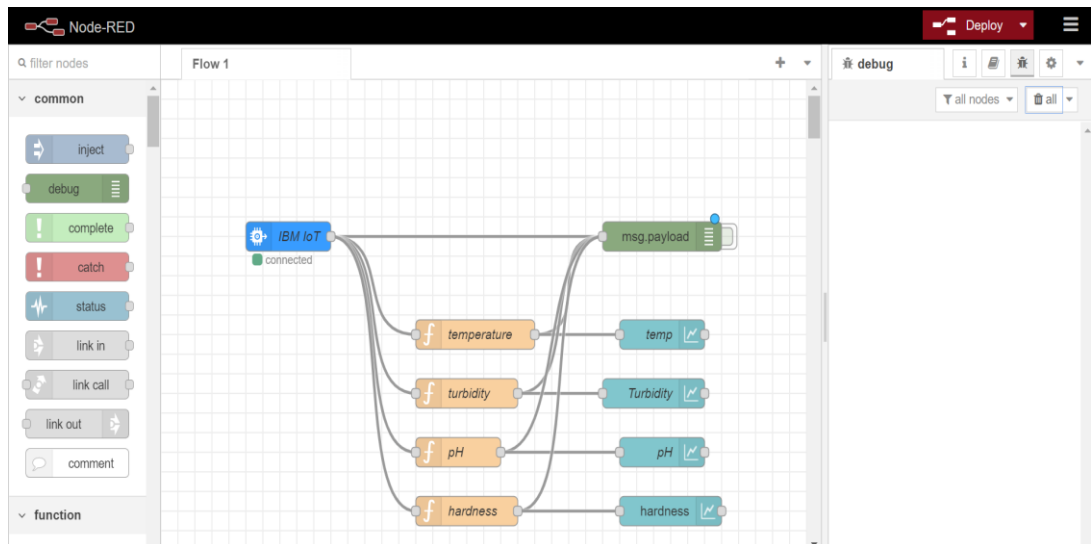# SPRINT 3

**Develop The Web Application Using Node Red Service:**

- **Create Node Red flow to get data from Device:**
  The function blocks are created for temperature, turbidity, ph and hardness. Two dashboards are installed to integrate Node-RED with Ibm iot node.
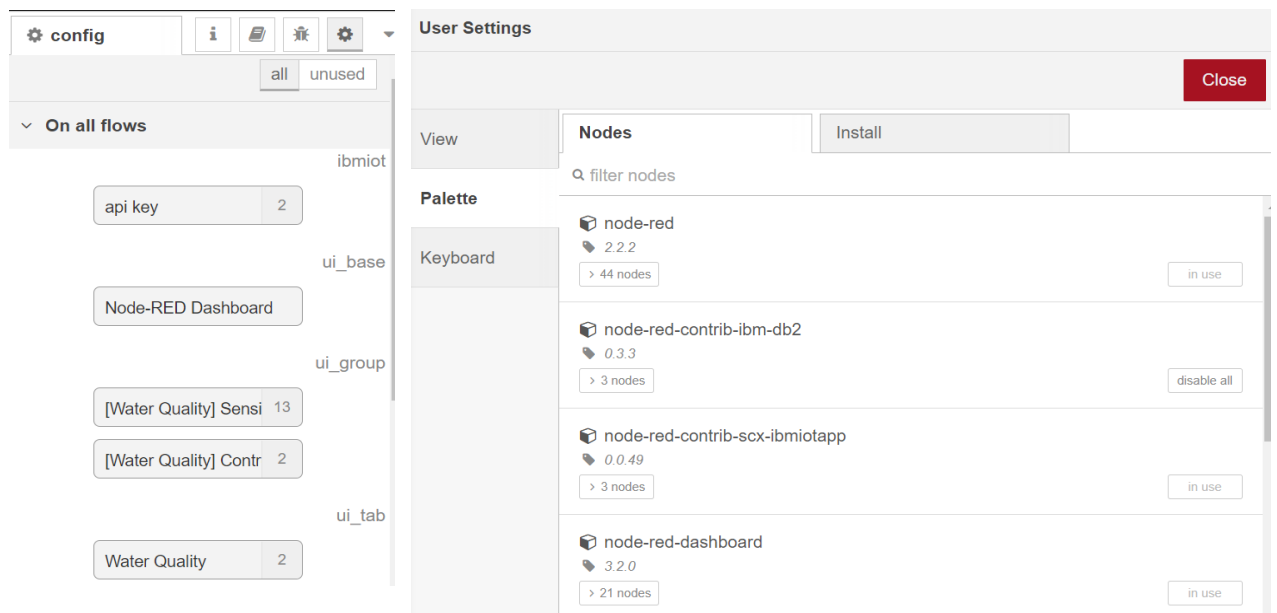

