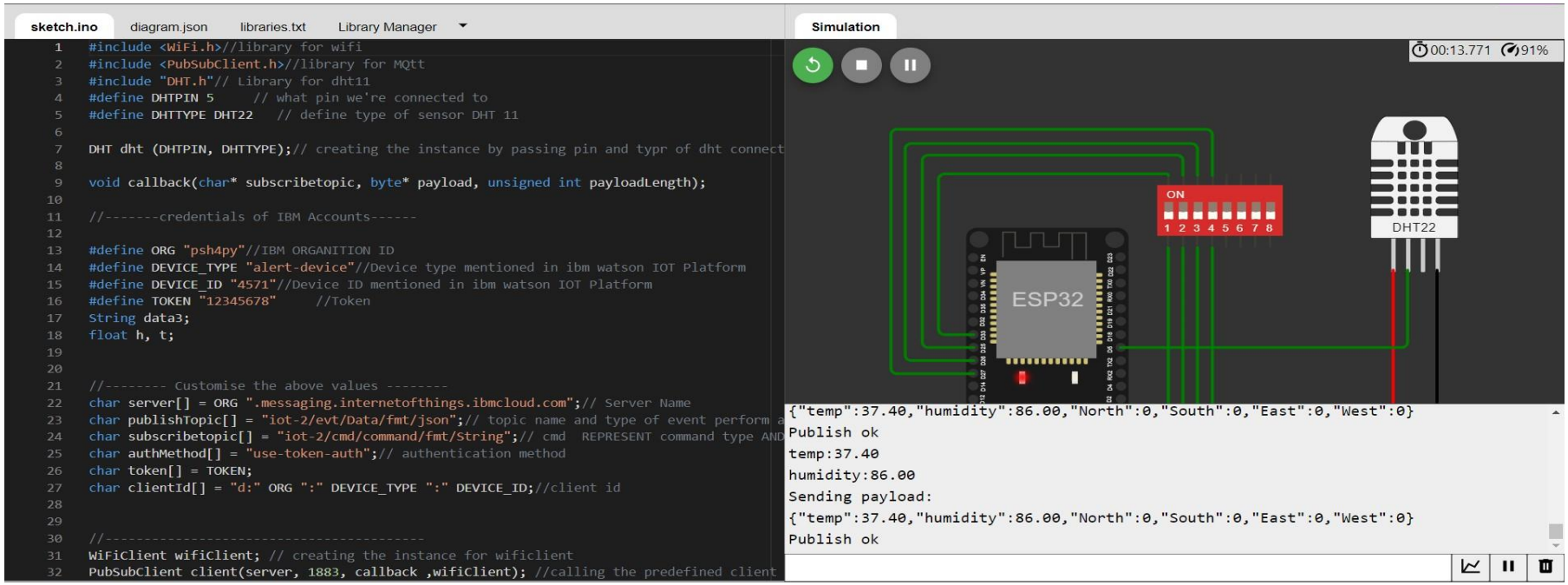
SPRINT 1

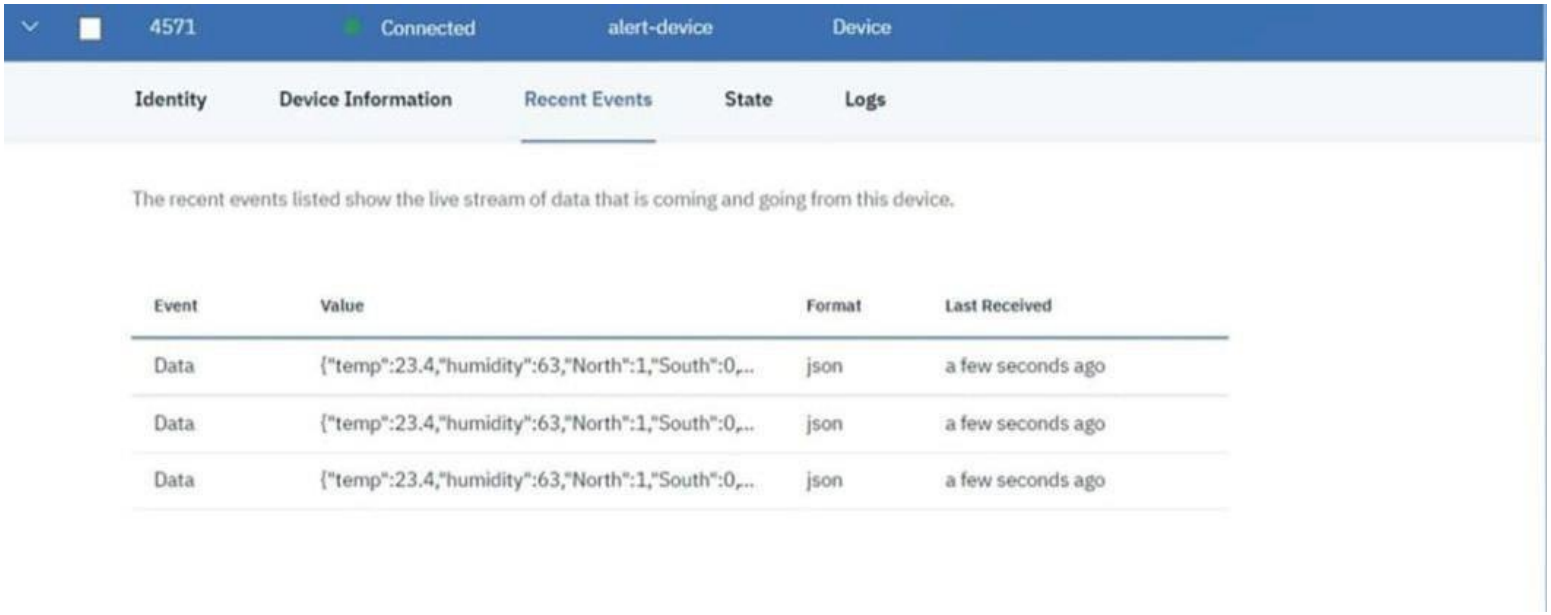
Date	16/11/2022
Team ID	PNT2022TMID14966
Project Name	Project – Signs with Smart Connectivity for Better Road Safety

Wokwi Simulation:

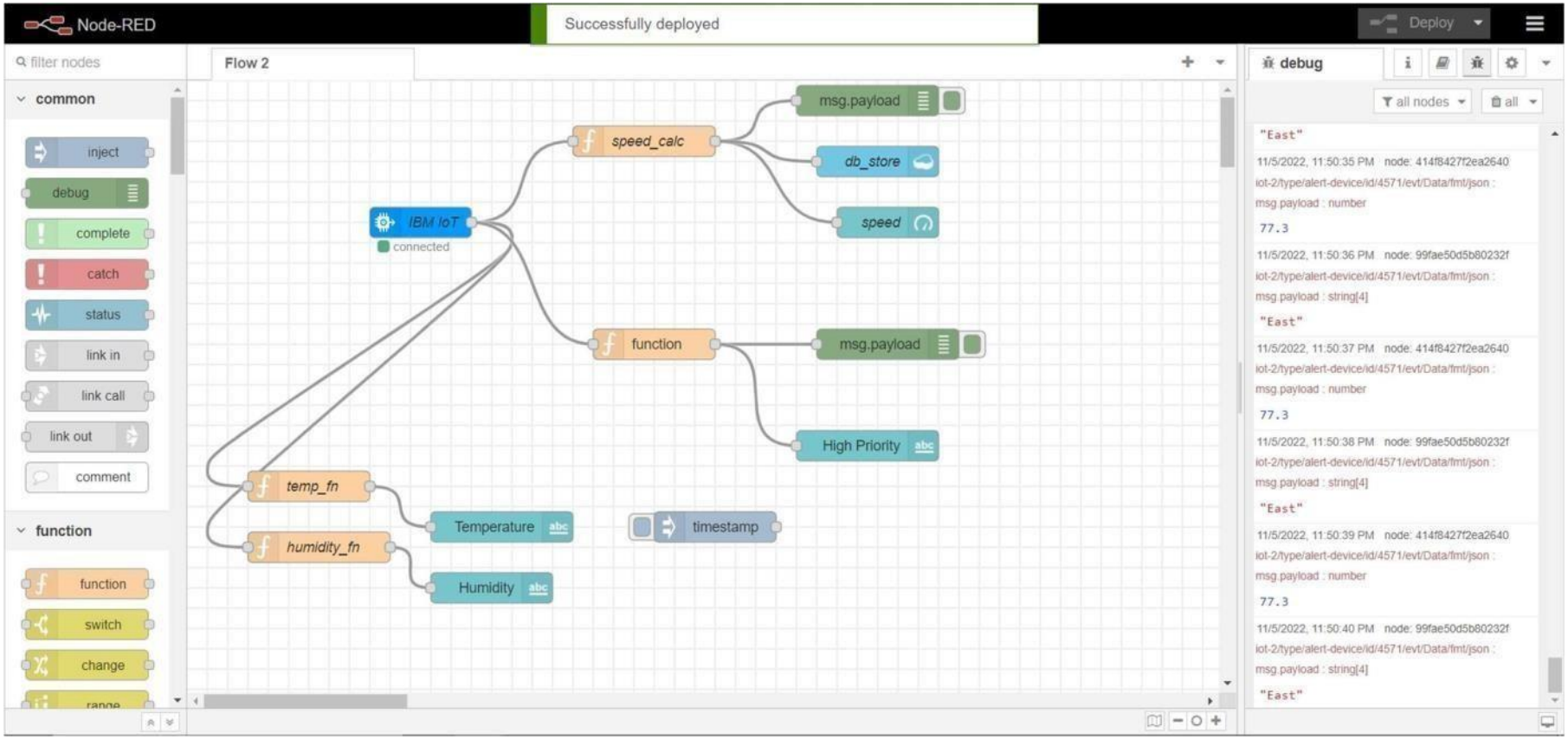



```
#include <WiFi.h>//library for wifi
#include <PubSubClient.h>//library for MQtt
#include "DHT.h"// Library for dht11
#define DHTPIN 5     // what pin we're connected to
#define DHTTYPE DHT22   // define type of sensor DHT 11

DHT dht (DHTPIN, DHTTYPE);// creating the instance by passing pin and typr of dht connect

void callback(char* subscribetopic, byte* payload, unsigned int payloadLength);

//-------credentials of IBM Accounts------

#define ORG "psh4py"//IBM ORGANITION ID
#define DEVICE_TYPE "alert-device"//Device type mentioned in ibm watson IOT Platform
#define DEVICE_ID "4571"//Device ID mentioned in ibm watson IOT Platform
#define TOKEN "12345678"      //Token
String data3;
float h, t;


//-------- Customise the above values --------
char server[] = ORG ".messaging.internetofthings.ibmcloud.com";// Server Name
char publishTopic[] = "iot-2/evt/Data/fmt/json";// topic name and type of event perform a
char subscribetopic[] = "iot-2/cmd/command/fmt/String";// cmd  REPRESENT command type AND
char authMethod[] = "use-token-auth";// authentication method
char token[] = TOKEN;
char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID;//client id


//-----------------------------------------
WiFiClient wifiClient; // creating the instance for wificlient
PubSubClient client(server, 1883, callback ,wifiClient); //calling the predefined client
```

