"
deviceId = "Bin1"
authMethod = "token"
authToken= "12345678910"
# Initialize GPIO
def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="lighton":
        print ("led is on")
    else :
        print ("led is off")
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
    time.sleep(5)
    ultrasensor=random.randint(0,80)
    capacity=random.randint(0,100)
    lat=round(random.uniform(12.03,13.05),6)
    lon=round(random.uniform(80.80,85.90),6)
    data = { 'ultrasensensor' : ultrasensor, 'capacity': capacity,'lat':lat,'lon':lon}
    #print data
    def myOnPublishCallback():
        print ("Published ultrasensensor = %s Cm" % ultrasensor, "capacity= %s kg" %
capacity,"lat:%s"%lat,"lon:%s"%lon)

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

```

if not success:
    print("Not connected to IoT")
time.sleep(1)

```

```
deviceCli.commandCallback = myCommandCallback
```

```

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

```

PYTHON OUTPUT:

```

Python 3.9.6 (tags/v3.9.6:db3ff76, Jun 28 2021, 15:26:21) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:\Users\senth\AppData\Local\Programs\Python\Python37\ibmiotpublishsubscribe.py
2022-11-16 19:19:15,836 ibmiotf.device.Client INFO Connected successfully: d:owxp6u:Smart
bin:Bin1
Published ultrasonicsensor = 40 Cm capacity= 23 kg lat:12.610228 lon:81.56987
Published ultrasonicsensor = 69 Cm capacity= 24 kg lat:12.393958 lon:82.869649
Published ultrasonicsensor = 15 Cm capacity= 66 kg lat:12.657194 lon:83.691184
Published ultrasonicsensor = 63 Cm capacity= 50 kg lat:12.739014 lon:84.899586
Published ultrasonicsensor = 9 Cm capacity= 99 kg lat:12.316724 lon:85.601792
Published ultrasonicsensor = 60 Cm capacity= 17 kg lat:12.213293 lon:82.890856
Published ultrasonicsensor = 70 Cm capacity= 76 kg lat:12.863203 lon:81.322346
Published ultrasonicsensor = 72 Cm capacity= 9 kg lat:12.679009 lon:83.959883
Published ultrasonicsensor = 28 Cm capacity= 82 kg lat:12.915193 lon:82.125455
Published ultrasonicsensor = 11 Cm capacity= 16 kg lat:13.005646 lon:85.396263
Published ultrasonicsensor = 24 Cm capacity= 64 kg lat:12.282416 lon:83.144915
Published ultrasonicsensor = 41 Cm capacity= 2 kg lat:12.098037 lon:83.9634
Published ultrasonicsensor = 15 Cm capacity= 11 kg lat:12.655447 lon:84.466328
Published ultrasonicsensor = 57 Cm capacity= 89 kg lat:12.840414 lon:81.376711
Published ultrasonicsensor = 16 Cm capacity= 76 kg lat:12.469298 lon:84.480634
Published ultrasonicsensor = 48 Cm capacity= 17 kg lat:12.629949 lon:82.306184
Published ultrasonicsensor = 76 Cm capacity= 51 kg lat:12.15338 lon:85.604701

