



# Monitoring Oracle iPlanet Web Server

eG Innovations Product Documentation

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## Chapter 1: Introduction

Oracle iPlanet Web Server 7.0 is a multi-process, multi-threaded, secure web server built on industry standards for medium to large enterprises.

The web server incorporates a modular architecture that integrates seamlessly with all products in the Sun Java System family of servers. In addition, Web Server supports a variety of APIs and programming technologies that enable you to do the following:

1. Generate dynamic content in response to client requests
2. Modify and extend the behavior of the server
3. Modify the content that is stored in the server

It is this flexibility that makes the Oracle iPlanet server one of the most popular web servers when it comes to supporting dynamic, mission-critical web site services. Since any issue in the functioning of this web server can cause prolonged service slowdowns or can even deny users access to the service, it is imperative that the wheels of this server roll 24 x 7 so as to ensure high service uptime and to maximize the user satisfaction with the quality of the service. The need of the hour is hence a monitoring solution that can monitor the web server continuously, detect performance issues before it affects service quality, and alert administrators to these issues, so that the problem can be resolved much before users notice them. This is where eG Enterprise lends helping hand to administrators.

## Chapter 2: How to Monitor Oracle iPlanet Web Server using eG Enterprise?

eG Enterprise provides agent-based monitoring support for Oracle iPlanet Web Server 7 on Windows and Solaris platforms. To enable the eG agent to collect statistics of interest from the Oracle iPlanet Web server, you need to fulfill a set of pre-requisites that are explained below.

### 2.1 Pre-requisites for Monitoring the Oracle iPlanet Web Server

Before attempting to monitor the Oracle iPlanet Web Server, ensure that the following requirements are in place;

1. The eG agent connects to the administration server to which the target Oracle iPlanet web server is registered to extract the required metrics. To enable the eG agent to communicate with this administration server, you first need to create a password file containing the administrator password for accessing the server, in the **bin** directory within the install directory of the Oracle iPlanet Web server. Then, you need to configure the eG tests with the name of that file; Refer to Section **2.1.1** to know how to create the password file.
2. If this administration server is SSL-enabled, then you need to trust the SSL certificate of the server to enable the eG agent to communicate with that server; Refer to Section **2.1.2** to know how to achieve this.
3. While monitoring the Oracle iPlanet Web server on Windows, make sure that the eGurkhaAgent service on the server runs using the privileges of the user who trusted the SSL certificate of the administration server; See Section **2.1.3** for more information about this.
4. Configure the Oracle iPlanet web server to allow metrics collection. To know how to configure the web server, refer to Section **2.1.4**.

The steps to fulfill each of these pre-requisites have been detailed in the sections that will follow.

#### 2.1.1 Creating a Password File

This section explains how to create a password file on a web server operating on a Windows and a Solaris platform.

### 2.1.1.1 Creating a Password File on Windows

A password file named *admin.passwd* has to be created in the **bin** directory of the Sun Java Web Server's install directory. Specify the following in that file:

**wadm\_password=<Password\_of\_admin\_server's\_administrator>**

Figure 2.1 depicts how this is done:

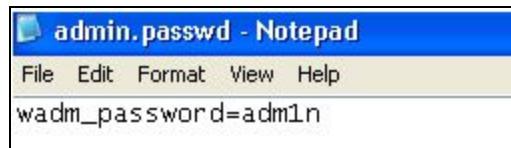


Figure 2.1: The password file containing the administrator's password

### 2.1.1.2 Creating a Password File on Solaris

Issue the following commands from the **bin** directory of the Sun Java web server's install directory to create the password file named *admin.passwd* with the admin server's administrator password:

**vi admin.passwd**

**“admin.passwd” [New file]**

**wadm\_password=admin1n**

## 2.1.2 Trusting the SSL Certificate of the Administration Server

Follow the instructions provided in this section to trust the SSL Certificate of the administration server to which the target Oracle iPlanet web server is registered.

### 2.1.2.1 Trusting the SSL Certificate of the Administration Server of a Oracle iPlanet Web Server on Windows

To achieve the above, follow the steps discussed hereunder:

1. Make sure that the administration server to which the target Oracle iPlanet web server is registered is running.
2. Then, login to the target Sun Java web server and go to its command prompt.

