



NetIQ® AppManager® for IBM WebSphere Application Server UNIX Management Guide

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Contents

About this Book and the Library	5
About NetIQ Corporation	7
1 Introduction to AppManager for IBM WebSphere Application Server UNIX	9
1.1 How AppManager Can Help	9
1.2 Key Features of AppManager for IBM WebSphere Application Server UNIX	9
2 Installing AppManager for IBM WebSphere Application Server UNIX	11
2.1 System Requirements	11
2.2 Installing the Module	12
2.3 Giving the Agent Required Access to Files and Folders	14
2.4 Enabling WebSphere Application Server Performance Metrics	15
2.5 Adding WebSphere Application Server Security Information to AppManager	16
2.6 Monitoring Distributed and Clustered WebSphere Instances	17
2.7 Discovering IBM WebSphere Application Server Components	17
2.8 Upgrading Knowledge Script Jobs	20
3 WebSphereAppSrvUNIX Knowledge Scripts	23
3.1 Availability	27
3.2 DynamicCacheEviction	28
3.3 DynamicCacheHits	29
3.4 EJBActivation	30
3.5 EJBMessageDelivery	32
3.6 EJBMessageSession	33
3.7 EJBMethodCalls	34
3.8 EJBPersistence	35
3.9 EJBPool	37
3.10 HealthCheck	38
3.11 J2CUsage	40
3.12 J2C Waits	40
3.13 JDBC Driver	42
3.14 JDBC Usage	43
3.15 JDBC Waits	44
3.16 JVMGCStats	45
3.17 JVMHeap	46
3.18 JVMLocks	47
3.19 JVMObjects	48
3.20 JVMThreads	49
3.21 NetIQAgent	50
3.22 ORBInterceptor	51
3.23 ORBRequests	51
3.24 Report_HealthSummary	52
3.25 RequestMetrics	55
3.26 ServerCPU	56
3.27 ServerScanLog	56

3.28	ServletErrors	57
3.29	ServletRequests	58
3.30	SessionErrors	59
3.31	SessionInvalid	60
3.32	SessionLifetime	61
3.33	SetRMFilters	62
3.34	SetServerLogPath	63
3.35	StartServer	64
3.36	StopServer	65
3.37	ThreadPoolUsage	65
3.38	TransactionCommits	66
3.39	TransactionDuration	68
3.40	WebAppLoads	69
3.41	WLMClientRequests	70
3.42	WLMServerRequests	71
3.43	WSGWRRequests	72

A Internal AppManager Events 73

A.1	Alert Events	73
A.2	Critical Events	73
A.3	Error Events	74
A.4	Warning Events	75
A.5	Notification Events	76
A.6	Information Events	76

About this Book and the Library

The NetIQ AppManager product (AppManager) is a comprehensive solution for managing, diagnosing, and analyzing performance, availability, and health for a broad spectrum of operating environments, applications, services, and server hardware.

AppManager provides system administrators with a central, easy-to-use console to view critical server and application resources across the enterprise. With AppManager, administrative staff can monitor computer and application resources, check for potential problems, initiate responsive actions, automate routine tasks, and gather performance data for real-time and historical reporting and analysis.

Intended Audience

This guide provides information for individuals responsible for installing an AppManager module and monitoring specific applications with AppManager.

Other Information in the Library

The library provides the following information resources:

Installation Guide for AppManager

Provides complete information about AppManager pre-installation requirements and step-by-step installation procedures for all AppManager components.

User Guide for AppManager Control Center

Provides complete information about managing groups of computers, including running jobs, responding to events, creating reports, and working with Control Center. A separate guide is available for the AppManager Operator Console.

Administrator Guide for AppManager

Provides information about maintaining an AppManager management site, managing security, using scripts to handle AppManager tasks, and leveraging advanced configuration options.

Upgrade and Migration Guide for AppManager

Provides complete information about how to upgrade from a previous version of AppManager.

Management guides

Provide information about installing and monitoring specific applications with AppManager.

Help

Provides context-sensitive information and step-by-step guidance for common tasks, as well as definitions for each field on each window.

The AppManager library is available in Adobe Acrobat (PDF) format from the [AppManager Documentation](#) page of the NetIQ website.

About NetIQ Corporation

We are a global, enterprise software company, with a focus on the three persistent challenges in your environment: Change, complexity and risk—and how we can help you control them.

Our Viewpoint

Adapting to change and managing complexity and risk are nothing new

In fact, of all the challenges you face, these are perhaps the most prominent variables that deny you the control you need to securely measure, monitor, and manage your physical, virtual, and cloud computing environments.

Enabling critical business services, better and faster

We believe that providing as much control as possible to IT organizations is the only way to enable timelier and cost effective delivery of services. Persistent pressures like change and complexity will only continue to increase as organizations continue to change and the technologies needed to manage them become inherently more complex.

Our Philosophy

Selling intelligent solutions, not just software

In order to provide reliable control, we first make sure we understand the real-world scenarios in which IT organizations like yours operate — day in and day out. That's the only way we can develop practical, intelligent IT solutions that successfully yield proven, measurable results. And that's so much more rewarding than simply selling software.

Driving your success is our passion

We place your success at the heart of how we do business. From product inception to deployment, we understand that you need IT solutions that work well and integrate seamlessly with your existing investments; you need ongoing support and training post-deployment; and you need someone that is truly easy to work with — for a change. Ultimately, when you succeed, we all succeed.

Our Solutions

- ◆ Identity & Access Governance
- ◆ Access Management
- ◆ Security Management
- ◆ Systems & Application Management
- ◆ Workload Management
- ◆ Service Management

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1 Introduction to AppManager for IBM WebSphere Application Server UNIX

WebSphere Application Server helps you develop and manage high-performance websites, and integrate with new or existing non-Web business information systems. WebSphere Application Server allows you to:

- ◆ Develop distributed enterprise-wide business systems and applications that help you maintain or create a strong Web presence.
- ◆ Integrate your Web applications with existing information systems.

1.1 How AppManager Can Help

AppManager provides a comprehensive solution for monitoring the activity in WebSphere Application Servers, along with all your other mission-critical resources. With AppManager, you can:

- ◆ Gather and view performance data for real-time and historical reporting.
- ◆ Continuously monitor computer resources with little or no manual intervention.
- ◆ Initiate corrective or responsive actions automatically.
- ◆ Set thresholds and event notification levels.
- ◆ View application configuration details.
- ◆ Stay informed about potential and current system problems.
- ◆ Extend monitoring functionality with easy-to-use scripting tools.

1.2 Key Features of AppManager for IBM WebSphere Application Server UNIX

AppManager for IBM WebSphere Application Server UNIX provides real-time performance and status monitoring of WebSphere Application Servers. The AppManager agent (installed on the server where WebSphere Application Server is running) collects performance data and returns it to the AppManager console in real time.

- ◆ **Real-time Performance Monitoring** AppManager for IBM WebSphere Application Server UNIX monitors application server performance and availability in real time by:
 - Gathering metrics directly from the application server
 - Monitoring the application server's log files for warnings or errors
- ◆ **Request Metrics Response Time Breakdown** AppManager for IBM WebSphere Application Server UNIX can gather response time metrics for requests made to a Web application and present a breakdown of the request-processing time that shows how much time was spent making Enterprise JavaBean (EJB) method calls and accessing databases through Java Database Connectivity (JDBC).

- ♦ **Broad Coverage of WebSphere Application Server Components** AppManager for IBM WebSphere Application Server UNIX can monitor the performance of a large number of WebSphere Application Server components, including the following:
 - EJBs
 - JDBC and Java 2 Connectivity (J2C) connection pools
 - Application Server Java Virtual Machine
 - Object Request Broker
 - Web Applications and Servlets
 - Session and Transaction Managers
 - Thread Pools
 - Web Services Gateway
- ♦ **Support for WebSphere Application Server in a Distributed Environment** AppManager for IBM WebSphere Application Server UNIX can monitor WebSphere Application Server components in a distributed or clustered environment using the WebSphere Deployment Manager.

2 Installing AppManager for IBM WebSphere Application Server UNIX

This chapter provides requirements for how to install AppManager for IBM WebSphere Application Server UNIX.

This chapter assumes you have an AppManager repository, console, management server, and UNIX agent installed. For more information about installing AppManager, see the *Installation Guide for AppManager* and for information about installing the UNIX agent, see the *AppManager for UNIX and Linux Servers Management Guide*, which are available on the [AppManager Documentation](#) page.

2.1 System Requirements

For the latest information about specific supported software versions and the availability of module updates, visit the [AppManager Supported Products](#) page.

AppManager for IBM WebSphere Application Server UNIX has the following system requirements:

Item	Requirement
AppManager repository, management server, and Control Center console	7.0 or later
NetIQ UNIX Agent	7.1 or later
Java Runtime Environment (JRE)	32-bits, 1.8.0_20 or later NOTE: The JRE can be a new installation or an existing 32-bit installation used by WebSphere or another application on the UNIX agent computer. The UNIX agent must have permission to run Java applications in the JRE.
Operating system on agent computers	One of the following: <ul style="list-style-type: none">◆ CentOS◆ HP-UX◆ IBM AIX◆ Oracle Linux◆ Oracle Solaris◆ Red Hat Enterprise Linux◆ SUSE Linux Enterprise Server
IBM WebSphere Application Server	One of the following: <ul style="list-style-type: none">◆ IBM WebSphere Application Server 7.0, 8.0, or 8.5◆ IBM WebSphere Application Server - Express 7.0, 8.0, or 8.5◆ IBM WebSphere Application Server Network Deployment 7.0, 8.0, or 8.5

If you encounter problems using this module with a later version of your application, contact [NetIQ Technical Support](#).

2.2 Installing the Module

To install the module you must:

- ◆ Install the Knowledge Scripts by running the module installer `.msi` on all AppManager repositories that store data for this module.
- ◆ Install the Help files by running the module installer `.msi` on all AppManager Control Center and Operator Console computers you will use with this module.
- ◆ Ensure multiple WebSphere Application Server instances, either standalone or distributed, that will be discovered through a single host system, all have the same credentials in Security Manager.
- ◆ Ensure that the UNIX agent has the appropriate patch installed on the computer you want to monitor:
 - UNIX agent 8.0 with patch 8.0.0.2
 - UNIX agent 7.5 with patch 7.5.0.5
 - UNIX agent 7.2 with patch 7.2.0.14
 - UNIX agent 7.1 with patch 7.1.0.55

IMPORTANT: If you plan to discover multiple WebSphere Application Server instances through a single host system, whether standalone or distributed, all must have the same credentials in Security Manager.

You can access the `AM70-WebSphereAppSrvUNIX-8.x.x.0.msi` module installer and the patches from the `AM70_WebSphereAppSrvUNIX_8.x.x.0` self-extracting installation package on the [AppManager Module Upgrades & Trials](#) page.

The module installer now installs Knowledge Scripts for each module directly into the QDB instead of to the `\AppManager\qdb\kp` folder as in previous releases of AppManager.

To install the module:

- 1 Ensure you have the UNIX agent installed on the managed computer or computers. For information about how to install the agent, see the *AppManager for UNIX and Linux Servers Management Guide*.
- 2 (Conditional) If you have UNIX agent 7.1, apply patch 7.1.0.55 to the computers you want to monitor. For information about how to apply UNIX agent patches, see the *AppManager for UNIX and Linux Servers Management Guide*.
- 3 (Conditional) If you have UNIX agent 7.2, apply patch 7.2.0.14 to the computers you want to monitor. For information about how to apply UNIX agent patches, see the *AppManager for UNIX and Linux Servers Management Guide*.
- 4 (Conditional) If you have UNIX agent 7.5, apply patch 7.5.0.5 to the computers you want to monitor. For information about how to apply UNIX agent patches, see the *AppManager for UNIX and Linux Servers Management Guide*.
- 5 (Conditional) If you have UNIX agent 8.0, apply patch 8.0.0.2 to the computers you want to monitor. For information about how to apply UNIX agent patches, see the *AppManager for UNIX and Linux Servers Management Guide*.

