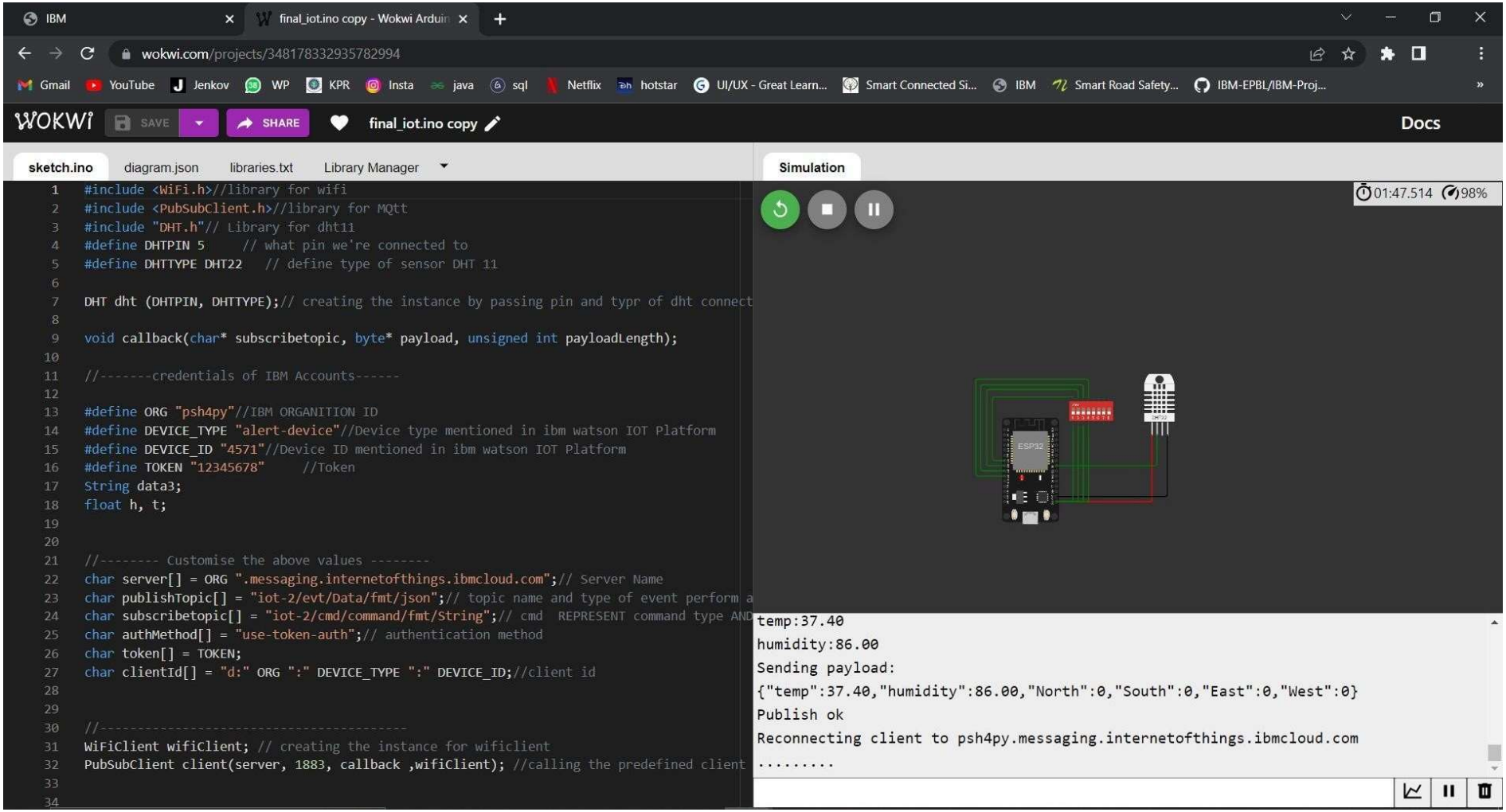
Project Development PhaseSprint I

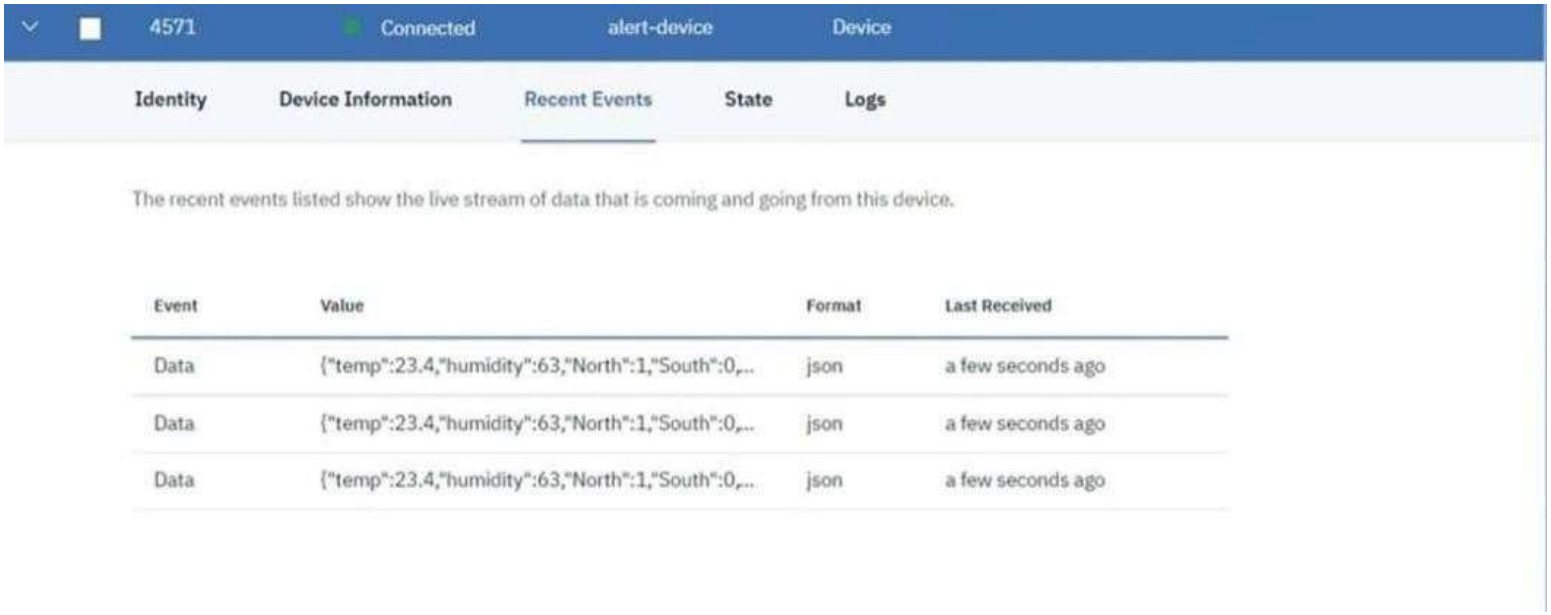
Date	13 November 2022
Team ID	PNT2022TMID48245
Project Name	Signs with Smart Connectivity for better road safety

SPRINT TARGETS:

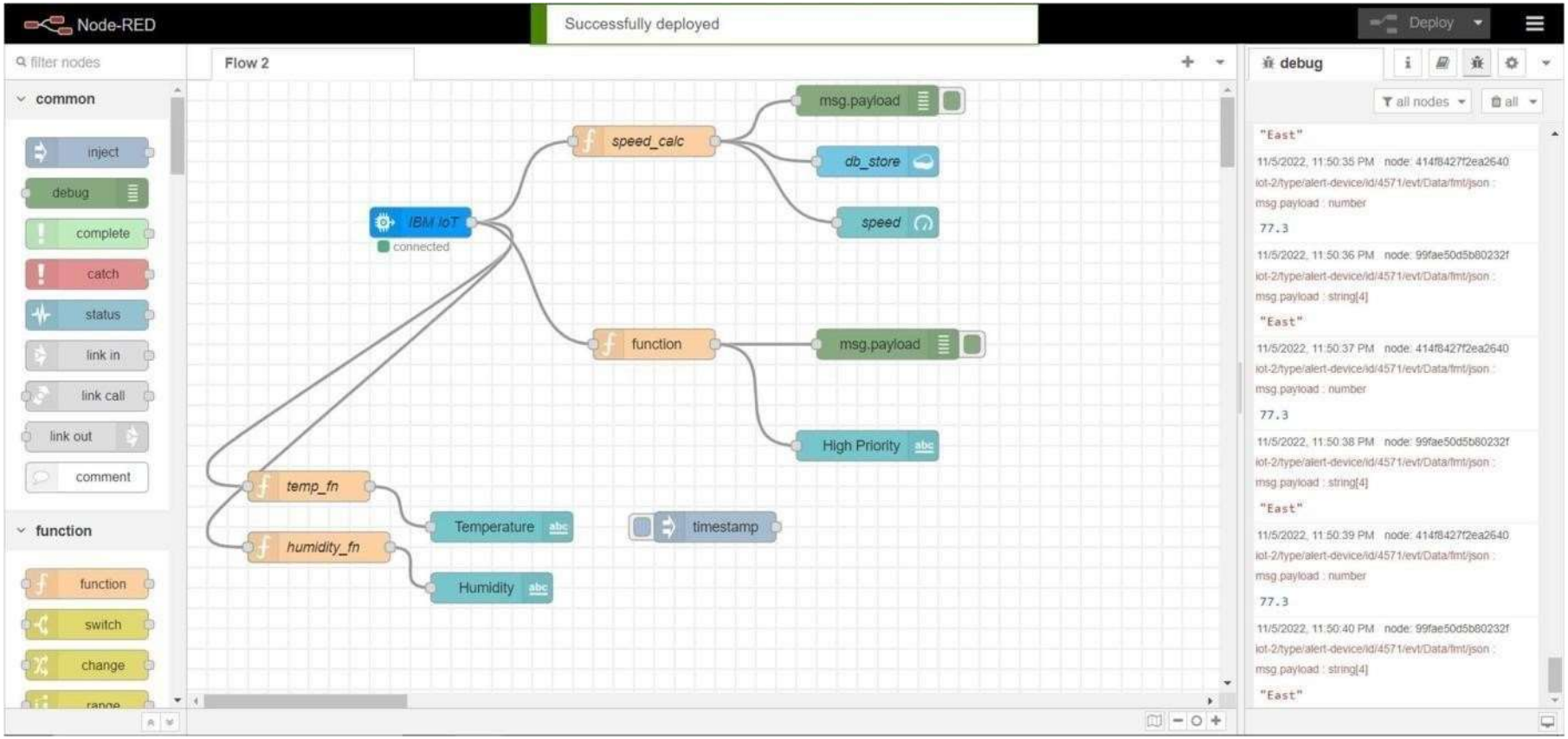
Sprint	Functional Requirement (Epic)	UserStory Number	UserStory / Task	Story Points	Priority	Team Members
Sprint-1	Dynamic Speed Limit	USN-1	As a traveller , It is Essential form to know the speed limit	10	High	R.Gautham Ganesh T.R.Anantha krishnan R.Tamizharasan P.Santhiya Jinthan
Sprint-1	Priority Vehicle	USN-2	Simulatingthecircuitsandexperimenting	2	High	R.Gautham Ganesh T.R.Anantha krishnan R.Tamizharasan P.Santhiya Jinthan
Sprint-1	Weather Speed Limit	USN-3	As auser ,I should be aware of weather influence on speedlimitforsaferride		Medium	R.Gautham Ganesh T.R.Anantha krishnan R.Tamizharasan P.Santhiya Jinthan


