

## A. Set up ESP8266 to connect with Losant and transmit data – this is data source

### 1. create new device:

refer to LessonTwo

my example is HW-ESP8266-01

Make sure the DHT22 is connected as in Lesson Three

### 2. Download access keys

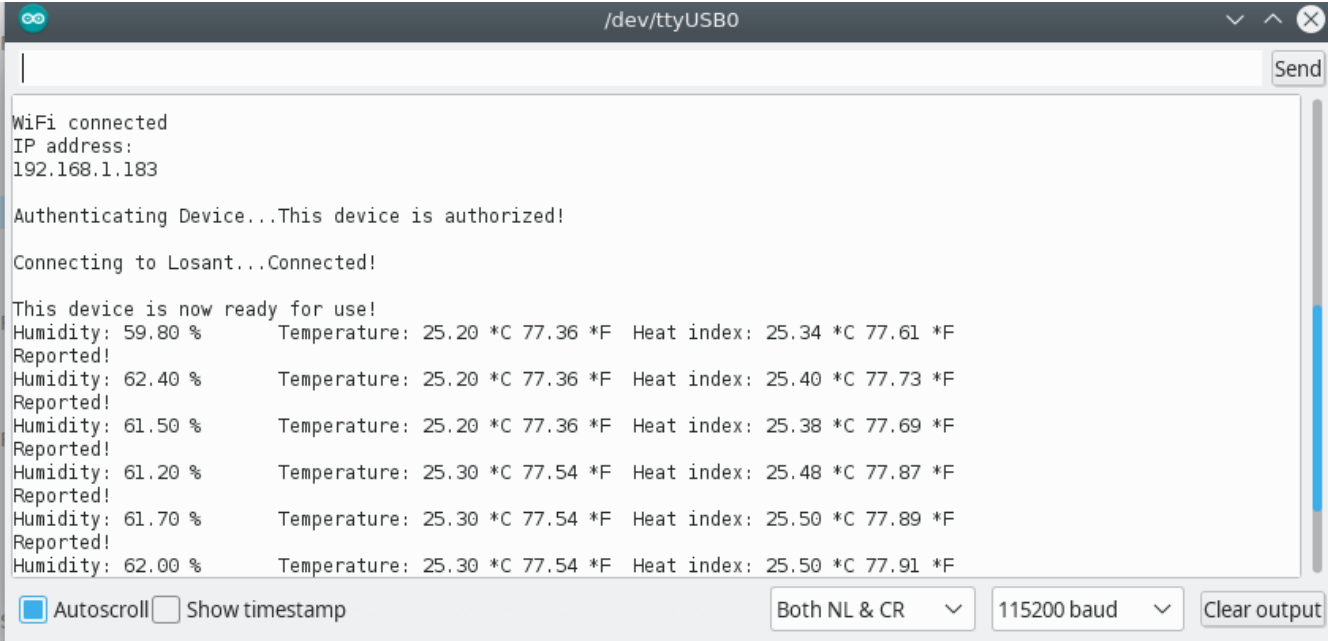
place access keys and Router information into the source code

### 3. Compile ESP8266 code and upload to device

Link to code:

[http://web.eng.fiu.edu/watsonh/eel4730/MQTT/sketch\\_LosantTempHumidV01.ino](http://web.eng.fiu.edu/watsonh/eel4730/MQTT/sketch_LosantTempHumidV01.ino)

Serial Console output



```
WiFi connected
IP address:
192.168.1.183

Authenticating Device...This device is authorized!

Connecting to Losant...Connected!

This device is now ready for use!
Humidity: 59.80 %      Temperature: 25.20 *C 77.36 *F  Heat index: 25.34 *C 77.61 *F
Reported!
Humidity: 62.40 %      Temperature: 25.20 *C 77.36 *F  Heat index: 25.40 *C 77.73 *F
Reported!
Humidity: 61.50 %      Temperature: 25.20 *C 77.36 *F  Heat index: 25.38 *C 77.69 *F
Reported!
Humidity: 61.20 %      Temperature: 25.30 *C 77.54 *F  Heat index: 25.48 *C 77.87 *F
Reported!
Humidity: 61.70 %      Temperature: 25.30 *C 77.54 *F  Heat index: 25.50 *C 77.89 *F
Reported!
Humidity: 62.00 %      Temperature: 25.30 *C 77.54 *F  Heat index: 25.50 *C 77.91 *F
```

Figure 1: Serial Console output

## B. Set up Losant Device, and Application

Reference material – Losant Walkthrough

Losant Walkthrough <<<<<<<<<<<<<<<<<<<<< Use this along with this document  
<https://docs.losant.com/getting-started/walkthrough/>

### Step 1.

The Walkthrough uses Dark Sky for data source – you can do this to get comfortable with the process if you wish.

