



Sandbox Walk-through Guide

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Overview

This document will walk you through:

- Creating a GroveStreams sandbox organization
- Exploring the sandbox organization

More information about GroveStreams can be found at the [Help Center](#).

What is a GroveStreams Sandbox Organization?

An organization is a Workspace, typically representing a home, business, or organization. Each organization has its own set of components, streams, dashboards, maps, and other items. An organization allows you to control user and device access to the organization. You are automatically the "Owner" and given full access rights when you create an organization. Other users may invite you to their organizations with rights they give you. All of the organizations, you "own" or are a member of, will appear in your GroveStreams start page (the first page that appears when you sign in).

Data is organized within GroveStreams in this manner:

- Users
- Organizations
 - Organization Owners and Invited Users
 - Dashboards
 - Maps
 - Units
 - Components
 - Streams (including stream feeds)
 - Events and Notifications

A sandbox organization is an organization that is prepopulated with items to support existing sensor feeds. It gives users the ability to test-drive GroveStreams without having to buy or reconfigure existing sensors.

The sandbox feeds will only run for 24 hours. You will need to manually restart the feed every 24 hours. Just click on the **Restart Sandbox Feeds** button within your GroveStreams start page to restart the feeds for another 24 hours. It may take a few minutes for the feed data to start appearing.

Sandbox organization billing metrics are included in monthly billing charges. Typically, if your only organization is the sandbox organization, and you only run the feeders for a few days, your usage metrics will be within the free limits of GroveStreams.

Sandbox Components:

GroveStreams components exist within GroveStreams organizations and contain one or more streams. Two sandbox components represent sensors and a third component has a stream of RSS feed results.

Garage Temperature and Light Sensor Component:

- This sensor is located in a parking garage. It is a wireless Zigbee sensor that uploads light and temperature data every five minutes to a local router which then uploads the feed into GroveStreams.

- The garage is dark most of the day unless a light is turned on or a garage door has been opened, so most light readings will be zero.
- It is powered by a battery. Low battery notifications are captured by a regular stream. All other streams are interval streams.
- You cannot configure this sensor's settings from within the sandbox.

Refrigerator Smart Plug Sensor Component:

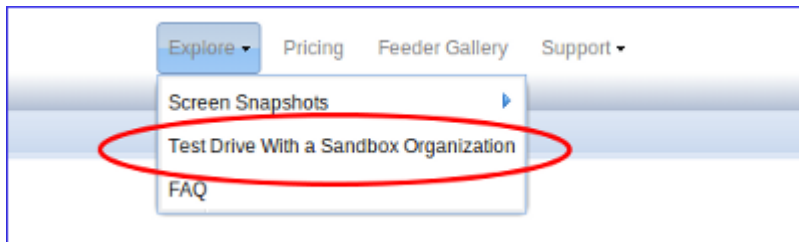
- This sensor is a Zigbee smart plug sensor that uploads one second current (amperes), light and temperature recordings every 10 seconds to a local router which then uploads the feed into GroveStreams.
- This sensor has been placed between a refrigerator plug and the wall outlet and is located indoors behind a refrigerator. Therefore, the light and temperature data will remain mostly constant.
- This sensor will detect and upload a power on/off indicator whenever the smart plug power switch has been turned on or off. This random value is captured by a regular stream. All other streams are interval streams.
- The streams from this sensor contain many gaps. We could optionally configure GroveStreams to automatically fill these gaps, but we have chosen not to for the sandbox so that you can explore gap detection and management. Gaps are caused by:
 - The mesh network looking for new devices
 - We have enabled tracing on the gateway which interferes with one second sample recording.
- You cannot configure this sensor's settings from within the sandbox.

Currency Exchange Rate RSS Component

- This component has one stream called "EUR/USD Conversion Rate"
- It is derived from filtering the result from an exchange rate RSS feed from the site <http://themoneyconverter.com>. This site's feeds are free.
- GroveStreams updates RSS derived streams once an hour.
- RSS feeds are a popular way of bringing external data into GroveStreams for usage in dashboards and derivation formulas. Many RSS feeds are available including:
 - Weather data
 - Stock quotes
 - Currency Exchange Rates
 - External, 3rd party, sensor data
- This stream applies an optional filter to extract the actual currency exchange rate for EUR/USD.
- The EUR/USD Conversion Rate stream is used by the Refrigerator Smart Plug Sensor to calculate and report up to hour costs in Dollars and Euros.

