

# **HPCC Systems®**

## **Using ECL Watch**

**Boca Raton Documentation Team**

## Using ECL Watch

Boca Raton Documentation Team

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# Introducing ECL Watch

## Introduction

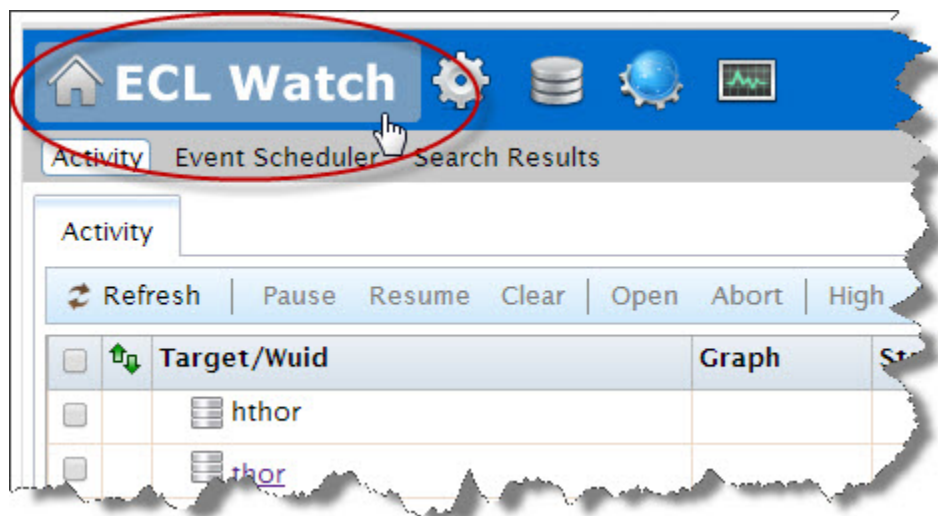
ECL Watch is a service that runs on the Enterprise Services Platform (ESP), a middleware component on the HPCC Platform.

ECL Watch provides an interface to the HPCC system and allows you to view information and interrogate nodes to confirm all expected processes are running. It is a plug-in that is useful for Systems Administrators to check processes, examine topology, and view logs. It is useful to ECL Programmers to monitor the status of jobs and files, and other pertinent information. This provides a simple view into the system and a means to perform Workunit and data files maintenance.

# ECL Watch Home

Click on the **ECL Watch home** link in the navigation bar at the top of the ECL Watch page to find the **Activity** and **Scheduler** links. These links provide access to the respective pages you need to be able to perform the related tasks.

**Figure 1. HPCC Platform link**



## Activity

The Activity page displays activity on all clusters in the environment. The Activity page provides access to Cluster Job Queue administration tasks such as: monitoring progress, setting priority, moving a job up or down in the queue, pausing a job, aborting a job, and pausing or resuming a queue.

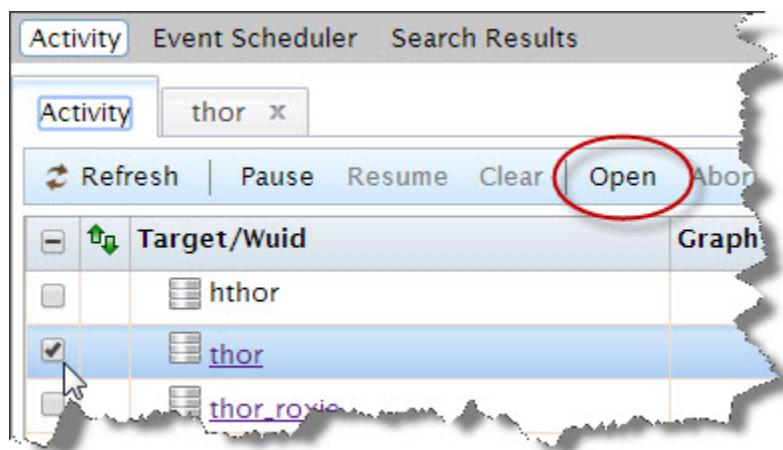
When ECL Watch starts it defaults to the Activity page. To access the Activity page from any other page in ECL Watch click on the HPCC Platform image at the top of any page, as indicated the preceding image.

Activity related tasks can also be initiated from the workunit tab for the specific job in question.

## Cluster Information

You can access more information about your clusters from the main Activity page. Select the target cluster from the main **Activity** tab, by checking the box next to it.

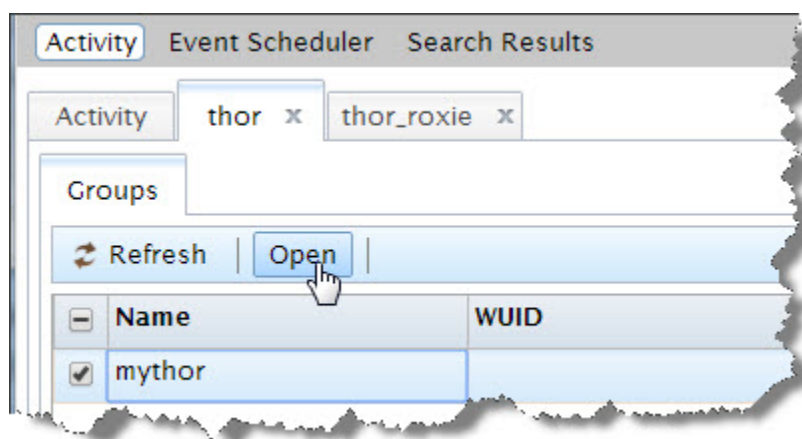
**Figure 2. Open Cluster**



This enables the **Open** action button. Press the Open action button to open a new tab for that cluster. You can also double-click on the target cluster.

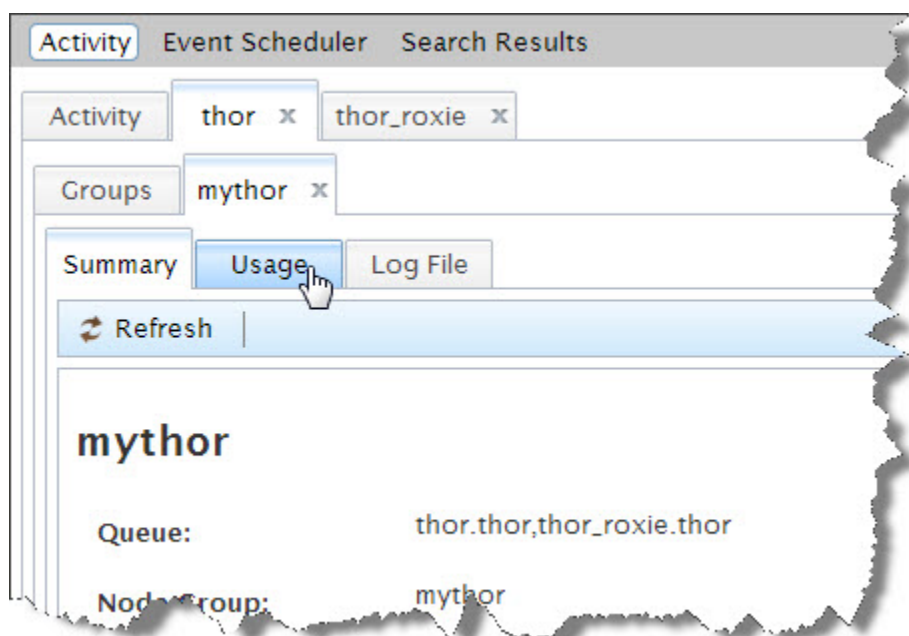
The cluster tab displays the groups on that cluster. Double-click on a group, or check the box next to the cluster group, and press the open button.

**Figure 3. Open Cluster Groups**



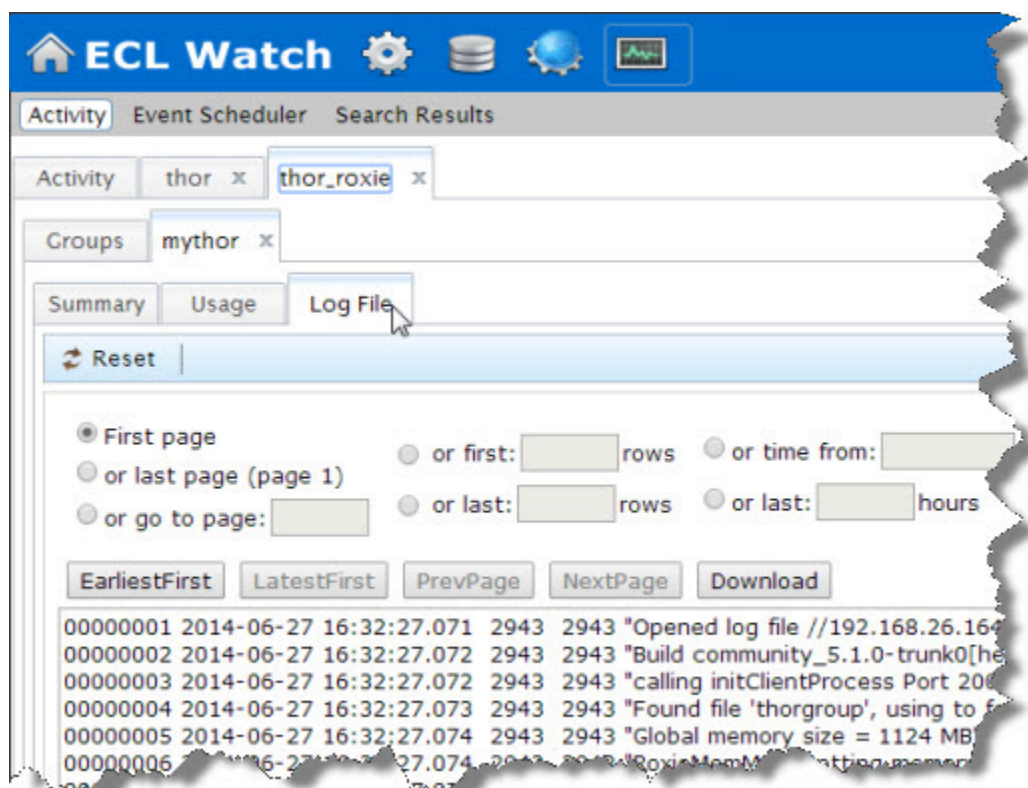
Open up the cluster group tab (for example, mythor), and select the group from the Groups tab to see the activity information on that cluster group.

**Figure 4. Cluster Activity tabs**



On that cluster group tab, you can access the information about that cluster. There are three tabs on that cluster group tab. The **Summary** tab provides a snapshot of that group. The **Usage** tab provides access to a usage graph, and other information. The **Log File** tab is where you can view that cluster group's log.

**Figure 5. Cluster Log File**



## Global Search

On the navigation bar at the top of the ECL Watch page, about half way across the page is the search box.

**Figure 6. Search box**



You can search for workunits, users, files, or even ECL, using the search box. The search box supports wild cards.



## ECL Event Scheduler

The Event Scheduler page provides an interface to the ECL Scheduler. The ECL Scheduler interface allows you to see a list of scheduled workunits. It can also trigger an event. An Event is a case-insensitive string constant naming the event to trap.

ECL Scheduling provides a means of automating processes within ECL code or to chain processes together to work in sequence. For example, you can write ECL code that watches a landing zone for the arrival of a file, and when it arrives, sprays it to Thor, processes it, builds an index, and then adds it to a superfile.

ECL Scheduling is event-based. The ECL Scheduler monitors a Schedule list containing registered Workunits and Events and executes any Workunits associated with an Event when that Event is triggered.

Your ECL Code can execute when an Event is triggered, or can trigger an Event. If you submit code containing a **WHEN** clause, the Event and Workunit registers in the Schedule list. When that Event triggers, the Workunit compiles and executes. When the Workunit completes, ECL Scheduler removes it from the Schedule list.

For example, if you submit a Workunit using **WHEN('Event1','MyEvent', COUNT(2))** in the appropriate place, it will execute twice (the value of **COUNT**) before the ECL Scheduler removes it from the Schedule list and the Workunit is marked as completed.

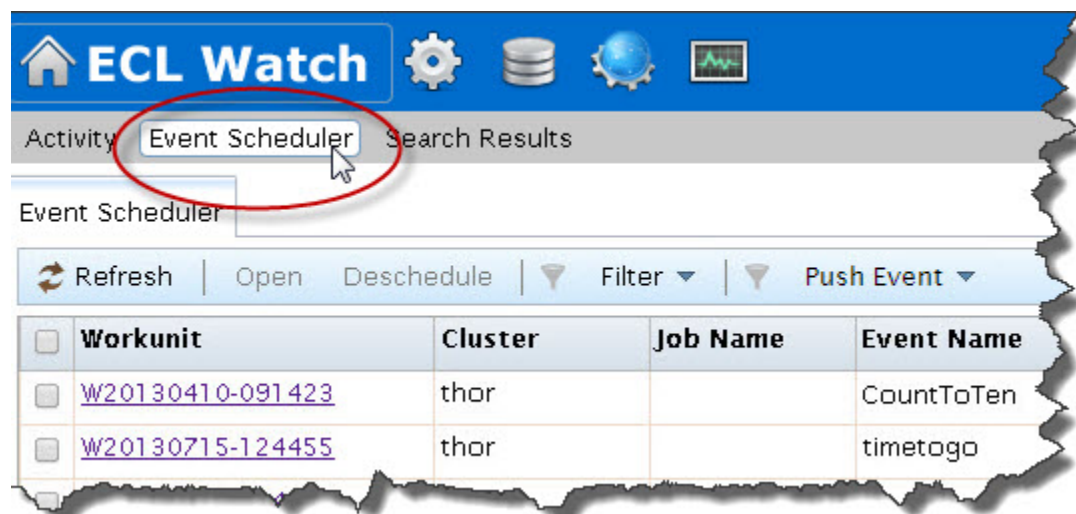
For more details about both **WHEN** or **NOTIFY** or any ECL Language functions or keywords please see the ECL Language reference. A copy of which can be found online at <http://hpccsystems.com/download/docs/learning-ecl> on the HPCC Systems® web site.

## Interface in ECL Watch

To access the ECL Scheduler interface in ECL Watch, click on the **Event Scheduler** link in the navigation sub-menu. The Scheduler interface displays and you can see the scheduled workunits, if any.

The list of scheduled workunits has two significant columns, the **EventName** and the **EventText**.

**Figure 7. ECL Scheduler Interface**



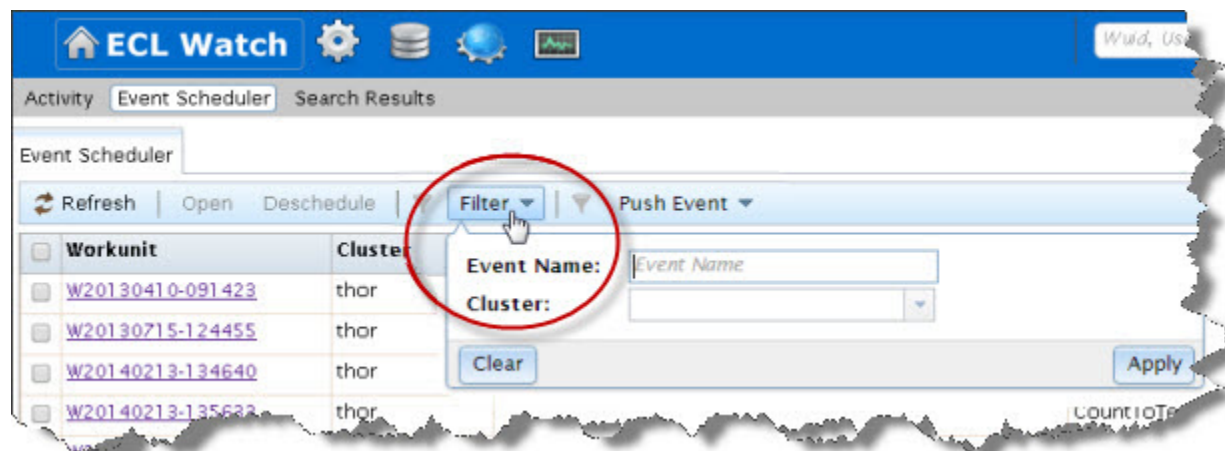
The EventName is created when scheduling a workunit. The EventText is an accompanying sub event.

You can trigger an event by entering the EventName and Event Text in the entry boxes and then pressing the **PushEvent** button. This is the same as triggering an event using NOTIFY.

## Scheduler Workunit List

You can search scheduled workunits by cluster or event name. To filter by cluster or event name, click on the **Filter** Action button. The Filter sub-menu displays. Fill in values for the filter criteria, Eventname or Cluster, then press the **Apply** button.

**Figure 8. Workunits in the Scheduler Interface**



You can sort the workunits by clicking on the column header.

To view the workunit details, click on the workunit ID (WUID) link for the workunit.

## Pushing Events

The Event Scheduler allow you to trigger or "push" an event to help manage and test your scheduled jobs.

1. Press the **PushEvent** action button.

The Push Event dialog opens.

2. Enter the EventName:

The EventName is a case-insensitive string constant naming the event to trap.

See Also: EVENT

3. Enter the EventText:

The EventText is case-insensitive string constant naming the specific type of event to trap. It may contain \* and ? to wildcard-match.

See Also: EVENT

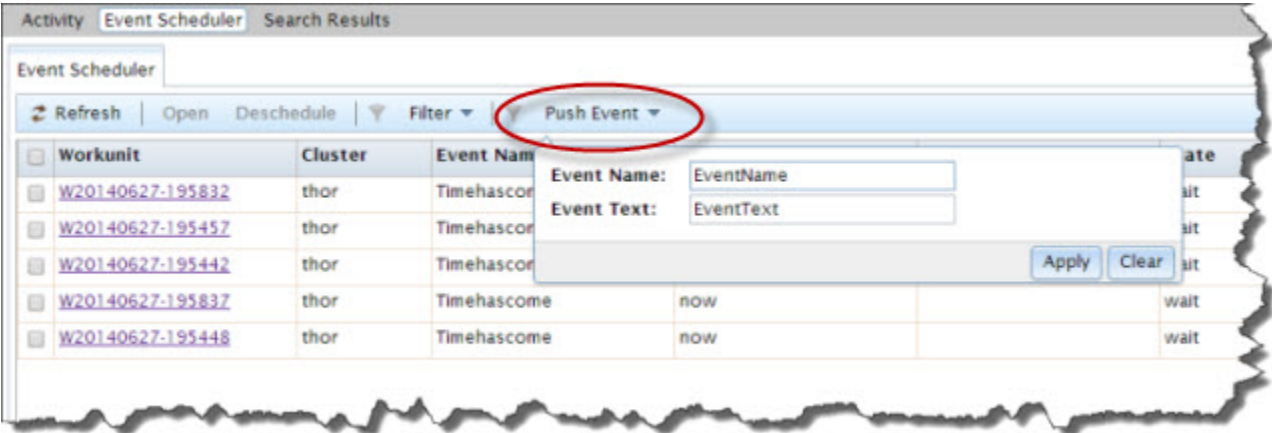
4. Press the **Apply** button

This is the equivalent of

```
NOTIFY( EVENT( EventName , EventText ) ) ;
```

See Also: NOTIFY, EVENT

Figure 9. PushEvent



# ECL Workunits

ECL Watch provides information about ECL jobs and workunits. Links to pages that contain information about ECL workunits appear in the navigation bar along top of the ECL Watch page. There you will find links to ECL Workunits, simply labelled as Workunits, and you will also find the link to the ECL Playground. Not only can you find information about workunits there, but you can perform operations on workunits.

## ECL Workunits Page

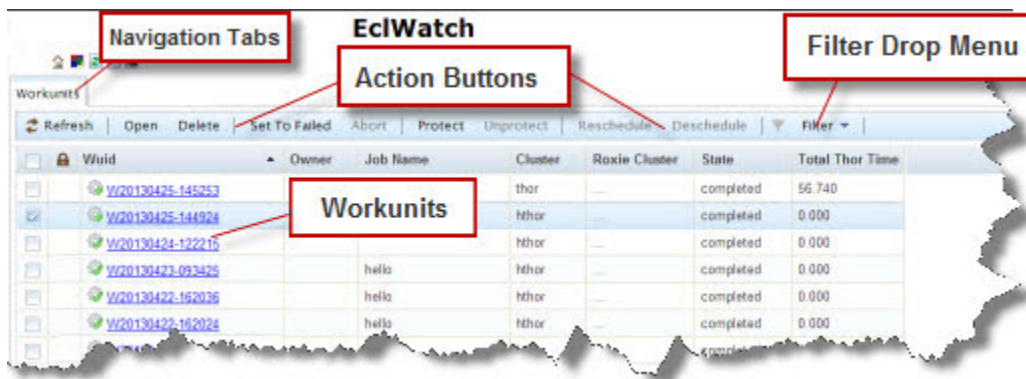
The ECL Workunits page contains a list of all the ECL workunits on your system. It provides access to more details about the workunits. You can also perform actions on the selected workunit using the Workunit Action buttons.

To access the workunits page click on the **ECL** icon, then click the **Workunits** link from the navigation sub-menu.

**Figure 10. ECL Files**

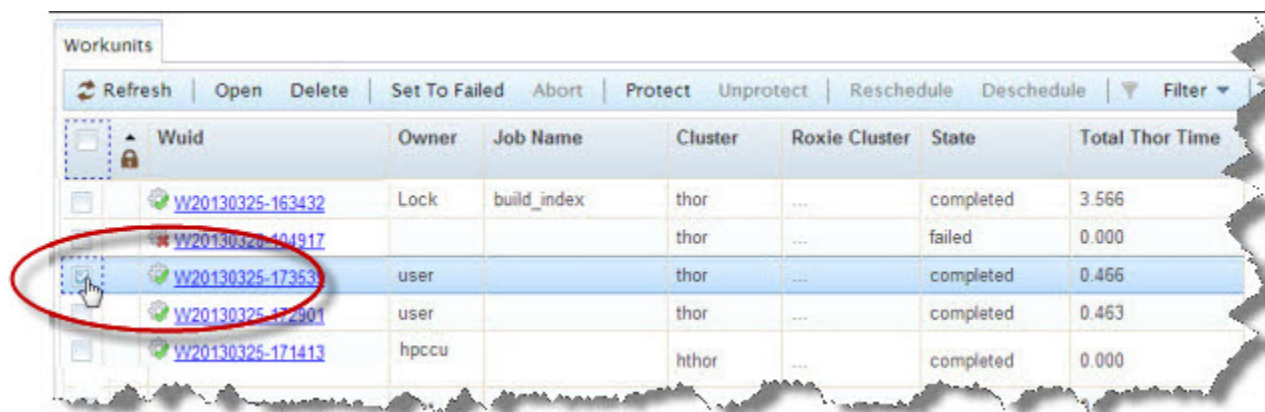
The page displays the ECL workunits on your system. Choose the **Workunits** Navigation tab to display the workunits.

**Figure 11. ECL Watch Browse Workunits**



To further examine a workunit or to perform some action on it, you must select it. You can select the workunit by checking the check box. You can also open a work unit by double-clicking on the workunit.

**Figure 12. Select ECL Workunit**



When you select a workunit, the Action buttons are enabled. You can also use the Context Menu when you right-click on a workunit to perform an action on it.

You can select multiple workunits by checking the check box next to each workunit. You can also click-and-drag over the workunit check boxes to select multiple workunits. When you select multiple workunits, each workunit will open its own tab.

The Action buttons allow you to perform actions on the selected workunits.

- Press the **Open** button to open the selected workunit(s).
- Press the **Delete** button to delete selected workunit(s).
- Press the **Set to Failed** button to set the state of the selected workunit(s) to failed.
- Press the **Abort** button to stop a selected workunit that is running and abort the job.
- Press the **Protect** button to lock the selected workunit(s). This prevents it from archiving by the Sasha server.
- Press the **Unprotect** button to unlock the selected locked workunit(s).
- Press the **Reschedule** button to change a selected scheduled workunit.
- Press the **Deschedule** button to stop a selected scheduled workunit from running.
- Press the **Filter** button to display additional filter options. These options filter the displayed list of workunits.

## Filter Options

You can filter the workunits displayed on the Workunits tab by clicking on the **Filter** Action button. The Filter sub-menu displays. Fill in values to specify the filter criteria, then press the **Apply** button.

**Figure 13. The Filter sub-menu**

The screenshot shows the 'Filter' sub-menu in ECL Watch. The menu is titled 'Filter' and contains various input fields for filtering workunits. The fields are: Archived Only (checkbox), WUID (text field with 'W20130222-171723'), Owner (text field with 'jsmi\*'), Job Name (text field with 'log\_analysis\_1\*'), Cluster (dropdown), State (dropdown), ECL (text field with ':=dataset\*'), Logical File (text field with '\*::somefile\*'), Logical File Type (dropdown), From Date (text field with '7/28/2013' and a time dropdown with '7:30 AM'), To Date (text field with '7/28/2013' and a time dropdown with '7:30 PM'), and Last N Days (text field with '2'). There are 'Clear' and 'Apply' buttons at the bottom.

The workunit filter options allow you to filter workunits using the specified criteria. Workunits can be filtered by:

- **Archived Only** - when checked, this filter will search only archived workunits.
- **WUID** - filter workunits for specific workunit ID (wuid).
- **Owner** - filter workunits for specific owners. Supports wildcards.
- **Job Name** - filter workunits by job name. Supports wildcards.
- **Cluster** - filter workunits by cluster. Select the cluster from the drop list.
- **State** - filter workunits by State. Select the state from the drop list.
- **ECL** - filter workunits by specific ECL. For example, `:=dataset`. Supports wildcards.
- **Logical File** - filter workunits by Logical File name, or some portion of it. Supports wildcards.
- **Logical File Type** - filter workunits by Logical File type. Select the Logical file type from the drop list.



- **From date** - filter workunits from a specific date and/or time. Select the date and time from the drop list.
- **To date** - filter workunits up to a specific date and/or time. Select the date and time from the drop list.
- **Last N Days** - filter workunits for a certain number (N) of days. Enter a number in this field.

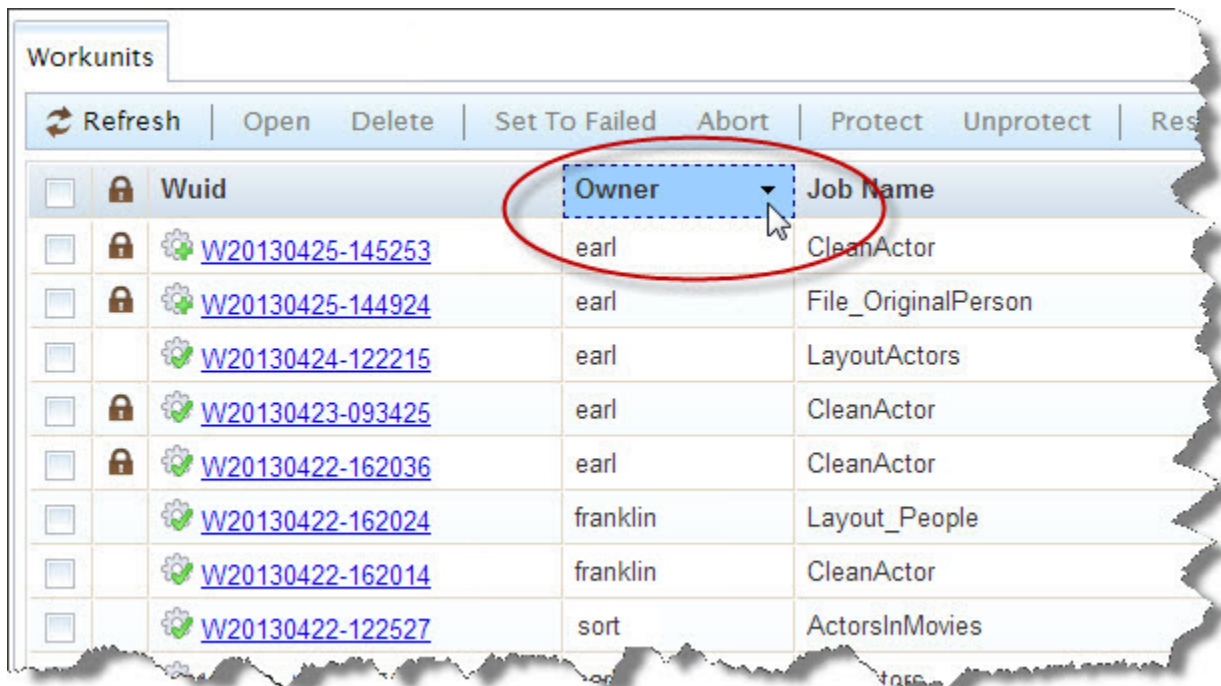
Some filter fields support wild card filtering. Wildcards can substitute for one or more characters when filtering data in the filter. The wild card characters are \*, and ?. Where \* can substituted for all possible characters, and a ? can be substituted for any single character.

**Note:** Filter criteria are not case sensitive.

## Sorting Columns

You can sort a column by clicking on the column heading. Click once for ascending, click again to toggle to descending. The direction of the arrow indicates the sort order.

**Figure 14. Sort by column**

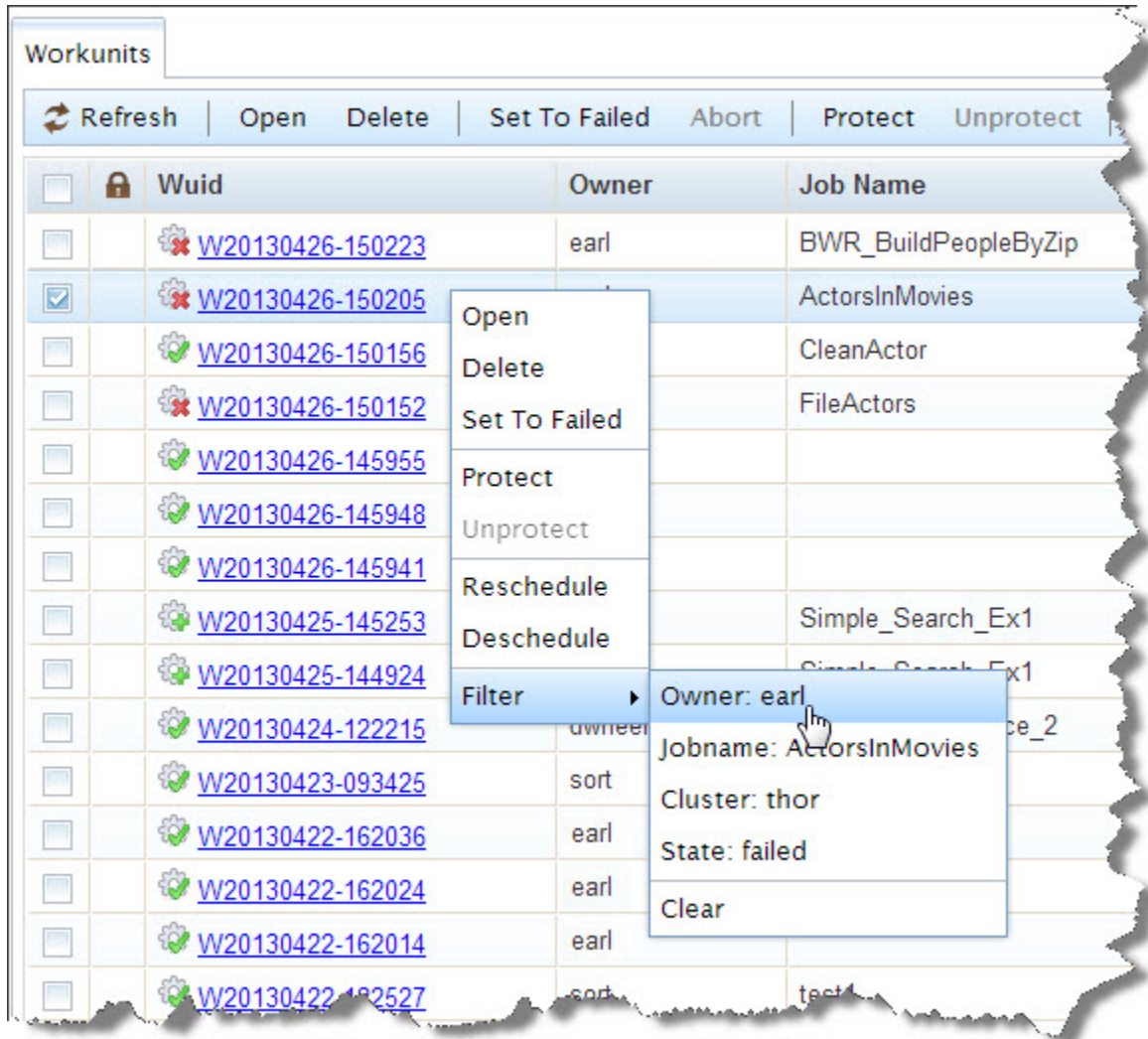


Workunits			
Refresh   Open   Delete   Set To Failed   Abort   Protect   Unprotect   Res			
	Wuid	Owner	Job Name
<input type="checkbox"/>	<a href="#">W20130425-145253</a>	earl	CleanActor
<input type="checkbox"/>	<a href="#">W20130425-144924</a>	earl	File_OriginalPerson
<input type="checkbox"/>	<a href="#">W20130424-122215</a>	earl	LayoutActors
<input type="checkbox"/>	<a href="#">W20130423-093425</a>	earl	CleanActor
<input type="checkbox"/>	<a href="#">W20130422-162036</a>	earl	CleanActor
<input type="checkbox"/>	<a href="#">W20130422-162024</a>	franklin	Layout_People
<input type="checkbox"/>	<a href="#">W20130422-162014</a>	franklin	CleanActor
<input type="checkbox"/>	<a href="#">W20130422-122527</a>	sort	ActorsInMovies

## Context Menu

You can right-click on a workunit to get a context menu of actions, including filter options. These are the same set of actions that you could perform from the Action buttons.

**Figure 15. Context menu**

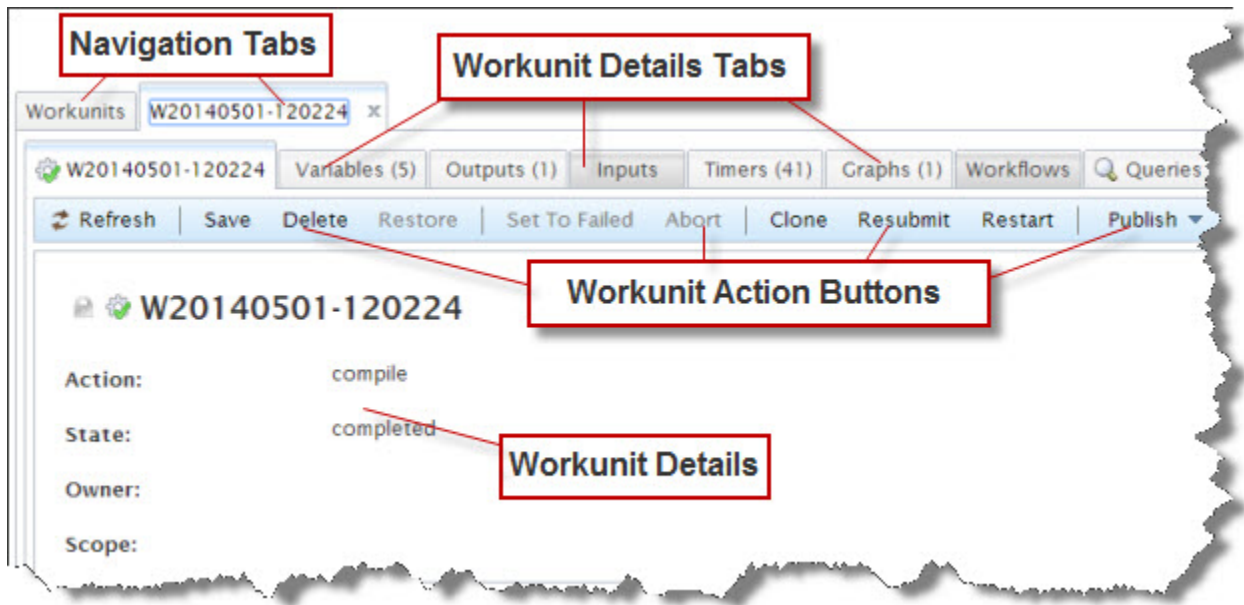


## Workunit Details

The Workunit Details page provides more information about a workunit. You can see more specific information about the selected workunit by selecting the various Workunit Details tabs.

