Node-RED IoT Workshop using Raspberry Pi and Sense HAT sensor

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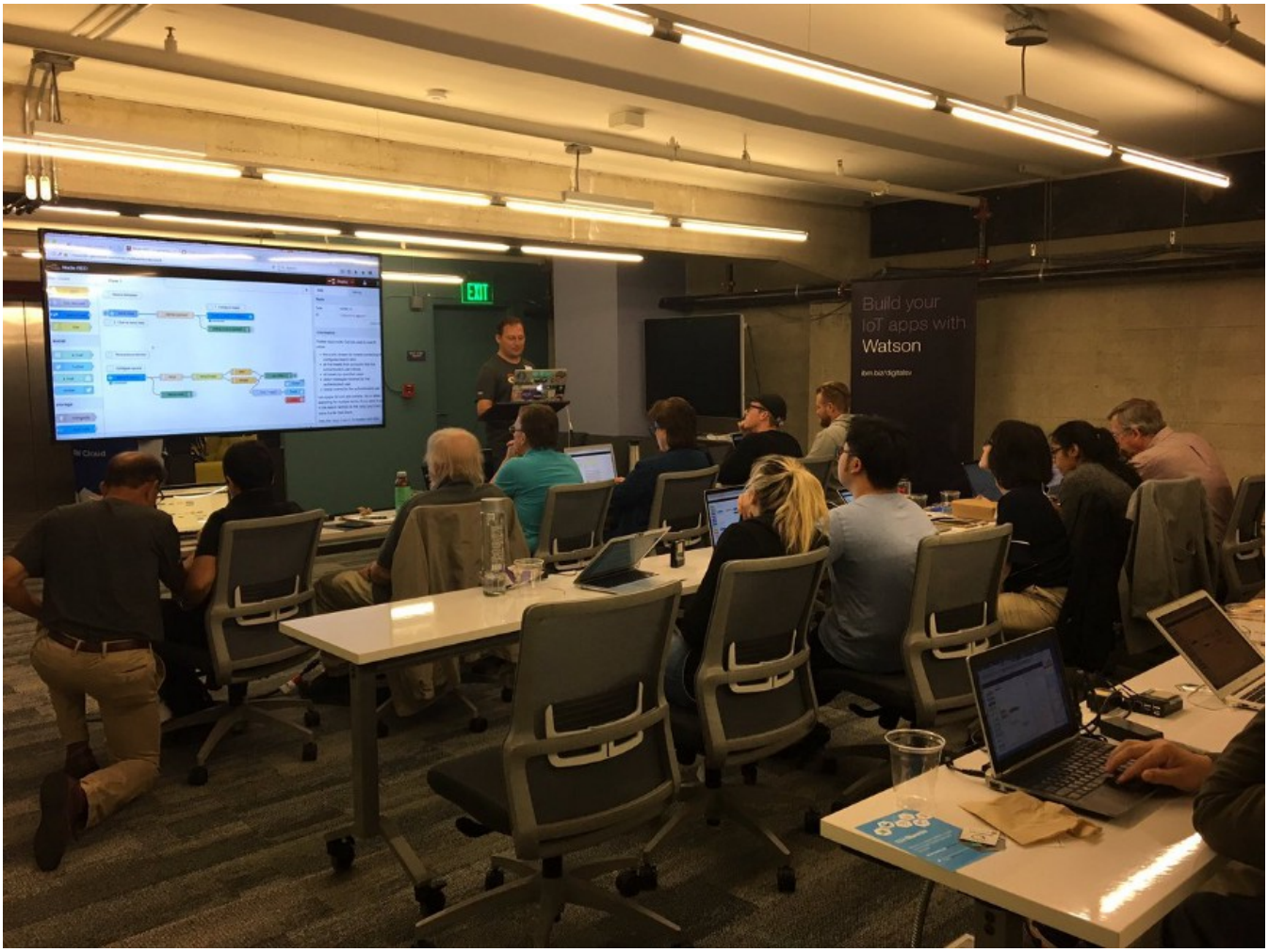
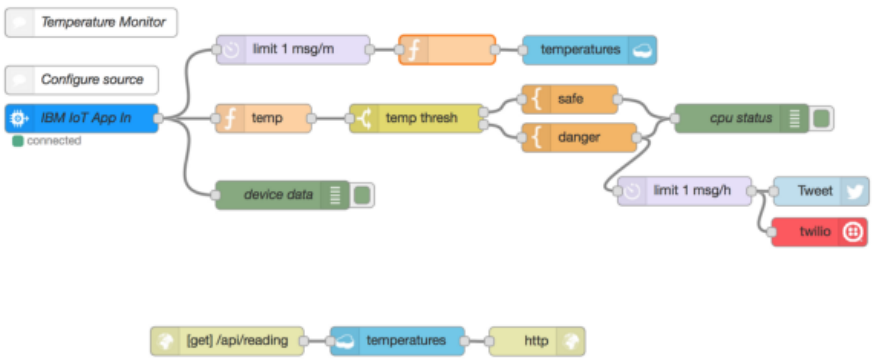
IBM hosted a IoT workshop yesterday showing how the Watson IoT Platform and Node-RED can be used to create a monitoring and notification system. If you missed this workshop, no worries. I've recapped the components so you can complete it at home using these lab resources.