- 6 (Conditional) If WebSphere Application Server requires you to provide credentials to configure WebSphere Application Server or to access performance data, you must store this sensitive information in the AppManager repository to discover WebSphere Application Server and to run WebSphereAppSrvUNIX Knowledge Scripts. For more information, see [Section 2.5, “Adding WebSphere Application Server Security Information to AppManager,”](#) on page 16.
- 7 (Conditional) If the AppManager agent is not running as a root user, you must give the agent permission to run the WebSphere Application Server program and to write to the WebSphere Application Server log files. For more information, see [Section 2.3, “Giving the Agent Required Access to Files and Folders,”](#) on page 14.
- 8 Enable PMI and deploy the Performance servlet. For more information, see [Section 2.4, “Enabling WebSphere Application Server Performance Metrics,”](#) on page 15.
- 9 Install the Knowledge Scripts into the QDB by running the module installer on the QDB computer:
 - 9a Select **Install Knowledge Scripts** to install the repository components.
 - 9b Specify the SQL Server name of the server hosting the QDB, as well as the case-sensitive QDB name.
- 10 (Conditional) If you use Control Center 7.x, run the module installer for each QDB attached to Control Center.
- 11 (Conditional) If you use Control Center 8.x, run the module installer only for the primary QDB. Control Center automatically replicates this module to secondary QDBs.
- 12 Run the module installer on all console computers to install the Help and console extensions.
- 13 (Conditional) If you have not discovered WebSphere Application Server resources, run the Discovery_WebSphereAppSrvUNIX Knowledge Script on all agent computers that you want to monitor. When you run the discovery Knowledge Script, the agent must be running under the root account and the PMI monitoring level must be set to Extended. For more information about how to run discovery, see [Section 2.7, “Discovering IBM WebSphere Application Server Components,”](#) on page 17.
- 14 To get the updates provided in this release, upgrade any running Knowledge Script jobs. For more information, see [Section 2.8, “Upgrading Knowledge Script Jobs,”](#) on page 20.

After the installation has completed, the `WebSphereAppSrvUNIX_Install.log` file, located in the `\NetIQ\Temp\NetIQ_Debug\<ServerName>` folder, lists any problems that occurred.

2.2.1 Silently Installing the Knowledge Scripts

To silently install the module on an AppManager repository, you can use Windows authentication or SQL authentication.

Windows authentication:

```
AM70-WebSphereAppSrvUNIX-8.x.x.0.msi /qn MO_B_QDBINSTALL=1 MO_B_SQLSVR_WINAUTH=1
MO_SQLSVR_NAME=[SQLServerName] MO_QDBNAME=[AMRepositoryName]
```

SQL authentication:

```
AM70-WebSphereAppSrvUNIX-8.x.x.0.msi /qn MO_B_QDBINSTALL=1 MO_B_SQLSVR_WINAUTH=0
MO_SQLSVR_USER=[SQL login] MO_SQLSVR_PWD=[SQLLoginPassword]
MO_SQLSVR_NAME=[SQLServerName] MO_QDBNAME=[AMRepositoryName]
```

2.2.2 Configuring the Module to Use a Java Runtime Environment

AppManager for IBM WebSphere Application Server UNIX requires a 32-bit JRE in order to execute correctly. You can install a new 32-bit JRE on the UNIX agent computer or use one that already exists there.

NOTE: You can verify that a JRE is 32-bit by inspecting the `OS_ARCH` value in the JRE `release` file.

To configure AppManager for IBM WebSphere Application Server UNIX to use a 32-bit JRE:

- 1 Restart the UNIX agent on the IBM WebSphere Application Server computer.
- 2 Drop AppManager for IBM WebSphere Application Server UNIX on the UNIX agent computer.
- 3 Specify the full path to the 32-bit JRE in the Discovery parameter *Full path of the NetIQAgent JRE directory*.
- 4 Start Discovery.

NOTE: If you specify Discovery parameter *Full path of the NetIQAgent JRE directory* incorrectly, Discovery raises an event with the detailed message:

JAVA0010: The NetIQ Agent could not be started.

2.3 Giving the Agent Required Access to Files and Folders

When the UNIX agent runs as a user other than root, you must ensure that the run as account for the agent has permissions to run the WebSphere Application Server utilities and to write to the log files created by WebSphere Application Server utilities. Ensure that the account has read/write permissions for the following files and folders:

- ◆ logs
- ◆ tranlog
- ◆ bin
- ◆ samples
- ◆ installableApps
- ◆ configuration
- ◆ profiles
- ◆ properties
- ◆ uninstall
- ◆ java

If you run a Knowledge Script that requires write permissions on a log file, and the agent does not have write permission, the Knowledge Script raises an event with a status of Error. To resolve this problem, view the event detail message to identify the log file and give the agent's run as account write permissions.

On computers running UNIX agent 7.2 using a non-root user account, ensure that the agent account has execution permission for the `/etc/vsaunix.cfg` file.

On computers running WebSphere Application Server 8.0 or 8.5, ensure that the agent account has permission to write to the `$HOME/.java` folder.

2.4 Enabling WebSphere Application Server Performance Metrics

For AppManager to discover WebSphere Application Server services and collect performance information, you must configure WebSphere Application Server to:

- ♦ Enable the Performance Monitoring Infrastructure (PMI), including the Java Virtual Machine (JVM) interface.
- ♦ Deploy the Performance servlet
- ♦ Use Extended PMI monitoring level

If you change the PMI monitoring level after discovery, Knowledge Scripts that require PMI monitoring level *Extended* raise an error event to indicate the data source could not be found.

To enable PMI and deploy the Performance servlet:

- 1 In the WebSphere Application Server Administrative Console, click the '+' symbol next to **Servers** in the left frame of the browser window, then click **Servers > Application Servers**.
- 2 For each application server where you want to enable PMI:
 - 2a Click the server name link.
 - 2b Click the **Performance Monitoring Infrastructure** link near the bottom of the page.
 - 2c On the Performance Monitoring Infrastructure page, click **All**.
 - 2d Click **Standard**. This sets the monitoring level to *Extended* for all modules.
 - 2e Click **Custom**. The monitoring level will remain set to *Enabled* for all matrices.
 - 2f Click **OK** to accept the changes. This returns you to the top-level administration page for the application server.
 - 2g Click the **Server Infrastructure > Java and Process Management > Process Definition** link.
 - 2h Click the **Java Virtual Machine** link.
 - 2i In the **Generic JVM arguments** field, specify the following argument to enable the Java Virtual Machine Tool Interface (JVMTI) interface:

```
-agentlib:pmiJvmtiProfiler
```
 - 2j Click **OK** to save the changes.
- 3 Click **Save** at the top of the right page to save the changes to the master configuration.
- 4 In the WebSphere Application Server Administrative Console, click the '+' symbol next to **Applications** in the left frame of the browser window, then click **Install New Application**.
- 5 Select either **Local path** or **Remote File System**, depending on whether the browser is running on the same computer as the WebSphere Application Server or on a different computer.
- 6 Specify the path to the Performance servlet EAR file on the server computer. For example, /opt/WebSphere/AppServer/installableApps/perfServletApp.ear.
- 7 Click **Next**, then continue clicking **Next** on each subsequent page. On the last page, click **Finish** to install the application.
- 8 If asked whether you want to save the changes to the master configuration, click **Save**.
- 9 In the left pane, click **Applications > Enterprise Applications** to display a list of installed applications in the right pane.

- 10 Select the **perfServletApp** application.
- 11 Click **Start** near the top of the page to run the Performance servlet application.

2.5 Adding WebSphere Application Server Security Information to AppManager

In many environments, WebSphere Application Server installations will have some level of security enabled to prevent unauthorized users from accessing sensitive data, or from configuring WebSphere Application Server.

If WebSphere Application Server requires you to provide credentials for configuration or to access performance data, you must store this sensitive information in the AppManager repository. WebSphere Application Server Knowledge Scripts do not prompt you for WebSphere Application Server credentials.

AppManager requires WebSphere Application Server administrator credentials to:

- ♦ Access performance metrics provided by the Performance servlet. The agent uses the account credentials to send Basic HTTP requests to the Performance servlet.
- ♦ Test the responsiveness of the servlet you specify when running the [HealthCheck](#) Knowledge Script. The agent uses the account credentials you specify to send Basic HTTP requests to the servlet specified in the HealthCheck Knowledge Script.
- ♦ Access WebSphere Application Server administrative functions, such as starting and stopping the application server, updating configuration settings related to the Performance Monitoring Infrastructure (PMI) monitoring levels, or enabling and setting filters for PMI Request Metrics. The agent uses the account credentials you specify to run WebSphere Application Server administrative utilities from the command line.

Use AppManager Security Manager to store the usernames and passwords that are required by AppManager for IBM WebSphere Application Server UNIX.

To store sensitive information for Knowledge Scripts to use:

- 1 In Security Manager, select a WebSphere Application Server computer.
- 2 On the **Custom** tab, click **Add**.
- 3 In the **Label** field, enter `WebSphereAppSrv`.
- 4 In the **Sub-label** field, enter one of the following:
 - `Perfservlet login`
 - `User servlet login`
 - `Administrative login`
- 5 In the **Value 1** field, enter the login (username).
- 6 In the **Value 2** field, enter the password associated with the login.
- 7 Leave the **Value 3** field blank.
- 8 Select **Extended application support**.
- 9 Click **OK**.
- 10 Repeat [Step 3](#) through [Step 9](#) to add authentication information for the Perfservlet login, User servlet login, and the Administrative login.

- 11 Repeat these steps for each WebSphere Application Server computer.
- 12 When you have finished, click **Apply** at the bottom right of the main Security Manager window to exit the application.

2.6 Monitoring Distributed and Clustered WebSphere Instances

AppManager for IBM WebSphere Application Server UNIX can monitor distributed and clustered WebSphere Application Server instances through WebSphere Deployment Manager. The distributed or clustered installations must be federated to the Deployment Manager profile.

2.6.1 Installation and Discovery

To monitor distributed or clustered WebSphere Application Server instances federated to Deployment Manager, you must install a UNIX agent on the Deployment Manager computer and configure AppManager for IBM WebSphere Application Server UNIX discovery to discover the Deployment Manager profile. You can configure discovery by making the Deployment Manager profile directory part of the discovery **Directories to search for WebSphere home directory** parameter.

If the Deployment Server path contains a 32-bit JRE suitable for AppManager for IBM WebSphere Application Server UNIX, you need not provide a path in the **Full path to the NetIQAgent JRE directory** parameter. Discovery will find and use the Deployment Server JRE by default.

Discovery can take longer for distributed or clustered WebSphere Application Server instances, depending on the number of servers and clusters involved. If a server is shut down at discovery time, it will not show up in the object tree. If a cluster is shut down, that is, if all the servers in the cluster are shut down, the object tree includes a dummy node representing the cluster.

2.6.2 Unsupported Knowledge Scripts

AppManager for IBM WebSphere Application Server UNIX supports all Knowledge Scripts for monitoring distributed or clustered instances through the Deployment Manager profile except for the following:

- WebSphereAppSrvUNIX_ServerCPU
- WebSphereAppSrvUNIX_RequestMetrics
- WebSphereAppSrvUNIX_ServerScanLog
- WebSphereAppSrvUNIX_SetServerLogPath

If you drop one of these Knowledge Scripts on a WebSphere Application Server instance monitored through the Deployment Manager profile, the Knowledge Script raises the following information event:

```
This KS does not support Deployment Manager profiles
```

2.7 Discovering IBM WebSphere Application Server Components

Use the Discovery_WebSphereAppSrvUNIX Knowledge Script to discover instances of WebSphere Application Server. When you run the discovery Knowledge Script, the agent must be running under the root account and the PMI monitoring level must be set to Extended.

NOTE: If a discovered WebSphere Application Server object includes a colon (:) in the name, the Operator Console replaces the colon with a backslash (\). For example, if the object name is `Object: ws/WSSecureMap`, the object name is displayed as `Object\ ws/WSSecureMap`.

Use this script to discover any or all of the application servers running on a computer. However, if multiple application servers (associated with either a single WebSphere Application Server installation, or multiple coexisting installations) are to be discovered on a single computer, they must all be discovered simultaneously, with a single execution of the discovery script. This is because each time discovery is run, the discovered resources are replaced, so that if one instance is discovered, and then a second instance is discovered, the resources associated with the instance discovered first will be lost.

This Knowledge Script takes the URL of the Performance servlet Web application as a parameter. This URL is relative to the computer being discovered, so the default URL, which points to localhost, will probably work on most single-host WebSphere Application Server deployments. However, in multi-node WebSphere Application Server deployments, the Performance servlet normally runs on a single server in the domain. In such cases, you will need to change the value of this parameter to point to the proper location.

You can run discovery against multiple computers at once by running the discovery script on a server group. However, all application servers being discovered concurrently must be members of the same WebSphere Application Server domain, with the same Performance servlet URL providing performance data for each of the servers. If you run the discovery script against more than one server, make sure you change the URL from localhost to the appropriate hostname, or each server attempts to contact the Performance servlet on the local computer.

If you must use a proxy server to access the Performance servlet URL, you need to specify the proxy server host name or IP address, and the proxy server port number. If the proxy server requires a login and password, supply them here. If no proxy lies between the agent computer and the Performance servlet, leave all four proxy fields blank.

NOTE

- ◆ If you specify a proxy server, the Performance servlet URL that you specify should not include a hostname of localhost, because localhost will be interpreted by the proxy server, causing the proxy server to attempt to connect to itself. When using a proxy server, the Performance servlet URL must specify the actual hostname of the computer being discovered.
 - ◆ The proxy server you specify will be used when accessing the optional servlet URL specified in the [HealthCheck](#) Knowledge Script, as well as when accessing the Performance servlet. You cannot specify a separate proxy, or no proxy, for the HealthCheck servlet.
-

As part of the discovery process, this Knowledge Script:

- ◆ Starts a Java server on the discovered host that the AppManager managed object uses to communicate with WebSphere Application Server.
- ◆ Specifies the port that the Java server uses to communicate with the managed object.

