IB

SPRINT 3 REPORT

IOT ENABLED SMART
FARMING APPLICATION

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Project Tracker

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	15	5 Days	08 NOV 2022	19 Oct 2022	15	22 Oct 2022
Sprint-2	15	7 Days	31 Oct 2022	19 Nov 2022	15	22 0CT 2022
Sprint-3	15	6 Days	07 Nov 2022	12 Nov 2022	15	13 Nov 2022
Sprint-4	15	6 Days	13 Nov 2022	18 Nov 2022		18 Nov 2022 – 19 Nov 2022

S.NO	Tools & Technology Used
1	Python 3.7.0
2	IBM Cloud
3	Node-Red

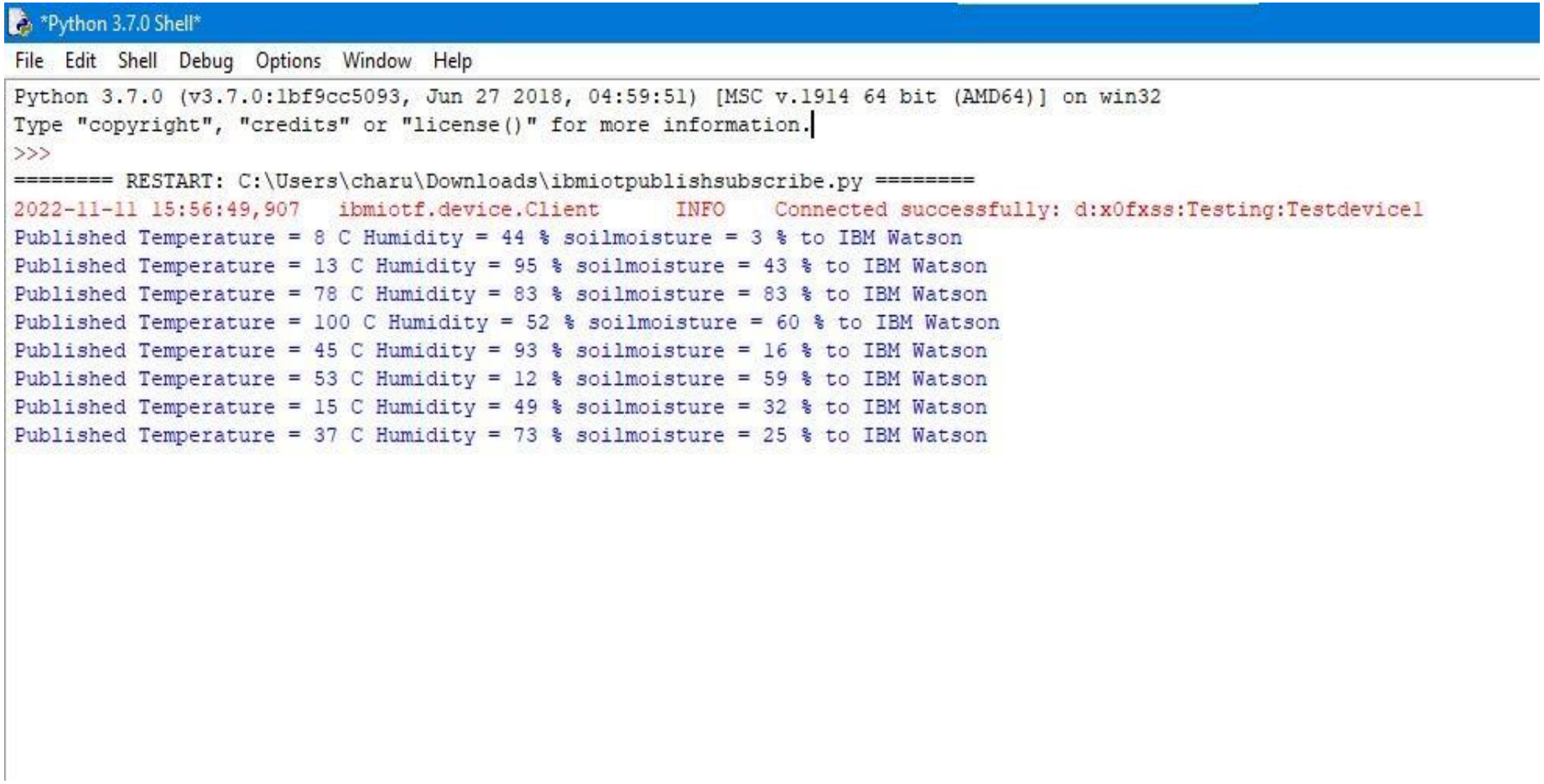
Python Script:

