# Lab2

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MonkeyCanCode edited this page 19 days ago · 3 revisions

Arduino Source

Node-RED source

Video

## Introduction

For lab 2, I connected data from all sensors we used in previous classes with Node-RED and visualize the data on Node-RED's dashboard. Also, I generated tweet based on the data I collected and sent tweets to Twitter as new data coming to the flow.

## Objectives

The object for this lab is for us to review how to connect various sensors and learn how to parse data from Arduino inside Node-RED and how to visualize data with dashboard.

## Member Contribution

We did this one together, so each member will have same contribution.

## Approaches/Methods

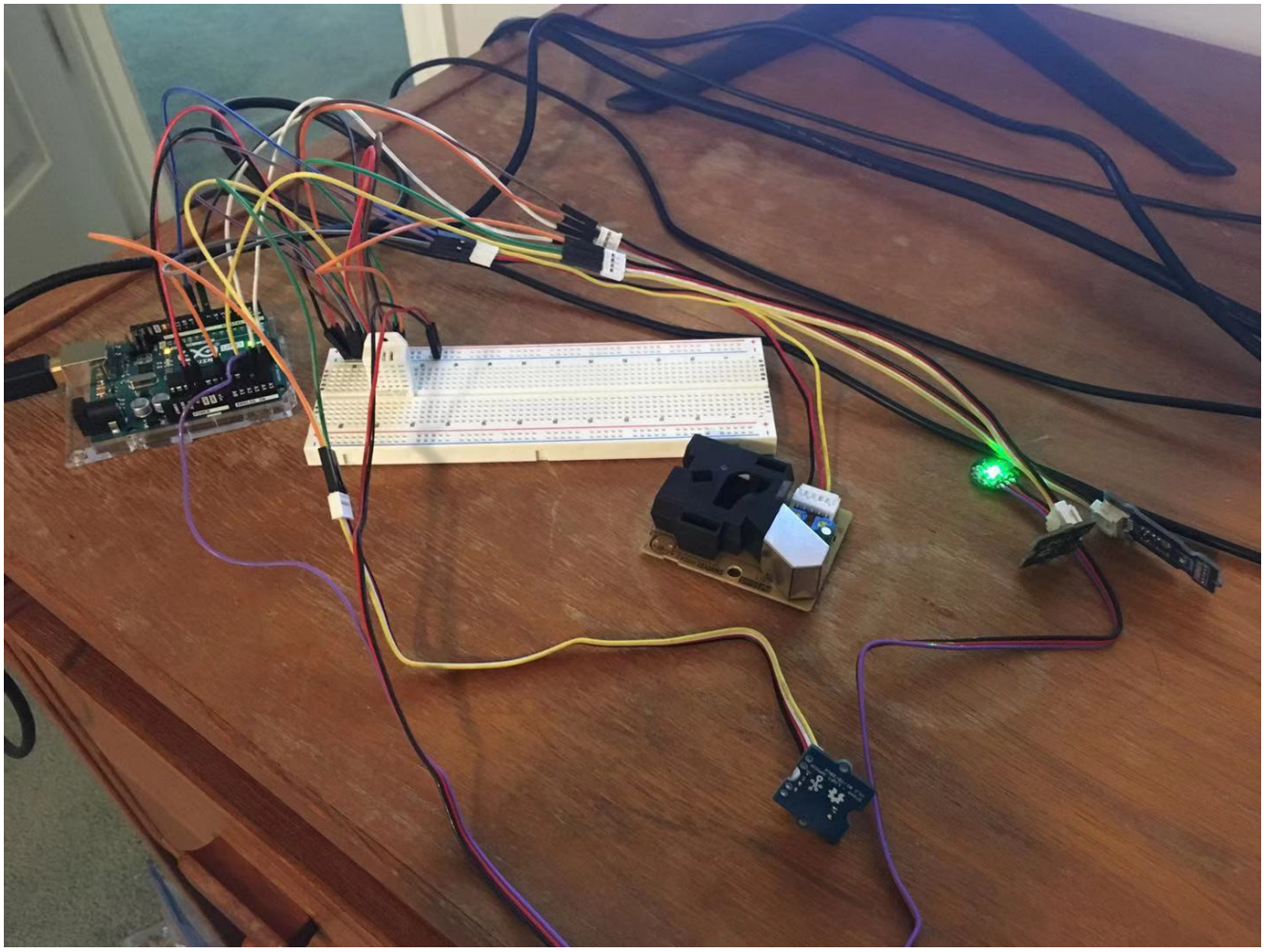
For lab2, I worked on it by myself. I used all of the sensors we used in previous classes and connected them to Arduino then write code in Arduino to pull the data from these sensors and log the data so I can then use Node-RED to parse the data. With I finished the code for Arduino part, I then construct Node-RED flow and configure the flow to pull data from Arduino and parse the data in order to send the parsed data to Node-RED dashboard and format tweet message and sent tweet to Twitter.

