

Project Development Phase-Sprint II

Date	13-11-2022
Team ID	PNT2022TMID35153
Project Name	Signs with smart connectivity for better road safety
Maximum marks	20 marks

Sprint-2	US-1	Configure the connection security and crate API keys that are used in the Nod-RED service for accessing the IBM IoT Platform.
Sprint-2	US-2	Crate a Node-RED service.

US-1 Configure the connection security and create API keys that are used in the Node-RED Service for accessing the IBM IOT Platform.

The screenshot displays the IBM Watson IoT Platform dashboard. At the top, the navigation bar shows the user's profile (ramadevi4102001@gmail.com, ID: mddnju) and the current page is 'Browse IBM Cloud Apps'. The main content area features a blue header stating 'The API key has been added.' followed by a warning: 'Authentication tokens are non-recoverable. If you misplace this token, you will need to re-register the API key to generate a new authentication token.'

Below this, there are two sections: 'Generated Details' and 'API Key Information'. The 'Generated Details' section lists the API Key as 'a-mddnju-bhazs2gcha' and the Authentication Token as 'bk1Yh_T?Yhp_zsf0Eu'. The 'API Key Information' section shows the Description as '-', Role as 'Standard Application', and Expires as 'Never'.

A warning icon and text are present: 'Make a note of the generated authentication token. Lost authentication tokens cannot be recovered. If you lose the token, you must reregister the API to generate a new token.'

At the bottom right of the main content area, there are three buttons: 'View API Key', 'Add Another', and 'Close'.

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US-2 Create a Node-red service

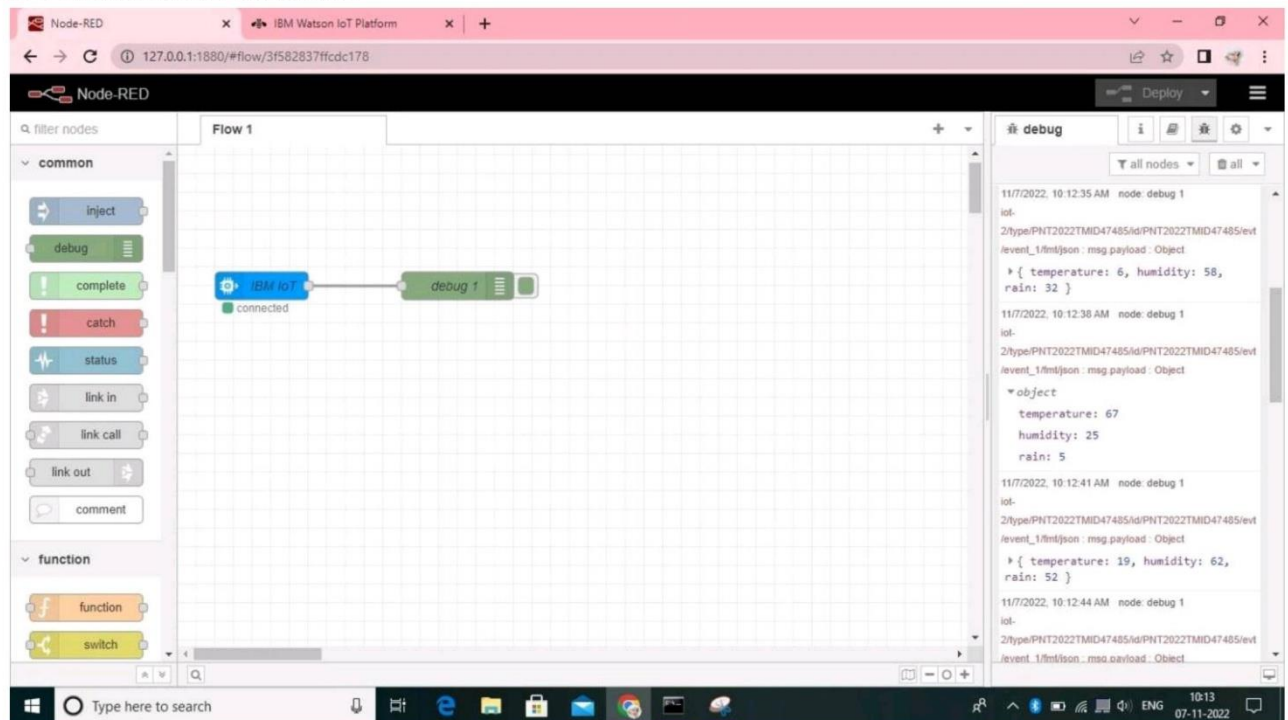
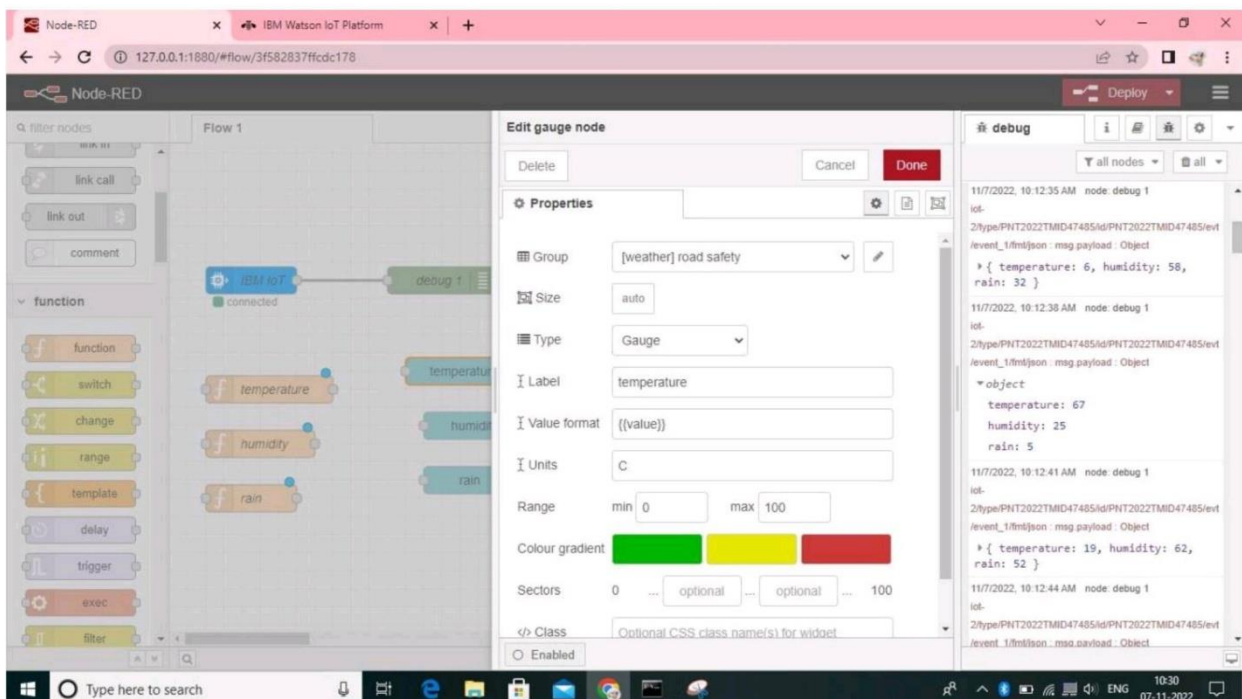


