

## SPRINT 4

### UI/UX optimization and debugging

Team ID	PNT2022TMID52810
Project Name	Project - Signs with smart connectivity for Better road safety

Make the system more effective by optimizing the hardware and software based on the accuracy and precision of the observed output.

#### **PYTHON SCRIPT:**

```
import wiotp.sdk.device
import time
import random
import requests,json
import datetime
myConfig = {
    "identity": {
        "orgId": "tmwrsv",
        "typeId": "Sprint",
        "deviceId": "sprint12"
    },
    "auth": {
        "token": "KxMwjzjw)BijreluFk"
    }
}
CITY = "Coimbatore"
API_KEY = "9111b726e6aa664188c5a2924f15f78e"
URL=
"https://api.openweathermap.org/data/2.5/weather?q=Coimbatore,%20IN&appid=9111b726e6aa664188c5a2924f15f78e"
response = requests.get(URL)
if response.status_code == 200:
    data = response.json()
    main = data['main']
    temp = round(main['temp'] - 273,2)
    humy = main['humidity']
    pres = main['pressure']
    rept = data['weather']
    report = rept[0]['description']
    time = datetime.datetime.now()
    morning = time.replace(hour=11, minute=59, second=0, microsecond=0)
    if time <= morning:
        me = '8.30 AM - 9.30 AM'
    else:
        me = '3.45 PM - 5.00 PM'
```

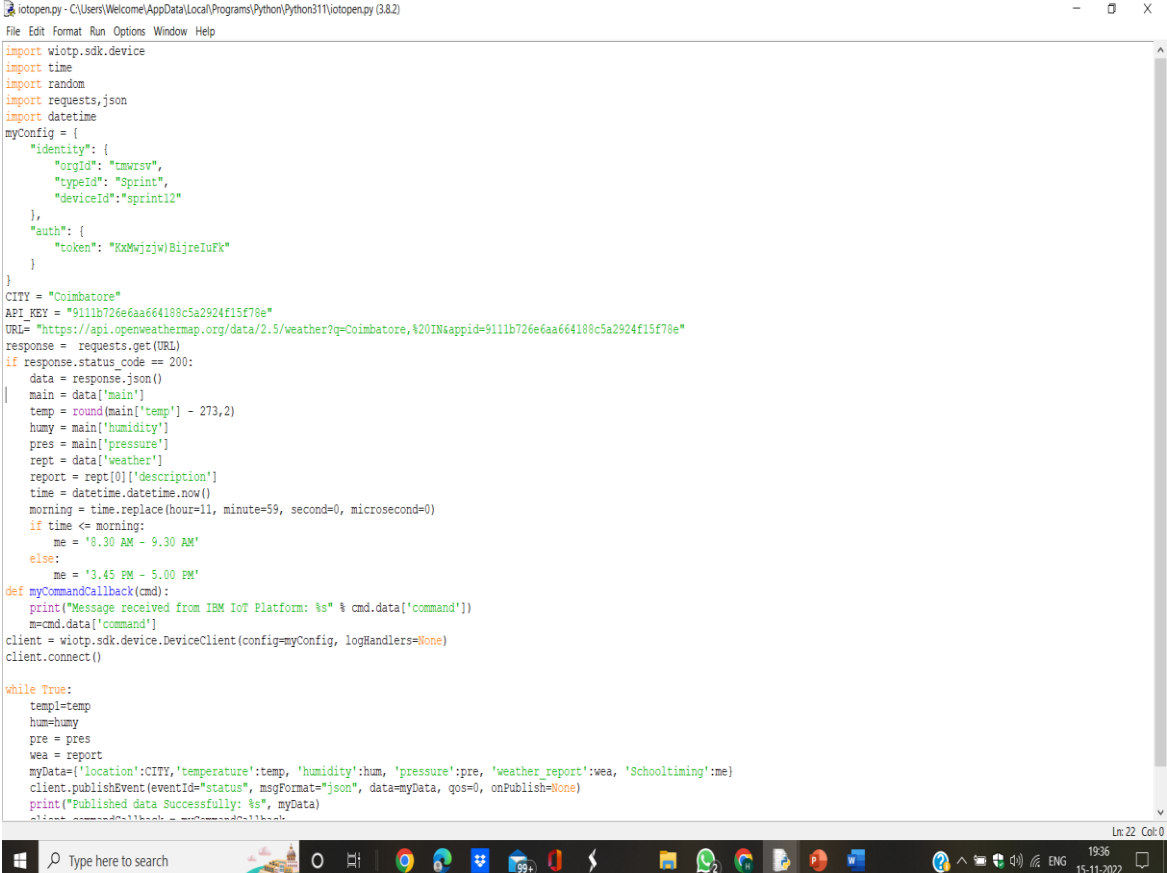
```

def myCommandCallback(cmd):
    print("Message received from IBM IoT Platform: %s" % cmd.data['command'])
    m=cmd.data['command']
client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()

while True:
    temp1=temp
    hum=humy
    pre = pres
    wea = report
    myData={'location':CITY,'temperature':temp, 'humidity':hum, 'pressure':pre,
'weather_report':wea, 'Schooltiming':me}
    client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0,
onPublish=None)
    print("Published data Successfully: %s", myData)
    client.commandCallback = myCommandCallback
client.disconnect()

