

Cloud-Based Library Dashboard Service

CLDS

USER MANUAL

CLDS DEMO URL: *<http://aerospace.superlunchvote.com/>*

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Welcome to CLDS

The inspiration for CLDS was JavaSTARS, a program used by The Aerospace Corp to monitor telemetry during rocket launches. In JavaSTARS, all of the sensor readings and measurements from a rocket are collected and provided to users along with a suite of tools for building graphs and widgets to visualize the data. JavaSTARS has several problems such as license dependencies, an inflexible core design, and dated visuals. Our task was to recreate the basic functionality of JavaSTARS in a web application.

Quickstart CLDS

CLDS is a single page web application that gives users the ability to create different tabs to categorize their graphs. The main page is called the Dashboard. The left column contains all the features of creating, editing, and deleting various types of graphs. The middle column is where a selected tab is displayed. User can also add different tabs and change existing tabs' names. The right column is where a list of possible data feeds and active feeds is listed. Under Data Feeds, is a list of data feeds that can be used to be displayed on a graph. Active Feeds is what feeds are active on a selected graph. In this document, under Dashboard, more specific details on how to manage the data feeds per graph are listed. The header consists of Edit Dashboard, View Dashboard, Save Layout, Load Layout, and Login. Selecting edit dashboard allows you to edit tabs, modify graphs, and delete/add feeds. In view mode, users can only view the different tabs and created graphs. The save and load layout functions allow users to save specific layouts on different tabs in xml files, which can be loaded later on. Below is a more specific graphical instruction on how to use CLDS Dashboard.

****Please refer to QUICK START GUIDE FOR CLDS for more details on getting started***

General Homepage Layout

When enter the URL, <http://aerospace.superlunchvote.com>, you will reach the homepage of CLDS. **Figure 1** below is a picture of the homepage.

From the homepage, you can see the three main sections of the web application.

On the left, the **graph generator** will allow users to create various types of charts/graphs with labels and initial data feeds. The middle of the application, **graph display**, is where graphs generated on the chosen tab are displayed. The last part on the right, the **data controller**, is where active feeds of a selected graph are displayed, and where data feeds can be added to the selected graph.

