

Weblogic Monitoring Plugin

Overview



Monitoring is a proactive, not reactive, approach to system management. That is what the Weblogic plugin is trying to provide. We have the ability to extract data that can be used for monitoring/alerting purposes, but having this history we can also start using the data for capacity planning and configuration validation (did we make things better or worse). This plugin makes collecting and storing Weblogic data easy. Add this to the graphical ability of dynaTrace and we now have a light weight and high result proactive monitoring solution.

This plugin allows you to gather metrics available in the Oracle WebLogic Console. In addition, it can also acquire the value of the oldest message in the JMS queue. The plugin collects system metric through auto discovery. This means no configuration is needed when adding or removing resources.

Plug-In Files	com.dynatrace.diagnostics.plugins.jmx_1.0.0.jar com.dynatrace.diagnostics.plugins.jmx_1.0.1.jar Weblogic Monitoring Plugin Dashboards.zip
Author	Todd Ellis (todd.ellis@dynatrace.com)
Versions	Dynatrace 5.6+, Weblogic 11g+
License	dynaTrace BSD
Support Level	Not Supported
Release History	01/XX/14 - v1.0.0 Initial Release 9/11/15 - v1.0.1

Version 1.0.1 (Be sure to follow the directions in "Updating the Plugin" below):

1. Removed unused place holders (System Profile, Metrics, and Agent Groups)
2. Added SSL connection (This plugin is configured to use the custom identity and custom trust. Also, hostname verification should be turned off on the Admin server.) You just need to tell the monitoring application where the trust.jks is located (**The trust needs to be placed on the collector running this plugin**). This will set the JVM container to use this trust for weblogic. If you have multiple instances that are going to be monitored, you will need to add the public keys to the trust.
3. Added the ability to use Regex for Application Data and Application State.

Collector Configuration:

You need to ensure the collector host is not marked as unknown. If it is, when running the plugin, you will get a local host related error. To resolve the issue for Linux:

1. Type hostname (on the collector box in order to get the host name)
2. In /etc/hosts define the hostname from above command)

On Windows, the host file is located: c:\windows\system32\drivers\etc\hosts

Installation and Configuration

1. Import the Plugin into the dynaTrace Server via the dynaTrace Server Settings menu -> Plugins -> Install Plugin. For details how to do this please refer to the dynaTrace documentation: [Plugin Management - Dynatrace Community](#)
2. Navigate to the appropriate System Profile Preferences and create a new Weblogic Monitor.
3. i. Enter the name for the monitor (eg. environment name).
ii. Fill out the Settings

Scheduled Monitor Editor

Configure Weblogic Monitor

Monitor | Schedule | Measures

Settings

Name	Type	Value
Weblogic Monitoring ...	string	10
Metric Timeout	string	5000
Environment	string	test
SSL Enabled	boolean	<input checked="" type="checkbox"/>
CustomTrustKeyStore	string	C:/DemoTrust.jks
Weblogic Server	string	localhost
Weblogic Port	string	7002
Weblogic User Name	string	weblogic
Weblogic Password	password	●●●●●●●●
Admin Server Name	string	AdminServer
Monitor JVM	boolean	<input type="checkbox"/>
Monitor Threads	boolean	<input checked="" type="checkbox"/>
Monitor Server	boolean	<input checked="" type="checkbox"/>
Monitor Cluster	boolean	<input checked="" type="checkbox"/>
Monitor Transaction	boolean	<input type="checkbox"/>
Monitor FileStore	boolean	<input type="checkbox"/>
Monitor JMS	boolean	<input type="checkbox"/>
Monitor SAF	boolean	<input type="checkbox"/>
Message Bridge	boolean	<input type="checkbox"/>
Monitor ApplicationD...	boolean	<input type="checkbox"/>
EJB Monitoring	boolean	<input type="checkbox"/>
Monitor ApplicationSt...	boolean	<input type="checkbox"/>
Monitor JDBC	boolean	<input type="checkbox"/>
Use Regex For App D...	boolean	<input checked="" type="checkbox"/>
Application Data To M...	string	Edit Application Data To Monitor
Use Regex For App St...	boolean	<input type="checkbox"/>
Application State To ...	string	Edit Application State To Monitor
Store-And-Forward A...	string	Edit Store-And-Forward Agents
Single Server Applicati...	string	Edit Single Server Application Deploy
EJB Monitor Data	string	Edit EJB Monitor Data
JMS Mod Data	string	Edit JMS Mod Data
JMS Queue Data	string	Edit JMS Queue Data
Message Bridge Data	string	Edit Message Bridge Data

Hint
Enter the description for this Task Schedule.

