



Monitoring Your System

Open SDN Controller provides three pages that allow you to monitor the health and performance of your system: the Logs Dashboard page, the Metrics Dashboard page, and the Services Status page. The following topics describe these pages in more detail:

- [Viewing the Logs Dashboard, page 1](#)
- [Viewing Controller Metrics, page 5](#)
- [Viewing Services Status, page 6](#)
- [Exporting Diagnostic Information, page 7](#)

Viewing the Logs Dashboard

From the Logs Dashboard, you can view information for the events that have taken place in your system. To open the Logs Dashboard, select **Logs** from the main toolbar's Monitoring menu.

Figure 1: Logs Dashboard

The screenshot displays the Logs Dashboard interface. At the top, it shows the time range 'Jul 28, 2015 14:50:48 to Jul 30, 2015 15:50:48' and a refresh rate of 'refreshed every 30s'. Below this is a search bar with a 'QUERY' button. The main area is titled 'LOGS' and shows a table of log entries. The table has columns for 'Timestamp', 'Service Type', and 'Message'. The log entries include information about user retrieval, schema management, and transaction commit failures.

| Timestamp | Service Type | Message |
|--------------------------|-----------------|---|
| 2015-07-30T21:48:01.637Z | controller-core | INFO [Thread-qt341441205-332712] get all users |
| 2015-07-30T21:47:42.751Z | controller-core | INFO [Thread-nettyThreadgroupModule\$NoEventLoopGroupCloseable-7-1] No codec for schema LeafSchemaNodeImp[qname=(urn:.opendaylight:params:xmtns.yang:controller.md:sal:statistics-manager?revision=2014-09-25)name, path=AbsoluteSchemaPath[path=]{urn.opendaylight:params:xmtns.yang:controller.config?r...} |
| 2015-07-30T21:47:42.751Z | controller-core | INFO [Thread-nettyThreadgroupModule\$NoEventLoopGroupCloseable-7-1] No codec for schema LeafSchemaNodeImp[qname=(urn:.opendaylight:params:xmtns.yang:controller.md:sal:statistics-manager?revision=2014-09-25)name, path=AbsoluteSchemaPath[path=]{urn.opendaylight:params:xmtns.yang:controller.config?r...} |
| 2015-07-30T21:47:42.750Z | controller-core | INFO [Thread-nettyThreadgroupModule\$NoEventLoopGroupCloseable-7-1] No codec for schema LeafSchemaNodeImp[qname=(urn:.opendaylight:params:xmtns.yang:controller.md:sal:statistics-manager?revision=2014-09-25)name, path=AbsoluteSchemaPath[path=]{urn.opendaylight:params:xmtns.yang:controller.config?r...} |
| 2015-07-30T21:31:28.898Z | controller-core | WARN [Thread-WriteTxCommit-0] Tx: DOM-312 Error during phase CAN_COMMIT due to canCommit execution failed with exception TransactionCommitFailedException, starting Abort |
| 2015-07-30T21:31:28.898Z | controller-core | WARN [Thread-WriteTxCommit-0] Tx: DOM-312 Error during phase CAN_COMMIT due to canCommit execution failed with exception TransactionCommitFailedException, starting Abort. |
| 2015-07-30T21:31:28.898Z | controller-core | WARN [Thread-opedaylight-cluster-data-akka.actor.default-dispatcher-17] member-1-shard-default-config: Transaction member-1-bx-101171 was explicitly removed from the cache, removalCause = EXPLICIT |

Logs Dashboard Components

The following table describes the components that make up the Logs Dashboard.

| Component | Description |
|--------------------------|---|
| Toolbar | <p>From here, you can:</p> <ul style="list-style-type: none"> • Set the timeframe for which information is displayed in the dashboard • Set how often the dashboard's information is automatically refreshed • Manually refresh the dashboard's information • Revert to the default dashboard layout by clicking the Go to saved default (house) icon |
| Query field | Allows you to search for event information that contains a particular string. See Running Queries for more information. |
| Logs widget | Lists the 500 latest events that have taken place in your system. See Viewing Log Events for more information. |
| Log Summary widget | Indicates the number of events (grouped by severity) that have taken place over the timeframe currently set for the Logs Dashboard. To determine the number of events that are of a specific severity, place your cursor over the corresponding bar in the graph. |
| Component Summary widget | Indicates the component or device from which events originated and the total number of events that took place on that component or device. |
| Log Activity widget | Visualizes the number of events that have occurred over the timeframe currently set for the Logs Dashboard. To determine the exact number of events that took place at a certain time, place your cursor over the corresponding bar in the timeline. |

Running Queries

By specifying a query, you can view only the event information that contains a particular string. To run a query, enter the appropriate text in the Query field and then click the Search icon or press the Enter key.

Note the following:

- As you type the string you want to search for, Open SDN Controller suggests additional strings that you can select and search for instead.

From the Component Summary Widget

Procedure

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- Step 1** Locate the event source you want to base a filter on.
- Step 2** In the Filter By column, click the filter icon to view only the events that originated from that source.
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Setting the Logs Dashboard Timeframe

Do one of the following to change the timeframe for which information is displayed in the Logs Dashboard:

- At the top of the dashboard, click the link for the timeframe that is currently displayed in the dashboard. In the resulting drop-down list, select the desired timeframe. If you want to specify a timeframe that is not covered by one of the available options, select **Custom**, specify the desired timeframe, and then click **Apply**.



Note From this drop-down list, you can also select **Auto-Refresh** and specify how often the information displayed by these graphs is automatically refreshed. To manually refresh this information, click the Refresh icon.

