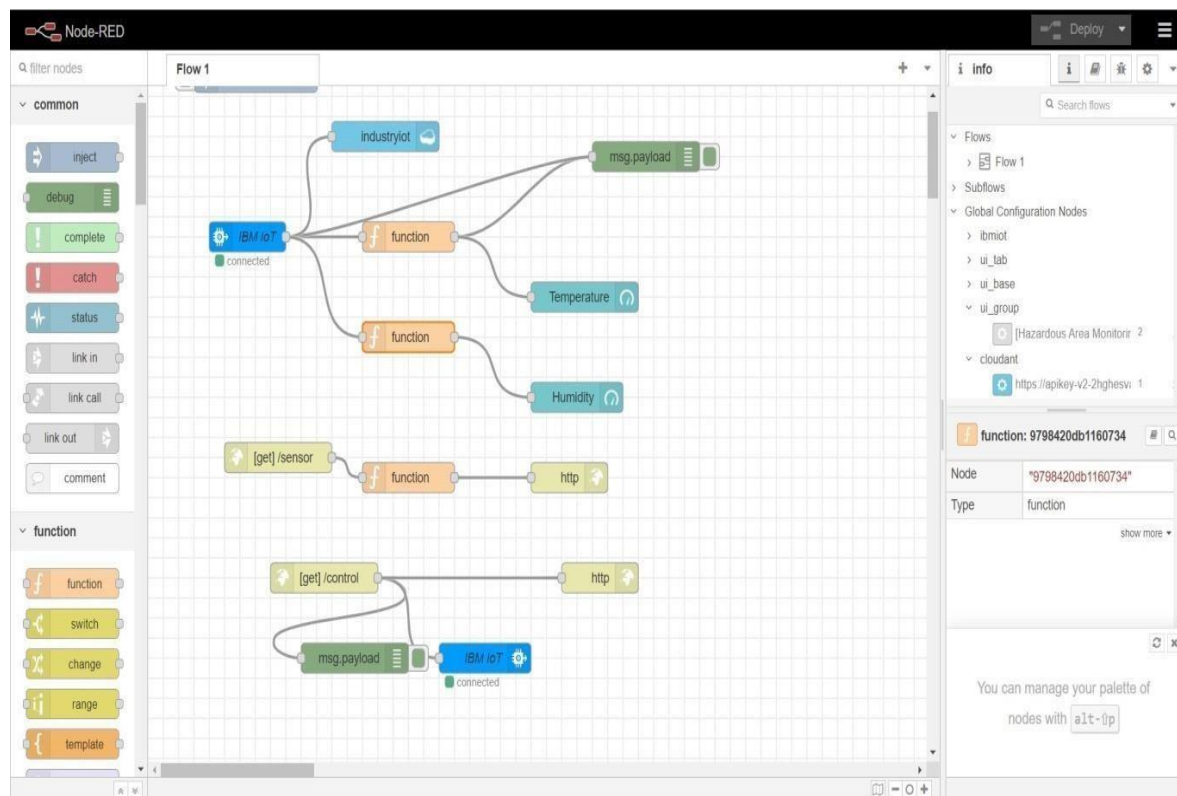


# Develop The WebApplication Using Node-RED

Team Id	PNT2022TMID17322
Project Name	Hazardous area monitoring for industrial plant powered by IOT
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## Node red flow



## Function block

# Develop The WebApplication Using Node-RED

The screenshot shows the Node-RED web interface. On the left, the 'common' and 'function' node palettes are visible. The main workspace displays a flow named 'Flow 1' with an 'IBM IoT' node connected to two 'function' nodes. The 'Edit function node' panel is open, showing the following JavaScript code:

```
1 msg.payload = msg.payload.temp;  
2 global.set('t',msg.payload)  
3 return msg;
```

The right sidebar shows the 'info' panel with a tree view of the flow and its components. The selected node is a function node with ID '815cba7c7af38e65'.

The screenshot shows the Node-RED web interface. On the left, the 'common' and 'function' node palettes are visible. The main workspace displays a flow named 'Flow 1' with an 'IBM IoT' node connected to two 'function' nodes. The 'Edit function node' panel is open, showing the following JavaScript code:

```
1 msg.payload = msg.payload.humid;  
2 global.set('h',msg.payload)  
3 return msg;
```

The right sidebar shows the 'info' panel with a tree view of the flow and its components. The selected node is a function node with ID '9798420db1160734'. At the bottom of the sidebar, there is a note: "Show the Info tab with **ctrl-g i** or the Debug tab with **ctrl-g d**".