3. At the prompt, issue the following command:

```
wadm list-virtual-servers --user=<userName> --password-file=admin.passwd --host=<serverHostName> --port=<serverAdminPort> --config=<configName>
```

Here,

**userName** is the name of the administrator to the administration server

**serverHostName** is the IP address of the administration server

**serverAdminPort** is the port of the administration server; the default is 8989

**configName** is the name of any configuration in the administration server

4. Executing the aforesaid command displays the SSL certificate of the administration server; at the end of the display, you will be prompted to trust the certificate (see Figure 8.2).

```

Key: Sun RSA public key, 1024 bits
  modulus: 120331034979258982046535982851380528186592300150186622723413902446638
  76595057928056157854057931097060870395413378956775493529183111609783354345088746
  10694867032295505500967139196245252724592634688615015576335446372858555968504859
  52512509907935483499177857422309199116073494273991978625893451479308613386402417

  public exponent: 65537
  Validity: [From: Thu Apr 16 16:55:04 SGT 2009,
              To: Tue Apr 16 16:55:04 SGT 2019]
  Issuer: CN=admin-ca-cert, OU=Sun Java System Web Server 7.0, O="Sun Microsystems, Inc."
  SerialNumber: [ 20fc4d15]

  Certificate Extensions: 1
  [1]: ObjectId: 2.5.29.15 Criticality=true
  KeyUsage [
    Key_Encipherment
    Key_Agreement
  ]
  [
  ]
  Algorithm: [SHA1withRSA]
  Signature:
  0000: 22 F0 EB C9 8C FE 2C EE  07 CA DE C8 AE C3 EB F5  "....."
  0010: 2C 2B 5F 81 2A CD 6A CA  EC 26 84 98 BB E8 16 5E  ,+_*..j..&....^
  0020: 71 6E 9A 9F AB 2E 8B FB  4B 40 DF FE AB 79 74 7E  qn.....K@....yt.
  0030: B6 29 89 33 CC EE DD 98  5A 20 BF FF EA 8E 67 38  .>3....Z ....g8
  0040: 7E CE 3A 23 78 7A 5B 9C  27 38 CA AC A5 18 E2 49  ..:#xz[.'8.....I
  0050: A0 76 22 8D E5 FE 36 2F  88 01 10 81 A2 40 B0 72  .v"....6/.....@.r
  0060: 83 22 2A A7 CB A5 44 24  78 11 B8 21 A8 8F 85 E9  .%"....D$x....t....
  0070: D7 6B 22 4D DF 85 F6 FD  B8 27 B8 98 88 43 03 18  .k'M.....'....C..

  ]
  Do you trust the above certificate [y/n] -->y

```

Figure 2.2: Trusting the SSL certificate of the administration server of an Oracle iPlanet web server on Windows

5. Type **y** at the prompt to trust the certificate.

#### 2.1.2.2 Trusting the SSL Certificate of the Administration Server of a Oracle iPlanet Web Server on Solaris

In this case, follow the steps given below:

1. Login to the Oracle iPlanet web server as the eG install user.
2. Ensure that the administration server to which the target Oracle iPlanet web server is registered is running.
3. Then, at the prompt, switch to the **bin** directory of the Oracle iPlanet web server's install directory, and then issue the following command:

```
./wadm list-virtual-servers --user=<userName> --password-file=admin.passwd --  
host=<serverHostName> --port=<serverAdminPort> --config=<configName>
```

Here,

**userName** is the name of the administrator to the administration server

**serverHostName** is the IP address of the administration server

**serverAdminPort** is the port of the administration server; the default is 8989

**configName** is the name of any configuration in the administration server

4. Executing the aforesaid command displays the SSL certificate of the administration server; at the end of the display, you will be prompted to trust the certificate (see Figure 8.2).

```
modulus: 1203310349792589820465359828513805281865923001501866227234139024466387659505'  
609783354345088746106948670322955055009671391962452527245926346886150155763354463728585!  
273991978625893451479308613386402417  
public exponent: 65537  
Validity: [From: Thu Apr 16 16:55:04 SGT 2009,  
           To: Tue Apr 16 16:55:04 SGT 2019]  
Issuer: CN=admin-ca-cert, OU=Sun Java System Web Server 7.0, O="Sun Microsystems, Inc."  
SerialNumber: [        20fc4d15]  
  
Certificate Extensions: 1  
[1]: ObjectId: 2.5.29.15 Criticality=true  
KeyUsage [  
  Key_Encipherment  
  Key_Agreement  
]  
]  
Algorithm: [SHA1withRSA]  
Signature:  
0000: 22 F0 EB C9 8C FE 2C EE 07 CA DE C8 AE C3 EB F5 ".....,.....  
0010: 2C 2B 5F 81 2A CD 6A CA EC 26 84 98 BB E8 16 5E ,+_*..j...6.....^  
0020: 71 6E 9A 9F AB 2E 8B FB 4B 40 DF FE AB 79 74 7E qn.....K@...yt.  
0030: B6 29 89 33 CC EE DD 90 5A 20 BF FF EA 8E 67 38 .).3....Z ....g8  
0040: 7E CE 3A 23 78 7A 5B 9C 27 38 CA AC A5 18 E2 49 ..:#xz[.'8.....I  
0050: A0 76 22 8D E5 FE 36 2F 88 01 10 81 A2 40 B0 72 .v"....6/.....@.r  
0060: 83 22 2A A7 CB A5 44 24 78 11 B8 21 A8 8F 85 E9 ."*...D$X...!....  
0070: D7 6B 22 4D DF 85 F6 FD B8 27 B8 98 88 43 03 18 .k".....'....C..  
  
]  
Do you trust the above certificate [y\ n] -->y
```