If you encounter problems with WebSphere Application Server Knowledge Scripts collecting performance data, use the [NetIQAgent](#) Knowledge Script to stop and restart the Java server.

If you run the [RequestMetrics](#) Knowledge Script, ensure that the same port number is specified for all the computers you discover. If you do not intend to use the [RequestMetrics](#) Knowledge Script, this restriction does not apply. However, you still must supply a valid (otherwise unused) TCP port number.

Set the **Values** tab parameters as needed.

Description	How to Set It
Raise event if discovery succeeds? (y/n)	Set to Yes to raise an event when WebSphere resource discovery succeeds. The default is n.
Event severity when discovery succeeds	Specify the event severity, from 1 to 40, to indicate the importance of an event in which WebSphere resource discovery succeeds. The default is 25.
Event severity when discovery fails	Specify the event severity, from 1 to 40, to indicate the importance of an event in which WebSphere resource discovery fails. The default is 5.
Event severity for partial discovery	Specify the event severity, from 1 to 40, to indicate the importance of an event in which WebSphere resource discovery partially succeeds. The default is 15.
Perfservlet URLs (semicolon-separated)	Specify one or more URLs of the Performance servlet Web application, separated by semicolons. For the discovery process to succeed, the Performance servlet must be running and able to provide performance data for application servers running on the target host. The default is <code>http://localhost:9080/wasPerfTool/servlet/perfservlet</code> .
Directories to search for WebSphere home directory (semicolon-separated)	Specify the list of directories to search for the WebSphere Application Server home directory. Separate multiple directory entries with semicolons. The default is <code>/opt/IBM/WebSphere/AppServer</code> .
TCP port for accepting requests	Specify the TCP port that the Java server uses to communicate with the AppManager managed object. The same port must be specified for all computers on which the agent runs in order for the RequestMetrics Knowledge Script to function properly. The default TCP port is 4000.
Proxy host	Specify the host name or IP address of the computer on which the Web proxy server is running. If you do not use a proxy server, leave this field blank.
Proxy port	Specify the port number to use when connecting to the proxy server. If you specify a proxy host, you must specify a port as well. If you are not using a proxy server, leave this field blank.
Proxy login	Specify the username to use when logging into the proxy server. If the proxy server does not require authorization, or if you are not using a proxy server, leave this field blank.
Proxy password	Specify the password associated with the proxy login. If the proxy server does not require authentication, or if the login being used does not have an associated password, or if you are not using a proxy server, leave this field blank.

Description	How to Set It
Full path of the NetIQAgent JRE directory	<p>Specify the full path to the NetIQ UNIX agent 32-bit Java Runtime Environment (JRE) directory. For more information about JRE requirements, see Section 2.1, “System Requirements,” on page 11. The default is a null string.</p> <p>NOTE: This path should terminate with the <code>jre</code> directory and not the <code>bin</code> directory. For example, <code>/usr/java/jdk1.8_20/jre</code>.</p> <p>IMPORTANT: If you do not specify a NetIQAgent JRE directory, Discovery will, by default, search the paths provided for parameter Directories to search for WebSphere home directory. If the first discovered JRE is a 64-bit instance, the Java portions of this product will not work.</p>

2.8 Upgrading Knowledge Script Jobs

This release of AppManager for WebSphere Application Server contains updated Knowledge Scripts. You can push the changes for updated scripts to running Knowledge Script jobs in one of the following ways:

- ◆ Use the `AMAdmin_UpgradeJobs` Knowledge Script.
- ◆ Use the Properties Propagation feature.

2.8.1 Running `AMAdmin_UpgradeJobs`

The `AMAdmin_UpgradeJobs` Knowledge Script can push changes to running Knowledge Script jobs. Your AppManager repository (QDB) must be at version 7.0 or later. In addition, the repository computer must have hotfix 72040 installed, or the most recent AppManager repository hotfix. To download the hotfix, see the [AppManager Suite Hotfixes](#) page.

Upgrading jobs to use the most recent script version allows the jobs to take advantage of the latest script logic while maintaining existing parameter values for the job.

For more information, see the Help for the `AMAdmin_UpgradeJobs` Knowledge Script.

2.8.2 Propagating Knowledge Script Changes

You can propagate script changes to jobs that are running and to Knowledge Script Groups, including recommended Knowledge Script Groups and renamed Knowledge Scripts.

Before propagating script changes, verify that the script parameters are set to your specifications. Customized script parameters may have reverted to default parameters during the installation of the module. New parameters may need to be set appropriately for your environment or application.

You can choose to propagate only properties (specified in the Schedule and Values tabs), only the script (which is the logic of the Knowledge Script), or both. Unless you know specifically that changes affect only the script logic, you should propagate the properties and the script.

For more information about propagating Knowledge Script changes, see the *Control Center User Guide for AppManager*.

Propagating Changes to Ad Hoc Jobs

You can propagate the properties and the logic (script) of a Knowledge Script to ad hoc jobs started by that Knowledge Script. Corresponding jobs are stopped and restarted with the Knowledge Script changes.

To propagate changes to ad hoc Knowledge Script jobs:

- 1 In the Knowledge Script view, select the Knowledge Script for which you want to propagate changes.
- 2 Right-click the script and select **Properties propagation > Ad Hoc Jobs**.
- 3 Select the components of the Knowledge Script that you want to propagate to associated ad hoc jobs:

Select	To propagate
Script	The logic of the Knowledge Script.
Properties	Values from the Knowledge Script Schedule and Values tabs, such as schedule, monitoring values, actions, and advanced options.

Propagating Changes to Knowledge Script Groups

You can propagate the properties and logic (script) of a Knowledge Script to corresponding Knowledge Script Group members.

After you propagate script changes to Knowledge Script Group members, you can propagate the updated Knowledge Script Group members to associated running jobs. For more information, see [“Propagating Changes to Ad Hoc Jobs” on page 21](#).

To propagate Knowledge Script changes to Knowledge Script Groups:

- 1 In the Knowledge Script view, select the Knowledge Script Group for which you want to propagate changes.
- 2 Right-click the Knowledge Script Group and select **Properties propagation > Ad Hoc Jobs**.
- 3 (Conditional) If you want to exclude a Knowledge Script member from properties propagation, deselect that member from the list in the Properties Propagation dialog box.
- 4 Select the components of the Knowledge Script that you want to propagate to associated Knowledge Script Groups:

Select	To propagate
Script	The logic of the Knowledge Script.
Properties	Values from the Knowledge Script Schedule and Values tabs, including the schedule, actions, and Advanced properties.

- 5 Click **OK**. Any monitoring jobs started by a Knowledge Script Group member are restarted with the job properties of the Knowledge Script Group member.

3 WebSphereAppSrvUNIX Knowledge Scripts

AppManager provides Knowledge Scripts for monitoring WebSphere Application Servers.

From the Knowledge Script view of the Control Center console, you can access more information about any NetIQ-supported Knowledge Script by selecting it and pressing F1.

Administrative Knowledge Scripts

The following Knowledge Scripts perform administrative tasks associated with WebSphere Application Server:

Knowledge Script	What It Does
NetIQAgent	Starts or stops the Java server that the managed object uses to communicate with WebSphere Application Server.
SetRMFilters	Sets filters for logging request metrics traces.
SetServerLogPath	Sets the path of the server's primary JVM log file.
StartServer	Starts an application server instance.
StopServer	Stops an application server instance.

Dynamic Cache Knowledge Scripts

The following Knowledge Scripts are focused on the dynamic cache:

Knowledge Script	What It Does
Availability	Returns the number of local and remote requests made.
DynamicCacheHits	Returns the number of cache hits in memory and on disk, and the number of cache misses.

Enterprise Java Bean Knowledge Scripts

The following Knowledge Scripts are focused on Enterprise Java Beans (EJBs):

Knowledge Script	What It Does
EJBActivation	Returns counts and response times for activation and passivation of entity and stateful session beans.
EJBMessageDelivery	Returns the number of messages that were delivered, and that failed to be delivered, to message driven beans.
EJBMessageSession	Returns server session statistics for the message driven bean pool.
EJBMethodCalls	Returns counts and response times for bean method calls.
EJBPersistence	Returns counts and response times for entity bean loads and stores.
EJBPool	Returns statistics on pool usage for entity and stateless beans.

NOTE

- ♦ Activation and passivation counts are supported; activation and passivation times are not.
- ♦ Load and store counts are supported; load and store times are not.

Health Knowledge Scripts

The following Knowledge Scripts monitor general availability or performance metrics of WebSphere Application Server:

Knowledge Script	What It Does
Availability	Monitors the availability of the application server instance.
HealthCheck	Verifies that the server is running and can respond to requests.
RequestMetrics	Monitors the amount of time a node spent processing a request.
ServerCPU	Returns CPU utilization of the application server.
ServerScanLog	Scans the server's JVM log file(s) for lines matching a pattern. See also the SetServerLogPath Knowledge Script.

J2C Connection Pool Knowledge Scripts

The following Knowledge Scripts are focused on Java 2 Connectivity (J2C) connection pools:

Knowledge Script	What It Does
J2CUsage	Returns connection usage statistics.
J2C Waits	Returns statistics regarding how many clients are waiting for connections, and how long those clients have to wait.

JDBC Connection Pool Knowledge Scripts

The following Knowledge Scripts are focused on Java Database Connectivity (JDBC) connection pools:

Knowledge Script	What It Does
JDBCDriver	Returns the amount of time, in seconds, that the JDBC data source spent running in the JDBC driver, which includes time spent in the JDBC driver, network, and database.
JDBCUsage	Returns connection usage statistics.
JDBCWaits	Returns the amount of time, in seconds, that a JDBC data source spent waiting for a JDBC connection.

JVM Runtime Knowledge Scripts

The following Knowledge Scripts are focused on the Java Virtual Machine (JVM) runtime:

Knowledge Script	What It Does
JVMGCStats	Returns garbage collection statistics, including the count and duration of garbage collections.
JVMHeap	Returns memory heap usage statistics.
JVMLocks	Returns the number of waits for a lock that have occurred, and the average wait time.
JVMObjects	Returns object creation and deletion statistics.
JVMThreads	Returns thread creation and destruction statistics.

These Knowledge Scripts require the JVM interface to be running.

Object Request Broker Knowledge Scripts

The following Knowledge Scripts are focused on the Object Request Broker (ORB):

Knowledge Script	What It Does
ORBInterceptor	Returns the processing time for each ORB interceptor.
ORBRequests	Returns ORB request statistics, including the average object reference lookup time, the number of requests received, and the average number of concurrent requests.

Reporting Knowledge Script

The following report is focused on WebSphere Application Server:

Knowledge Script	What It Does
Report_HealthSummary	Reports the availability and response time characteristics of one or more WebSphere Application Servers.

Session Manager Knowledge Scripts

The following Knowledge Scripts are focused on the Session Manager:

Knowledge Script	What It Does
SessionErrors	Returns information about session errors that have occurred.
SessionInvalid	Returns statistics related to session invalidations.
SessionLifetime	Returns statistics related to session lifetime.

Thread Pool Knowledge Script

The following Knowledge Script is focused on thread pools:

Knowledge Script	What It Does
ThreadPoolUsage	Returns various thread pool statistics, including the number of threads created and destroyed, the number of active threads, the thread pool size, and the percentage of time that all threads in the pool are in use.

Transaction Manager Knowledge Scripts

The following Knowledge Scripts are focused on the Transaction Manager:

Knowledge Script	What It Does
TransactionCommits	Returns statistics about the number of local and global transactions committed, rolled back, and timed out.
TransactionDuration	Returns statistics about the duration of local and global transaction prepares and commits.

Web Application and Servlet Knowledge Scripts

The following Knowledge Scripts are focused on Web applications and servlets:

Knowledge Script	What It Does
ServletErrors	Returns the number of errors that have occurred while servicing requests.
ServletRequests	Returns statistics on the number of requests made, and the response time for servicing those requests.
WebAppLoads	Returns the number of servlets that were loaded and reloaded.

Web Services Gateway Knowledge Script

The following Knowledge Script is focused on the Web services gateway:

Knowledge Script	What It Does
WSGWRRequests	Returns the number of synchronous and asynchronous requests received and responses sent.

Workload Manager Knowledge Scripts

The following Knowledge Scripts are focused on the Workload Manager:

Knowledge Script	What It Does
WLMClientRequests	Returns the number of outgoing requests, and the average response time to service those requests.
WLMServerRequests	Returns the number of incoming requests of various types, and the average number of concurrent requests.

3.1 Availability

Use this Knowledge Script to monitor the availability of WebSphere Application Server. This script monitors the availability of the application server instance.