You can also perform certain actions on the selected workunit using the Workunit Action buttons.

**Figure 16. Workunit Details**



Workunit details Action Buttons allow you to perform an action on the selected workunit.

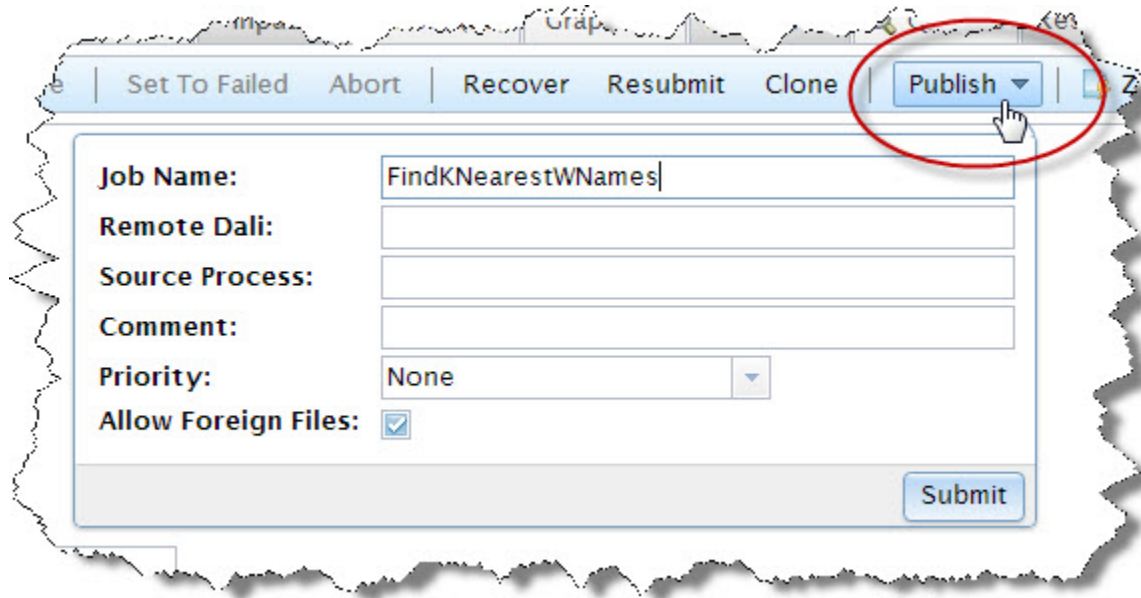
Using the Workunit Action Buttons you can:

- Press the **Refresh** button to refresh the workunit details.
- Press the **Save** button to save any changes to the workunit.
- Press the **Delete** button to delete the workunit.
- Press the **Restore** button to restore a workunit that has been archived by Sasha.
- Press the **Set To Failed** button to change the workunit state to failed.
- Press the **Abort** button to stop a running workunit and abort the job.
- Press the **Recover** button to restart the workunit.
- Press the **Resubmit** button to resubmit the job.
- Press the **Clone** button to clone the workunit.
- Press the **Publish** button to publish the workunit.
- Press the **Z.A.P.** button to package up system information for analysis. This is useful for bug reporting or troubleshooting.

## Publish Action Button

Click on the Publish action button to publish a query.

**Figure 17. Publish Menu**

The screenshot shows a web interface for ECL Workunits. At the top, there is a navigation bar with buttons: 'Set To Failed', 'Abort', 'Recover', 'Resubmit', 'Clone', 'Publish', and a 'Z' button. The 'Publish' button is circled in red, and a mouse cursor is pointing at it. Below the navigation bar is a form for publishing a query. The form contains the following fields: 'Job Name:' with the value 'FindKNearestWNames', 'Remote Dali:', 'Source Process:', 'Comment:', 'Priority:' with a dropdown menu set to 'None', and 'Allow Foreign Files:' with a checked checkbox. A 'Submit' button is located at the bottom right of the form.

Fill in the values for the Job Name, the Remote Dali, Source Process, Priority (optional), and you can add a comment. After you fill in the required values you can press the **Submit** button to submit your query.

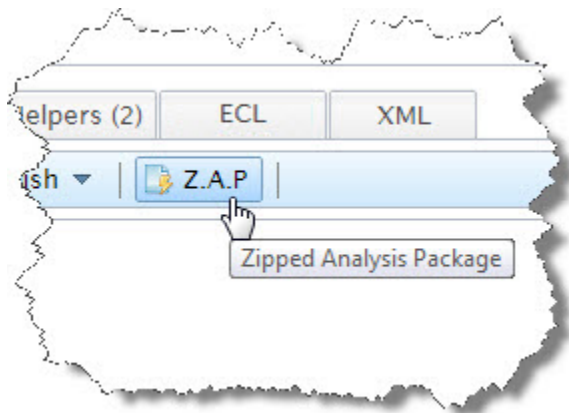
### Options for ECL Publish

- **Job Name:** The name of the job to publish. Auto-populated if you choose to publish from the workunit details page.
- **Remote Dali:** The IP or hostname of the DALI to be used to resolve remote files. (optional)
- **Source Process:** Process cluster from which to copy files. (optional)
- **Comment:** If desired, add a comment. The comment displays on the published queries details page.
- **Priority:** Sets the priority for the query. Values can be LOW, HIGH, SLA, or NONE. NONE will clear current setting.
- **Allow Foreign Files:** Check the box to allow the use of foreign files in a Roxie query. If a Roxie query references foreign files and this is not enabled, publish will fail.

## Z.A.P. Utility

The Zipped Analysis Package (Z.A.P.) button is a utility for collecting system information and encapsulating it into a shareable package. It is a useful tool for reporting errors, inconsistencies, or other unexpected behavior. When there is such an occurrence, this utility packages up information to send for further analysis.

**Figure 18. Z.A.P. Button**



To use the Z.A.P. utility, press the Z.A.P. button on the workunit details page from the appropriate workunit. The button opens the Zipped Analysis Package dialog.

**Figure 19. The Zipped Analysis Package Dialog**

A screenshot of the 'Zipped Analysis Package' dialog box. The dialog has a title bar with a close button. It contains several input fields: 'WUID:' with the value 'W20140106-091917', 'ESP Build Version:' with the value 'community\_4.2.2-rc4', 'ESP Network Address:' with the value '10.239.219.2', and 'Thor Network Address:' which is empty. Below these are three text areas for 'Description:', 'History:', and 'Timings:'. At the bottom left are 'Apply' and 'Cancel' buttons. The dialog is overlaid on a table with columns 'Col', 'Line', and 'FileName'.

Fill in the corresponding values under Description, History, and Timings in the Z.A.P. dialog. Press the **Apply** button when finished. The Z.A.P. utility generates a zip file with all the appropriate information for troubleshooting.

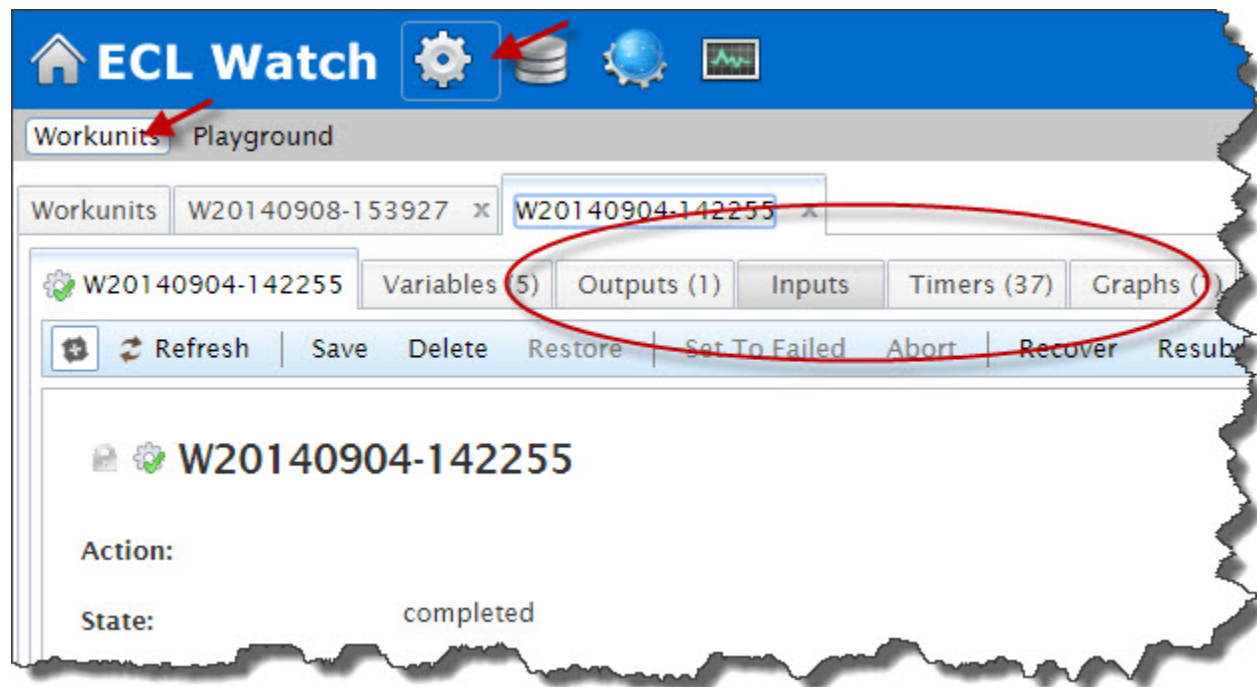
You can find the generated zip file in your browser's designated download directory. You can now send this file to the person handling your support request, or you can upload the file into the issue tracking system. Before distributing the file, verify that the file does not contain any sensitive data, such as personally identifiable information (PII).



## Outputs tab

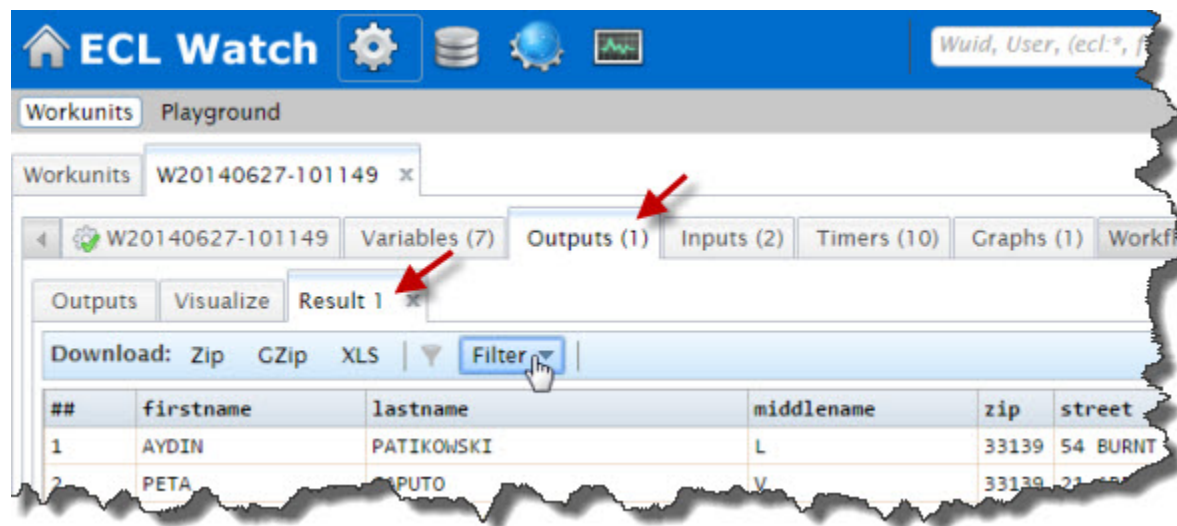
Click on the Outputs tab to see all results.

Figure 20. Outputs



Click on the **Result #** link to open a tab and display the results.

Figure 21. Results Tab



You can filter the result set. Press the **Filter** action button to further filter down the results.

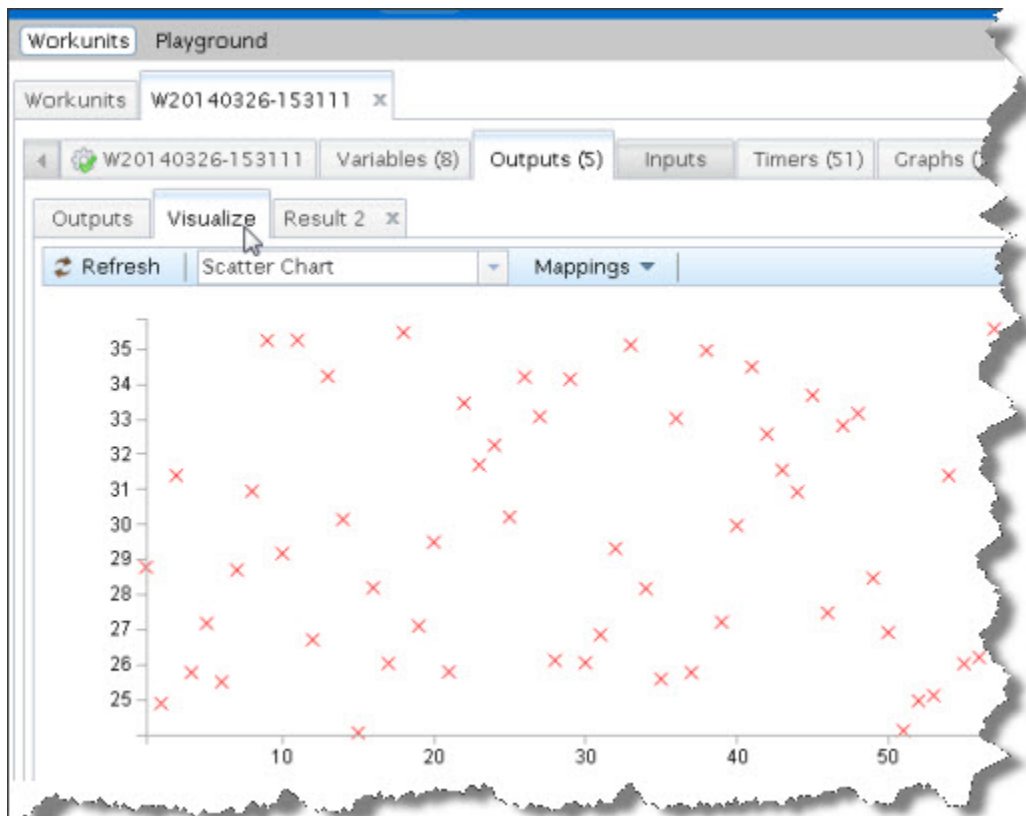
Press the **Download** action buttons to download the output files. The output files are available in 3 formats.

- **GZIP**
- **ZIP**
- **XLS**: Download the output in an Excel spreadsheet format.

## Visualizations

You can see visual representations of select workunits. Visualizations are available from the workunit **Outputs** tab. The Visualize tab provides a number of chart types you can generate if you have included additional resources in your ECL code via the enhanced manifest mechanism (such as an index web page).

**Figure 22. Visualization**

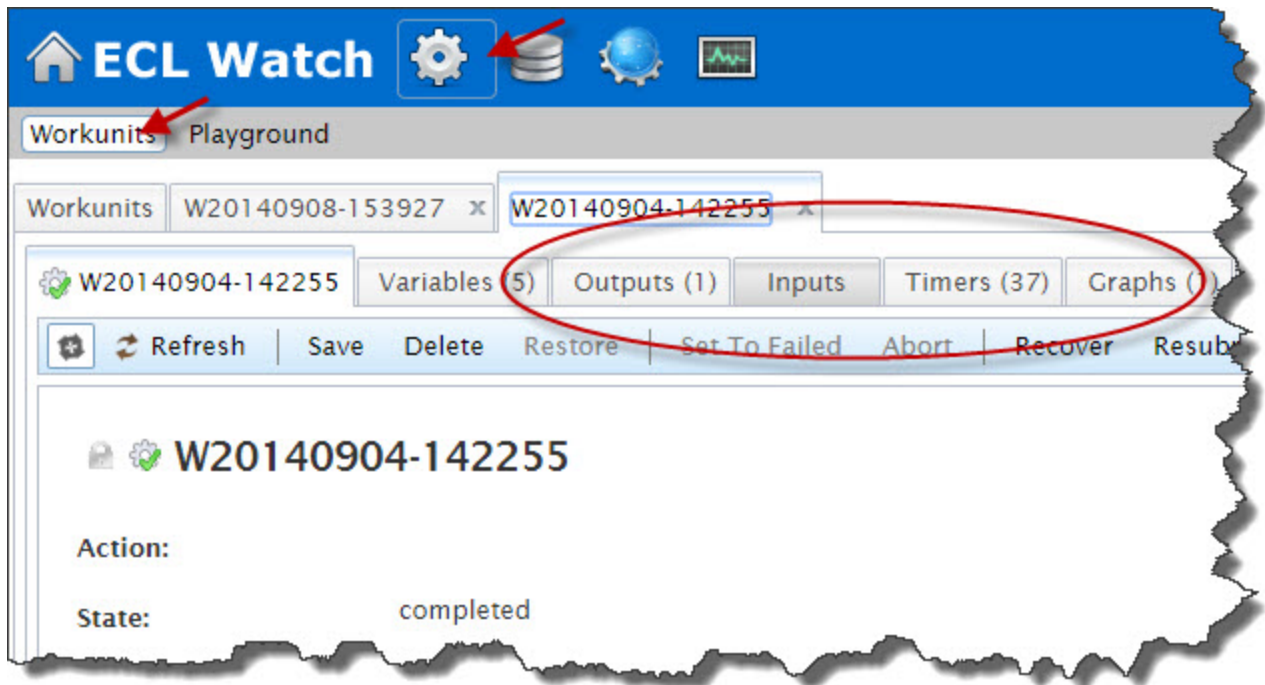


To access Visualizations, click on the Outputs tab from the selected workunit details page, then select the **Visualize** tab. You can view different visualization types by clicking on the drop list on the Visualize tab. Click on the **Mappings** drop menu, to change the parameters.

## Inputs tab

Click on the **Inputs** tab to see the workunit's input files. The input files are the source files that make up the workunit.

**Figure 23. Inputs**



The input files are displayed as a link. You can double-click the link to open a tab for each input file. You can select more than one input file and press the open button.

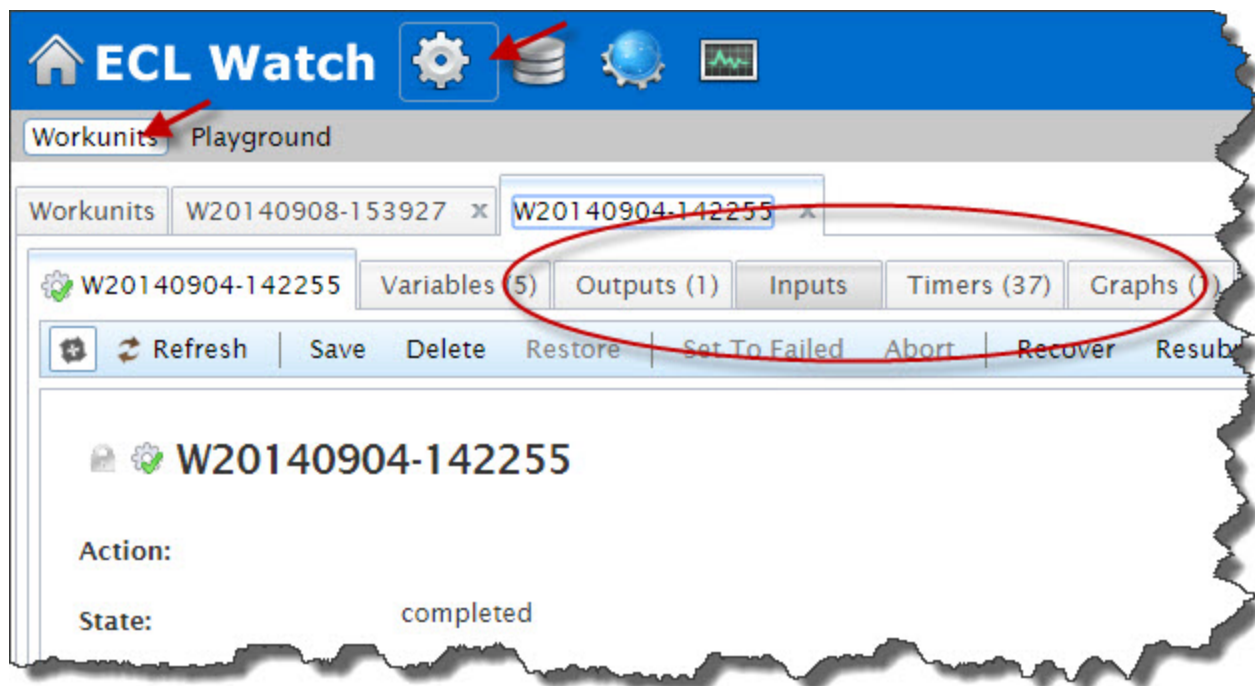
The **Usage** header indicates how many times a file was used in the workunit.

## Timers tab

Click on the **Timers** tab to see the workunit timings.



**Figure 24. Timers**

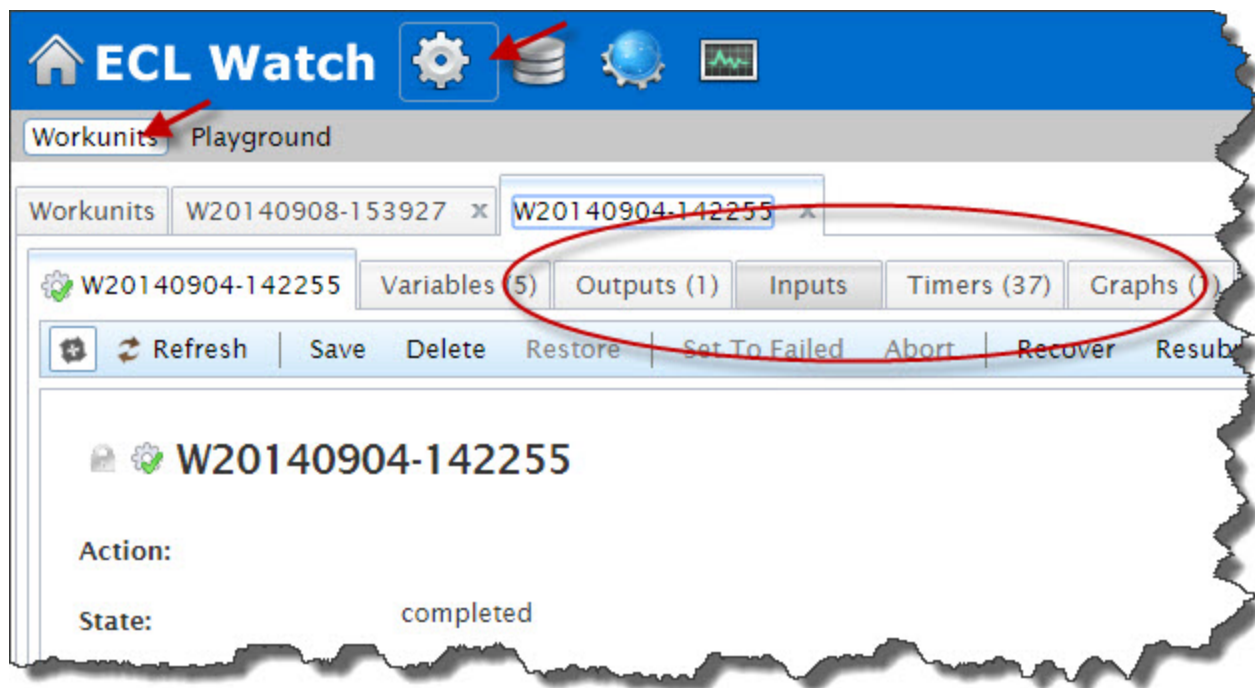


Timers depict everything that happened with the workunit and for how long. Timers include graphs which also provide more information as to the processing of the workunit. The graphical heat map indicates by a darker color where more time was needed, while the lighter the color indicates that portion took less time.

## Graphs tab

Click on the **Graphs** tab to see the graphs produced by the workunit.

**Figure 25. GRAPHS\*\*\***

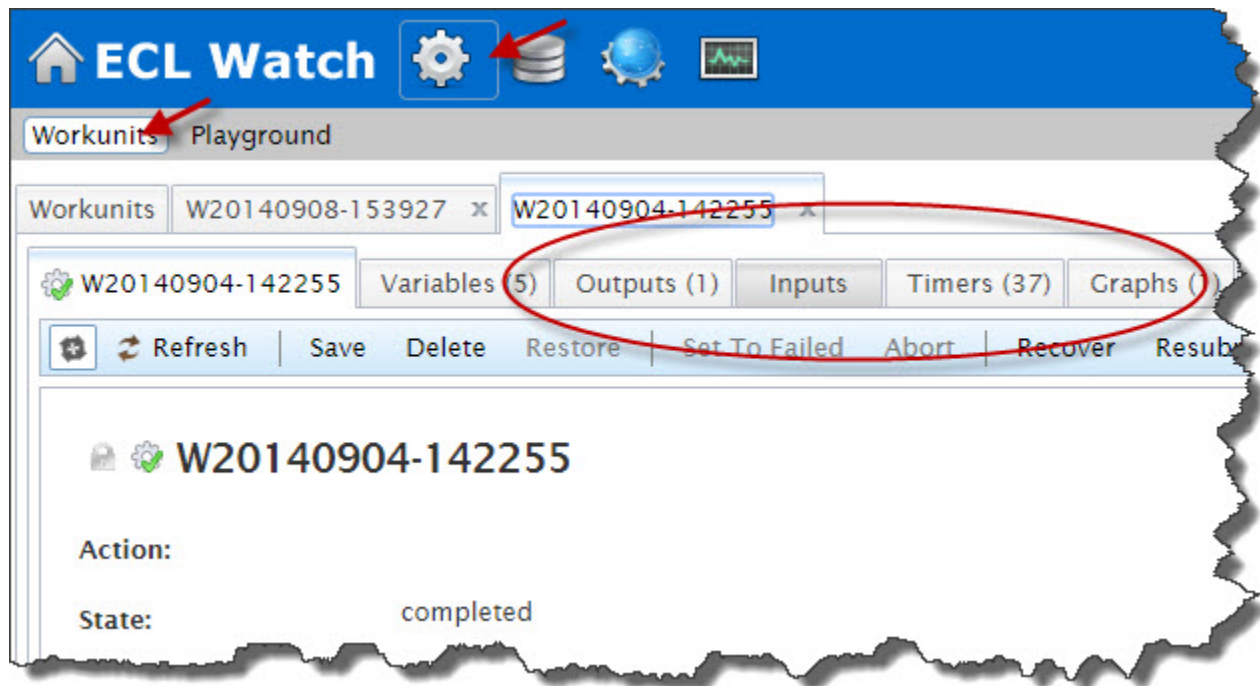


The Graphs tab shows a list of each graph and the heat map. Double click on the heat map to go to the corresponding portion of the graph.

## Timers tab

Click on the **Timers** tab to see the workunit timings.

**Figure 26. Timers**



Timers depict everything that happened with the workunit and for how long. Timers include graphs which also provide more information as to the processing. The Heat map indicates by a darker color where more time was needed, while the lighter the color indicates that portion took less time.

**Usage:** how many times a file was used in the work unit.

## Workflows tab

The workflows tab only exists if you have an attribute scheduled. There are multiple workflows when your code contains more than one WHEN statement.

**Counts:** How many "events" are scheduled to happen.

**Remain:** How many "events" remain to occur.

## Queries tab

Queries will only appear in the work unit details if the work unit is a published QUERY. Displays what queries were published from that work unit. Same as the queries tab: suspend, unsuspend, activate or deactivate. delete tabs with out any data.

## Helpers tab

The Helpers tab display several helpful elements. Which show the ECL. The work unit XML. Archived query, The DLL. S. O., Thor log, ECL Agent log, and Thor slave log. The relevant logs files. If a Roxy log only logs the relevant sections for the selected work unit.

From a workunit, when you look at the log, it only shows the portion of the log that pertains to that workunit.

## ECL Tab

Shows the ECL code for that workunit. It is the same thing as the Helpers ECL link.

## XML tab

The workunits XML record as stored in Dali.

# Using the ECL Playground

ECL Playground is a tool hosted on an ESP server. A page runs in your browser, allowing you to access and execute self-contained ECL code on your HPCC system without the use of any other tools. The ECL Playground then shows you the results and the graph in your browser. The view is very similar to what the ECL IDE displays.

## Accessing ECL Playground

ECL Playground is installed with the HPCC platform. You can access it through the ECL Watch page.

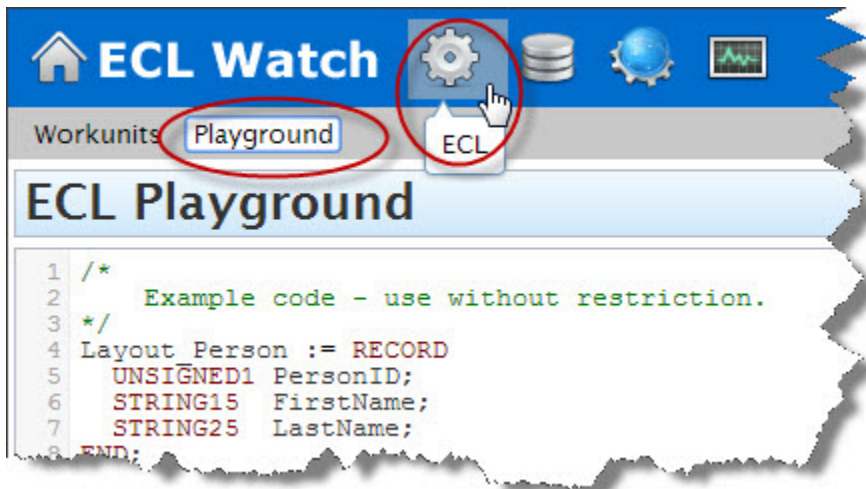
1. In your browser, go to the **ECL Watch** URL. For example, `http://nnn.nnn.nnn.nnn:8010`, where `nnn.nnn.nnn.nnn` is your ESP server node's IP address.



Your IP address could be different from the ones provided in the example images. Please use the IP address of **your** node.

2. From ECL Watch, click on the **ECL** icon, then click the **Playground** link from the navigation sub-menu.

**Figure 27. ECL Playground link**



The ECL Playground displays.

## Introducing the ECL Playground

The ECL Playground page is a work area where you can see and run self-contained ECL code. You can see the code, submit it, and see the results. You can even change the code and resubmit it to instantly see the new results right in your browser. This is an ideal tool for the user who is not an ECL programming expert who wants to change some of the ECL code and see the results.

**Figure 28. The ECL Playground**

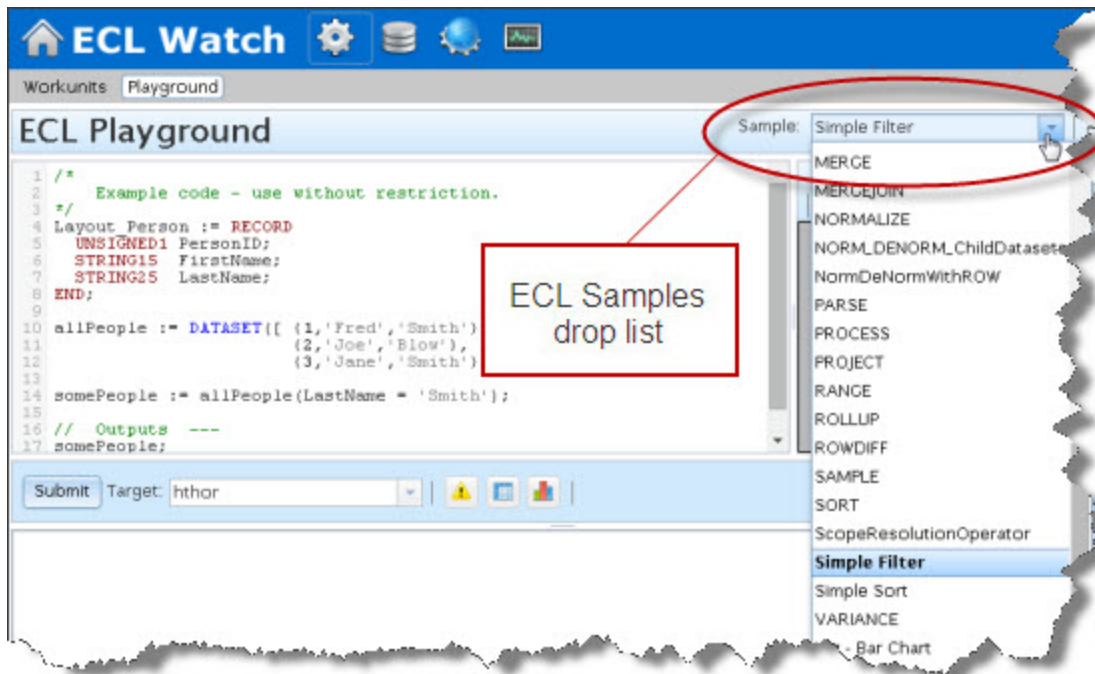
The screenshot shows the ECL Watch Playground interface. At the top, there's a blue header with the ECL Watch logo, navigation icons, a user profile dropdown, and a 'LOGGED IN AS:' indicator. Below the header, the 'Workunits' tab is active, and the 'Playground' sub-tab is selected. The main area is titled 'ECL Playground'. On the left, there's an 'Editor' containing ECL code. To its right is a 'Samples drop list' showing a sample named 'MERGE'. Further right is a 'Graphs' section displaying a flow diagram. Below the editor is a 'Submit button' and a 'Target Cluster' dropdown set to 'thor\_roxie'. To the right of these is a 'Status' indicator showing 'completed'. Below the submit area is a 'Result Options' section with 'Download' links for 'Zip', 'CZip', and 'XLS'. The bottom section is the 'Results Area', which displays a table with columns '##', 'number', and 'letter'. The table shows 5 results. Below the table is a 'Results Navigation' bar with '1 - 30 of 30 results' and buttons for 'Result 1' and 'Result 2'. A red box labeled 'Results Navigation' points to the pagination controls at the bottom right of the results table.

##	number	letter
1	1	A
2	2	A
3	3	A
4	1	B
5	2	B

The ECL Playground page is divided into areas. The top portion contains the *Editor* area and the *Graph Viewer*. The Sample code drop list is at the top right. The bottom portion of the page displays the results.

The ECL Playground comes with a set of ready to run sample ECL code. The drop list contains code samples. Select any one of these samples and it loads in the editor.

**Figure 29. Sample drop list**



The selected code displays in the *Editor* area. You can then submit it as-is, or modify and submit. The results display at the bottom portion of the page.

## Running ECL Code

To run the selected sample code, choose a target cluster from the drop list, then press the **Submit** button.

A successful run displays the word **completed** as the status and the results display in the results viewer. You can also view the graph in the upper right.