Figure 2.3: Trusting the SSL certificate of the administration server of an Oracle iPlanet web server on Solaris

5. Type **y** at the prompt to trust the certificate.

## 2.1.3 Changing the LogOn Privileges of the eGurkhaAgent Service of the eG Agent that Monitors the Oracle iPlanet Web Server on Windows

After trusting the SSL Certificate of the administration server to which a Oracle iPlanet web server on Windows is registered, you need to configure the eGurkhaAgent service of the eG agent on that web server to run using the privileges of the user who trusted the certificate. For this purpose, do the following:

1. Login to the target Oracle iPlanet web server.
2. Open the **Component Services** window to view the **eGurkhaAgent** service. Right-click on the service, and pick **Properties** from the shortcut menu that appears.

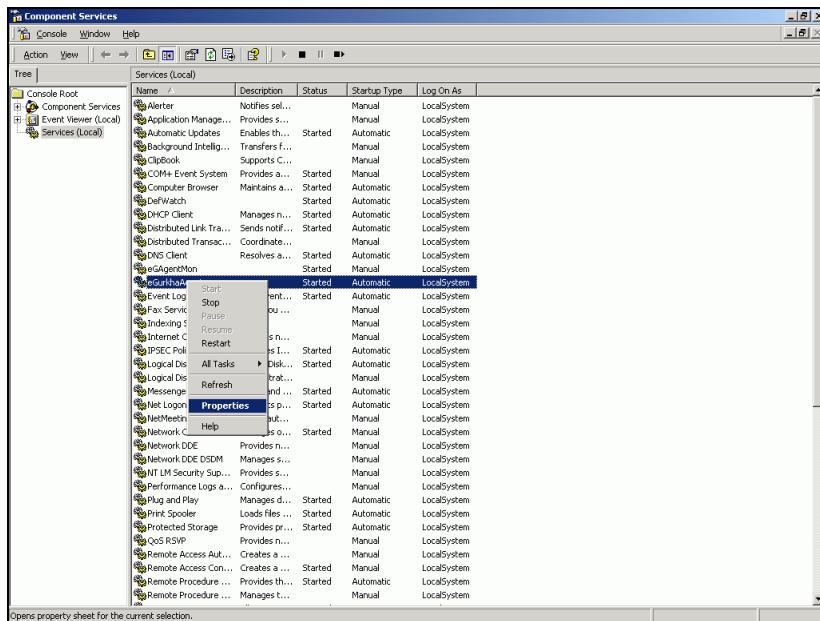


Figure 2.4: Selecting the Properties option of the eGurkhaAgent service

3. Select the **LogOn** tab from the **Properties** dialog box that appears (see Figure 2.4). Then, choose the **This account** option from the **Log on as** section of Figure 2.5, and provide the **Domainname\Username** of the user using whose privileges the eGurkhaAgent service should run. Provide the **Password** of the domain administrator, and confirm the password by retyping it in the **Confirm Password** text box.