```

## **PYTHON IDE:**



The screenshot shows a Python IDE window titled "iotopen.py - C:\Users\Welcome\AppData\Local\Programs\Python\Python311\iotopen.py (3.8.2)". The code in the editor is as follows:

```

import wiotp.sdk.device
import time
import random
import requests,json
import datetime
myConfig = {
    "identity": {
        "orgId": "tmwrsrv",
        "typeId": "Sprint",
        "deviceId": "sprint12"
    },
    "auth": {
        "token": "KxMwjzjwBijreIuFk"
    }
}
CITY = "Coimbatore"
API_KEY = "9111b726e6aa664188c5a2924f15f78e"
URL= "https://api.openweathermap.org/data/2.5/weather?q=Coimbatore,%20IN&appid=9111b726e6aa664188c5a2924f15f78e"
response = requests.get(URL)
if response.status_code == 200:
    data = response.json()
    main = data['main']
    temp = round(main['temp'] - 273,2)
    humy = main['humidity']
    pres = main['pressure']
    rept = data['weather']
    report = rept[0]['description']
    time = datetime.datetime.now()
    morning = time.replace(hour=11, minute=59, second=0, microsecond=0)
    if time <= morning:
        me = '8.30 AM - 9.30 AM'
    else:
        me = '3.45 PM - 5.00 PM'
def myCommandCallback(cmd):
    print("Message received from IBM IoT Platform: %s" % cmd.data['command'])
    m=cmd.data['command']
client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()

while True:
    temp1=temp
    hum=humy
    pre = pres
    wea = report
    myData={'location':CITY,'temperature':temp, 'humidity':hum, 'pressure':pre, 'weather_report':wea, 'Schooltiming':me}
    client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0, onPublish=None)
    print("Published data Successfully: %s", myData)
    client.commandCallback = myCommandCallback

```

The IDE interface includes a menu bar (File, Edit, Format, Run, Options, Window, Help) and a status bar at the bottom showing "Ln 22 Col 0". The Windows taskbar is visible at the very bottom of the image.

### PYTHON IDE OUTPUT:

[illegible]

### IBM WATSON IOT PLATFORM OUTPUT:

tmwrsv.internetofthings.ibmcloud.com/dashboard/devices/browse

IBM Watson IoT Platform

2004201ec@cit.edu.in  
ID: tmwrsv

Browse Action Device Types Interfaces

Add Device

All Devices Diagnose

This table shows a summary of all devices that have been added. It can be filtered, organized, and searched on using different criteria. To get started, you can add devices by using the Add Device button, or by using API.

