

ECE 3502 – IoT Domain Analyst

Week 4

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Aim: Create a Open weather map node in Node Red

Procedure:

Step 1) Select Nodes.

Step 2) Set properties of the Nodes such as name, message etc and then click Done.

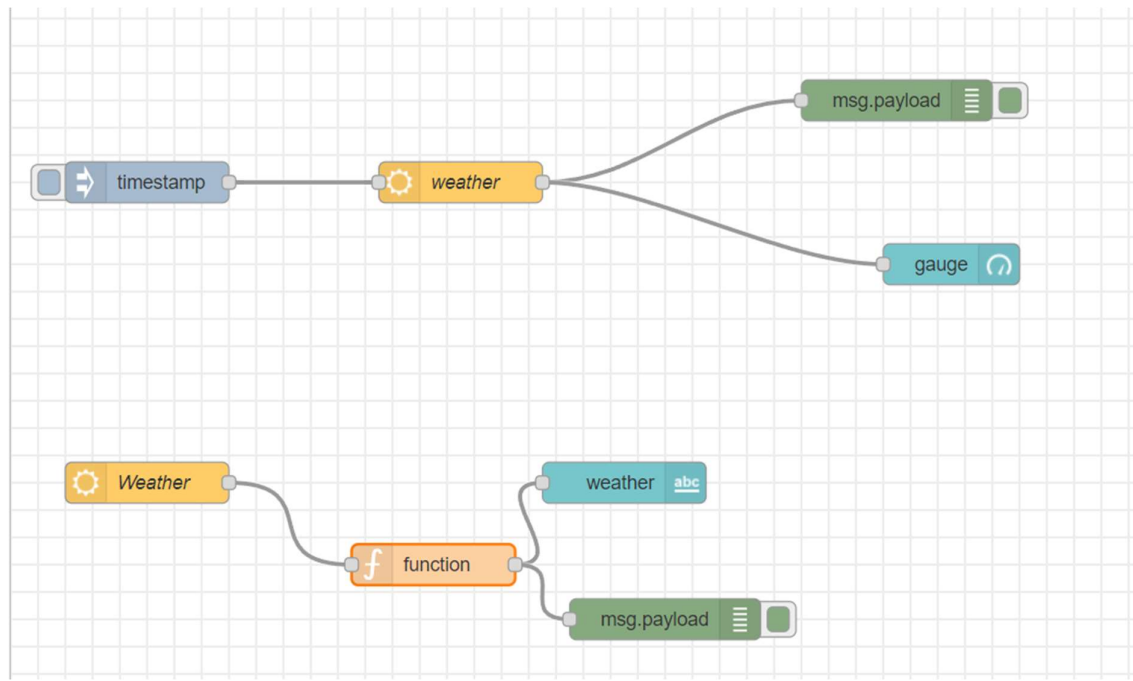
Step 3) Fill requirements and necessary details of all the Nodes.

Step 4) Select and fill function then click Done.

Step 5) Click Deploy and Confirm.

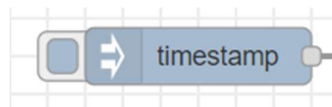
Step 6) The output is visible in the debug menu as well as the ui page.

Screenshots of Flow:



Node:

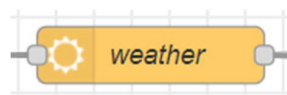
Inject Node:



Gauge Node:



Weather Node:



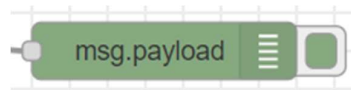
Function Node:



Text Node:



Debug Node:



Debug Window-

The image shows the Node-RED web interface. On the left, the 'common' and 'function' node palettes are visible. The main workspace contains a flow with the following nodes: a 'timestamp' node, a 'weather' node, a 'msg.payload' node, a 'gauge' node, a 'Weather' node, a 'function' node, and another 'weather' node. The flow is as follows: 'timestamp' connects to 'weather', which connects to both 'msg.payload' and 'gauge'. Below this, 'Weather' connects to 'function', which connects to both 'weather' and 'msg.payload'. The right sidebar shows the 'debug' console with the following output:

```
2/7/2022, 11:04:51 AM node: 61bc32030bc34c00
msg.payload: Object
  object
    id: 721
    weather: "Haze"
    detail: "haze"
    icon: "50d"
    tempk: 291.14
    temp: 17.9
    temp_maxc: 18
    temp_minc: 17.3
    humidity: 69
    pressure: 1016
    maxtemp: 291.2
    mintemp: 290.54
    windspeed: 1.54
    winddirection: 300
    location: "Delhi"
    sunrise: 1644197756
    sunset: 1644237278
    clouds: 20
    description: "The weather in Delhi at coordinates: 28.6667, 77.2367 is Haze (haze)."
```

Node Property Window

Edit openweathermap node

Delete

Cancel

Done

Properties

API Key

.....

Language

English

Current weather for

Location

City, Country

City

Delhi

Country

IN

Name

weather

Tip: you may want to manually [search for the location](#) first to check it can be found. Often two character country codes work best.

Note: The API Key may not immediately ready to use after creation. As [FAQ](#) said: *Your API key will be activated automatically, between 10 minutes and 2 hours after your successful registration. Just wait a little bit.*

☐ Enabled

Edit gauge node

Delete

Cancel

Done

Properties



Group	[weather] weather	
Size	auto	
Type	Gauge	
Label	gauge	
Value format	{{msg.payload.tempc}}	
Units	units	
Range	min 0	max 50
Colour gradient		
Sectors	0 ... 10 ... 30 ... 50	
Name		

☐ Enabled

Edit text node

Delete

Cancel

Done

Properties



Group

[weather] weather



Size

auto

Label

weather

Value format

{{msg.payload}}

Layout

label value

label value

label value

label value

label value

Name

☐ Enabled

Edit function node

Delete

Cancel

Done

Properties

Name

Name

Setup

On Start

On Message

On Stop

```
1 if(msg.payload.weather == 'Smoke')
2 {
3   msg.payload = 'Please Wear Mask'
4   return msg
5 }
6 if(msg.payload.weather == 'Haze')
7 {
8   msg.payload = 'The climate is good'
9   return msg
10 }
11 if(msg.payload.weather == 'Clear')
12 {
13   msg.payload = 'Have a good day.'
14   return msg
15 }
16 return null;
```

☐ Enabled

Output-