The Data Source we are going to use is the ESP8266 Board with the DHT22 connected.

### Step 2.

Create the Losant Application – my case is MyRam in MySandbox.

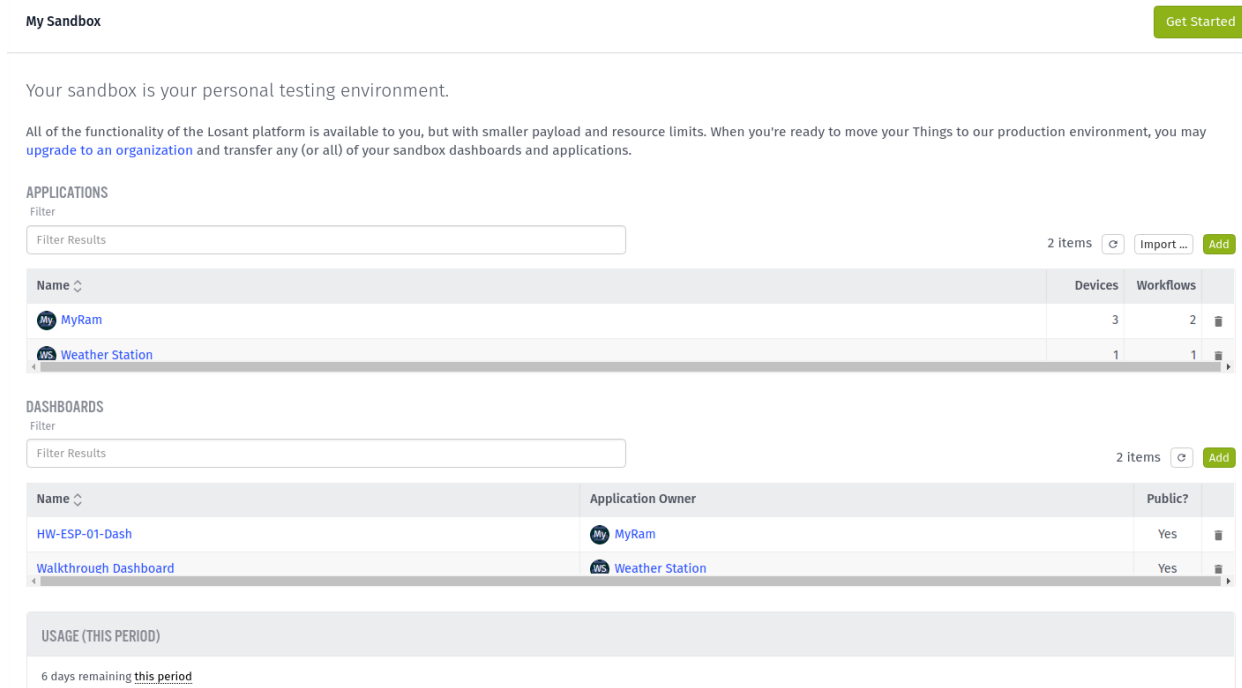


Figure 2: Losant Application - MyRam

### Step 3-A.

Add the Device to the Application – my device is **HW-ESP8266-01**  
When creating the device, make sure **Standalone** is selected as the device type.