Figure 30. Success

The screenshot shows the ECL Watch Playground interface. At the top, there's a blue header with the ECL Watch logo and navigation icons. Below the header, the 'Workunits' tab is selected, and the 'Playground' sub-tab is active. The 'Sample' dropdown is set to 'JOIN\_dupes'. The code editor on the left contains the following ECL code:

```
1 set1 := [1,2,3,4,5,6,7,8,9,10];
2 set2 := [10,20,30,40,50,60,70,80,90,100];
3
4 r1 := {integer1 fred};
5 r2 := {integer1 fred, integer1 sue};
6 ds1 := dataset(set1, r1);
7
8 ds2 := dataset(set2, r1);
9
10 r2 XF(ds1 L, ds2 R) := transform
11   self.fred := L.fred;
12   self.sue := R.fred;
13 end;
```

The graph view on the right shows a data flow diagram with nodes for 'dataset', 'transform', and 'result'. A red box labeled 'Graph' points to this view. Below the code and graph, there's a 'Submit' button (circled in red) and a 'Target' dropdown set to 'hthor'. To the right of the 'Submit' button, the status 'completed' is displayed (circled in red). Below the status bar, there's a 'Download' section with options for 'Zip', 'GZip', and 'XLS', and a 'Filter' dropdown. The results table shows the following data:

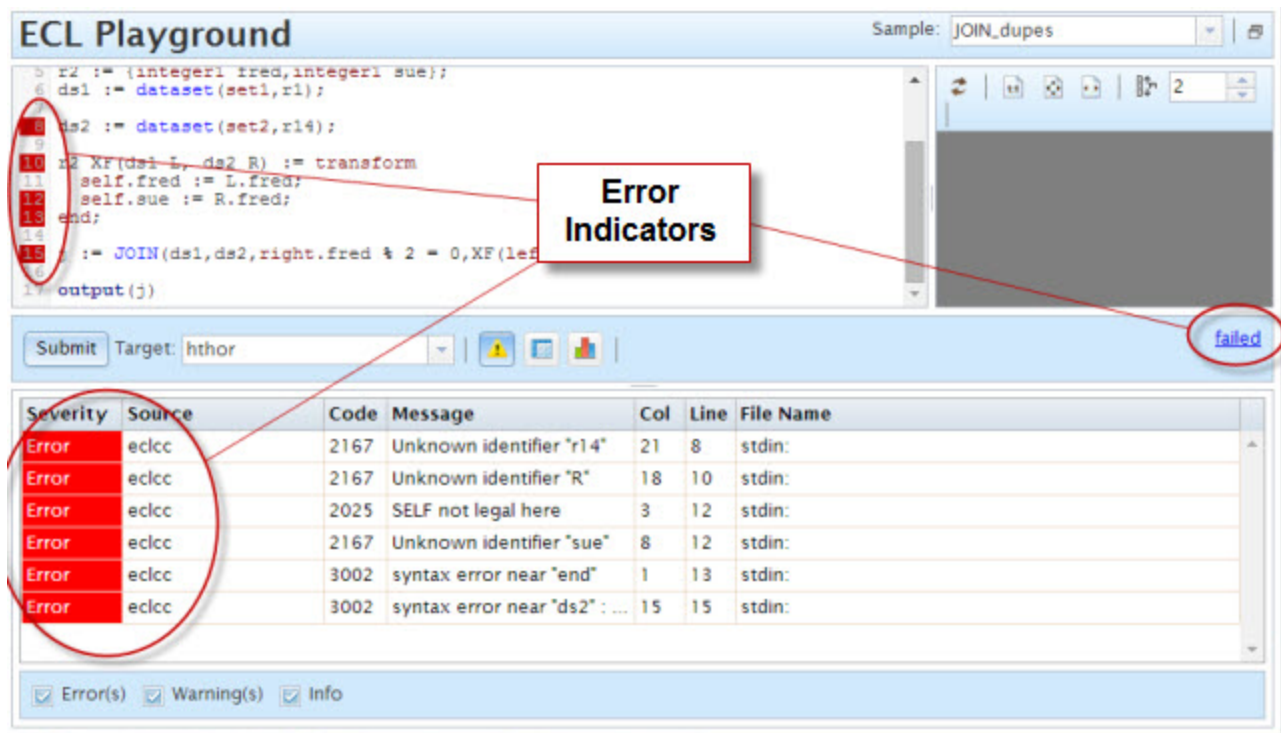
##	fred	sue
1	1	10
2	1	20
3	1	30
4	1	40
5	1	50

At the bottom, it indicates '1 - 50 of 100 results' and has pagination controls for page 1 of 2, with a total of 50 results.

A completed job generates a graph. You can examine the graph in greater detail by double-clicking the graph to zoom in. You can also zoom in with the mouse wheel. A double-click on a blank area of the graph will zoom out. You can use the scroll bars on the border of the graph to navigate or you can drag the graph with your mouse.

Selecting a node in the graph highlights the relevant section of the code in the Editor. This is helpful in troubleshooting or modifying code since it shows you the code that corresponds to a node in the graph.

**Figure 31. Error**



The status area displays the job status. If a job fails, errors display in the result viewer and the code is highlighted in red in the *Editor*. If there are warnings they are displayed in yellow.

## Analyze the results

When running ECL Code that has multiple results, each result is on a separate tab. Select a tab to see that set of results. You can also change number of results displayed or page through the results with the links at the bottom.



Figure 32. Multiple results


The screenshot shows the ECL Playground interface. At the top, the title is "ECL Playground" and the sample is "ENTH". The code area contains the following ECL code:

```
1 SomeFile := DATASET([{'A'}, {'B'}, {'C'}, {'D'}, {'E'},  
2 {'F'}, {'G'}, {'H'}, {'I'}, {'J'},  
3 {'K'}, {'L'}, {'M'}, {'N'}, {'O'},  
4 {'P'}, {'Q'}, {'R'}, {'S'}, {'T'},  
5 {'U'}, {'V'}, {'W'}, {'X'}, {'Y'}],  
6 {STRING1 Letter});  
7  
8 Set1 := ENTH(SomeFile, 2, 10, 1);  
9 Set2 := ENTH(SomeFile, 2, 10, 2);  
10 Set3 := ENTH(SomeFile, 2, 10, 3);  
11 Set4 := ENTH(SomeFile, 2, 10, 4);  
12 Set5 := ENTH(SomeFile, 2, 10, 5);  
13
```

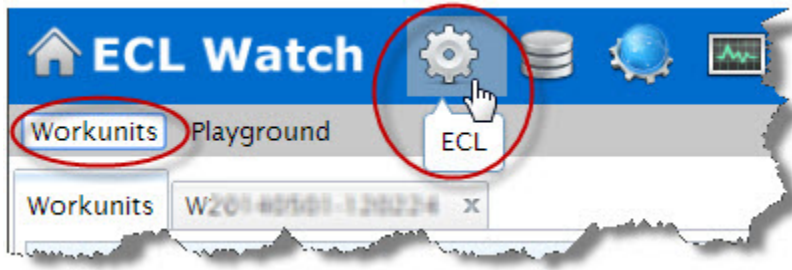
The results area shows a table with the following columns: "#", "letter", and "X". The table contains 5 rows of data. Below the table, there are pagination controls and result tabs. A red box labeled "Results Navigation" points to the pagination controls and result tabs. The pagination controls show "1 - 5 of 5 results" and "50" results per page. The result tabs show "Result 2", "Result 3", "Result 4", and "Result 5".

## ECL from a Workunit

You can access ECL code from inside a Workunit Details page in ECL Watch.

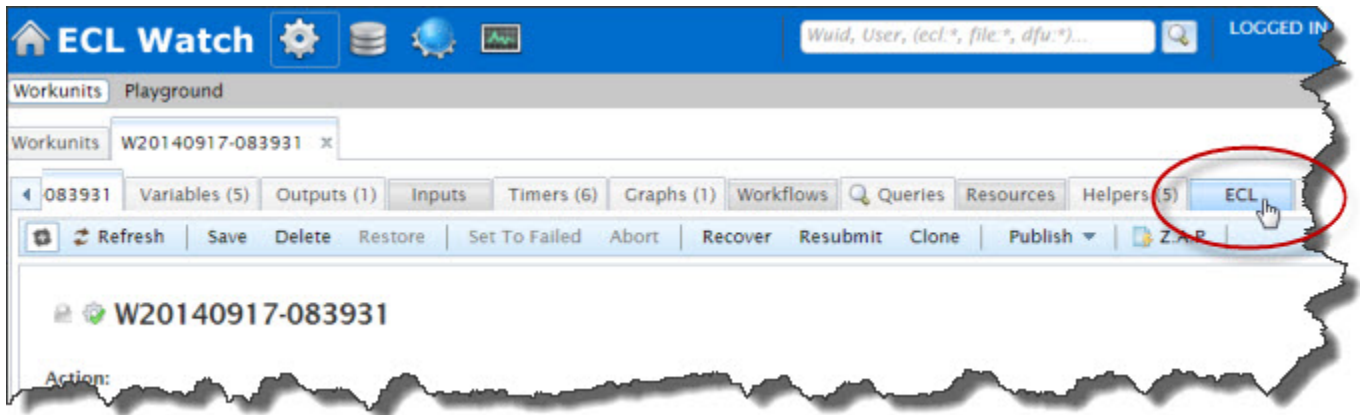
1. Select **Workunits** from the ECL Watch  menu.

**Figure 33. Browse Workunits**



2. Click on a workunit hyperlink to open the Workunit Details page.
3. Click on the **ECL** tab to view the workunit's ECL code.

**Figure 34. ECL link**



# Files

This chapter contains sections dealing with HPCC Platform Files, found on the **Files** link in ECL Watch.

In an HPCC platform, data files are partitioned across nodes. The file parts, referenced using Logical Filenames, are stored in the Distributed File Utility. This allows the collection of file parts to be referenced as a single entity.

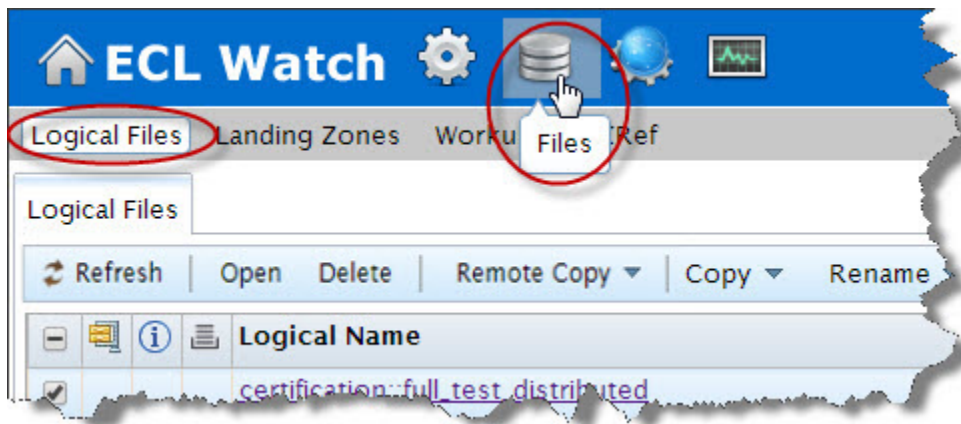
# Files

The **Files** page contains features relating to the process of getting data files on to your cluster, managing these files and also the workunits associated with them. Click on the **Files** icon for access to the Files features. You can also perform actions on selected files and superfiles using the Workunit Action buttons.

## Logical Files Page

To access the Files page click on the **Files** icon, then click the **Logical Files** link from the navigation sub-menu.

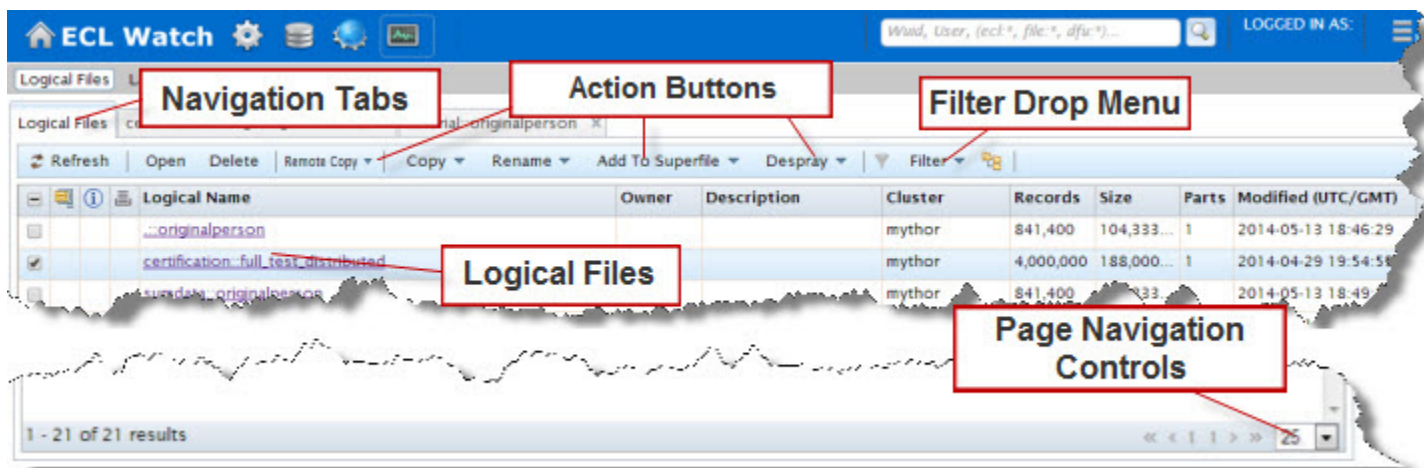
**Figure 35. Logical Files**



You can browse or search for logical files from this page using the Filter drop menu.

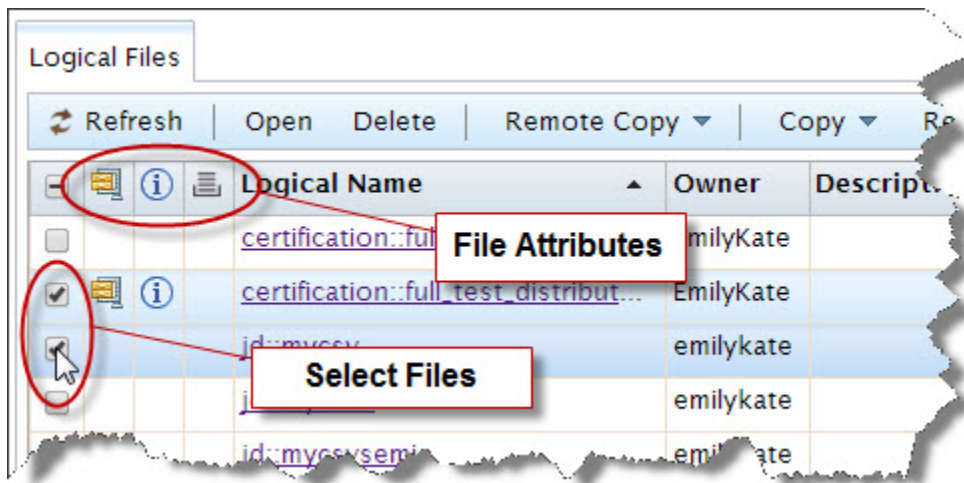
**Note:** Filter criteria are not case sensitive.

**Figure 36. Logical Files Page**






To see details for a particular file, or to perform some action on it you must select it. You can select a file or files by checking the check box. You can also click and drag your mouse over a group of check boxes, to select multiple files.

**Figure 37. Select Files**



There are three columns to indicate some file attributes:

	Compressed File
	Key File (index)
	Superfile

You can also sort a column by clicking on the column heading. Click once for ascending, click again to toggle to descending. The arrow shows the sort order.

Once you have selected a file or files, the Action Buttons are enabled. You can perform actions on selected files.

- Press the **Open** button to open the Logical Files Details page(s).
- Press the **Delete** button to delete file(s).
- Press the **Remote Copy** button to open the dialog where you can copy files from a foreign HPCC Platform. You will need permission to access the foreign Dali server.
- Press the **Copy** button to copy a file. You can modify some of the copy options from the drop menu.
- Press the **Rename** button to rename a logical file. You can modify some rename options from the drop menu.
- Press the **Add To Superfile** button to create and add file(s) to a superfile.
- Press the **Despray** button to despray the file. You can modify some despray options from the drop menu.
- Press the **Filter** button to display additional filter options. Use these options to filter the list.
- Press the Tree image button (to the right of the Filter button) to view files by scope in a tree view.

You can press the **Open** button to open a tab with the details for each selected file.

## Remote Copy

Press the **Remote Copy** button to open the dialog where you can copy files to or from a foreign dali.

**Figure 38. Remote Copy Dialog**

Remote Copy | Copy | Rename | Add To Superfile | Despray

▼ Source

Dali: 10.239.219.2

User ID: EmilyKate

Password: .....

Logical Name: tutorial::ek::originalperson

▼ Target

Group: mythor

Logical Name: tutorial::ek::originalperson

▼ Options

Overwrite: ☐ No Split: ☐

Compress: ☐ Wrap: ☐

Replicate: ☒ Retain Superfile Structure: ☐

Submit

Fill in the values for the Source file, and the Target destination, check any appropriate options then press the **Submit** button.

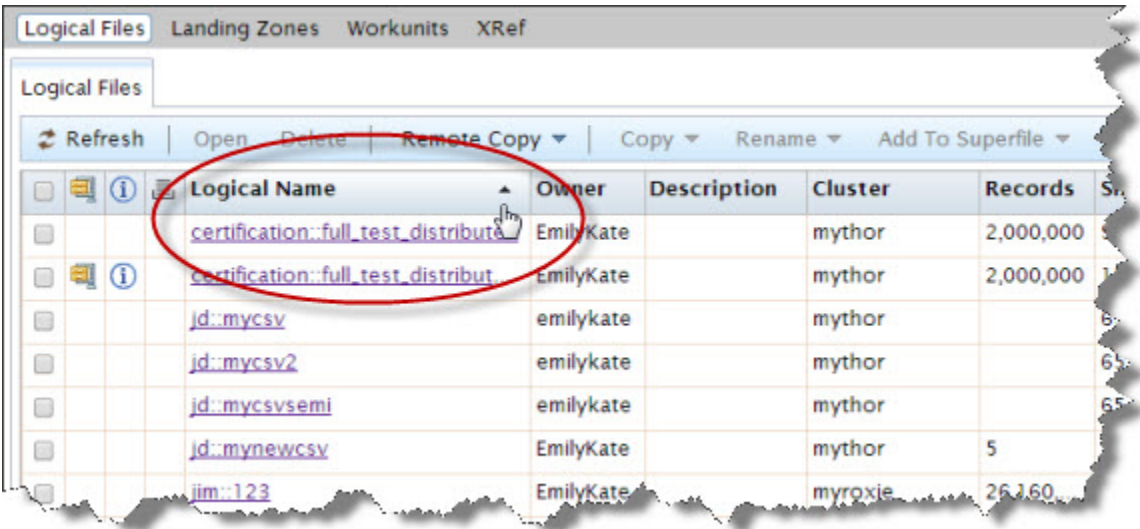
## Copy File

Press the **Copy** button to display the copy drop menu, with additional file copy options.

## Sorting Columns

You can sort a column by clicking on the column heading. Click once for ascending, click again to toggle to descending. The direction of the arrow indicates the sort order.

Figure 39. Logical File sort by column



The screenshot shows the 'Logical Files' tab in a software interface. At the top, there are tabs for 'Logical Files', 'Landing Zones', 'Workunits', and 'XRef'. Below the tabs is a toolbar with buttons: 'Refresh', 'Open', 'Delete', 'Remote Copy', 'Copy', 'Rename', and 'Add To Superfile'. The main area contains a table with the following columns: 'Logical Name', 'Owner', 'Description', 'Cluster', 'Records', and 'Size'. The table is sorted by the 'Logical Name' column. A red circle highlights the 'Logical Name' column header and the first two rows of data.

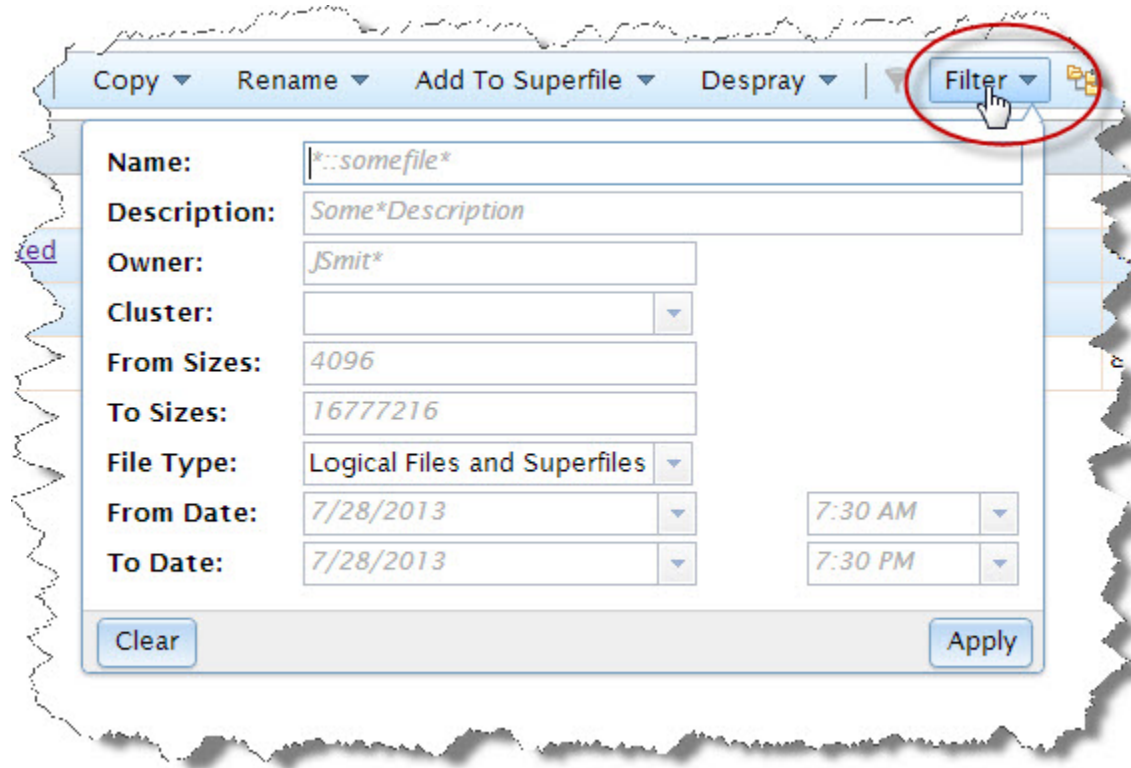
Logical Name	Owner	Description	Cluster	Records	Size
<a href="#">certification::full_test_distribut</a>	EmilyKate		mythor	2,000,000	5
<a href="#">certification::full_test_distribut</a>	EmilyKate		mythor	2,000,000	1
<a href="#">jd::mycsv</a>	emilykate		mythor		6
<a href="#">jd::mycsv2</a>	emilykate		mythor		6
<a href="#">jd::mycsvsemi</a>	emilykate		mythor		65
<a href="#">jd::mynewcsv</a>	EmilyKate		mythor	5	
<a href="#">jim::123</a>	EmilyKate		myroxie	26,160	



## Logical Files Filter Options

You can filter the logical files displayed on the Logical Files tab by clicking on the **Filter** Action button. The Filter sub-menu displays. Fill in values to specify the filter criteria, then press the **Apply** button.

**Figure 40. Logical Files Filter sub-menu**



The logical file filter options allow you to filter files using the specified criteria. Logical files can be filtered by:

- **Name** - filter files by name. Supports wildcards.
- **Description** - filter files by description. Supports wildcards.
- **Owner** - filter files by owners. Supports wildcards.
- **Cluster** - filter files by cluster. Select the cluster from the drop list.
- **From Sizes** - filter files from a specific size.
- **To Sizes** - filter files up to a specific size.
- **File Type** - filter files by type.
- **From date** - filter files from a specific date and/or time. Select the date and time from the drop list.
- **To date** - filter files up to a specific date and/or time. Select the date and time from the drop list.

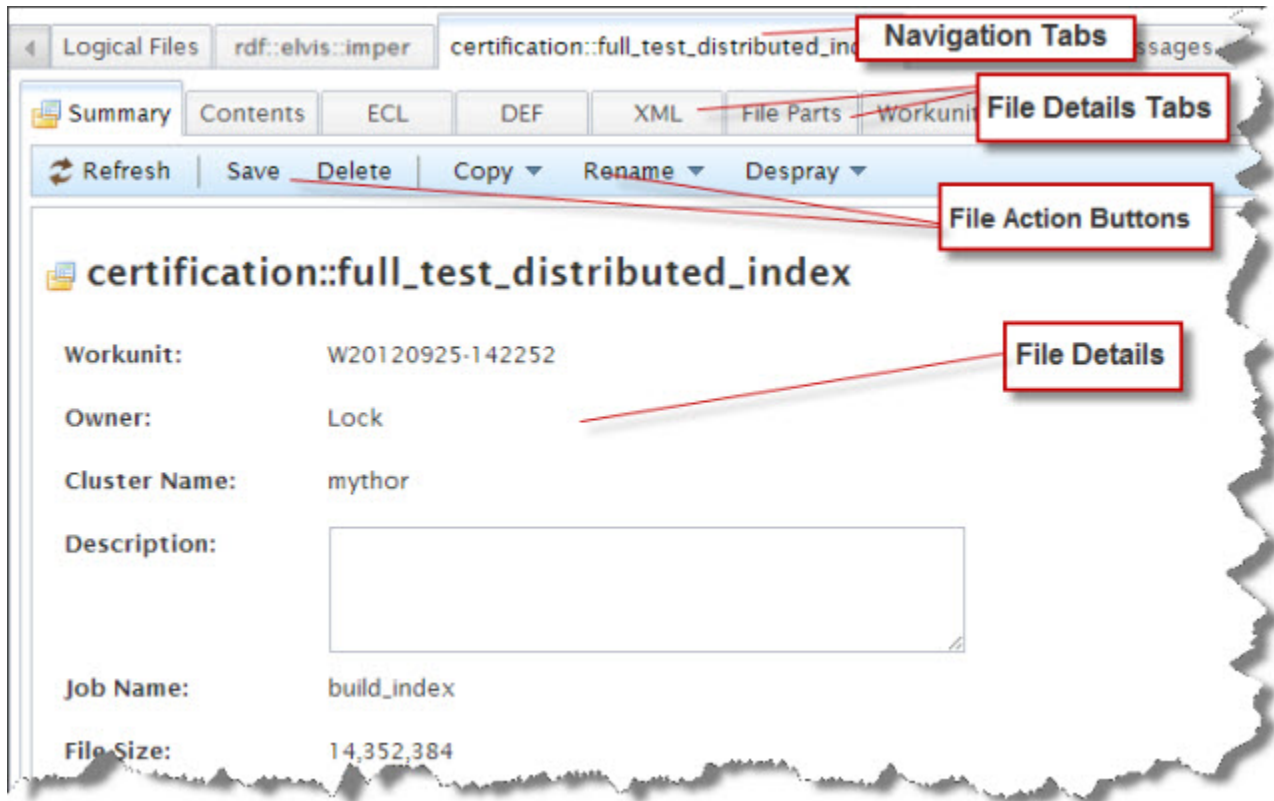
**Note:** Filter criteria are not case sensitive.



## Logical Files Details

The Logical Files Detail page shows specific details for the file selected. You select the file to view by clicking the appropriate tab from the Navigation Tabs at the top of the page.

**Figure 41. Logical Files Detail Page**



The Logical File details summary appears in the main File Details portion of the files page. You can view other file details using the **File Details Tabs** at the top portion of the Page.

- Select the **Summary** tab to view a summary of the file details.
- Select the **Contents** tab to view file contents.
- Select the **ECL** tab to view the ECL code.
- Select the **DEF** tab to view the ECL definitions.
- Select the **XML** tab to view the XML representation of the logical file.
- Select the **File Parts** tab to view information about the various file parts.
- Select the **Queries** tab to see which queries use use which logical files.
- Select the **Workunit** tab to view the corresponding workunit details. Note that the workunit tab shows you the same information that you would see if you selected it through the workunit link.

On the File Details Summary tab, you can perform some actions on the selected file.

- Press the **Refresh** button to refresh the file details.
- Press the **Save** button to save any changes you make to the file details.
- Press the **Delete** button to delete the file.
- Press the **Copy** button to copy a file. You can also modify some file attributes from the drop menu.
- Press the **Rename** button to provide a name and rename the file.
- Press the **Despray** button to despray the file. You can also modify some despray options from the drop menu.

## Superfiles

A superfile is a managed list of sub-files (Logical Files) treated as a single logical entity. When a file is a superfile, the Summary tab displays the superfile details, such as each subfile. Select a superfile from the Logical Files list, then press the Open action button. This displays the superfile details page.

### Figure 42. Superfile Details page

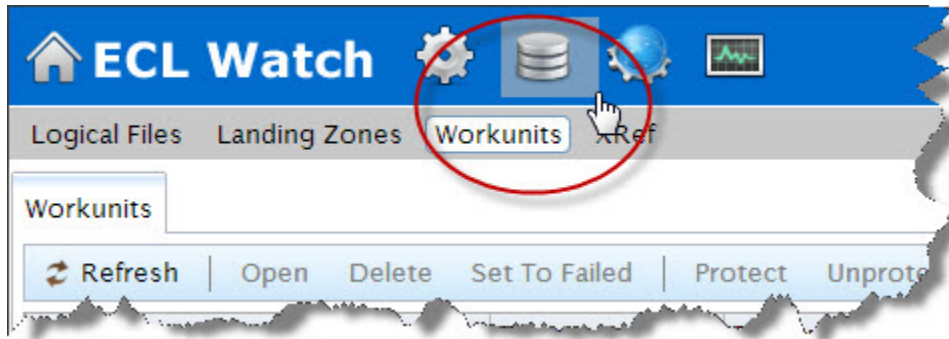
On the superfile details page you can:

- See a summary of the sub-files the superfile contains.
- See the details of the sub-files.
- Select one or more sub-file(s).
- Press the **Save** button to save any changes the superfile.
- Press the **Delete** button delete the superfile.
- Press the **Remove** button to remove a sub-file from the superfile.

## DFU Workunits Page

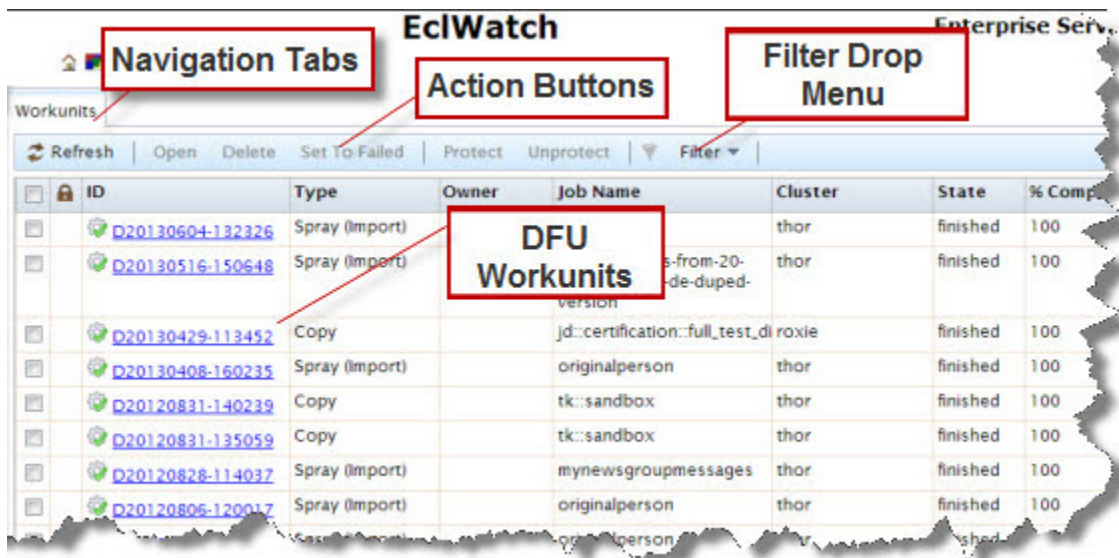
The DFU Workunits page contains a list of all the DFU workunits on your system. It provides access to more details about the workunits. You can also perform actions on the selected workunit using the Workunit Action buttons.

**Figure 43. Files Link**



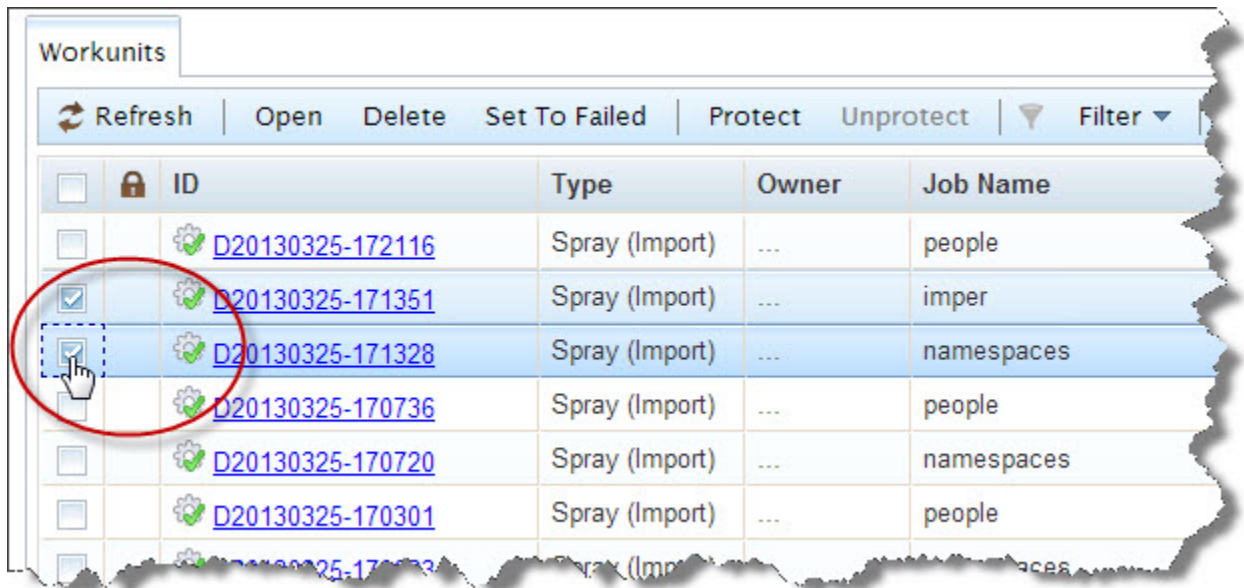
To access the DFU workunits page, click on the **Files** link on the navigation pane, then click the **Workunits** link from the navigation sub-menu. This action opens the DFU Workunits page. The page displays the DFU Workunits on your system.

**Figure 44. Browse DFU Workunits**



To further examine a workunit or to perform some action on it you must select it. You can select the workunit by checking the check box. You can also double-click on the workunit to select and open it in a new tab.

**Figure 45. Select DFU Workunit**



You can select multiple workunits by checking the check box next to each workunit. You can also click-and-drag over a group of workunit check boxes to select multiple workunits.

The enabled Action buttons now allow you to perform some actions on the selected workunits.

- Press the **Refresh** button to refresh the list.
- Press the **Open** button to open the workunit(s) details tab.
- Press the **Delete** button to delete selected workunit(s).
- Press **Set to Failed** button to set the workunit(s) state to failed.
- Press the **Protect** button to lock the workunit(s). This prevents it from archiving by the Sasha server.
- Press the **Unprotect** button to unlock the selected protected workunit(s).
- Press the **Filter** button to display additional filter/search options.