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

#Provide your IBM Watson Device Credentials
organization = "x0fxss" #replace the ORG ID
deviceType = "Testing"#replace the Device type wi
deviceId = "Testdevice1"#replace Device ID
authMethod = "token"
authToken = "123456789" #Replace the authtoken
# Initialize GPIO

#Receives Command from Node-red
def myCommandCallback(cmd):
    print ("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="motoron":
        print ("motor is on")
    elif status == "motoroff" :
        print ("motor is off")
    elif status == "motor30" :
        print ("motor is on for 30 minutes")

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(0,100)
        Humid=random.randint(0,100)
        soilmoisture=random.randint(0,100)

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

        success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0, on_publish=myOnPublishCallback)
        if not success:
            print("Not connected to IoTF")
        time.sleep(5)

        deviceCli.commandCallback = myCommandCallback

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

OUTPUT:

We are running python script to send data to IBM cloud and data is displayed in web-ui by using node-red.



Brnwse fiction Oevice Types Interfaces

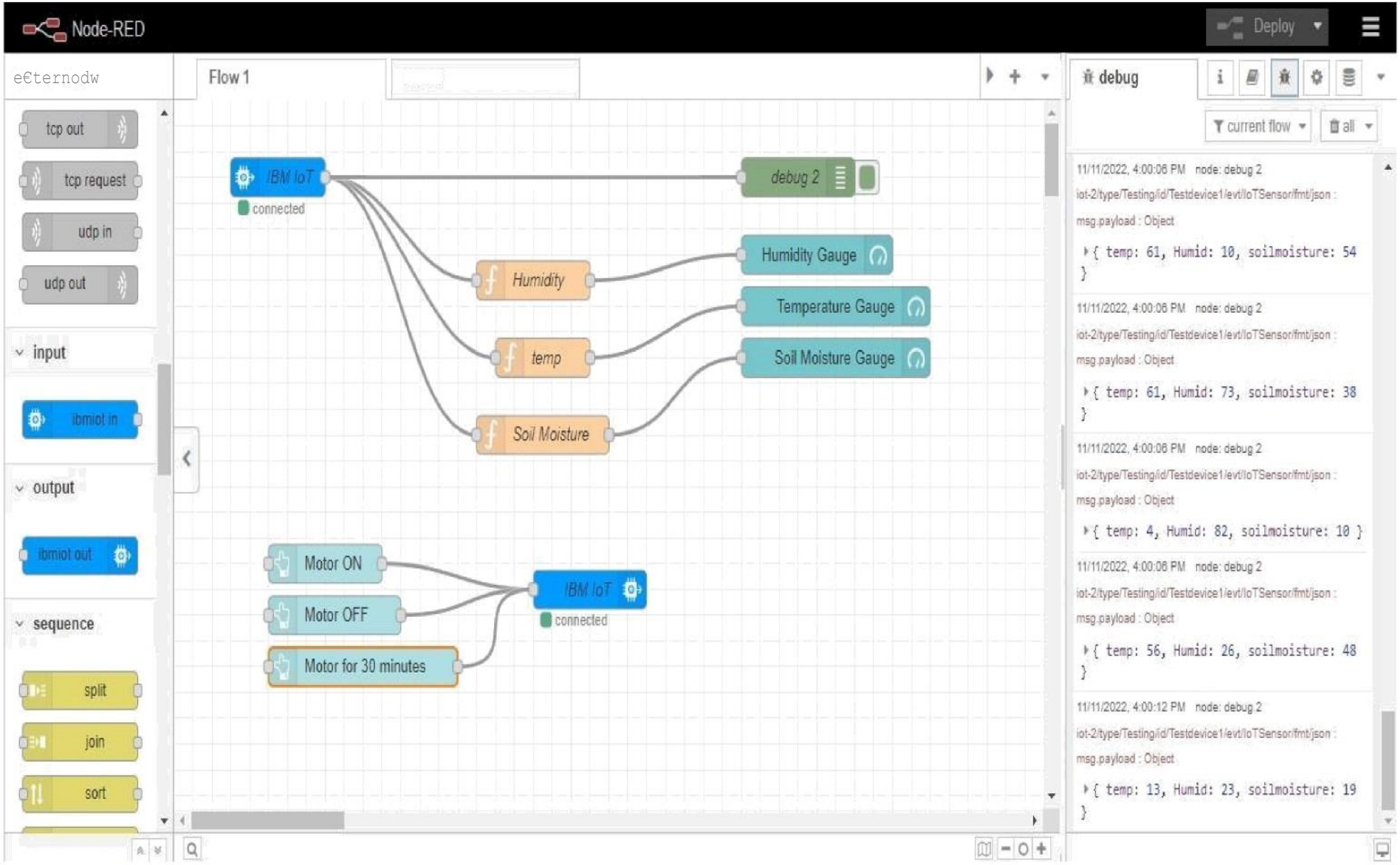
Add Device

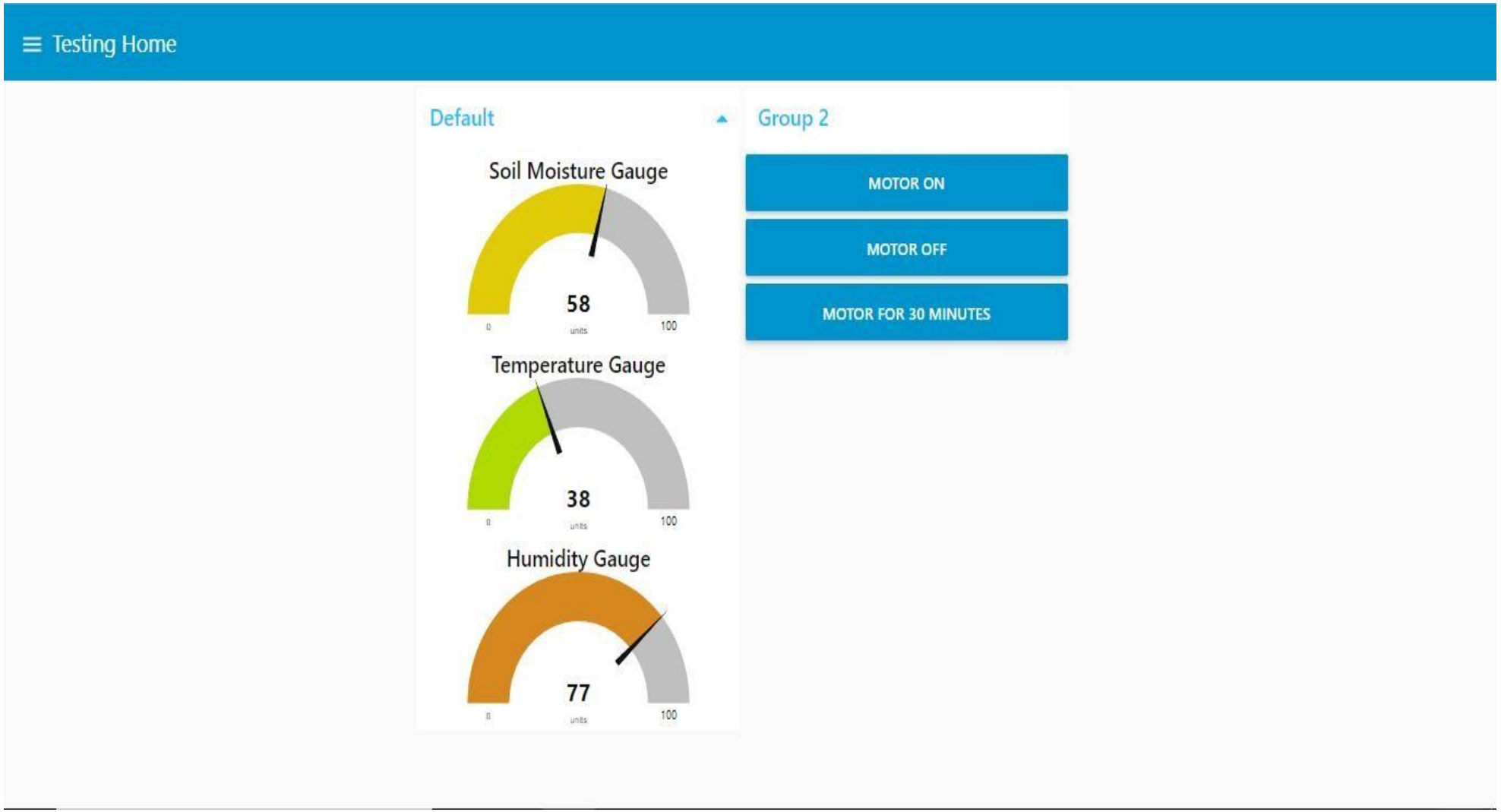
1234 Disconnected Omit Nuder 24D«¥02209 :BO