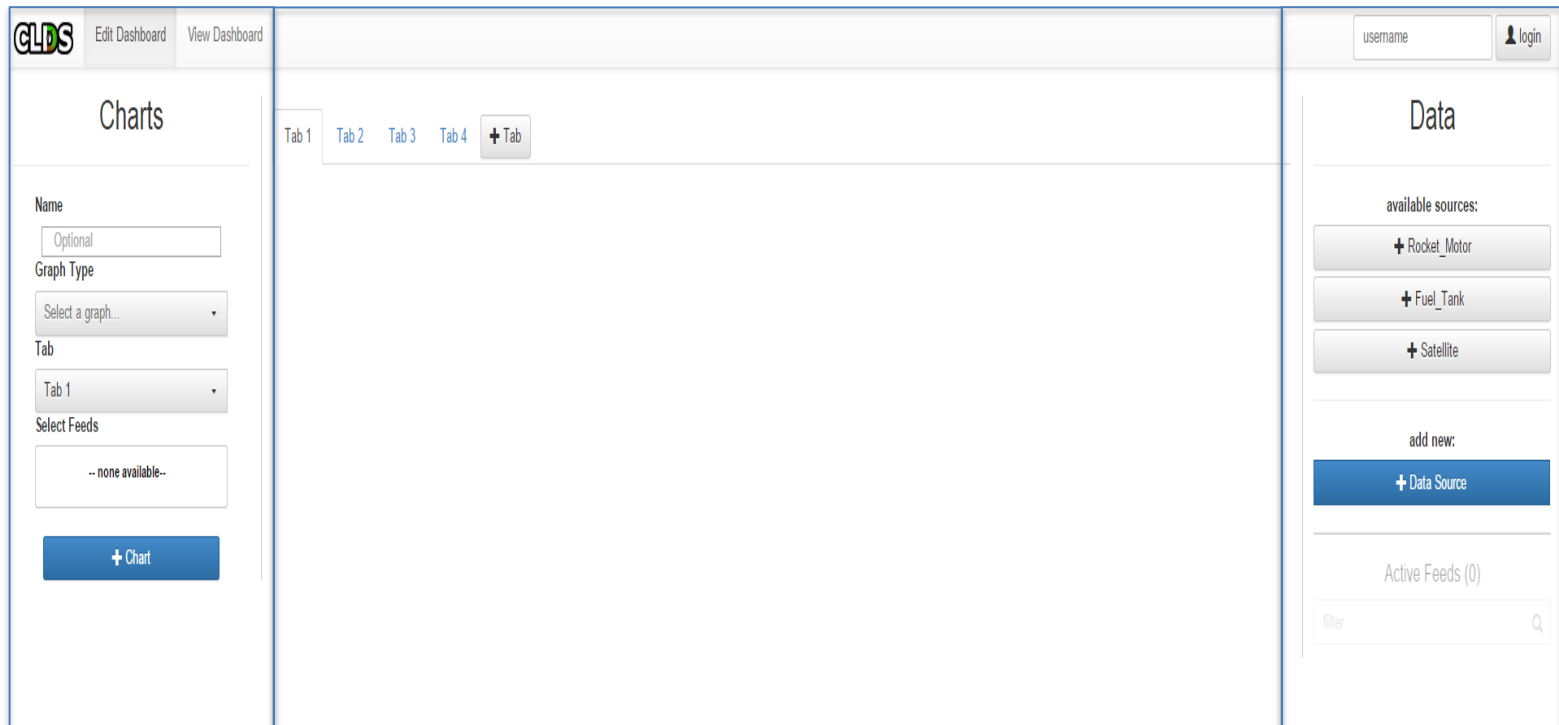
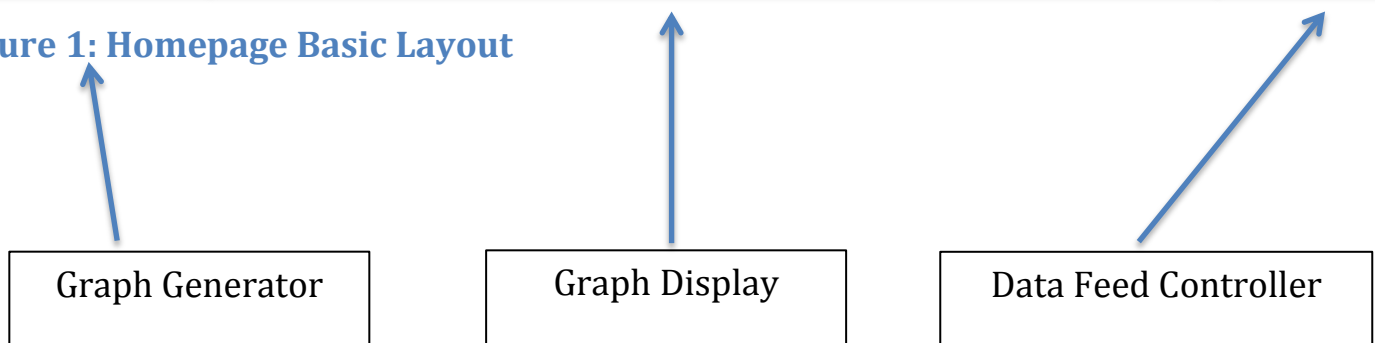


Figure 1: Homepage Basic Layout



CLDS Component Functionality Description

Graph Generator Functions

1. Enter name of graph you want to create (optional)
2. Select graph type from drop down menu
3. Select tab the graph will be generated on from drop down menu
4. Click box labeled “Select sources...” to view and select possible feeds that will be generated along with the graph.
NOTE To add more feeds after you have selected one, click the “Select sources...” box again to select another feed from the drop down menu
5. Click button “Generate” to create graph
6. Refer to **Figure 2** for more details

The interface is titled "Charts" and contains the following elements:

- Name:** A text input field with the placeholder text "Optional".
- Graph Type:** A dropdown menu with the text "Select a graph..." and a downward arrow.
- Tab:** A dropdown menu with the text "Tab 1" and a downward arrow.
- Select Feeds:** A button with the text "-- none available--".
- + Chart:** A blue button with a white plus sign and the text "Chart".