Search by Device ID

Device Simulator

	Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
>	1110	Disconnected	iot_new	Device	Nov 12, 2022 4:15 PM	
>	sprint12	Connected	Sprint	Device	Nov 14, 2022 11:06 PM	
>	weather_tdy	Disconnected	weather	Device	Nov 13, 2022 7:09 PM	

Items per page 50 | 1-3 of 3 items

1 of 1 page

1 Simulation running

tmwrsv.internetofthings.ibmcloud.com/dashboard/devices/browse

IBM Watson IoT Platform

2004201ec@cit.edu.in  
ID: tmwrsv

Browse Action Device Types Interfaces

Add 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
status	{"location":"Coimbatore","temperature":26.03,"h...	json	a few seconds ago
status	{"location":"Coimbatore","temperature":26.03,"h...	json	a few seconds ago
status	{"location":"Coimbatore","temperature":26.03,"h...	json	a few seconds ago
status	{"location":"Coimbatore","temperature":26.03,"h...	json	a few seconds ago
status	{"location":"Coimbatore","temperature":26.03,"h...	json	a few seconds ago

> ☐ weather\_tdy ☐ Disconnected weather Device Nov 15 11:02 PM 1 Simulation running

Items per page 50 1-3 of 3 items

tmwrsv.internetofthings.ibmcloud.com/dashboard/devices/browse

IBM Watson IoT Platform

2004201ec@cit.edu.in  
ID: tmwrsv

Browse Action Device Types Interfaces

Add Device +

Identity Device Information

The recent events listed show the live

Event	Value
status	{"location":"Coin
status	{"location":"Coin
status	{"location":"Coin
status	{"location":"Coin
status	{"location":"Coin

### Event Payload

Event Name status

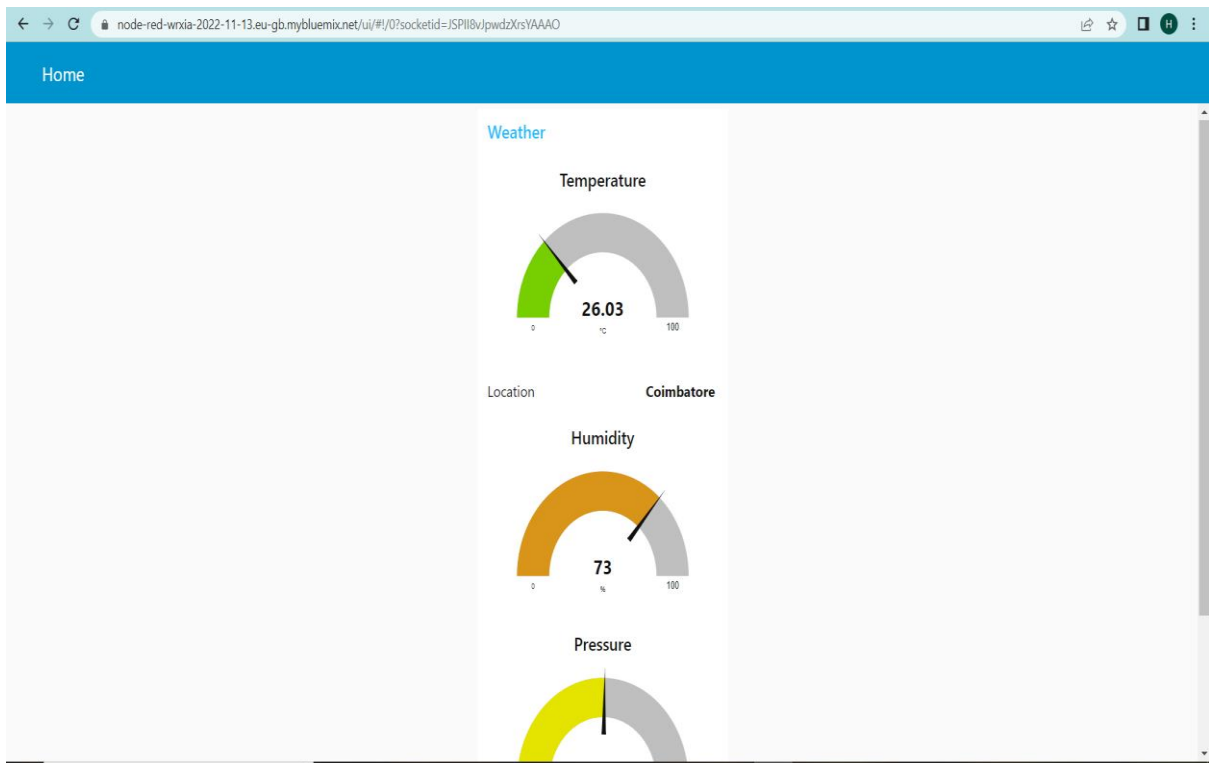
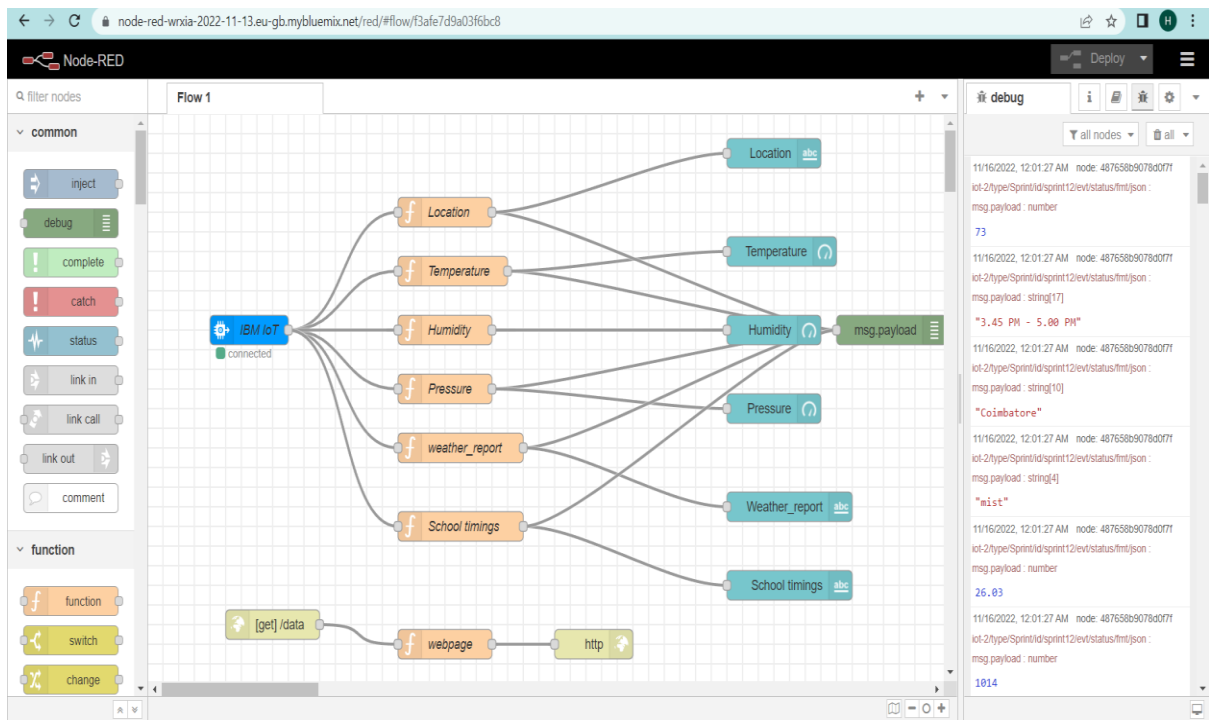
Time Received Nov 15, 2022 11:02 PM