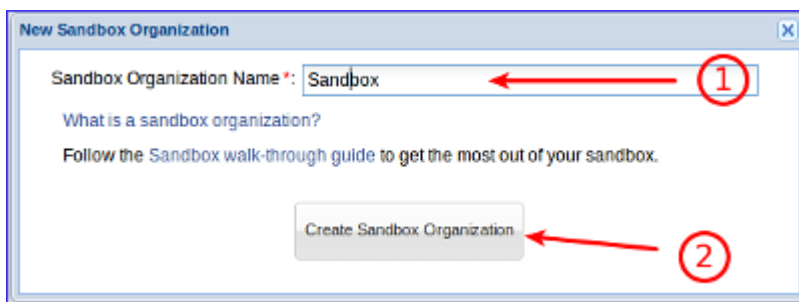
Creating a GroveStreams Sandbox Organization

This section describes how to create a sandbox organization.



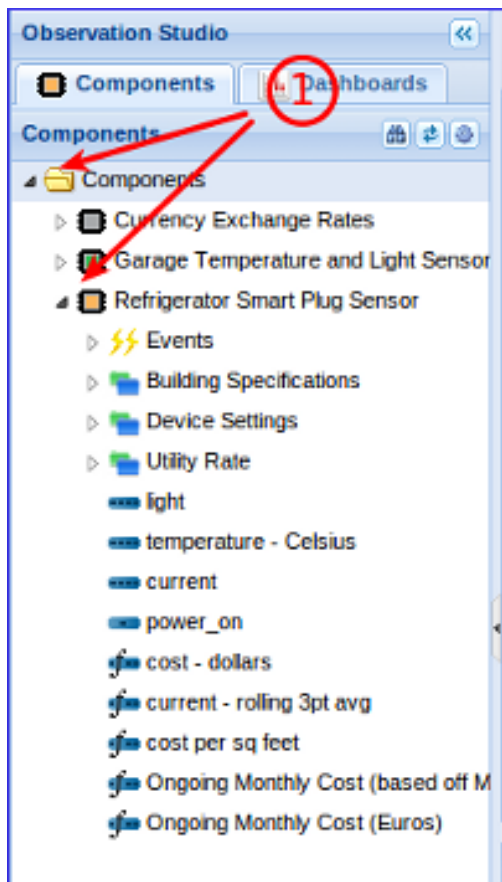
To create a Sandbox organization:

1. Choose the **Explore** menu item and then choose **Test Drive With a Sandbox Organization**



1. Enter a name for your sandbox organization. It can be any name.
2. Click the **Create Sandbox Organization** button.

Click on the name of the new sandbox organization to open its Observation Studio.