Fig: Monitoring the sensor values- temperature, humidity, rain .



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Node-RED interface showing a flow with an IBM IoT node connected to a debug node. The 'Edit gauge node' panel is open, showing properties for a gauge widget. The gauge is labeled 'humidity' and has a range from 0 to 100. The debug console shows JSON payloads for temperature, humidity, and rain.

Edit gauge node Properties:

- Group: [weather] road safety
- Size: auto
- Type: Gauge
- Label: humidity
- Value format: {{value}}
- Units: units
- Range: min 0 max 100
- Colour gradient: [Green, Yellow, Red]
- Sectors: 0 ... optional ... optional ... 100
- Class: Optional CSS class name(s) for widget
- Enabled: ☐

Debug Console:

```
11/7/2022, 10:12:35 AM node: debug 1
iot-
2/type:PNT2022TMD47485/id:PNT2022TMD47485/ev
/vent_1/fmt/json : msg.payload : Object
> { temperature: 6, humidity: 58,
rain: 32 }

11/7/2022, 10:12:38 AM node: debug 1
iot-
2/type:PNT2022TMD47485/id:PNT2022TMD47485/ev
/vent_1/fmt/json : msg.payload : Object
> object
temperature: 67
humidity: 25
rain: 5

11/7/2022, 10:12:41 AM node: debug 1
iot-
2/type:PNT2022TMD47485/id:PNT2022TMD47485/ev
/vent_1/fmt/json : msg.payload : Object
> { temperature: 19, humidity: 62,
rain: 52 }

11/7/2022, 10:12:44 AM node: debug 1
iot-
2/type:PNT2022TMD47485/id:PNT2022TMD47485/ev
/vent_1/fmt/json : msg.payload : Object
```

Node-RED interface showing a flow with an IBM IoT node connected to a debug node. The 'Edit gauge node' panel is open, showing properties for a gauge widget. The gauge is labeled 'rain' and has a range from 0 to 100. The debug console shows JSON payloads for temperature, humidity, and rain.

