

# Tractor UI Tour

## Overview

The UI allows the user to view and control jobs that have been submitted to the Tractor queue. It also provides information about the tractor-blades that have connected to the engine.

To start a Dashboard session, direct your web browser to <http://tractor-engine/tractor/dashboard> or, if you have chosen other hostnames or ports to [http://your\\_engine\\_host:your\\_engine\\_port/tractor/dashboard](http://your_engine_host:your_engine_port/tractor/dashboard).

## Important

Although the Tractor Dashboard is accessed like a simple web page, it is a full-blown application and, as such, it will consume a non-trivial amount of memory, especially in sophisticated pipelines where data might be large.

It's also worth noting that browsers perform differently when executing javascript. Safari and Google Chrome have been the strongest performers in our testing. Firefox works very well, but is a bit slower. We suggest that you test different browsers when running the Tractor UI.

## Login Panel

If this is the first time you've connected to the Dashboard, you may be required to log in. Currently any username that is valid on the engine's host is acceptable. Once logged in, the Job List pane will display jobs for that user. A cookie will be stored in your browser that will allow you to connect without the login in future sessions.

## Toolbar



The Tractor Dashboard toolbar spans the top of the browser window and contains the following regions.

- Page Icons

There are seven icons which are used to switch to different pages in the dashboard. From left to right they are "About Tractor", "Job List", "Blade List", "Metrics", "Administration", and "Documentation".

- Reloading Job or Blade List

The job and blade lists are automatically refreshed at an interval defined in the user's preferences; by default this interval is 60 seconds. Additionally, the job list data is updated in real-time through messages that are sent to the Dashboard from the Engine. If a user wishes to get the most up-to-date information, the job list and blade list icons can be reselected to force a new refresh of their respective lists. Given the real-time nature of job updates from the engine, a manual refresh is more likely to be useful for updating the blade list; however, a congested network or an Engine under heavy load may result in some updates not reaching the Dashboard, and as such a manual refresh can be useful.

- Message Area

Messages of general importance like "Dispatching Paused" will be displayed in the area in the middle of the toolbar.

- The Filter Pulldown

You can define filters that limit or filter the amount of information that is shown in the job or blade lists. More information on filters can be found in the [Filter Editor reference](#).

- Pattern Matcher

The pattern matcher is a type-in field that is used as a selector to filter which items are visible in the job or blade lists. The pattern match field will be compared against the owner and title attributes in the job list, and the host and profile attributes in the blade list. Note, unlike filters this operation is performed in the browser and simply limits the number of items displayed. Filters are applied by the Engine, and limit the number of jobs or blades sent to the Dashboard from the Engine.

- User Name

The name of the currently logged in user is shown on the far right. Clicking on the user name will present a drop down menu to navigate to user preferences or to log out.

## The Main Display

When the Dashboard first runs, it comes up in **Jobs** mode. This can also be activated by clicking the button that looks like a small 4-task job graph in the top toolbar. In this mode there are four primary panes:

- **Job List Pane**The upper left pane is the Joblist pane. All jobs which satisfy the user type-in field are displayed in this pane. Clicking on any job will cause information to be displayed in two other panes.
- **Job Info Pane**The lower left panel is the Job Info pane, and contains information from the engine which describes the selected job.
- **Task Graph Pane**The upper right panel is the Task Graph pane. It can display the selected job as a graph or as a list. The display mode can be changed by clicking the associated icon at the top of the pane.
- **Task Info Pane**When a node in the Task Graph pane is selected, information pertaining to that specific task and its current command will be displayed in the task info pane. This pane is in the same location as the Job Info Pane, and display reverts to showing job-related information when a new job has been selected.

Clicking on the **Blades** button, represented by a stack of three servers, puts the Dashboard in **Blades** mode. In this mode there are four panes:

- **Blade List Pane**The upper left pane is the Blade List pane. A list of all blade servers and summary information will be displayed here.
- **Blade Activity Pane**The upper right pane is the Blade Activity pane. Each blade is represented as a square and is colored according to its status.
- **Server Info Pane**When a specific server is selected in the Blade List pane, information about that server is displayed in the lower left pane.
- **Assignment Tracer Pane**When an Assignment Tracer has been activated from the context menu, the tracer output for the selected blade is displayed in the lower right pane.

Clicking on the **Query** button (the magnifying glass over the list) in the upper left will put the Dashboard in **Query** mode. This is a simple, yet powerful page for interactively searching for tractor entities. See the [Query Pane](#) page for details.

Clicking on the **Graph** button will display graphs of system metrics, which are helpful to know the size of the work queue, farm resource utilization, and engine performance. It also displays the donut charts which visualize the utilization of resources managed by adaptive farm allocations.

Clicking on the **Gears** button displays an administrative section where engine logs can be inspected, system reconfiguration can be triggered, dispatching can be paused, and limit counts and user connectivity can be observed.

Clicking on the **Book** button will cause the documentation to appear in a new browser tab or window.

Lastly, clicking on the **Tractor** button will display various details regarding the system, such as the engine build, dispatching mode, and license count.

## UI Hints

Each pane has specific UI functionality, which is detailed on the pages linked to above. The main Dashboard window provides the following functionality:

- **Pane Resizing**

The main display panes can be resized by dragging the pane dividers.

- **Pane Closing**

A pane can be closed or opened by clicking on the light midsection of a pane divider. When the task graph pane has been closed, data to render the graph will not be requested from the engine since the graph would not be visible anyway. This can be helpful to keep the dashboard responsive when selecting very large jobs.

- **Window Resizing**

If you resize the entire browser window, the panes will resize to fit in the new window with the same orientation/aspect-ratio.

- **Column Sorting**

Clicking on any of the headers in a list view will cause the items to be sorted by the associated attribute. Clicking a second time on the same header will reverse the sort.

When a new sort column has been selected, the prior sort column is used for secondary sorting. For example, selecting the "Owner" header and then the "Priority" header in the Job List pane will cause the jobs to be ordered by priority, and jobs of the same priority will be ordered by owner.

- **Column Resizing and Reordering**

The columns in list views can be resized by dragging the separator between the column headers. They can also be reordered by dragging the column header to the side of another column.

- Z to Scroll Selected Item into View

Pressing the 'Z' key in any view will cause the selected item to be scrolled into view. This is useful when a user has been browsing through large lists or job graphs and may otherwise have difficulty finding the selected item.