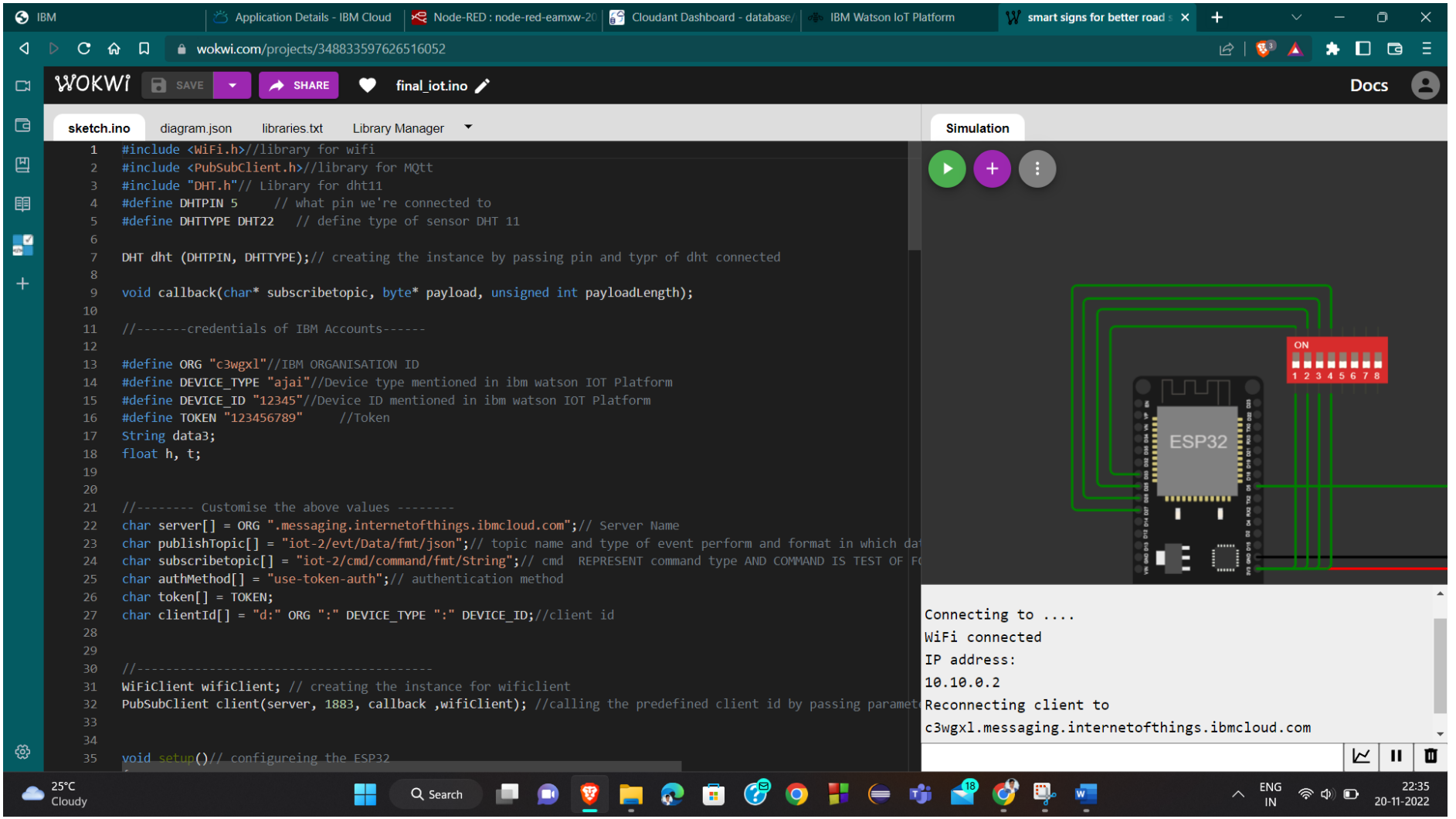
Project Development Phase Sprint I

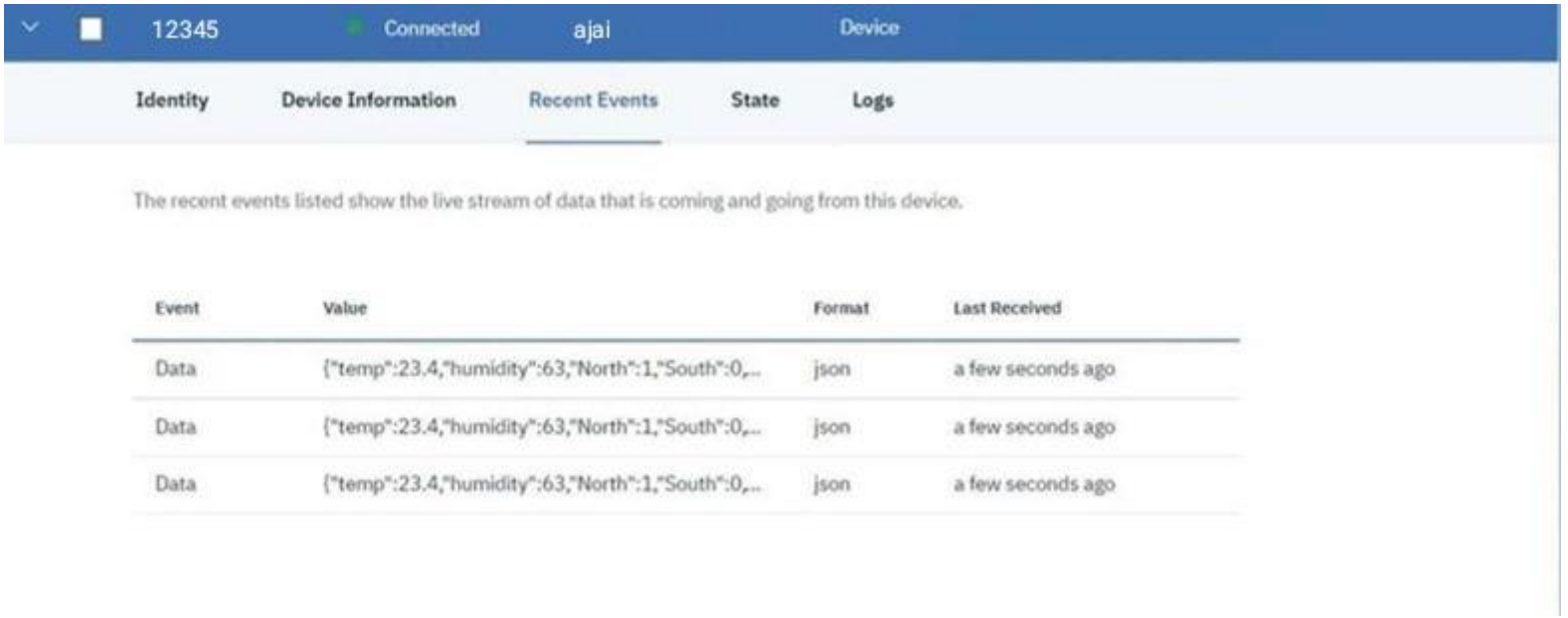
Date	13 November 2022
Team ID	PNT2022TMID14814
Project Name	Signs with Smart Connectivity for better road safety

SPRINT TARGETS:

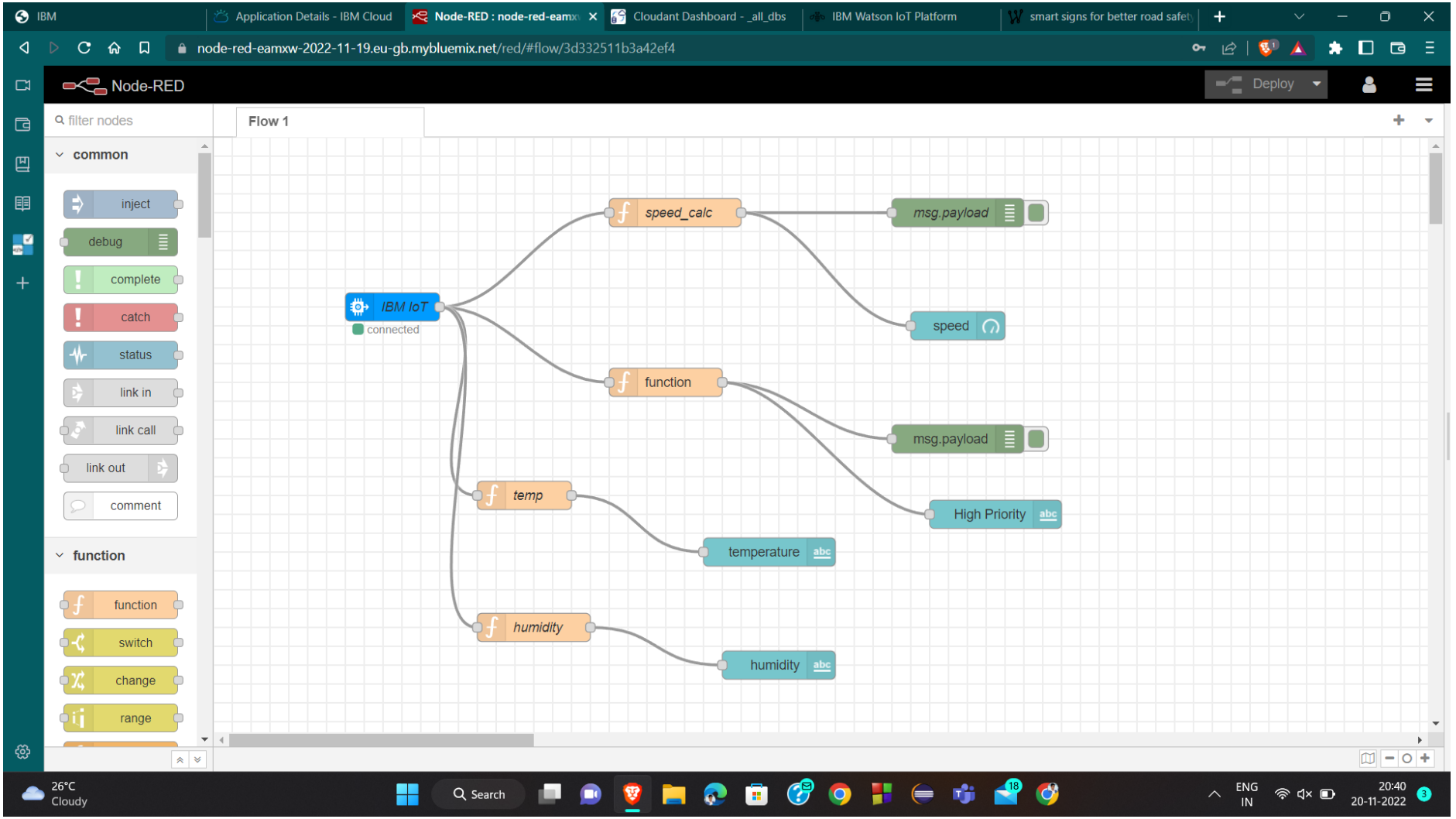
Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Dynamic Speed Limit	USN-1	As a traveller, It is Essential form to know the speed limit	10	High	Ajai Balaji P Dheepak Kumaar A S Vamsi Krishna D Gowshik Ram S
Sprint-1	Priority Vehicle	USN-2	Simulating the circuits and experimenting	2	High	Ajai Balaji P Dheepak Kumaar A S Vamsi Krishna D Gowshik Ram S
Sprint-1	Weather Speed Limit	USN-3	As a user, I should be aware of weather influence on speed limit for safer ride		Medium	Ajai Balaji P Dheepak Kumaar A S Vamsi Krishna D Gowshik Ram S