? OK Cancel

- Weblogic Monitoring Thread Count** - Number of threads to be used when monitoring the domain (1-10)
- Metric Timeout** - Amount of time (ms) to wait for data
- Environment** - Name of the Environment
- Weblogic Server** - Weblogic Admin Server DNS or IP
- Weblogic Port** - Port for the Admin Server
- Weblogic User Name** - Weblogic User with Admin rights (if you want to get message age with JMS)
- Weblogic Password** - Password for the Weblogic User
- Admin Server Name** - Name for the Admin Server

- i. **Monitor X** - Enable X Monitoring with checkmarks.
 - j. **Application Data to Monitor** - List the Applications that you would want to collect data (separate with newline). You can also use Regex.
 - k. **Application State to Monitor** - List the Application that you would want to collect states (separate with newline). You can also use Regex.
 - l. **Store-And-Forward Agents** - List SAF agents (separate with newline)
 - m. **Single Server Application Deploy** - List the servers and applications you want to validate if it is deployed (separate with newline)
 - n. **JMS Mods** - List the JMS Mods you would NOT want to monitor
 - o. **JMS Queues** - List the JMS queues you would NOT want to monitor. NOTE: If it is excluded in JMS Mods, it is automatically excluded in JMS queues.
 - p. **EJB Monitor** - From the Applications being monitored, list the EJBs that you would want to monitor
4. Add a host for the monitor (Weblogic Admin Server DNS or IP)
 5. Under the Schedule tab, configure the monitoring interval and dynaTrace Collector
 6. Under the Measures tab, configure the Thresholds. NOTE: For Dynamic Thresholds (different thresholds per server), refer to the [Extended EMail Action Plugin](#). With our monitoring solution, we are alerting on metrics such as Connection Status, Application Health, JDBC Running State, JMS Oldest Message Age, Execute Thread Total, Server Health, etc.
 7. Confirm data collection by right clicking the server name under Monitors, then navigating to details.

Updating the Plugin

NOTE: The following steps should be taken to ensure that the Collector is running the correct plugin revision. A restart of the Collector is [highly recommended](#).

1. Open the **System Profile Preferences**
 - a. Navigate to the **Monitors** tab in the left pane.
 - b. Select the plugin Monitor and click on the **Suspend** button.
 - c. Click **OK** to confirm the changes.
2. Open the **dynatrace Server Settings**
 - a. Navigate to the **Plugins** tab in the left pane.
 - b. Select the old version of the plugin under **Installed Plugins** and click on the **Delete** button.
 - c. Click on the **Install Plugin...** button and upload the new revision of the plugin. Click **Open**, then **Apply**.
 - d. Navigate to the **Collectors** tab in the left pane.
 - e. Select the Collector executing the plugin and click on the **Restart** button.
 - f. Click **OK** to confirm the changes.
3. Open the **System Profile Preferences**
 - a. Navigate to the **Monitors** tab in the left pane.
 - b. Select the plugin Monitor and click on the **Resume** button.
 - c. Click **OK** to confirm the changes.

