



MONITORING APACHE HTTP WITH THE JBOSS OPERATIONS NETWORK (JON)

Mike Darretta, Solutions Architect, Red Hat
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This technical guide provides the steps to set up JBoss Operations Network (JON) monitoring for the Apache HTTP 1.3/2.x server and the JBoss Enterprise Web Server (EWS).

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1. JBOSS OPERATIONS NETWORK

JON provides a centralized, web-enabled means to monitor and manage your JBoss clusters, as well as a configurable set of other network assets. With JON, you can monitor assets as coarse as your operating system uptime status, or as fine-grained as your Java garbage collection performance. In addition, JON's management features provide a means to conveniently perform operations against servers (e.g., start/stop/restart) as well as be alerted to certain thresholds or scenarios.

One of the out-of-the-box monitoring and management features of JON is the capability to monitor and manage Apache HTTP Servers.

2. REQUIREMENTS

To properly execute the instructions in this whitepaper, you will need access to JON 2.4.x (as of this writing, the latest version is 2.4.1) via a current Red Hat managed middleware subscription. If you plan to use EWS, you will also need a subscription to EWS. (Note: A managed EWS subscription provides access to both EWS and JON.) If you do not have a current Red Hat managed middleware subscription, please visit the



Red Hat support page at <http://www.redhat.com/support/> or contact the sales department at <http://engage.JBoss.com/forms/JBoss-contact-sales>. If you plan to use either Apache HTTP 1.3 or Apache HTTP 2.x, please download the appropriate download at <http://httpd.apache.org/download.cgi>.

NOTE: The final stable release of Apache HTTP 1.3 (1.3.46) has reached “end of life” status.

3. INSTALLATION

To complete this technical paper, please follow the following installation instructions. You will need to complete the JON installation, ensure the agent(s) and server(s) are running, plus install at least one of the Apache HTTP or EWS installations.

- JON Installation – *JBoss Operations Network Installation Guide* located at http://docs.redhat.com/docs/en-US/JBoss_Operations_Network/2.4/html/Installation_Guide/index.html.
- Apache HTTP Installation
Apache HTTP 1.3 - <http://httpd.apache.org/docs/1.3/install.html> (deprecated due to “end of life” status)
Apache HTTP 2.0 - <http://httpd.apache.org/docs/2.0/install.html>
Apache HTTP 2.2 - <http://httpd.apache.org/docs/2.2/install.html>
- EWS Installation – *Jboss Enterprise Web Server 1.0 Release Notes* located at http://docs.redhat.com/docs/en-US/JBoss_Enterprise_Web_Server/1.0/html/Release_Notes_1.0.1/index.html

NOTE: The EWS is based on the Apache HTTP 2.2.x.

If you are a subscriber to Red Hat Enterprise Linux (RHEL), you already have a supported version of Apache HTTP included with your channel privileges. The Apache HTTP servers included with with RHEL are:

| | |
|----------|----------------------|
| RHEL 6.0 | Apache HTTP 2.2.15-5 |
| RHEL 5.x | Apache HTTP 2.2.3-11 |

Table 1: RHEL/Apache HTTP Versions

4. CONFIGURING APACHE HTTP FOR JON MONITORING

NOTE: Instructions for configuring Apache HTTP for JON monitoring are located at http://docs.redhat.com/docs/en-US/JBoss_Operations_Network/2.4/html-

single/Resource_Monitoring_and_Operations_Reference/index.html#Apache_Configuration. This section serves as a supplement to these instructions only.

Per section 2.1 of the *JON Resource Monitoring and Operations Reference* (see note above), the following coarse steps are required to set up Apache HTTP for JON monitoring:

- Make sure the Apache server was compiled with Dynamic Shared Object (DSO) support. This allows for linking additional functionality at runtime.
- Compile and install the module.
- Configure the Apache server to use the module.
- Restart the Apache server.

The following provides supplementary steps for configuring Apache HTTP for versions 1.3, 2.0, and 2.2.

4.1 Configuring the Response Time Module

JON uses SNMP to monitor an Apache server for items like availability. It can also monitor URLs hosted by the Apache server to collect response time metrics for each URL. To collect response time metrics for each URL for an Apache server, the response time metrics modules must be configured on that Apache server.

To configure the response time module for Apache HTTP 1.3, follow the steps in section 2.1.1 of the *JON Resource Monitoring and Operations Reference*, with the following exceptions:

1. To enable DSO support during compilation, do not use the command “`configure --enable-module=so`”. Instead, from the root Apache HTTP directory, execute the following:

```
configure --enable-so
```

To configure the response time module for Apache HTTP 2.0, follow the steps in section 2.1.2 of the *JON Resource Monitoring and Operations Reference*, with the following exceptions:

1. Make sure the Apache server was compiled with DSO support.

```
--enable-so
```

For Apache HTTP 2.2/EWS, follow the steps in section 2.1.2 of the *JON Resource Monitoring and Operations Reference* as written.