# Losant Dashboard

The screenshot shows the Losant Dashboard for an application named 'MyRam'. The interface is divided into several sections:

- Left Sidebar:** Contains navigation options for 'Overview', 'Events', 'DEVICES', 'Data Sources', 'DATA VISUALIZATION', and 'VISUAL WORKFLOW ENGINE'.
- DEVICES (View All):** Shows 2 items. A search bar is present. The table lists:

Name	Last Updated
HW-ESP8266-01 Attempt to get first working version	Jul 7, 2019 21:52
MySecondESP8266	Apr 17, 2019 17:46
- APPLICATION WORKFLOWS (View All):** Shows 2 items. A search bar is present. The table lists:

Name	Last Updated	Status
MyOwnDHT22 These are values received from my own ESP8266 connected with DHT22	Feb 3, 2020 13:28	On
Virtual Button Pressing this toggles led on board	Jan 3, 2020 22:46	On
- EXPERIENCE WORKFLOWS (View All):** Shows 0 items.
- Application Log:** Shows a list of device state reports with received payloads. The first entry shows a payload with keys: humidity (57.4), tempC (24), tempF (75.2), heatIndexC (23.95433), and heatIndexF (75.1178).

Figure 3: Add Device

## Step 3-B. Configure Device Attributes

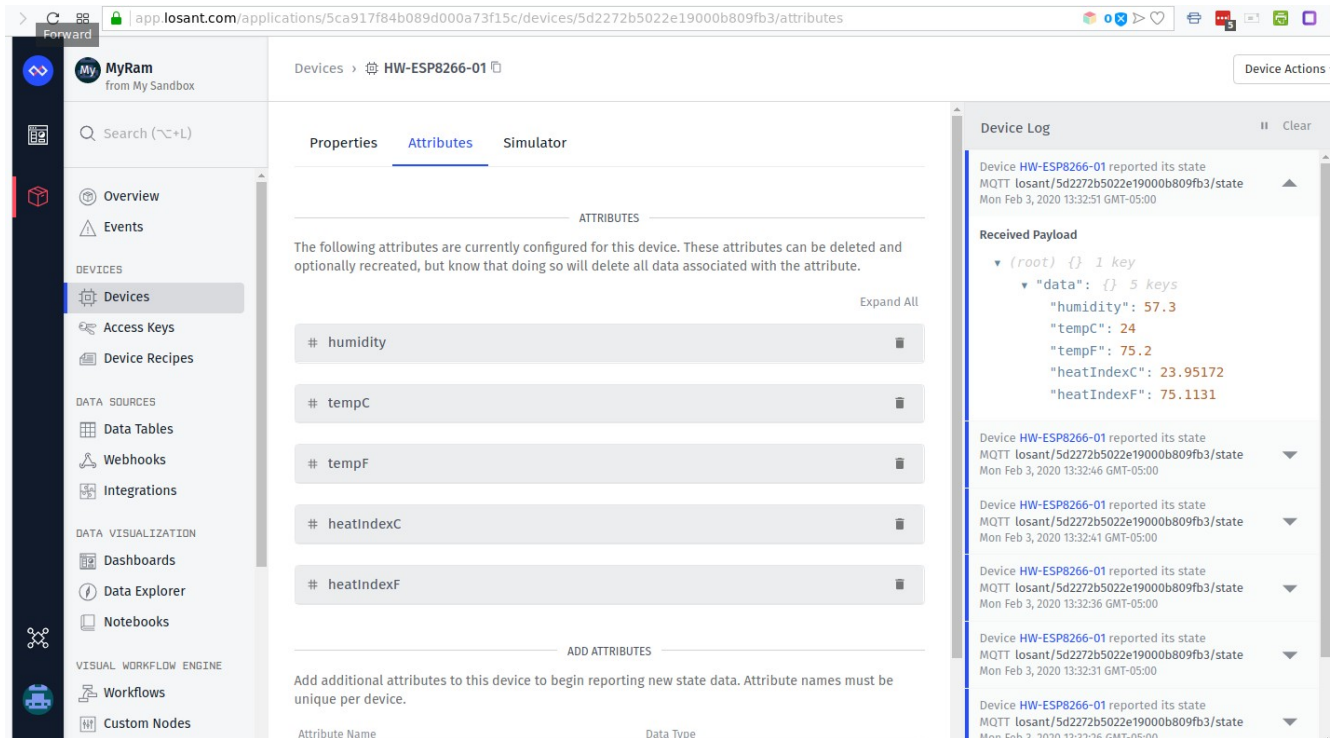


Figure 4: Device Attributes - Data Received

Add the Attributes which come from the HW-ESP8266-01

All are number category

- humidity
- tempC
- tempF
- heatindexC
- heatindexF

Once all the attributes are properly defined, click the **Update Attributes** button at the bottom of the page.