```

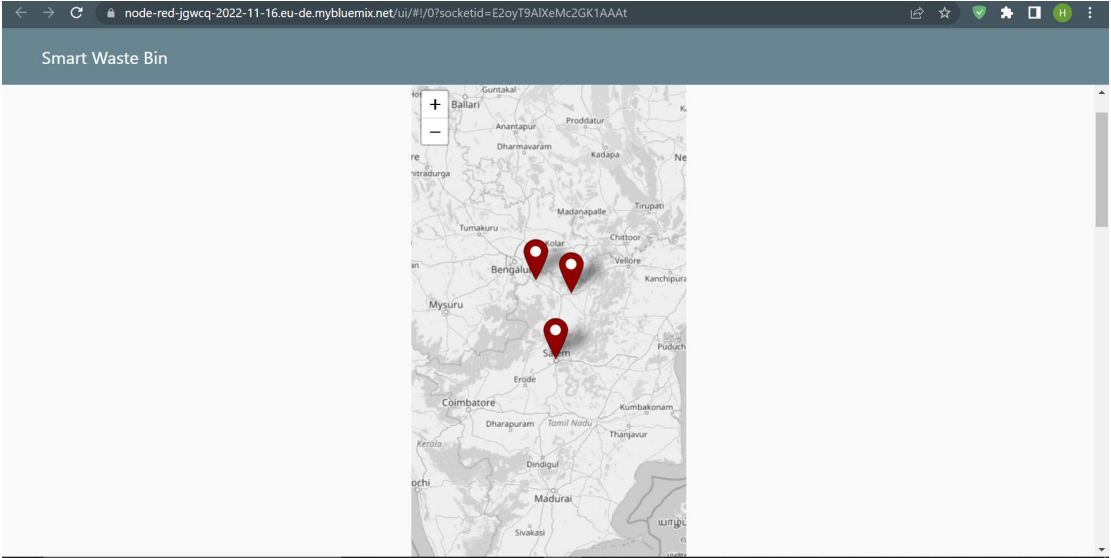
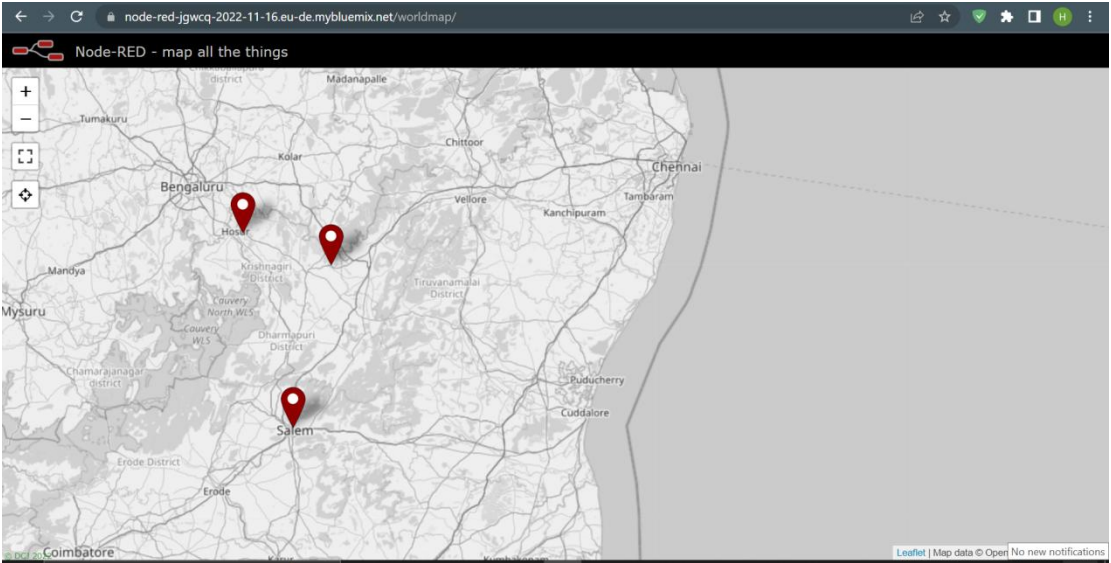
IBM WATSON OUTPUT:

The screenshot shows the IBM Watson IoT Platform dashboard. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A sidebar on the left contains various icons for navigation. The main content area displays a table of recent events from an IoT sensor.

