

Performance monitoring

← Monitor Server status

→ Administering the Apache Geronimo Server

Starting and stopping the server →

For monitoring the Web server performance the **Monitoring** portlet is available by selecting **Monitoring** on the **Console Navigation** menu on the left hand side. This feature will allow you to view a number of server statistics on the system JVM, web servers, and information via the AJP protocol. The graph information is provided by the data exposed by the connector MBean.

This article shows one such way of monitoring server information. For this example, we attempt to determine if there is a correlation between the server JVM heap space and the web containers number of bytes downloaded. In other words, this monitoring session will show if the server is releasing heap memory after client downloads. You can create views based on your needs or just using [predefined graphs and views](#) in Geronimo 2.1.5

First, select the **Monitoring** link on the **Console Navigation** menu. If this is your first monitoring session, you should see an empty set of Servers, Views, and Graphs as shown in this figure.

The screenshot shows the 'Monitoring' console with three empty tables. The 'Views' table has columns: Name, Elements, Created, Modified, Actions. The 'Servers' table has columns: Name, IP/Hostname, Status, Stat. Query, Actions. The 'Graphs' table has columns: Name, Server, Timeframe, Data Series, Actions. Each table has a '+ Create View', '+ Add Server', and '+ Add Graph' link respectively.

Adding a Server

Select a server to monitor by providing a host name or IP address. Select the protocol for communication and any security credentials. Save this server definition by pressing **Save**.

The screenshot shows the 'Add a server' form in the 'Monitoring' console. The form has fields for Name (Geronimo 2.1), IP/Hostname (localhost), Protocol (EJB selected, JMX unselected), Port (4201), Username (system), Password (masked), and Password (verify) (masked). There are 'Cancel' and 'Add' buttons. On the right, there is a 'Navigation' menu with links to Home, Views, Servers, and Graphs, and an 'Actions' section with a link to 'Test these settings'.

Adding a Graph

Select information to display by adding a graph. Select the server you are monitoring, and then choose an MBean that publishes server information by choosing an MBean from the MBean drop down control. Once you have selected an MBean, you can see what information is available by selecting data from the Data series drop down control. When you have described the data, save this graph by pressing **Save**.

Monitoring

+

-

?

Add a Graph

Server:

Geronimo 2.1 - localhost

Name:

JVM Heap Size

Description:

JVM Heap Size

X Axis label:

JVM Heap

Y Axis label:

Timeframe:

60

minutes

Mbean:

JVM

Data series:

As-is

JVM Heap Size Current

Math operation:

none

Data series 2:

As-is

Time

Graphing:

JVM Heap Size Current

Cancel

Add

Navigation

◆ Home

◆ Views

◆ Servers

◆ Graphs

Select more information to display by adding a second graph. As the two data series scroll in time, we will be able to detect any correlation between the data. Once again, choose a server and an MBean to monitor. Select data from the Data series drop down control. Since data sent increases over time, also select **delta** for the Data series, so we see the rise and fall of the data over time. Save this graph by pressing **Save**.

Monitoring

+

-

?

Add a Graph

Server:

Geronimo 2.1 - localhost

Name:

Tomcat Bytes Sent

Description:

Tomcat Bytes Sent

X Axis label:

Bytes Sent

Y Axis label:

Timeframe:

60

minutes

Mbean:

TomcatWebConnector

Data series:

As-is

Bytes Sent

Math operation:

none

Data series 2:

As-is

Time

Graphing:

Bytes Sent

Cancel

Add

Show Archived

Navigation

Home

Views

Servers

Graphs

Adding a View

Now group one or more graphs into a view. Here we add a view for "JVM vs Bytes Sent" by selecting two of the graphs we created in earlier steps. Save the view by pressing **Save**.

Monitoring

+

-

?

Adding a new view

Name:

JVM vs Bytes Sent

Description:

Show JVM Heap and Tomcat Bytes Sent

	Name	Timeframe	Server	Edit
Graphs:	<input checked="" type="checkbox"/> JVM Heap Size	60 min.	Geronimo 2.1	
	<input checked="" type="checkbox"/> Tomcat Bytes Sent	60 min.	Geronimo 2.1	

Cancel

Save

Navigation

Home

Views

Servers

Graphs

This figure shows the console monitoring portlet after we have added the server, graphs, and views.