**Note:** Filter criteria are not case sensitive.

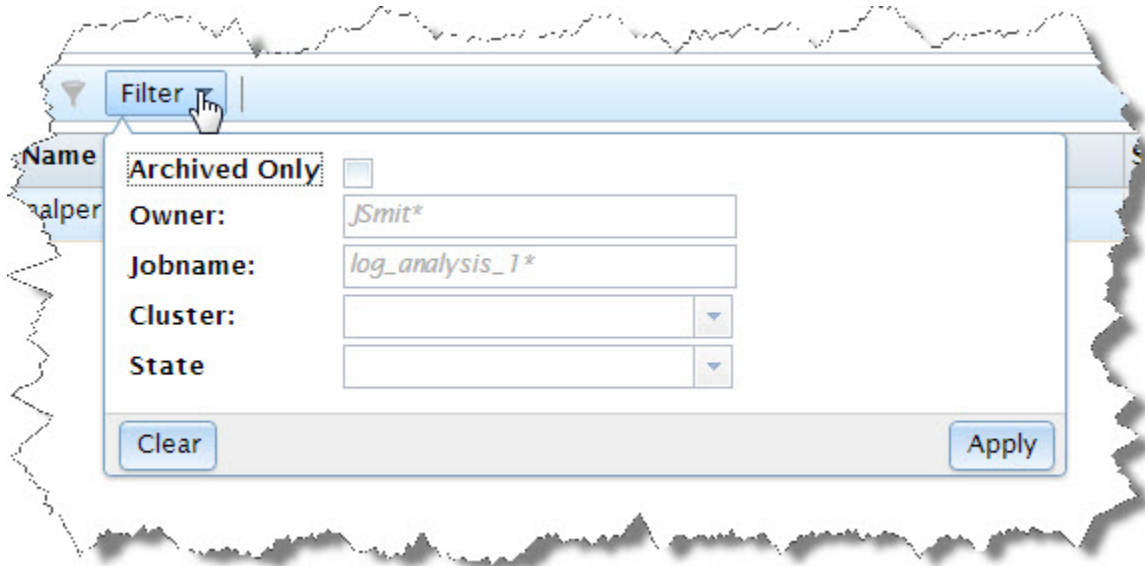
When you select a workunit you can then press the **Open** action button to view the workunit details. You can also double-click on a particular workunit to open the details tab.

When you select and then open multiple units, they will each open their own tab.

## DFU Workunits Filter Options

You can filter the workunits displayed on the Workunits tab by clicking on the **Filter** Action button. The Filter sub-menu displays. Fill in values to specify the filter criteria, then press the **Apply** button.

**Figure 46. The DFU Workunit Filter**



The DFU Workunit filter options allow you to filter workunits using the specified criteria. Workunits can be filtered by:

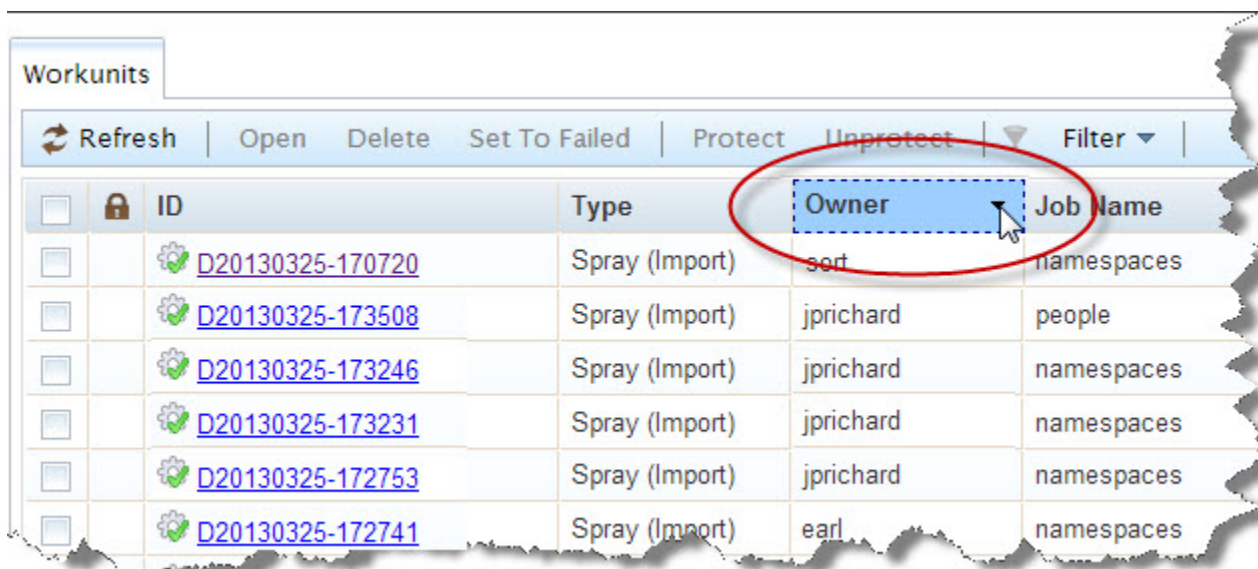
- **Archived Only** - when checked, this filter will search only archived workunits.
- **Owner** - filter workunits for specific owners. Supports wildcards.
- **Job Name** - filter workunits by job name. Supports wildcards.
- **Cluster** - filter workunits by cluster. Select the cluster from the drop list.
- **State** - filter workunits by state. Select the state from the drop list.

**Note:** Filter criteria are not case sensitive.

## Sorting Columns

You can sort a column by clicking on the column heading. Click once for ascending, click again to toggle to descending. The direction of the arrow indicates the sort order.

**Figure 47. DFU Workunit Sort by column**



Workunits

Refresh | Open | Delete | Set To Failed | Protect | Unprotect | Filter ▼

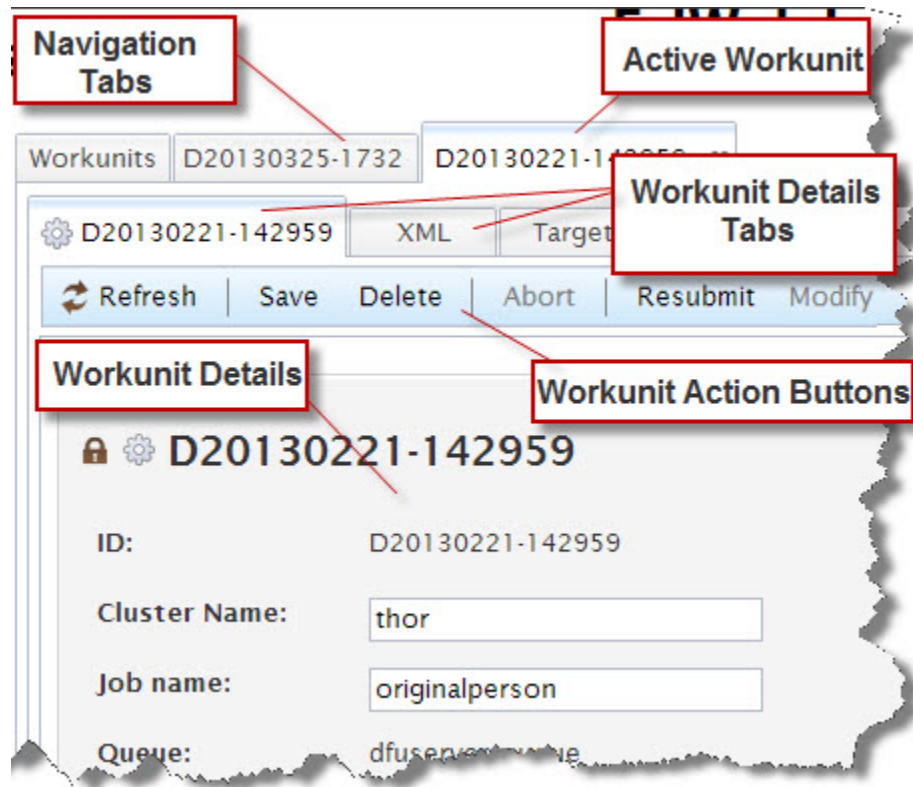
<input type="checkbox"/>		ID	Type	Owner	Job Name
<input type="checkbox"/>		<a href="#">D20130325-170720</a>	Spray (Import)	sort	namespaces
<input type="checkbox"/>		<a href="#">D20130325-173508</a>	Spray (Import)	jprichard	people
<input type="checkbox"/>		<a href="#">D20130325-173246</a>	Spray (Import)	jprichard	namespaces
<input type="checkbox"/>		<a href="#">D20130325-173231</a>	Spray (Import)	jprichard	namespaces
<input type="checkbox"/>		<a href="#">D20130325-172753</a>	Spray (Import)	jprichard	namespaces
<input type="checkbox"/>		<a href="#">D20130325-172741</a>	Spray (Import)	earl	namespaces



## DFU Workunit Details Page

When you open the selected workunit(s) you will see the workunit details. The Workunit Details tab provides information about a workunit. You can see more information about workunit details by selecting the various Workunit Details tabs. You can also perform actions on the selected workunits using the Workunit Action buttons.

**Figure 48. Workunit Details**



Additional Workunit details are located in the Workunit Details section of the page. Job name, queue, command, time, completion percentage, along with specific process messages display here.

You can use the Workunit Action buttons on the Active Workunit tab to perform actions on the selected workunit. Press the appropriate Workunit Action button to perform the following actions.

- Press the **Refresh** button to refresh the workunit details.
- Press the **Save** button to save the workunit.
- Press the **Delete** button to delete the workunit.
- Press the **Abort** button to abort a running workunit.
- Press the **Resubmit** button to resubmit the workunit (not yet implemented).
- Press the **Modify** button to modify the workunit (not yet implemented).

### XML Tab

The XML Tab on the workunit details page allows you to see the XML representation of the workunit.

**Figure 49. Workunit Detail XML tab**



## Source Tab

The Source Tab on the workunit details page allows you to view the source file(s) of the DFU workunit.

**Figure 50. Workunit Detail Source tab**



## Target Tab

The Target Tab on the workunit details page allows you to view the target of the DFU workunit.



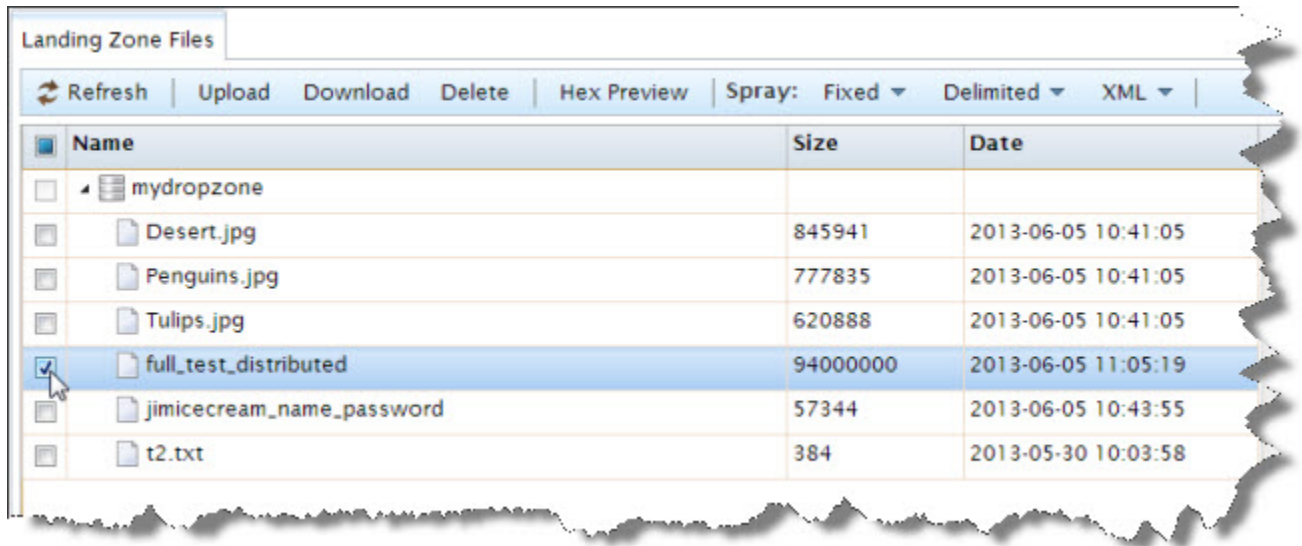
Figure 51. Workunit Detail Target tab



# Landing Zones

To access the Landing Zones page click on the **Files** icon, then click the **Landing Zones** link from the navigation sub-menu. The Landing Zone link displays the Landing Zones page. The Landing Zone Page shows you each landing zone you have configured for your cluster and its contents.

**Figure 52. Landing Zone Page**




Click on the arrow next to a drop zone container to expand. The files on the drop zone display. You can choose to upload, download, or delete any files on the drop zone using the landing zone action buttons. You can also spray files to a cluster from this page.

## Upload files

You can upload files to your landing zone from the Landing Zone page.

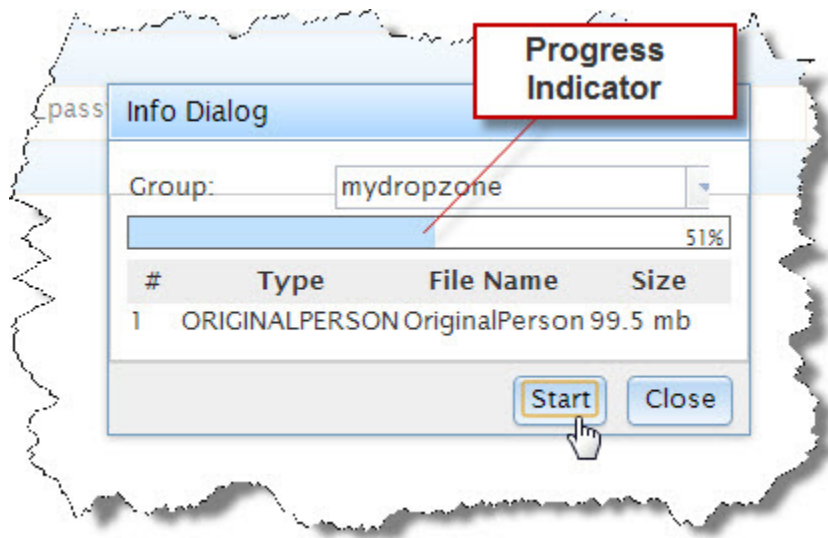
1. Press the **Upload** action button.



The upload utility in ECL Watch is limited by the browser's file size limitation. This is typically 4 GB. For production systems, we recommend a secure copy protocol (scp) utility.

2. Choose the file from the window that displays.
3. Verify the file and dropzone are correct in the **Info Dialog** that displays.

**Figure 53. Info Dialog**



4. Press the **Start** button to begin the upload.

The file progress indicator shows as the file uploads. When upload is complete, the window closes.

## Download files

You can download files from your landing zone to your computer.

1. From the Landing Zone page, select a file (or files) to download by checking the box next to it.
2. Press the **Download** button to download the file.

The file will download to your browser's download directory as specified in your browser settings.

## Delete files

You can delete files from your landing zone.

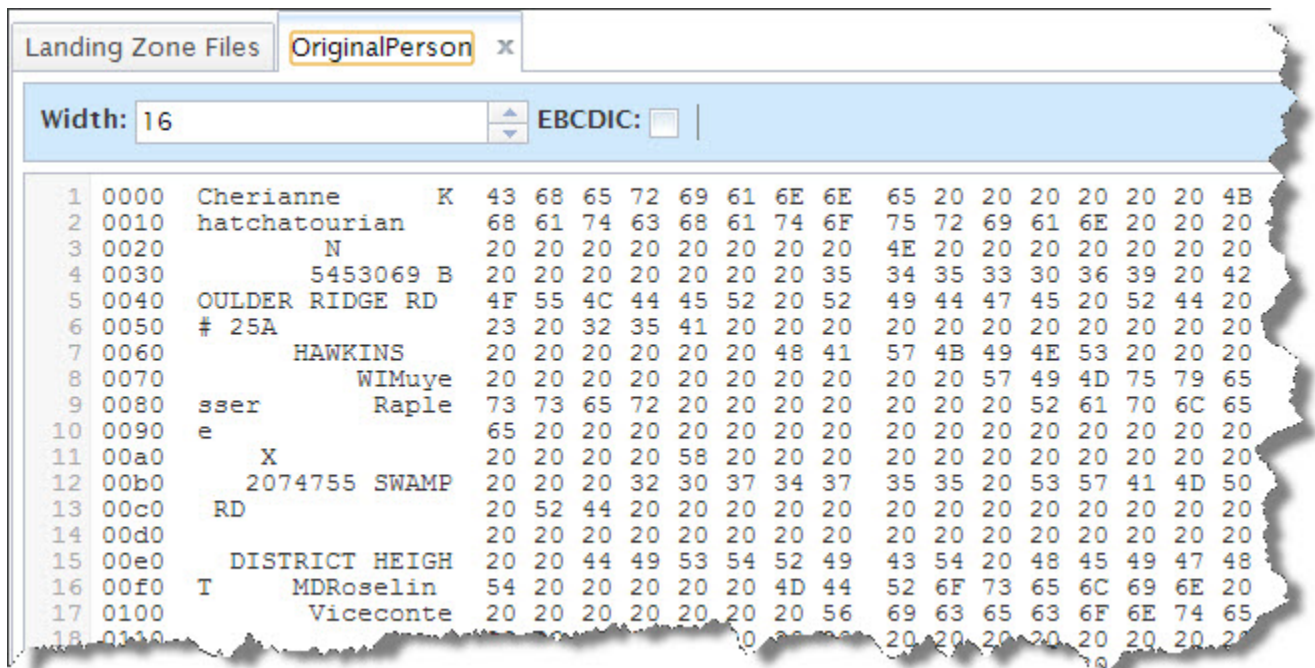
1. From the Landing Zone page, select a file (or files) to delete by checking the box next to it.
2. Press the **Delete** action button to delete the file from your landing zone.

## Hex Preview

The Hex Preview shows the contents of a file on the landing zone in hexadecimal form. If the file is large, then only the first 32k display. Hex preview is designed for fixed length files, although it can also work for delimited files but may be limited in that regards.

1. Select a file by checking the box next to it.
2. Press the **Hex Preview** action button to display the selected file(s) in a hex format.

**Figure 54. Hex Preview**



You can adjust the width of the view on the hex preview page using the spinbox controls on the **Width** box.

If you have an EBCDIC file check the box next to **EBCDIC:** for it to display properly.

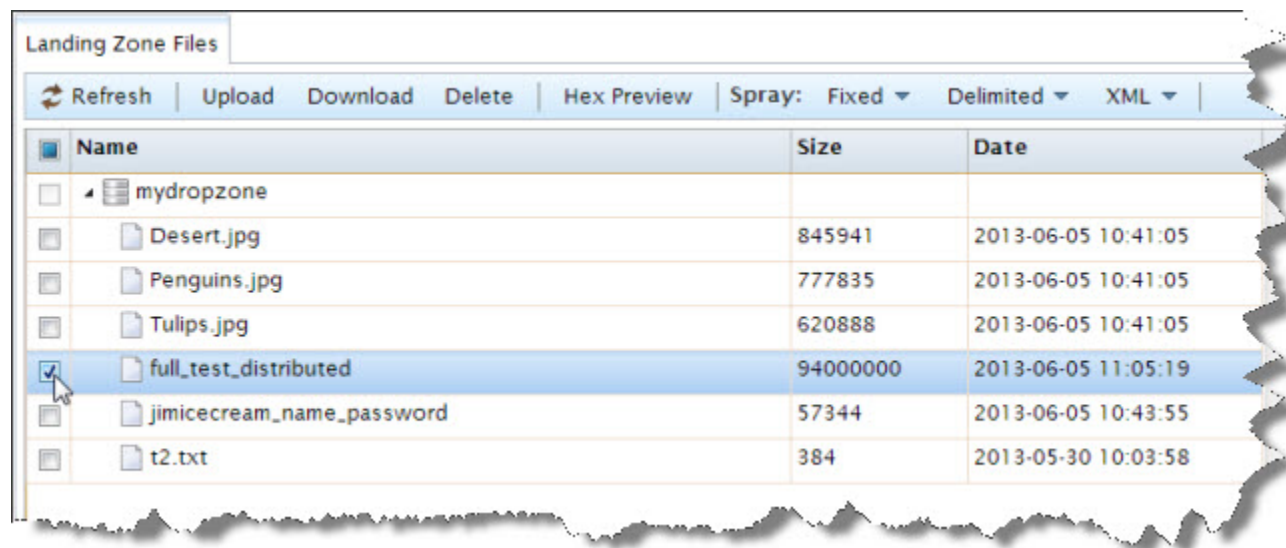
## Spray/Despray

This section details how to Spray and Despray a data file to your cluster using ECL Watch. The spray function is integrated into the Landing Zone page as detailed in the Upload Files section .

In order to spray a file to your cluster you must first upload the file to your landing zone. The file upload steps are detailed in the preceding section.

With the file successfully uploaded to the landing zone you can choose the file to spray from the Landing Zone page. Once selected the Spray buttons become enabled.

**Figure 55. Landing Zone Page**



## Spray Data to a Cluster

With the **Spray**: Action buttons enabled, you press the appropriate button for the Spray you wish to perform. Fill in the appropriate values when prompted to complete the spray.

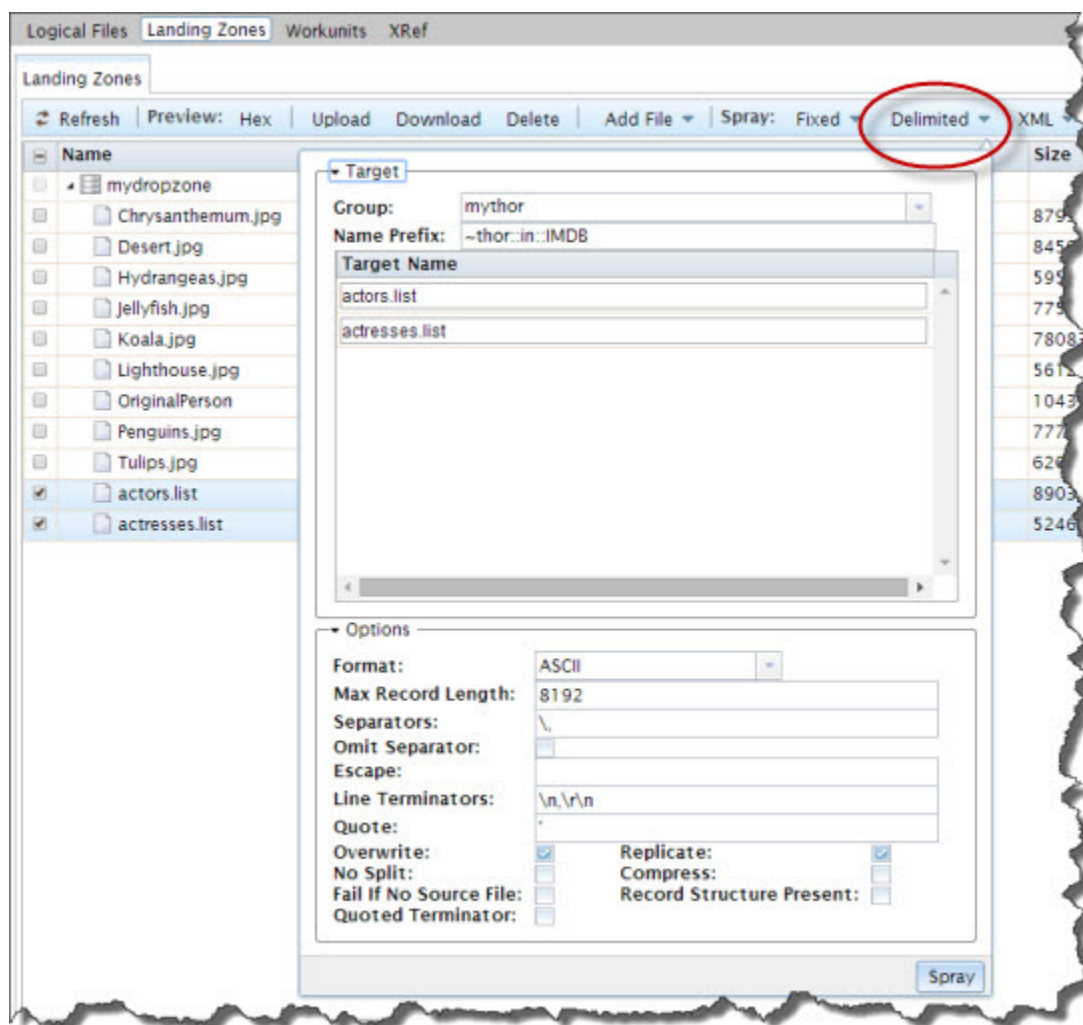
## Spray Files

One way you can spray files to your clusters is from the **Landing Zone** page in ECL Watch.

1. Select the file from your drop zone by checking the box next to it.
2. Select the appropriate drop menu option for the type of spray you want.

For example, to spray a delimited file, select the **Delimited** action button.

**Figure 56. Landing Zone Spray**



3. Fill in the values as appropriate for the spray.
4. Press the **Spray** button to spray the file(s).

## Spray multiple files

You can choose to spray multiple files with the multi-file spray feature. This is useful for spraying a number of files of the same type using the same spray options.

Fixed (length) files can have different record lengths and XML files can have different row tags which must be specified individually for each file. To specify these differences select the files you want to spray and the spray type. You will then see the files listed. Enter the record length or row tag information for each file if using the Fixed or XML spray types, then check all other applicable options and Spray.



## Spray Fixed

- Click on the **Files** icon, then click the **Landing Zones** link from the navigation sub-menu.
- Click on the arrow next to your dropzone to expand the list.

The files on your drop zone display.

- Check the checkboxes for the file(s) you want to spray, then press the Spray: **Fixed** action button.

The **Spray Fixed** dialog displays.

- Fill in relevant details:

Target	
<b>Group</b>	Select the name of cluster to spray to. You can only select a cluster in your environment.
<b>Name Prefix</b>	The prefix for the logical file
<b>Target Name</b>	The logical filename to create. This is pre-filled with the name of the source file on the landing zone, but can be changed.
<b>Record Length</b>	The size of each record.
Options:	
<b>Overwrite</b>	Check this box to overwrite files of the same name.
<b>Replicate</b>	Check this box to create backup copies of all file parts in the backup directory (by convention on the secondary drive of the node following in the cluster).
<b>This option is only available on systems where replication has been enabled.</b>	
<b>Compress</b>	Check this box to compress the files.
<b>No Split</b>	Check this box to prevent splitting file parts to multiple target parts.
<b>Fail if no source file</b>	Check this box to allow the spray to fail if no source file is found.

- Press the **Spray** button.

A **DFU Workunit** tab displays for each job. You can see the progress of each spray operation on the tab. If a job fails, information related to the cause of the failure also displays.

## Spray Delimited

- Click on the **Files** icon, then click the **Landing Zones** link from the navigation sub-menu.
- Click on the arrow next to your dropzone to expand the list.

The files on your drop zone display.

- Check the checkboxes for the file(s) you want to spray, then press the Spray: **Delimited** action button.

The **Spray Delimited** page displays.

- Fill in relevant details:

Target	
<b>Group</b>	Select the name of cluster to spray to. You can only select a cluster in your environment.
<b>Name Prefix</b>	The prefix for the logical file
<b>Target Name</b>	The logical filename to create. This is pre-filled with the name of the source file on the landing zone, but can be changed.
Options:	
<b>Format</b>	Select the format from the droplist
<b>Max Record Length</b>	The length of longest record in the file.
<b>Separators</b>	The character(s) used as a separator in the source file.
<b>Omit Separator</b>	Check this box to omit the separator.
<b>Line Terminators</b>	The character(s) used as a line terminators in the source file.
<b>Quote</b>	The character used as a quote in the source file.
<b>Overwrite</b>	Check this box to overwrite files of the same name.
<b>No Split</b>	Check this box to prevent splitting file parts to multiple target parts.
<b>Fail if no source file</b>	Check this box to allow the spray to fail if no source file is found.
<b>Replicate</b>	Check this box to create backup copies of all file parts in the backup directory (by convention on the secondary drive of the node following in the cluster).
<b>This option is only available on systems where replication has been enabled.</b>	
<b>Compress</b>	Check this box to compress the files.

- Press the **Spray** button.

A **DFU Workunit** tab displays for each job. You can see the progress of each spray operation on the tab. If a job fails, information related to the cause of the failure also displays.

## Spray XML

- Click on the **Files** icon, then click the **Landing Zones** link from the navigation sub-menu.
- Click on the arrow next to your dropzone to expand the list.

The files on your drop zone display.

- Check the checkboxes for the file(s) you want to spray, then press the Spray: **XML** action button.

The **Spray XML** dialog displays.

- Fill in relevant details:

Target	
<b>Group</b>	Select the name of cluster to spray to. You can only select a cluster in your environment.
<b>Name Prefix</b>	The prefix for the logical file
<b>Target Name</b>	The logical filename to create. This is pre-filled with the name of the source file on the landing zone, but can be changed.
<b>Row Tag</b>	The tag name of the row delimiter.
Options:	
<b>Format</b>	Select the format from the droplist
<b>Max Record Length</b>	The length of longest record in the file.
<b>Overwrite</b>	Check this box to overwrite files of the same name.
<b>No Split</b>	Check this box to prevent splitting file parts to multiple target parts.
<b>Fail if no source file</b>	Check this box to allow the spray to fail if no source file is found.
<b>Replicate</b>	Check this box to create backup copies of all file parts in the backup directory (by convention on the secondary drive of the node following in the cluster).
<b>This option is only available on systems where replication has been enabled.</b>	
<b>Compress</b>	Check this box to compress the files.

- Press the **Spray** button.

A **DFU Workunit** tab displays for each job. You can see the progress of each spray operation on the tab. If a job fails, information related to the cause of the failure also displays.

## Spray JSON

- Click on the **Files** icon, then click the **Landing Zones** link from the navigation sub-menu.
- Click on the arrow next to your dropzone to expand the list.

The files on your drop zone display.

- Check the checkboxes for the file(s) you want to spray, then press the Spray: **JSON** action button.

The dialog displays.

- Fill in relevant details:

### Target

<b>Group</b>	Select the name of cluster to spray to. You can only select a cluster in your environment.
<b>Name Prefix</b>	The prefix for the logical file
<b>Target Name</b>	The logical filename to create. This is pre-filled with the name of the source file on the landing zone, but can be changed.
<b>Row Path</b>	The path specifier to the JSON content. The default takes the root level content as an array of objects to be treated as rows.

### Options:

<b>Format</b>	Select the format from the droplist
<b>Max Record Length</b>	The length of longest record in the file.
<b>Overwrite</b>	Check this box to overwrite files of the same name.
<b>No Split</b>	Check this box to prevent splitting file parts to multiple target parts.
<b>Fail if no source file</b>	Check this box to allow the spray to fail if no source file is found.
<b>Replicate</b>	Check this box to create backup copies of all file parts in the backup directory (by convention on the secondary drive of the node following in the cluster).

**This option is only available on systems where replication has been enabled.**

<b>Compress</b>	Check this box to compress the files.
-----------------	---------------------------------------

- Press the **Spray** button.

A **DFU Workunit** tab displays for each job. You can see the progress of each spray operation on the tab. If a job fails, information related to the cause of the failure also displays.

## Spray Variable

- Click on the **Files** icon, then click the **Landing Zones** link on the navigation sub-menu.
- Click on the arrow next to your dropzone to expand the list.

The files on your drop zone display.

- Check the checkboxes for the file(s) you want to spray, then press the Spray: **Variable** action button.

The Spray **Variable** dialog displays.

- Fill in relevant details:

Target	
<b>Group</b>	Select the name of cluster to spray to. You can only select a cluster in your environment.
<b>Name Prefix</b>	The prefix for the logical file
<b>Target Name</b>	The logical filename to create. This is pre-filled with the name of the source file on the landing zone, but can be changed.

### Options:

<b>Source Type</b>	Select the source type from the drop list. Values: recfmv, recfmvb, Variable, or Variable Big-endian.
<b>Overwrite</b>	Check this box to overwrite files of the same name.
<b>No Split</b>	Check this box to prevent splitting file parts to multiple target parts.
<b>Fail if no source file</b>	Check this box to allow the spray to fail if no source file is found.
<b>Replicate</b>	Check this box to create backup copies of all file parts in the backup directory (by convention on the secondary drive of the node following in the cluster).

**This option is only available on systems where replication has been enabled.**

<b>Compress</b>	Check this box to compress the files.
-----------------	---------------------------------------

- Press the **Spray** button.

A **DFU Workunit** tab displays for each job. You can see the progress of each spray operation on the tab. If a job fails, information related to the cause of the failure also displays.

## Spray Blob

- Click on the **Files** icon, then click the **Landing Zones** link on the navigation sub-menu.
- Click on the arrow next to your dropzone to expand the list.

The files on your drop zone display.

- Check the checkboxes for the file(s) you want to spray, then press the Spray: **BLOB** action button.

The Spray **BLOB** dialog displays.

- Fill in relevant details:

Target	
<b>Group</b>	Select the name of cluster to spray to. You can only select a cluster in your environment.
<b>Target Name</b>	The logical target name to create. Required. You must provide a target name.
<b>Source Path</b>	The path to the file. This is pre-filled with the name of the selected source file(s) on the landing zone, but can be changed. Supports wildcards.

### Options:

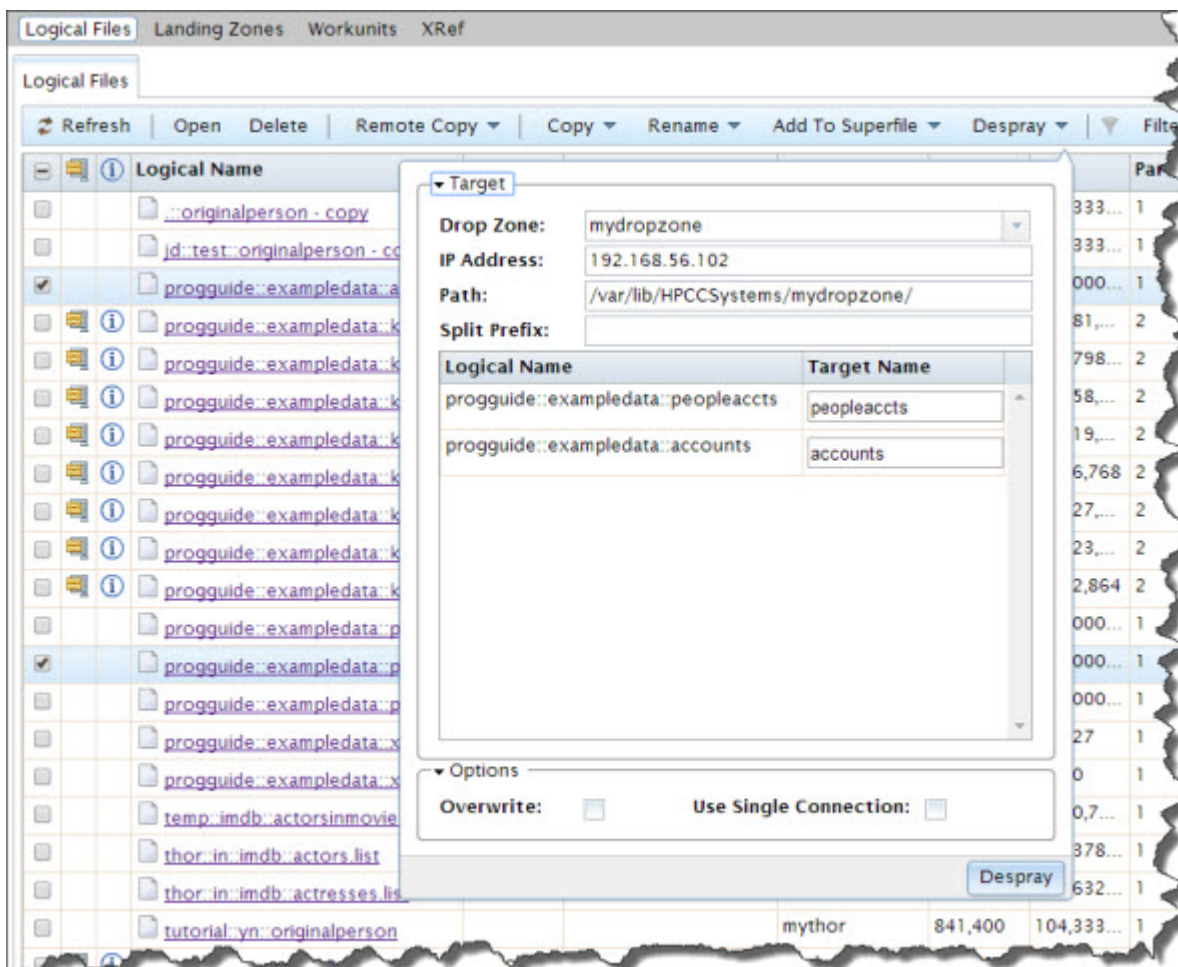
<b>Blob Prefix</b>	The prefix for the file.
<b>Overwrite</b>	Check this box to overwrite files of the same name.
<b>No Split</b>	Check this box to prevent splitting file parts to multiple target parts.
<b>Replicate</b>	Check this box to create backup copies of all file parts in the backup directory (by convention on the secondary drive of the node following in the cluster).
<b>This option is only available on systems where replication has been enabled.</b>	
<b>Compress</b>	Check this box to compress the files.
<b>Fail if no source file</b>	Check this box to allow the spray to fail if no source file is found.