Annotations with arrows pointing to the UI elements:

- Enter name of graph in this field (points to the Name input field)
- Click here to see drop down menu of types of graphs/charts that can be generated (points to the Graph Type dropdown menu)
- Click here to select which tab, from the drop down menu, the graph/chart will be generated on (points to the Tab dropdown menu)
- Click this field to select the data sources you wish to be generated with the graph/chart (points to the Select Feeds button)
- Click button to generate graph (points to the + Chart button)

Figure 2: Graph Generator

Graph Display Functions (Figure 3)

- All generated graphs on a selected tab are displayed
- Different tabs can be selected or created
- Graphs can be moved by click and dragging a graph's header
- Tab names can be changed by double clicking on the tabs in the header of the graph display

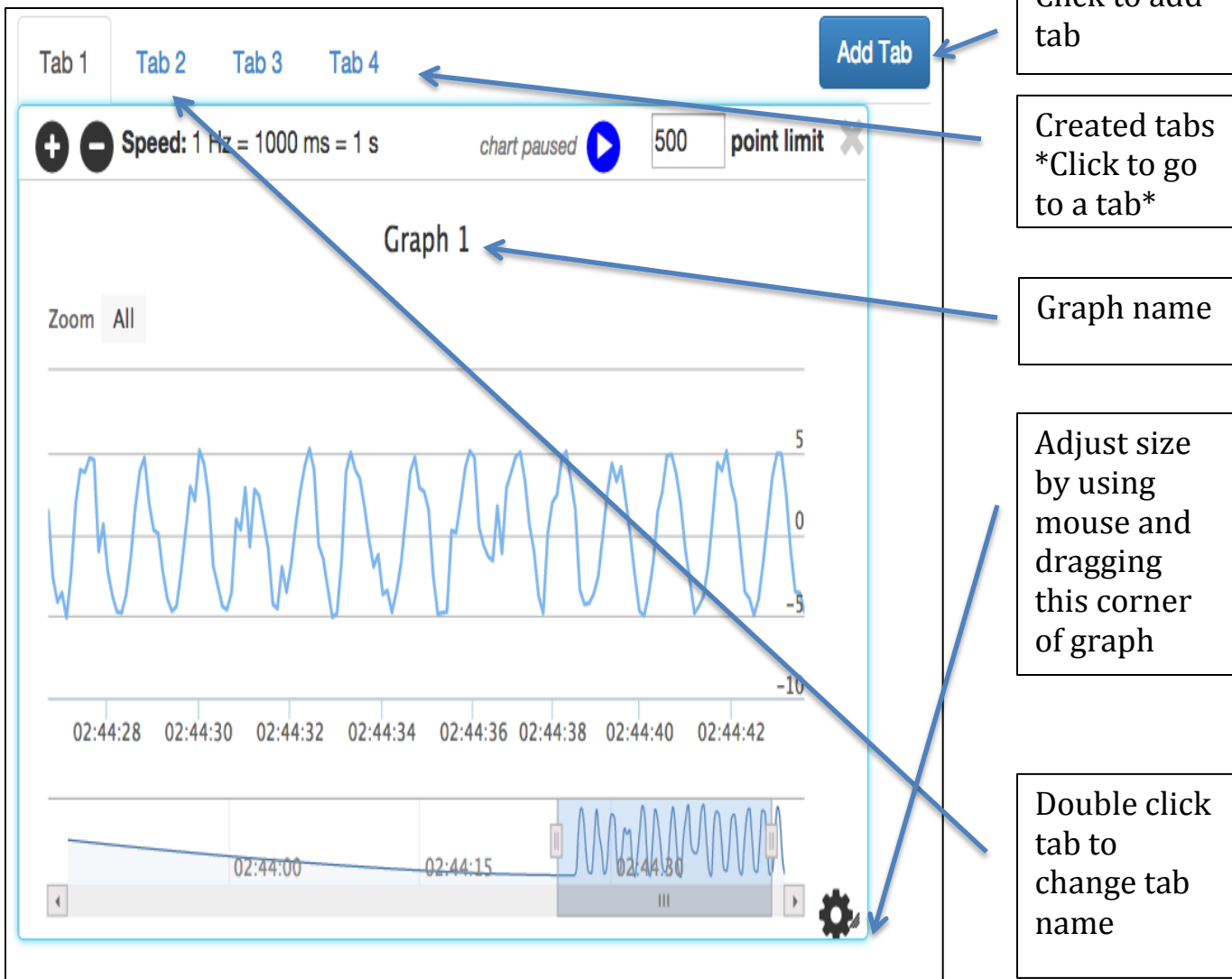


Figure 3: Graph Display (1 graph generated)