3.1.1 Resource Object

WebSphere Application Server

3.1.2 Default Schedule

The default interval for this script is Every 15 Minutes.

3.1.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise an event if the server is down. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .
Event severity when application server is not running	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 10.

3.2 DynamicCacheEviction

Use this Knowledge Script to monitor cache entry evictions (invalidations). The script records the following data:

- ◆ The number of cache entries evicted from memory by a Least Recently Used (LRU) algorithm. These entries are written to disk if disk overflow is enabled.
- ◆ The number of cache entries evicted from memory and/or disk because their timeout expired.
- ◆ The number of cache entries explicitly invalidated from memory.
- ◆ The number of cache entries explicitly invalidated from disk.

You can set this script to raise an event if the number of cache entries evicted from memory exceeds a specified threshold. Excessive eviction of memory cache entries can point to a need to increase the memory cache size.

3.2.1 Resource Object

Dynamic Cache

3.2.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.2.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise an event if a threshold is exceeded. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .

Description	How to Set It
Include results for individual templates? (y/n)	Set to n to disable collection of data and event triggering for individual cache templates, so that only aggregate data for all cached templates is processed. The default is y . NOTE: If you run this Knowledge Script on an individual template (rather than on the Dynamic Cache node) and this parameter is set to n , the script will not perform any actions.
LRU evictions threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of LRU evictions exceeds this threshold, an event is raised. The default is -1.
Event severity when LRU evictions exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of LRU evictions exceeds the threshold. The default is 25.
Timeout evictions threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of timeout evictions exceeds this threshold, an event is raised. The default is -1.
Event severity when timeout evictions exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of timeout evictions exceeds the threshold. The default is 25.

3.3 DynamicCacheHits

Use this Knowledge Script to monitor the dynamic cache hit/miss statistics. The dynamic cache is used to cache servlet and JSP results, Web services, and WebSphere Application Server commands and patterns. This script records the number of hits in memory, the number of hits on disk, and the number of misses (object not found in memory or disk cache). You can set a threshold on the cache hit ratio, which is the number of cache hits (disk plus memory) divided by the total number of hits and misses, expressed as a percentage.

3.3.1 Resource Object

Dynamic Cache

3.3.2 Default Schedule

The default interval for this script is Every 15 Minutes.

3.3.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise an event if the average hit ratio (expressed as a percentage) falls below the threshold. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .

Description	How to Set It
Include results for individual templates? (y/n)	Set to n to disable collection of data and event triggering for individual cache templates, so that only aggregate data for all cached templates is processed. The default is y . NOTE: If you run this Knowledge Script on an individual template (rather than on the Dynamic Cache node) and this parameter is set to n , the script will not perform any actions.
Cache hit ratio threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the average hit ratio (expressed as a percentage) falls below this threshold, an event is raised. The default is -1.
Event severity when cache hit ratio falls below threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.

3.4 EJBActivation

Use this Knowledge Script to monitor Enterprise Java Bean (EJB) activation rates. The script reports on the number of EJB activations and passivations, and the average amount of time required to activate and passivate an EJB. This script applies only to entity and stateful session EJBs.

This Knowledge Script requires time to complete an iteration before starting a new one. Do not set the interval to be less than Every 5 minutes.

NOTE: To discover EJB objects, an application running EJB must be available when you run the Discovery_WebSphereAppSrvUNIX Knowledge Script.

3.4.1 Resource Object

Enterprise Java Beans node or a stateful EJB module

3.4.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.4.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise an event if a threshold is exceeded. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .

Description	How to Set It
Include results for individual EJB modules? (y/n)	<p>Set to n to aggregate event and data details for the EJB modules that belong to an Enterprise Java Beans node. The default is y.</p> <p>If you run this script on a particular EJB module, rather than on the Enterprise Java Beans node, and this parameter is set to n, the script will not perform any actions unless the Include results for individual EJBs parameter is set to y.</p>
Include results for individual EJBs? (y/n)	<p>Set to n to disable collection of data and event triggering for individual EJBs, so that only aggregate data for the EJB module or Enterprise Java Bean collection is included. The default is y.</p> <p>NOTE: If you run this Knowledge Script on an individual EJB (rather than on the Enterprise Java Beans node, or on an EJB module) and this parameter is set to n, the script will not perform any actions.</p>
Activations threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of EJB activations exceeds this threshold, an event is raised. The default is -1.
Event severity when activations exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of EJB activations exceeds the threshold. The default is 25.
Passivations threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of EJB passivations exceeds this threshold, an event is raised. The default is -1.
Event severity when passivations exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of EJB passivations exceeds the threshold. The default is 25.
Average activation time threshold	Specify a threshold value greater than or equal to -1. Use -1 to ignore this threshold. If the average activation time (in seconds) exceeds this threshold, an event is raised. The default is -1.
Event severity when average activation time exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the average activation time (in seconds) exceeds this threshold. The default is 25.
Average passivation time threshold	Specify a threshold value greater than or equal to -1. Use -1 to ignore this threshold. If the average passivation time (in seconds) exceeds this threshold, an event is raised. The default is -1.
Event severity when average passivation time exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the the average passivation time (in seconds) exceeds the threshold. The default is 25.

3.5 EJBMessageDelivery

Use this Knowledge Script to monitor Enterprise Java Bean (EJB) message delivery statistics, for message-driven beans only. The script records the number of message delivery attempts, such as calls to a EJB's `onMessage` method, and the number of successful attempts.

This Knowledge Script requires time to complete an iteration before starting a new one. Do not set the interval to be less than Every 5 minutes.

NOTE: To discover EJB objects, an application running EJB must be available when you run the `Discovery_WebSphereAppSrvUNIX` Knowledge Script.

3.5.1 Resource Object

Enterprise Java Beans node or a message-driven EJB module

3.5.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.5.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise an event if the percent of messages that failed to be delivered exceeds the threshold. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .
Include results for individual EJB modules? (y/n)	Set to n to aggregate event and data details for the EJB modules that belong to an Enterprise Java Beans node. The default is y . If you run this script on a particular EJB module, rather than on the Enterprise Java Beans node, and this parameter is set to n , the script will not perform any actions unless the Include results for individual EJBs parameter is set to y .
Include results for individual EJBs? (y/n)	Set to n to disable collection of data and event triggering for individual EJBs, so that only aggregate data for the EJB module or Enterprise Java Bean collection is included. The default is y . NOTE: If you run this Knowledge Script on an individual EJB (rather than on the Enterprise Java Beans node, or on an EJB module) and this parameter is set to n , the script will not perform any actions.
Failed message delivery percent threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the percent of messages that failed to be delivered exceeds this threshold, an event is raised. The default is -1.

Description	How to Set It
Event severity when failed message delivery percent exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.

3.6 EJBMessageSession

Use this Knowledge Script to monitor the server session pool used by message-driven Enterprise Java Beans (EJBs). The script records the average time to retrieve a ServerSession from the pool, and the percentage of the server session pool that is in use.

NOTE: To discover EJB objects, an application running EJB must be available when you run the Discovery_WebSphereAppSrvUNIX Knowledge Script.

3.6.1 Resource Object

Enterprise Java Beans node or a message-driven EJB module

3.6.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.6.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise an event if a threshold is exceeded. The default is y.
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n.
Include results for individual EJB modules? (y/n)	Set to n to aggregate event and data details for the EJB modules that belong to an Enterprise Java Beans node. The default is y. If you run this script on a particular EJB module, rather than on the Enterprise Java Beans node, and this parameter is set to n , the script will not perform any actions unless the Include results for individual EJBs parameter is set to y.
Include results for individual EJBs? (y/n)	Set to n to disable collection of data and event triggering for individual EJBs, so that only aggregate data for the EJB module or Enterprise Java Bean collection is included. The default is y. NOTE: If you run this Knowledge Script on an individual EJB (rather than on the Enterprise Java Beans node, or on an EJB module) and this parameter is set to n, the script will not perform any actions.

Description	How to Set It
Average wait time threshold	Specify a threshold value greater than or equal to -1. Use -1 to ignore this threshold. If the average wait time (in seconds) to obtain a server session exceeds this threshold, an event is raised. The default is -1.
Event severity when average wait time exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the average wait time (in seconds) to obtain a server session exceeds the threshold. The default is 25.
Server session pool usage threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the average percentage of the server session pool in use exceeds this threshold, an event is raised. The default is -1.
Event severity when server session pool usage exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the average percentage of the server session pool in use exceeds the threshold. The default is 25.

3.7 EJBMethodCalls

Use this Knowledge Script to monitor Enterprise Java Bean (EJB) method call rates. The script reports on the number of EJB method calls, the current number of active methods, and the average amount of time required for each method call. This script applies to all EJBs.

NOTE: To discover EJB objects, an application running EJB must be available when you run the Discovery_WebSphereAppSrvUNIX Knowledge Script.

3.7.1 Resource Object

Enterprise Java Beans node or a single entity EJB module

3.7.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.7.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise an event if the average time (in seconds) to complete a method call exceeds the threshold. The default is y.
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n.

Description	How to Set It
Include results for individual EJB modules? (y/n)	Set to n to aggregate event and data details for the EJB modules that belong to an Enterprise Java Beans node. The default is y . If you run this script on a particular EJB module, rather than on the Enterprise Java Beans node, and this parameter is set to n , the script will not perform any actions unless the Include results for individual EJBs parameter is set to y .
Include results for individual EJBs? (y/n)	Set to n to disable collection of data and event triggering for individual EJBs, so that only aggregate data for the EJB module or Enterprise Java Bean collection is included. The default is y . NOTE: If you run this Knowledge Script on an individual EJB (rather than on the Enterprise Java Beans node, or on an EJB module) and this parameter is set to n , the script will not perform any actions.
Average method call time threshold	Specify a threshold value greater than or equal to -1. Use -1 to ignore this threshold. If the average time (in seconds) to complete a method call exceeds this threshold, an event is raised. The default is -1.
Event severity when average method call time exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.

3.8 EJBPersistence

Use this Knowledge Script to monitor Enterprise Java Bean (EJB) persistence (load and store) rates. The script reports on the number of EJB loads and stores, and the average amount of time required to load and store an EJB. This script applies only to entity EJBs.

NOTE: To discover EJB objects, an application running EJB must be available when you run the Discovery_WebSphereAppSrvUNIX Knowledge Script.

3.8.1 Resource Object

Enterprise Java Beans node or a single entity EJB module

3.8.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.8.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise an event if a threshold is exceeded. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .
Include results for individual EJB modules? (y/n)	<p>Set to n to aggregate event and data details for the EJB modules that belong to an Enterprise Java Beans node. The default is y.</p> <p>If you run this script on a particular EJB module, rather than on the Enterprise Java Beans node, and this parameter is set to n, the script will not perform any actions unless the Include results for individual EJBs parameter is set to y.</p>
Include results for individual EJBs? (y/n)	<p>Set to n to disable collection of data and event triggering for individual EJBs, so that only aggregate data for the EJB module or Enterprise Java Bean collection is included. The default is y.</p> <p>NOTE: If you run this Knowledge Script on an individual EJB (rather than on the Enterprise Java Beans node, or on an EJB module) and this parameter is set to n, the script will not perform any actions.</p>
Loads threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of EJB loads exceeds this threshold, an event is raised. The default is -1.
Event severity when loads exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of EJB loads exceeds the threshold. The default is 25.
Stores threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of EJB stores exceeds this threshold, an event is raised. The default is -1.
Event severity when stores exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of EJB stores exceeds the threshold. The default is 25.
Average load time threshold	Specify a threshold value greater than or equal to -1. Use -1 to ignore this threshold. If the average load time (in seconds) exceeds this threshold, an event is raised. The default is -1.
Event severity when average load time exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the average load time (in seconds) exceeds this threshold. The default is 25.
Average store time threshold	Specify a threshold value greater than or equal to -1. Use -1 to ignore this threshold. If the average store time (in seconds) exceeds this threshold, an event is raised. The default is -1.

Description	How to Set It
Event severity when average store time exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the average store time (in seconds) exceeds the threshold. The default is 25.

3.9 EJBPool

Use this Knowledge Script to monitor Enterprise Java Bean (EJB) pool usage statistics for entity and stateless session beans. This script monitors:

- ◆ The number of calls retrieving an object from the pool.
- ◆ The number of times a retrieve found an object available in the pool.
- ◆ The number of calls returning an object to the pool.
- ◆ The number of times the returned object was discarded because the pool was full.

NOTE: To discover EJB objects, an application running EJB must be available when you run the Discovery_WebSphereAppSrvUNIX Knowledge Script.

