IBM

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	26 Oct 2022	30 Oct 2022	15	30 Oct 2022
Sprint-2	15	7 Days	31 Oct 2022	06 Nov 2022	15	07 Nov 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

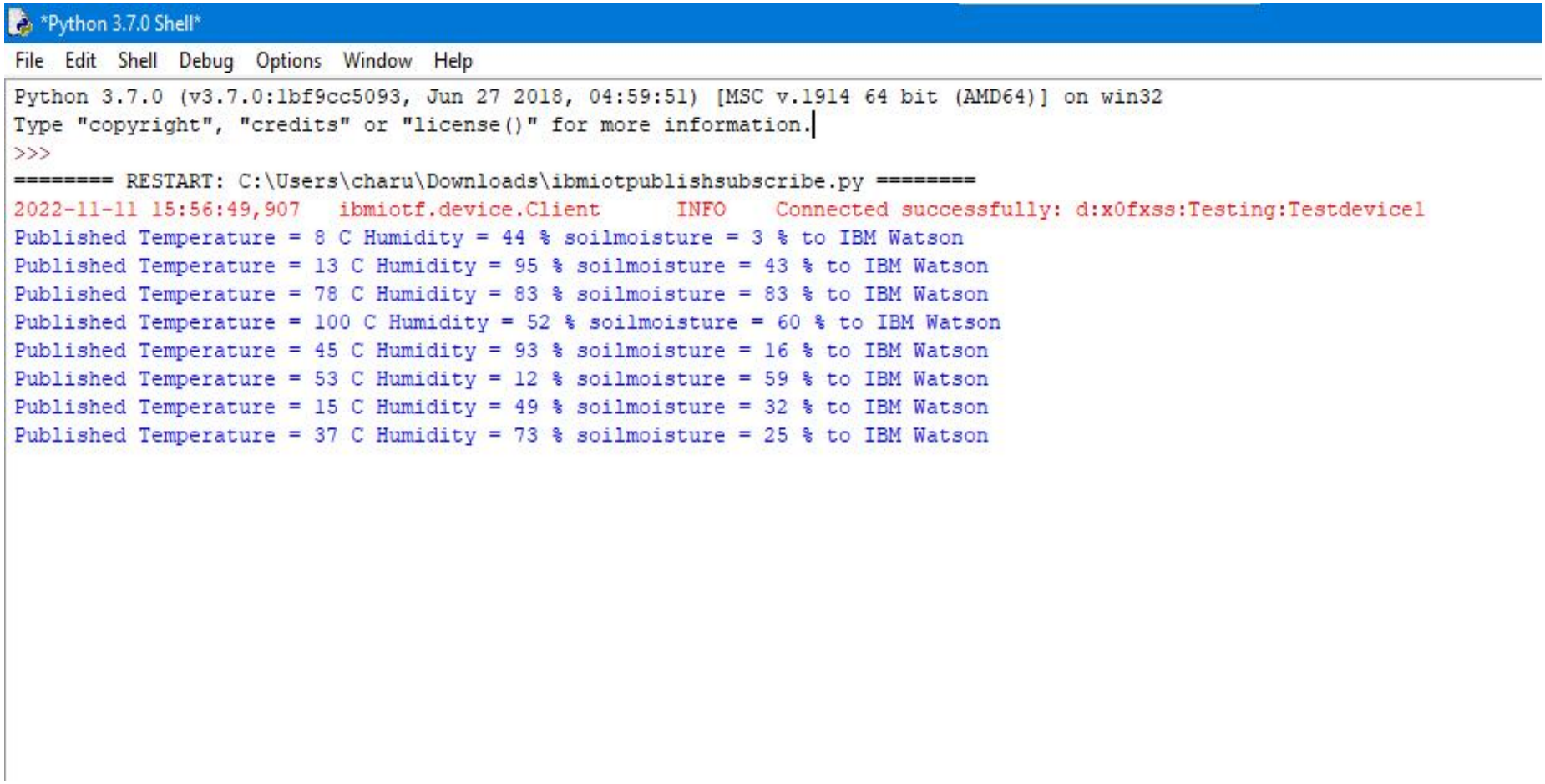
Python Script:

```
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

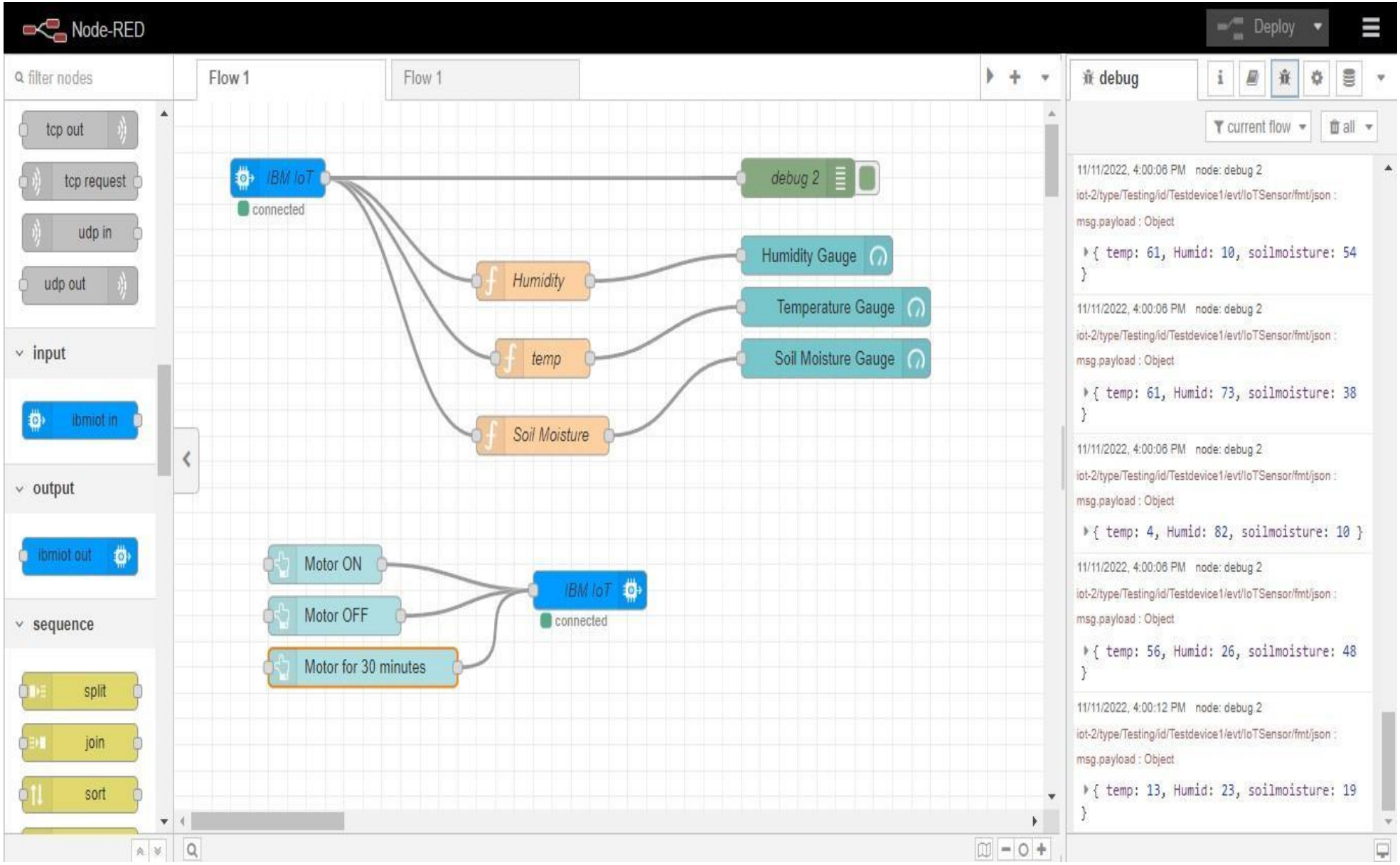
Add Device

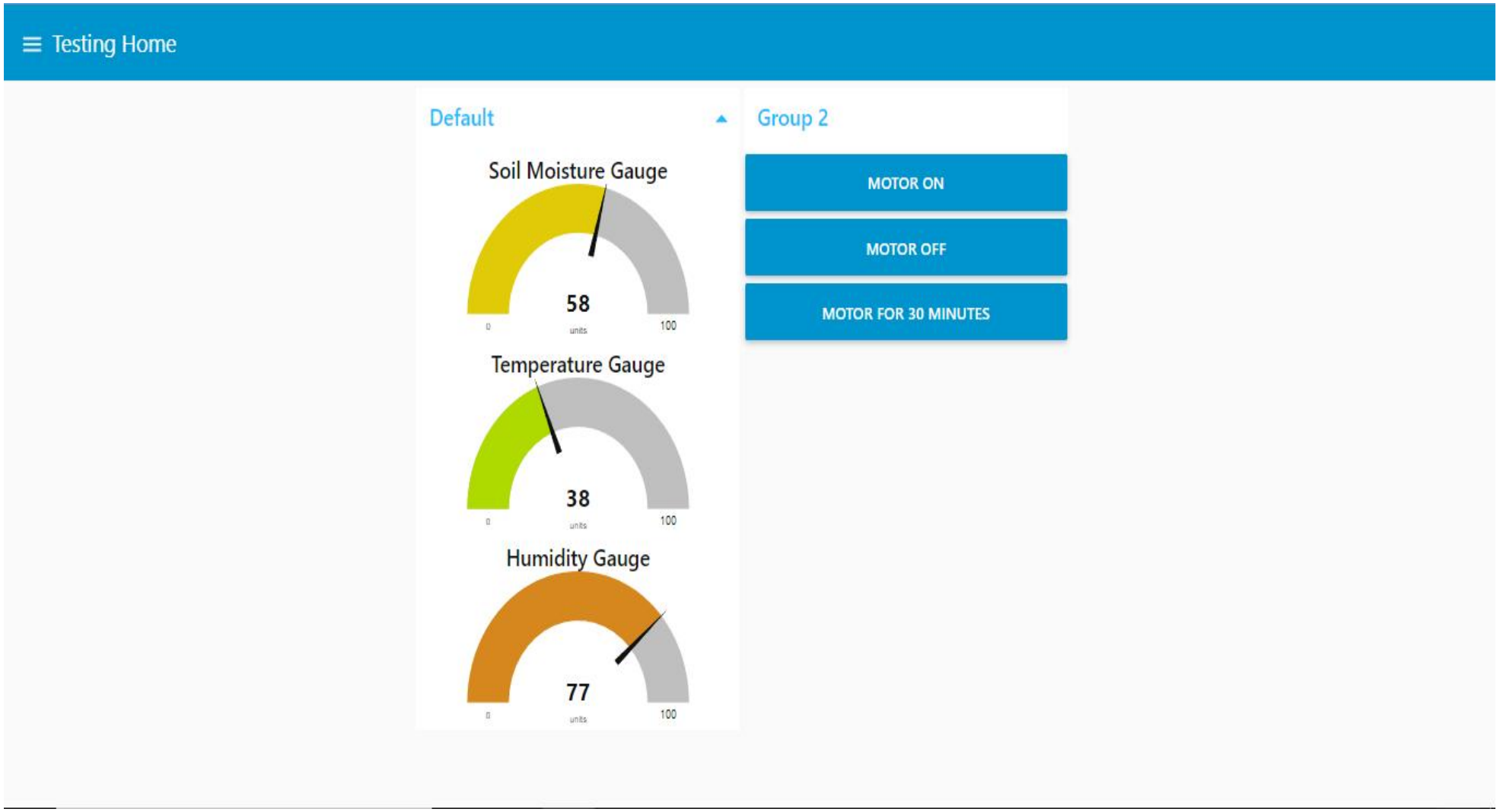
1234 Disconnected Nuder Omit 24OmZ02209:B0

Identity Device Information Recent Events State Logs