- In the Log Activity widget, click the desired start time. While holding down the mouse, drag the cursor to the desired end time and then release the mouse.

Viewing Log Events

From the Logs widget, you can view a listing of the 500 most recent events that have taken place in your system.

To set which fields are displayed here:

Procedure

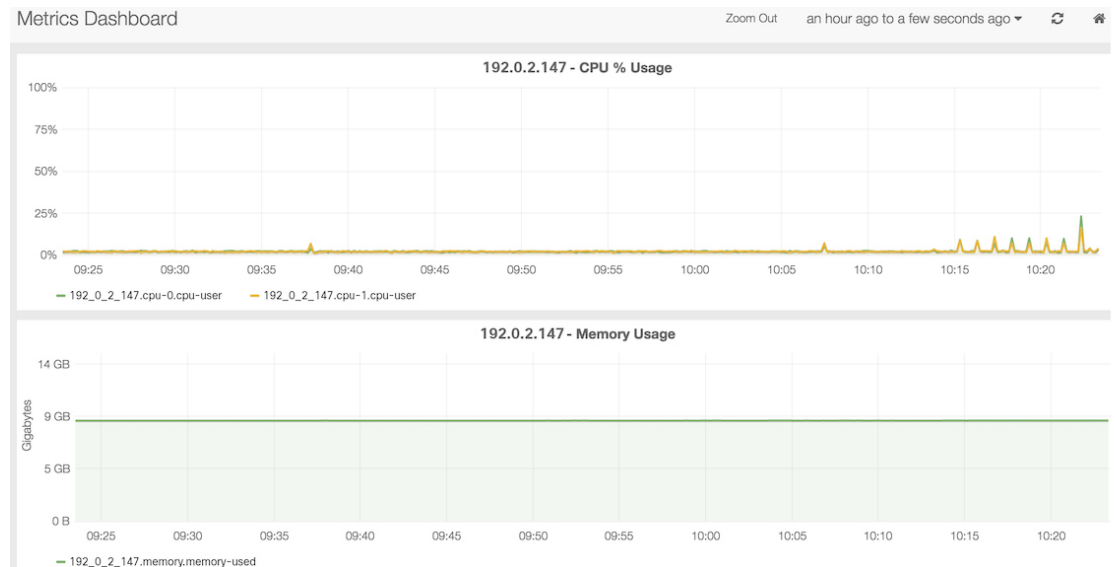
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- Step 1** Click the table entry for any event listed in the Logs table.
The table updates, displaying all of the fields that are available and their current values.
- Step 2** Locate the table entry for the field you want the Logs table to display.
- Step 3** From the Action column, click the Toggle table column icon.
Repeat these steps to remove a field from the Logs table.
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Viewing Controller Metrics

From the Metrics Dashboard, you can view graphs that visualize the following performance metrics for the controller, helping you to identify any issues that require attention:

- CPU usage
- Memory usage
- CPU load
- Heap size
- Network usage
- Free disk space

Figure 3: Metrics Dashboard



If multiple controller nodes are set up in your system, a separate graph for each of these metrics is displayed for each node.

To open the Metrics Dashboard, select **Metrics** from the main toolbar's Monitoring menu.

Do one of the following to change the timeframe for which information is displayed in the graphs:

- From the top of the Metrics Dashboard, click **Zoom Out**. Every time you click this link, the timeframe these graphs cover is expanded.
- To the right of the Zoom Out link, click the link for the timeframe that is currently displayed in the graphs. From the resulting drop-down list, select the desired timeframe. If you want to specify a timeframe that is not covered by one of the available options, select **Custom**, specify the desired timeframe, and then click **Apply**.

**Note**

From this drop-down list, you can also select **Auto-Refresh** and specify how often the information displayed by these graphs is automatically refreshed. To manually refresh this information, click the Refresh icon.

- In any of the graphs, click the desired start time. While holding down the mouse, drag the cursor to the desired end time and then release the mouse.

Viewing Services Status

From the Services page, you can view the services installed on a controller node, determine whether they are running and, for the services that are running, see how long they have been up. By default, this page is open after you log into Open SDN Controller. To open the Services page when another page is open, select **Services** from the main toolbar's Monitoring menu.

Figure 4: Services Page

The screenshot shows the 'Services' page for a controller node with IP 203.0.113.185. The 'Controller' service is expanded to show a table with the following data:

| Component | Status | Up Time |
|-----------------|---------|-------------|
| Controller Core | Running | 17d 11h 32m |

Other services listed include Logs, Metrics, System, and Web, each with an expandable arrow.

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**Note**

By default, the information displayed on this page is automatically refreshed every 10 seconds.

Complete the following procedure to determine whether any services are down and need to be restarted.

- 1 View the ball icon that precedes a controller node's IP address.
 - If the icon is green, this indicates that all of the services on the node running. You can stop here.

- If the icon is yellow, this indicates that one or more services are down on the node. Proceed to Step 2.
- 2 If necessary, click the node's link to bring up a listing of the five components for which service status is tracked:
 - Controller
 - Logs
 - Metrics
 - System
 - Web
 - 3 Click any component that is preceded by a red ball icon to view a listing of the services installed on that component.
 - 4 Restart any services that are currently down (indicated by a red ball icon).

Exporting Diagnostic Information

Procedure

- Step 1** From the main toolbar's Help menu, select **Export Diagnostic Data**.
The zipped TAR file (diagnostic-data.tgz) is downloaded to your default download directory.
 - Step 2** Unzip the TAR file to the desired directory.
The latest diagnostic information for your system is now available for you to view offline.
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