3.9.1 Resource Object

Enterprise Java Beans node, or a single entity or stateless session EJB module

3.9.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.9.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise an event if a threshold is exceeded. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .
Include results for individual EJB modules? (y/n)	Set to n to aggregate event and data details for the EJB modules that belong to an Enterprise Java Beans node. The default is y . If you run this script on a particular EJB module, rather than on the Enterprise Java Beans node, and this parameter is set to n , the script will not perform any actions unless the Include results for individual EJBs parameter is set to y .

Description	How to Set It
Include results for individual EJBs? (y/n)	Set to n to disable collection of data and event triggering for individual EJBs, so that only aggregate data for the EJB module or Enterprise Java Bean collection is included. The default is y . NOTE: If you run this Knowledge Script on an individual EJB (rather than on the Enterprise Java Beans node, or on an EJB module) and this parameter is set to n , the script will not perform any actions.
Successful retrieval percent threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the percent of retrievals that found an object available in the pool falls below this threshold, an event is raised. The default is -1.
Event severity when successful retrieval percent falls below threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the percent of retrievals that found an object available in the pool falls below the threshold. The default is 25.
Successful return percent threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the percent of returned objects that were not discarded because the pool was full falls below this threshold, an event is raised. The default is -1.
Event severity when successful return percent falls below threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the percent of returned objects that were not discarded because the pool was full falls below this threshold. The default is 25.

3.10 HealthCheck

Use this Knowledge Script to verify that WebSphere Application Server is running, and that a user-specified servlet running on the server is able to respond to requests. You can specify that an event be raised if the servlet response time exceeds a specified threshold. You can also specify that the server should be restarted if it is not running.

In order to test for the application server's ability to respond to requests, and to measure the server's responsiveness, you must supply the URL of a servlet to query. In addition, you can optionally specify a string expected to be found in the document returned from the query. The URL must be an HTTP URL, and must be a GET, and not a POST, request. It is not required that the URL point to the local computer on which the health check is being performed, nor is it required that the URL point to a servlet. However, querying a remote URL will effectively check the health of the remote server, rather than the server on which the Knowledge Script runs. This may be useful in cases where you want to measure the response time of a servlet running on one server from the point of view of one or more other servers.

If security is enabled on the WebSphere Application Server, you must use AppManager Security Manager to update the AppManager repository to provide the WebSphere Application Server account information that is required to start the application server.

If you are running the agent with a non-root account on WebSphere Application Server 8.0 or 8.5, ensure you have applied all required WebSphere Application Server fixes to start the server. Refer to the IBM support site regarding this problem (<http://www.ibm.com/support/docview.wss?uid=swg1PM63269>).

3.10.1 Resource Object

WebSphere Application Server

3.10.2 Default Schedule

The default interval for this script is Every 15 Minutes.

3.10.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise an event if a threshold is exceeded. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .
Event severity when the application server is not running	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the application server is not running. The default is 10.
Restart application server if not running? (y/n)	Set to y to restart the application server if it is not running. The default is n .
Start time limit	Set to the number of seconds within which WebSphere Application Server should complete initialization. The default is 300.
URL of servlet to test server responsiveness	Specify an HTTP GET URL to be accessed in order to test whether the server is able to respond to requests in a timely manner. Leave blank if you do not want to test server responsiveness.
Event severity when the servlet is not responding to requests	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the servlet is not responding to requests. The default is 10.
Text expected to be found in servlet response	Specify a string that should be found in the response text returned by the servlet. You can specify that an event be raised if this text is not found in the response. Leave this field empty if you do not want to validate the servlet response.
Event severity when text not found in servlet response	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the servlet response does not include the text you specify. The default is 25.
Servlet response time threshold	Specify a threshold value greater than or equal to -1. Use -1 to ignore this threshold. If the response time (in seconds) exceeds this threshold, an event is raised. The default is -1.
Event severity when servlet response time exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the response time (in seconds) exceeds this threshold. The default is 25.

3.11 J2CUsage

Use this Knowledge Script to monitor the J2C (Java 2 Connectivity) connection pool usage statistics. The script records the following data:

- ♦ The average percentage of the pool that is in use.
- ♦ The average percentage of the time that all connections in the pool are in use.
- ♦ The average time, in seconds, that a connection is in use.
- ♦ The number of ManagedConnection objects that are in use.
- ♦ The number of connection handles that are in use.

3.11.1 Resource Object

J2C Connection Pool, or a J2C Data Source

3.11.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.11.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise an event if the percentage of the pool that is in use falls below the threshold. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .
Include results for individual data sources? (y/n)	Set to n to disable collection of data and event triggering for individual data sources, so that only aggregate data for the provider or connection pool is processed. The default is y . NOTE: If you run this Knowledge Script on an individual data source (rather than on the J2C Connection Pools node) and this parameter is set to n , the script will not perform any action.
Current percent of pool in use threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the percentage of the pool that is in use falls below this threshold, an event is raised. The default is -1.
Event severity when current percent of pool in use exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.

3.12 J2CWaits

Use this Knowledge Script to monitor the time spent waiting for J2C (Java 2 Connectivity) connections. This script records the average number of threads concurrently waiting for connections, the average time spent waiting for a connection, and the number of faults (usually connection timeouts) that have occurred.

3.12.1 Resource Object

J2C Connection Pool or a J2C Data Source

3.12.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.12.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise an event if the threshold is exceeded. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .
Include results for individual data sources? (y/n)	Set to n to disable collection of data and event triggering for individual data sources, so that only aggregate data for the provider or connection pool is processed. The default is y . NOTE: If you run this Knowledge Script on an individual data source (rather than on the J2C Connection Pools node) and this parameter is set to n , the script will not perform any actions.
Threads currently awaiting a connection threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of threads currently waiting for a connection exceeds this threshold, an event is raised. The default is -1.
Event severity when threads currently awaiting a connection exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of threads currently waiting for a connection exceeds this threshold. The default is 25.
Average wait time threshold	Specify a threshold value greater than or equal to -1. Use -1 to ignore this threshold. If the average time (in seconds) spent waiting for a connection exceeds this threshold, an event is raised. The default is -1.
Event severity when average wait time exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the average time (in seconds) spent waiting for a connection exceeds the threshold. The default is 25.
Connection faults threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of faults exceeds this threshold, an event is raised. The default is 0.
Event severity when connection faults exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of faults exceeds the threshold. The default is 25.

3.13 JDBC Driver

Use this Knowledge Script to monitor the amount of time, in seconds, that the JDBC data source spent running in the JDBC driver, which includes time spent in the JDBC driver, network, and database.

3.13.1 Resource Object

JDBC Connection Pool, or a JDBC Provider, or a JDBC Data Source

3.13.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.13.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise an event if the amount of time (in seconds) spent executing in the JDBC driver exceeds the threshold. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .
Include results for individual providers? (y/n)	<p>Set to n to aggregate event and data details for individual providers, so that only aggregate data for the connection pool is processed. The default is y.</p> <p>If you run this Knowledge Script on an individual provider or data source (rather than on the JDBC Connection Pools node) and this parameter is set to n, the script will not perform any actions unless the Include results for individual data sources parameter is set to y.</p>
Include results for individual data sources? (y/n)	<p>Set to n to disable collection of data and event triggering for individual data sources, so that only aggregate data for the provider or connection pool is processed. The default is y.</p> <p>NOTE: If you run this Knowledge Script on an individual data source (rather than on the JDBC Connection Pools node, or on a provider node) and this parameter is set to n, the script will not perform any actions.</p>
Time spent executing in JDBC driver threshold	Specify a threshold value greater than or equal to -1. Use -1 to ignore this threshold. If amount of time (in seconds) spent executing in the JDBC driver exceeds this threshold, an event is raised. The default is -1.
Event severity when time spent executing in JDBC driver exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.

3.14 JDBCUsage

Use this Knowledge Script to monitor the Java Database Connectivity (JDBC) connection pool usage statistics. The script records the following data:

- ♦ The average percentage of the pool that is in use.
- ♦ The average percentage of the time that all connections in the pool are in use.
- ♦ The average time a connection is in use.
- ♦ The number of ManagedConnection objects that are in use.
- ♦ The number of connection handles that are in use.

3.14.1 Resource Object

JDBC Connection Pool, or a JDBC Provider, or a JDBC Data Source

3.14.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.14.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise an event if the current percent of the pool that is in use falls below the threshold. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .
Include results for individual providers? (y/n)	Set to n to aggregate event and data details for individual providers, so that only aggregate data for the connection pool is processed. The default is y . If you run this Knowledge Script on an individual provider or data source (rather than on the JDBC Connection Pools node) and this parameter is set to n , the script will not perform any actions unless the Include results for individual data sources parameter is set to y .
Include results for individual data sources? (y/n)	Set to n to disable collection of data and event triggering for individual data sources, so that only aggregate data for the provider or connection pool is processed. The default is y . NOTE: If you run this Knowledge Script on an individual data source (rather than on the JDBC Connection Pools node, or on a provider node) and this parameter is set to n , the script will not perform any actions.
Current percent of pool in use threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the current percent of the pool that is in use falls below this threshold, an event is raised. The default is -1.

Description	How to Set It
Event severity when current percent of pool in use exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.

3.15 JDBCWaits

Use this Knowledge Script to monitor the amount of time, in seconds, that a JDBC data source spent waiting for a JDBC connection. This script records the number of threads currently waiting for connections, the average time spent waiting for a connection, and the number of faults (usually connection timeouts) that have occurred.

3.15.1 Resource Object

JDBC Connection Pool, or a JDBC Provider, or a JDBC Data Source

3.15.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.15.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise an event if a threshold is exceeded. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .
Include results for individual providers? (y/n)	Set to n to aggregate event and data details for individual providers, so that only aggregate data for the connection pool is processed. The default is y . NOTE: If you run this Knowledge Script on an individual provider or data source (rather than on the JDBC Connection Pools node) and this parameter is set to n , the script will not perform any actions unless the Include results for individual data sources parameter is set to y .
Include results for individual data sources? (y/n)	Set to n to disable collection of data and event triggering for individual data sources, so that only aggregate data for the provider or connection pool is processed. The default is y . NOTE: If you run this Knowledge Script on an individual data source (rather than on the JDBC Connection Pools node, or on a provider node) and this parameter is set to n , the script will not perform any actions.
Threads currently awaiting a connection threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of threads currently waiting for a connection exceeds this threshold, an event is raised. The default is -1.

Description	How to Set It
Event severity when threads currently awaiting a connection exceed threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the threads currently awaiting a connection exceed the threshold. The default is 25.
Average wait time threshold	Specify a threshold value greater than or equal to -1. Use -1 to ignore this threshold. If the average time (in seconds) spent waiting for a connection exceeds this threshold, an event is raised. The default is -1.
Event severity when average wait time exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the average time (in seconds) spent waiting for a connection exceeds the threshold. The default is 25.
Connection faults threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of faults exceeds this threshold, an event is raised. The default is 0.
Event severity when connection faults exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of faults exceeds the threshold. The default is 25.

3.16 JVMGCStats

Use this Knowledge Script to monitor garbage collection statistics for objects in the Java Virtual Machine (JVM) heap. This script records the number of garbage collections, the average time between collections, and the average collection duration.

This Knowledge Script requires the JVM interface to be running.

3.16.1 Resource Object

JVM Runtime

3.16.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.16.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise an event if a threshold is exceeded. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .

Description	How to Set It
Garbage collections threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of garbage collections exceeds this threshold, an event is raised. The default is -1.
Event severity when garbage collections exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of garbage collections exceeds the threshold. The default is 25.
Average garbage collection duration threshold	Specify a threshold value greater than or equal to -1. Use -1 to ignore this threshold. If the average garbage collection duration (in seconds) exceeds this threshold, an event is raised. The default is -1.
Event severity when average garbage collection duration exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the average garbage collection duration (in seconds) exceeds the threshold. The default is 25.
Average time between calls threshold	Specify a threshold value greater than or equal to -1. Use -1 to ignore this threshold. If the average time (in seconds) between calls falls below this threshold, an event is raised. The default is -1.
Event severity when average time between calls falls below threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the average time (in seconds) between calls falls below the threshold. The default is 25.

3.17 JVMHeap

Use this Knowledge Script to monitor memory usage statistics of the application server's Java Virtual Machine (JVM) heap. This script reports the amount of free and used heap memory.

This Knowledge Script requires the JVM interface to be running.

3.17.1 Resource Object

JVM Runtime

3.17.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.17.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise event if a threshold is exceeded. The default is y.
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n.

Description	How to Set It
Heap size threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the current size of the heap in KB exceeds this threshold, an event is raised. The default is -1.
Event severity when heap size exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the current size of the heap in KB exceeds the threshold. The default is 25.
Free heap threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of KB available in the heap falls below this threshold, an event is raised. The default is -1.
Event severity when free heap falls below threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of KB available in the heap falls below the threshold. The default is 25.
Percent heap used threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the percentage of the JVM heap that is currently used exceeds this threshold, an event is raised. The default is -1.
Event severity when percent heap used exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the percentage of the JVM heap that is currently used exceeds the threshold. The default is 25.