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
IoTSénsor	{"temp":Z6,"Humid":59,"soilmoisture":99)	jsnn	few seconds ago a
IoTSensor	{"temp":74,"Humid":13,"soilmoisture":96)	jsnn	few seconds ago
IoTSénsor	{"temp":79,"Humid":24,"soilmoisture":2B)	jsnn	a few seconds ago

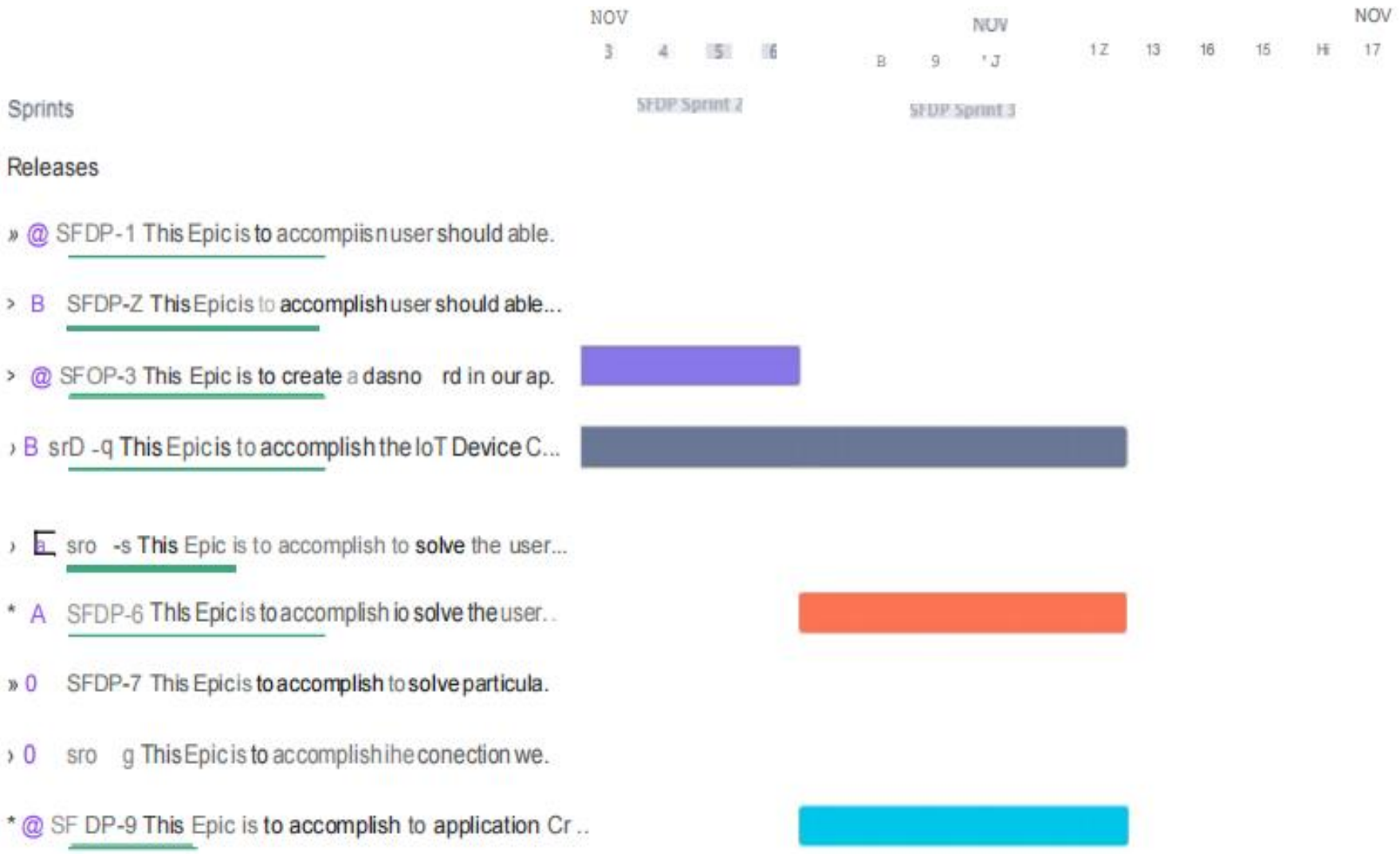

Node-RED
Deploy
filter nodes
Flow 1
Flow 1
debug
current flow
all
tcp out
tcp request
udp in
udp out
input
ibmiot in
output
ibmiot out
sequence
split
join
sort
IBM IoT
connected
debug 2
Humidity
Humidity Gauge
temp
Temperature Gauge
Soil Moisture
Soil Moisture Gauge
Motor ON
Motor OFF
Motor for 30 minutes
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 Chart

Sprint	Commitment	Completed
SFDP Sprint 1	15	15
SFDP Sprint 2	15	15
SFDP Sprint 3	15	15


NOV
3
4
5
6
NUV
B
9
1Z
13
16
15
Hi
17
NOV
Sprints
SFDP Sprint 2
SFDP Sprint 3
Releases
» @ SFDP-1 This Epic is to accompiis n user should able.
> B SFDP-Z This Epicis to accomplish user should able...
> @ SFOP-3 This Epic is to create a dasno rd in our ap.
› B srD -q This Epicis to accomplish the loT Device C...
› sro -s This Epic is to accomplish to solve the user...
* A SFDP-6 Thls Epic is to accomplish io solve the user..
» 0 SFDP-7 This Epicis to accomplish to solve particula.
› 0 sro g This Epicis to accomplish ihe conection we.
* @ SF DP-9 This Epic is to accomplish to application Cr ..

Projects / Sm art Farmer Deve logment Phase y SFDP 6oafd / Reports

Burndown Chart

SFDP Sprint 3 Story Points