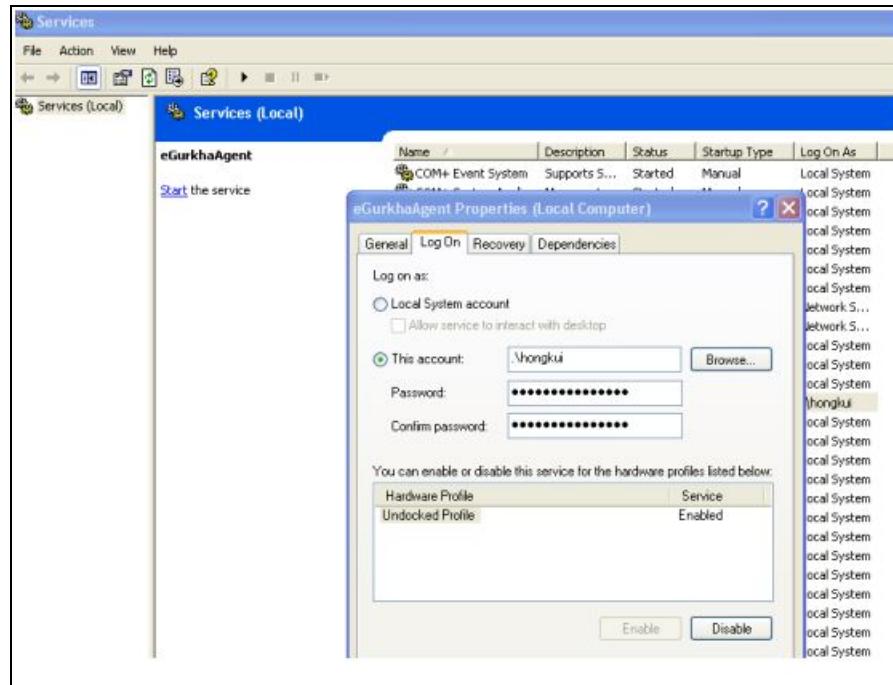


Figure 2.5: Specifying the credentials of the user using whose privileges the eGurkhaAgent service should run

- Finally, click the **Apply** button in Figure 1.6, and then the **OK** button to register the changes.

#### 2.1.4 Enabling Metrics Collection on the Oracle iPlanet Web Server

To achieve this, follow the steps given below:

- Login to the administration console by first accessing the URL: *http://<IP/hostname of the administration server>:<port of administration server>*, and providing a valid user ID and password (see Figure 2.6).

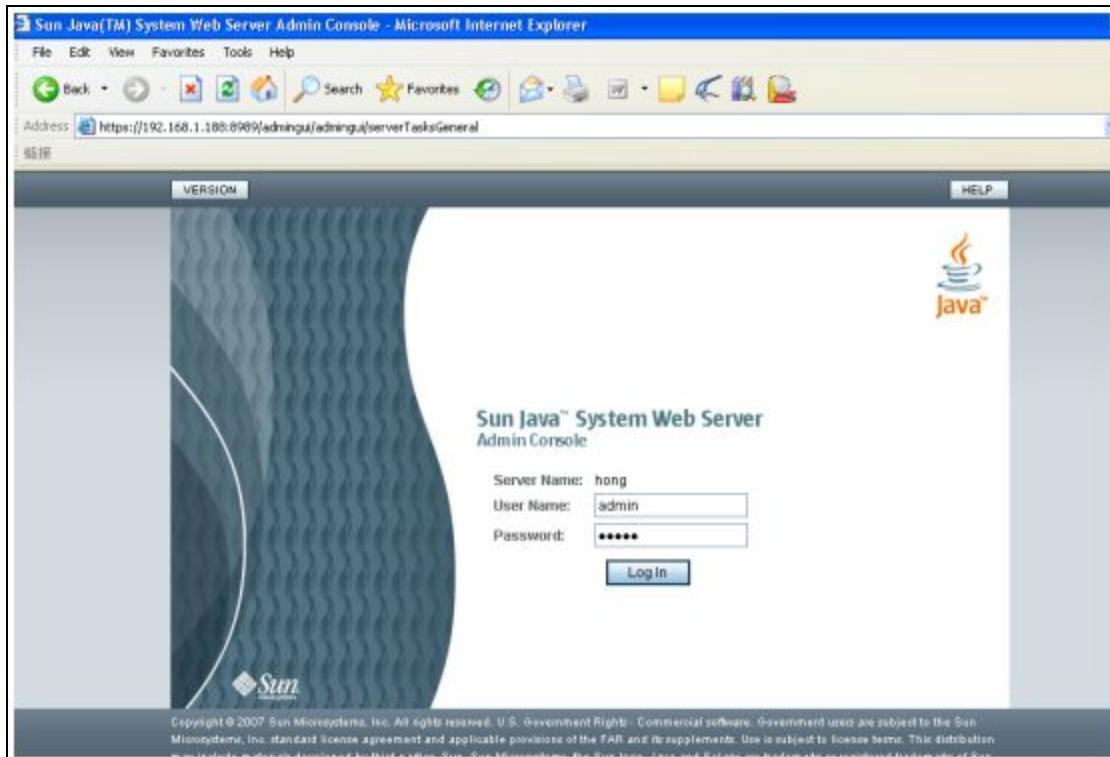


Figure 2.6: Logging into the administration server

2. Click on the **Configurations** tab page in Figure 2.7 that appears. Figure 2.8 then appears displaying all the server configurations on the administration server. A Configuration in Web Server is an entire server configuration. It can have many virtual servers and many HTTP listeners: a declaration of which IP addresses and ports to use. In Figure 2.8, click on the configuration which the web server instance you want to monitor uses.