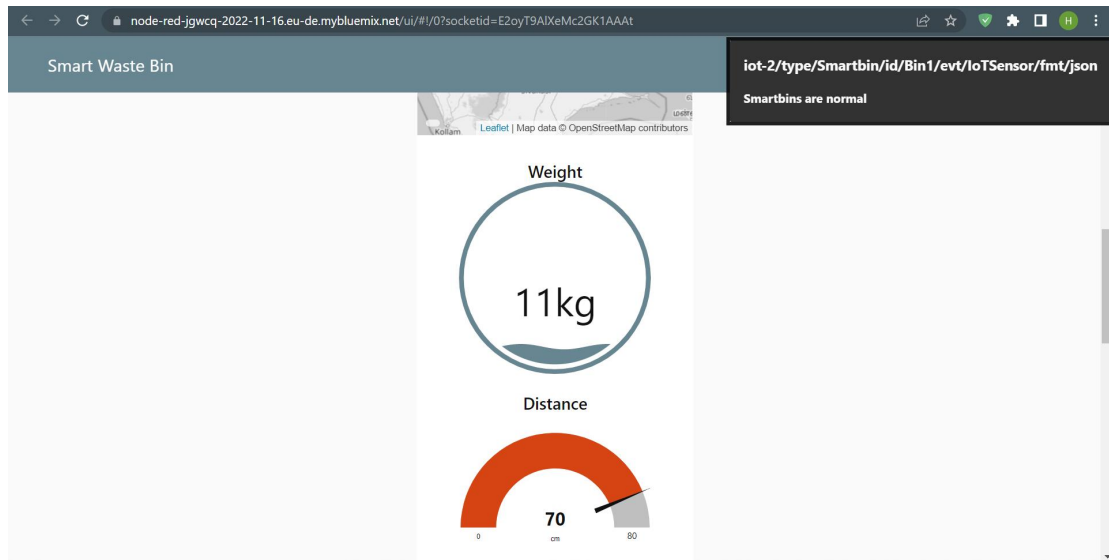
Event	Value	Format	Last Received
IoT Sensor	{"ultrasonicsensor":45,"capacity":49,"lat":12.57...	json	a few seconds ago
IoT Sensor	{"ultrasonicsensor":76,"capacity":51,"lat":12.15...	json	a few seconds ago
IoT Sensor	{"ultrasonicsensor":48,"capacity":17,"lat":12.62...	json	a few seconds ago
IoT Sensor	{"ultrasonicsensor":16,"capacity":76,"lat":12.46...	json	a few seconds ago
IoT Sensor	{"ultrasonicsensor":57,"capacity":89,"lat":12.84...	json	a few seconds ago

At the bottom of the dashboard, there is a status bar showing 'Binproject12' as 'Disconnected' and '0 Simulations running'.

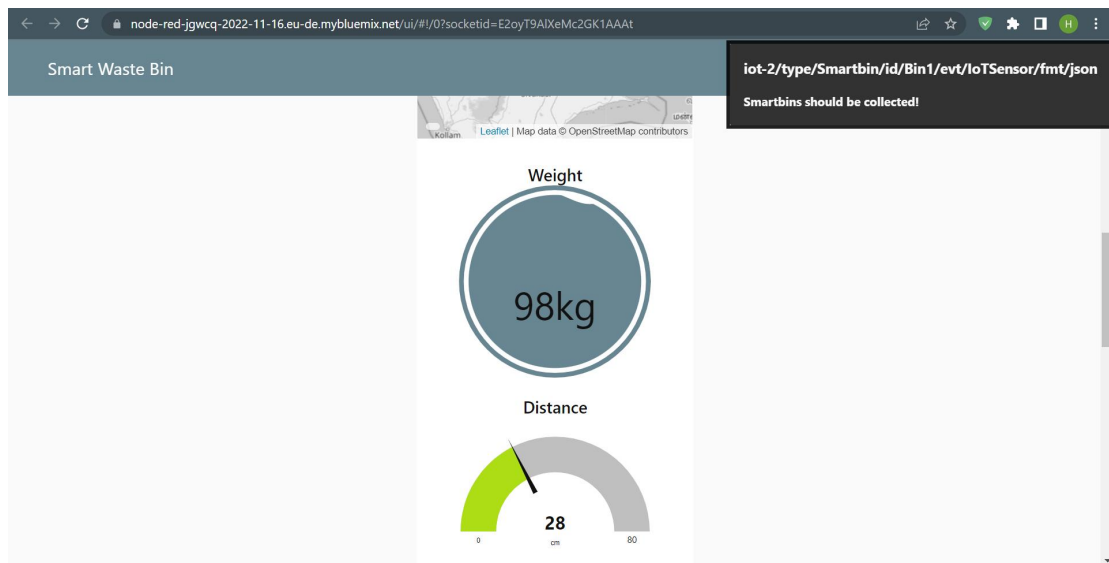
WEB UI MAP:



SMART BINS WHEN IT IS IN NORMAL WEIGHT:



SMART BINS SHOULD BE COLLECTED:



RESULT:

The weight of the smart bins is collected, the node red web app is successfully established, and alarm notifications are successfully made.