# Develop The WebApplication Using Node-RED

The image shows the Node-RED web interface. On the left, a sidebar contains a 'filter nodes' search bar and two categories of nodes: 'common' (inject, debug, complete, catch, status, link in, link call, link out, comment) and 'function' (function, switch, change, range, template). The main workspace, titled 'Flow 1', contains a flow starting with an 'IBM IoT' node (connected), which branches into three 'function' nodes. These functions are connected to an 'industryiot' node, a '[get]/sensor' node, and a '[get]/control' node. The '[get]/sensor' node is connected to a 'msg.payload' node, which is then connected to another 'IBM IoT' node (connected). On the right, the 'Edit ibmiot in node' panel is open, showing the configuration for the 'ibmiot' node. The 'Properties' section includes: Authentication (API Key), API Key (Industryiot), Input Type (Device Event), Device Type (All or NodeMCU), Device Id (All or IoT001), Event (All or +), Format (All or json), QoS (0), Name (IBM IoT), and Service (registered). A yellow tooltip at the bottom of the panel reads: 'Use the Input Type property to configure this node to receive Events sent by IoT Devices, Commands sent to IoT Devices, Status Messages referring to IoT Devices, or Status Messages referring to IoT Applications. Check the Info tab, to get more information about each of the fields'. At the bottom of the panel, there is an 'Enabled' checkbox.

The image shows the Node-RED web interface. On the left, a sidebar contains a 'filter nodes' search bar and two categories of nodes: 'common' (inject, debug, complete, catch, status, link in, link call, link out, comment) and 'function' (function, switch, change, range, template). The main workspace, titled 'Flow 1', contains a flow starting with an 'IBM IoT' node (connected), which branches into three 'function' nodes. These functions are connected to an 'industryiot' node, a '[get]/sensor' node, and a '[get]/control' node. The '[get]/sensor' node is connected to a 'msg.payload' node, which is then connected to another 'IBM IoT' node (connected). On the right, the 'Edit function node' panel is open, showing the configuration for the 'function' node. The 'Properties' section includes: Name (Name), Setup (On Start, On Message, On Stop), and a code editor with the following code: 

```
1 msg.payload = msg.payload.humid;
2 global.set('h',msg.payload)
3 return msg;
```

 At the bottom of the panel, there is an 'Enabled' checkbox. On the far right, the 'info' panel is open, showing a search bar and a list of flows and subflows. The 'Global Configuration Nodes' section is expanded, showing a list of nodes: 'ibmiot', 'ui\_tab', 'ui\_base', 'ui\_group' (with a subnode 'Hazardous Area Monitor'), and 'cloudant' (with a subnode 'https://apikey-v2-2ghesv'). Below this, the 'function: 9798420db1160734' node is selected, showing its details: Node ID '9798420db1160734' and Type 'function'. At the bottom of the info panel, there is a note: 'Show the Info tab with ctrl-g i or the Debug tab with ctrl-g d'.

# Develop The WebApplication Using Node-RED

The image displays two screenshots of the Node-RED web interface, illustrating the configuration of a gauge node for monitoring data from an IBM IoT device.

**Top Screenshot: Humidity Gauge Configuration**

- Flow 1:** A flow diagram showing an **IBM IoT** node connected to a **function** node, which is then connected to a **[get] /sensor** node. The **[get] /sensor** node is connected to another **function** node, which is connected to a **[get] /control** node. The **[get] /control** node is connected to a **msg.payload** node, which is connected to an **IBM IoT** node.
- Edit gauge node Properties:**
  - Group:** [Hazardous Area Monitoring for Industri]
  - Size:** auto
  - Type:** Gauge
  - Label:** Humidity
  - Value format:** {{value}}
  - Units:** %
  - Range:** min 0, max 100
  - Colour gradient:** Green, Yellow, Red
  - Sectors:** 0, optional, optional, 100
  - Class:** Optional CSS class name(s) for widget
  - Name:**
- Info Panel:**
  - Flows:** Flow 1
  - Subflows:**
  - Global Configuration Nodes:** ibmiot, ui\_tab, ui\_base, ui\_group
  - cloudant:** [Hazardous Area Mon], https://apikey-v2-2hgt
  - Humidity:** Node \*a214ca6c4eabe, Type ul\_gauge

**Bottom Screenshot: Temperature Gauge Configuration**

- Flow 1:** A flow diagram showing an **IBM IoT** node connected to a **function** node, which is then connected to a **[get] /sensor** node. The **[get] /sensor** node is connected to another **function** node, which is connected to a **[get] /control** node. The **[get] /control** node is connected to a **msg.payload** node, which is connected to an **IBM IoT** node.
- Edit gauge node Properties:**
  - Group:** [Hazardous Area Monitoring for Industri]
  - 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:**
- Info Panel:**
  - Flows:** Flow 1
  - Subflows:**
  - Global Configuration Nodes:** ibmiot, ui\_tab, ui\_base, ui\_group
  - cloudant:** [Hazardous Area Monitorir], https://apikey-v2-2ghesvi
  - Temperature:** Node \*50e22bf31d3e6148, Type ul\_gauge