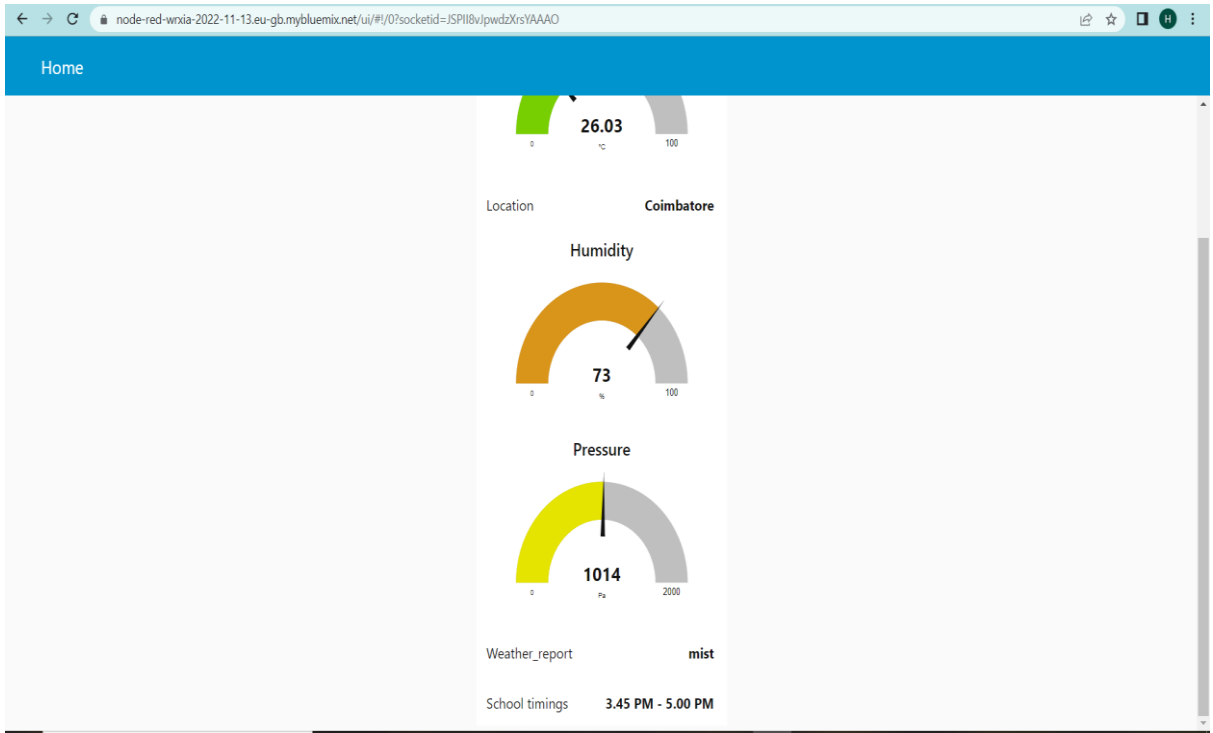
```
1 {  
2   "location": "Coimbatore",  
3   "temperature": 26.83,  
4   "humidity": 73,  
5   "pressure": 1014,  
6   "weather_report": "mist",  
7   "SchoolTiming": "3.45 PM - 5.00 PM"  
8 }
```

