IOT Platform Sensor Data Visualization

Node-RED Dashboard

Overview

In this lab, you will explore an external third party option for dashboarding – Node-RED Dashboard (if you have heard of Node-RED Contrib UI then this is its successor). You will customize your Node-RED instance to add additional nodes – in this case the Node-RED Dashboard nodes.

It is assumed that you have completed Lab 1 and have connected devices to an instance of the IoT Platform.

Note: some of the tasks below contain a shortened link to the Bluemix dashboard that opens the US South Region. If you wish to use the UK region instead then substitute the link below

- US South: http://bit.ly/bluemix_new_us
- UK: http://bit.ly/bluemix_new_uk

These links also open the new Bluemix dashboard (the classic dashboard is still available through a link on the web page).

Task 1. Open the Connectivity Application Node-RED Flow Editor

In this task, you will open the Node-RED Flow editor of the Connectivity application you created in Lab 1. You will then add additional nodes so you can use them to build a visualization dashboard.

1. Open the Connectivity Application Node-RED Flow:
   a. Open your Bluemix Dashboard: http://bit.ly/bluemix_new_us
   b. In the **All Apps** section, click the **Route-URI** of the **Connectivity** application you created in Lab 1:

   c. Click **Go to your Node-RED flow editor**:

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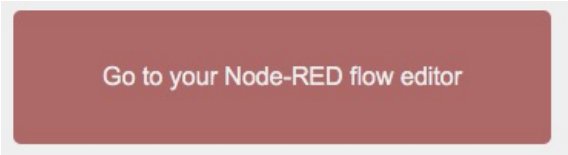
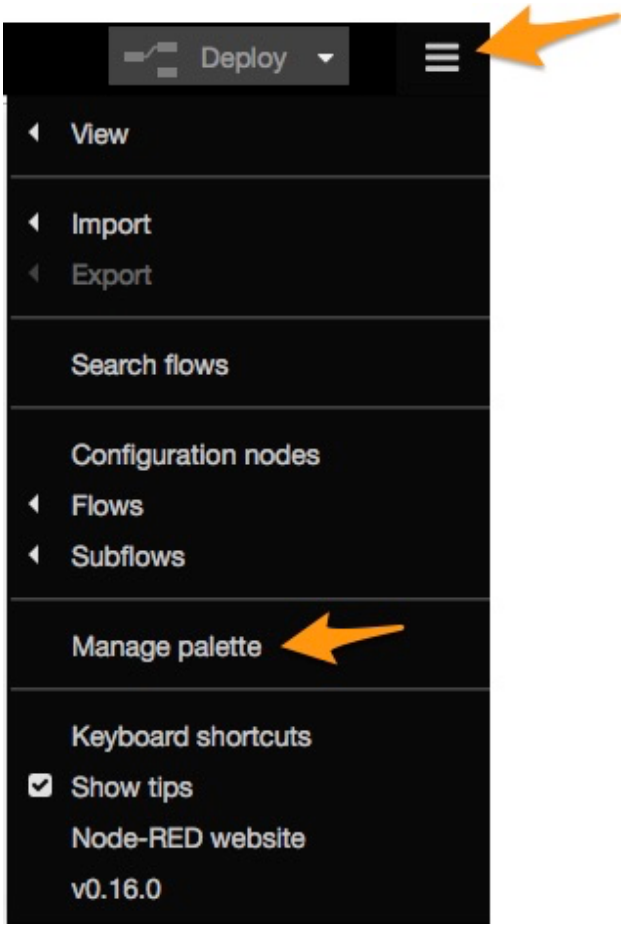


2. Install new nodes:
   a. Click the '**burger'** menu icon at the top, right-hand side of the page and select **Manage palette**:



   b. A **Manage palette** sidebar appears on the left
   c. In the **Manage palette** sidebar, click the **Install** tab:

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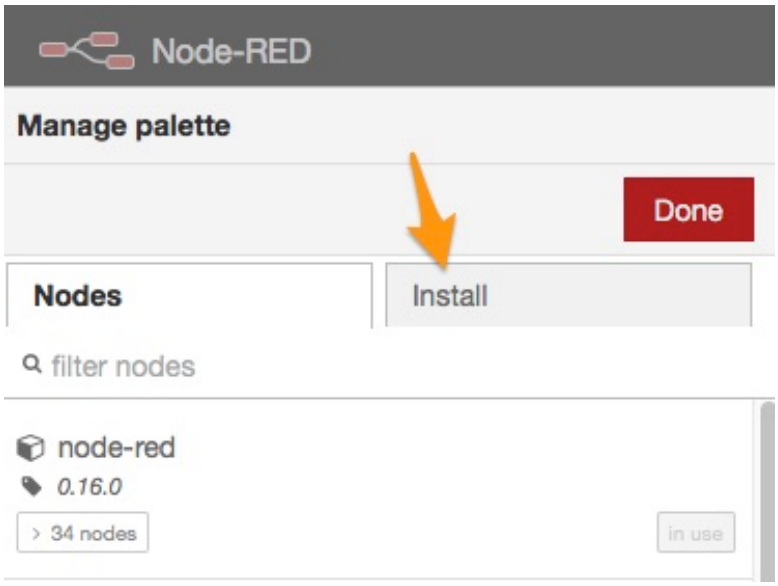
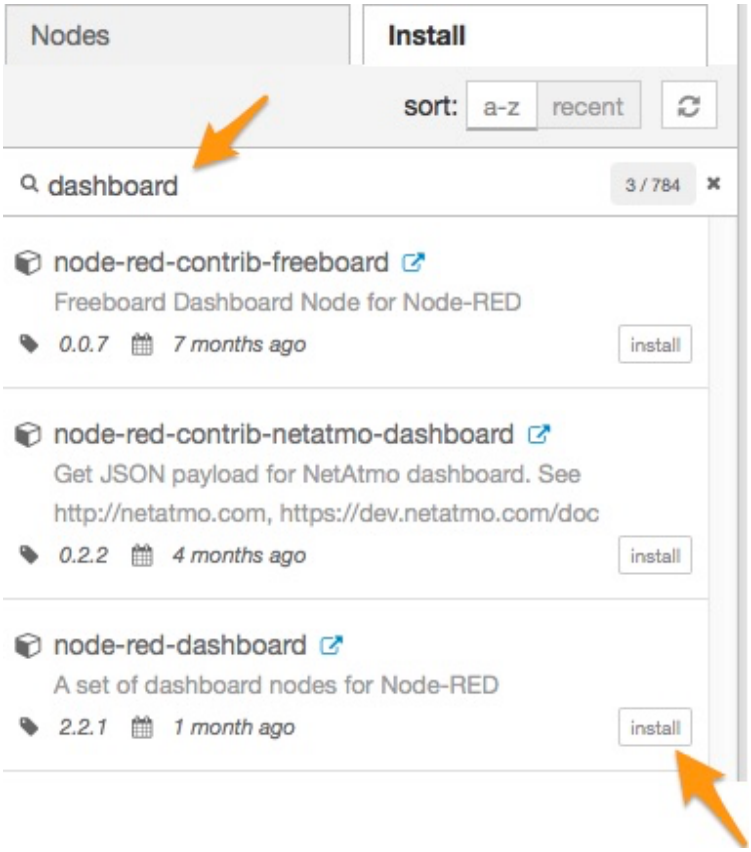


d. In the **search modules** field, type `dashboard`

e. Next to the **node-red-dashboard** result, click **install**:



f. In the Install nodes popup dialog, click **Install**:

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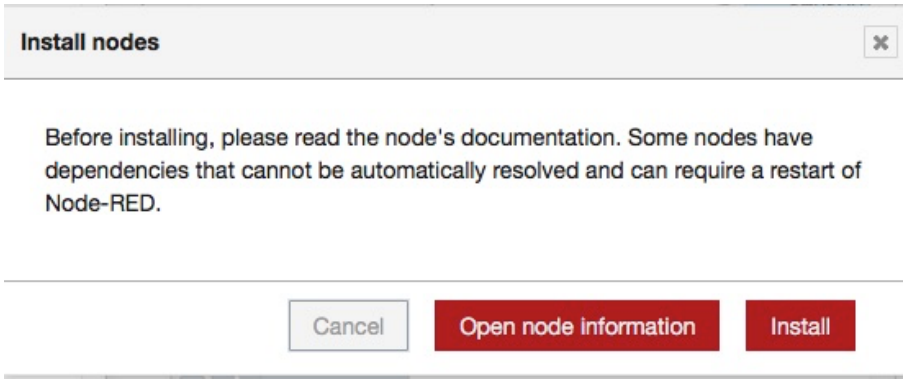
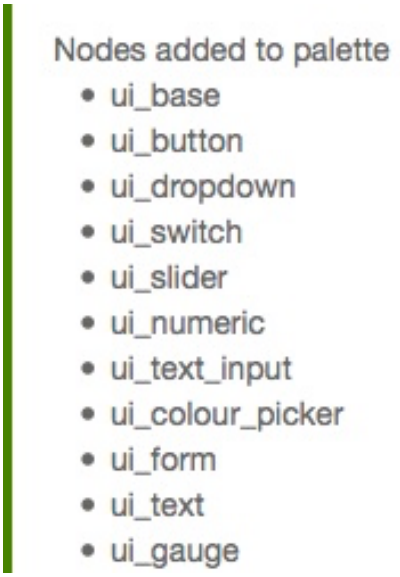
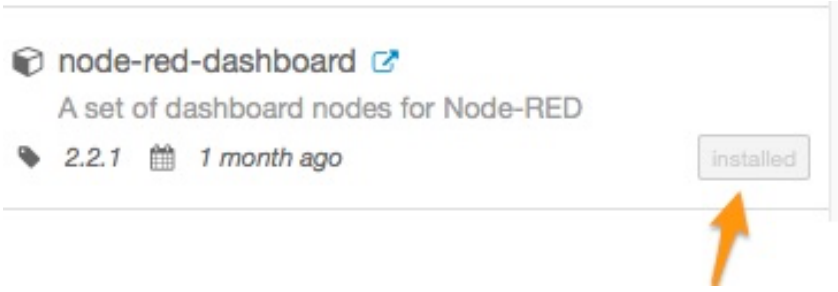


g. A popup dialog displays which new nodes have been added:



h. The **Manage palette** dialog also shows the new nodes as installed:



i. Click **Done** to close the Manage palette dialog

3. Refresh the web page:

TIP: Although the new nodes are installed they will not be visible in the palette until the web page is refreshed