IBM
Application Details - IBM Cloud
Node-RED : node-red-eamxw-20
Cloudant Dashboard - database/
IBM Watson IoT Platform
smart signs for better road
wokwi.com/projects/348833597626516052
WOKWI
SAVE
SHARE
final_iot.ino
Docs
sketch.ino
diagram.json
libraries.txt
Library Manager
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 connected
void callback(char* subscribetopic, byte* payload, unsigned int payloadLength);
//-------credentials of IBM Accounts------
#define ORG "c3wgxl"//IBM ORGANISATION ID
#define DEVICE_TYPE "ajai"//Device type mentioned in ibm watson IOT Platform
#define DEVICE_ID "12345"//Device ID mentioned in ibm watson IOT Platform
#define TOKEN "123456789" //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 and format in which da
char subscribetopic[] = "iot-2/cmd/command/fmt/String";// cmd REPRESENT command type AND COMMAND IS TEST OF F
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 id by passing paramet
void setup()// configureing the ESP32
ON
1 2 3 4 5 6 7 8
ESP32
Connecting to ....
WiFi connected
IP address:
10.10.0.2
Reconnecting client to
c3wgxl.messaging.internetofthings.ibmcloud.com
25°C
Cloudy
Search
ENG
IN
22:35
20-11-2022

