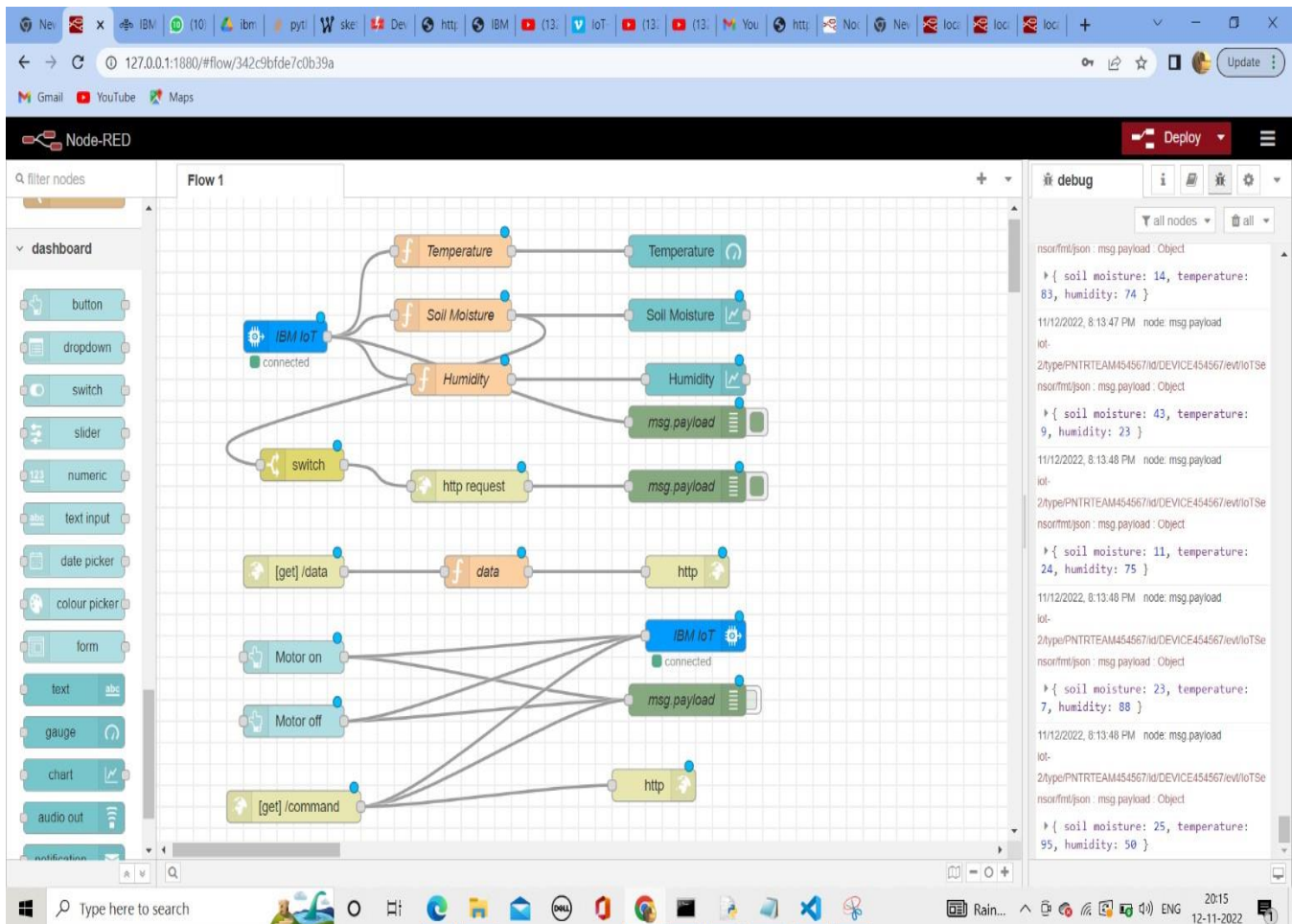


BUILD A WEB APPLICATION USING NODE-RED SERVICE

Date	12 November 2022
Team ID	PNT2022TMID47454
Project Name	SMART FARMER-IOT ENABLED SMART FARMING APPLICATION

BUILD A WEB APPLICATION USING NODE-RED SERVICE :



Node-RED interface showing a flow for monitoring environmental data. The flow includes an IBM IoT node connected to a switch, which routes data to Temperature, Soil Moisture, and Humidity nodes. These nodes connect to an http request node, which then connects to a [get] /data node. The [get] /data node connects to a data node, which then connects to Motor on and Motor off nodes. The Motor on and Motor off nodes connect to a [get] /command node.