Modifying Properties for Tab 1

Name

Individual Chart/Graph Functions (Figure 4)

- Frequency can be adjusted
- All data feeds can be paused or resumed simultaneously
- Maximum number of points generated can be set
- View of graph can be adjusted by zooming or scrolling from start to most recent point plotted
- Graph settings can be accessed to change the following:
 - Graph title
 - Height/width
 - Type of graph
 - Graph style
 - Y-axis min/max
 - Each active data feed's settings can also be changed

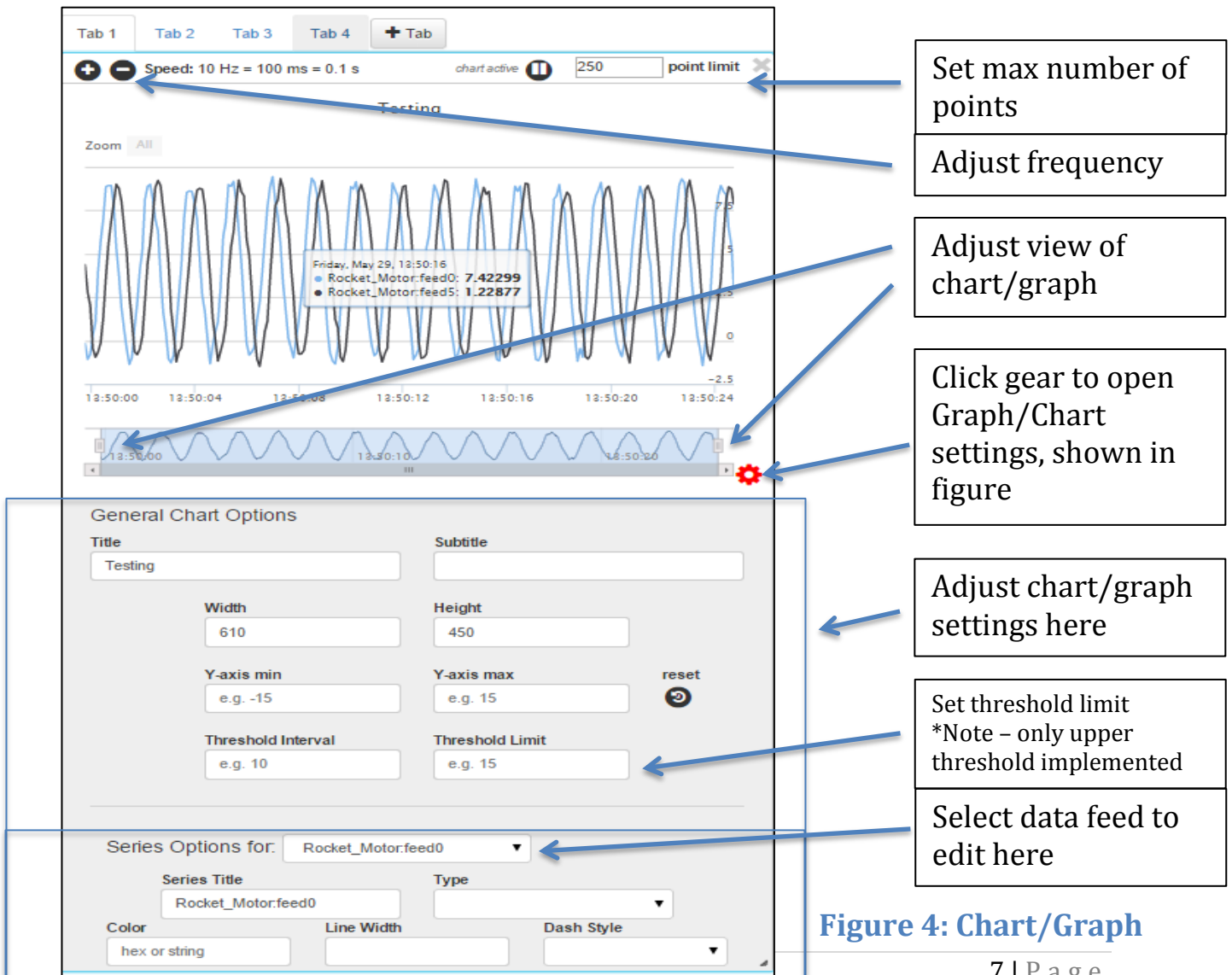


Figure 4: Chart/Graph

Data Feed Controller Functions (Figure 5)

- View active and possible data feeds of a given graph by clicking on it to select it
- “Data Feeds” are feeds that can be added to a selected graph
- Active feeds are data feeds that are being plotted onto the selected graph

The screenshot shows a web interface titled "Data". It is divided into three main sections:

- available sources:** A list of three data sources: "Rocket_Motor" (highlighted in green), "Fuel_Tank", and "Satellite".
- add new:** A button labeled "+ Data Source".
- Active Feeds (8):** A list of feeds with a search bar labeled "filter". The list contains:
 - Rocket_Motor.feed1
 - Rocket_Motor.feed2
 - Rocket_Motor.feed3
 - Rocket_Motor.feed4
 - Rocket_Motor.feed6
 - Rocket_Motor.feed7
 - Rocket_Motor.feed8
 - Rocket_Motor.feed9