Monitoring⊞ ⊞ ? ⊞

Views

Name	Elements	Created	Modified	Actions
JVM vs Bytes Sent	2	2008-02-20 10:36	2008-02-20 10:36	Edit

[+ Create View](#)

Servers

Name	IP/Hostname	Status	Stat. Query	Actions
Geronimo 2.1	localhost	Online	5 min. (running)	Disable Query Edit Disable

[+ Add Server](#)

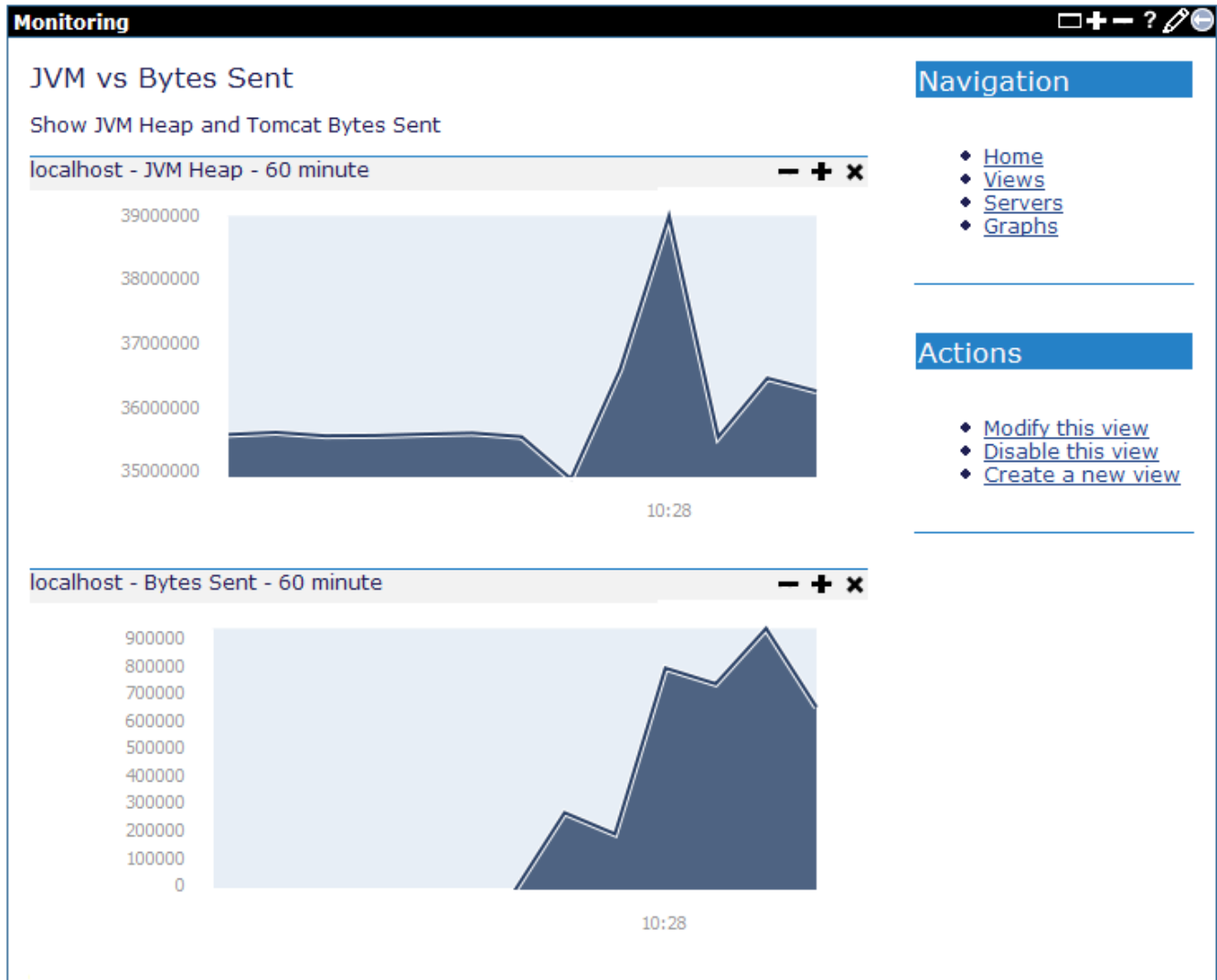
Graphs

Name	Server	Timeframe	Data Series	Actions
JVM Heap Size	Geronimo 2.1	60	JVM Heap Size Current	Edit
Tomcat Bytes Sent	Geronimo 2.1	60	Bytes Sent	Edit

[+ Add Graph](#)

The Monitoring Graph View

Click on a view to start monitoring server information over time. This view shows the JVM heap and web server bytes sent over a one hour period. As you see in the example, the JVM heap memory goes up and down over time with little correlation to the number of bytes users request from the web server.



Monitoring the server with predefined graphs and views

Geronimo v2.1.5 provides a set of predefined graphs and views for server monitoring. With the enhancement, a view-only user monitor is created and the user can leverage those graphs and views directly to monitor the health of a server. See [Monitoring the server with predefined graphs and views](#) for the details.