

SPRINT 1

Date	19 th NOVEMBER 2022
Team ID	PNT2022TMID277860
Project Name	Project – Signs with Smart Connectivity for Better Road Safety

Wokwi Simulation: Rajeshfinal <https://wokwi.com/projects/348855035785904723>

The screenshot displays the Wokwi simulation environment. On the left, the code for the ESP32 is shown, which includes the DHTesp library and a loop that reads temperature and humidity data from a DHT22 sensor connected to pin 15. The code is as follows:

```
1 /**  
2  * ESP32 + DHT22 Example for Wokwi  
3  *  
4  * https://wokwi.com/arduino/projects/322410731508073042  
5  */  
6  
7  #include "DHTesp.h"  
8  
9  const int DHT_PIN = 15;  
10  
11  DHTesp dhtSensor;  
12  
13  void setup() {  
14    Serial.begin(115200);  
15    dhtSensor.setup(DHT_PIN, DHTesp::DHT22);  
16  }  
17  
18  void loop() {  
19    TempAndHumidity data = dhtSensor.getTempAndHumidity();  
20    Serial.println("Temp: " + String(data.temperature, 2) + "°C");  
21    Serial.println("Humidity: " + String(data.humidity, 1) + "%");  
22    Serial.println("---");  
23    delay(1000);  
24  }
```

On the right, the simulation shows an ESP32 microcontroller board connected to a DHT22 sensor. A red button labeled 'ON' is connected to the sensor's VCC pin. The terminal output at the bottom shows the following data:

```
Temp: 24.00°C  
Humidity: 40.0%  
---  
Temp: 24.00°C  
Humidity: 40.0%  
---  
Temp: 24.00°C
```