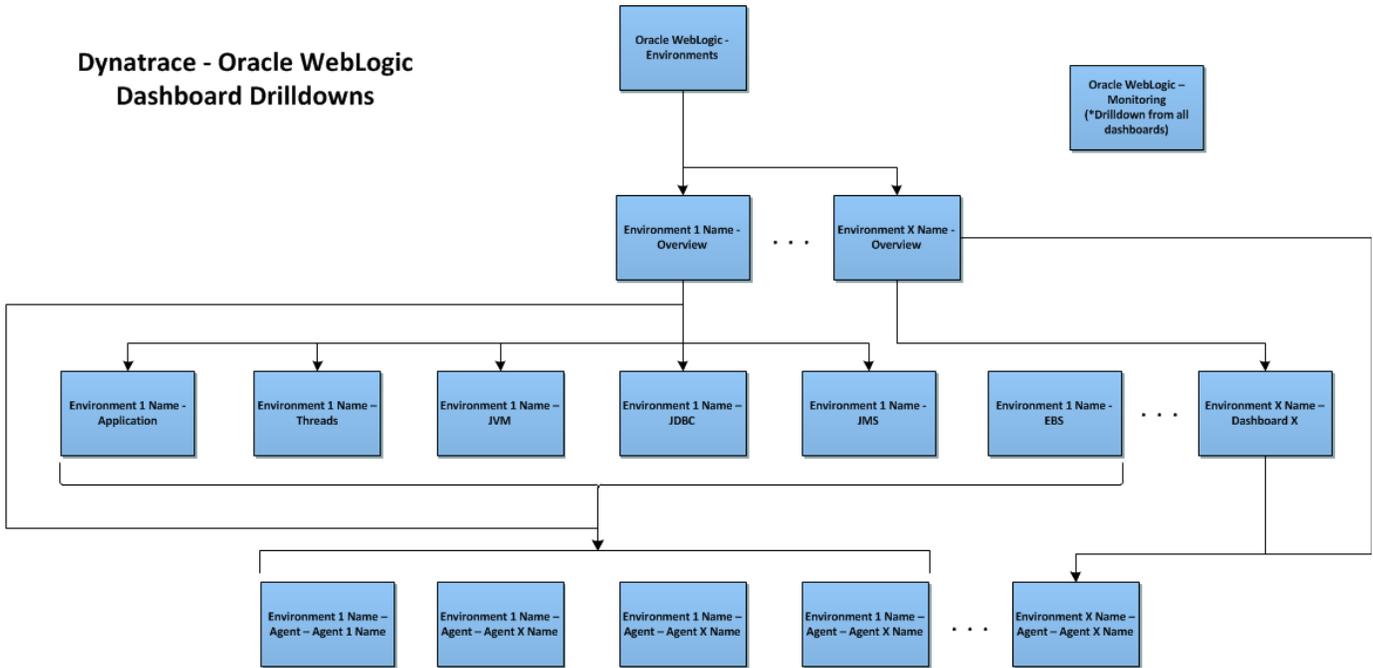
Usage

NOTE: If the JVM is monitored through Weblogic, we are limited to what MBeans are exposed. I recommend using the [JVM Monitoring Plugin](#) as it provides all relevant metrics.

A zip file containing example dashboards that utilize this plugin has been attached

Through Dashboard Links, we have created drill downs based off of the information collected (diagram below).

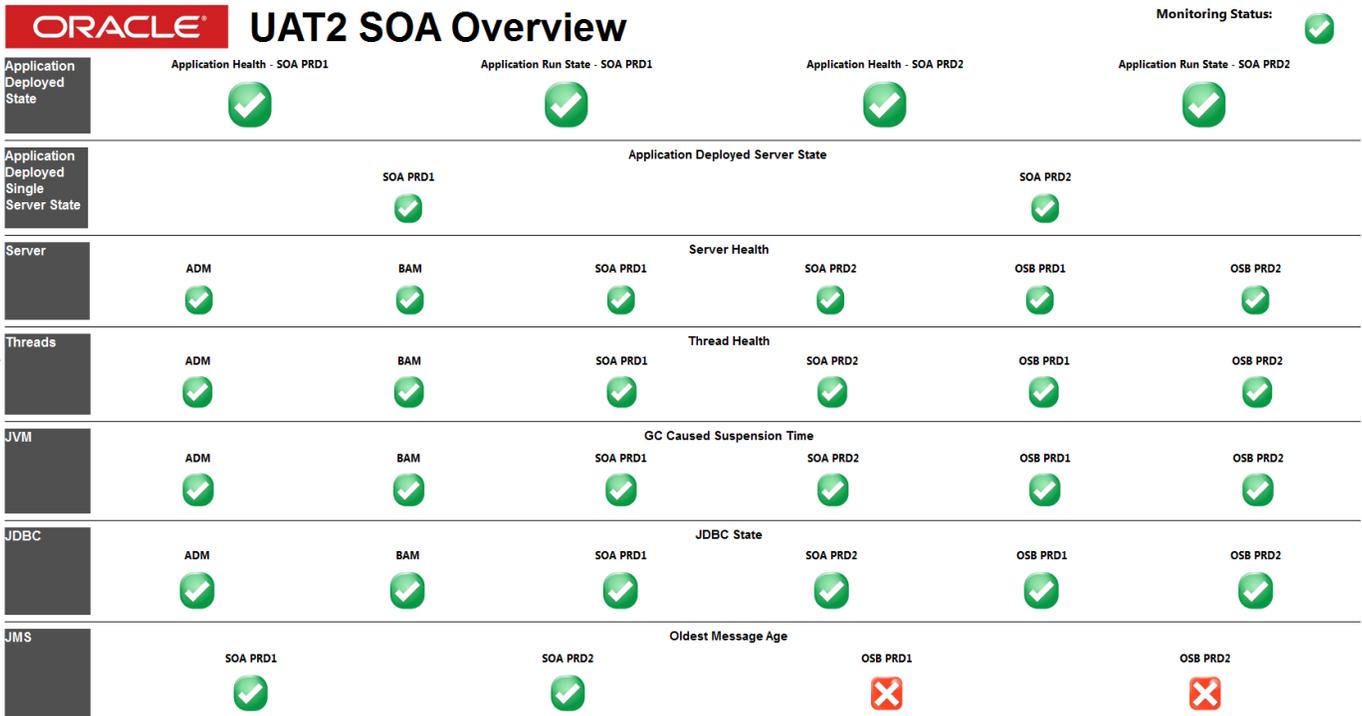
Dynatrace - Oracle WebLogic Dashboard Drilldowns