IBM
final_iot.ino copy - Wokwi Arduin
wokwi.com/projects/348178332935782994
Gmail YouTube Jenkov WP KPR Insta java sql Netflix hotstar UI/UX - Great Learn... Smart Connected Si... IBM Smart Road Safety... IBM-EPBL/IBM-Proj...
WOKWI SAVE SHARE final_iot.ino copy Docs
sketch.ino diagram.json libraries.txt Library Manager
#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
Simulation
01:47.514 98%
ESP32
temp:37.40
humidity:86.00
Sending payload:
{"temp":37.40,"humidity":86.00,"North":0,"South":0,"East":0,"West":0}
Publish ok
Reconnecting client to psh4py.messaging.internetofthings.ibmcloud.com
.....

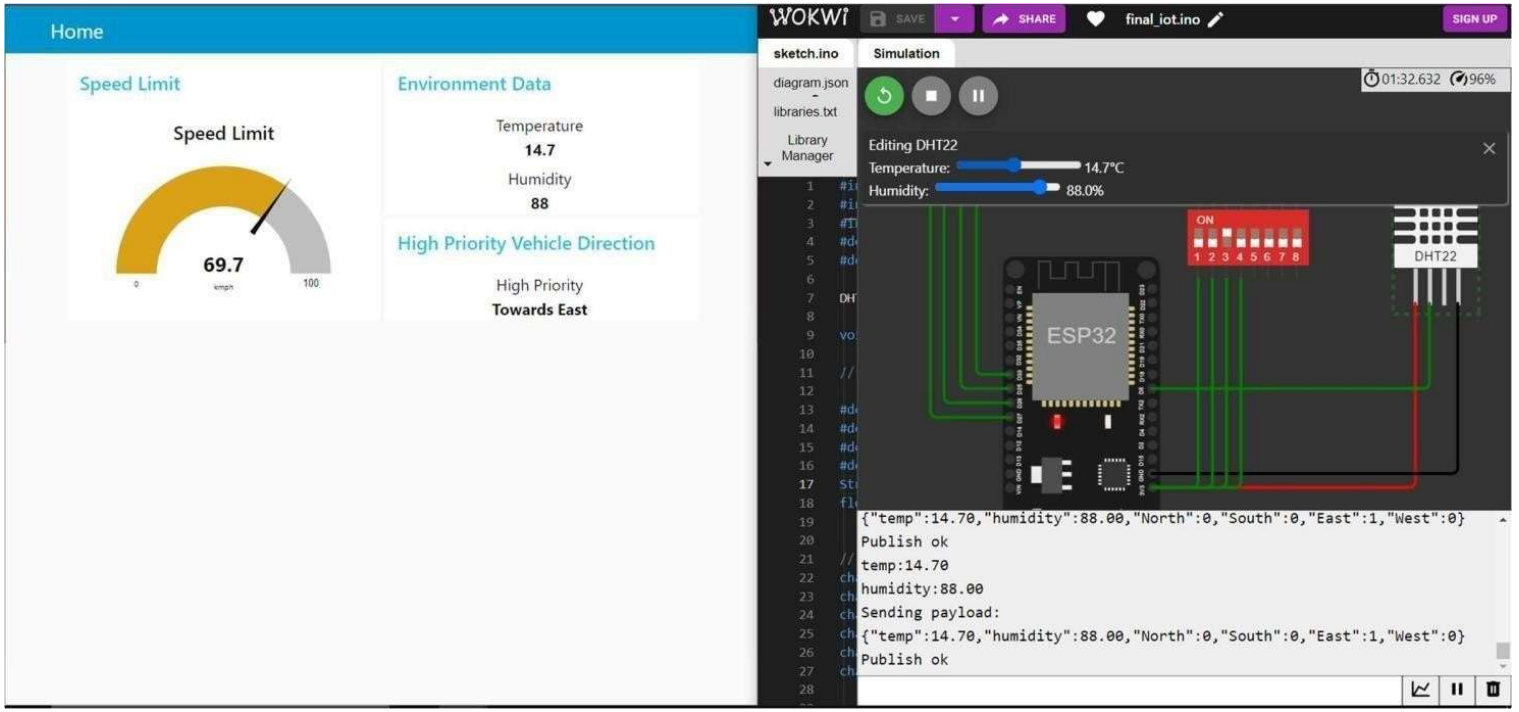
IoT Device – IoT Platform

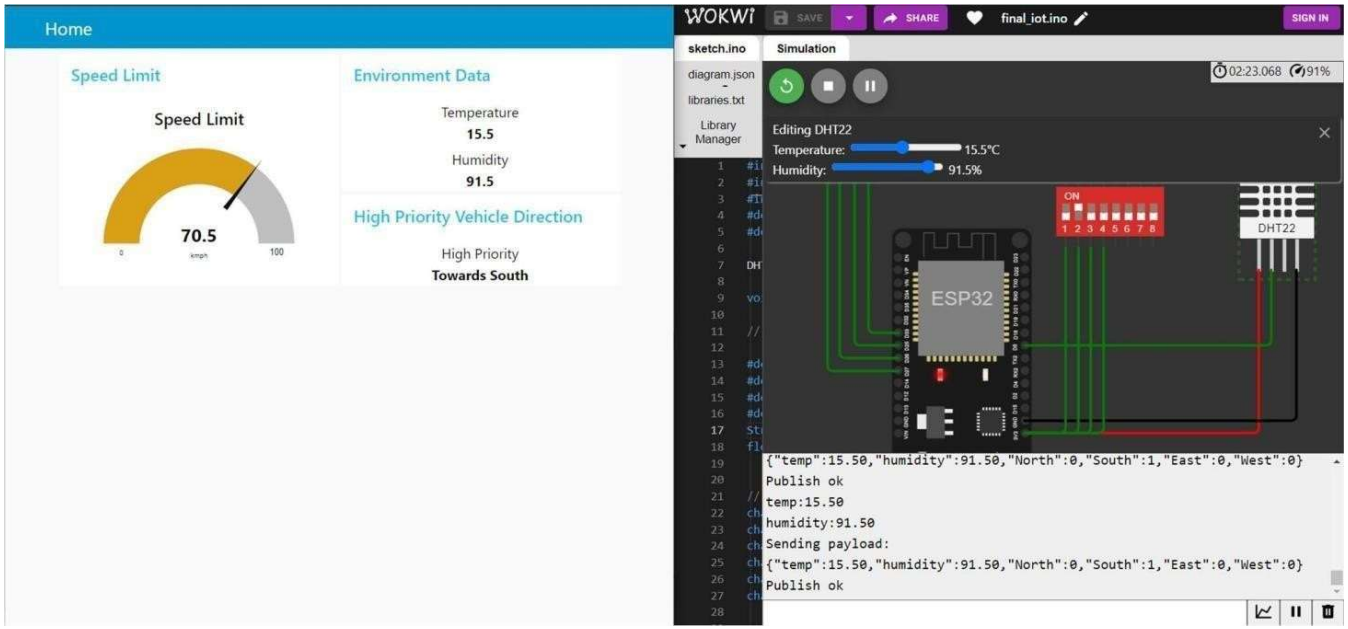


Node Red


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
msg.payload
speed_calc
db_store
speed
IBM IoT
connected
function
msg.payload
High Priority
temp_fn
Temperature
timestamp
humidity_fn
Humidity
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