Edit gauge node Properties:

- Group: [weather] road safety
- Size: auto
- Type: Gauge
- Label: rain
- Value format: {{value}}
- Units: units
- Range: min 0 max 100
- Colour gradient: [Green, Yellow, Red]
- Sectors: 0 ... optional ... optional ... 100
- Class: Optional CSS class name(s) for widget
- Enabled: ☐

Debug Console:

```
11/7/2022, 10:12:35 AM node: debug 1
iot-
2/type:PNT2022TMD47485/id:PNT2022TMD47485/ev
/vent_1/fmt/json : msg.payload : Object
> { temperature: 6, humidity: 58,
rain: 32 }

11/7/2022, 10:12:38 AM node: debug 1
iot-
2/type:PNT2022TMD47485/id:PNT2022TMD47485/ev
/vent_1/fmt/json : msg.payload : Object
> object
temperature: 67
humidity: 25
rain: 5

11/7/2022, 10:12:41 AM node: debug 1
iot-
2/type:PNT2022TMD47485/id:PNT2022TMD47485/ev
/vent_1/fmt/json : msg.payload : Object
> { temperature: 19, humidity: 62,
rain: 52 }

11/7/2022, 10:12:44 AM node: debug 1
iot-
2/type:PNT2022TMD47485/id:PNT2022TMD47485/ev
/vent_1/fmt/json : msg.payload : Object
```

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The screenshot shows the Node-RED web interface in a browser. The flow diagram on the left includes an 'IBM IoT' node connected to a 'debug 1' node. Below this, there are three input nodes for 'temperature', 'humidity', and 'rain', each connected to a corresponding output node. At the bottom, there are 'light on' and 'light off' nodes connected to a 'msg.payload' node. The debug console on the right displays a series of log messages, including timestamps and JSON objects representing sensor data and light status.

```
11/7/2022, 8:21:43 PM node debug 1
{
  "temperature": 4,
  "humidity": 65,
  "rain": 47
}

11/7/2022, 8:21:48 PM node debug 1
{
  "temperature": 41,
  "humidity": 44,
  "rain": 97
}

11/7/2022, 8:21:51 PM node debug 1
{
  "temperature": 83,
  "humidity": 96,
  "rain": 5
}

11/7/2022, 8:21:54 PM node debug 1
{
  "temperature": 91,
  "humidity": 91,
  "rain": 11
}

11/7/2022, 8:21:57 PM node debug 1
{
  "temperature": 77,
  "humidity": 35,
  "rain": 83
}

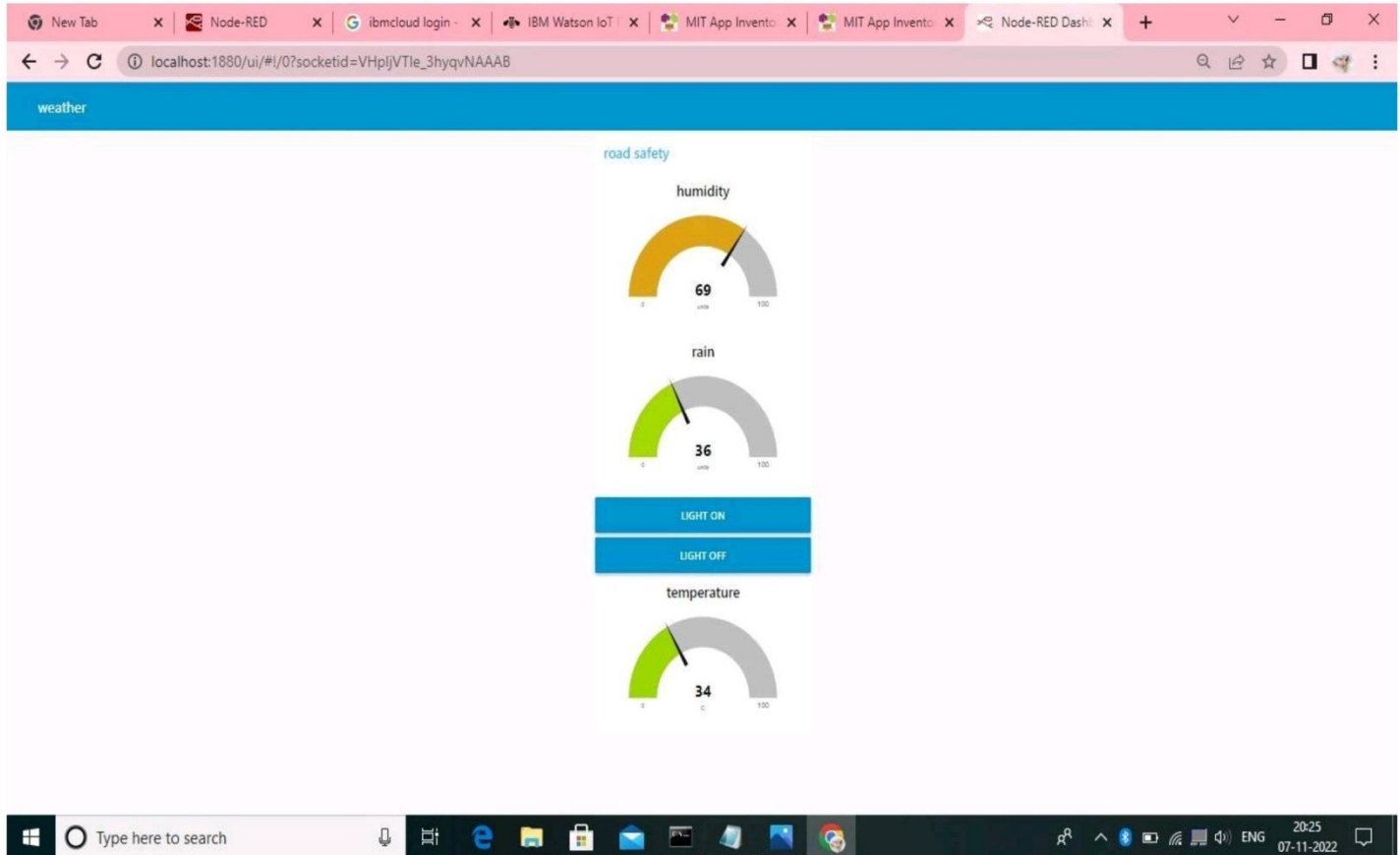
11/7/2022, 8:22:08 PM node debug 1
{
  "temperature": 2,
  "humidity": 42,
  "rain": 64
}

11/7/2022, 8:22:09 PM node debug 1
{
  "temperature": 8,
  "humidity": 82,
  "rain": 47
}
```