The device log should now show the information coming in from the Device. With this setup, the Device is spontaneously sending data, so

## Step 4

- Requesting Weather Data is not needed. Weather data is coming from the NodeMCU  
Data should show up on the Device Log as shown above.

## Losant Dashboard

### STEP 5:

SAVE WEATHER DATA TO DEVICE – same, the data is already stored with the device since it is being sent from the external device NodeMCU

It should appear in the Device Log and be updated every 5 seconds with received data. Figure 4 Device Attributes - Data Received

## C. Set up Dashboard

### Step 6.

Create a Dashboard

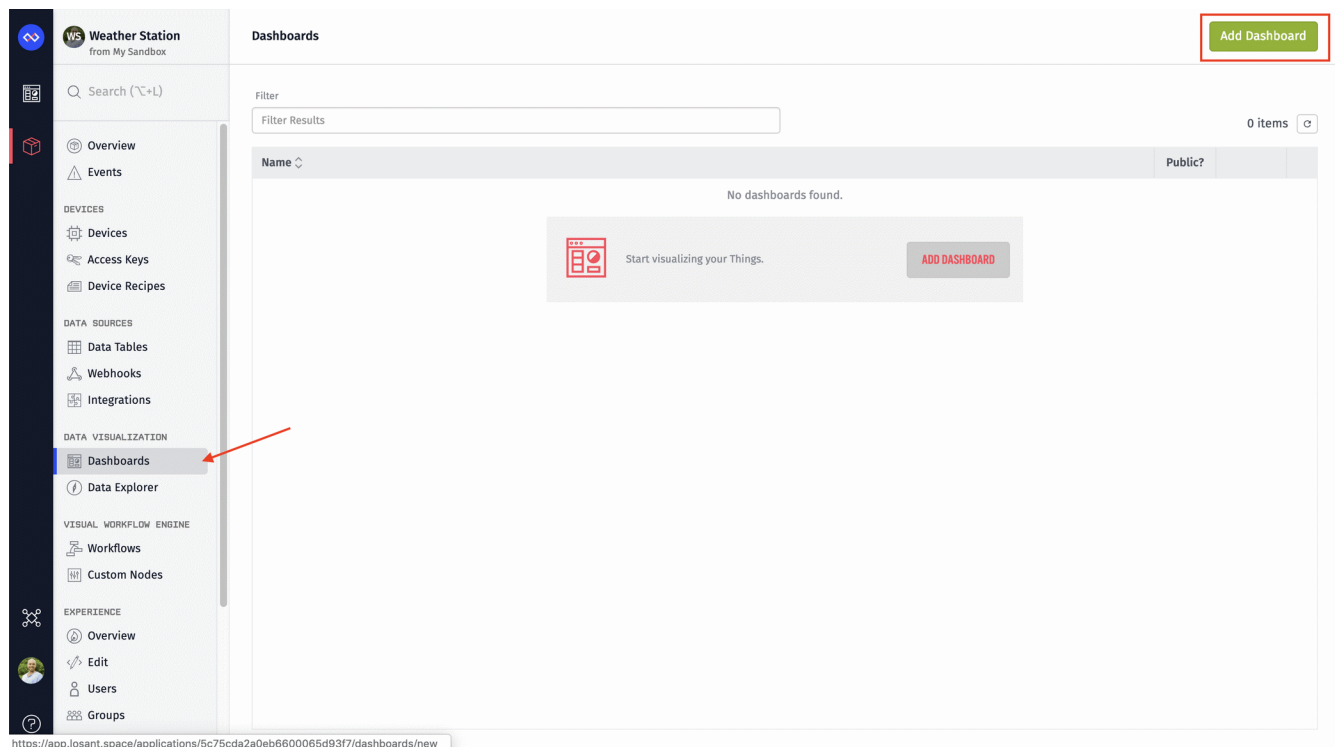


Figure 5: Add Dashboard

Created dash board

# Losant Dashboard

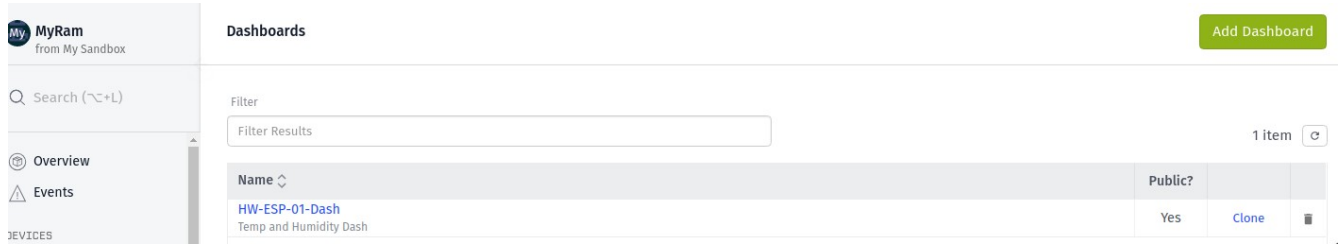


Figure 6: Dashboard Overview

## Add the Blocks

The first block to add is a simple Gauge Block to show the current temperature.

Then continue to add Gauge Block for current humidity.

Then add Time Series graphs for temp and humidity.

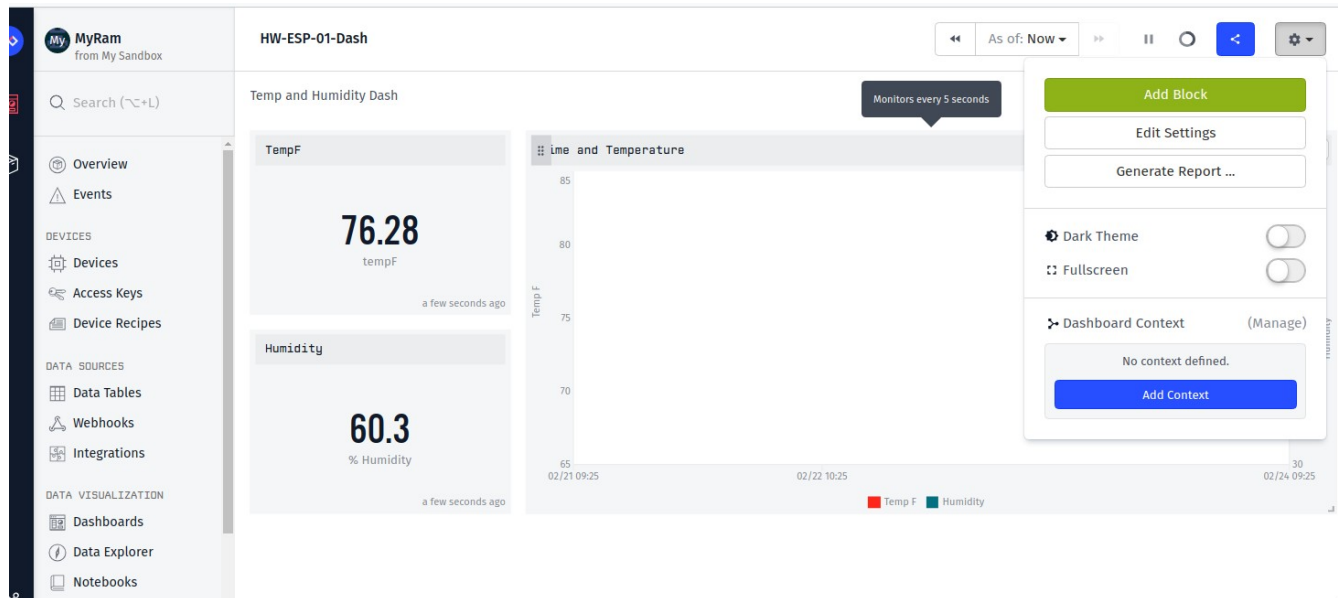


Figure 7: Settings - Add Block

‘Add Block’ menu option – pick block to add – this example either Gauge or Time Series Graph