- Press the **Spray** button.

A **DFU Workunit** tab displays for each job. You can see the progress of each spray operation on the tab. If a job fails, information related to the cause of the failure also displays.

## Desprays

- Locate the file(s) to despray in the list of files, then Press the the **Despray** action button.



- Provide **Destination** information.

### Drop Zone

Use the drop list to select the machine to despray to. The items in the list are landing zones defined in the system's configuration.

### IP Address

This is prefilled based upon the selected machine.

### Path

Provide the complete file path of the destination including file name and extension.

### Split Prefix

Prefix

### Overwrite

Check this box to overwrite a file with the same name if it exists.

### Use Single Connection

Check this box to use a single network connection to despray.

- Press the **Despray** button.

A DFU Workunit tab for each job opens. You can see the progress of each despray operation on the tab. If a job fails, information related to the cause of the failure also displays.



## Copy

- Click on the **Files** icon, then click the Logical Files button on the navigation bar.
- Select the file(s) to copy in the list of files, then click on the **Copy** action button.
- Fill in **Destination** and **Options** information.

### Target:

<b>Group</b>	Select the name of cluster to copy to. You can only select a cluster in your environment.
<b>Target Name</b>	The logical filename to create. This is pre-filled with the name of the source file on the landing zone, but can be changed.

### Options:

<b>Replicate</b>	Check this box to create backup copies of all file parts in the backup directory (by convention on the secondary drive of the node following in the cluster).
	<b>This option is only available on systems where replication has been enabled.</b>
<b>Wrap</b>	Check this box to keep the number of parts the same and wrap if the target cluster is smaller than the original.
<b>No Split</b>	Check this box to prevent splitting file parts to multiple target parts.
<b>Overwrite</b>	Check this box to overwrite files of the same name.
<b>Compress</b>	Check this box to compress the files.
<b>Retain Superfile Structure</b>	Check this box to retain the superfile structure.

- Press the **Copy** button.

A **DFU Workunit** tab displays for each job. You can see the progress of each copy operation on the tab. If a job fails, information related to the cause of the failure also displays.

## Remote Copy

Remote Copy allows you to copy data from a cluster outside your environment to one in your environment.

- Click on the **Files** icon, then click the Logical Files button on the navigation bar.

- Click on the **Remote Copy** link

The **Copy File** page displays.

- Fill in **Source**, **Destination**, and **Options** information.

### Source:

<b>Dali</b>	The Dali Server in the remote environment
<b>User ID</b>	The Username to use to authenticate on the Remote environment (if needed)
<b>Password</b>	The password to use to authenticate on the Remote environment (if needed)
<b>Logical File</b>	The logical filename in the remote environment.

### Destination:

<b>Group</b>	Select the name of cluster to copy to. You can only select a cluster in your environment.
<b>Logical Name</b>	The logical name for the copied file.

### Options:

<b>Replicate</b>	Check this box to create backup copies of all file parts in the backup directory (by convention on the secondary drive of the node following in the cluster).
	<b>This option is only available on systems where replication has been enabled.</b>
<b>Wrap</b>	Check this box to keep the number of parts the same and wrap if the target cluster is smaller than the original.
<b>Overwrite</b>	Check this box to overwrite files of the same name.
<b>Compress</b>	Check this box to compress the files.
<b>No Split</b>	Check this box to prevent splitting file parts to multiple target parts.
<b>Retain Superfile Structure</b>	Check this box to retain the superfile structure.

- Press the **Submit** button.

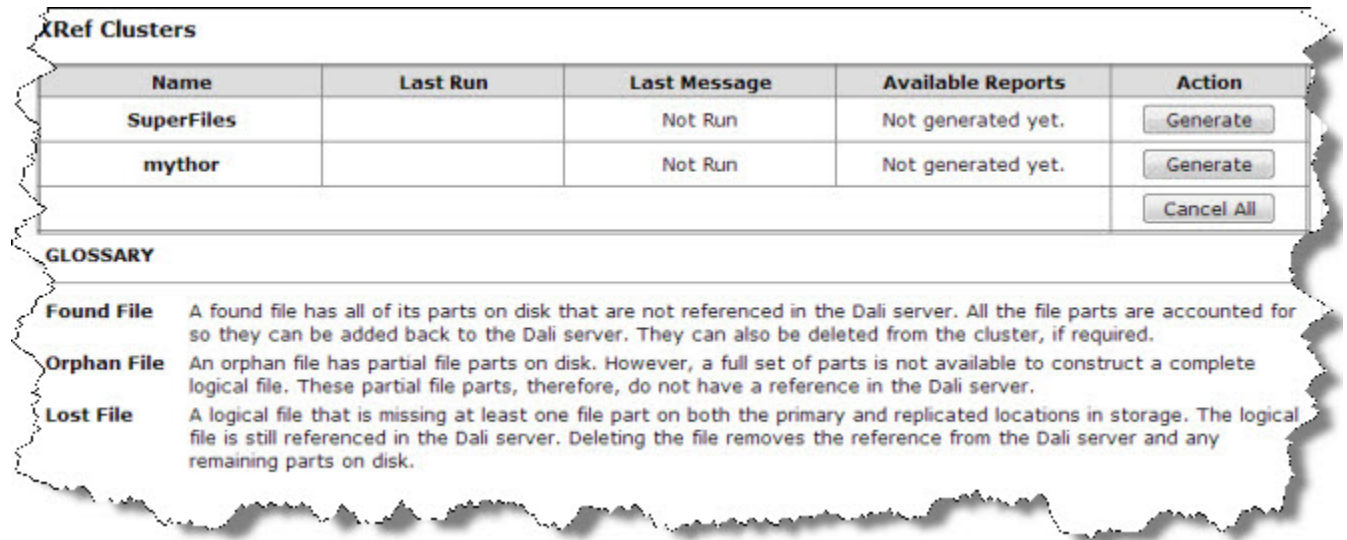
A **DFU Workunit** tab displays. You can see the progress of the copy operation on the tab. If a job fails, information related to the cause of the failure also displays.

- Press the **Refresh** button periodically until the status of your request indicates it is **Finished** or click on the **View Progress** hyperlink to see a progress indicator.

## XRef

Under the **Files** Icon on the navigation sub-menu there is a link for XRef. This link will take you to the XRef Clusters page. On the XRef clusters page you can run the XREF utility.

**Figure 57. XRef Clusters page**




The XREF utility provides the ability to find "orphaned" and "lost and found" files. These "orphan" are files which are found on the nodes but not registered in the Distributed File System.

**Found File** A found file has partial file parts on disk that are not referenced in the Dali server. All the file parts are accounted for so they can be added back to the Dali server. They can also be deleted from the cluster, if required.


**Orphan File** An orphan file has partial file parts on disk. However, a full set of parts is not available to construct a complete logical file. These partial file parts, therefore, do not have a reference in the Dali server.

**Lost File** A logical file that is missing at least one file part on both the primary and replicated locations in storage. The logical file is still referenced in the Dali server. Deleting the file removes the reference from the Dali server and any remaining parts on disk.

	<p>On a large system, we suggest limiting the number of users who can Generate XREF reports by setting DfuXrefAccess access to FULL for only those users.</p>
---	---

To generate a list:

- Press the **Generate** button.

	<p>Sasha Server typically runs Xref at the times scheduled when deployed.</p>
---	---

To view results:

- Click on one of the hyperlinks (Found Files, Orphan Files, Lost Files, Directories, or Errors/Warnings).

## Working with XREF results:

After XRef completes you will see a list of available reports. Click on one of the links to see the results page of each type.

Figure 58. XRef Errors

The screenshot shows the 'XRef Clusters' interface. It features a table with columns: Name, Last Run, Last Message, Available Reports, and Action. Two clusters are listed: 'SuperFiles' and 'mythor'. The 'Available Reports' column for the 'mythor' cluster contains a list of hyperlinks: 'Errors/Warnings', 'Found Files', 'Orphan Files', 'Lost Files', 'Directories', and 'Errors/Warnings'. A red circle highlights this list, and a mouse cursor points to the 'Errors/Warnings' link. Below the table is a 'GLOSSARY' section with definitions for 'Found File', 'Orphan File', and 'Lost File'.

Name	Last Run	Last Message	Available Reports	Action
SuperFiles	2013-06-04T15:41:16	Generated [2 superfiles, 2 subfiles]	<a href="#">Errors/Warnings</a>	<button>Generate</button>
mythor	2013-06-04T17:27:17	Generated [24 files]	<a href="#">Found Files</a> <a href="#">Orphan Files</a> <a href="#">Lost Files</a> <a href="#">Directories</a> <a href="#">Errors/Warnings</a>	<button>Generate</button>
				<button>Cancel All</button>

**GLOSSARY**

**Found File** A found file has all of its parts on disk that are not referenced in the Dali server. All the file parts are accounted for so they can be added back to the Dali server. They can also be deleted from the cluster, if required.

**Orphan File** An orphan file has partial file parts on disk. However, a full set of parts is not available to construct a complete logical file. These partial file parts, therefore, do not have a reference in the Dali server.

**Lost File** A logical file that is missing at least one file part on both the primary and replicated locations in storage. The logical file is still referenced in the Dali server. Deleting the file removes the reference from the Dali server and any

The Orphan and Lost Files pages list any Orphan or Lost files. Orphan and Lost files are difficult to recover, unless you have copies of missing parts needed to reconstruct the file (for example, if a missing part is on a hard drive that was replaced.)

Figure 59. XRef: Delete Lost Files

The screenshot shows the 'Lost files on mythor cluster' interface. It features a table with columns: Name, Modified, Total Parts, Size, Primary Lost, and Replicate Lost. Two files are listed: 'certification::full\_test\_distributed' and 'certification::full\_test\_distributed\_index'. Below the table is a 'Select All / None' checkbox and a 'Delete' button.

<input checked="" type="checkbox"/>	Name	Modified	Total Parts	Size	Primary Lost	Replicate Lost
<input checked="" type="checkbox"/>	certification::full_test_distributed	2013-05-30T12:58:48	1		1	1
<input checked="" type="checkbox"/>	certification::full_test_distributed_index	2013-05-23T16:32:04	2		1	2

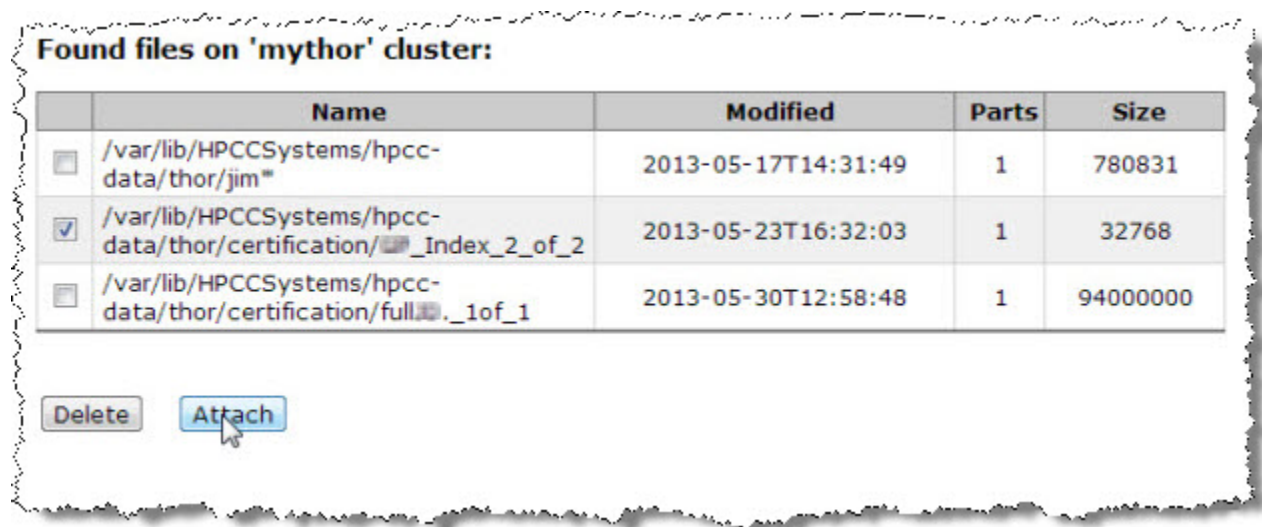
☒ Select All / None

Delete

Typically, these files are deleted. To Delete, check the boxes next to files you want to delete, then press the Delete button.

Found files can and usually are reattached.

**Figure 60. XRef: Attach Found Files**



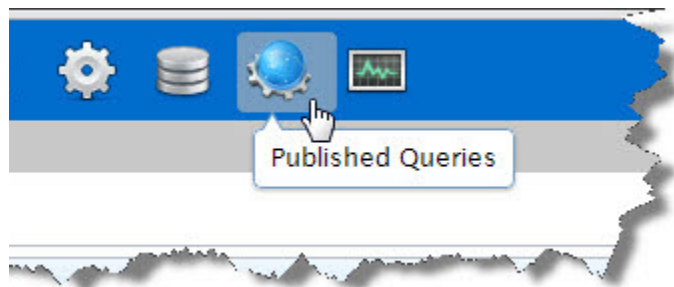
Check the boxes next to files you want to reattach, then press the Attach button.

# Queries

The link for the Published Queries (icon) header provides more information and details about queries on available targets.

Click on the Published Queries (icon) hyperlink to display the published queries and package maps on that cluster.

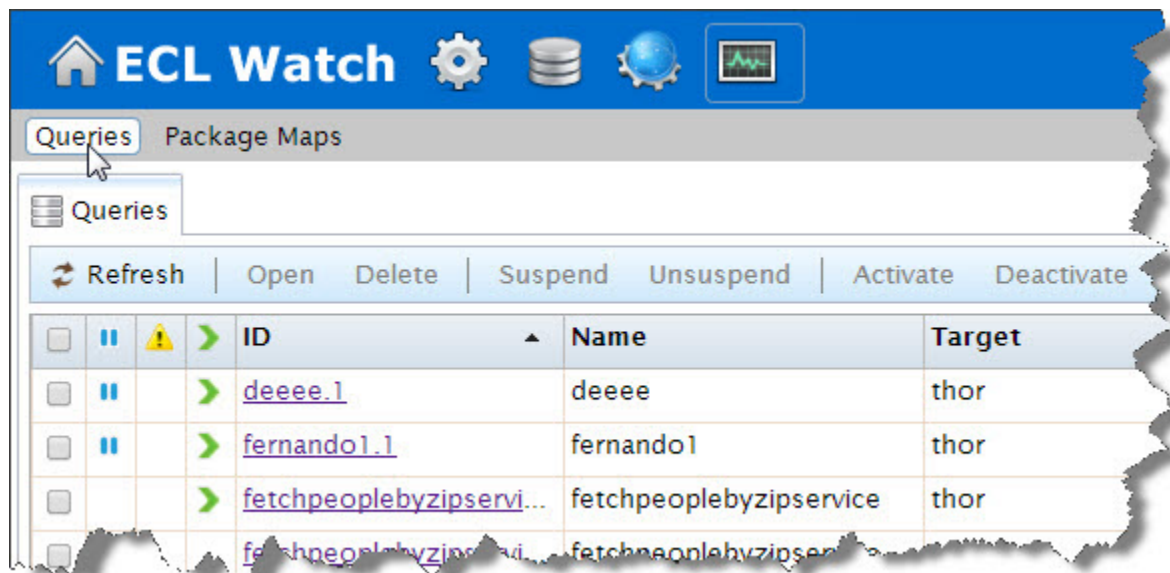
**Figure 61. Query Link**



## Queries Page in ECL Watch




The Queries page lists published queries for each target cluster. On this page you can see the published queries . You can also perform some actions on the selected queries.

**Figure 62. Browse Query Sets**



The Queries interface provides some information at a glance, there are three columns on the left side of each listed query. These three columns provide information about these queries.

## Using ECL Watch Queries

	Indicates a paused query
	Indicates an activated query
	Indicates a query suspended by the system

The queries page also provides other information at a glance:

- the query ID
- the query name
- the target
- the workunit id (WUID)
- the dll
- Published by

All the above available at a glance on the main queries page, with further actions that can be performed from the action buttons along the top of the tab. You can sort a column by clicking on the column heading. Click once for ascending, click again to toggle to descending. The direction of the arrow indicates the sort order.

To see the details page for a particular query, or to perform some action on it you must select it. You can select a query or queries by checking the check box. You can also open a particular query by double clicking on it.



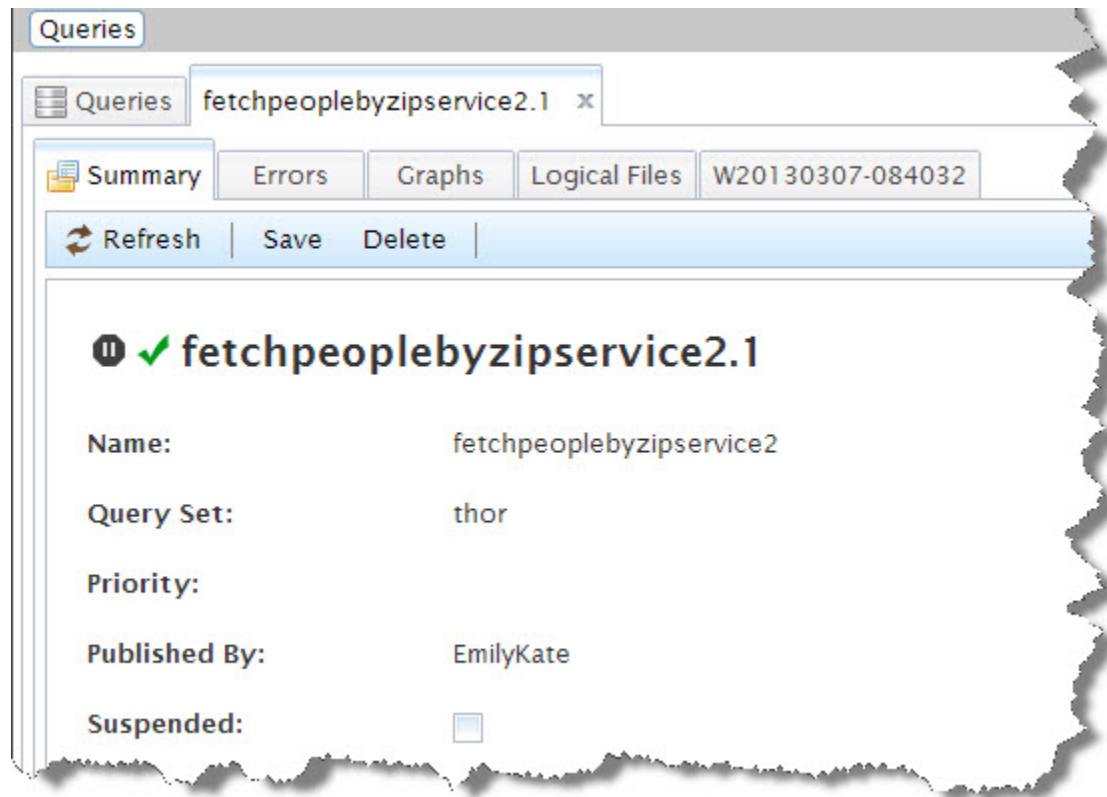
## Query Details

To examine the Query Details page, you select and open the query or queries. This opens a tab containing the query details. From the query details page you can get more information about the specific query. You can also perform some actions on that query. There are several tabs with additional information about the selected query.

### Query Summary Tab

The default query tab opened when you select a query is the Summary tab. The summary tab shows you some detail information about the query.

**Figure 63. Query detail page**



There are a few actions that you can perform on the query from this tab. Press the action buttons for the desired activity for the selected query.

**Refresh** Refreshes the information displayed for the selected query.

**Save** Saves the selected query (or queries).

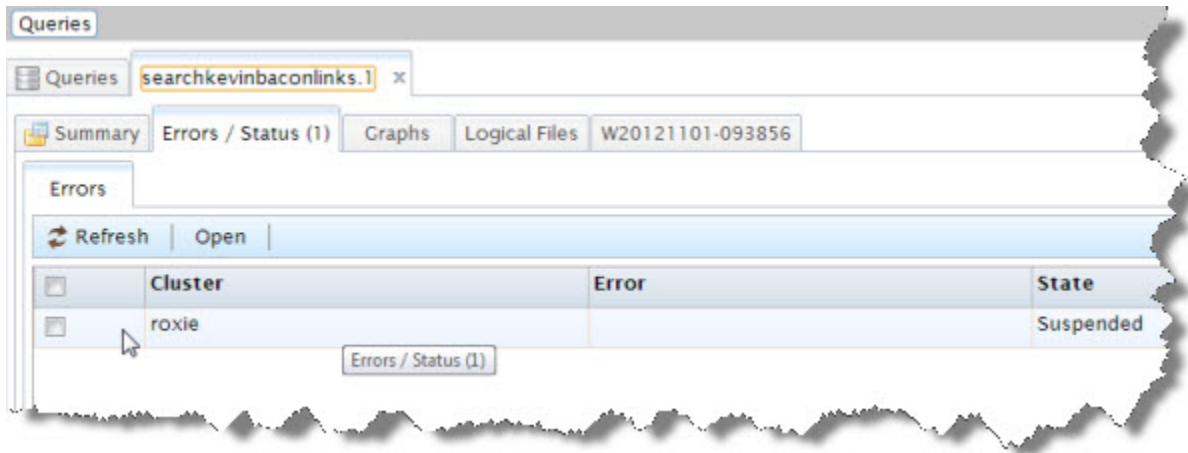
**Delete** Deletes the selected query (or queries).

### Errors Tab

For each selected query there is an Errors tab. The Errors tab displays any errors that may have been encountered during the compiling and publishing of that query. If there aren't any errors the errors tab will be blank. If there are

errors, you can further examine any specific error by checking the box and selecting it, and then press the open action button. You could also just double click on the selected error.

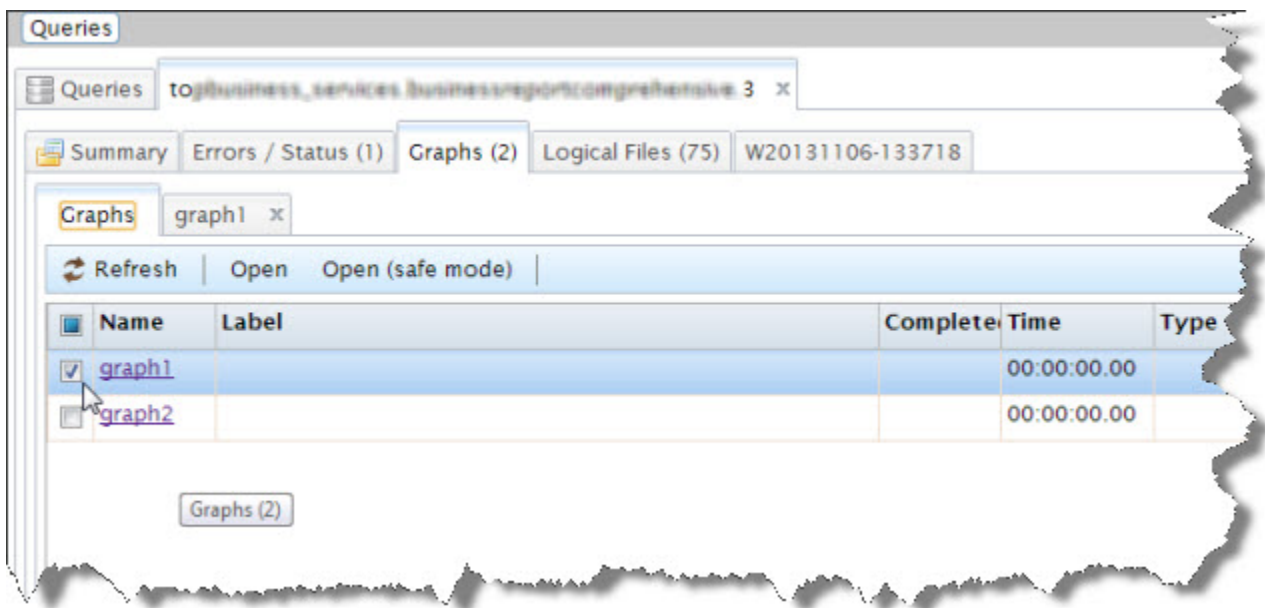
**Figure 64. Query Error**



## Graphs Tab

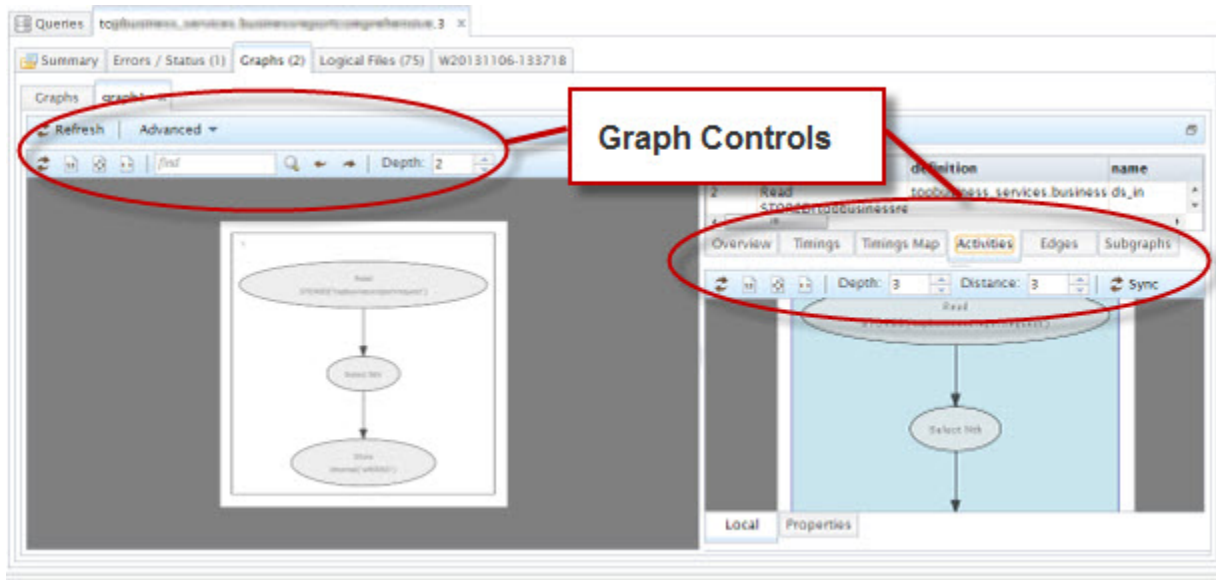
The graphs tab provides access to graphical interpretations of the query. This can be helpful in visualizing how the query ran. The graphs tab displays a list of any graphs generated by the selected query, along with some additional information like timing. To display a specific graph, you must select it, and choose to open it, or you can double click on listed graph.

**Figure 65. Graphs list**



Opening a graph will open a new tab showing the selected graph(s).

Figure 66. Graphs



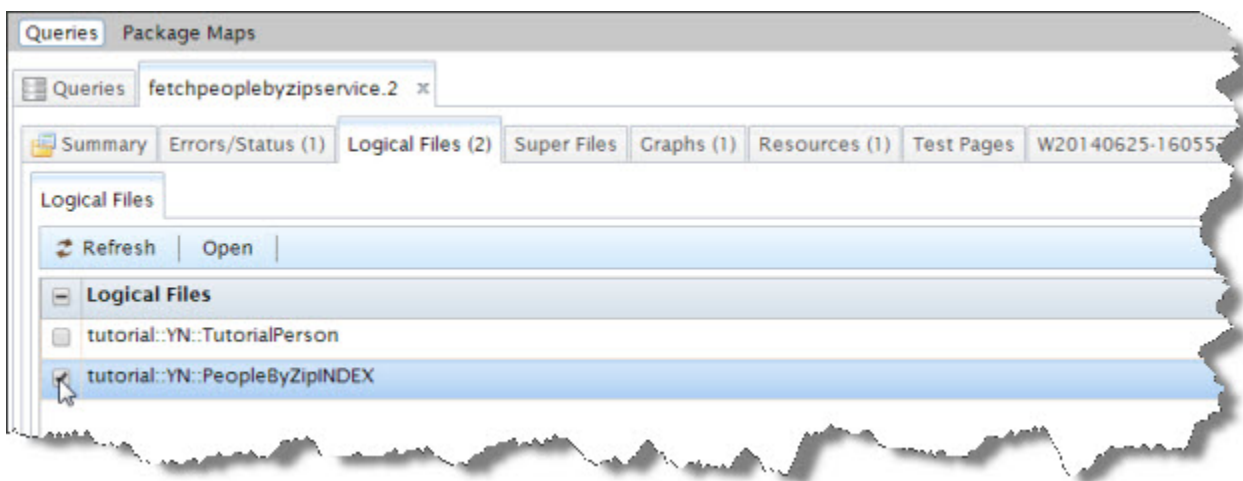
When you open a graph the visible area splits into three smaller sections each displaying some relevant component of the query graph. Notice the myriad of graph controls, and tabs in the border area of each tab. Manipulate these controls to view different aspects of the graphs.

The Advanced action button on the main graph control area, provides access to even more advanced graphing options.

## Logical Files Tab

The Published queries details page provides a link to the queries Logical Files tab. The Logical Files tab shows all logical files that are used by the query. To view the logical file details for any file listed, select one or more files by checking the checkbox and press the Open action button. Tabs for each file selected opens where you can view and make changes to the file(s) without the need to go back to the logical files page.

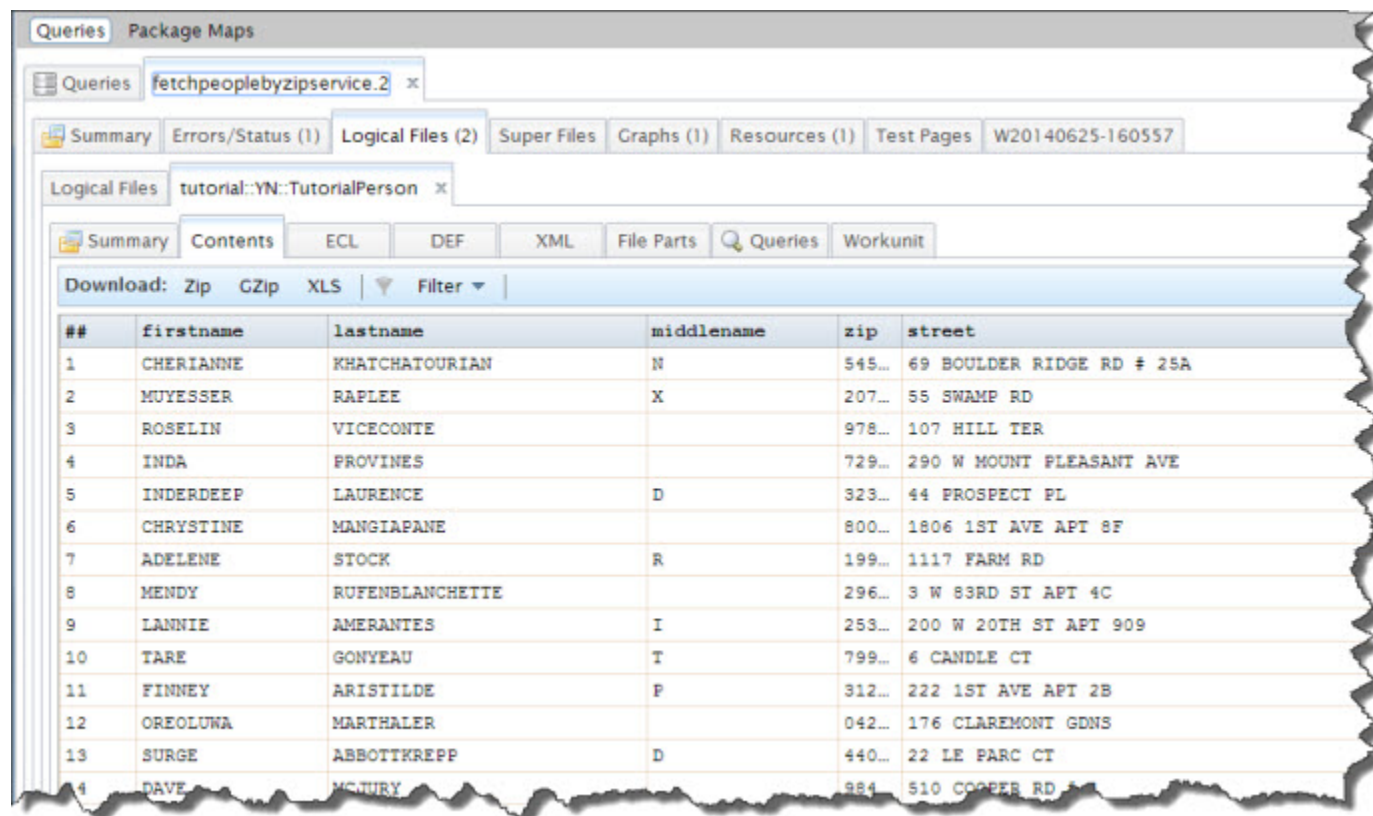
Figure 67. Queries:Logical Files Tab



The above image shows the list of Logical files on the Logical Files tab. To view more detail about a logical file listed here, check the box next to the file, and then press the **Open** action button. You can also just double click on the logical file you want to view.

Once open, you can select any of the tabs to see Summary, Contents, ECL, DEF, XML, File Parts, Queries, or the Workunit.