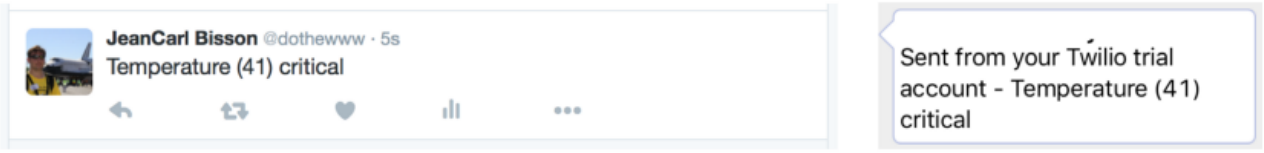


First, get yourself an element14 Raspberry Pi 3 IoT Learner Kit that includes a Raspberry Pi and a Sense HAT. This is a great investment as the Sense HAT is packed full of sensors you can use, and the Raspberry Pi can be used for a ton of IoT projects.

In the workshop, we used the environmental sensors to respond to high temperature values.

The first part uses Node-RED in IBM Bluemix to listen to temperature events from a virtual sensor. When a high temperature is detected, you can choose to send a Tweet or a text message via Twilio. Once that is working, the lab switches over to using a Raspberry Pi sensor and uses temperatures from the Sense Hat board. Lastly, back in Node-RED in IBM Bluemix, you'll learn how to store the sensor data in a Cloudant NoSQL database and retrieve the data. This is a great starting point to build a system that help diagnose malfunctioning equipment.



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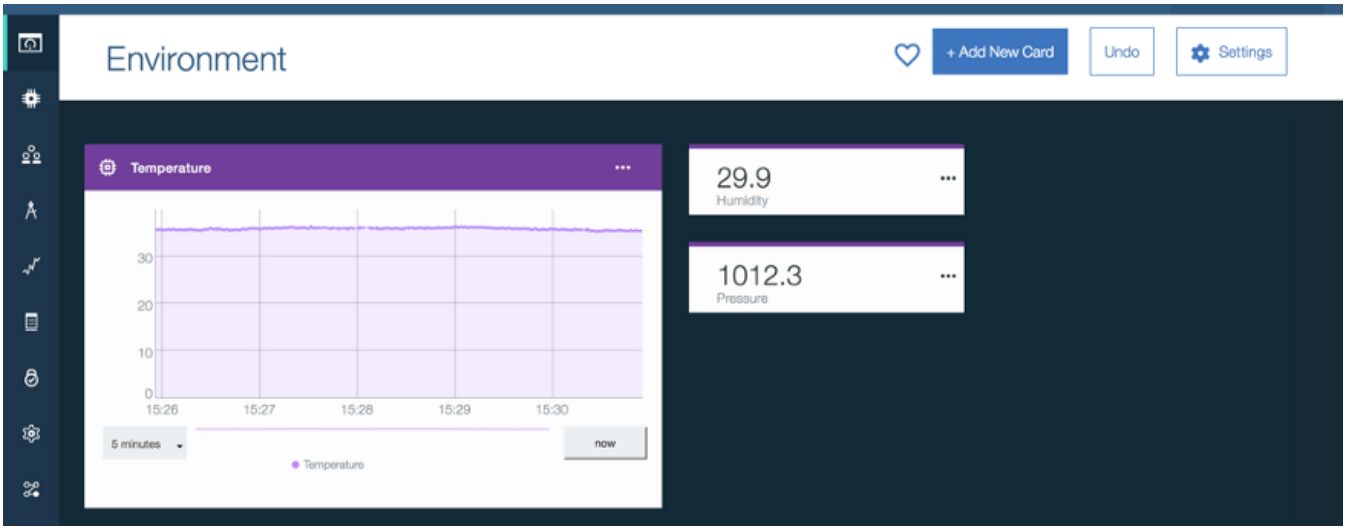
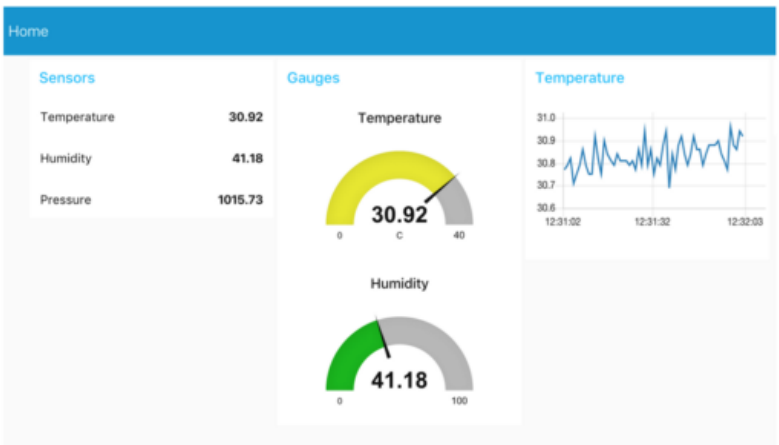
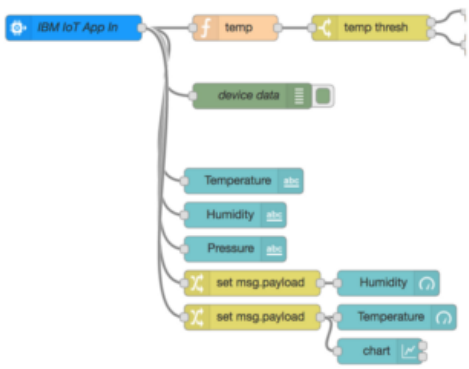
The second part showcases the powerful dashboard you can create in the Watson IoT platform. This is great when you scale out to tons of sensors and can visualize abnormal conditions.