# Losant Dashboard

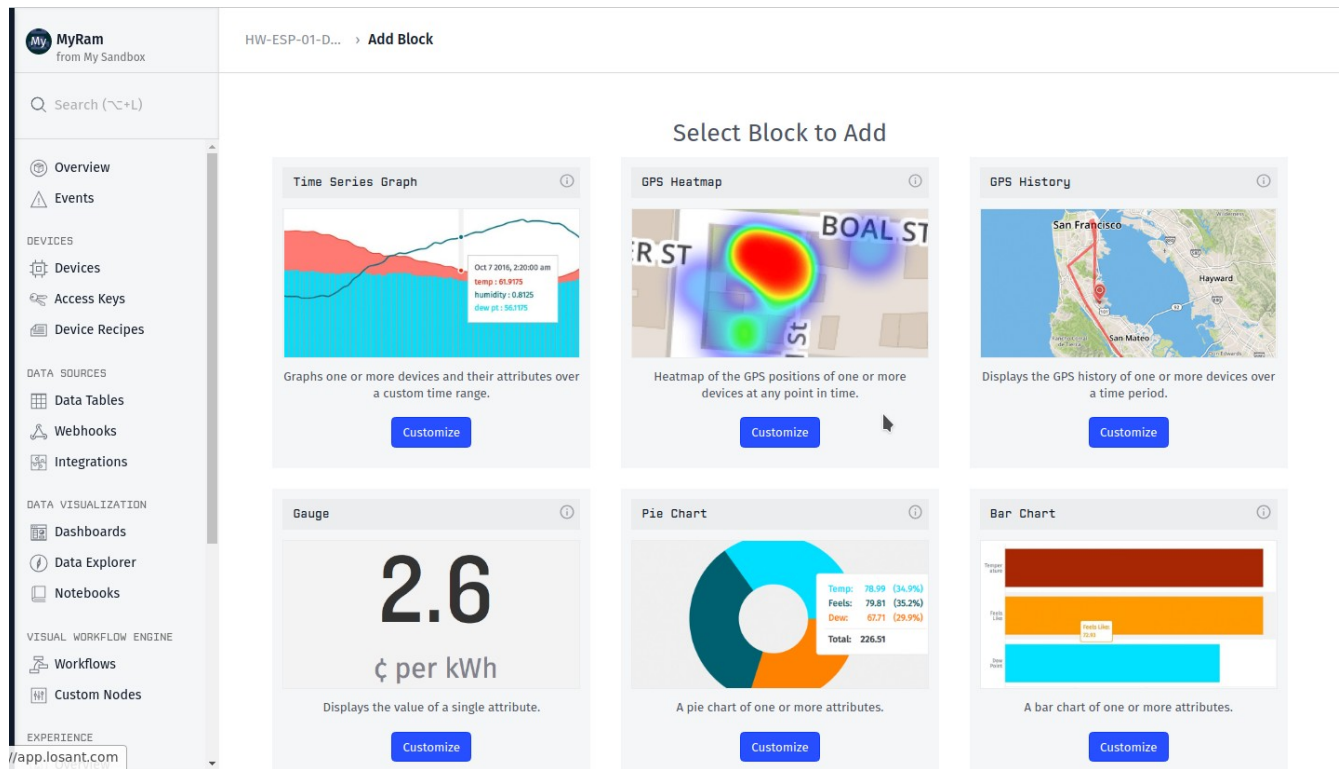


Figure 8: Select Block Type

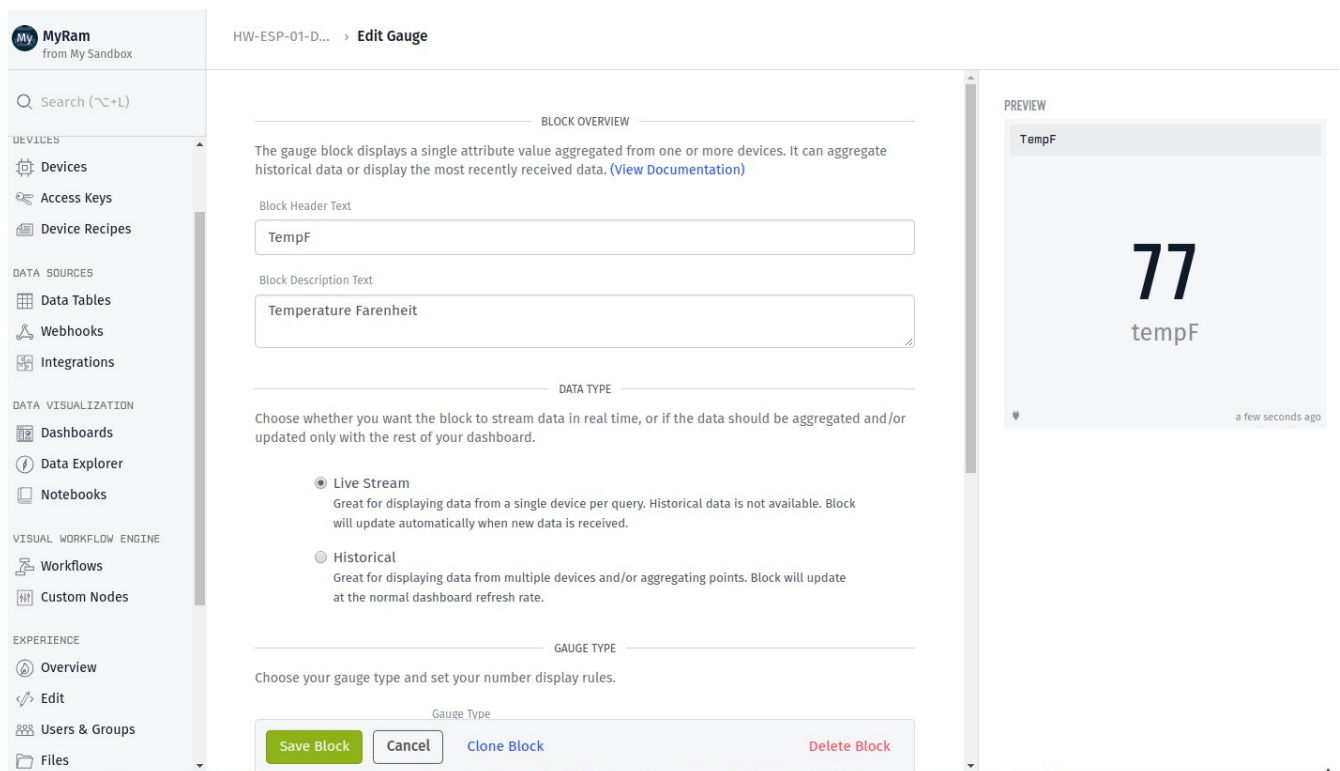


Figure 9: Edit Gauge Settings - Title

# Losant Dashboard

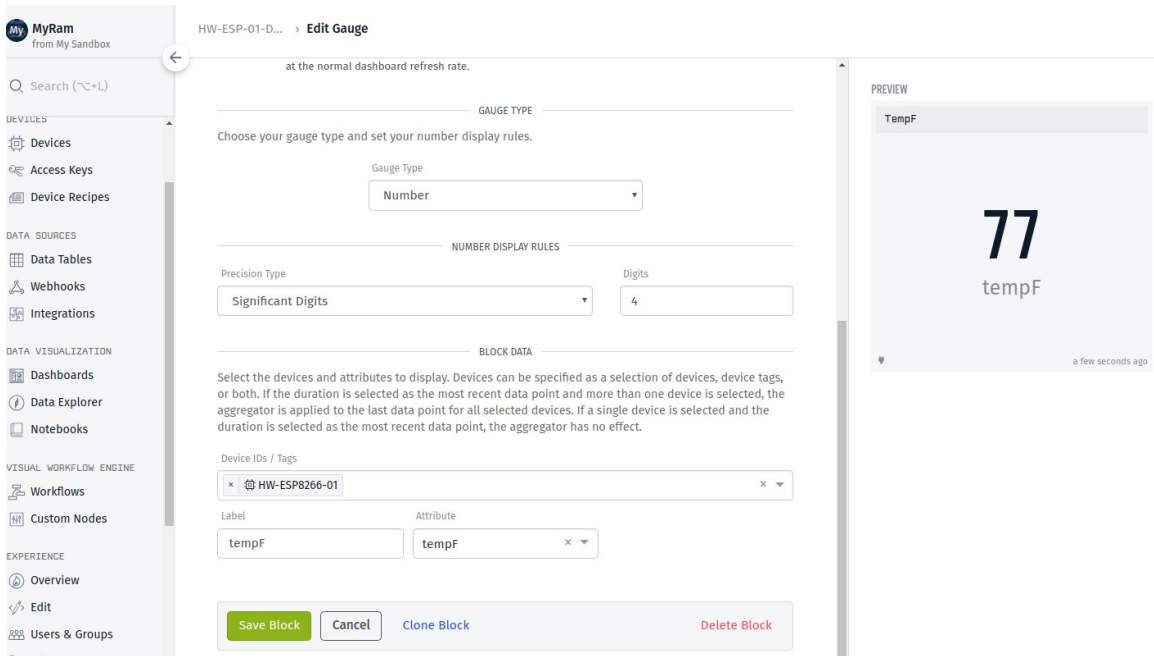


Figure 10: Edit Gauge Settings - Block Data - numeric