**Figure 68. Queries:Logical Files:Contents Tab**

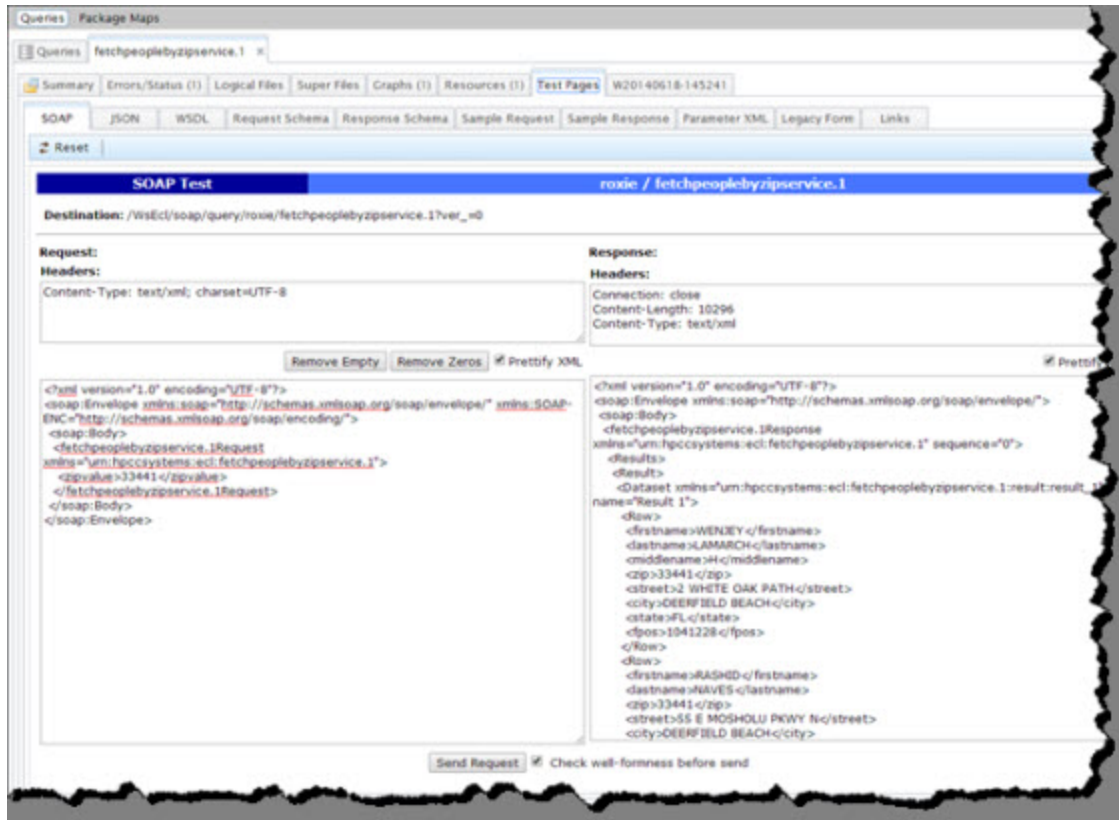


##	firstname	lastname	middlename	zip	street
1	CHERRIANNE	KHATCHATOURIAN	N	545...	69 BOULDER RIDGE RD # 25A
2	MUYESSER	RAPLEE	X	207...	55 SWAMP RD
3	ROSELIN	VICECONTE		978...	107 HILL TER
4	INDA	PROVINES		729...	290 W MOUNT PLEASANT AVE
5	INDERDEEP	LAURENCE	D	323...	44 PROSPECT PL
6	CHRISTINE	MANGIAPANE		800...	1806 1ST AVE APT 8F
7	ADELENE	STOCK	R	199...	1117 FARM RD
8	MENDY	RUFENBLANCHETTE		296...	3 W 83RD ST APT 4C
9	LANNIE	AMERANTES	I	253...	200 W 20TH ST APT 909
10	TARE	GONYEAU	T	799...	6 CANDLE CT
11	FINNEY	ARISTILDE	P	312...	222 1ST AVE APT 2B
12	OREOLUNA	MARTHALER		042...	176 CLAREMONT GDNS
13	SURGE	ABBOTTKREPP	D	440...	22 LE PARC CT
14	DAVE	MCJURY		984...	510 COOPER RD # 1

## Test Pages

The Test Pages tab provides a number of resources you can use to test your query including SOAP/JSON/WSDL and the legacy WS-ECL form, as well as other tabs showing useful information or sample details about the query.

Figure 69. Test Pages tab



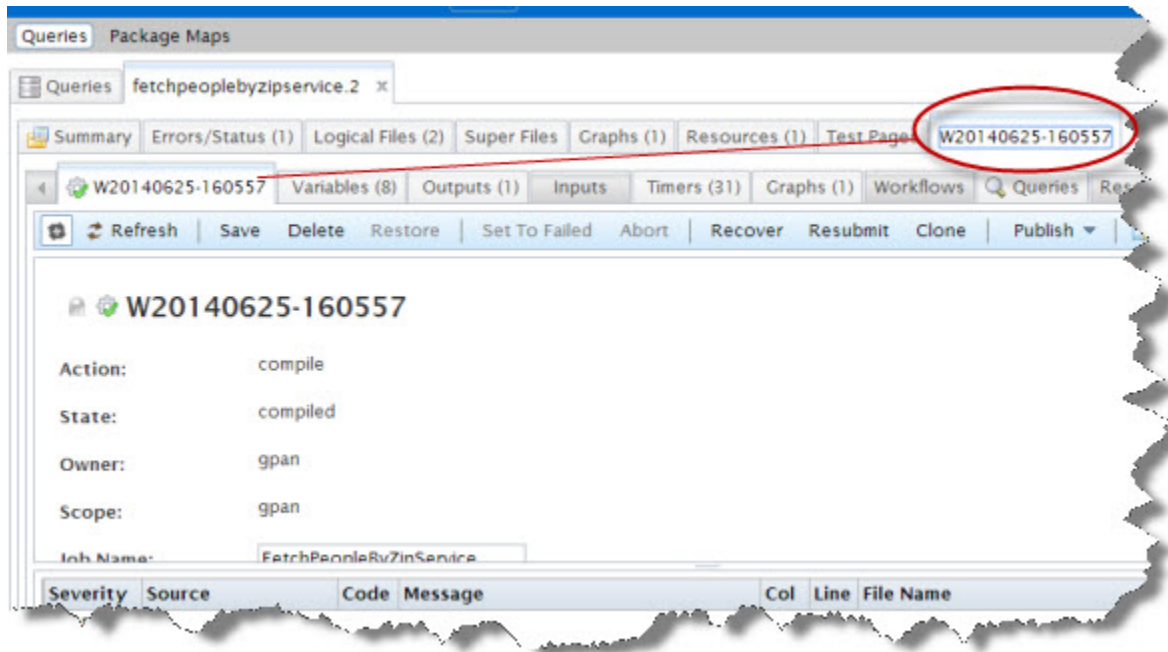
Information available from the Test pages tab.

- **SOAP** This tab provides an interactive interface to submit the query (with input data) and see the response in XML format.
- **JSON** This tab provides an interactive interface to submit the query (with input data) and see the response in JSON format.
- **WSDL** This tab provides a WSDL definition describing the functionality offered by the query (web service).
- **Request Schema** This tab provides a schema in XSD format describing a request for the query (web service).
- **Response Schema** This tab provides a schema in XSD format describing a response from the query (web service).
- **Sample Request** This tab provides a sample request for the query (web service) in XML Format.
- **Sample Response** This tab provides a sample response from the query (web service) in XML Format.
- **Parameter XML** This tab provides Parameterized XML representation of the query interface.
- **Legacy Form** This tab provides a form that can be used to submit a query and get a response. This is similar to the WsECL form.
- **Links** Provides a list of useful links such as: the Form, a sample REST URL, sample request, sample response, parameter XML, SOAP POST, WSDL, XSD, and the result schema.

## The Workunits link

The Published queries details page provides a link to the workunits, page. This tab is a shortcut that takes you to the same workunits tab you can get to through the ECL workunits menu.

**Figure 70. Queries Workunit**



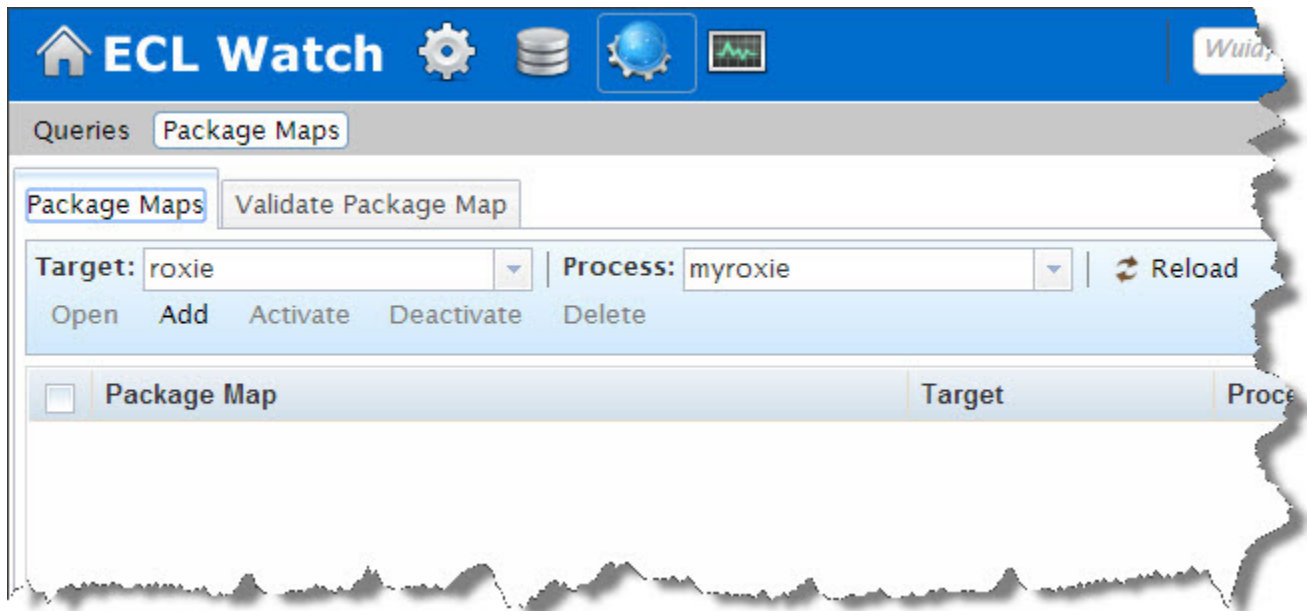
This is the same as the **ECL Workunits** page from the navigation sub-menu Workunits link. You can perform the same operations here. Notice that there are some other familiar tabs here as well, for example the Graphs tab, both from the Queries details page, and from the workunit tab nested here.

## Package Maps

From the Queries icon link, you can access the package maps page. Press the **Package Maps** button on the navigation sub-menu bar, to access to the Package Maps on your cluster.



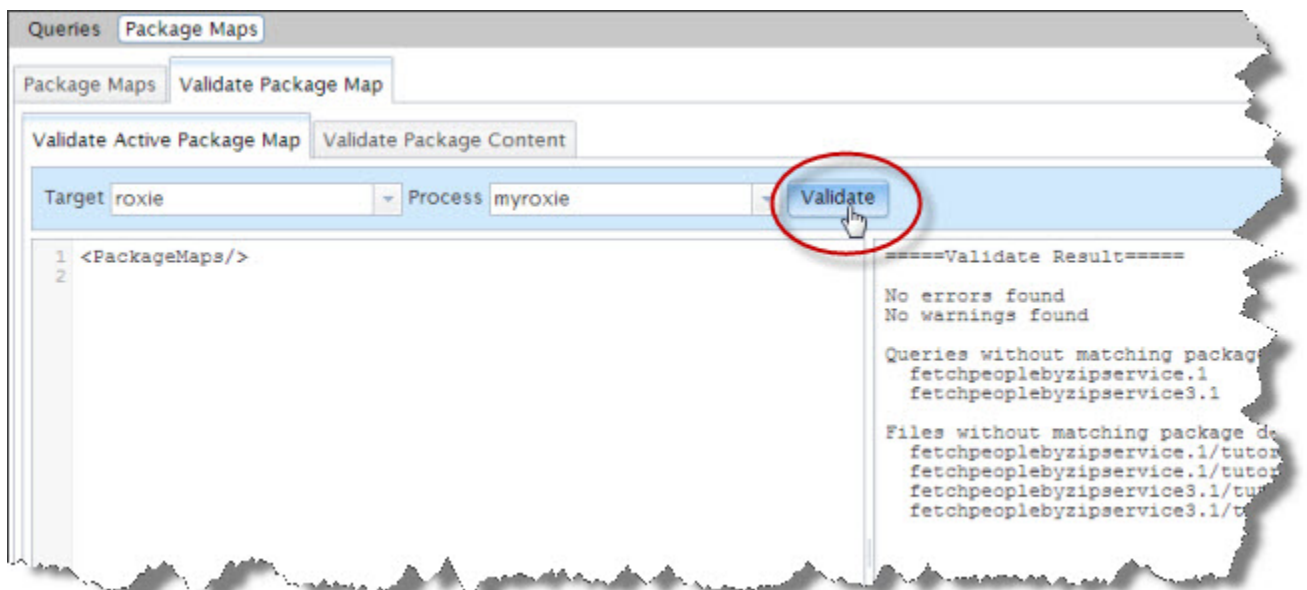
**Figure 71. Package Maps**



The package maps page, displays all the package maps loaded on your cluster. You can Add, Activate, Deactivate, Delete, or Open a package map. To examine a package map, select a package map from the list.

You can select the **Validate Package Map** tab to validate a package map.

**Figure 72. Validate Package Maps**



Choose the **Target** and **Process** from the drop lists on the Validate Package Map tab.

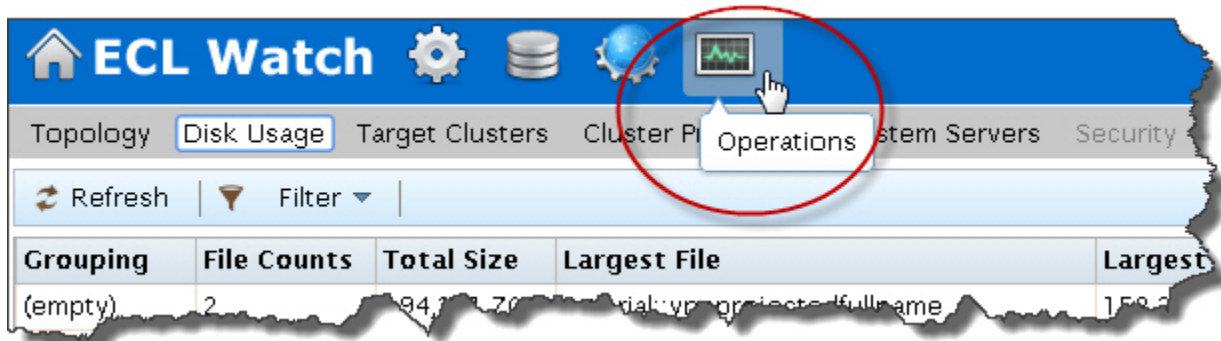
Press the **Validate** button to validate the package map. The result is shown on the **Validate Active Package Map** tab. You can also Validate the package content, on the **Validate Package Content** tab.



# Operations

The Operations link provides access to several components useful for the day-to-day operation of your system, and some system administration access as well.

**Figure 73. Operations Menu**



There are links to Target Clusters, Cluster Processes, and System Servers. These links open pages with more information about the specific topology for the selected clusters. These pages are helpful in certifying that your system is up and running properly.

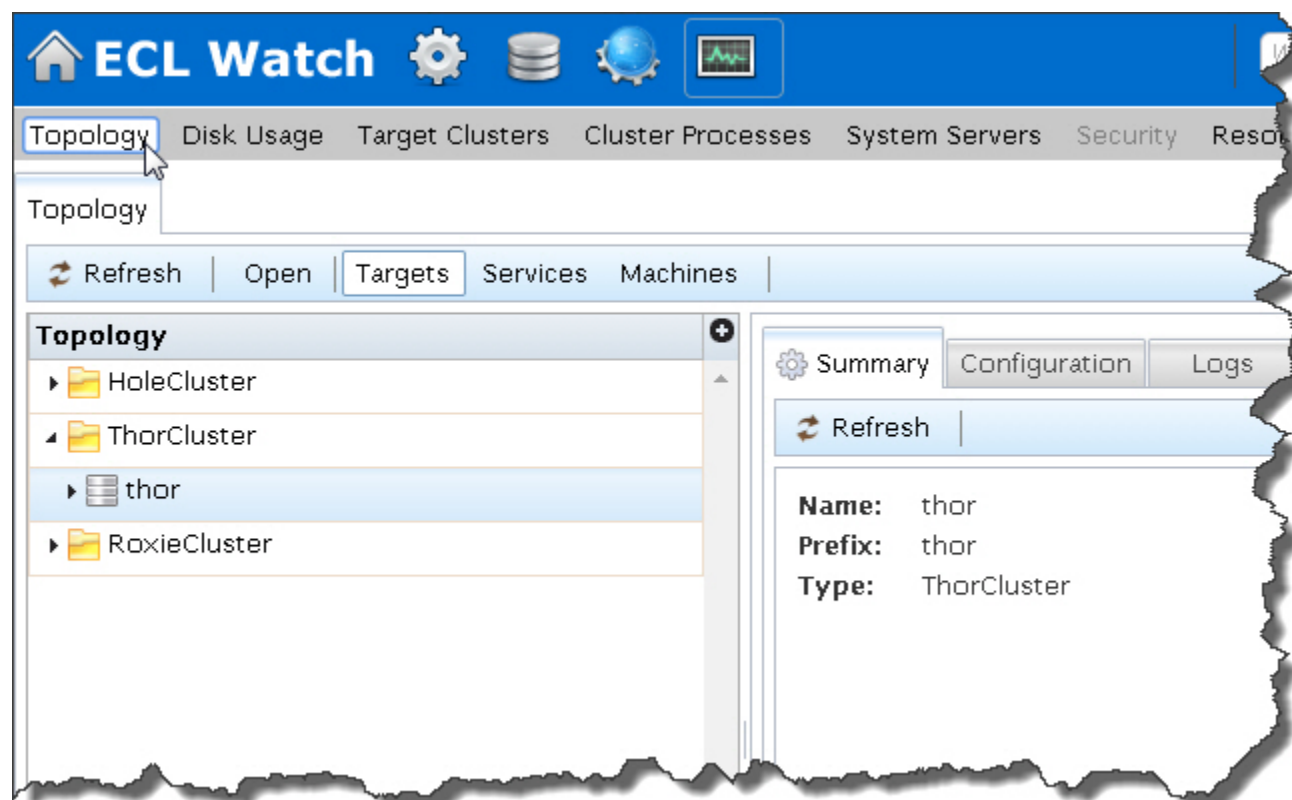
There are also some system administration type links such as, Users, Groups, Permissions, and Resources. These links allow you to perform some system administration tasks through ECL watch.

# Topology

The Topology page provides a visual tree display with information about your clusters, services, and nodes.

Click on the **Topology** link from the Operations navigation sub-menu to access the topology page.

**Figure 74. Topology Page**

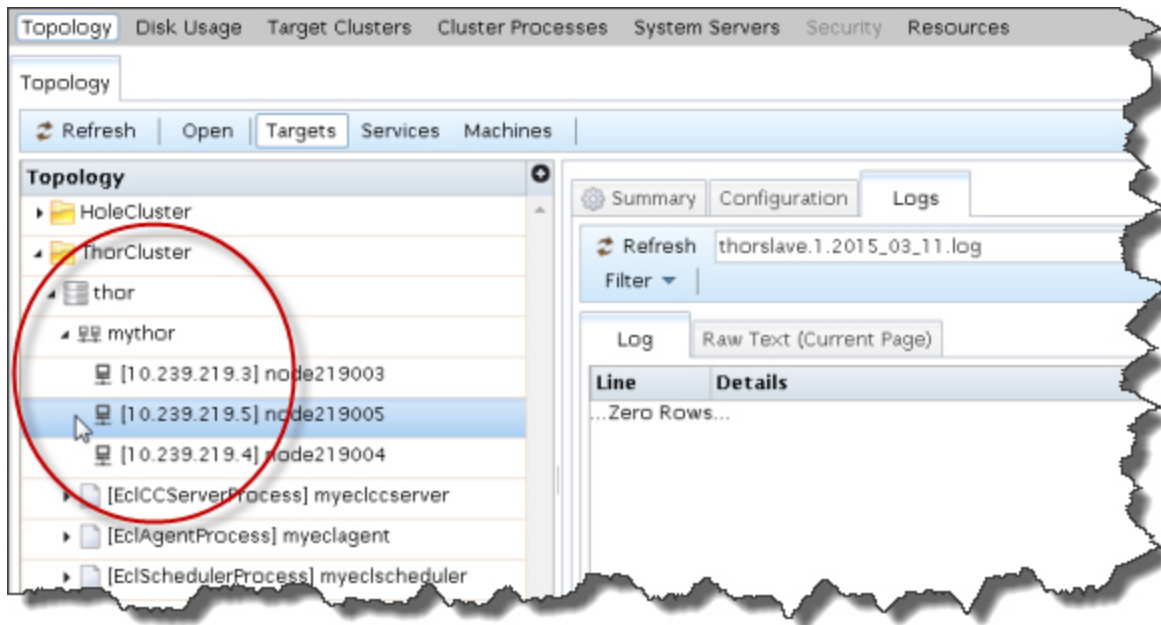


## Targets

The **Targets** Action button displays your clusters by type.

Click on the arrow to the left of the Cluster folder/object to expand. The expanded view displays.

**Figure 75. Expanded View**



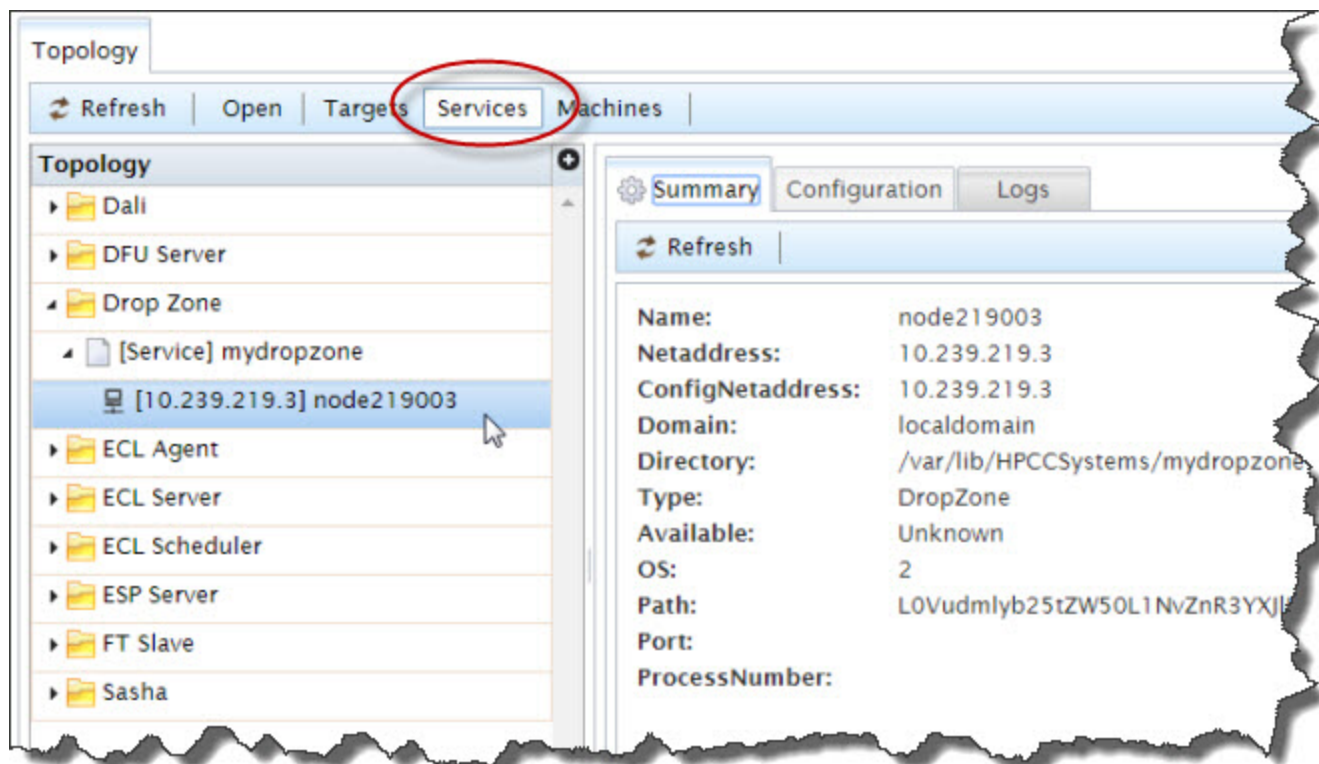
The expanded view displays the objects and nodes in the selected container. Select the node or object to display more information or to access the logs. The Summary, Configuration, and Log tabs on the left side of the page display the relevant information for the selected component.

## Services

Press the **Services** Action button to display information on the various services running on your cluster.

Click on the arrow to the left of the service you wish to expand. The expanded view displays.

**Figure 76. Expanded Services**

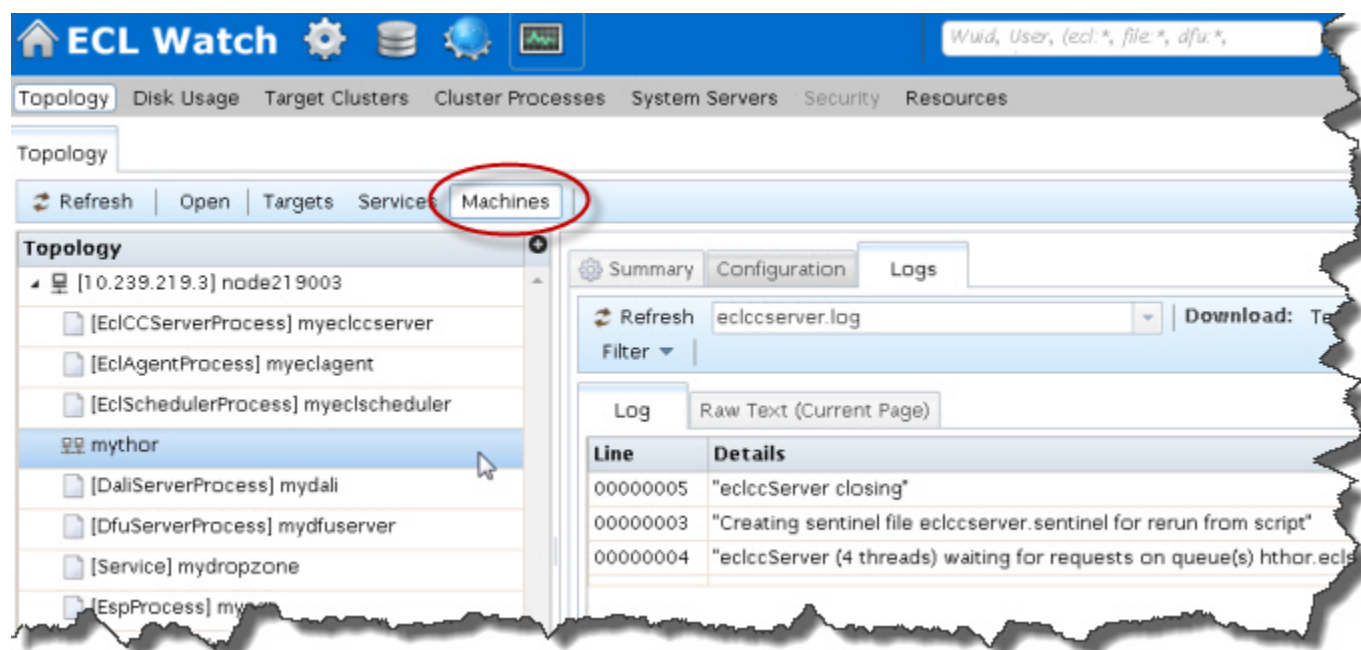


The services view provides a service oriented tree view that provides access to the services. Expand the tree, and select the component to view the Summary, Configuration, or Logs tabs for the selected component.

## Machines

Press the **Machines** Action button for more information on the various machines or nodes running in your cluster(s).

Figure 77. Machines View

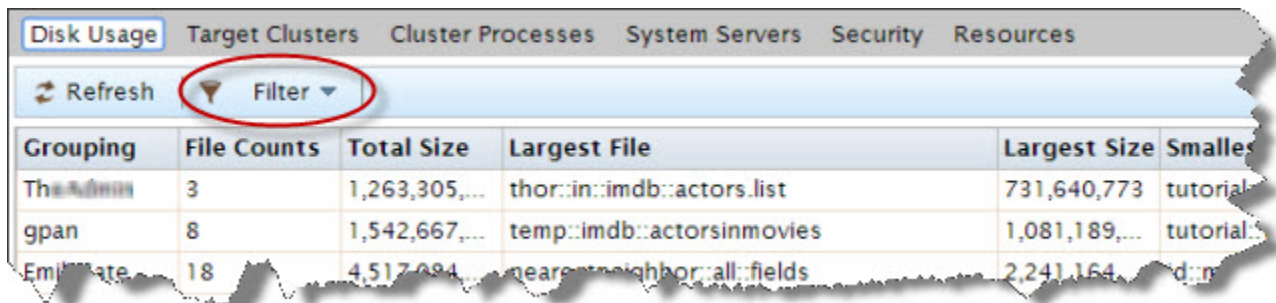


The **Machines** action button opens a node oriented view of the tree. Expand the nodes to see the services on each node. Select the component to view the Summary, Configuration, or Logs tabs for that selected component.

## Disk Usage

When you click on the Operations link, it opens the Disk Usage page by default. The Disk Usage page provides information about the available space on your system, and what is using that space.

**Figure 78. Disk Usage**



Disk Usage Target Clusters Cluster Processes System Servers Security Resources					
Refresh Filter					
Grouping	File Counts	Total Size	Largest File	Largest Size	Smallest
The Actor	3	1,263,305,...	thor::in::imdb::actors.list	731,640,773	tutorial
gpan	8	1,542,667,...	temp::imdb::actorsinmovies	1,081,189,...	tutorial
Emil	18	4,517,094,...	nearestneighbor::all::fields	2,241,164,...	d::n

You can search or filter the results, using the **Filter** action button.

# Operations: Target Clusters

The Target Clusters link from the navigation sub-menu bar, on the Operations page, opens the link to the Target Clusters page. This page provides machine information on the clusters you have set up on your machine.

**Figure 79. Target Clusters**

The screenshot shows the ECL Watch interface with the 'Target Clusters' tab selected. The 'Machine Information' section displays a table of machine details for two clusters: 'hthor' and 'thor'. Each cluster's data is presented in a table with columns for Location, Component, Condition, State, Up Time, Processes Down, /, /mnt/disk1, Physical Memory, Swap, CPU Load, and Compute Up Time.

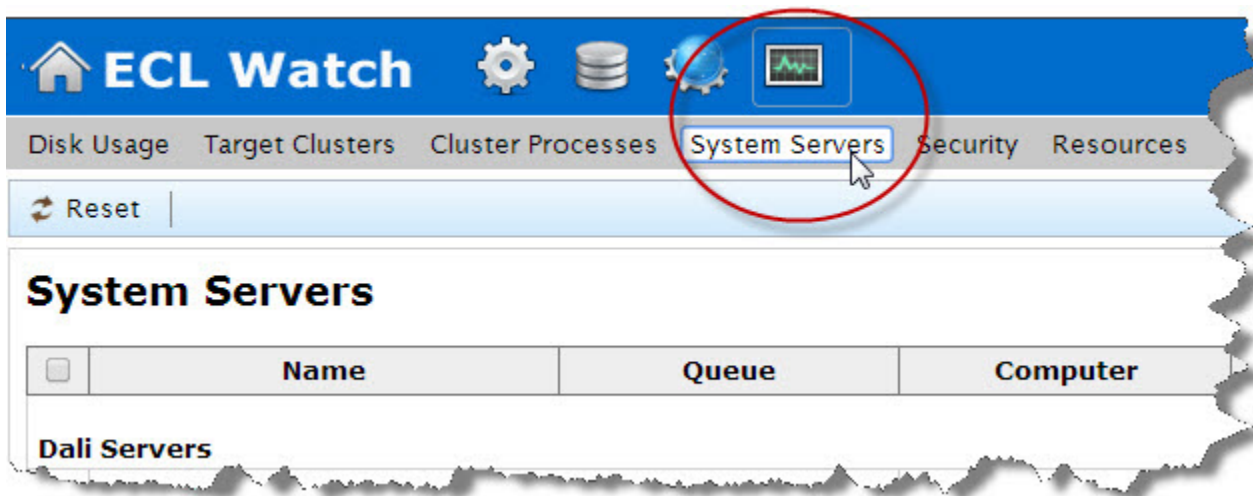
Location	Component	Condition	State	Up Time	Processes Down	/	/mnt/disk1	Physical Memory	Swap	CPU Load	Compute Up Time
10.239.219.3 /var/lib/HPCCSystems/myeckccserver	Ecl CC Server [myeckccserver]	Normal	Ready	3 day(s) 23:48:29	-	51%	99%	98%	100%	0 %	7 days, 22:13
10.239.219.3 /var/lib/HPCCSystems/myeclagent	Ecl Agent [myeclagent]	Normal	Ready	-	-	51%	99%	98%	100%	0 %	7 days, 22:13
10.239.219.3 /var/lib/HPCCSystems/myeclagent	Agent Exec [myeclagent]	Normal	Ready	3 day(s) 23:48:30	-	51%	99%	98%	100%	0 %	7 days, 22:13
10.239.219.3 /var/lib/HPCCSystems/myeclscheduler	Ecl Scheduler [myeclscheduler]	Normal	Ready	3 day(s) 23:48:28	-	51%	99%	98%	100%	0 %	7 days, 22:13
10.239.219.5 /var/lib/HPCCSystems/mythor	Thor Slave [mythor, 1]	Normal	Ready	07:36:23	-	51%	99%	98%	100%	0 %	4 days, 3:51
10.239.219.4 /var/lib/HPCCSystems/mythor	Thor Slave [mythor, 2]	Normal	Ready	07:36:23	-	51%	99%	98%	100%	0 %	4 days, 3:51
10.239.219.3 /var/lib/HPCCSystems/mythor	Thor Master	Normal	Ready	07:36:23	-	51%	99%	98%	100%	0 %	7 days, 22:13
10.239.219.3 /var/lib/HPCCSystems/myeckccserver	Ecl CC Server [myeckccserver]	Normal	Ready	3 day(s) 23:48:29	-	51%	99%	98%	100%	0 %	7 days, 22:13



# Preflight System Servers

1. Click on the **Operations** icon then click on the **System Servers** link.

**Figure 80. System Servers link**



A screen similar to the following displays.

**Figure 81. System Servers page**

System Servers				
<input type="checkbox"/>	Name	Queue	Computer	Network
Dali Servers				
<input checked="" type="checkbox"/>	mydali		localhost	192.168.1.1
DFU Servers				
<input checked="" type="checkbox"/>	mydfuserver	dfuserver_queue	localhost	192.168.1.1
Drop Zones				
<input type="checkbox"/>	mydropzone		localhost	192.168.1.1
ECL Agents				
<input checked="" type="checkbox"/>	myeclagent		localhost	192.168.1.1

2. Press the **Submit** button at the bottom of this page to start preflight.

**Figure 82. Submit**

☒ Get storage information  
☒ Local File Systems Only  
☒ Get software information  
☒ Show processes using filter  
 Additional processes to filter:  
☐ Auto Refresh every  mins

## EXPECTED RESULTS:

After pressing Submit, a screen similar to the following displays.