> ☐ weather\_tdy ☐ Disconnected weather Device Nov 15 11:02 PM 1 Simulation running

Items per page 50 1-3 of 3 items

## WEB APPLICATION USING NODE-RED SERVICE:



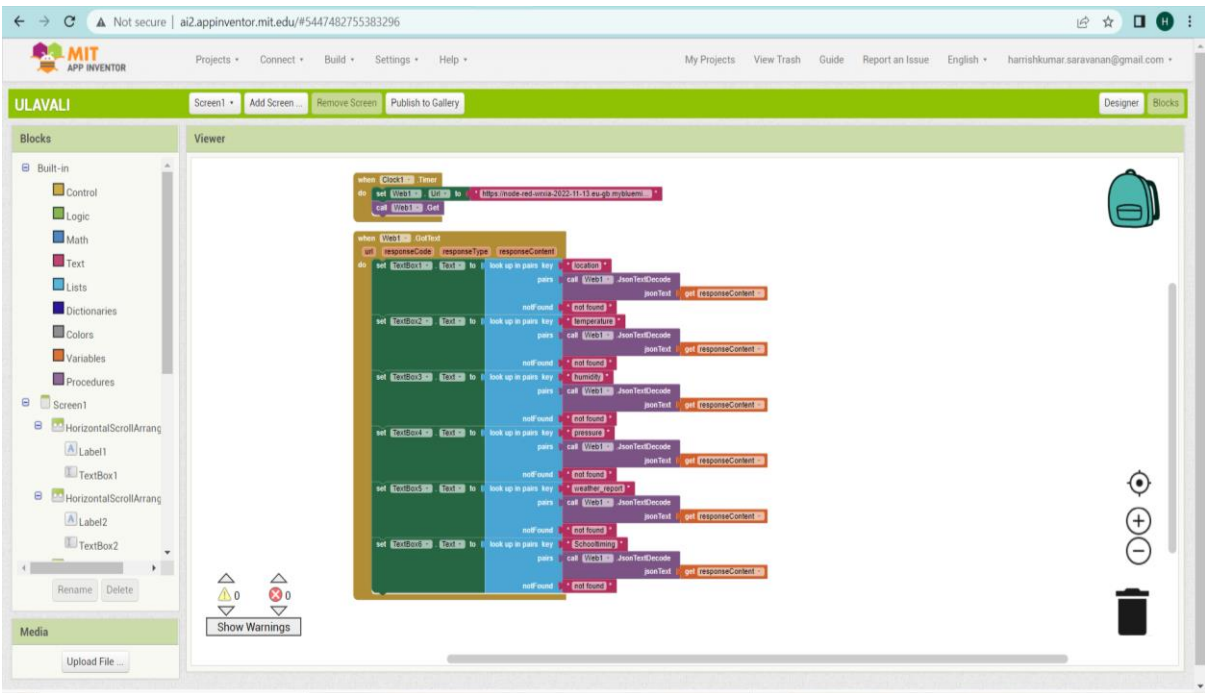
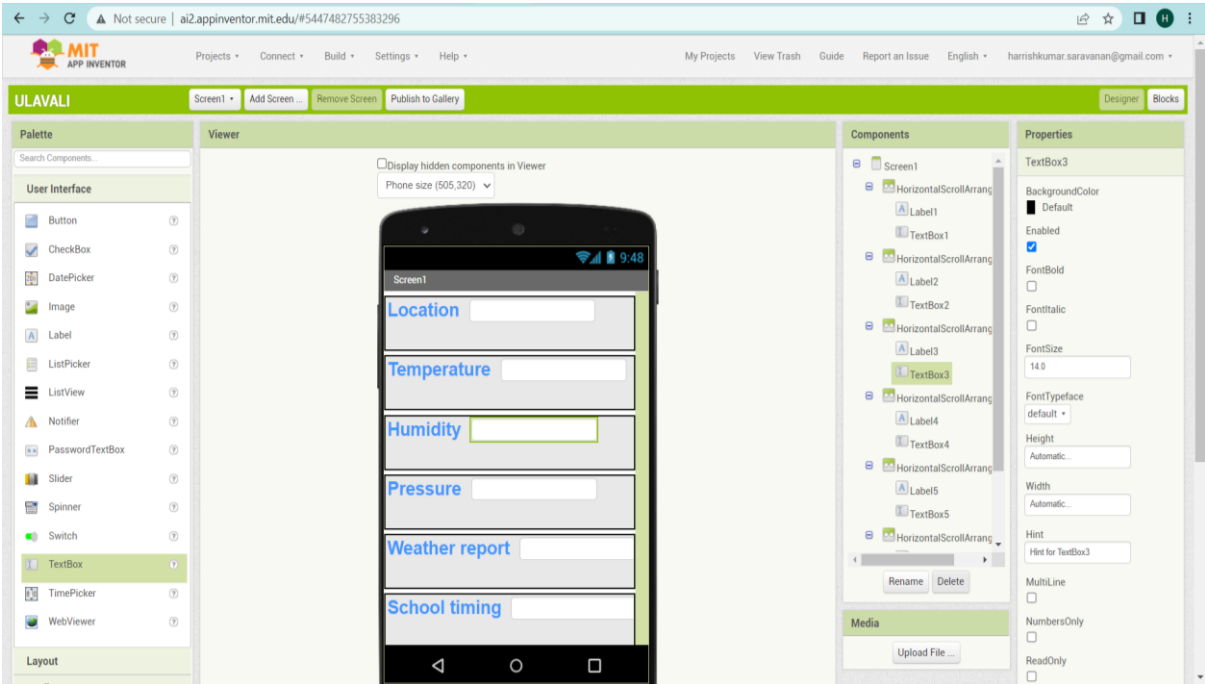


node-red-wrxia-2022-11-13.eu-gb.mybluemix.net/data

```
{"location": "Coimbatore", "temperature": 26.03, "humidity": 73, "pressure": 1014, "weather_report": "mist", "Schooltiming": "3.45 PM - 5.00 PM"}
```

## MIT APP INVENTOR:

To make it user friendly, easily accessible, etc.,..



Screen 1

<b>Location</b>	Coimbatore
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Temperature 26.03

Humidity 73

Pressure 1014

Weather report

**School timing** 3.45 PM - 5.00 PM