Identity Device Information ReccnlE'ents State Log

The recent events listed shaw the live stream of data that is coming and going from this device.

Ewent	Vahie	Formet	Last Reue?ued
IoTSénsor	{"temp":59,"Humid":96,"soilmoisture":100}	json	a few seconds ago a
IoTSensor	{"temp":Z6,"Humid":	jsnn	few seconds ago a
IoTSensor	{"temp":74."Humid":13,"soilmoisture":96)	jsnn	few seconds ago
IoTSensor	{"temp":79,"Humid":24,"soilmoisture":2B)	jsnn	a few seconds ago

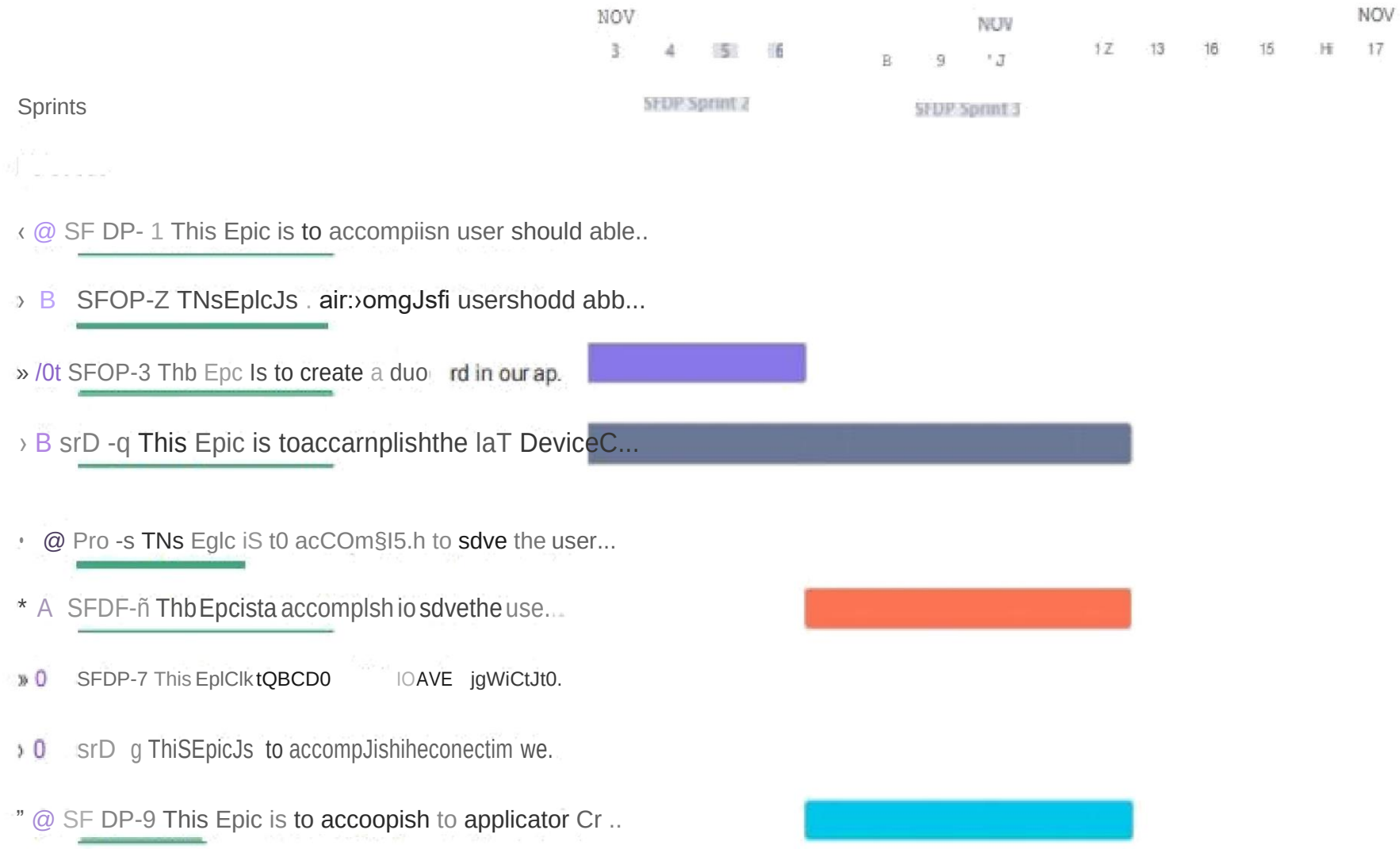

Node-RED
Deploy
e€ternodw
Flow 1
debug
current flow
all
tcp out
tcp request
udp in
udp out
input
ibmiot in
output
ibmiot out
sequence
split
join
sort
IBM IoT
connected
debug 2
Humidity
Humidity Gauge
temp
Temperature Gauge
Soil Moisture
Soil Moisture Gauge
Motor ON
Motor OFF
Motor for 30 minutes
IBM IoT
connected
11/11/2022, 4:00:06 PM node: debug 2
iot-2/type/Testing/id/Testdevice1/evt/IoTSensor/fmt/json : msg.payload : Object
{ temp: 61, Humid: 10, soilmoisture: 54 }
11/11/2022, 4:00:06 PM node: debug 2
iot-2/type/Testing/id/Testdevice1/evt/IoTSensor/fmt/json : msg.payload : Object