# Workflow

Here is the workflow for lab 2:

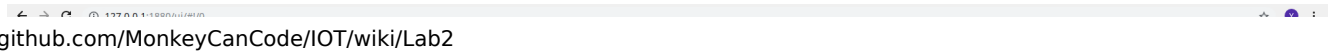
1. Build the circuit board for all sensors with Arduino
2. Test each sensor by displaying data Arduino monitor
3. Write code in Arduino to pull data from all sensors
4. Construct Node-RED flow to pull data from Arduino
5. Parse the data and send data to different dashboard component
6. Generate tweet message and send tweet message to Twitter

# Circuit Diagram

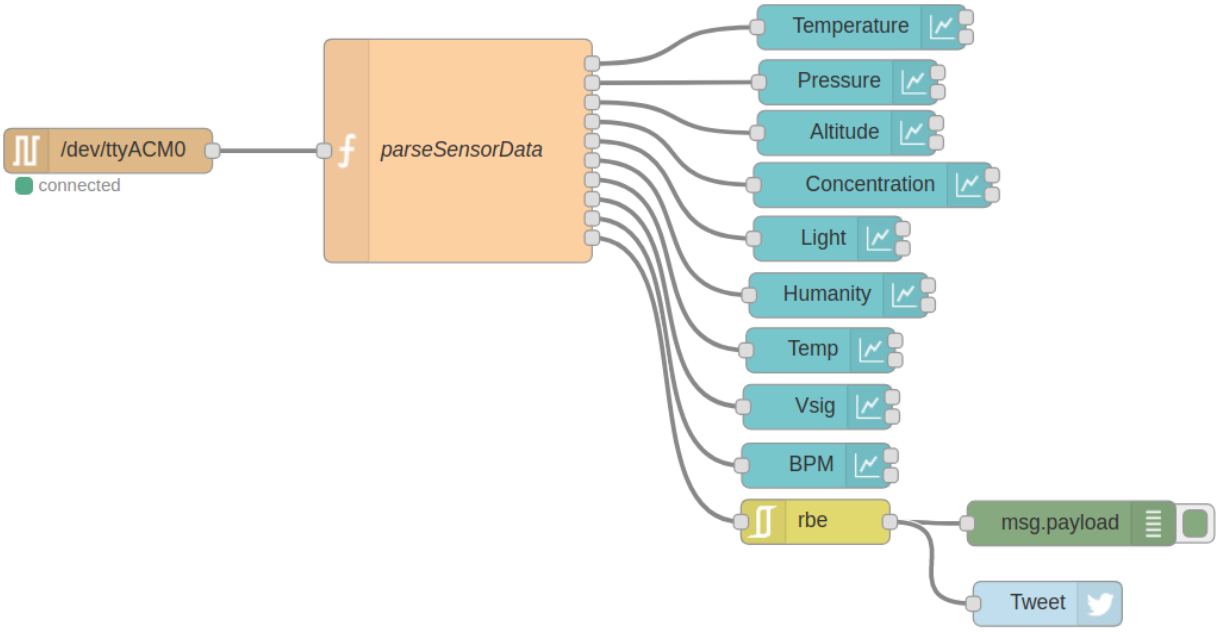


# Additional images

Here is the Node-RED dashboard:




Here is the Node-RED flow:




Here is the tweet sent to Twitter from Node-RED:


# Evaluation & Discussion

I have no issue with this lab as compared to previous lab. This lab is pretty straight forward and I got to refresh my memory for how to connect various sensors with Arduino and learned how to pull data from Arduino in Node-RED.

# Conclusion

From this lab, I reviewed all of the materials I learned for previous lectures. The only thing new about this lab is how to pull data from Arduino in Node-RED and how to send data to dashboard.

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