IoT Device – IoT Platform

4571

Connected

alert-device

Device

Identity

Device Information

Recent Events

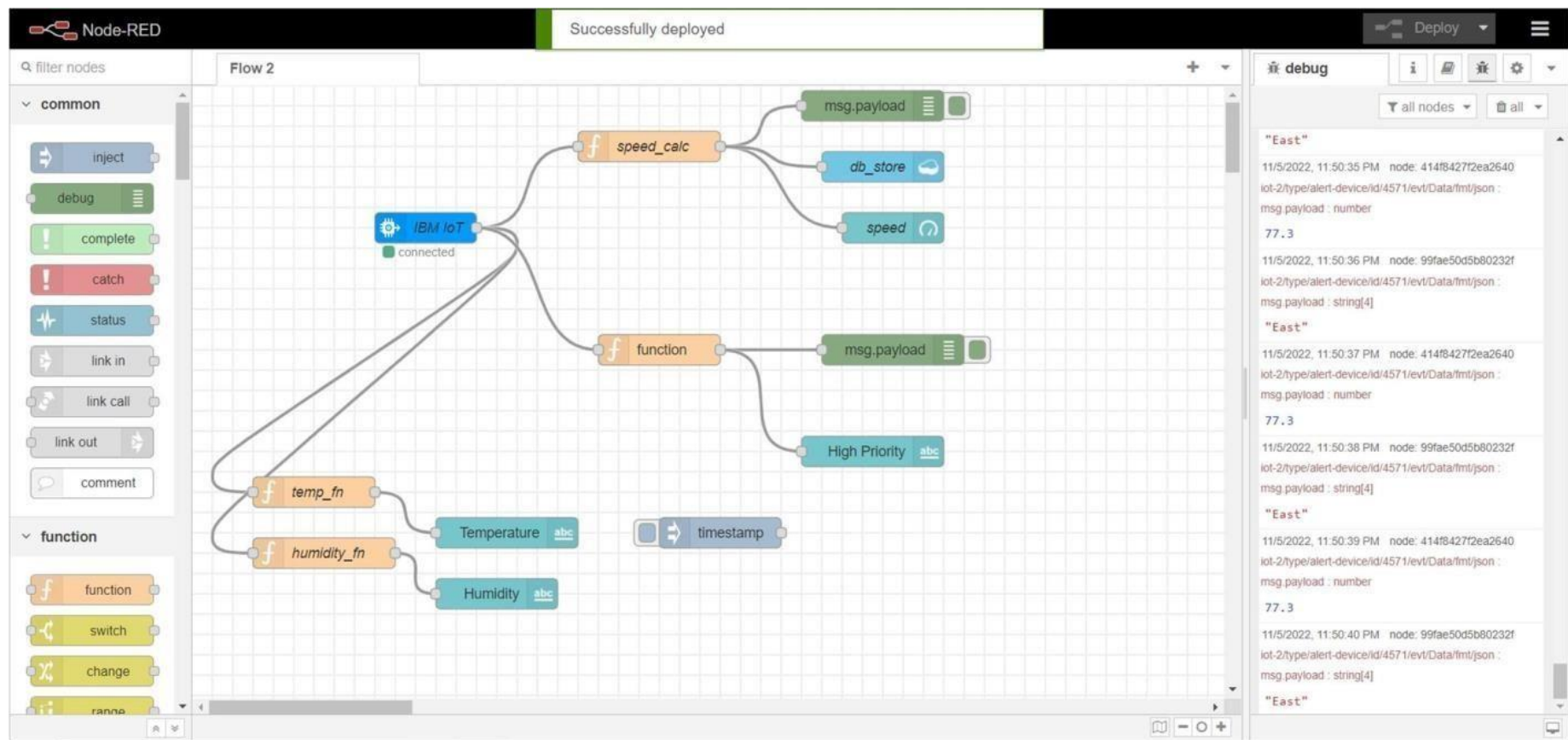
State

Logs

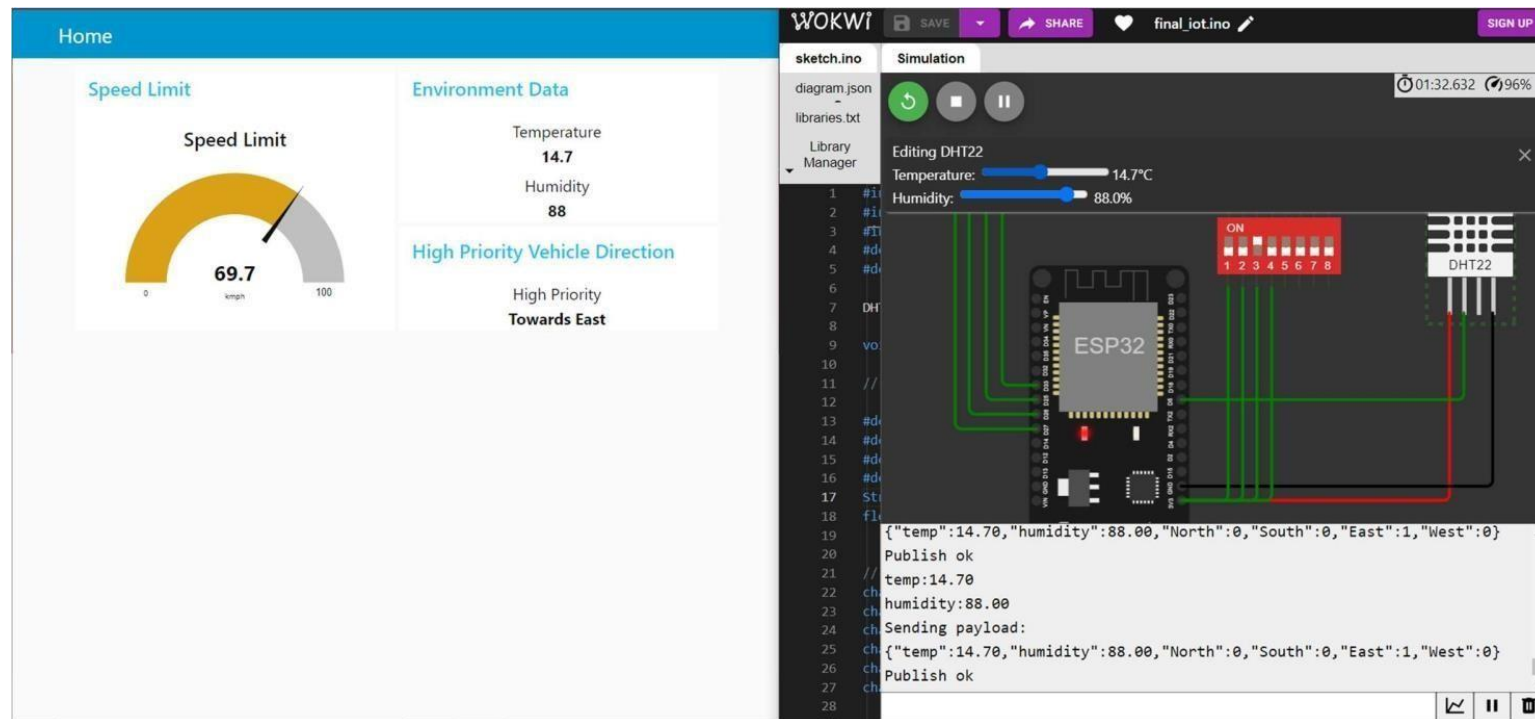
The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
Data	{"temp":23.4,"humidity":63,"North":1,"South":0,...	json	a few seconds ago
Data	{"temp":23.4,"humidity":63,"North":1,"South":0,...	json	a few seconds ago
Data	{"temp":23.4,"humidity":63,"North":1,"South":0,...	json	a few seconds ago