- **Code to get sensor values:**
- For every functional block the dictionary value is referred in payload – here pH, and we set it globally. Similarly it is done for temperature, turbidity and hardness.
- Charts for the parameters are installed for visualization of sensed parameters.
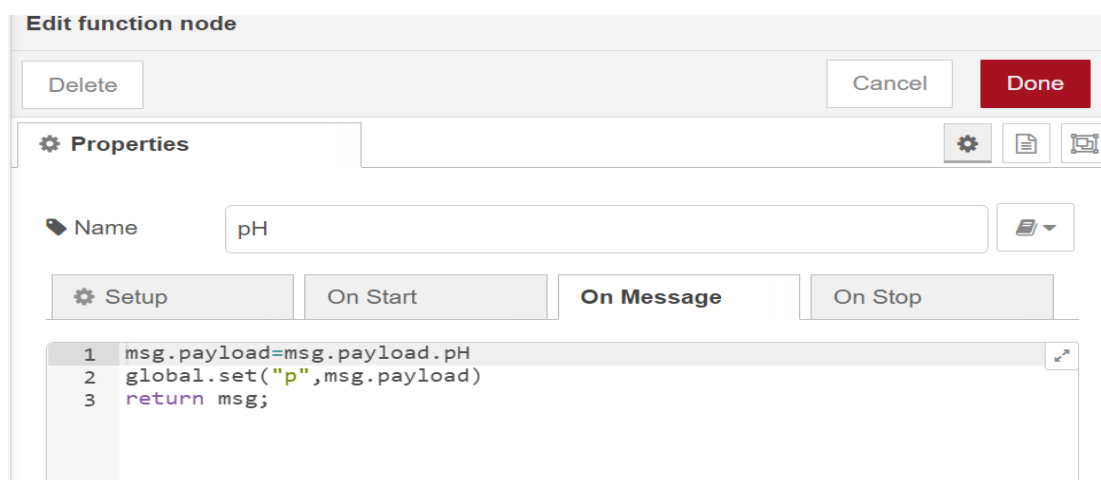
- **Use Dashboard Nodes For creating UI (Web App)**
  The nodes in the dashboard that are connected in flow diagram that are installed and configured.
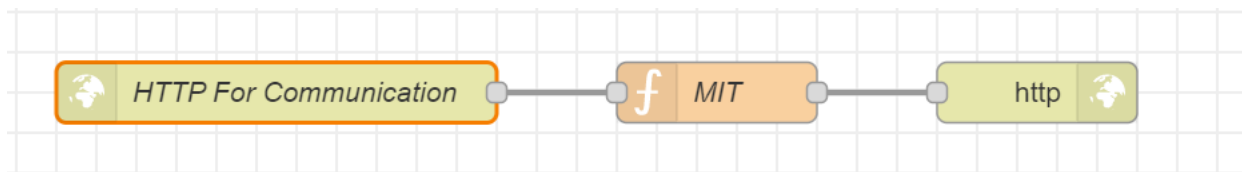
- **Create an HTTP to communicate with Mobile App**
- For creating HTTP request to send to MIT App, the GET method is used and app url is created for sensor.
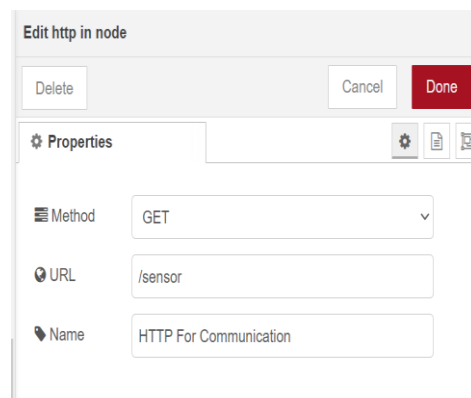
- This is the HTTP request to get sensor values and sending to the MIT App inventor.


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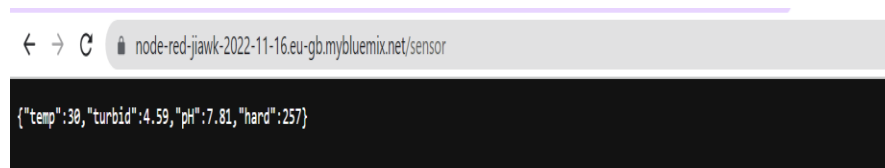
- **Node Red flow for Sending data to MIT App**
- The sensor values are got in Node-RED, sent to MIT App inventor, followed by HTTP Response.