**Figure 83. System Component Information**

### Machine Information

<input checked="" type="checkbox"/>	Location	Component	Condition	State	Up Time	Processes Down	
<input checked="" type="checkbox"/>	10.239.219.3 /var/lib/HPCCSystems/myesp	Esp [myesp]	Normal	Ready	09:38	-	60%
<input checked="" type="checkbox"/>	10.239.219.3 /var/lib/HPCCSystems/myeclscheduler	Ecl Scheduler [myeclscheduler]	Normal	Ready	11:32	-	60%
<input checked="" type="checkbox"/>	10.239.219.3 /var/lib/HPCCSystems/myeclagent	Agent Exec [myeclagent]	Normal	Ready	11:35	-	60%
<input checked="" type="checkbox"/>	10.239.219.3 /var/lib/HPCCSystems/myeclccserver	Ecl CC Server [myeclccserver]	Normal	Ready	11:33	-	60%
<input checked="" type="checkbox"/>	10.239.219.4 /var/lib/HPCCSystems/mysasha	Sasha Server [mysasha]	Normal	Ready	11:51	-	60%
<input checked="" type="checkbox"/>	10.239.219.4 /var/lib/HPCCSystems/mydali	Dali Server [mydali]	Normal	Ready	11:54	-	60%
<input checked="" type="checkbox"/>	10.239.219.5 /var/lib/HPCCSystems/mydfuserver	Dfu Server [mydfuserver]	Normal	Ready	11:29	-	60%

☒ Select All / None  
 Fetched: 11/11/11 14:13:09  
 Action:   
☒ Get processor information Warn if CPU usage is over  %  
☐ Get storage information Available memory

This screen displays information on several system components. This information indicates whether several components are actually up and running appropriately. The resulting page shows useful information about each component. The component name, the condition, the component state, how long the component has been up and running, the amount of disk usage, memory usage and other information is available at a glance.

If there are any failed components, they are highlighted in orange, indicating they are not ready.

**Figure 84. Failed Component**

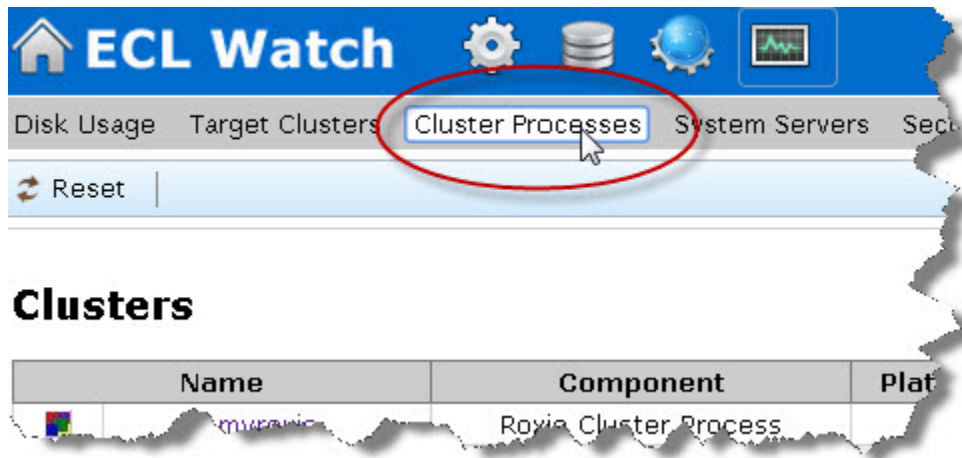
Machine Information

<input checked="" type="checkbox"/>	Location	Component	Condition	State	Up Time	Processes Down	/	/mnt/disk1	Physical Memory
<input checked="" type="checkbox"/>	10.239.219.2 /var/lib/HPCCSystems/mydali	Dali Server [mydali]	Normal	Ready	76 day(s) 00:50:02	-	43%	97%	96%
<input checked="" type="checkbox"/>	10.239.219.2 /var/lib/HPCCSystems/mydfusever	Dfu Server [mydfusever]	Warning	Unknown		mydfusever	43%	97%	96%
<input checked="" type="checkbox"/>	10.239.219.2 /var/lib/HPCCSystems/myeclagent	Ecl Agent [myeclagent]	Normal	Ready	-	-	43%	97%	96%
<input checked="" type="checkbox"/>	10.239.219.2 /var/lib/HPCCSystems/myeclagent	Agent Exec [myeclagent]	Normal	Ready	76 day(s) 00:50:00	-	43%	97%	96%
<input checked="" type="checkbox"/>	10.239.219.2 /var/lib/HPCCSystems/myeclccserver	Ecl CC Server [myeclccserver]	Normal	Ready	76 day(s) 00:49:59	-	43%	97%	96%
<input checked="" type="checkbox"/>	10.239.219.2 /var/lib/HPCCSystems/myeclscheduler	Ecl Scheduler [myeclscheduler]	Normal	Ready	76 day(s) 00:49:57	-	43%	97%	96%
<input checked="" type="checkbox"/>	10.239.219.2 /var/lib/HPCCSystems/myesp	Esp [myesp]	Normal	Ready	76 day(s) 00:48:10	-	43%	97%	96%
<input checked="" type="checkbox"/>	10.239.219.2 /var/lib/HPCCSystems/mysasha	Sasha Server [mysasha]	Normal	Ready	76 day(s) 00:49:54	-	43%	97%	96%

# Preflight Thor

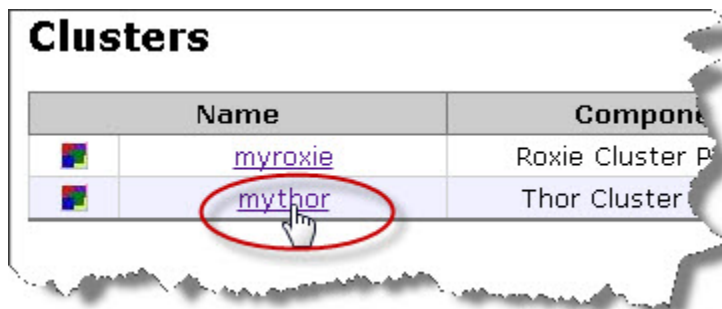
1. Click on the **Operations** icon then click on the **Cluster Processes** link.

**Figure 85. Cluster Processes Link**



2. Click on the **mythor** link.

**Figure 86. mythor link**



3. Check the **Select All** checkbox (if necessary).
4. Press the **Submit** button to start preflight.

**Figure 87. Submit**

☒ Get storage information

☒ Local File Systems Only

☒ Get software information

☒ Show processes using filter

Additional processes to filter:

☒ Auto Refresh every  mins

**Submit**

## EXPECTED RESULTS:

After pressing Submit, a screen similar to the following should display.

**Figure 88. ESP mythor system component information**

Thor Cluster 'mythor'

<input checked="" type="checkbox"/>	Location	Component	Slave Number	Condition	State	Up Time	Processes Down	/	/mnt/disk
<input checked="" type="checkbox"/>	10.239.219.4 /var/lib/HPCCSystems/mythor	Thor Slave [mythor]	2	Normal	Ready	03:17:11	-	51%	99%
<input checked="" type="checkbox"/>	10.239.219.5 /var/lib/HPCCSystems/mythor	Thor Slave [mythor]	1	Normal	Ready	03:17:11	-	51%	99%
<input checked="" type="checkbox"/>	10.239.219.3 /var/lib/HPCCSystems/mythor	Thor Master		Normal	Ready	03:17:11	-	51%	99%

☒ Select All / None

Fetched: 06/13/14 11:56:33

Action: Machine Information ▼

This screen displays information on Thor components. This information indicates whether the components are actually up and running appropriately. The resulting page shows useful information about each component. The component name, the condition, the component state, how long the component has been up and running, the amount of disk usage, memory usage and other information is available at a glance.

If your system has more than 1 Thor cluster, repeat these steps for each cluster.

If there are any failed components, they are highlighted in orange, indicating they are not ready.

**Figure 89. Failed Component**

**Thor Cluster 'mythor'**

	Location	Component	Slave Number	Condition	State	Up Time	Processes Down	/	/mnt/disk1	Physic Memory
<input checked="" type="checkbox"/>	10.239.219.6 /var/lib/HPCCSystems/mythor	Thor Slave [mythor]	3	Warning	Unknown		mythor...	16%	95%	90%
<input checked="" type="checkbox"/>	10.239.219.5 /var/lib/HPCCSystems/mythor	Thor Slave [mythor]	2	Normal	Ready	04:32	-	52%	99%	97%
<input checked="" type="checkbox"/>	10.239.219.4 /var/lib/HPCCSystems/mythor	Thor Slave [mythor]	1	Normal	Ready	04:32	-	52%	99%	96%
<input checked="" type="checkbox"/>	10.239.219.3 /var/lib/HPCCSystems/mythor	Thor Master		Normal	Ready	04:32	-	51%	99%	97%

☒ Select All / None

Fetches: 11/08/12 11:28:41

Action: Machine Information ▾

☒ Get processor information Warn if CPU usage is over  %

☒ Get storage information Warn if available memory is under  % ▾

☒ Local File Systems Only

☒ Get software information Warn if available disk space is under  % ▾

☒ Show processes using filter

Additional processes to filter:

☐ Auto Refresh every  mins.



# Users Permissions

## User Administration

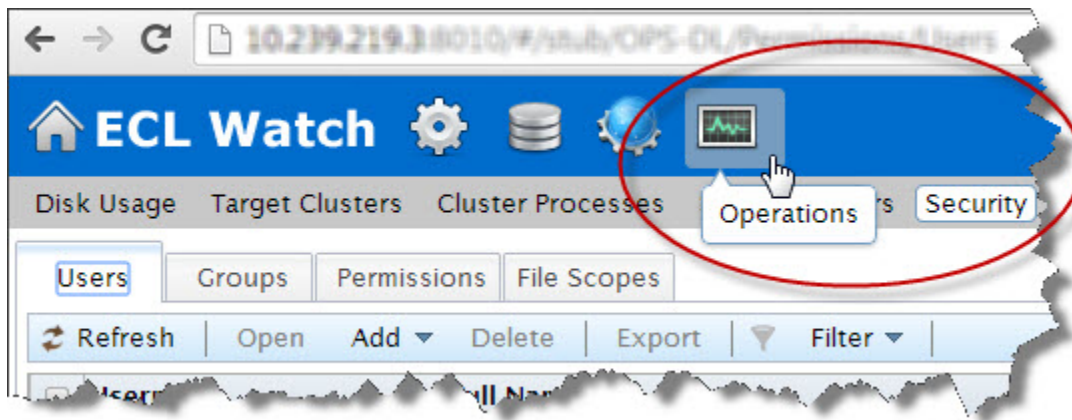
There are User Administration features available through ECL Watch.

## Security Administration using ECL Watch

Administrator rights are needed to manage permissions. Once you have administrator access rights, open ECL Watch in your browser using the following URL:

- <http://nnn.nnn.nnn.nnn:pppp>(where nnn.nnn.nnn.nnn is your ESP Server's IP Address and pppp is the port. The default port is 8010). For example: <http://10.150.51.27:8010/>.

Security administration is controlled using the **Security** area of ECL Watch. To access the Security are click on the **Operations** icon, then click the **Security** link from the navigation sub-menu.



There are three areas where permissions may be set:

- **Users.** Shows all the users currently setup. Use this area to add or delete a user, edit a user's details, set/reset a user's password and view the permissions currently assigned to a user.
- **Groups.** Shows all the groups currently setup. Use this area to add or delete a group, view and edit the members of a group, view and edit the permissions that have been set for a group.
- **Permissions.** Shows the features of the HPCC System where permissions may be set. Use this area to view the permissions currently set for any area of the HPCC System, or to add groups and users and set/modify their permission for a specific feature

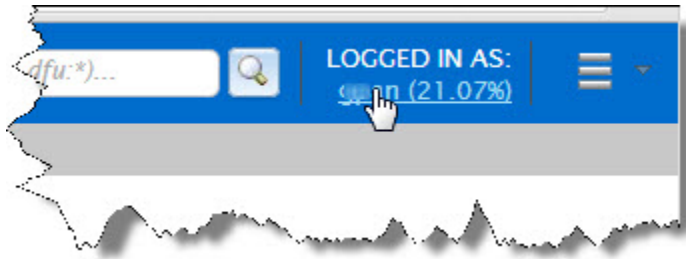


**NOTE:** Use caution when setting any explicit **deny** permission setting. The most restrictive permission always applies.



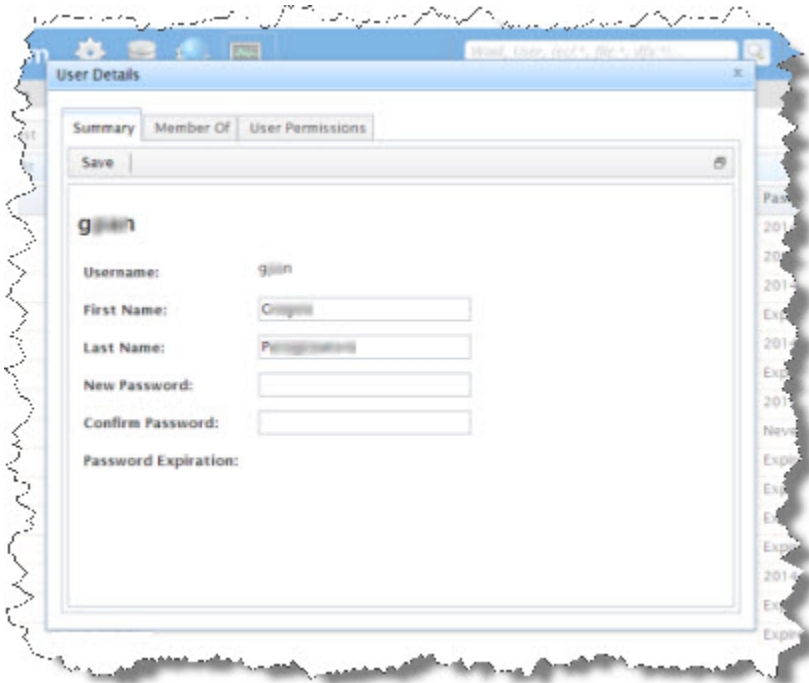
## Information about your account

To find out more information about your account, in ECL Watch click on the **Logged In As:** link at the top of the ECL Watch page.



1. Click on the **Logged In As:** link.

A User Details tab with your account information displays.



2. Confirm the User Name that you are logged in as.

Note that Administrator rights are needed to manage users and permissions.

Ensure you are using an account with Administrator rights if you intend to manage users or permissions.

3. Verify the password expiration date, or if password is set to expire.

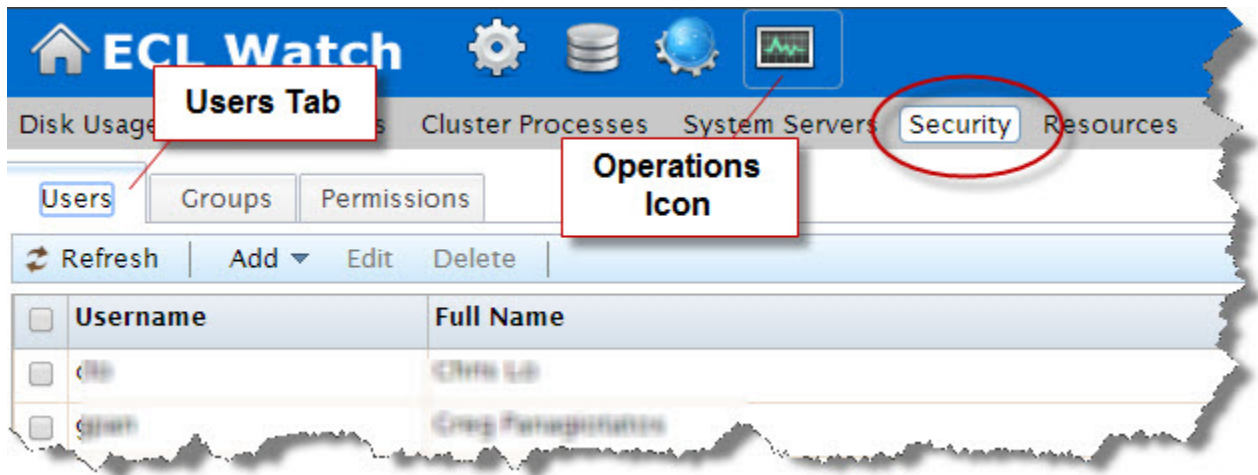
## Setting and modifying user permissions

Access to ECL Watch and its features is controlled using a login and password. The **Users** area enables you to control who has access to ECL Watch and the features of your HPCC System to which they have access. Permissions can be set for users based on their individual needs and users can also be added to groups which have already been set up. Use the **Users** menu item to:

- Add a new user (**note**: the username cannot be changed)
- Delete a user
- Add a user to a group
- Change a user's password
- Modify the details/permissions of an individual user

## Adding and editing users

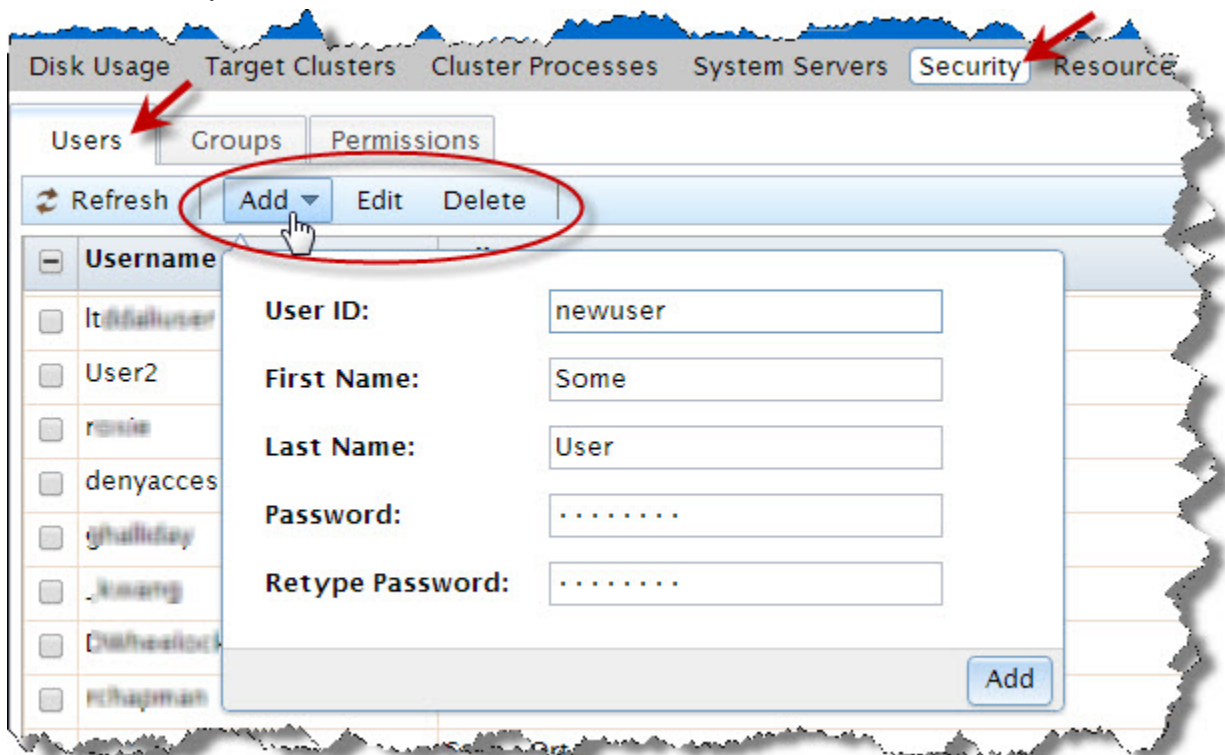
To access the permissions page click on the **Operations** icon, then click the **Security** link from the navigation sub-menu. Click on the **Users** tab to add or edit users.



All current users are identified in the list by their Username and Full Name.

### To add a new user to the list of authenticated users:

To add a new user you must have Administrator level access.



1. Press the **Add** button.

The add user dialog displays.

2. Enter a **Username**.

This is the login name for using ECL Watch, ECL IDE, WsECL, etc.

3. Enter the **First Name** and **Last Name** of the user.

This information helps to easily identify the user and is displayed in the **Full Name** field on the main **Users** window.

4. Enter a **Password** for the user and then confirm it in the **Retype Password** field.

5. Press the **Add** button.

Confirmation of the user request opens a new tab where you can verify the user's information.

6. Press the **Save** button.

Once added, the new user displays in the list and you can modify details and set permissions as required.

### To modify a user's details:

Click on the **Operations** icon, then click the **Security** link from the navigation sub-menu.

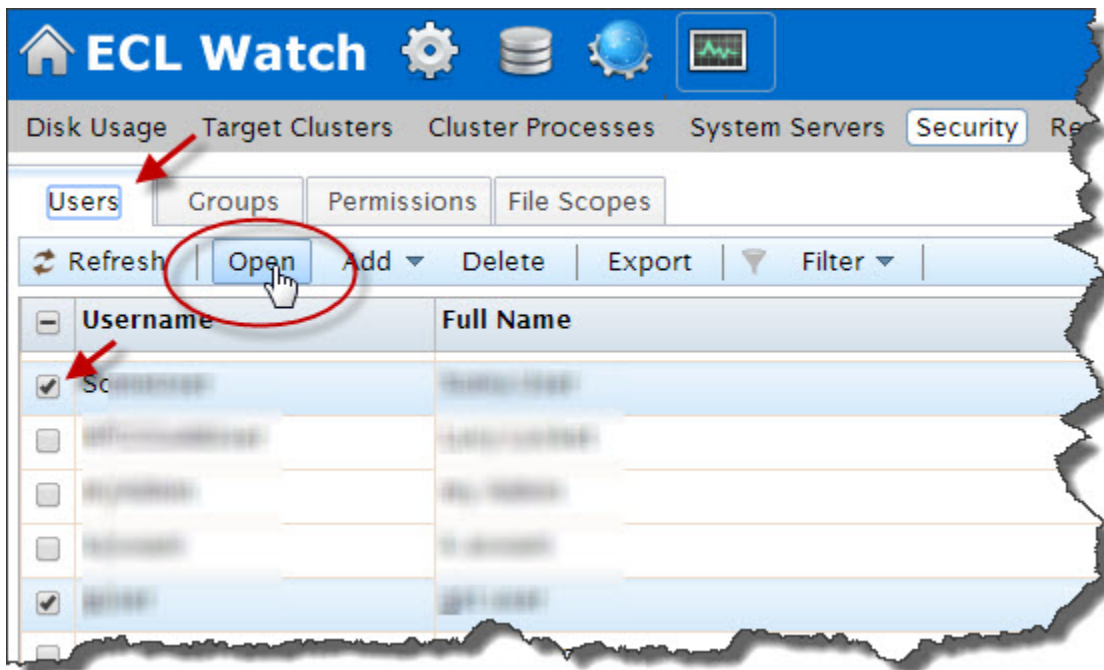
1. Click on the **Users** tab.

The users display in a list.

2. Select the user (or users) to modify. Check the box next to the Username to select.

This enables the Users action buttons.

3. Press the **Open** action button.



A tab opens for each user selected. On that tab there are three sub-tabs.

The user details are on the **Summary** tab.

4. Modify the user's details as required (if more than one user selected, repeat for each user).

**Note:** The **Username** cannot be changed.

5. Press the **Save** button.

Confirmation message displays.

### To add a user to a group:

Click on the **Operations** icon, then click the **Security** link from the navigation sub-menu.

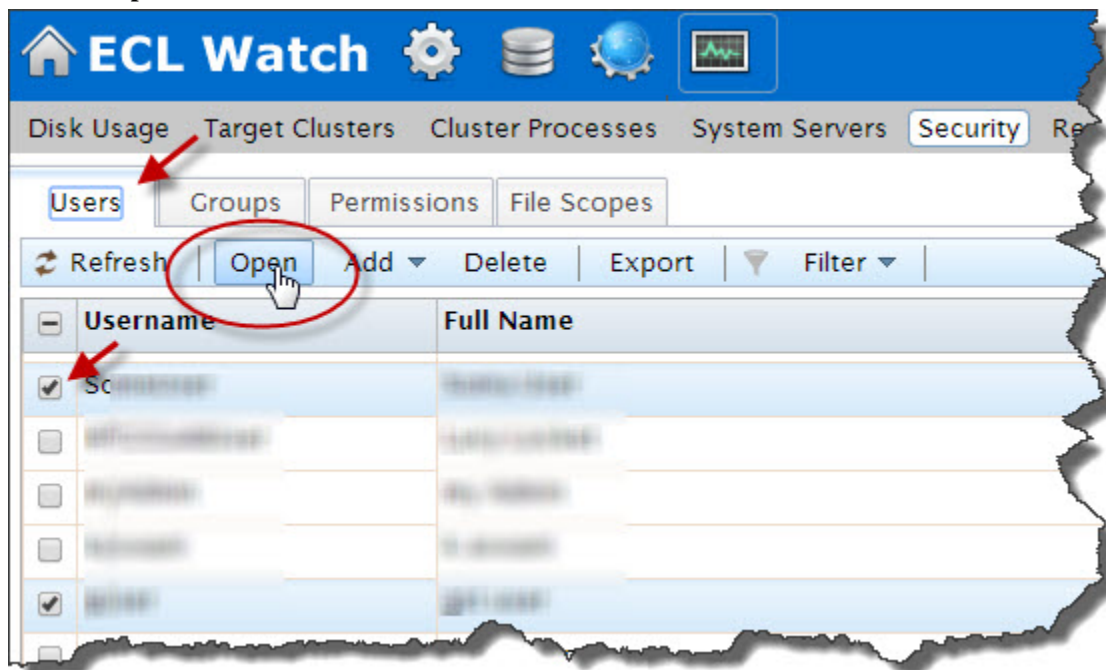
1. Click on the **Users** tab.

The users display in a list.

2. Select the user (or users) to modify. Check the box next to the Username.

This enables the user action buttons.

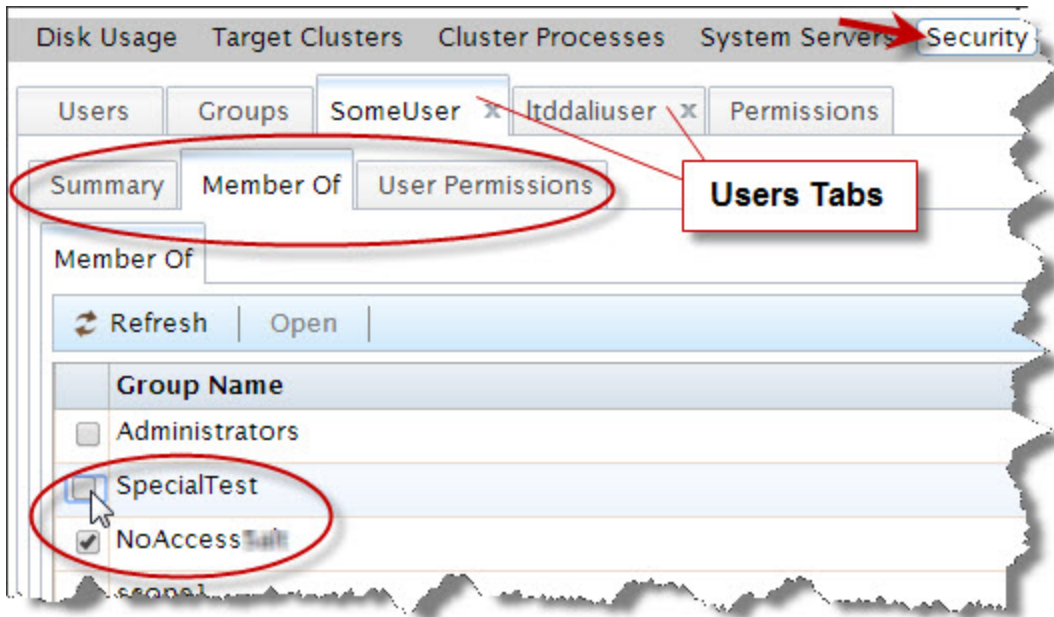
3. Press the **Open** action button.



A new tab opens for each user selected. On that tab there are three sub-tabs.

4. Click on the tab for the user to modify (if more than one user selected, repeat for each user).

On the user's tab there are three sub-tabs.



Click on the **Member Of** sub-tab to modify that user's groups.

5. On the **Member Of** tab for that user, a list of the available groups display.

There is a check in the box next to each group that user belongs to.

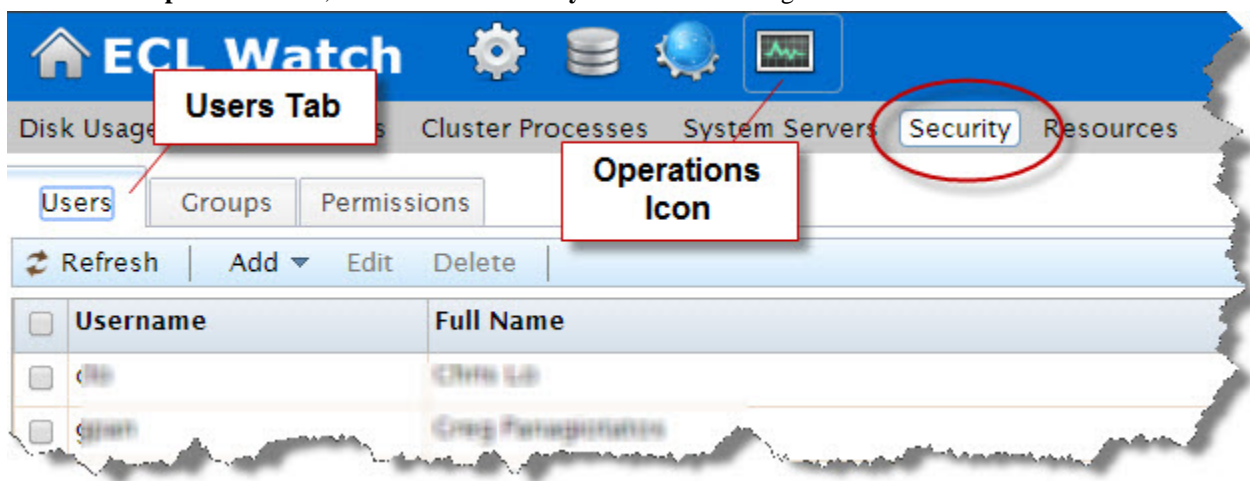
To add that user to a group, check the box next to the desired group.

6. The changes are automatically saved. Close the tab.

## To promote a user to an Administrator

To modify a users credentials you must have Administrator level access. To promote a user to an HPCC Administrator, add the user to the **Administrators** group.

Click on the **Operations** icon, then click the **Security** link from the navigation sub-menu.



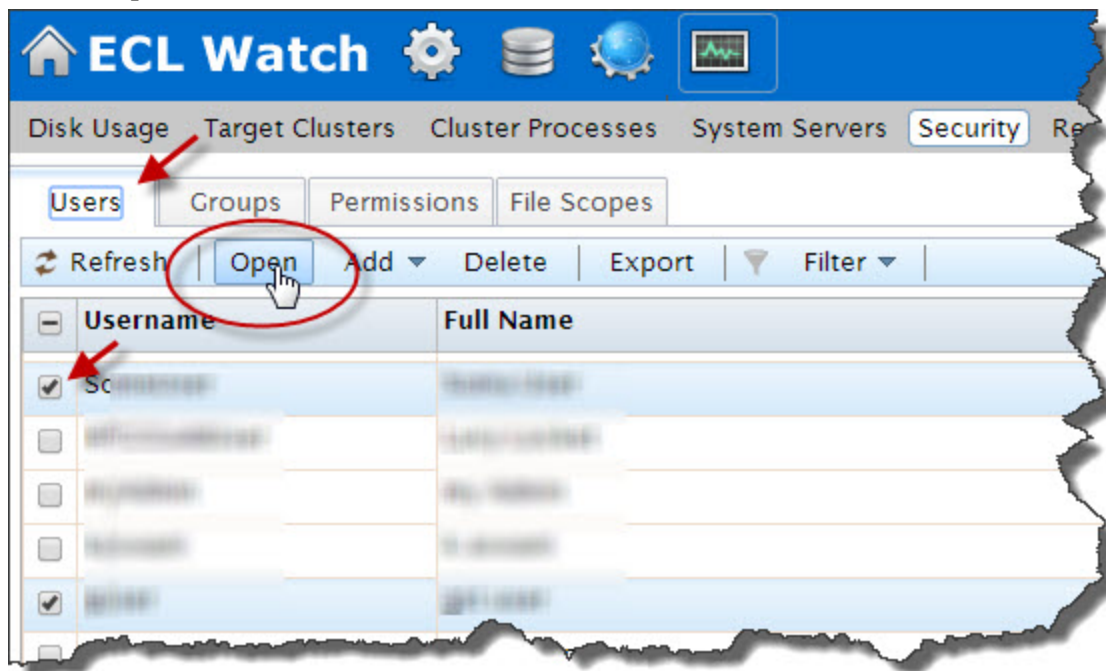
1. Click on the **Users** tab.

The users display in a list.

2. Select the user (or users) to promote. Check the box next to the Username to select.

This enables the Users action buttons.

3. Press the **Open** action button.



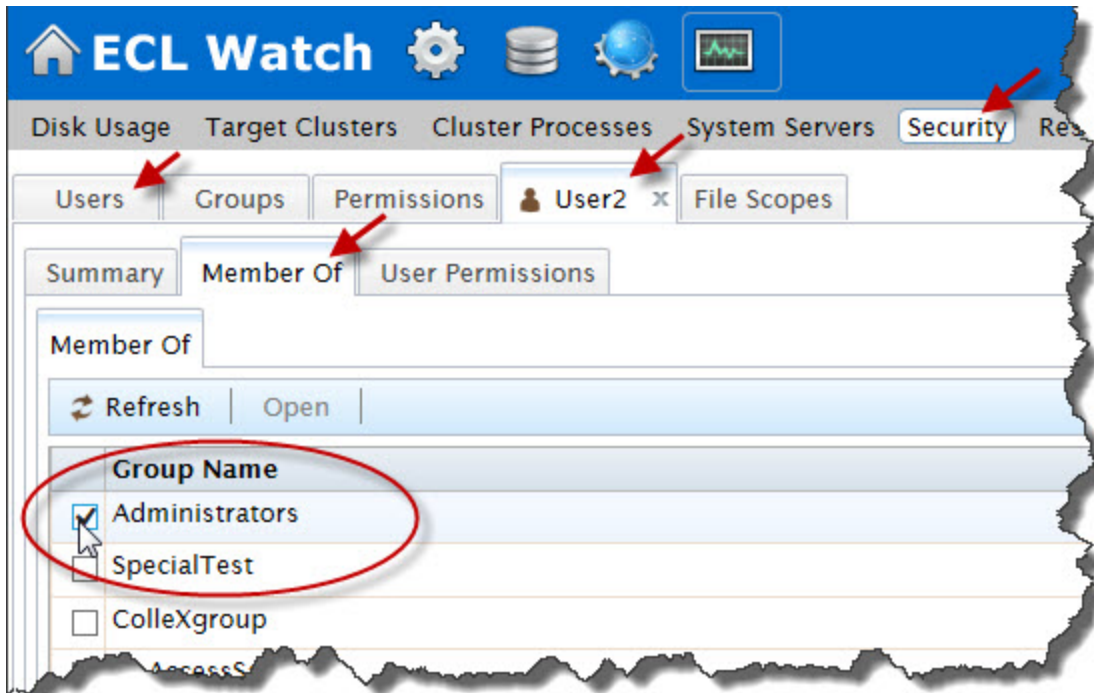
A tab opens for each user selected. On that tab there are three sub-tabs.

4. Click on the tab for the user to modify (if more than one user selected, repeat for each user).

On the user's tab there are three sub-tabs.

Click on the **Member Of** sub-tab.





5. Select **Administrators** by placing a check in box.

**NOTE:** The name of the default Administrator group could vary. For example, in Active Directory, it is "Administrators", in LDAP it is "Directory Administrators".

6. The changes are automatically saved. Close the tab(s).

### To delete a user from a group:

To delete a user you must have Administrator level access.

Click on the **Operations** icon, then click the **Security** link from the navigation sub-menu.