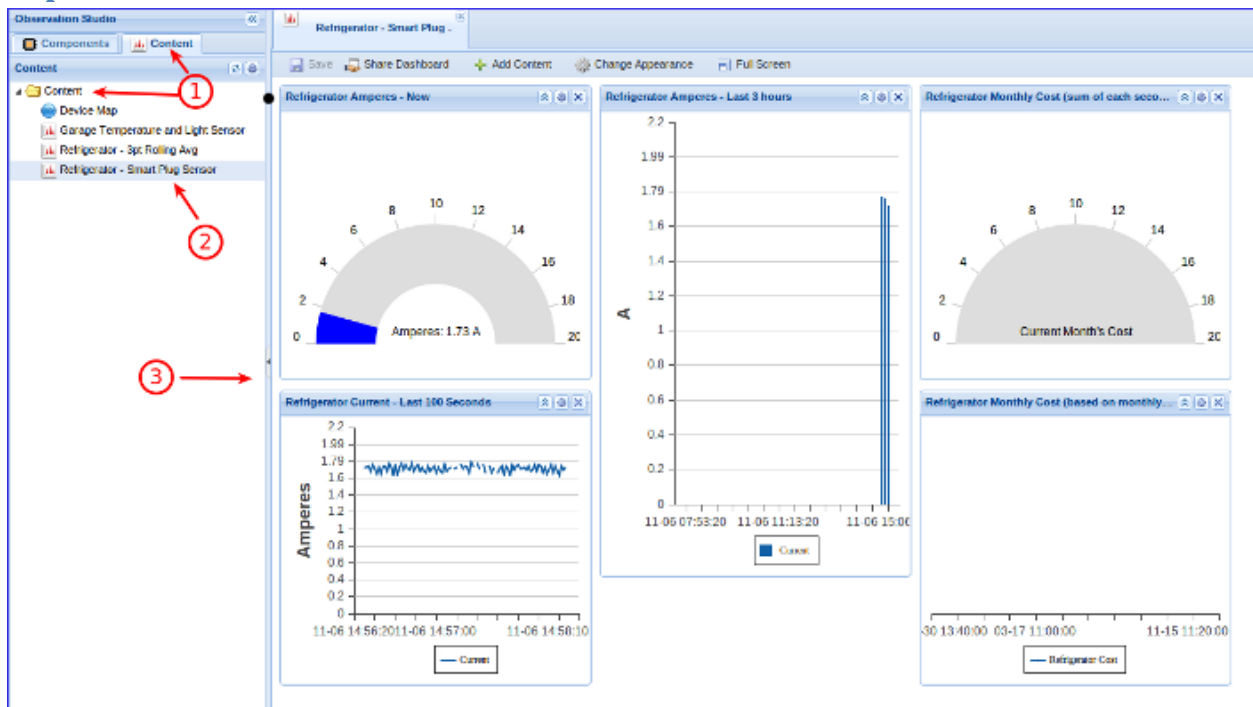


To view components registered with your organization:

1. Expand the Components folder. Expand each component to see items related to that component. It may take a few seconds for the data to arrive since the Refrigerator sensor uploads data every 10 seconds and the Garage sensor uploads data every 5 minutes. The Currency Exchange Rate component updates once an hour.

Explore

Explore Dashboards



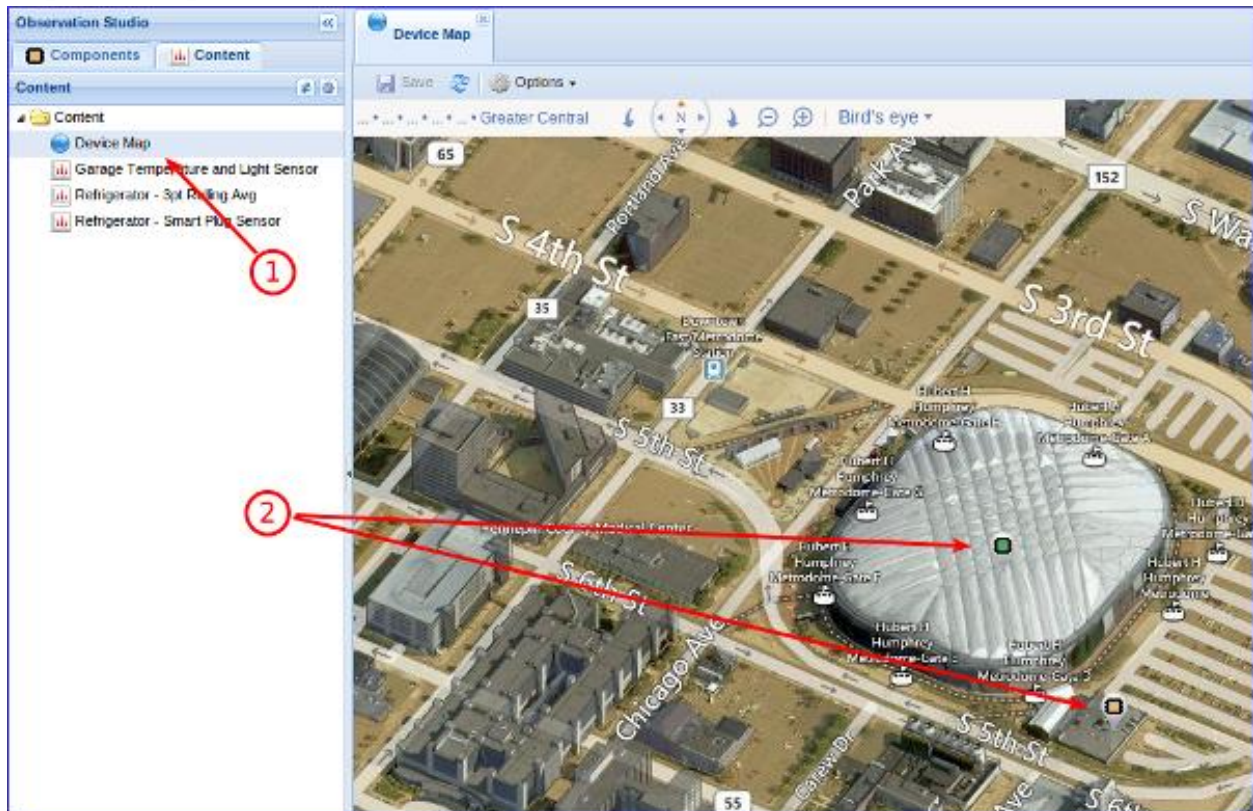
Open a preconfigured dashboard to view component stream data:

1. Choose the **Dashboards** tab – Smart Plug Sensor”
 - a. Right click on “Refrigerator – Smart Plug Sensor” and choose **Open**
 - b. Click the cog icon in the Dashboards bar and choose **Open**
2. The dashboard will open with five widgets.

Some things to note about dashboards:

- Hover your mouse pointer over each chart series to get more information about each data point.
- You can drag and drop widgets to different positions.
- You can click on each chart series name at the bottom of some widgets to hide/show them.
- Click on the cog button at the top of each widget to view each widgets settings.
- You can make a dashboard occupy the full screen by clicking on the Full Screen button.
- You can add more widgets by clicking on the **Add Content** button and then drag streams onto the new widget.
- You can create new folders and drag and drop items into the new folder. Simply right click on a folder and choose **New – Folder**.

Explore Maps

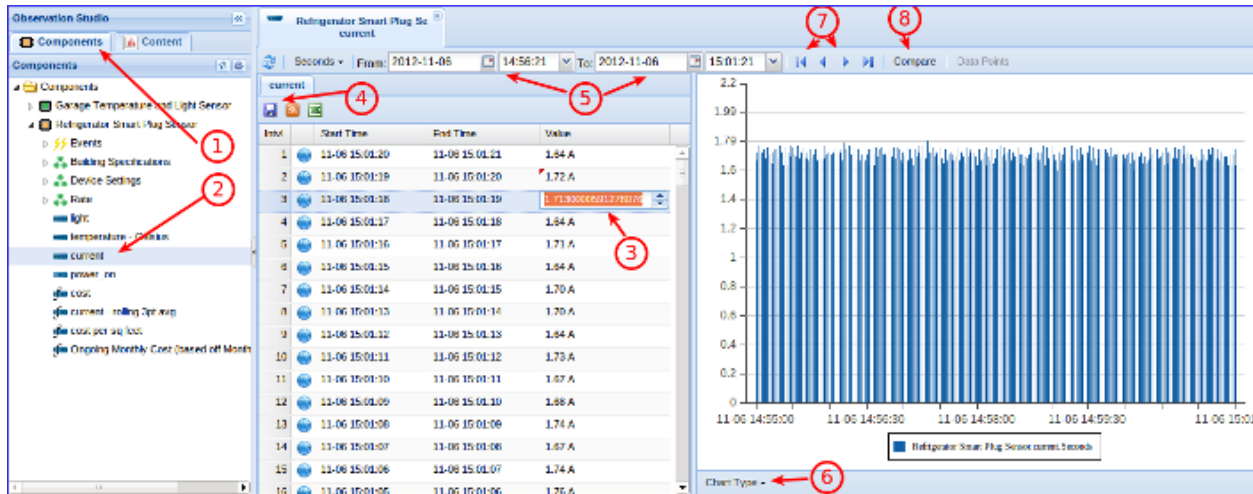


1. Open the preconfigured map called “Device Map”.
2. The two sandbox components will appear in the map.
 - a. Note that these are not the actual locations of the components as we wish to keep their actual locations private. The components are located in the Minneapolis, MN area.

Some things to note about maps:

- GroveStreams uses Microsoft Bing Maps.
- You can pan and zoom and change the Bing map settings if you have the proper rights.
- You can view where active events are occurring.
- You can view your mobile components moving. Note that the sandbox components are fixed location components.
- You can hover over each component icon to get a quick tip to appear.
- You can click on an icon to get the latest information about that component or event.
- You can create many maps and place them into different folders so that you don't have to zoom into each of your locations from one single map.
- Maps refresh automatically so that you view new component and events. Mobile component icons will change locations as the component is moving.