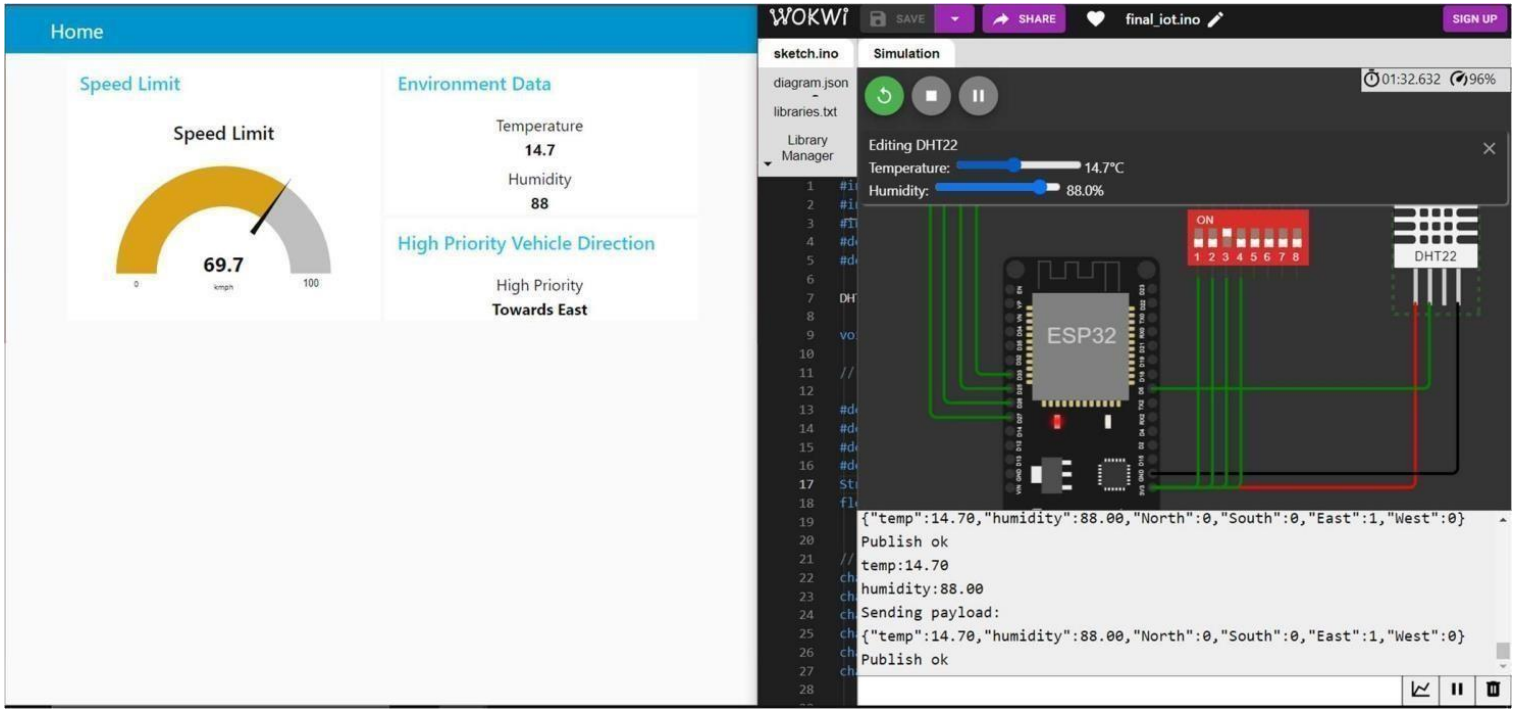
IoT Device – IoT Platform

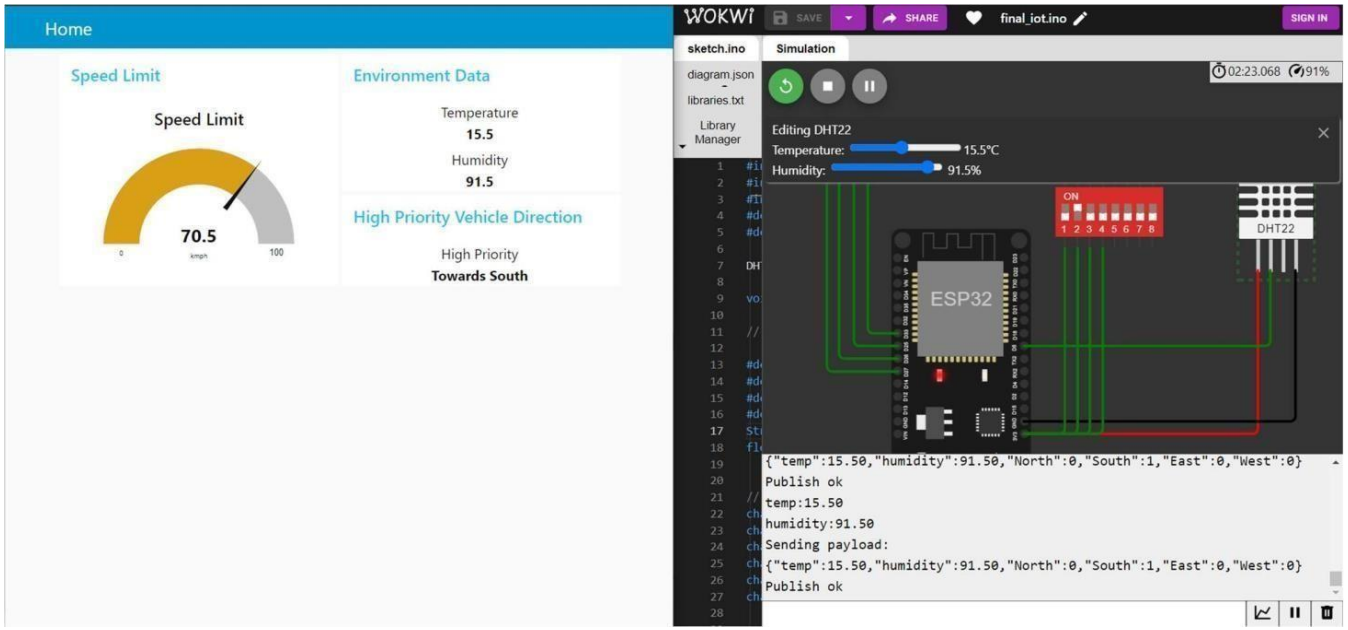


Node Red


IBM
Application Details - IBM Cloud
Node-RED : node-red-eamx
Cloudant Dashboard - _all_dbs
IBM Watson IoT Platform
smart signs for better road safety
node-red-eamxw-2022-11-19.eu-gb.mybluemix.net/red/#flow/3d332511b3a42ef4
Node-RED
Deploy
filter nodes
Flow 1
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
speed
function
msg.payload
temp
High Priority
temperature
humidity
humidity
26°C
Cloudy
Search
ENG
IN
20:40
20-11-2022

Node Red Web UI




Home
Speed Limit
Speed Limit
70.5
kmph
0
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