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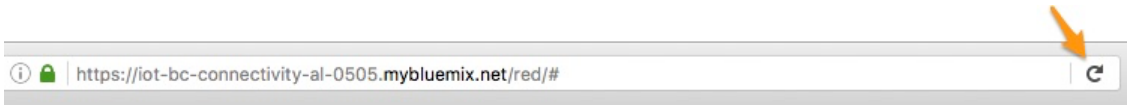
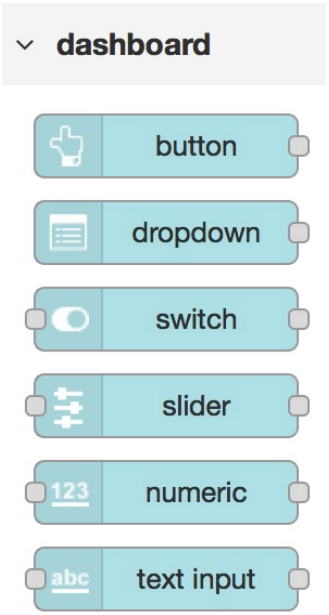
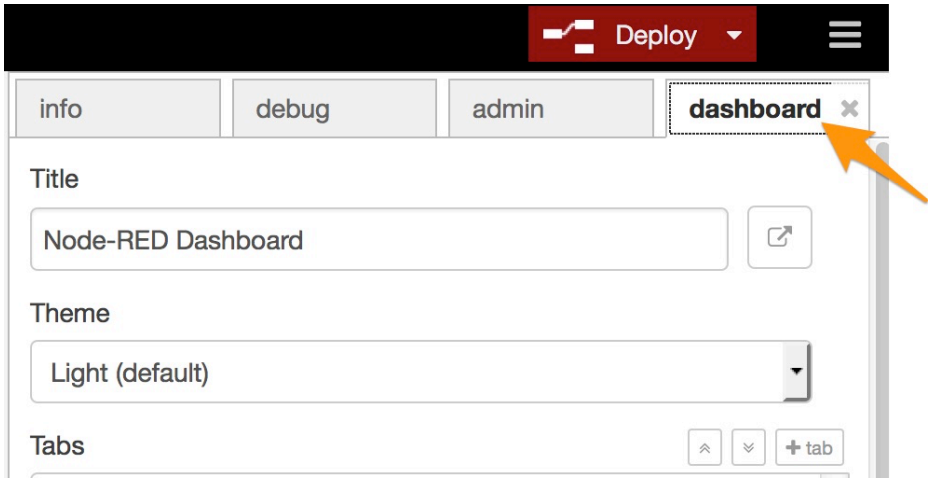
b. Click the **refresh** button in the address bar to refresh the web page:



c. Note the additional nodes on the palette:



d. Note also that there is a new **dashboard** tab in the sidebar:



TIP: This dashboard tab may be used to add new tabs, menus etc to the visualization dashboard. There are also two available themes – light and dark.

4. Add a Gauge:

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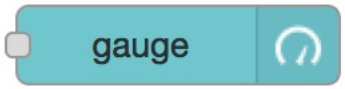
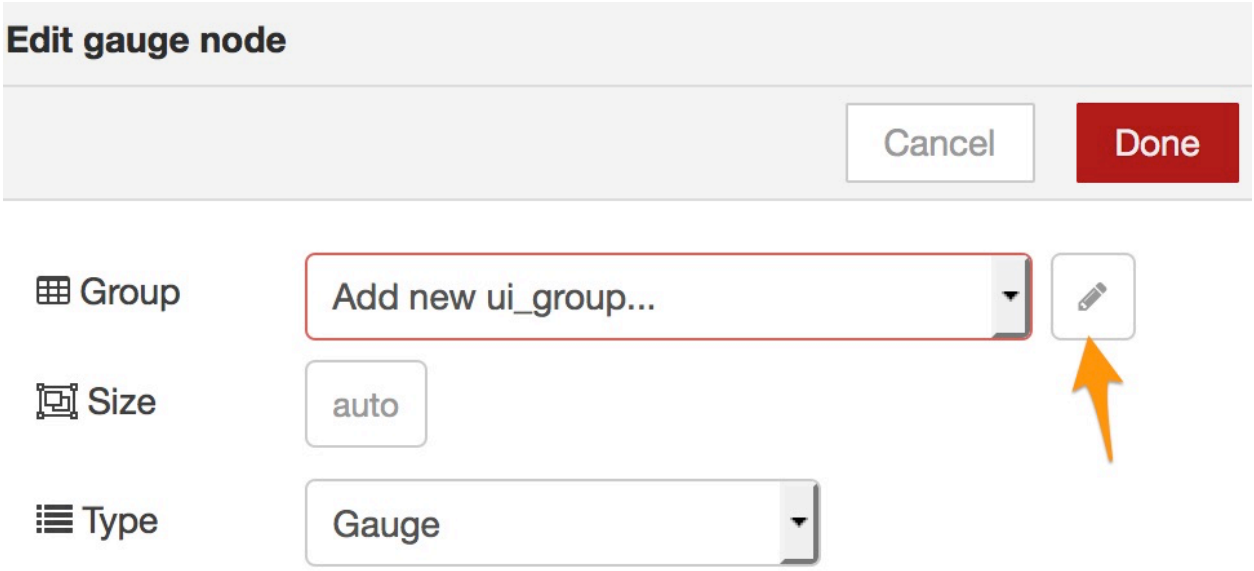
a. Drag on a **gauge** node from the palette:

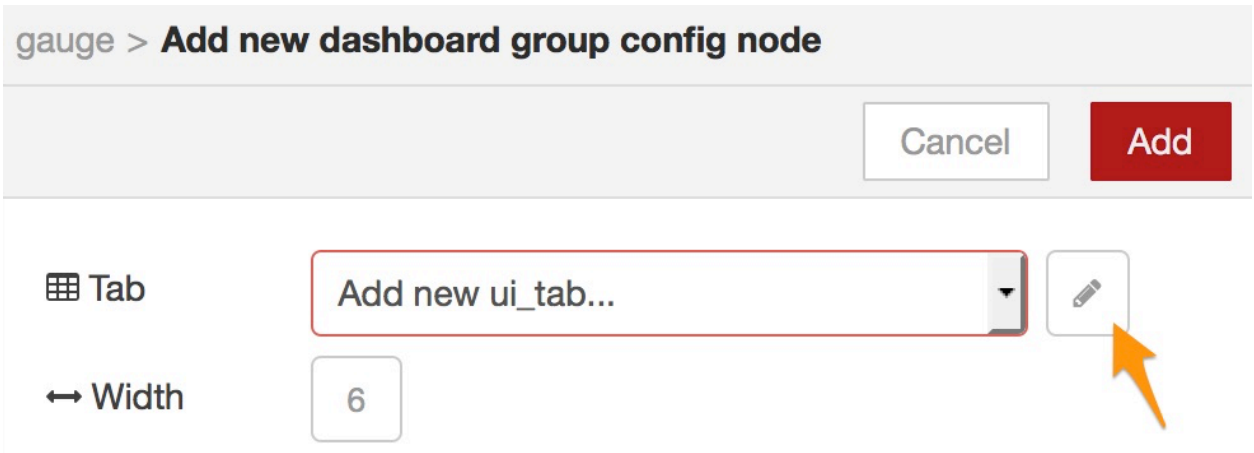


b. Double-click the new node to edit it

c. Click the **pencil** next to the **Group** field to add a new Group:



d. Click the **pencil** next to the **Tab** field to add a new Tab:



e. Leave the default settings and click **Add**:

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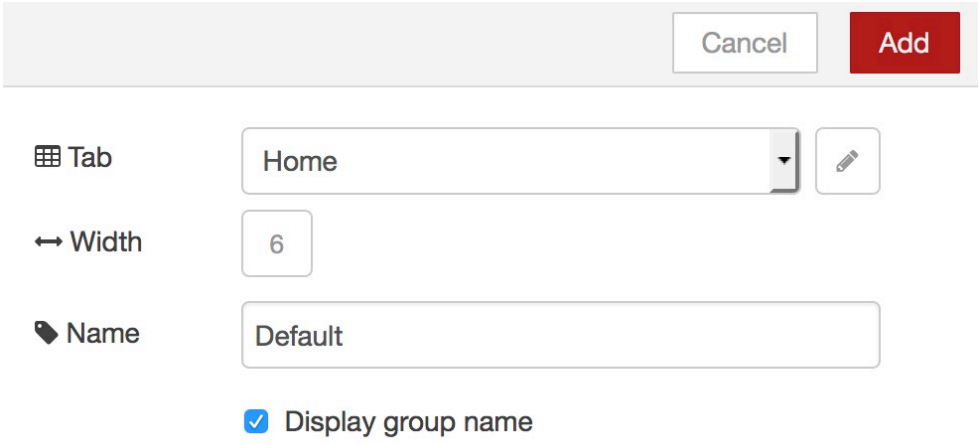
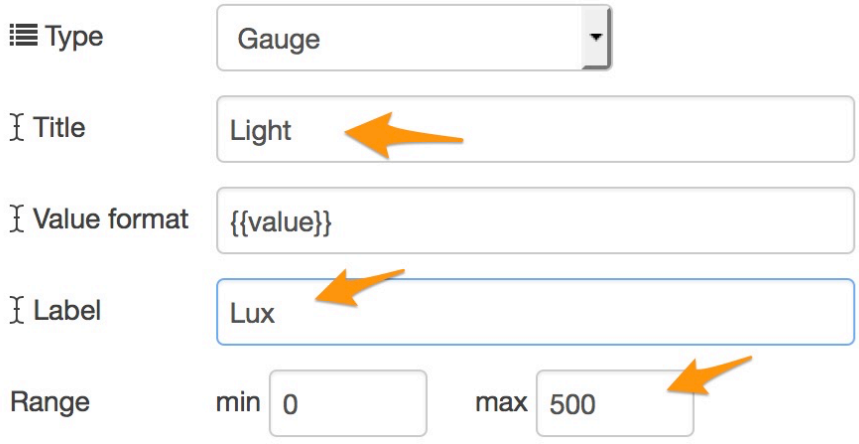
f. Click **Add**:



g. Give the Gauge a **Title**: `Light`

h. Change the **Max** value to `500`

i. Set the **Label** to `Lux`:



j. Click **Done**

5. Add an IoT Node:

a. Drag an IoT **Input** node onto the page:

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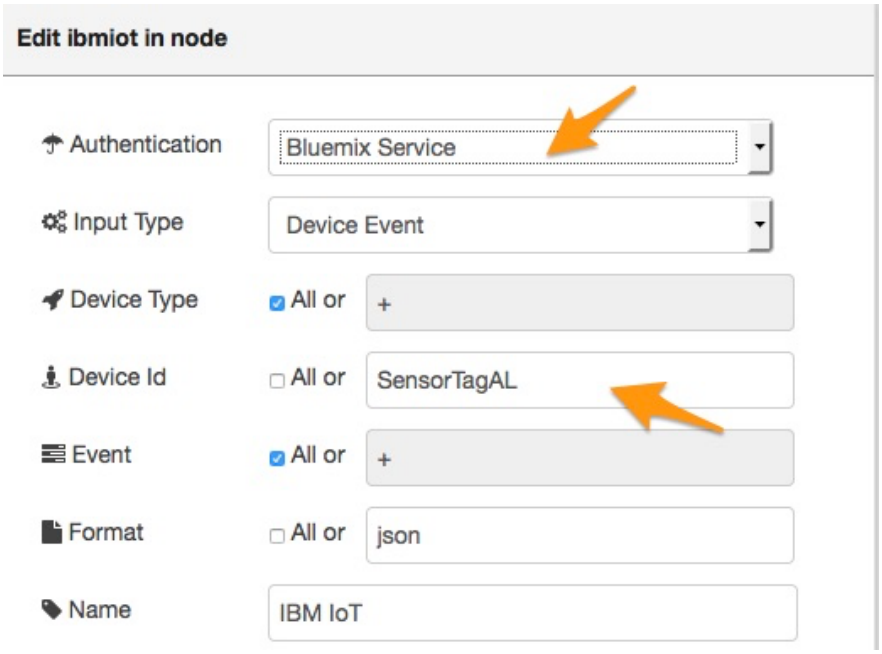
b. Double-click the new node to edit it

c. Set the Authentication to **Bluemix Service**

d. Set the Device ID to `SensorTagAL`

TIP: Substitute YOUR device ID



e. Click **Done**

6. Extract the light attribute:

a. Drag on a **Change** node:

b. Double-click the new node to edit it

c. Set the **msg.payload** to **msg.payload.d.light**:

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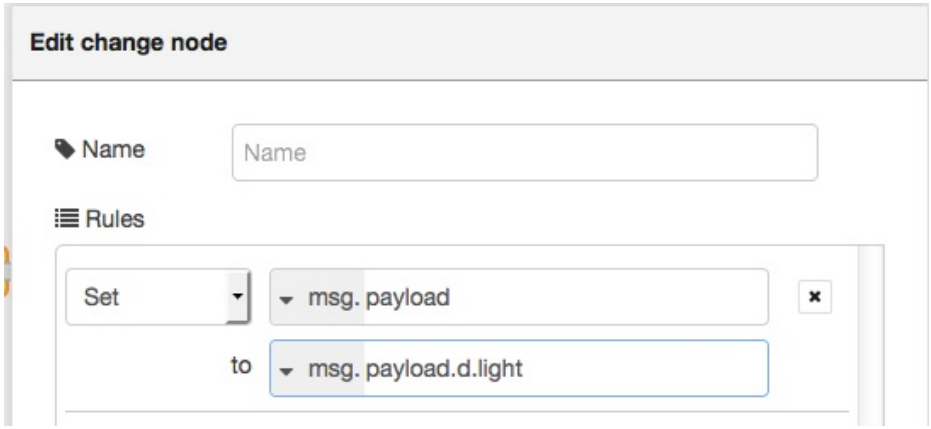


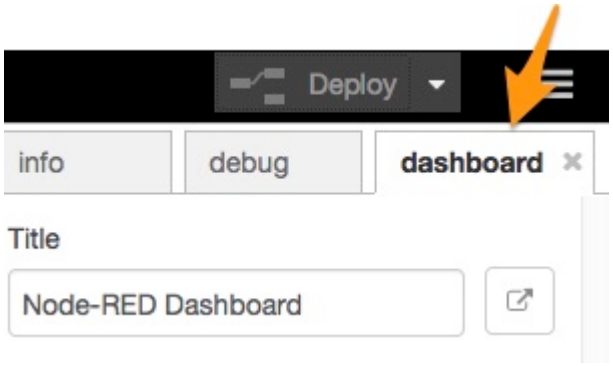
d. Click **Done**

e. Wire up the nodes as shown below:

7. Deploy and test:

a. Click **Deploy**

b. Select the **Dashboard** tab in the sidebar:



c. Click the **Open Dashboard** icon ( )

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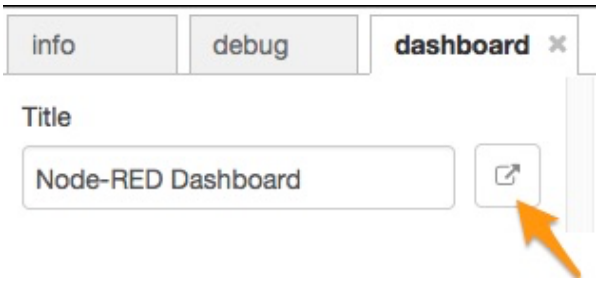
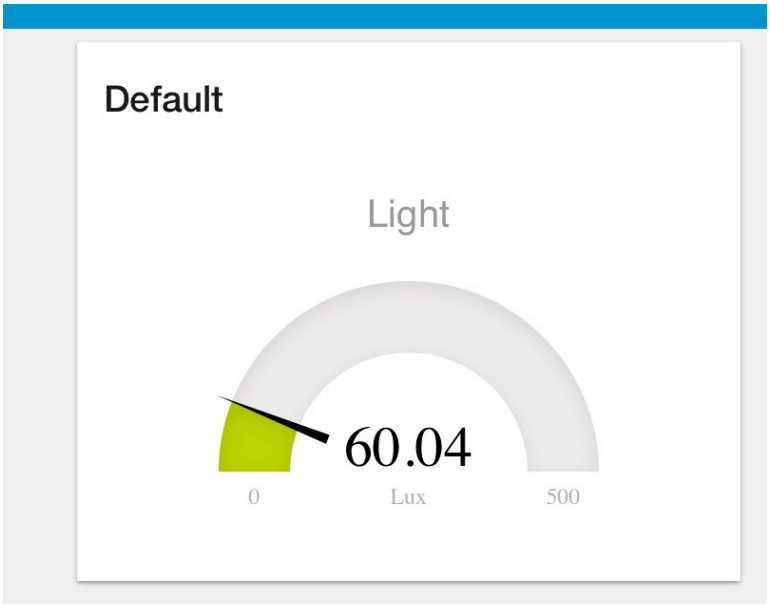