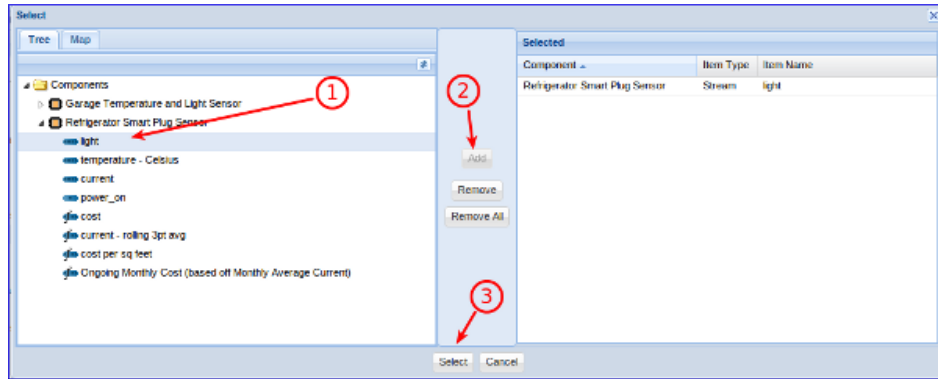
Explore Stream Viewer



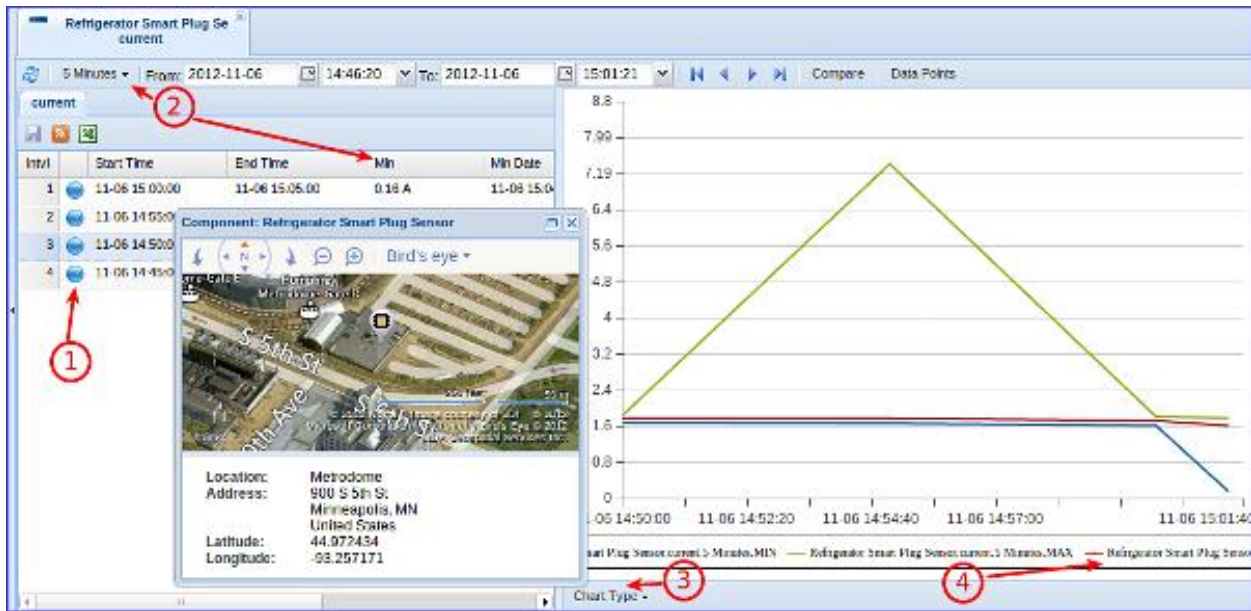
A tooltip window with a chart will appear if your stream has data and you hover your mouser pointer over a component stream or characteristic.

Next we will explore the Stream View. A chart may be blank if there are too many data points. If this is the case, then expand the chart area or select a smaller date and time range.

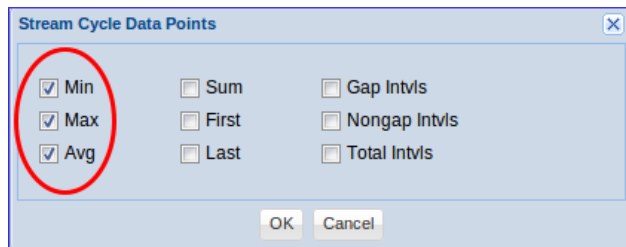
1. Choose the **Dashboard** tab.
2. Open a stream view by either:
 - a. Double clicking the “current” stream
 - b. Right click on “current” stream and choose **View Stream**
 - c. Select the “current” stream and then click the cog icon in the Content bar and choose **View Stream**
3. Click on a value in the grid to view or edit its non-formatted value. Note that changing the value will only change the value in the GroveStreams store. It does not get pushed back to the sensor (unless your sensor is polling GroveStreams for historical data).
4. Click the **Save** button to save edited values.
5. Change the date and time range to view a different range of intervals.
6. Change the type of chart.
7. Page time ranges to earlier or later ranges.
8. Drag and drop more streams onto the Stream View tab or click the **Compare** button to select more streams to add to the stream view:



- a.
- b. 1. Select the stream, 2. Click **Add**, 3. Click **Submit**



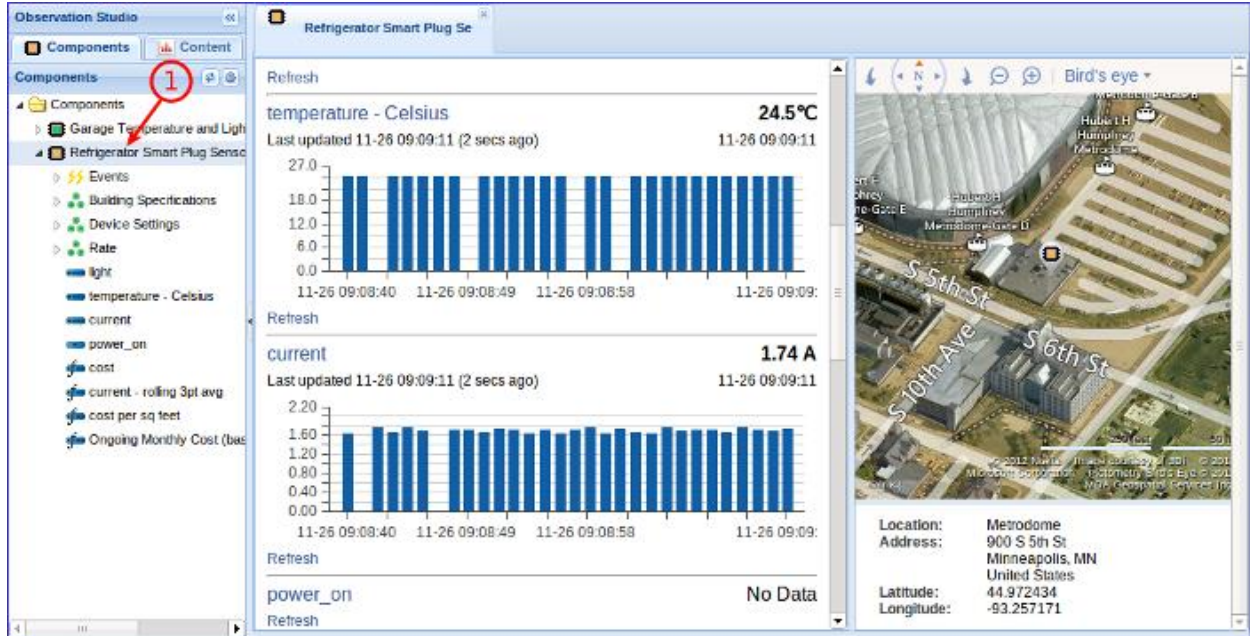
1. Click on the map icon to view where your component was when the stream value was recorded. All of the locations for each data point will be the same if your component is a fixed location component.
2. Select a different cycle to view aggregated values (simulates zooming out). After you select a different cycle, the **Data Points** button will be enabled and you can choose which aggregated values to view:



- a.
- b. Choosing **Min** and **Max** will also display the date and time that each min and max interval occurred at (the end date and time of the interval if it is an interval stream).
3. Change to a different chart type.

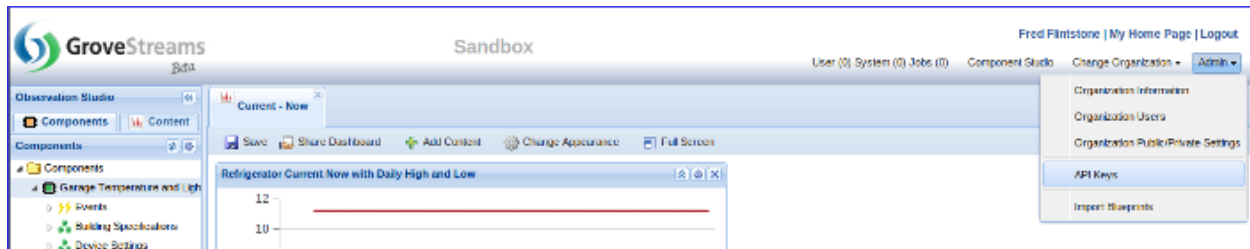
- Click on chart series labels to hide or show a series. You can also hover over data points within the chart to view details about each data point. Click on a data point to drill-down into the previous cycle and view the data points that made up the graphed values.