1. Click on the **Users** tab.

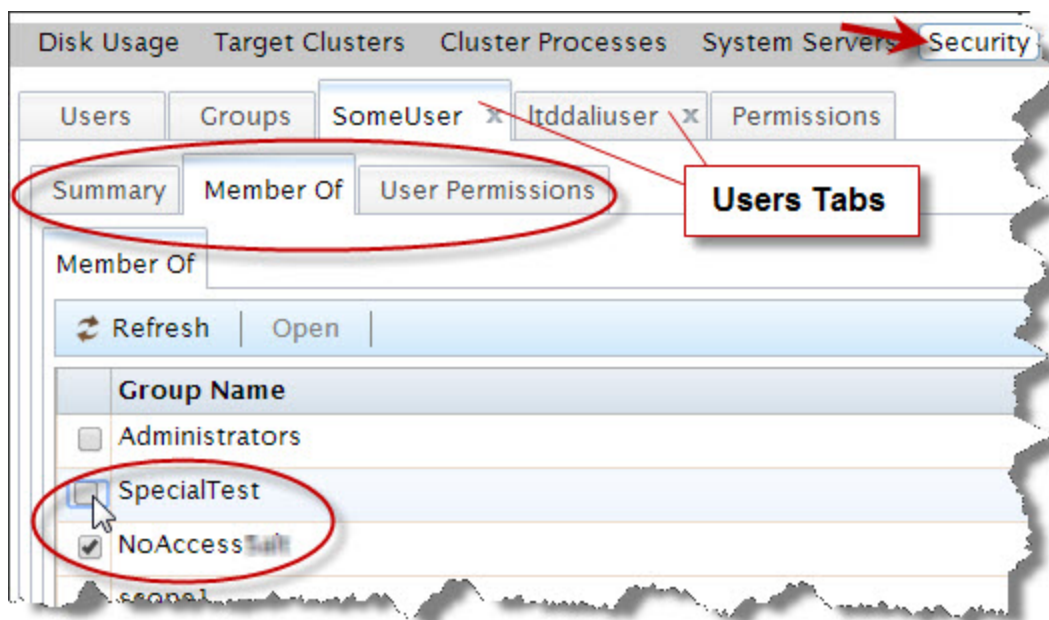
The users display in a list.

2. Select the user (or users) to modify. Check the box next to the Username.

This enables the user action buttons. Press the **Edit** action button to modify settings for that user.

3. Click on the tab for the user to modify (if multiple users selected, repeat for each user).

On the user's tab there are three sub-tabs.



Click on the **Member Of** sub-tab to modify that user's groups.

4. On the **Member Of** tab for that user, there is a list of the available groups.

There is a check in the box next to each group that user belongs to.

To remove that user from a group, uncheck the box next to the desired group.

5. The changes are automatically saved. Close the tab.

### To change a user's password:

Click on the **Operations** icon, then click the **Security** link from the navigation sub-menu.

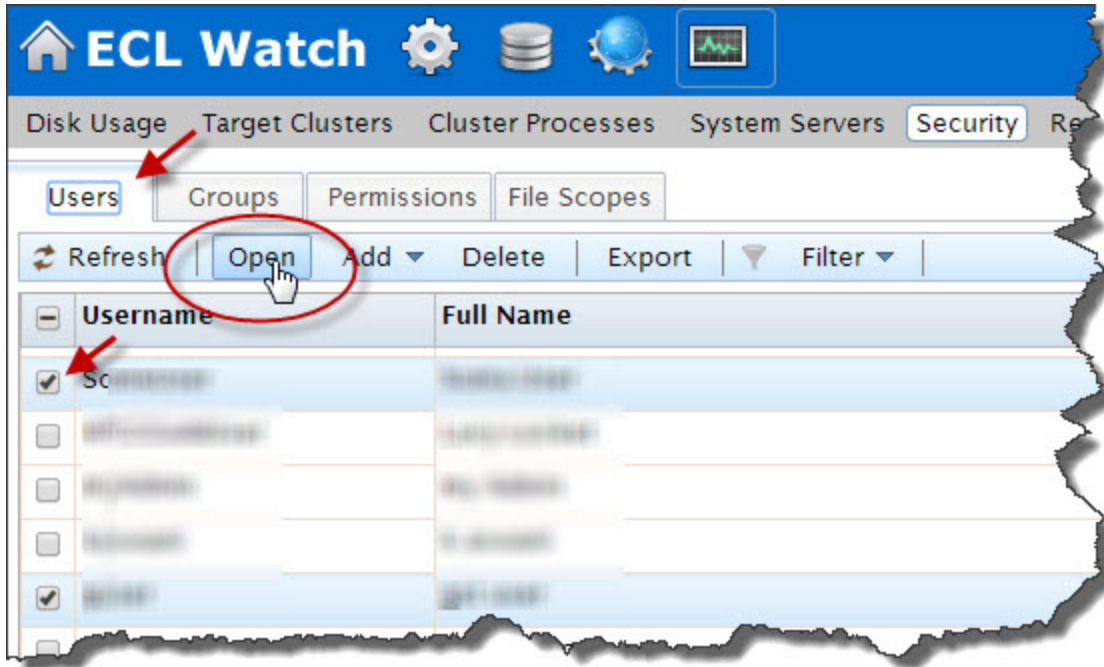
1. Click on the **Users** tab.

The users display in a list.

2. Select the user (or users) to modify. Check the box next to the Username to select.

This enables the Users action buttons.

3. Press the **Open** action button.



A tab opens for each user selected. On that tab there are three sub-tabs.

The user details are on the **Summary** tab.

4. Change the password in the **Password** and **Retype New Password** fields as required on the User details summary tab (if multiple users selected, repeat for each user).

**Note:** The **Username** cannot be changed.

5. Press the **Save** button.

A confirmation message displays.

## To delete a user from the list of authenticated users:

Click on the **Operations** icon, then click the **Security** link from the navigation sub-menu.

1. Click on the **Users** tab.

The users display in a list.

2. Check the box to the left of the user(s) you want to remove.

**Note:** These users will no longer have access to ECL Watch.

3. Press the **Delete** button.

Confirmation displays.

## Setting permissions for an individual user

There may be occasions when you need to modify the permissions for individual users. For example, users may have individual security needs that are not completely covered in any group or, there may be occasions when a user requires

temporary access to an HPCC feature. Permissions set in this area of ECL Watch only affect the user you choose. Most individual permissions you set here overwrite ones set in any group to which the user belongs, except in the case of an explicit deny.

## To set permissions for an individual user:

Click on the **Operations** icon, then click the **Security** link from the navigation sub-menu.

1. Click on the **Users** tab.

The users display in a list.

2. Select the user (or users) to modify. Check the box next to the Username to select.

This enables the Users action buttons.

3. Press the **Open** button.

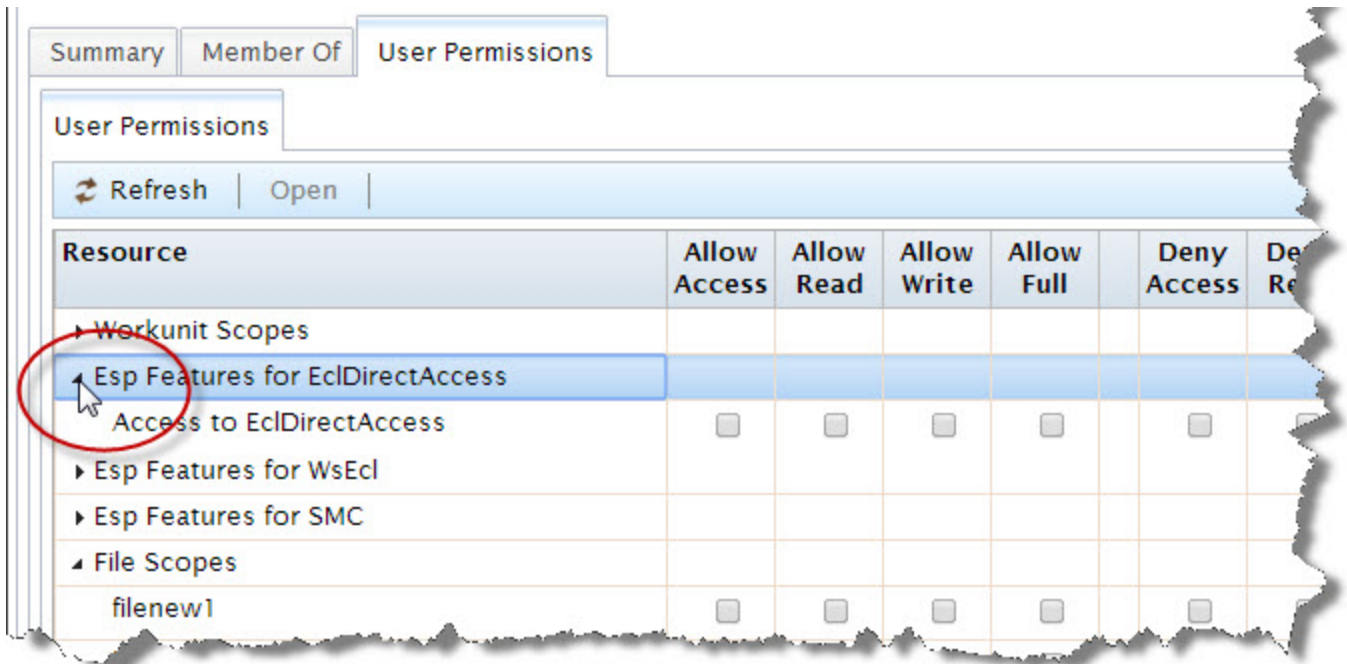
4. Click on the tab for the username to modify (if multiple users selected, repeat for each user).

On the user's tab there are three sub-tabs.



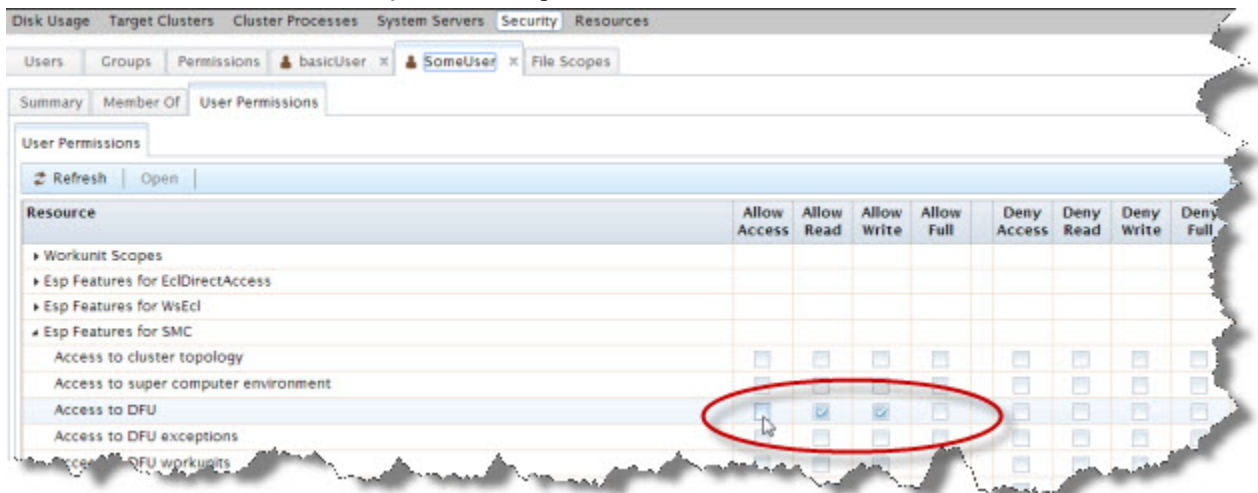
Click on the **User Permissions** sub-tab to modify that user's permissions.

- Click on the arrow next to the resource to display the permissions for that resource.



The list of permission groups currently set for this user and the ones the user has inherited are also listed. Click the arrow to allow setting the individual resource settings.

- There may be more than one resource setting available in each group, be sure to set the permissions for each setting as required.
- Check the boxes that **allow** and **deny** access as required for the user.



**NOTE:** Use caution when setting any explicit **deny** permission setting. The most restrictive permission always applies.

- The changes are automatically saved. Close the tab.

## Setting and modifying group permissions

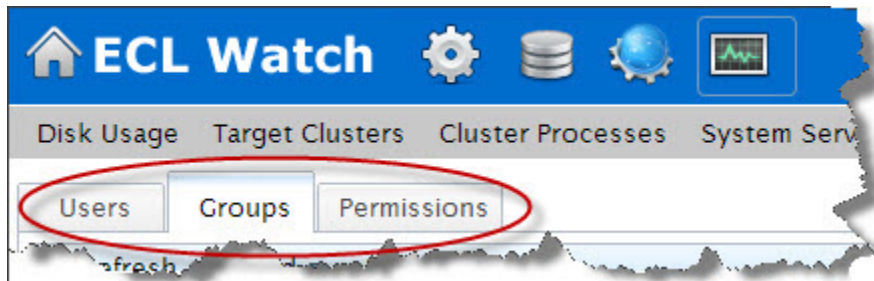
Setting up groups ensures that all users with the same permission needs have the same permission settings. You can give users the access they require to the feature areas of HPCC that they need. There is no limit to the number of groups you can create. You can create as many groups as you need to control access for all your users regardless of their tasks.

Use the **Groups** menu item to:

- Add a new group.
- Delete a group.
- Add members to a group.
- Modify the permissions for a group.

### Adding and editing groups

When adding or changing the permissions for a group, all members of that group are given those permission settings. So it is important to be sure that you are giving or denying access to features appropriate for the members of that group. If you need to make a change for a single user (or small number of users), it is probably better to make that change for each individual user as illustrated in the previous sections.



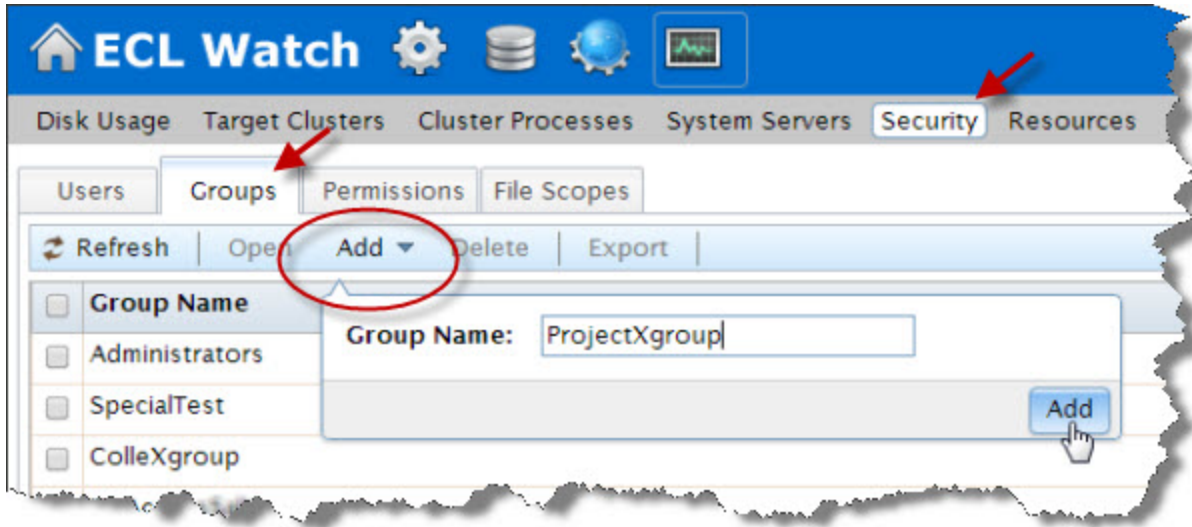
To modify groups, click on the **Operations** icon, then click the **Security** link from the navigation sub-menu. Click on the **Groups** tab.

### To add a new group:

Click on the **Operations** icon, then click the **Security** link from the navigation sub-menu.

1. Click on the **Groups** tab.
2. Press the **Add** action button button.





This opens a dialog where you can enter the name for the group.

3. Enter a **Group Name**.
4. Press the **Add** button.

This opens a **Summary** tab for this new group.

You can set the permissions and add members to this group from the respective sub-tabs on that group tab.

### To delete a group:

Click on the **Operations** icon, then click the **Security** link from the navigation sub-menu.

1. Click on the **Groups** tab.
2. Locate the group in the list and check the checkbox next to it.
3. Press the **Delete** action button.
4. Press the **OK** confirmation button.

The group no longer displays in the list.

### To add new members to a group:

Click on the **Operations** icon, then click the **Security** link from the navigation sub-menu.

1. Click on the **Groups** tab.
2. Locate the group in the list and check the box next to it.
3. Press **Edit** action button.

This opens a new tab for the group.

Three sub-tabs display: **Summary**, **Members**, and **Group Permissions**.

4. Select the **Members** tab.



The members tab displays a list of all users on the system. The users that belong to the selected group have a check in the box next to them.

5. Check the box(es) to the left for all the users you want to add to the group.
6. The changes are automatically saved. Close the tab.

### To delete members from a group:

Click on the **Operations** icon, then click the **Security** link from the navigation sub-menu.

1. Click on the **Groups** tab.
2. Locate the group in the list and check the box next to it.
3. Press the **Open** action button.

This opens a new tab for the group.

The Groups tab has three sub-tabs: **Summary**, **Members**, and **Group Permissions**.

4. Select the **Members** tab.

The Members tab displays a list of all users on the system. The users that belong to the selected group have a check in the box next to them.

5. Uncheck the box(es) to the left for all users you want to delete from the group.
6. The changes are automatically saved. Close the tab.

## Setting permissions for a group

By default, all users are members of the **Authenticated Users** group. The **Authenticated Users** group has access rights to almost all resources. To set up more restricted controls, you should create specific groups with more restricted permissions.

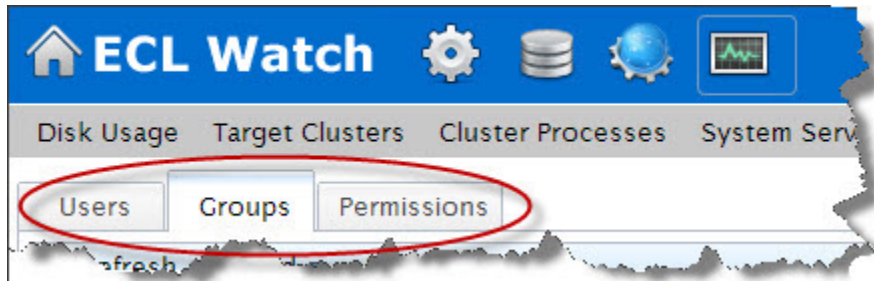
You can then create groups with only those access rights you wish to grant. This approach allows the most flexibility since a single User ID can have multiple group memberships.

As a best practice, you should use **Allow** instead of **Deny** to control access. Denies should be used only as an exception, when possible. If you wish to deny a user access to some specific control, a good practice would be to create a group for that, place the user(s) in that group, then you can deny access to that group.

Remember the most restrictive control takes precedence. For example, if a user is in a group that has deny permission to file access, and the user is in another group where file access is allowed, that user will still not have file access.

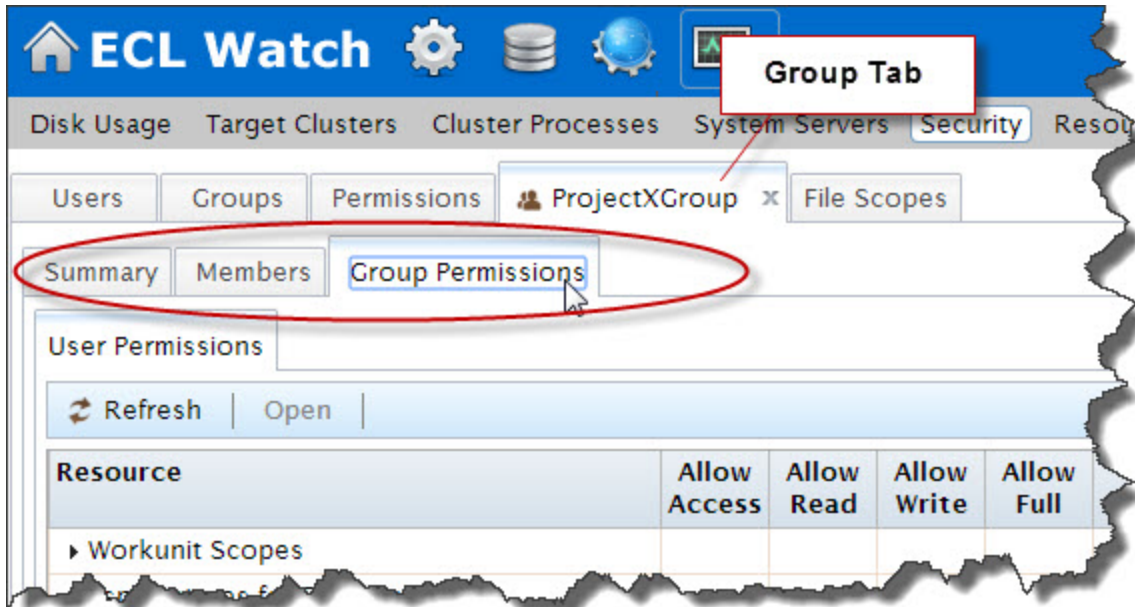
### To set permissions for a group:

Click on the **Operations** icon, then click the **Security** link from the navigation sub-menu.



1. Click the **Groups** tab.
2. Locate the group in the list and check the box next to it.
3. Press the **Open** action button.

This opens a new tab for the group.



The group tab displays three sub-tabs: **Summary**, **Members**, and **Group Permissions**.

4. Select the **Group Permissions** tab.
5. Click on the arrow to the left of the resource to display the permissions for that resource. The permission groups currently set for this group and the inherited ones display.
6. There may be more than one resource setting available in each group, be sure to set the permissions for each setting as required.

7. Check the boxes for **allow** and **deny** as required for the group.

Resource	Allow Access	Allow Read	Allow Write	Allow Full	Deny Access	Deny Read
Workunit Scopes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Esp Features for EclDirectAccess	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Esp Features for WsEcl	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Esp Features for SMC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access to cluster topology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access to super computer environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access to DFU	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access to DFU exceptions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access to DFU workunit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



**NOTE:** Use caution when setting any explicit **deny** permission setting. The most restrictive permission always applies.

8. There may be more than one resource setting available, select the resource(s) you require from the drop list.  
Repeat for each applicable resource.
9. The changes are automatically saved. Close the tab.

# Plug-ins

You can add functionality to ECL Watch with plug-ins. You can integrate certain plug-ins into the ECL Watch interface. After you install an approved plug-in, the plug-in icon displays in the navigation bar at the top of the ECL Watch page. Click on the plug-in icon to view the plug-ins page in ECL Watch.

**Figure 90. ECL Watch Plug-in icon**



## **Ganglia in ECL Watch**

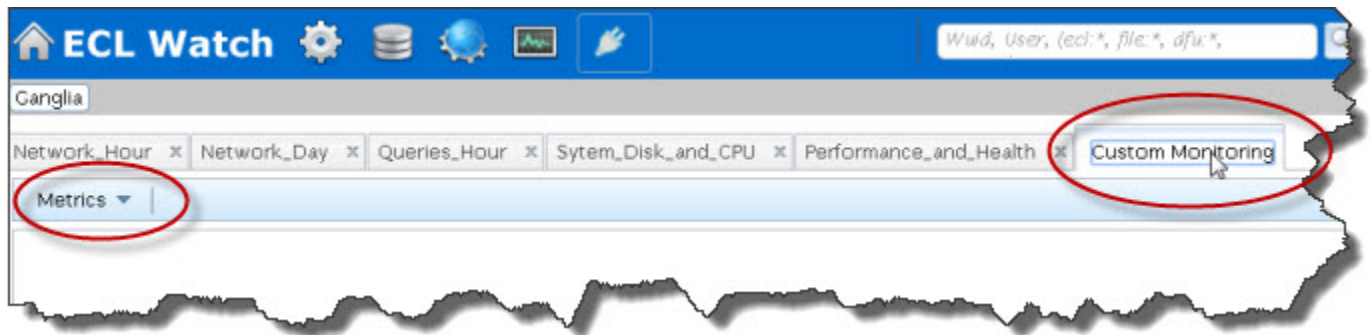
With the HPCC Systems® Ganglia-monitoring plug-in installed, you can view the Ganglia statistics and graphs through the ECL Watch interface. The default monitoring displays several key statistics, but you can customize and configure the views.

### **Figure 91. Ganglia in ECL Watch**

## Customize Monitoring

The default Ganglia page has a tab for Custom Monitoring where you can easily add custom monitoring components.

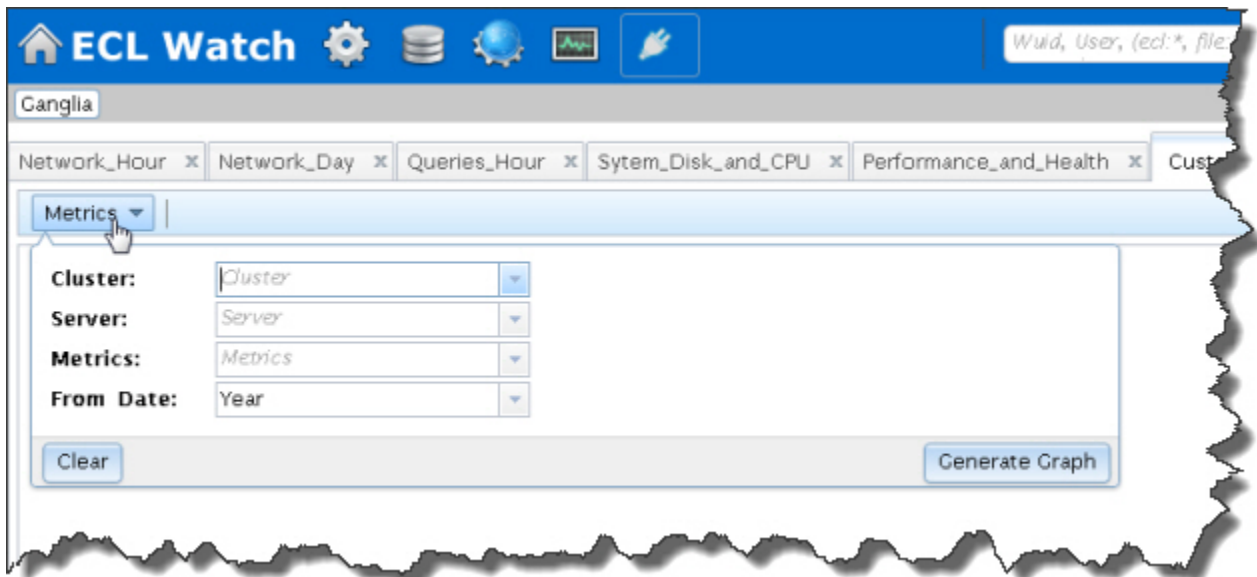
**Figure 92. Ganglia Custom Monitoring**



To customize the monitoring page;

1. Select the **Custom Monitoring** tab.
2. Press the **Metrics** button.
3. Use the drop menus to display the various graphing utilities.

**Figure 93. Customize the Metrics**



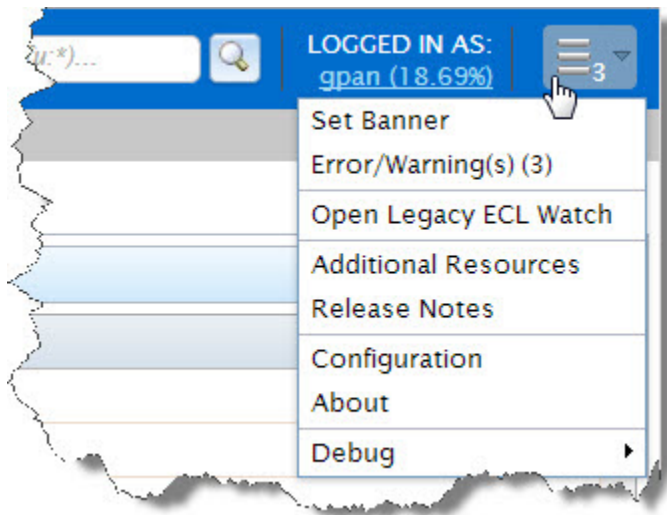
## Installing Ganglia in ECL Watch

In order to use Ganglia in ECL Watch, you need to have Ganglia installed on your HPCC System. For details on installing Ganglia for ECL Watch, refer to the *HPCC Monitoring and Reporting* manual.

# Advanced Menu

There is a section at the top right on the navigation bar with some useful information and features. This section shows you who you are logged in as (if your system has authentication enabled). The Advanced menu is located on the right hand side of the navigation bar. There are several items that you can access from the advanced menu.

**Figure 94. Advanced menu**



There may be a number displayed on the menu link. A number displayed next to it indicates how many errors and warnings have been generated during your session. Click on the advanced menu to display a list of features.



## Access the Advanced menu

You access the advanced menu items from the advanced menu link at the top right corner of ECL Watch.

The **Set Banner** link allows you to set a custom banner message at the top of your browser window when you open ECL Watch. You can use this feature to send messages to users.

The **Error/Warning(s)** link displays a tab showing you Errors, Warnings, and Information messages. You can filter this page by checking the boxes at the bottom of the tab. A copy facility is also provided.

The **Open Legacy ECL Watch** link opens a tab to the previous version of ECL Watch. The legacy version of ECL Watch is deprecated; this link is only available for a limited time to help in the transition.

The **Additional Resources** link opens a tab to the HPCC Systems® download page, where you can browse and download additional HPCC resources: documentation, white papers, training videos, wiki pages, the red book and other HPCC related source code.

The **Release Notes** link opens a tab with the relevant release notes for the version of HPCC that you are using. Read the release notes for more information specific to the release you are working on.

The **Configuration** link opens for viewing the xml version of the configuration file in use on your system.

The **About** link opens a dialog to display some information about the version of the HPCC platform and graph controls installed on your server.

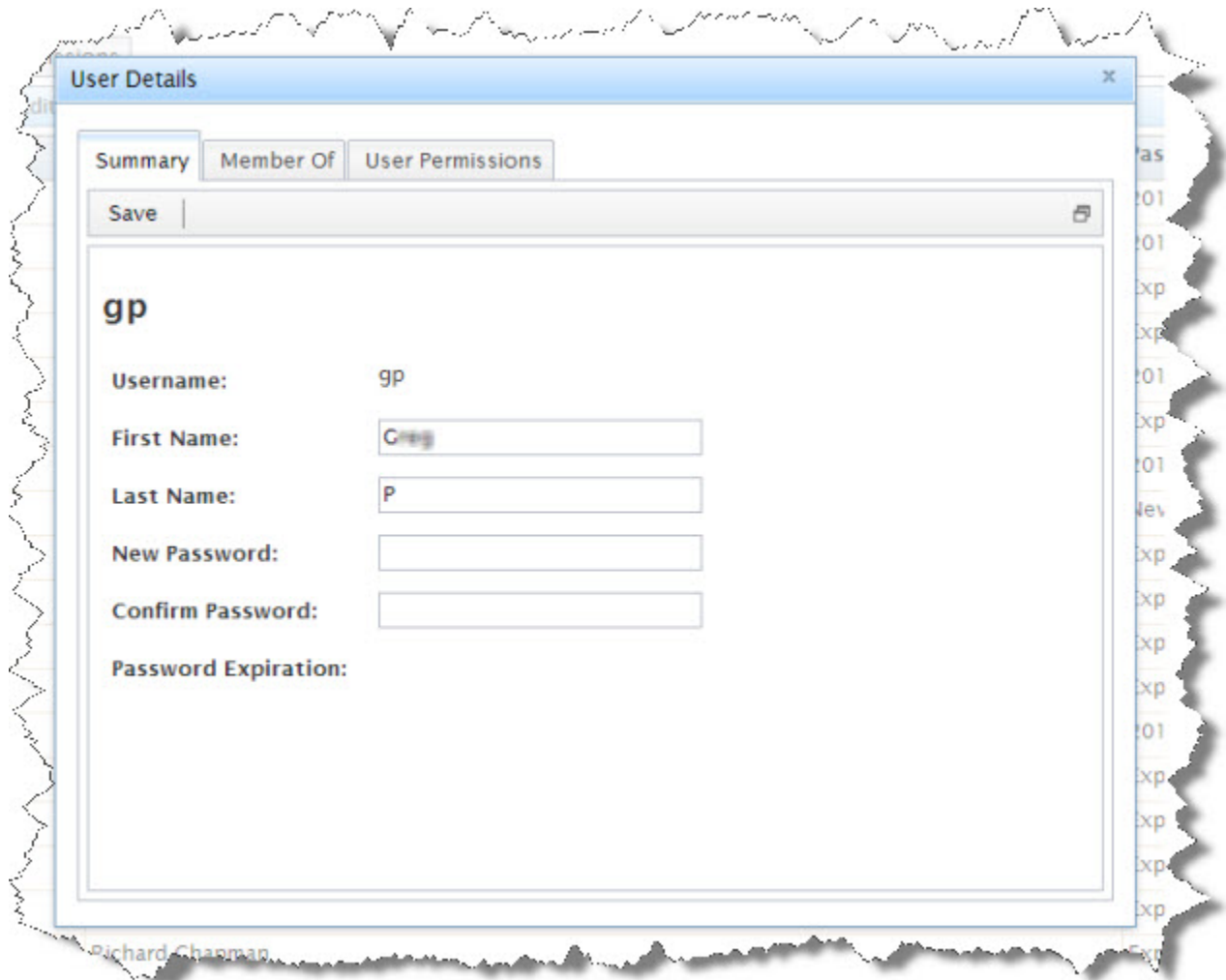
## User Details

The LOGGED IN AS link shows information about the current user on a cluster configured for authentication.

1. Click on the **LOGGED IN AS:** link.

The User Details window opens. The default window opens on the Summary tab.

**Figure 95. User Details window**



2. From The User Details page Summary tab, you can Confirm the User Name that you are logged in as.

You can change your password.

Note that Administrator rights are needed to manage users and permissions.

Ensure you are using an account with Administrator rights if you intend to manage users or permissions.

3. Verify the password expiration date, or if password is set to expire.

## Change Password

If authentication is enabled on your HPCC system, you can change your password, right from the User Details window.

1. Click on the **LOGGED IN AS:** link.

The User Details window opens. The default window opens on the Summary tab. There are fields on the Summary tab where you can change your password.

2. Enter your desired new password.

Make sure it meets whatever criteria your system may have for passwords.

3. Confirm your new password.

Make sure that it matches the password you entered in the previous field.

4. Press the Save button. It is in the upper left portion of the window.

## Permission groups

The second tab on the User Details window labelled Member Of, displays a list of groups. The groups your account belongs to, are indicated with a checkmark.

You must be an administrator to modify any of group settings.

## User Permissions tab

The third tab on the User Details window labelled **User Permissions**, displays a list of permission settings. Note that Administrator rights are needed to manage users and permissions. Ensure you are using an account with Administrator rights if you intend to manage users or permissions.

This is where you can access the user permissions area. A more detailed description of the user permissions settings is covered in the User Permissions section.

# Resources

The resources link can be found under the Operations Icon link. The resources link in ECL Watch provides a link to the HPCC Systems® web portal. Visit the HPCC Systems® Web Portal at <http://hpccsystems.com/> for software updates, plug-ins, support, documentation, and more. This is where you can find resources useful for running and maintaining HPCC on the web portal.

You can also get to the resources link on the HPCC Systems® web portal page, by clicking on the **Additional Resources** link found on the sub-menu of at the top right hand side of navigation bar.

ECL Watch provides a link to the HPCC portal's download page: <http://hpccsystems.com/download>. This is the page where you can download Installation packages, virtual images, source code, documentation, and tutorials.