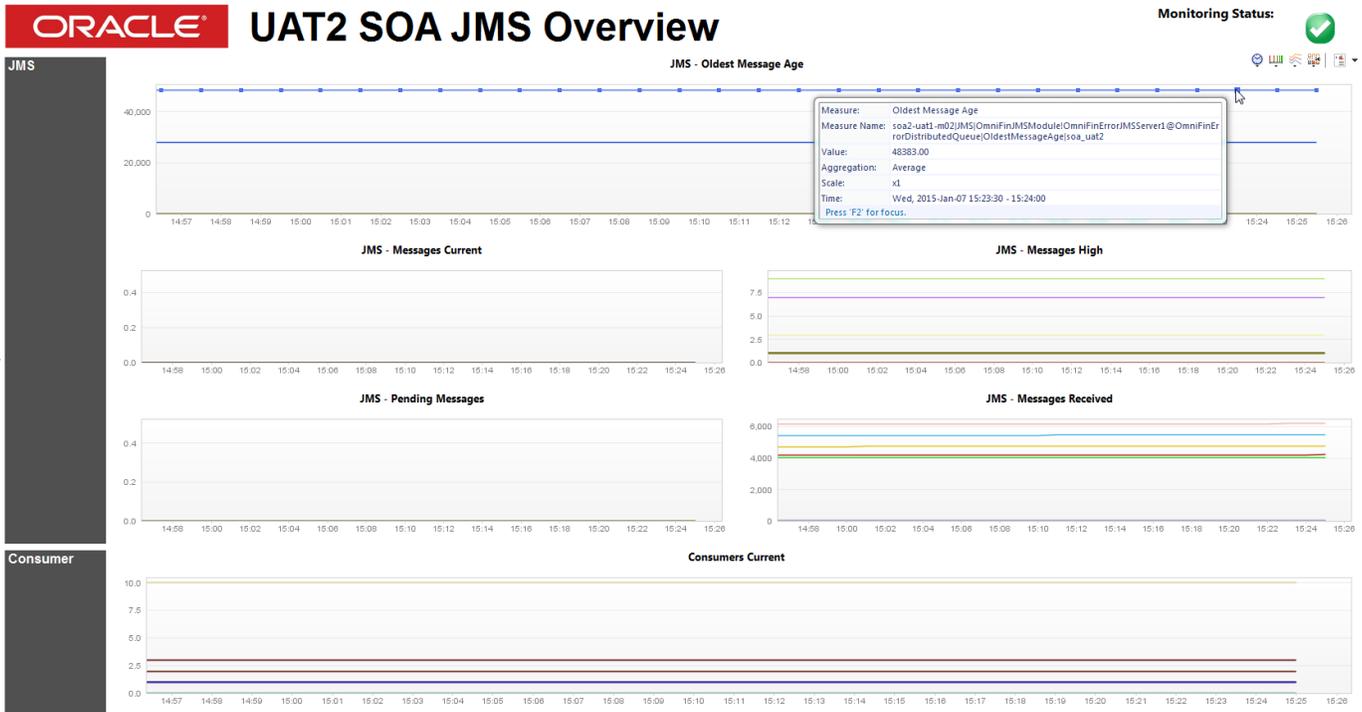
Example drill downs with the included dashboards:

Starting with the Environments dashboard.. We can see that there seems to be an issue with UAT2 SOA. To further analyze the cause, we can drill down to UAT2 SOA Overview by right clicking the red X (Dashboard Links).

The issue is due to JMS - Oldest Message Age for OSB PRD1 and OSB PRD2. We can drill down into the UAT2 SOA JMS Overview through the red X (Dashboard Links).



Hovering over the Oldest Message Age chart, we can see that there is a message in the JMS queue over the defined threshold.



Monitor the Connection Status and the Monitoring Time with the included dashboard:

Connection Status - Prod



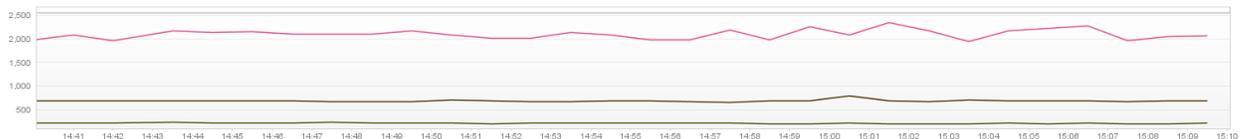
Connection Status - Test



Monitor Time - Prod



Monitor Time - Test



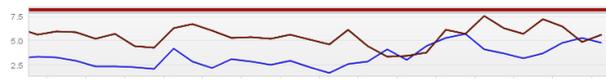
Additional Screenshots

Monitoring Status:



Overview

System Load Average



Thread Count



Heap

BAM2 UAT1 - Heap Max vs. Used



OSB2 UAT1 - Heap Max vs. Used



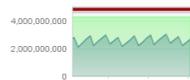
OSB2 UAT2 - Heap Max vs. Used



SOA2 UAT1 - Heap Max vs. Used



SOA2 UAT2 - Heap Max vs. Used



UAT2 UAT1 - Heap Max vs. Used



Non-Heap

BAM2 UAT1 - Non-Heap Used



OSB2 UAT1 - Non-Heap Used



OSB2 UAT2 - Non-Heap Used



SOA2 UAT1 - Non-Heap Used



SOA2 UAT2 - Non-Heap Used



UAT2 UAT1 - Non-Heap Used



Old Generation

Old Collection Count



Old Collection Time



Old Time in GC Percentage



Old Total Compacts



Young Generation

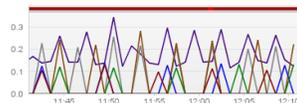
Young Collection Count



Young Collection Time



Young Time in GC Percentage



Young Total Compacts



NOTE: The JVM Overview dashboard is gathering metrics from the [JVM Monitoring Plugin](#)

Server Health

					
bam-prd1-m01 ServerHealth soa_prd	osb-prd1-m11 ServerHealth soa_prd	osb-prd2-m11 ServerHealth soa_prd	prd-prd1-a01 ServerHealth soa_prd	soa-prd1-m02 ServerHealth soa_prd	soa-prd2-m02 ServerHealth soa_prd

Running State

					
bam-prd1-m01 ServerRunningState soa_prd	osb-prd1-m11 ServerRunningState soa_prd	osb-prd2-m11 ServerRunningState soa_prd	prd-prd1-a01 ServerRunningState soa_prd	soa-prd1-m02 ServerRunningState soa_prd	soa-prd2-m02 ServerRunningState soa_prd

Listen Address

					
bam-prd1-m01 ListenAddress soa_prd	osb-prd1-m11 ListenAddress soa_prd	osb-prd2-m11 ListenAddress soa_prd	prd-prd1-a01 ListenAddress soa_prd	soa-prd1-m02 ListenAddress soa_prd	soa-prd2-m02 ListenAddress soa_prd

Open Sockets

Server Count

Server Running Time