3.18 JVMLocks

Use this Knowledge Script to monitor Java Virtual Machine (JVM) lock statistics. This script records the number of times a thread waits for a lock, and the average wait time for a lock.

This Knowledge Script requires the JVM interface to be running.

3.18.1 Resource Object

JVM Runtime

3.18.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.18.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise an event if a threshold is exceeded. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .

Description	How to Set It
Lock waits threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the average number of lock waits exceeds this threshold, an event is raised. The default is -1.
Event severity when lock waits exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the average number of lock waits exceeds the threshold. The default is 25.
Average lock wait duration threshold	Specify a threshold value greater than or equal to -1. Use -1 to ignore this threshold. If the average duration of the wait for a lock (in seconds) exceeds this threshold, an event is raised. The default is -1.
Event severity when average lock wait duration exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the average duration of the wait for a lock (in seconds) exceeds the threshold. The default is 25.

3.19 JVMObjects

Use this Knowledge Script to monitor allocation statistics for objects in the Java Virtual Machine (JVM) heap. This script records the number of objects allocated, moved, and freed in the heap.

This Knowledge Script requires the JVM interface to be running.

This Knowledge Script requires time to complete an iteration before starting a new one. Do not set the interval to be less than Every 5 minutes.

3.19.1 Resource Object

JVM Runtime

3.19.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.19.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise an event if a threshold is exceeded. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .
Objects allocated threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of objects allocated exceeds this threshold, an event is raised. The default is -1.

Description	How to Set It
Event severity when objects allocated exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of objects allocated exceeds the threshold. The default is 25.
Objects moved threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of objects moved exceeds this threshold, an event is raised. The default is -1.
Event severity when objects moved exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of objects moved exceeds the threshold. The default is 25.
Objects freed threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of objects freed exceeds this threshold, an event is raised. The default is -1.
Event severity when objects freed exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of objects freed exceeds the threshold. The default is 25.

3.20 JVMThreads

Use this Knowledge Script to monitor Java Virtual Machine (JVM) thread creation and destruction. The script records the number of threads that start executing, and the number that finish executing.

This Knowledge Script requires the JVM interface to be running.

3.20.1 Resource Object

JVM Runtime

3.20.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.20.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise an event if the average number of threads started exceeds this threshold. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .
Threads started threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the average number of threads started exceeds this threshold, an event is raised. The default is -1.

Description	How to Set It
Event severity when threads started exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.

3.21 NetIQAgent

Use this Knowledge Script to start or stop the Java server that the AppManager managed object uses to communicate with WebSphere Application Server. This Java server must be running in order for WebSphere Application Server Knowledge Scripts to work properly.

Typically, you do not need to manually start or stop the Java server. The Java server starts automatically when you discover WebSphere Application Server.

If you encounter problems with WebSphere Application Server Knowledge Scripts collecting performance data, use this Knowledge Script to stop and restart the Java server.

When you discover WebSphere Application Server, you specify the port that the Java server uses to communicate with the managed object. You can use this Knowledge Script to update the communication port on the Java server without rediscovering WebSphere Application Server. To change the listening port for the Java server, you must stop and restart the Java server to apply your changes.

3.21.1 Resource Object

WebSphere Application Server

3.21.2 Default Schedule

The default interval for this script is Run Once.

3.21.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise an event if the Java server cannot be started or stopped. The default is y .
Event severity when agent cannot be started or stopped	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 10.
Start agent? (y/n)	Set to y to start the agent, or n to stop the agent. The default is y .
TCP port	Specify the TCP port to be used by the Java server when listening for requests. The same port should normally be specified for all computers on which the Java server runs. However, this is strictly required only if you intend to run the RequestMetrics Knowledge Script. The default TCP port is 4000.

3.22 ORBInterceptor

Use this Knowledge Script to monitor the processing time for each Object Request Broker (ORB) interceptor.

3.22.1 Resource Object

ORB, or an individual ORB interceptor

3.22.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.22.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise an event if the time (in seconds) spent executing in the interceptor exceeds the threshold. The default is y.
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n.
Include results for individual ORB interceptors? (y/n)	Set to n to disable collection of data and event triggering for individual interceptors, so that only aggregate data for the ORB is processed. The default is y. NOTE: If you run this Knowledge Script on an individual interceptor (rather than on the Object Request Broker node) and this parameter is set to n , the script will not perform any actions.
Processing time threshold	Specify a threshold value greater than or equal to -1. Use -1 to ignore this threshold. If the time (in seconds) spent executing in the interceptor exceeds this threshold, an event is raised. The default is -1.
Event severity when processing time exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.

3.23 ORBRequests

Use this Knowledge Script to monitor Object Request Broker (ORB) request statistics. This script records the average object reference lookup time, the number of requests received, and the average number of concurrent requests.

This Knowledge Script requires time to complete an iteration before starting a new one. Do not set the interval to be less than Every 5 minutes.

3.23.1 Resource Object

ORB

3.23.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.23.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise an event if a threshold is exceeded. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .
Average reference lookup time threshold	Specify a threshold value greater than or equal to -1. Use -1 to ignore this threshold. If the average time (in seconds) to look up an object reference exceeds this threshold, an event is raised. The default is -1.
Event severity when average reference lookup time exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the average time (in seconds) to look up an object reference exceeds the threshold. The default is 25.
Requests received threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of requests received exceeds this threshold, an event is raised. The default is -1.
Event severity when requests received exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of requests received exceeds the threshold. The default is 25.
Concurrent requests threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of requests currently being processed exceeds this threshold, an event is raised. The default is -1.
Event severity when concurrent requests exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of requests currently being processed exceeds this threshold. The default is 25.

3.24 Report_HealthSummary

Use this Knowledge Script to generate a report showing the availability and response time characteristics of one or more WebSphere Application Servers. The availability and response time measurements are based on the results generated by running the [HealthCheck](#) Knowledge Script, so no results will be available if that script has not been run. The response time measurements are based on the response times produced by the servlet specified in the HealthCheck Knowledge Script. If you run this report against multiple servers for which different servlets were specified in HealthCheck jobs, the response time metrics for the servers may not be directly comparable.

3.24.1 Resource Object

WebSphereAppSrvUNIX sub-node of Report Agent node

3.24.2 Default Schedule

The default interval for this script is Run once.

3.24.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Data source	
Select computer(s)	Select the WebSphere Application Servers. Click Browse [...] to select from one to twenty-five views. Your subsequent selections are limited to computers or server groups that are visible in the selected views. Select one of the Filters options: <ul style="list-style-type: none">♦ View: Includes all computers in the views you selected.♦ Computer: Select from individual computers in the views you selected.♦ Server Group: Select from server groups in the views you selected. Selecting a server group includes all computers in that group.
Select time range	Click Browse [...] to set a specific or sliding time range for data included in your report.
Select peak weekday(s)	Click Browse [...] to select the days of the week to include in your report.
Aggregation by	Select the time period (Hour, Minute, or Day) by which the data in your report is aggregated. The default is Hour.
Aggregation interval	Select the interval between aggregations of the data in your report. This parameter uses the time period specified in the Aggregation by parameter to calculate the interval. The default is 1.
Report Component Selection	
Include parameter card?	Set to y to include a table showing report parameters. The default is y .
Include Running detail table?	Set to y to include a table of Running results (whether the server was found to be running) in the report. The default is y .
Include Running chart?	Set to y to include a chart of Running results (whether the server was found to be running) in the report. The default is y .
Threshold on Running chart	Specify the threshold to be shown on the Running chart. Use -1 to indicate that no threshold is to be shown.

Description	How to Set It
Include Servlet Response Time detail table?	Set to y to include a table of Servlet Response Time results in the report. The default is y.
Include Servlet Response Time chart?	Set to y to include a chart of Servlet Response Time results in the report. The default is y.
Units for Servlet Response Time report	Specify the units to be used for the Servlet Response Time chart. The default is milliseconds.
Threshold on Servlet Response Time chart	Specify the threshold to be shown on the Servlet Response Time chart. Use -1 to indicate that no threshold is to be shown.
Report Settings	
Customize chart appearance	Specify the type and attributes of chart(s) to be generated. A wide selection of chart types is available. The default is Ribbon.
Select report location	Choose the report filename. The default is WebSphereAppSrvUNIX_HealthSummary.
Add job ID to output folder name?	Set to y to include the report job ID in the report output folder name. The default is n.
Index-report title	Choose the report title, author, company, component, description, expiration period, and custom fields. Defaults are: Title = WebSphereAppSrvUNIX Health Summary Author = NetIQ AppManager Company = Your company here Component = NetIQ AppManager 5.0 <Module> Description = WebSphereAppSrvUNIX Health Summary: Availability and Servlet Response Time. Expiration Period = Expires after 7 days Custom Field 1 = WebSphereAppSrv, UNIX, Health Summary Custom Field 2 = Availability and Servlet Response Time
Add time stamp to title	Set to y to include the time the report was generated in the report title. The default is n.
Event notification	
Generate event on success?	Set to y to raise an event when the report is successfully generated. The default is y.
Severity level for report success	Specify a severity level for the event raised when the report is generated successfully. The default is 35.
Severity level for report with no data	Specify a severity level for the event raised when no data for the report is found within the selected time interval. The default is 25.
Severity level for report failure	Specify a severity level for the event raised when the report generation fails. The default is 5.

3.25 RequestMetrics

Use this Knowledge Script to monitor the amount of time a node spends processing a request. In a multi-node deployment, requests typically enter the system and create processes that fan out across several nodes within the distributed system. Use this script to gather and correlate data collected at each node of the system, in order to provide a breakdown of how much time is spent in different components of the request-processing pipeline.

Before using this Knowledge Script, you must run the [SetRMFilters](#) script to instruct WebSphere Application Server to collect metrics for requests that match a given set of patterns, such as client IP address, URL, or EJB method names. Once request metrics are enabled, WebSphere Application Server will write an entry to the trace log each time a matching HTTP request is received or a remote EJB method call is made. This script can then be used to gather and correlate these trace log entries.

In order for this script to gather request metrics, it must have a list of the hosts from which to collect data. Normally, you should specify all hosts in the WebSphere Application Server domain, but you can restrict the data to a particular subset of nodes by specifying only those computers. You do not need to specify individual application servers on the selected computers—this Knowledge Script analyzes the log files for every application server discovered on each selected computer.

This script measures the request-processing time for only those requests that entered the system at the node on which this script is run. Any request that enters the WebSphere Application Server network at an upstream node is ignored. Hence, run this script only on the node containing the entry point for request processing. This script can be set to raise an event if the average request-processing response time exceeds a specified threshold. The detail message associated with the event shows the breakdown of how much time was spent in each component. You can also specify that a data stream containing the average response time be written to the database.

3.25.1 Resource Object

WebSphere Application Server

3.25.2 Default Schedule

The default interval for this script is Every 15 Minutes.

3.25.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise events. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .
Semicolon-separated list of hosts from which to collect data	Specify the hosts from which request metrics data should be gathered. Normally, you should specify all hosts in the WebSphere Application Server domain.
Request processing time threshold	Specify a threshold value greater than or equal to -1. Use -1 to ignore this threshold. If the average time to process a request (in seconds) exceeds this threshold, an event is raised. The default is -1.

Description	How to Set It
Event severity when request processing time exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of event. The default is 25.

3.26 ServerCPU

Use this Knowledge Script to monitor the CPU utilization for the application server. On multiprocessor systems, the CPU utilization is the average over all CPUs.

3.26.1 Resource Object

WebSphere Application Server

3.26.2 Default Schedule

The default interval for this script is Every 15 Minutes.

3.26.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise events. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .
Average CPU utilization threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the CPU utilization of WebSphere Application Server exceeds this threshold, an event is raised. The default is 90.
Event severity when average CPU utilization exceeds threshold	Set the event severity level, from 1 to 40, to indicate event importance. The default is 25.

3.27 ServerScanLog

Use this Knowledge Script to monitor the server's primary Java Virtual Machine (JVM) log file. The script scans the log file for any lines written since the last iteration of the script that match the given inclusion filter and do not match the given exclusion filter. If the number of lines that pass this filtering exceeds a specified threshold, an event is raised. The detailed message associated with the event contains the matching lines.

The inclusion and exclusion filters are Perl regular expressions. Because the application server writes log entries in a specific format, a simple inclusion filter can be used to scan for errors of a specific type. For example, to scan for error entries, use an exclusion filter of "`\sE\s`". For fatal errors, replace 'E' with 'F'. For warnings, use 'W'.

In addition to raising an event when a threshold is exceeded, this script records a data stream for the number of matching lines.

3.27.1 Resource Object

WebSphere Application Server

3.27.2 Default Schedule

The default interval for this script is Every 15 Minutes.