- Now, it is deployed. The continuous values of sensed parameters can be seen it Node-RED for all the four parameters. So these values are from the IBM Watson Cloud as they are integrated.
- The visualization of the sensed parameters can be seen in the dashboard.
- The control is for controlling or switching ON/OFF.
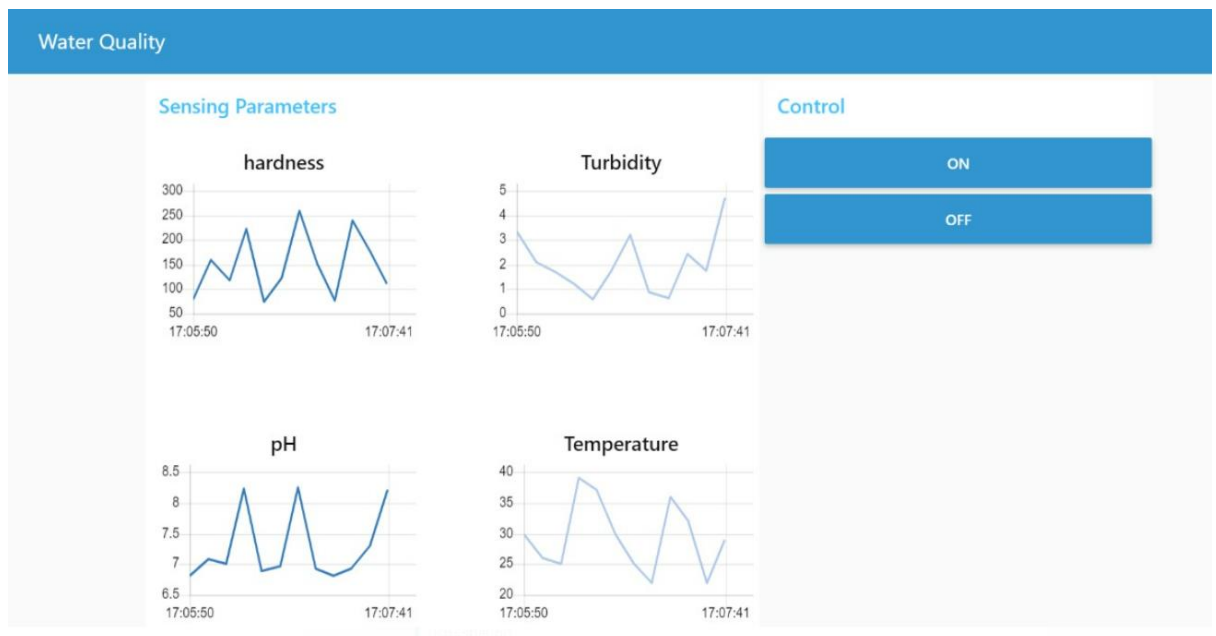
- **Node Red flow for Control Unit and an HTTP link to receive the inputs simulated by user from MIT app**
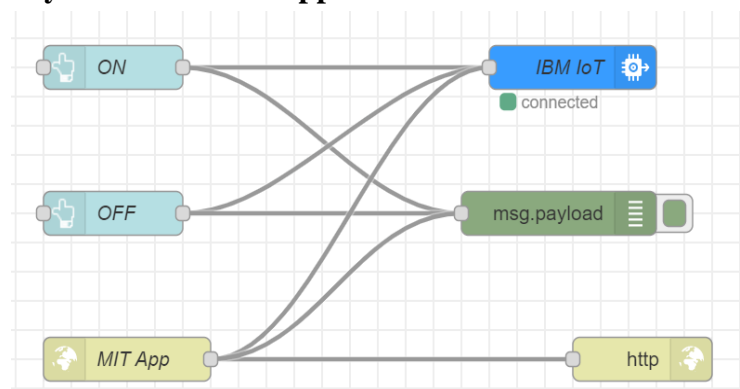
- The ON and OFF nodes are placed and connected with the IBM Watson for controlling. This is integrated with the MIT App Inventor too and similar for sensed values, for control also we generate http request and url generated in GET Method. This is the http command initiated from the MIT App by the user.
- The output of the http command initiated by the user is shown below.