The Edit gauge node configuration is shown on the right:

- Group: [Control] Monitoring
- Size: auto
- Type: Gauge
- Label: Temperature
- Value format: {{value}}
- Units: C
- Range: min 0, max 100
- Colour gradient: Green, Yellow, Red
- Sectors: 0, optional, optional, 100
- Class: Optional CSS class name(s) for widget
- Name:

The debug console shows the following data:

```
nsorfm/son : msg.payload : Object
> { soil moisture: 14, temperature: 83, humidity: 74 }
11/12/2022, 8:13:47 PM node:msg.payload
lol-
2/type/PNTRTEAM454567/id/DEVICE454567/ev/IoTSe
nsorfm/son : msg.payload : Object
> { soil moisture: 43, temperature: 9, humidity: 23 }
11/12/2022, 8:13:48 PM node:msg.payload
lol-
2/type/PNTRTEAM454567/id/DEVICE454567/ev/IoTSe
nsorfm/son : msg.payload : Object
> { soil moisture: 11, temperature: 24, humidity: 75 }
11/12/2022, 8:13:48 PM node:msg.payload
lol-
2/type/PNTRTEAM454567/id/DEVICE454567/ev/IoTSe
nsorfm/son : msg.payload : Object
> { soil moisture: 23, temperature: 7, humidity: 88 }
11/12/2022, 8:13:48 PM node:msg.payload
lol-
2/type/PNTRTEAM454567/id/DEVICE454567/ev/IoTSe
nsorfm/son : msg.payload : Object
> { soil moisture: 25, temperature: 95, humidity: 50 }
```

Node-RED interface showing a flow for monitoring environmental data. The flow includes an IBM IoT node connected to a switch, which routes data to Temperature, Soil Moisture, and Humidity nodes. These nodes connect to an http request node, which then connects to a [get] /data node. The [get] /data node connects to a data node, which then connects to Motor on and Motor off nodes. The Motor on and Motor off nodes connect to a [get] /command node.

The Edit chart node configuration is shown on the right:

- Group: [Control] Monitoring
- Size: auto
- Label: Soil Moisture
- Type: Line chart
- X-axis: last 1 hours OR 1000 points
- X-axis Label: HH:mm:ss
- Y-axis: min, max
- Legend: None, Interpolate linear
- Series Colours: Blue, Green, Red, Yellow, Purple, Orange

The debug console shows the following data:

```
nsorfm/son : msg.payload : Object
> { soil moisture: 14, temperature: 83, humidity: 74 }
11/12/2022, 8:13:47 PM node:msg.payload
lol-
2/type/PNTRTEAM454567/id/DEVICE454567/ev/IoTSe
nsorfm/son : msg.payload : Object
> { soil moisture: 43, temperature: 9, humidity: 23 }
11/12/2022, 8:13:48 PM node:msg.payload
lol-
2/type/PNTRTEAM454567/id/DEVICE454567/ev/IoTSe
nsorfm/son : msg.payload : Object
> { soil moisture: 11, temperature: 24, humidity: 75 }
11/12/2022, 8:13:48 PM node:msg.payload
lol-
2/type/PNTRTEAM454567/id/DEVICE454567/ev/IoTSe
nsorfm/son : msg.payload : Object
> { soil moisture: 23, temperature: 7, humidity: 88 }
11/12/2022, 8:13:48 PM node:msg.payload
lol-
2/type/PNTRTEAM454567/id/DEVICE454567/ev/IoTSe
nsorfm/son : msg.payload : Object
> { soil moisture: 25, temperature: 95, humidity: 50 }
```

Node-RED interface showing a flow for monitoring environmental data (Temperature, Soil Moisture, Humidity) and controlling a motor. The flow includes an IBM IoT node, a switch, an http request node, a data node, and a [get]/command node. The chart node is configured for Humidity data, displaying a line chart with the following settings:

- Group: [Control] Monitoring
- Size: auto
- Label: Humidity
- Type: Line chart
- X-axis: last 1 hours OR 1000 points
- X-axis Label: HH:mm:ss
- Y-axis: min max
- Legend: None
- Interpolate: linear
- Series Colours: (6 colors)

The debug console shows the following data payload:

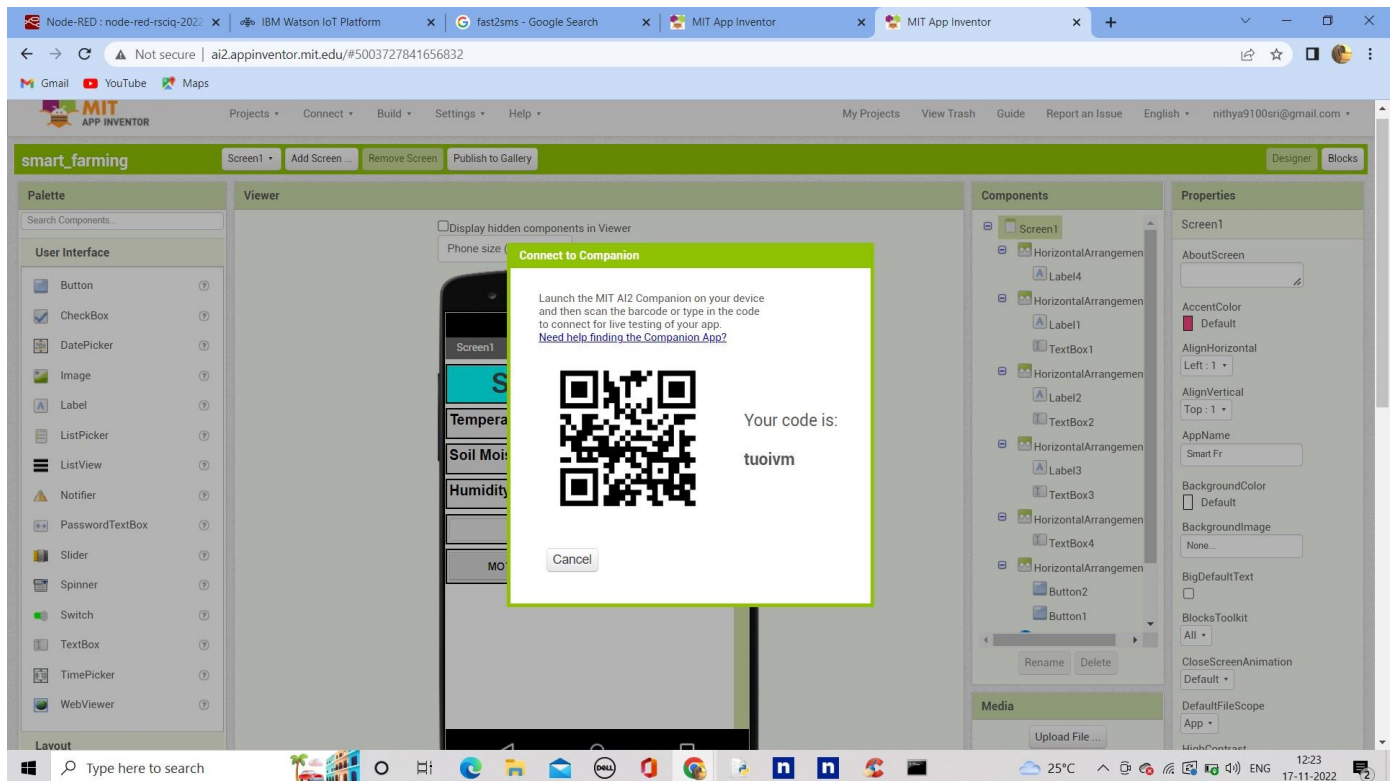
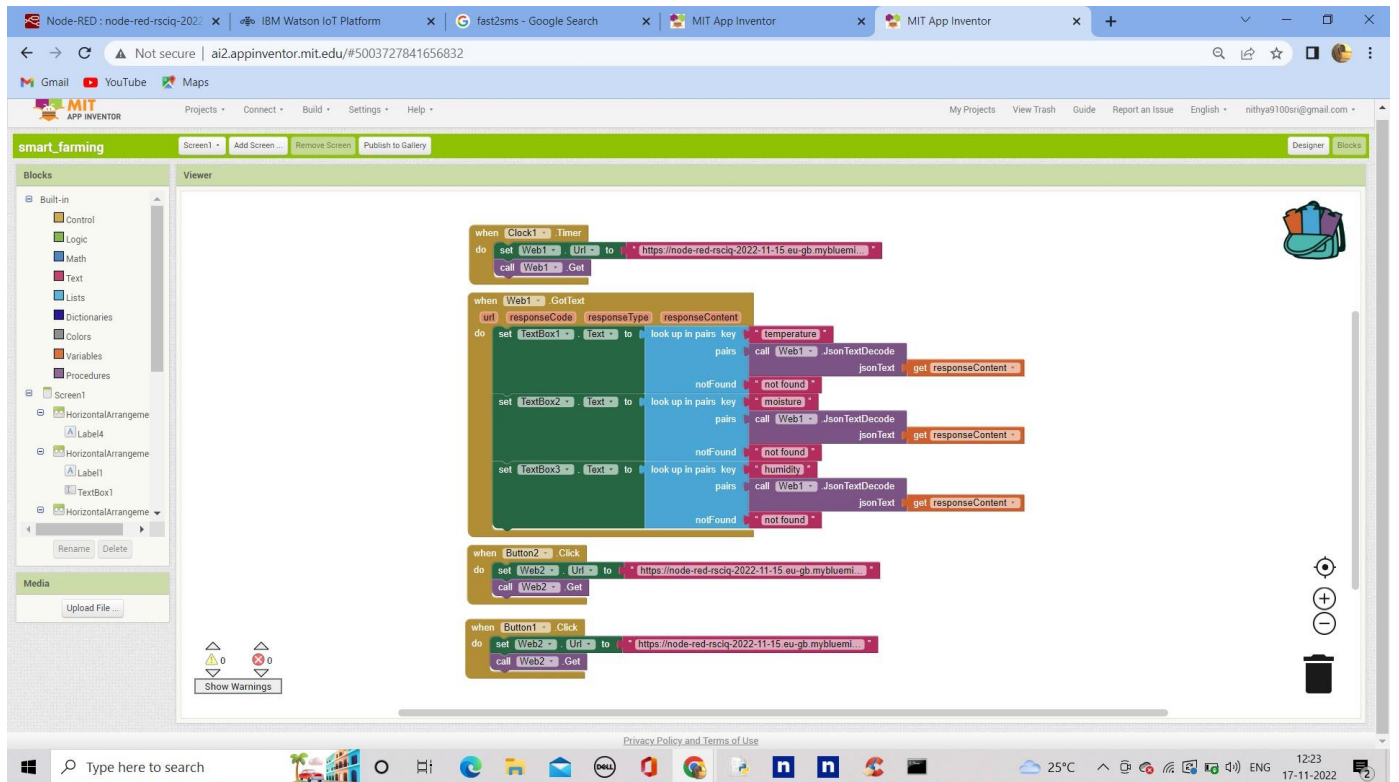
```
{ "soil moisture": 14, "temperature": 83, "humidity": 74 }
```

Node-RED interface showing the same flow as above, but with the http request node configuration visible. The configuration is as follows:

- Method: GET
- URL: <https://www.fast2sms.com/dev/bulkV2?authorization=...>
- Payload: Ignore
- Enable secure (SSL/TLS) connection: ☐
- Use authentication: ☐
- Enable connection keep-alive: ☐
- Use proxy: ☐
- Only send non-2xx responses to Catch node: ☐
- Disable strict HTTP parsing: ☐
- Return: a UTF-8 string
- Headers: (empty)

The debug console shows the following data payload:

```
{ "soil moisture": 14, "temperature": 83, "humidity": 74 }
```

Web url to get temperature, humidity and soil moisture value:

<https://node-red-rsciq-2022-11-15.eu-gb.mybluemix.net/data>

Web url to control Motor on and off:

<https://node-red-rsciq-2022-11-15.eu-gb.mybluemix.net/command?command=motoron>

<https://node-red-rsciq-2022-11-15.eu-gb.mybluemix.net/command?command=motoroff>