3.27.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise events. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .
Event severity when the log file does not exist	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 20.
Log entries matched threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of log entries that match the search criteria exceeds this threshold, an event is raised. The default is 0.
Event severity when log entries matched exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
Inclusion filter	Set to a string that is a Perl regular expression. Lines matching this expression pass the filter unless they also match the exclusion filter. The default is a null string.
Ignore case in inclusion filter matching? (y/n)	Set to y to ignore case when matching lines against the inclusion filter. The default is n .
Exclusion filter	Set to a string that is a Perl regular expression. Lines matching this expression are never returned, even if they pass the inclusion filter. The default is a null string.
Ignore case in exclusion filter matching? (y/n)	Set to y to ignore case when matching lines against the exclusion filter. The default is n .

3.28 ServletErrors

Use this Knowledge Script to monitor errors generated by a servlet, or by the N servlets with the highest, or lowest, number of errors.

3.28.1 Resource Object

Web application or servlet

3.28.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.28.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise events. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .
Number of servlets	Specify the number of servlets for which data should be collected. Use -1 (or 0) to indicate that all servlets should be processed. The default is 5.
Sort order	Set to descending to sort the servlets in decreasing order. Set to ascending to sort in ascending order. The default is descending.
Errors threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of errors exceeds this threshold, an event is raised. The default is 0.
Event severity when errors exceed threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.

3.29 ServletRequests

Use this Knowledge Script to monitor servlet requests and response times. This script records the number of requests received, the number of concurrent requests, and the average time taken to service a request. You can run this script against a single servlet, or you can run it against a Web application to get results for the servlets with the worst, or best, value for a specified performance metric.

3.29.1 Resource Object

Web application or servlet

3.29.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.29.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise events. The default is y .

Description	How to Set It
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n.
Number of servlets	Specify the number of servlets for which data should be collected. Use -1 (or 0) to collect data for all servlets. The default is 5.
Sort by	Specify the performance metric by which servlets are sorted. The default is Response Time.
Sort order	Set to descending to sort the servlets in decreasing order; set to ascending to sort in ascending order. The default is descending.
Requests received threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of requests received exceeds this threshold, an event is raised. The default is -1.
Event severity when requests received exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
Concurrent requests threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of concurrent requests exceeds this threshold, an event is raised. The default is -1.
Event severity when concurrent requests exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
Average request processing time threshold	Specify a threshold value greater than or equal to -1. Use -1 to ignore this threshold. If the average time (in seconds) required to service a request exceeds this threshold, an event is raised. The default is -1.
Event severity when average request processing time exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.

3.30 SessionErrors

Use this Knowledge Script to monitor the following HTTP session errors:

- ◆ Requests received for sessions that were last accessed from another Web application, which might indicate either failover processing or a corrupt plug-in configuration.
- ◆ Requests for a new session that could not be processed because the threshold for the maximum number of sessions is exceeded. This applies only to sessions in memory with `AllowOverflow = false`.

3.30.1 Resource Object

Session Manager

3.30.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.30.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise events. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .
Requests from unexpected source threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of requests from a different source than the most recent session request exceeds this threshold, an event is raised. The default is -1.
Event severity when requests from unexpected source exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
New session request failures threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of requests that fail because the session pool is full exceeds this threshold, an event is raised. The default is -1.
Event severity when new session request failures exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.

3.31 SessionInvalid

Use this Knowledge Script to monitor HTTP session invalidation statistics. This script records the following data:

- ♦ The number of sessions that were invalidated.
- ♦ The number of sessions that were invalidated due to a timeout.
- ♦ The number of requests for a session that no longer exists, presumably because the session timed out.

3.31.1 Resource Object

Session Manager

3.31.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.31.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise events. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .

Description	How to Set It
Percent invalidated due to timeout threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the percent of invalidated sessions that were invalidated due to a timeout exceeds this threshold, an event is raised. The default is -1.
Event severity when percent invalidated due to timeout exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
Requests for nonexistent session threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the average number of requests for sessions that do not exist exceeds this threshold, an event is raised. The default is -1.
Event severity when requests for nonexistent session exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.

3.32 SessionLifetime

Use this Knowledge Script to monitor HTTP sessions. This script records the following data:

- ♦ The number of sessions created.
- ♦ The average lifetime of a session.
- ♦ The average number of active sessions.
- ♦ The number of live (cached in memory) sessions.

3.32.1 Resource Object

Session Manager

3.32.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.32.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise events. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .
Sessions created threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of sessions created exceeds this threshold, an event is raised. The default is -1.
Event severity when sessions created exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.

Description	How to Set It
Average session lifetime threshold	Specify a threshold value greater than or equal to -1. Use -1 to ignore this threshold. If average session lifetime (in seconds) exceeds this threshold, an event is raised. The default is -1.
Event severity when average session lifetime exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
Current active sessions threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the current number of active sessions exceeds this threshold, an event is raised. The default is -1.
Event severity when current active sessions exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
Current live sessions threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the current number of live sessions exceeds this threshold, an event is raised. The default is -1.
Event severity when current live sessions exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.

3.33 SetRMFilters

Use this Knowledge Script to specify the filters to be used for generating request metrics traces. You must specify filters using this script before you can collect response time data with the [RequestMetrics](#) Knowledge Script. Three types of filtering can be specified, as described below. In each case, the filter pattern is expressed as a string that can optionally contain an asterisk (*) as the last character. Matching is done character by character, until either an asterisk is found in the filter, a mismatch occurs, or an exact match occurs.

- ◆ URL filters: Requests are filtered based on the URL of the incoming HTTP request.
- ◆ Client IP address filters: Requests are filtered based on the IP address of the incoming HTTP request.
- ◆ EJB method name filters: Requests are filtered based on the full name of the enterprise bean method.

If both URL filters and client IP address filters are specified, a match occurs only if a filter of each type is matched. It is strongly suggested that at least one URL or client IP address filter be supplied, to avoid performance degradation due to the large number of trace records that otherwise would be written to the trace log.

If no filters are specified, this script turns off request metrics tracing altogether. That is, it has the effect of stopping request metrics tracing completely, rather than causing all requests to be traced. Thus, to turn on request metrics tracing, you must specify at least one filter. If you do not plan to run the [RequestMetrics](#) Knowledge Script on any computer in the WebSphere Application Server domain for a long period of time, you can turn off tracing by specifying no filters to avoid the performance penalty engendered by writing request traces to the log file.

NOTE: In an IBM WebSphere Application Server network deployment, the Request Metrics configuration is managed centrally by the deployment manager, and the settings apply to all nodes and application servers in the cell. Therefore, you only need to run this Knowledge Script against a single server in the deployment cell.

3.33.1 Resource Object

WebSphere Application Server

3.33.2 Default Schedule

The default interval for this script is Run Once.

3.33.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise events. The default is y .
Semicolon-separated list of URL filters	Specify the URL patterns to be used in filtering. Patterns should be separated from one another by semicolons.
Semicolon-separated list of client IP address filters	Specify the IP address patterns to be used in filtering. Patterns should be separated from one another by semicolons.
Semicolon-separated list of EJB method name filters	Specify the EJB method name patterns to be used in filtering. Patterns should be separated from one another by semicolons.

3.34 SetServerLogPath

Use this Knowledge Script to specify the pathname of the server's primary Java Virtual Machine (JVM) log file. The JVM log contains messages written by the application server JVM itself, as well as by applications running within the server. If the JVM log file is being written to the default location, it is not necessary to run this script. However, if the JVM log file is being written to a different directory or has a different filename than the default, you must run this script before attempting to scan the log files using the [ServerScanLog](#) Knowledge Script. Failing to do so will cause ServerScanLog to raise an event when it is run.

In addition, to enable the [RequestMetrics](#) Knowledge Script to work properly, you must set the server log path because the RequestMetrics Knowledge Script collects traces from the server log file as well.

3.34.1 Resource Object

WebSphere Application Server

3.34.2 Default Schedule

The default interval for this script is Run Once.

3.34.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise events. The default is y .
Path name for WebSphere JVM log file	Specify the path to the server's primary JVM log file, SystemOut.log, either as an absolute path, or a path relative to the WebSphere/AppServer directory. Replace any spaces in the path name with an underscore.
Event severity when the log file does not exist	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 20.

3.35 StartServer

Use this Knowledge Script to start the WebSphere Application Server. Starting an application server starts a server process based on the application server's configuration.

If WebSphere Application Server security is enabled, you must use AppManager Security Manager to update the AppManager repository to provide the WebSphere Application Server account information that is required to start the application server.

If you are running the agent with a non-root account on WebSphere Application Server 8.0 or 8.5, ensure you have applied all required WebSphere Application Server fixes to start the server. Refer Authorized Program Analysis Report (APAR) number [PM63269](#) on the IBM support site regarding this problem.

3.35.1 Resource Object

WebSphere Application Server

3.35.2 Default Schedule

The default interval for this script is Run Once.

3.35.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise events. The default is y .
Event severity when application server cannot be started	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 10.
Event severity when application server is started successfully	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.

Description	How to Set It
Start time limit	Set to the number of seconds within which the WebSphere Application Server should complete initialization. The default is 300.

3.36 StopServer

Use this Knowledge Script to stop the WebSphere Application Server. Stopping an application server stops a server process based on the process definition settings in the current application server configuration.

If WebSphere Application Server security is enabled, you must use AppManager Security Manager to update the AppManager repository to provide the WebSphere Application Server account information that is required to start the application server.

3.36.1 Resource Object

WebSphere Application Server

3.36.2 Default Schedule

The default interval for this script is Run Once.

3.36.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise events. The default is y .
Event severity when application server cannot be stopped	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 15.
Event severity when application server is stopped successfully	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
Stop time limit	Set to the number of seconds within which the WebSphere Application Server should stop running. The default is 300.

3.37 ThreadPoolUsage

Use this Knowledge Script to monitor thread pool activity. This script records the following:

- ◆ The number of threads created.
- ◆ The number of threads destroyed.
- ◆ The number of active threads.
- ◆ The thread pool size.
- ◆ The percentage of time that all threads in the pool are in use.

This Knowledge Script requires time to complete an iteration before starting a new one. Do not set the interval to be less than Every 5 minutes.

3.37.1 Resource Object

Thread Pools, or a particular thread pool

3.37.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.37.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise events. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .
Include results for individual thread pools? (y/n)	Set to n to disable collection of data and event triggering for individual thread pools, so that only aggregate data for all thread pools is processed. The default is y . NOTE: If you run this Knowledge Script on an individual thread pool (rather than on the Thread Pools node) and this parameter is set to n , the script will not perform any actions.
Active threads threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of active threads exceeds this threshold, AppManager raises an event. The default is -1.
Event severity when active threads exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
Pool size threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the current pool size exceeds this threshold, AppManager raises an event. The default is -1.
Event severity when pool size exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
Percent of time all threads are in use threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the percentage of time that all threads in the pool are in use exceeds this threshold, an event is raised. The default is -1.
Event severity when percent of time all threads are in use exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.

3.38 TransactionCommits

Use this Knowledge Script to monitor the number of commits, rollbacks and timeouts, for both local and global transactions.

3.38.1 Resource Object

Transaction Manager

3.38.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.38.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise events. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .
Global transaction commits threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of global transaction commits exceeds this threshold, an event is raised. The default is -1.
Event severity when global transaction commits exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
Global transaction rollbacks threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of global transaction rollbacks exceeds this threshold, an event is raised. The default is -1.
Event severity when global transaction rollbacks exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
Global transaction timeouts threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of global transaction timeouts exceeds this threshold, an event is raised. The default is -1.
Event severity when global transaction timeouts exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
Local transaction commits threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of local transaction commits exceeds this threshold, an event is raised. The default is -1.
Event severity when local transaction commits exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
Local transaction rollbacks threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of local transaction rollbacks exceeds this threshold, an event is raised. The default is -1.
Event severity when local transaction rollbacks exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.

Description	How to Set It
Local transaction timeouts threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of local transaction timeouts exceeds this threshold, an event is raised. The default is -1.
Event severity when local transaction timeouts exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.

3.39 TransactionDuration

Use this Knowledge Script to monitor the average transaction duration, as well as the duration of transaction prepares and commits, for both local and global transactions.

3.39.1 Resource Object

Transaction Manager

3.39.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.39.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise events. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .
Global transactions threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of global transactions exceeds this threshold, an event is raised. The default is -1.
Event severity when global transactions exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
Average global transaction duration threshold	Specify a threshold value greater than or equal to -1. Use -1 to ignore this threshold. If the average global transaction duration (in seconds) exceeds this threshold, an event is raised. The default is -1.
Event severity when average global transaction duration exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
Local transactions threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of local transactions exceeds this threshold, an event is raised. The default is -1.
Event severity when local transactions exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.