{ temp: 61, Humid: 73, soilmoisture: 38 }
11/11/2022, 4:00:06 PM node: debug 2
iot-2/type/Testing/id/Testdevice1/evt/IoTSensor/fmt/json : msg.payload : Object
{ temp: 4, Humid: 82, soilmoisture: 10 }
11/11/2022, 4:00:06 PM node: debug 2
iot-2/type/Testing/id/Testdevice1/evt/IoTSensor/fmt/json : msg.payload : Object
{ temp: 56, Humid: 26, soilmoisture: 48 }
11/11/2022, 4:00:12 PM node: debug 2
iot-2/type/Testing/id/Testdevice1/evt/IoTSensor/fmt/json : msg.payload : Object
{ temp: 13, Humid: 23, soilmoisture: 19 }



Data are successfully received and displayed.

Velocity Cha%

Sprint	Commitment	Completed
SFDP Spr zt 1	15	15
SFDP Sprint 2	15	15
SF DP Sprâzt 3	15	15


NOV
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SFDP Sprint 2
SFDP Sprint 3
Sprints
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› B SFOP-Z TNsEplcJs . air:›omgJsfi usershodd abb...
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› B srD -q This Epic is toaccarnplishthe laT DeviceC...
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Bumdown Chat

SFDP Sprint 3 Story Points