

# Performance Monitoring

## Overview

The Performance Monitor graph summarizes CPU usage, memory usage, and important events across multiple AIE instances.

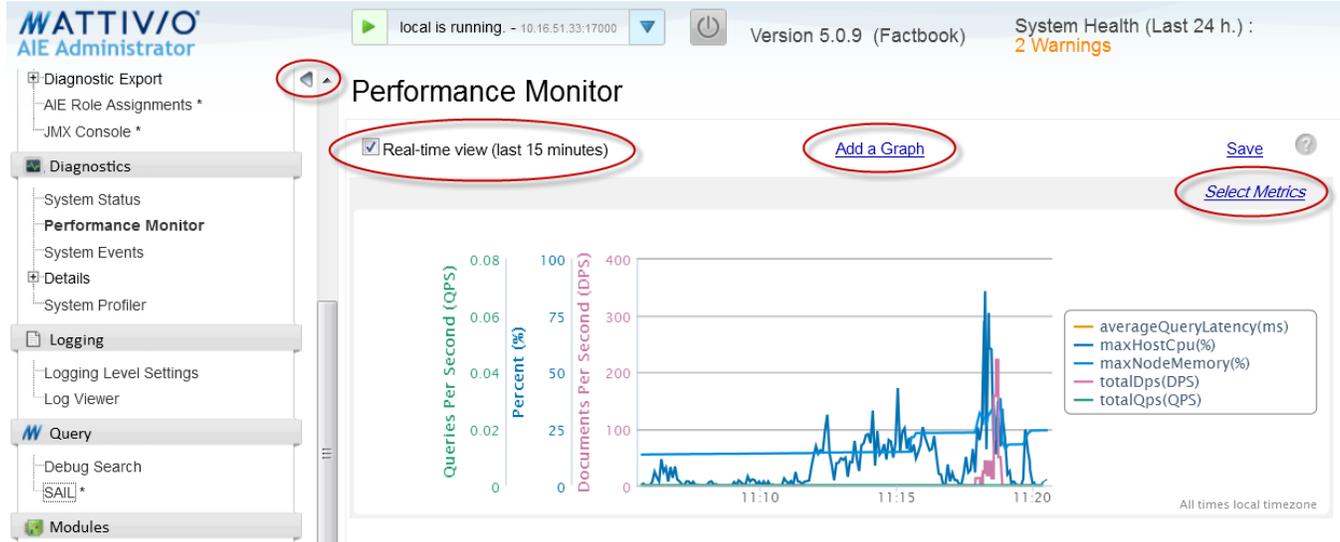
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## Monitoring AIE Performance

To monitor AIE system performance, select **Diagnostics -> Performance Monitor** in the AIE Administrator. The Performance Monitor screen appears.



From the Performance Monitor screen you can:

- View AIE status at-a-glance in the System Health area at the top of the page shows. Items that require attention appear here. Click **System Health** above the graph to access the [System Status](#) screen.
- View the most recent performance activity with incremental updates by clicking the **Show last 15 minutes** checkbox.
- Change the metrics shown on the current graph by clicking **Select Metrics**.

- Add a new graph to the display by clicking **Add a Graph**.

- Save the current graph as a URL link by clicking **Save**.
- Hide the navigation pane with the **show/hide** button to see more or less of the events table as desired.

## Performance Monitor Information

The following table summarizes the displays and controls on the Performance Monitor page.

Feature	Description
Show last 15 minutes	Select to zoom the graph to a 15-minute display with incremental updating.
Add a Graph	Click <b>Add a Graph</b> to a new performance monitor graph below the existing one(s). Note that graphs do not persist. If you refresh the page only the default graph remains.
Remove the Last Graph	Click <b>Remove the Last Graph</b> to delete the last graph you created from the display.
Select Metrics	Click <b>Select Metrics</b> to access the <a href="#">Select Metrics</a> screen for the currently shown graph.
Zoom	To zoom in on a smaller part of the graph, click and drag the mouse pointer across the desired portion of the graph, then release the mouse button. The selected area appears magnified.
Reset Zoom	Click to return to the normal magnification after performing a zoom.
Data Points	The metrics on the graph display are color- and shape-coded to the key at the right. Turn them on and off by clicking on the labels in the key. Hover the mouse pointer over the data points to see details.
Events	Events appear as circles containing exclamation points. Hover the mouse pointer over an event to identify it.
Key	The key identifies the various metrics that are plotted in the graph. Each label corresponds to one line on the graph. Click on the key labels to show or hide the lines in the graph. The <a href="#">Select Metrics</a> screen, described below, lets you choose which metrics to graph.
Metric (Y) Axis	The Y axis at the left edge of the graph shows the units of the Y dimension. These units vary depending on the selected metrics.
Time (X) Axis	Immediately below the graph is a time axis. Times are local.



### Memory Usage

Note that it is normal for the AIE engine to use and then release small increments of memory, even when apparently idle. When monitoring memory use, this usage appears as an unfolding saw-toothed pattern.



## Adding Graphs

To add a graph to the Performance Monitor, do the following:

1. Click the **Add a Graph** link. The Select Metrics screen appears.
2. Select the desired systems for which you want metrics to appear in the graph. Available options are described in the table below.
3. Select the desired metrics from the Available Metrics area, and click **Add** to move them to the Selected Metrics list.
4. Click **OK**. The selected metrics appear graphed in the Performance Monitor.

### Select Metrics Screen Options

Feature	Description
Subsystem	Select a subsystem to monitor. Options are Garbage Collector, Hardware, Index, Ingestion, Operating System, Process and Query.
Baseport	Select the desired baseport(s).
Component	Within a workflow, select metrics for a specific component.
Hostname	Metrics relating to a specific host.
Workflow Type	Document workflows occasionally have the same name as query workflows. Indicate which type to monitor.
Nodeset	Select a defined nodeset to monitor.
Path	Metrics related to file system and operating system.
Workflow	Metrics relating to a specific workflow.
Filter	Enter a string to filter the list by a keyword. You can filter by several facets to locate a desired item.
Available Metrics	The list of available metrics for the selected components. SHIFT+CLICK or CTRL+CLICK to multi-select metrics.
Add / Remove	The <b>Add</b> and <b>Remove</b> buttons transfer selected metrics from between the Available and Selected Metrics lists.
Selected Metrics	The list of selected metrics for the selected components. SHIFT+CLICK or CTRL+CLICK to multi-select metrics

## Custom Metrics

AIE applications and users can define their own custom metrics. Custom metrics are collected and stored just like any other metric in the system. The API for adding custom metrics is discussed [here](#).