## Finish:

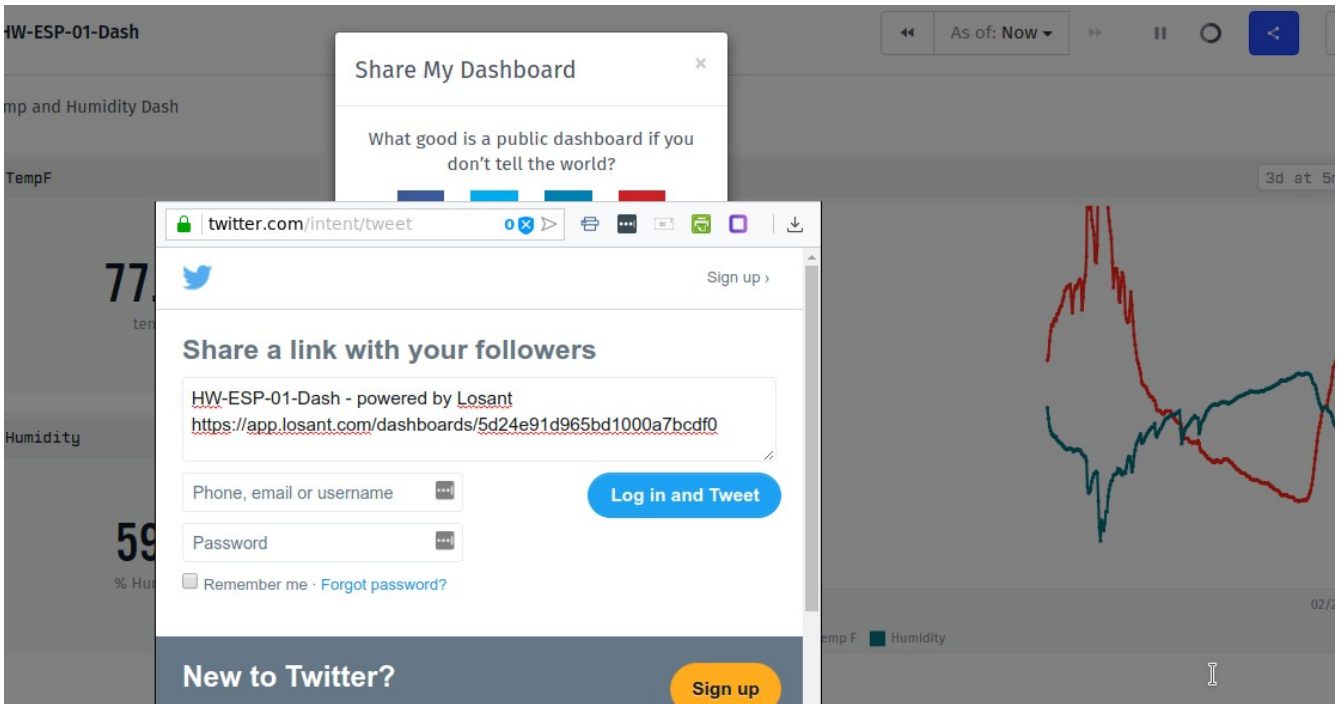


Figure 11: Share Dashboard - link



## Losant Dashboard

Turn in the following items:

1. Take a screen shot of your trends plus the browser and background screen including the time and date.
2. A copy of **the link to your dashboard even if you do not leave your device connected beyond the project.**
3. Also take a screen shot of Figure 4: Device Attributes - Data Received



Figure 12: Screen Shot of Dashboard with Data – Also capture the System Calendar time and date