Description	How to Set It
Average local transaction duration threshold	Specify a threshold value greater than or equal to -1. Use -1 to ignore this threshold. If the average local transaction duration (in seconds) exceeds this threshold, an event is raised. The default is -1.
Event severity when average local transaction duration exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.

3.40 WebAppLoads

Use this Knowledge Script to monitor the number of servlets loaded and reloaded for a particular Web application, or for the top N Web applications, sorted by a specified metric.

3.40.1 Resource Object

Web Applications, or a particular Web application

3.40.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.40.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise events. The default is y.
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n.
Number of web applications	Specify the number of Web applications for which data should be collected. Use -1 (or 0) to indicate that all Web applications should be processed.
Sort by	Specify the performance metric by which Web applications are sorted.
Sort order	Set to descending to sort the Web applications in decreasing order; set to ascending to sort in ascending order. The default is descending .
Servlets loaded threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of servlets loaded exceeds this threshold, an event is raised. The default is -1.
Event severity when servlets loaded exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
Servlets reloaded threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of servlets reloaded exceeds this threshold, an event is raised. The default is -1.

Description	How to Set It
Event severity when servlets reloaded exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.

3.41 WLMClientRequests

Use this Knowledge Script to monitor the outgoing request-processing statistics for the Workload Manager. The script records the following data:

- ◆ The number of outgoing requests processed.
- ◆ The average response time required to service those requests.

3.41.1 Resource Object

Workload Manager (Client)

3.41.2 Default Schedule

The default interval for this script is **Every 15 minutes**.

3.41.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise events. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .
Outgoing requests threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of outgoing requests exceeds this threshold, an event is raised. The default is -1.
Event severity when outgoing requests exceeds threshold	Specify the event severity, from 1 to 40, to indicate the importance of an event in which the number of outgoing requests exceeds the threshold you set. The default is 25.
Request response time threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the average response time exceeds this threshold, an event is raised. The default is -1.
Event severity when request response time exceeds threshold	Specify the event severity, from 1 to 40, to indicate the importance of an event in which the request response time exceeds the threshold you set. The default is 25.

3.42 WLMServerRequests

Use this Knowledge Script to monitor the request-processing statistics for the Workload Manager. The script records the following data:

- ♦ The number of requests currently being processed.
- ♦ The number of requests processed.
- ♦ The average number of requests processed that have a strong affinity to the server. A strong affinity request is one that must be serviced by this application server because of a dependency that resides on the server. One example of this is transactional affinity.
- ♦ The average number of requests processed that do not have a strong affinity to the server.
- ♦ The average number of requests processed that came from a non-WLM enabled client, or were marked by the client not to participate in workload management.

3.42.1 Resource Object

Workload Manager Server

3.42.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.42.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise events. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .
Concurrent requests threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of concurrent requests exceeds this threshold, an event is raised. The default is -1.
Event severity when concurrent requests exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
Strong affinity request percent threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the percent of requests that have a strong affinity to the server exceeds this threshold, an event is raised. The default is -1.
Event severity when strong affinity request percent exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.

3.43 WSGWRequests

Use this Knowledge Script to monitor requests received and responses sent by a Web service.

3.43.1 Resource Object

Web Services or a particular Web service

3.43.2 Default Schedule

The default interval for this script is Every 15 minutes.

3.43.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event? (y/n)	Set to y to raise events. The default is y .
Collect data? (y/n)	Set to y to collect data for reports and graphs. The default is n .
Synchronous requests received threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of synchronous requests received exceeds this threshold, an event is raised. The default is -1.
Event severity when synchronous requests received exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
Synchronous responses sent threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of synchronous responses made exceeds this threshold, an event is raised. The default is -1.
Event severity when synchronous responses sent exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
Asynchronous requests received threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of asynchronous requests received exceeds this threshold, an event is raised. The default is -1.
Event severity when asynchronous requests received exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
Asynchronous responses sent threshold	Specify a threshold value using an integer greater than or equal to -1. Use -1 to ignore this threshold. If the number of asynchronous responses made exceeds this threshold, an event is raised. The default is -1.
Event severity when asynchronous responses sent exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.

A Internal AppManager Events

In addition to the events you can configure and raise, AppManager for IBM WebSphere Application Server UNIX can raise a number of internal events with fixed severity levels. The following topics summarize these internal events.

A.1 Alert Events

AppManager for IBM WebSphere Application Server UNIX raises the following internal alert events using event severity 10.

The servlet did not respond.

The HealthCheck Knowledge Script raises this event when the servlet fails to respond. This can occur when the Knowledge Script is running as a non-root user and does not have proper permissions to access the servlet. Check that the non-root user has the necessary permissions. For more information, see [Section 2.3, “Giving the Agent Required Access to Files and Folders,” on page 14.](#)

The event detailed message is “The servlet did not respond.”

A.2 Critical Events

AppManager for IBM WebSphere Application Server UNIX raises the following internal critical events using event severity 15.

Failed to connect to the NetIQ Agent.

A Knowledge Script raises this event when it fails to connect to the NetIQ agent.

The event detailed message is “The Knowledge Script failed to connect to the NetIQ Agent. This may be because the NetIQ Agent, a Java program, was unable to load one or more jar and/or class files that it requires to run. If you have accidentally removed jar or class files needed by the NetIQ Agent, you will need to either reinstate those files manually, or reinstall the WebSphereAppSrv (or WebSphereAppSrvUNIX) software.”

Lost connection to the NetIQ Agent.

A Knowledge Script raises this event when, after initially connecting to the NetIQ agent, a subsequent command or function call to the agent fails.

The event detailed message is “The connection to the NetIQ Agent was lost while the Knowledge Script was communicating with the agent. When this occurs, the agent should automatically start running again the next time a Knowledge Script attempts to contact it. If it fails to start automatically, you can start the agent manually by running the NetIQAgent Knowledge Script.”

The configuration directory could not be created.

The NetIQ agent raises this event when it cannot create its configuration directory.

The event detailed message is “The configuration directory, *<name_of_dir>* could not be created, for the following reason: *<reason>*.”

The configuration file could not be parsed.

The NetIQ agent raises this event when it cannot parse its configuration file.

The event detailed message is “The configuration file, <file_name>, could not be parsed. Run the Discovery Knowledge Script to regenerate the file.”

An unexpected error occurred.

Any AppManager for IBM WebSphere Application Server UNIX Knowledge Script can raise this event when it encounters an unexpected error while executing.

The event detailed message is “An unexpected error occurred while executing the job. The following message was generated by perl, and may provide some indication of the reason for the failure: <reason>.”

A.3 Error Events

AppManager for IBM WebSphere Application Server UNIX raises the following internal error events using event severity 20.

The NetIQ Agent failed to start.

AppManager for IBM WebSphere Application Server UNIX raises this event when it cannot start the NetIQ agent.

The event detailed message is “The NetIQ Agent failed to start.”

Java agent failed to stop.

AppManager for IBM WebSphere Application Server UNIX raises this event when it cannot stop the NetIQ agent.

The event detailed message is “The NetIQ Agent failed to stop.”

The state file directory could not be created. This directory is used by the RequestMetrics Knowledge Script to store per-job states. RequestMetrics will fail to work if this directory does not exist.

AppManager for IBM WebSphere Application Server UNIX raises this event when it cannot create the state directory.

The event detailed message is “The state file directory could not be created. This directory is used by the RequestMetrics Knowledge Script to store per-job state. RequestMetrics will fail to work if this directory does not exist.

The state file directory is: <directory_name>

The reason for the failure to create the directory is: <reason>.”

The XML returned by the perfservlet is not valid.

AppManager for IBM WebSphere Application Server UNIX raises this event when it detects that the perfServlet XML is invalid.

The event detailed message is “The XML returned by the perfservlet is incomplete or otherwise invalid.

The URL used to fetch the perfservlet data is: <url>

A portion of the document received from the perfservlet is: <perfservlet_text_portion>.”

Invalid proxy parameter settings.

Discovery raises this event when it detects that the provided proxy parameters are invalid.

The event detailed message is “The proxy parameters are invalid. To use a proxy server to access the perfservlet, you must specify at least the hostname (or IP address) and the port number of the proxy server. If the proxy server requires authentication, you must supply a user name and (optionally) a password.”

One or more metrics are missing from the perfservlet output.

AppManager for IBM WebSphere Application Server UNIX raises this event when some of the metrics were not found in the perfServlet.

The event detailed message is “One or more metrics were not found in the XML document returned by the perfservlet. This is probably because either the monitoring level for the WebSphere module is not set sufficiently high, or there are no instances of the type represented by the TreeView resource that are active in the WebSphere application server.”

Missing inclusion and exclusion filters.

The ServerScanLog Knowledge Script raises this event when the Inclusion filter and Exclusion filter parameters are both unset.

The event detailed message is “You must supply either an inclusion filter or an exclusion filter, or both.”

The remote NetIQ agent could not be contacted.

A Knowledge Script raises this event when it cannot contact a NetIQ agent on a remote host.

The event detailed message is “The remote NetIQ agents on the following hosts could not be contacted: <hostnames>.”

A.4 Warning Events

AppManager for IBM WebSphere Application Server UNIX raises the following internal warning events using event severity 25.

No request metrics traces were found.

A Knowledge Script raises this event when no root trace could be found for a particular entry point.

The event detailed message is “No request metrics traces whose entry point was <entry_point> were found.”

The specified text was not found.

The HealthCheck Knowledge Script raises this event if it does not find expected text when accessing the test servlet URL.

The event detailed message is “The specified text was not found in the document returned by the servlet.

The text that was searched for is:

<text>”

A.5 Notification Events

AppManager for IBM WebSphere Application Server UNIX raises the following internal notification events using event severity 30.

The script performed no actions.

A Knowledge Script raises this event when it is configured such that it does not collect data or raise events.

The event detailed message is “You have set the Knowledge Script parameters in such a way that the script does not collect data or generate events. Most likely this is because you indicated that metrics for child objects such as EJBs or JDBC datasources were not to be included in the results, but you did not run the script against any TreeView resource other than such nodes.

To create datastreams and events for a folder node, such as Enterprise Java Beans, without generating events for the individual EJBs, drop the script on the folder, and set "Include results for individual EJBs?" to "n".

To create datastreams for child nodes as well as the parent folder, drop the script on a parent node and set "Include results for individual EJBs?" to "y".

To create datastreams for a child node, but not the parent folder, drop the script on a single child node, and set "Include results for EJBs?" to "y". (You can also run the script on a set of child nodes by dropping the script on the parent node, and then deselecting the parent node in the Objects tab of the Knowledge Script properties dialog.)”

The server is in an unknown state.

AppManager for IBM WebSphere Application Server UNIX raises this event when it detects that the IBM WebSphere Application Server is in an unknown state.

The event detailed message is “The server is in an unknown state. The output of the command used to determine the server state follows: *<output>*.”

A.6 Information Events

AppManager for IBM WebSphere Application Server UNIX raises the following internal information events using event severity 35.

This KS does not support Deployment Manager profiles

A Knowledge Script raises this event because it does not support IBM Websphere Application Server in a distributed or clustered environment as discovered through the deployment manager.

The event detailed message is “This KS does not support Deployment Manager profiles on system *<host_name>*.”

The NetIQ Agent is already running.

AppManager for IBM WebSphere Application Server UNIX raises this event when it attempts to start the NetIQ agent and finds it already running.

The event detailed message is “The NetIQ Agent is already running. The process id is *<pid>*.”

The NetIQ Agent is not running.

AppManager for IBM WebSphere Application Server UNIX raises this event when it attempts to stop the NetIQ agent and finds it already stopped.

The event detailed message is “The NetIQ Agent is not running.”

The NetIQ Agent was started successfully.

AppManager for IBM WebSphere Application Server UNIX raises this event when it successfully starts the Java agent.

The event detailed message is "The NetIQ Agent was started successfully."

The NetIQ Agent was stopped successfully.

AppManager for IBM WebSphere Application Server UNIX raises this event when it successfully stops the Java agent.

The event detailed message is "The NetIQ Agent was stopped successfully."

This resource has no associated metrics.

A Knowledge Script raises this event when a resource instance has no performance metrics associated with it.

The event detailed message is "This resource represents a folder, which does not have performance metrics directly associated with it. Since no descendent nodes (in the TreeView) for which metrics are available were included in the execution of this job, no aggregated metrics could be computed for this node.

Note: If there are no descendent nodes of this resource instance in the TreeView, it may be because the WebSphere performance monitoring levels have not been set sufficiently high in the WebSphere Application Server, or it could be because you have not run the Discovery Knowledge Script since the performance monitoring levels were set. Set the performance monitoring levels appropriately, then run the Discovery script again to update the TreeView."

Request metrics were collected successfully.

A Knowledge Script raises this event when it successfully collects request metrics.

The event detailed message is "The average response time for the collected request metrics was <sec> seconds. Following is a detailed breakdown of the request processing: <details>."