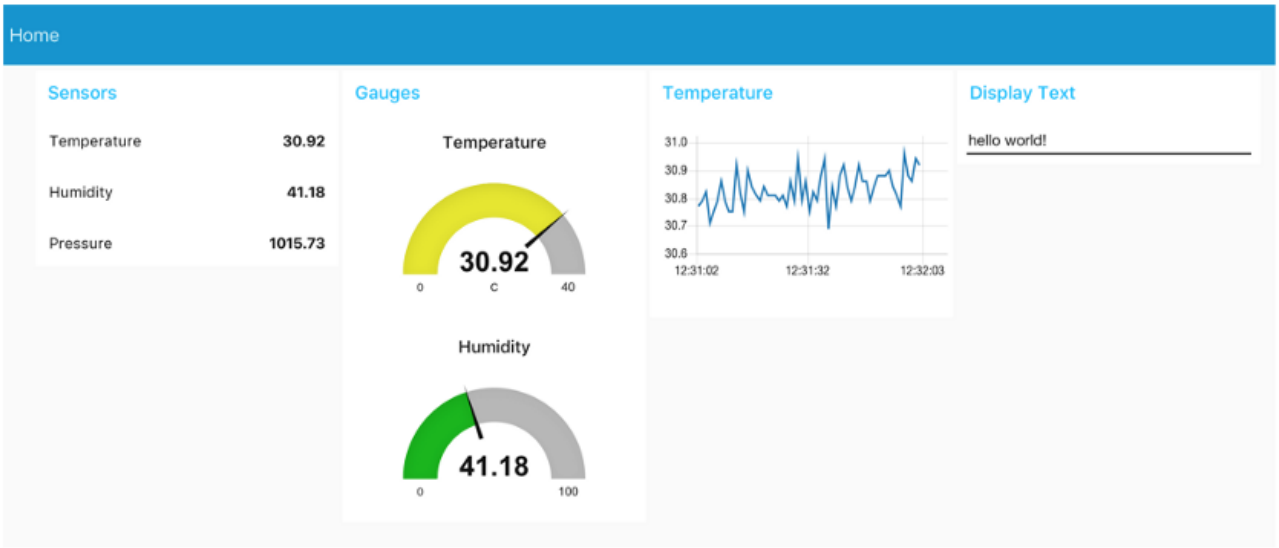


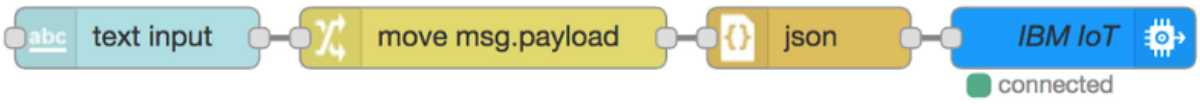
The third part showcases the Node-RED dashboard package, which offers up more than a dozen nodes to create dashboard widgets to visualize data.

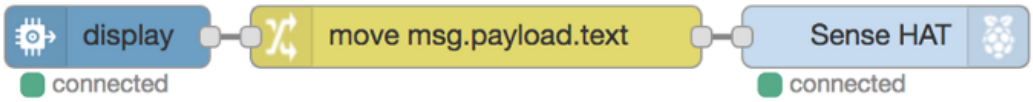




The final part of the lab covers sending an IoT command to the Raspberry Pi to display text and change the color of the 8x8 LED display on the Sense Hat board.







If you found this lab interesting, check out the other IoT labs I have created, and check out the Developer Journeys for more advanced projects at https://developer.ibm.com/code/

Raspberry Pi Watson Iot Sense Hat Workshop Lab