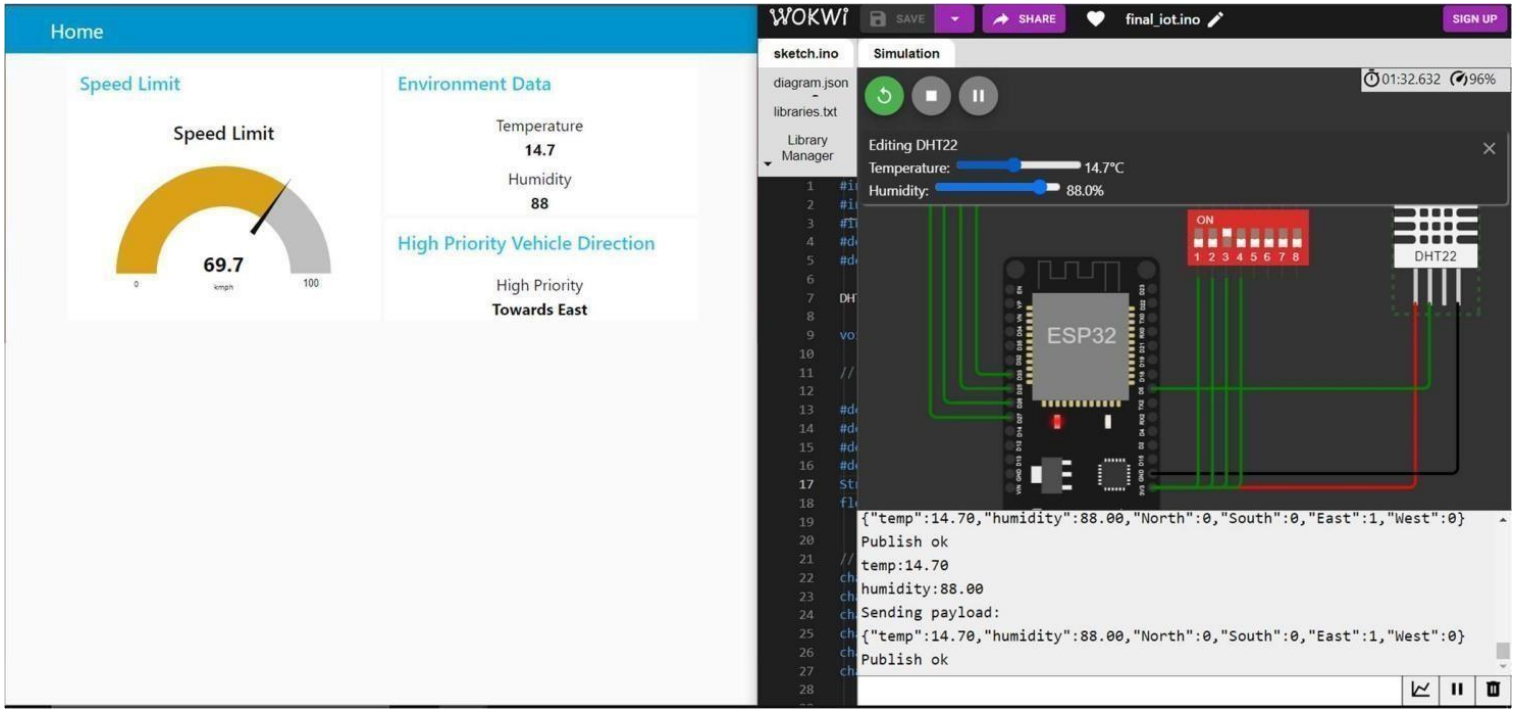
IoT Device – IoT Platform

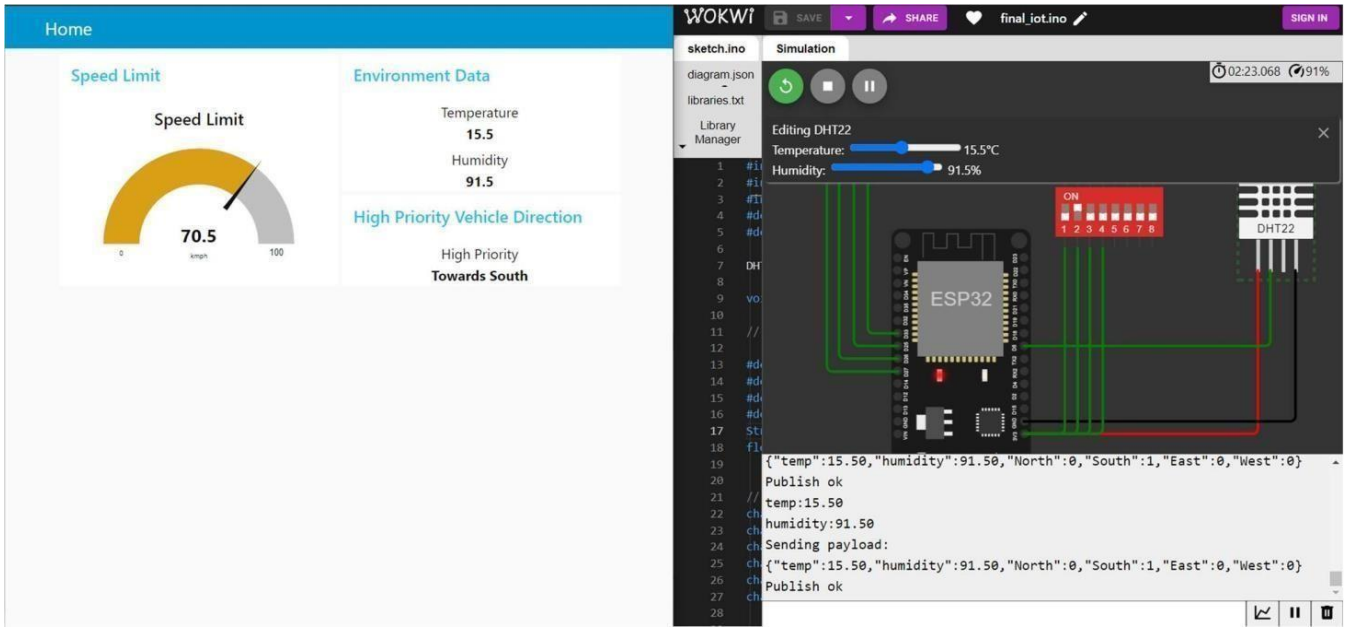


Node Red


Node-RED
Successfully deployed
Deploy
filter nodes
Flow 2
common
inject
debug
complete
catch
status
link in
link call
link out
comment
function
function
switch
change
range
IBM IoT
connected
speed_calc
msg.payload
db_store
speed
function
msg.payload
High Priority
temp_fn
humidity_fn
Temperature
Humidity
timestamp
debug
all nodes
all
"East"
11/5/2022, 11:50:35 PM node: 414f8427f2ea2640
iot-2/type/alert-device/id/4571/evt/Data/fmt/json :
msg.payload : number
77.3
11/5/2022, 11:50:36 PM node: 99fae50d5b80232f
iot-2/type/alert-device/id/4571/evt/Data/fmt/json :
msg.payload : string[4]
"East"
11/5/2022, 11:50:37 PM node: 414f8427f2ea2640
iot-2/type/alert-device/id/4571/evt/Data/fmt/json :
msg.payload : number
77.3
11/5/2022, 11:50:38 PM node: 99fae50d5b80232f