4.2 Configuring the Apache SNMP Module

To discover an Apache server's virtual hosts and collect metrics for them, the SNMP modules supplied by the JON Apache connector must be configured on the Apache server.

To configure the SNMP module for Apache HTTP 1.3 or 2.0, follow the steps in section 2.1.3 of the *JON Resource Monitoring and Operations Reference*, with the following exceptions:

1. To enable DSO support during compilation, do not use the command "configure --enable-module=so". Instead, from the root Apache HTTP directory, execute the following:

```
-- enable-so
```

2. Step 4, which provides instructions to install the module, only references the modules directory used for the Solaris operating system (*apache_install_directory/libexec*). For either Red Hat Enterprise Linux (RHEL) or Windows, please execute the following to install the modules:

```
For RHEL: cp module/* apache_install_directory/modules
```

```
For Windows: copy module/* apache_install_directory/modules
```

To configure the SNMP module for Apache 2.2/EWS, follow the steps in section 2.1.3 of the *JON Resource Monitoring and Operations Reference*, with the following exception:

1. Step 4, which provides instructions to install the module, only references the modules directory used for the Solaris operating system (*apache_install_directory/libexec*). For either Red Hat Enterprise Linux (RHEL) or Windows, please execute the following to install the modules:

```
For RHEL: cp module/* apache_install_directory/modules
```

```
For Windows: copy module/* apache_install_directory/modules
```

5. BASIC APACHE HTTP MONITORING

Once you have configured your Apache HTTP server properly configured, it's time to start collecting data.

First off, start up your Apache HTTP server. For example:

```
apache_install_dir/bin/apachectl -k start
```

If your JON server(s)/agent(s) have not been started, execute the following:

```
Agent(s): agentRoot/rhq-agent/bin/rhq-agent .sh
```

```
Server(s): serverRoot/jon-server-2.4.0.GA1/bin/rhq-server.sh start
```

Next, follow the following to inventory and monitor your Apache HTTP Server:

1. Inventory the Apache HTTP Server instance.

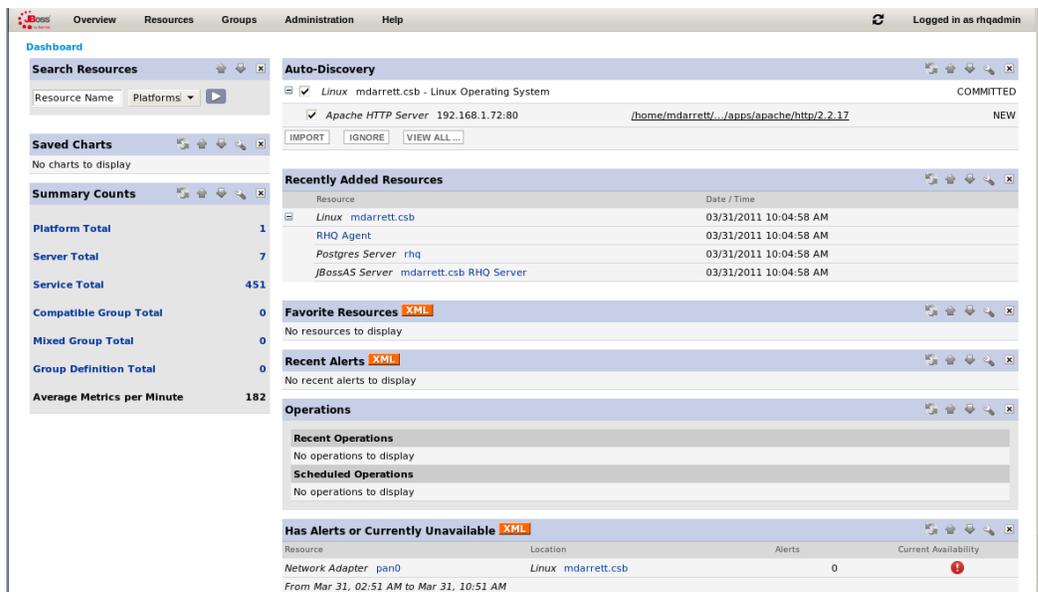


Illustration 1: Inventory Apache HTTP Server on JON

In this instance, the inventoried Apache HTTP Server instance is selectable under the inventoried operating system. Select the Apache HTTP Server instance and select **Import**.