 - Rocket_Motor.feed0 (with a close 'x' icon)
 - Rocket_Motor.feed5 (with a close 'x' icon)

Annotations with arrows point to the following elements:

- "List of available data sources" points to the "available sources" section.
- "Highlighted source indicates selected data sources" points to the "Rocket_Motor" source.
- "List of data feeds from selected data source" points to the "Active Feeds" section.
- "Click and drag feed into graph to add it to 'Active Feeds' and have it plotted onto the graph" points to "Rocket_Motor.feed4".
- "List of feeds currently being plotted onto selected graph" points to the bottom of the "Active Feeds" list.

Figure 5: Data Feed Controller

Getting Started

Logging In

To login, look to the header of the web application. Click the link labeled “Login” in order to enter credentials. Figure 6 below shows the header and the correct link to select in order to log in.

Saving/Load Layout

Click “Save Layout” to save all graphs, tabs, and feeds in xml layout. Click “Load Layout” to open an xml file that will load all graphs, tabs, and feeds saved. Refer to Figure 6 for details.

View Dashboard

All previous documentation refers to “Edit Dashboard” mode where graphs, feeds, and displays can be edited. When “View Dashboard” is clicked, a different Homepage Layout is displayed where only active graphs are shown. Refer to Figure 7 for more details.