Explore Component View



Double click a component in the left tree panel in Observation Studio to view a summary of a component and its latest characteristic and stream values.

Explore Administration Capabilities



Since you are the owner of this sandbox organization, you will have access to Administration functionality. Explore all the Administration functionality by clicking on the Admin button as seen in the image above.

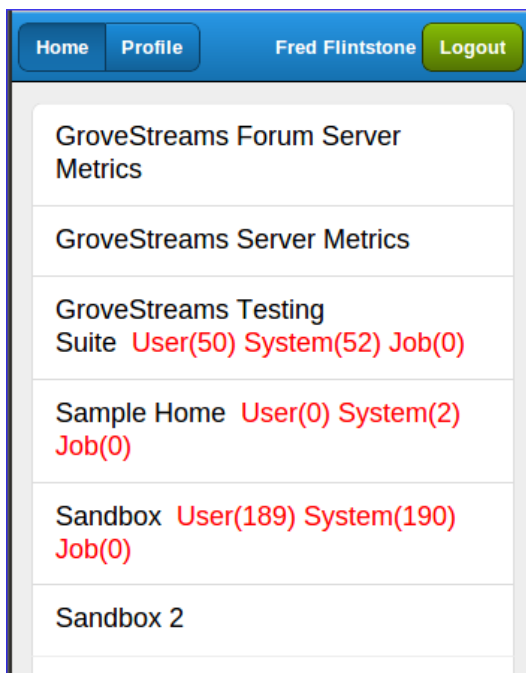
Explore the GroveStreams Mobile Website

The GroveStreams web interface is a powerful modern web interface. But, sometimes it can be too much for smaller devices such as smart phones or small tablets. We have designed a mobile website so that information within GroveStreams can be easily viewed from your smaller devices.

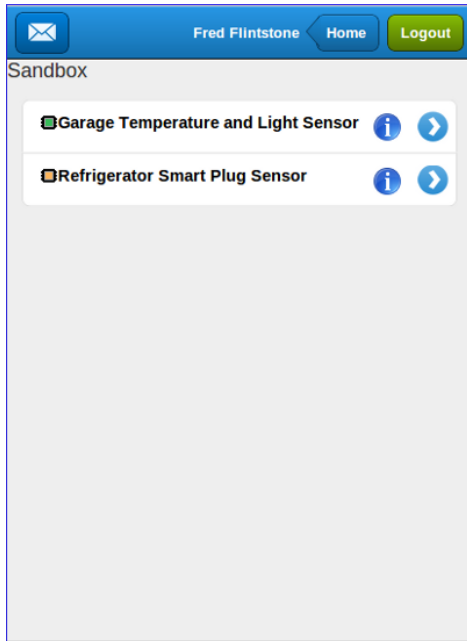
If you don't have a smart phone or tablet, you can just use Google Chrome to view our Mobile site.