Node Red



Node Red Web UI



Home

Speed Limit

Speed Limit

70.5

0100

kmph

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

Simulation

diagram.json

libraries.txt

Library Manager

02:23:068 91%

Editing DHT22

Temperature: 15.5°C

Humidity: 91.5%

ESP32

DHT22

1

2

3

4

5

6

7

8

```
1 //
2 //
3 #include <DHT.h>
4 #define DHTPIN 4
5 #define DHTTYPE DHT22
6 DHT dht(DHTPIN, DHTTYPE);
7
8 void setup() {
9   pinMode(13, OUTPUT);
10 }
11
12 //
13 #define JSON_SENSOR_TEMP "{\"temp\":15.50,\"humidity\":91.50,\"North\":0,\"South\":1,\"East\":0,\"West\":0}"
14 #define JSON_SENSOR_HUMIDITY "{\"temp\":15.50,\"humidity\":91.50,\"North\":0,\"South\":1,\"East\":0,\"West\":0}"
15 #define JSON_SENSOR_DIRECTION "{\"temp\":15.50,\"humidity\":91.50,\"North\":0,\"South\":1,\"East\":0,\"West\":0}"
16 #define JSON_SENSOR_ALL "{\"temp\":15.50,\"humidity\":91.50,\"North\":0,\"South\":1,\"East\":0,\"West\":0}"
17 #define ST_SENSOR_TEMP "{\"temp\":15.50,\"humidity\":91.50,\"North\":0,\"South\":1,\"East\":0,\"West\":0}"
18 #define ST_SENSOR_HUMIDITY "{\"temp\":15.50,\"humidity\":91.50,\"North\":0,\"South\":1,\"East\":0,\"West\":0}"
19 #define ST_SENSOR_DIRECTION "{\"temp\":15.50,\"humidity\":91.50,\"North\":0,\"South\":1,\"East\":0,\"West\":0}"
20 #define ST_SENSOR_ALL "{\"temp\":15.50,\"humidity\":91.50,\"North\":0,\"South\":1,\"East\":0,\"West\":0}"
21 //
22 ch
23 humidity:91.50
24 ch
25 Sending payload:
26 ch
27 {"temp":15.50,"humidity":91.50,"North":0,"South":1,"East":0,"West":0}
28 ch
29 Publish ok
```

Cloudant Database

data_iot

All Documents

Query

Permissions

Changes

Design Documents

Document ID

Options

{ } JSON

Create Document

_id	payload
060cc88d44faf11288e9cfd7d8de45a	35
060cc88d44faf11288e9cfd7d904e58	60
060cc88d44faf11288e9cfd7d90c3f9	45.5
060cc88d44faf11288e9cfd7d92a313	60
2314e7571ab5925365e082f191bb2c9c	52.5
26939bb99e5c84bed4f6a20342a22ab2	35
26939bb99e5c84bed4f6a20342a7ccd5	44
3ffa1240575d0cd0d7f848833802e389	55
48a3afbcf5f840466e09ed279d3c3451	53
48a3afbcf5f840466e09ed279d3c5b7c	53
48a3afbcf5f840466e09ed279d3c9545	53
52730057f2d5fde2d21dfaaaabc10dc8	55

Showing 2 of 3 columns. Show all columns.

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