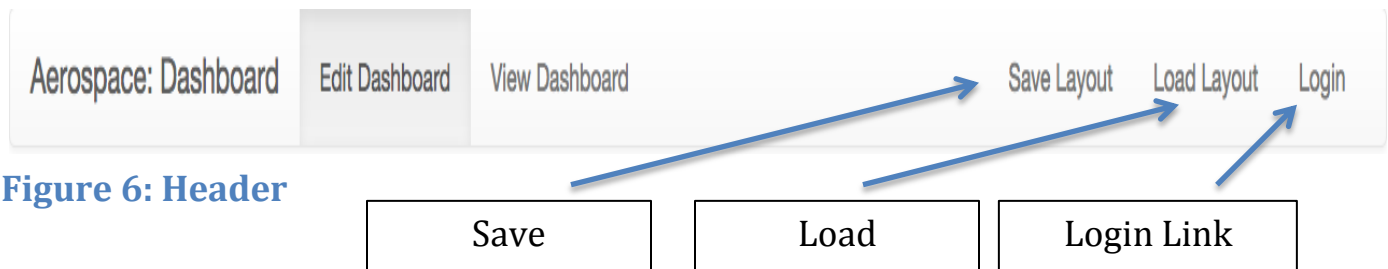


Figure 6: Header

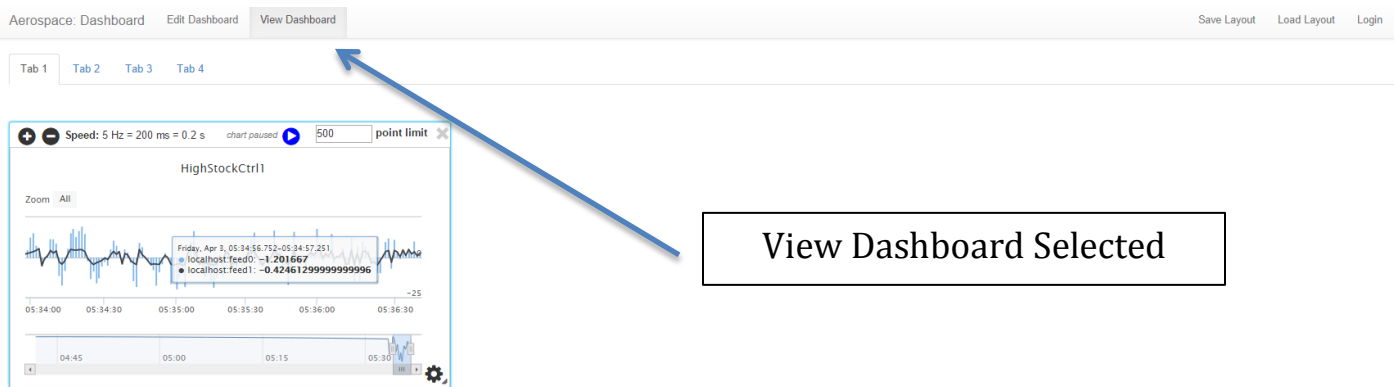


Figure 7: View Dashboard Display

Demo (Figure 8)

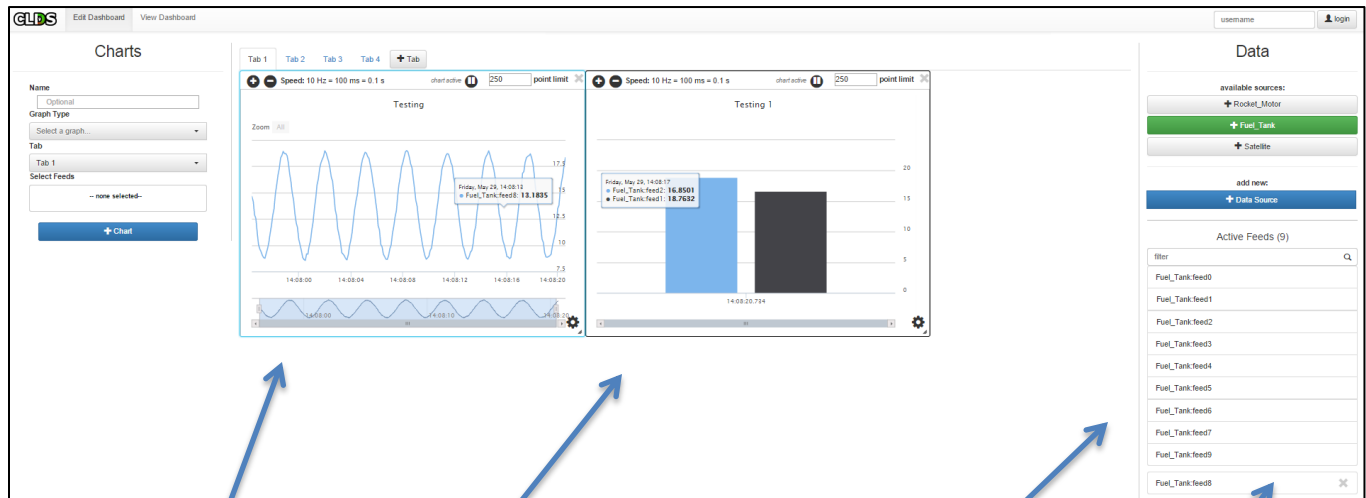


Figure 8: Demo

Two Graphs

List of possible
data feeds

Active Feeds of
Selected Graph