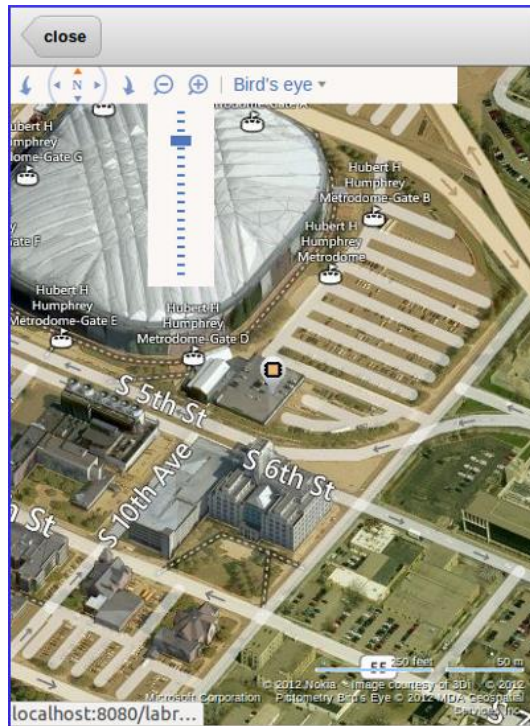
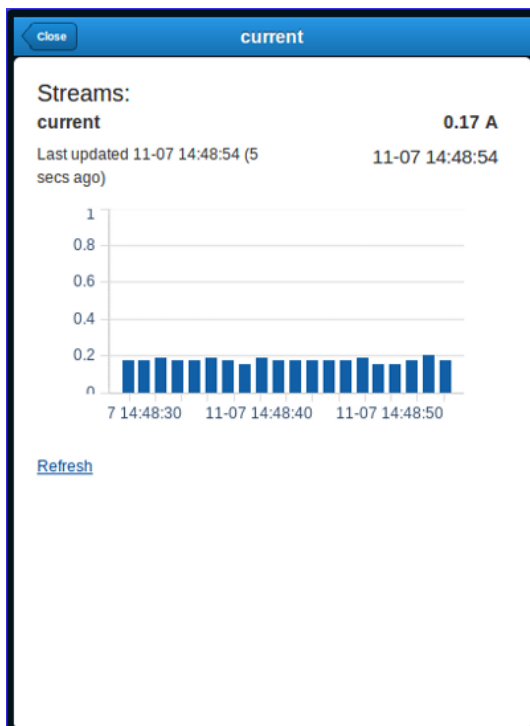
Click on the **Mobile Site** link at the top of the login page or go directly to www.grovestreams.com/mobile/index.html, to enter the GroveStreams mobile application. Enter your GroveStreams user email and password to access the mobile site.



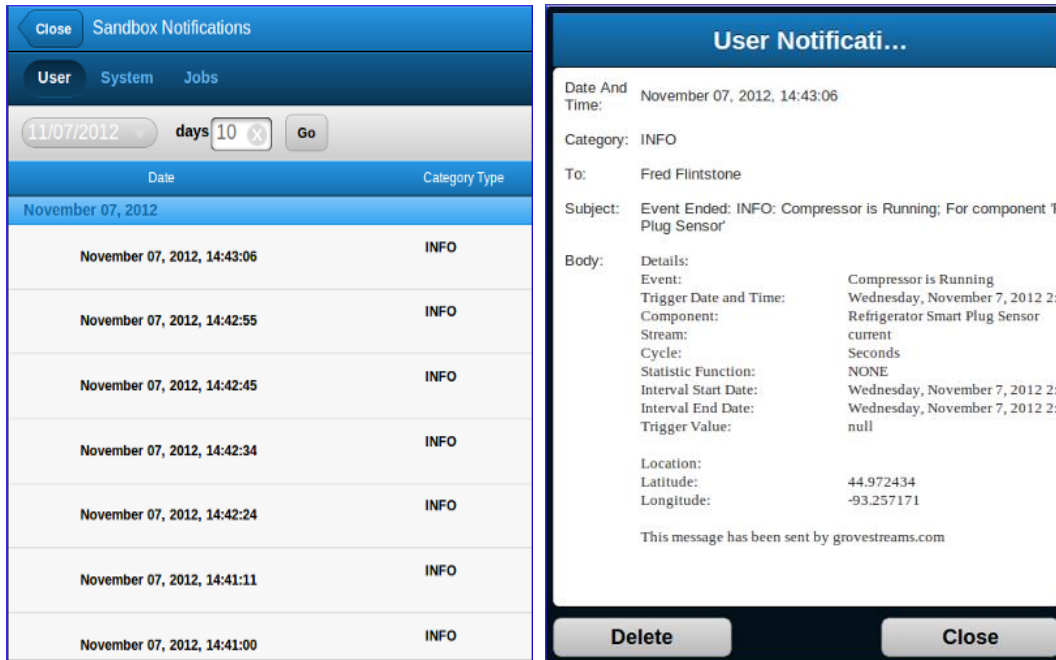
The organization list page allows you to edit your user profile or choose which organization you would like to enter. Choose an organization and choose whether to view notifications or components for that organization.



If you chose to view components, you will see a list of your components and component folders for the organization you have chosen to view. Click either of the icons to the right of the component to view component information.



Click on a component stream to view its latest history. You can also view a component's current location.



The mobile application allows you to view and manage your notifications. View User, System or Job notifications from within your mobile device.

Thank you for test driving GroveStreams with a Sandbox organization!

Continue with the [Advanced Sandbox Walk-through Guide](#) for more examples and more exploration.