Fig: output from recent events

The screenshot shows a web application interface with a blue header bar labeled 'weather'. Below the header, there are three gauge charts for 'humidity', 'rain', and 'temperature'. The 'humidity' gauge shows a value of 53, the 'rain' gauge shows a value of 64, and the 'temperature' gauge shows a value of 6. Below the gauges, there are two buttons labeled 'LIGHT ON' and 'LIGHT OFF'. The interface is displayed in a browser window with multiple tabs open.

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MIT APP INVENTOR TO DESIGN THE APP:

Node-RED x Node-RED Dashboard x IBM Watson IoT Platform x Node-RED Dashboard x New Tab x mit app inventor - Google

google.com/search?q=mit+app+inventor&rlz=1C1FKPE_enIN950IN950&oq=MIT+&aqs=chrome..69j67j0l67j131j433j0l20j263j512l2j46l67j433j512j0l67j46l433j51...

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App Inventor for Android

Computer program

MIT App Inventor is a web application integrated development environment originally provided by Google, and now maintained by the Massachusetts Institute of Technology. Wikipedia

Initial release date: 15 December 2010

Operating system: Android

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signs_with_smart_connectivity_for_better_road_safety

Screen1 • Add Screen Remove Screen Publish to gallery

Designer Blocks

Palette

Search Components...

User Interface

- Button
- CheckBox
- DatePicker
- Image
- Label
- ListView
- Notifier
- PasswordTextBox
- Slider
- Spinner
- Switch
- TextBox
- TimePicker
- WebView

Layout

Media

Drawing and Animation

Maps

Charts

Sensors

Social

View

Display hidden components in Viewer

Phone size (505,320)

Screen1

SMART ROAD SAFETY

TEMPERATURE

HUMIDITY

RAIN

CONTROL

light on light off

Non-visible components

Clock1 Web1 Web2

Components

- Screen1
 - HorizontalArrangeme
 - TextBox4
 - HorizontalArrangeme
 - Button1
 - TextBox1
 - HorizontalArrangeme
 - Button2
 - TextBox2
 - HorizontalArrangeme
 - Button3
 - TextBox3
 - HorizontalArrangeme
 - TextBox5
 - HorizontalArrangeme
 - TextBox7

Properties

TextBox5

BackgroundColor

Default

Enabled

FontBold

FontItalic

FontSize

16.0

FontTypeface

default

Height

Automatic

Width

Automatic

Hint

Hint for TextBox5

MultiLine

NumbersOnly

ReadOnly

Text

light off

TextAlignment

left

TextColor

Default

Type here to search

20:34 07-11-2022