TIP: This opens the dashboard in a new browser tab



TIP: If you change the node-red flow and add more graphical widgets – you do not need to refresh the tab that has the UI on it – it will refresh itself ☺

Task 2. Unguided Exercise: Add more widgets:

Experiment and modify the Node-RED flow to extract more data and display it on your dashboard:

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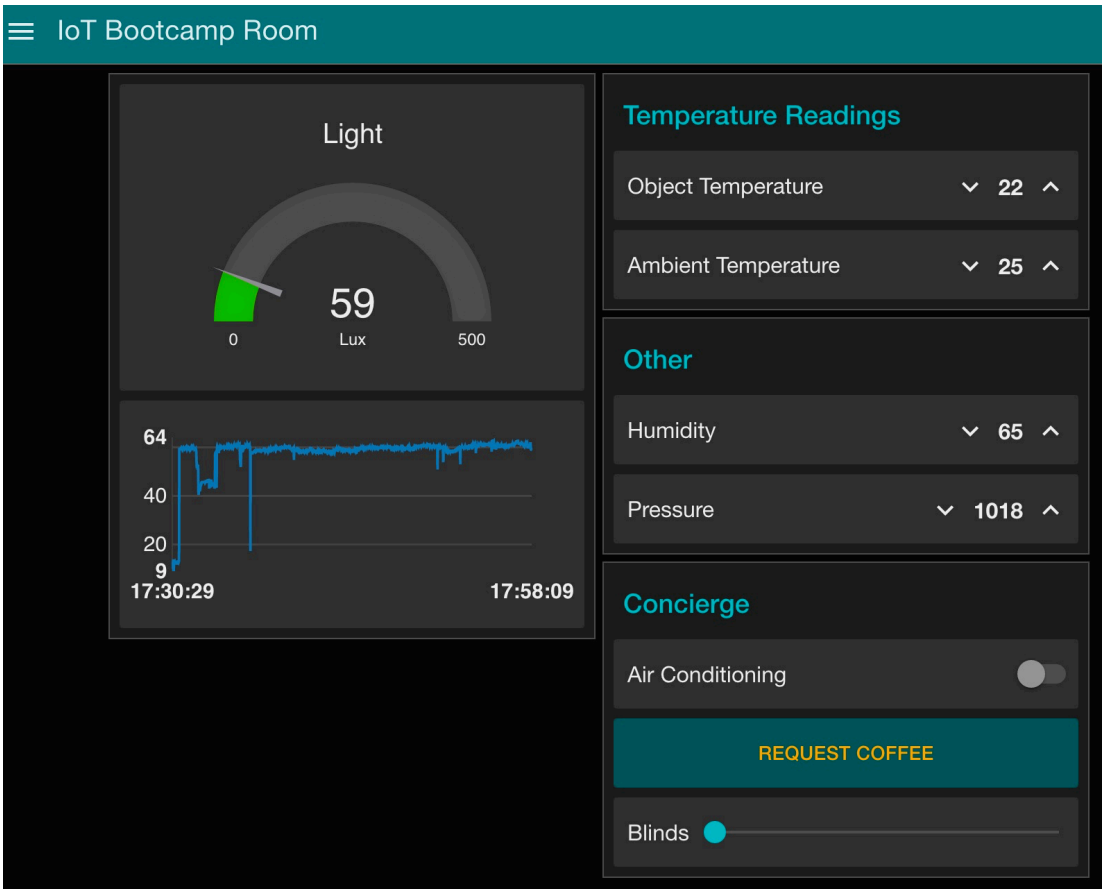

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