2. Under the **Recently Added Resources** pane, expand the inventoried resources.

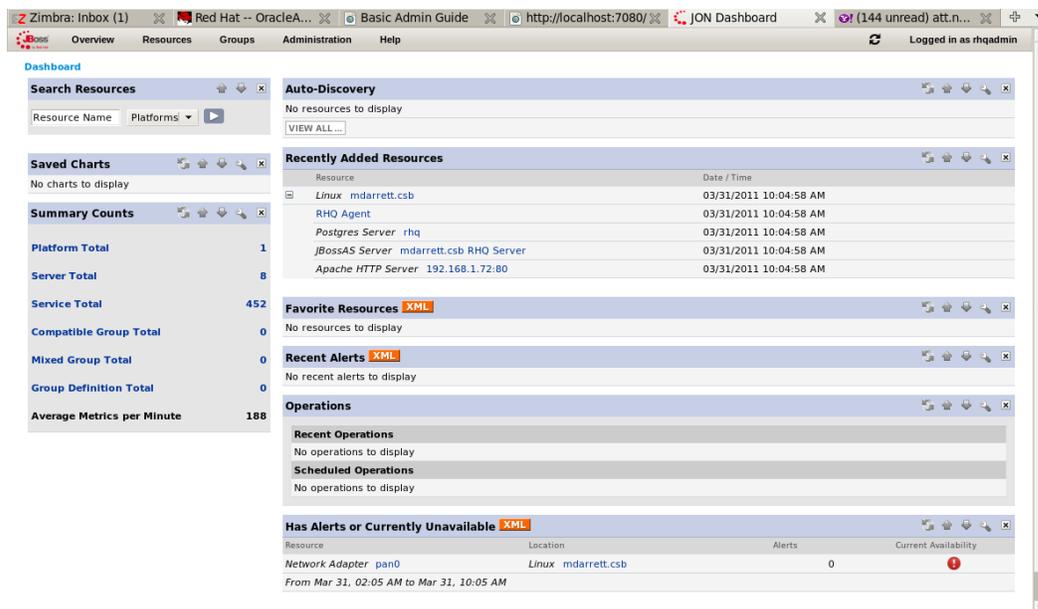


Illustration 2: Select Apache HTTP Server

Select the link to the Apache HTTP Server instance. In this case, the link IP address associated with the Apache HTTP Server instance.

- On the left-hand pane, cascade down this path: **Apache HTTP Server :: ip_address :: Apache Virtual Host :: virtual_host_name**. Select the link for the virtual host name. (In this case, it is **Main**.) You should see something like the following:

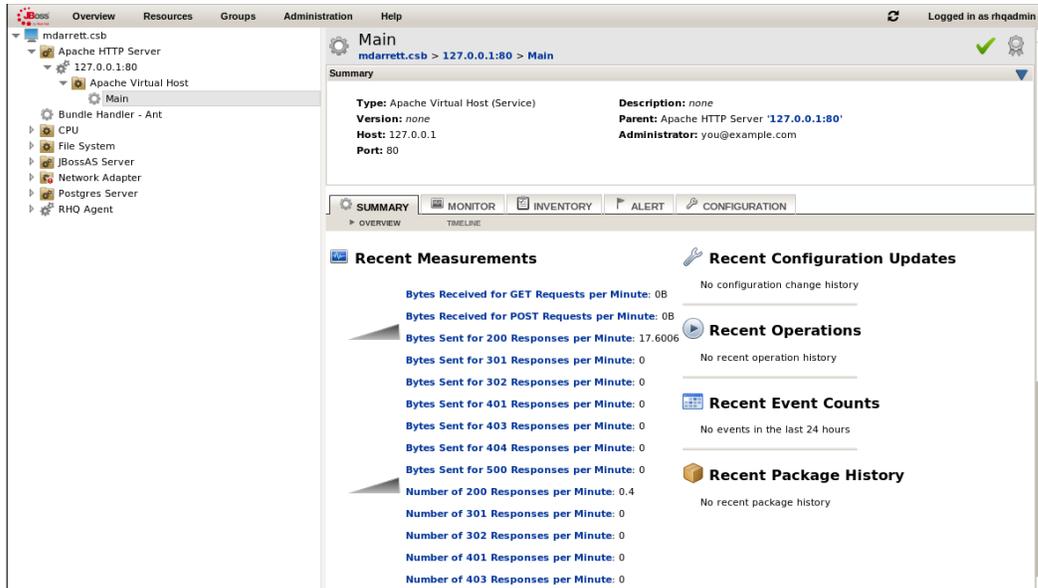


Illustration 3: Apache HTTP Server Metrics Summary

From this point onward, reference section 2.2 of the *JON Resource Monitoring and Operations Reference* for specific information on the supported Apache HTTP Server metrics.

6. REFERENCES

- *JBoss Operations Network Installation Guide*
(http://docs.redhat.com/docs/en-US/JBoss_Operations_Network/2.4/html/Installation_Guide/index.html)
- *Apache HTTP 1.3 Installation Guide*
(<http://httpd.apache.org/docs/1.3/install.html>)
- *Apache HTTP 2.0 Installation Guide*
(<http://httpd.apache.org/docs/2.0/install.html>)
- *Apache HTTP 2.2 Installation Guide*
(<http://httpd.apache.org/docs/2.2/install.html>)
- *EWS Installation Guide*
(http://docs.redhat.com/docs/en-US/JBoss_Enterprise_Web_Server/1.0/html/Release_Notes_1.0.1/index.html)
- *JON Resource Monitoring and Operations Reference*
(http://docs.redhat.com/docs/en-US/JBoss_Operations_Network/2.4/html/Resource_Monitoring_and_Operations_Reference/index.html)

Questions/Comments/Issues

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