iot-2/type/alert-device/id/4571/evt/Data/fmt/json :
msg.payload : string[4]
"East"
11/5/2022, 11:50:39 PM node: 414f8427f2ea2640
iot-2/type/alert-device/id/4571/evt/Data/fmt/json :
msg.payload : number
77.3
11/5/2022, 11:50:40 PM node: 99fae50d5b80232f
iot-2/type/alert-device/id/4571/evt/Data/fmt/json :
msg.payload : string[4]
"East"

Node Red Web UI




Home
Speed Limit
Speed Limit
70.5
0
kmph
100
Environment Data
Temperature
15.5
Humidity
91.5
High Priority Vehicle Direction
High Priority
Towards South
WOKWI
SAVE
SHARE
final_iot.ino
SIGN IN
sketch.ino
diagram.json
libraries.txt
Library Manager
Simulation
02:23.068
91%
Editing DHT22
Temperature:
15.5°C
Humidity:
91.5%
ON
1 2 3 4 5 6 7 8
DHT22
ESP32
{"temp":15.50,"humidity":91.50,"North":0,"South":1,"East":0,"West":0}
Publish ok
temp:15.50
humidity:91.50
Sending payload:
{"temp":15.50,"humidity":91.50,"North":0,"South":1,"East":0,"West":0}
Publish ok

Cloudant Database