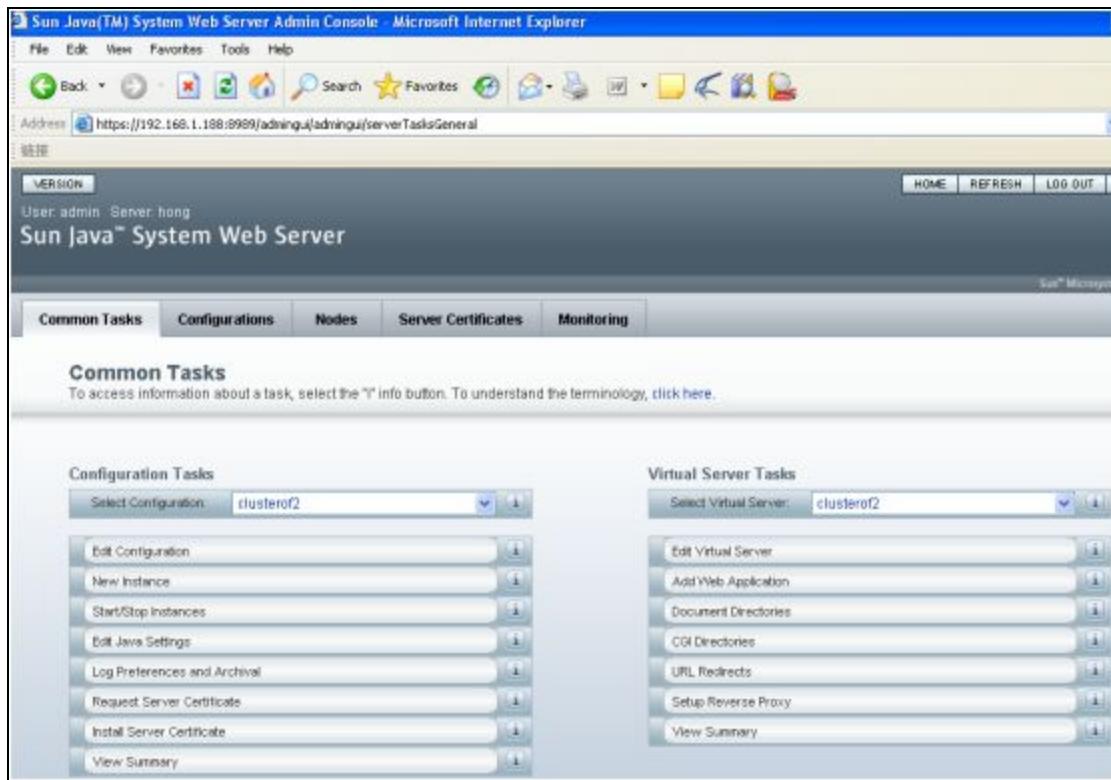


Figure 2.7: The administration server console

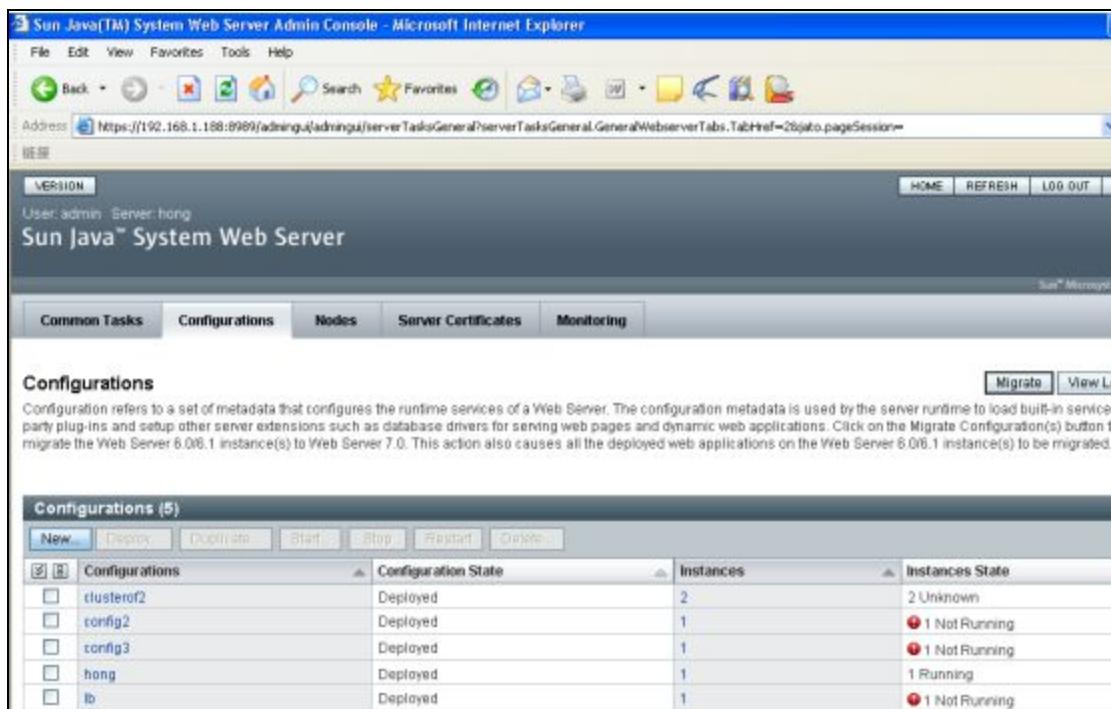
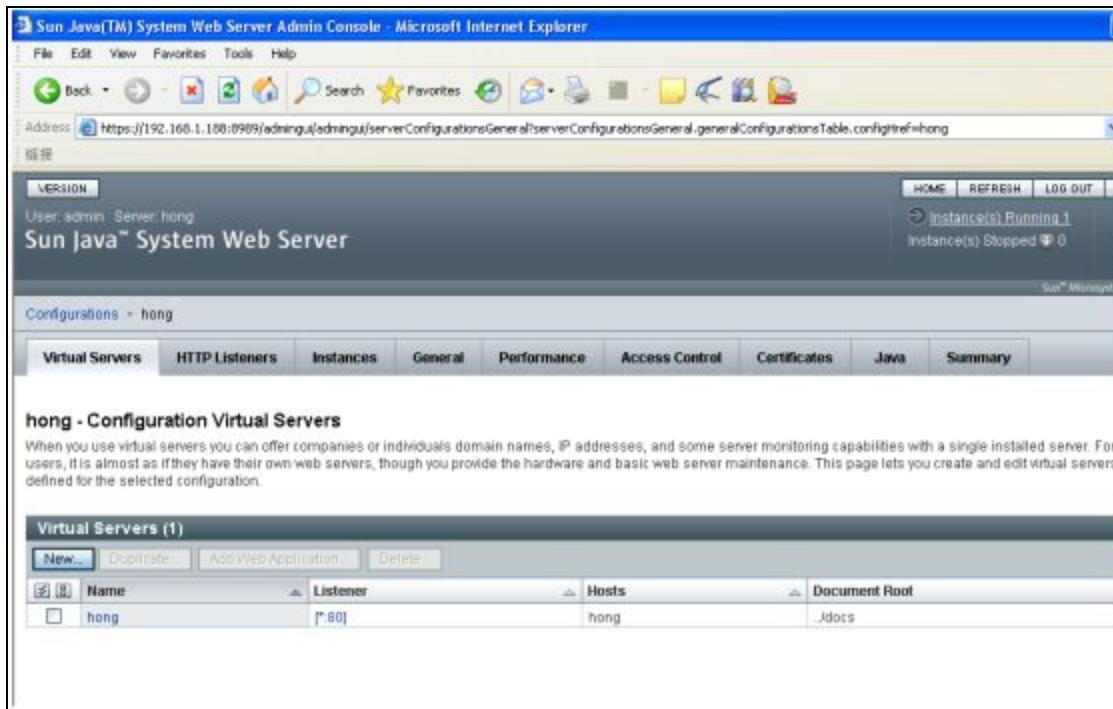


Figure 2.8: The Configurations tab displaying all the configurations on the administration server

3. Doing so brings up Figure 2.7. that displays the details of the configuration that is clicked on.



The screenshot shows the Sun Java(TM) System Web Server Admin Console interface in Microsoft Internet Explorer. The title bar reads "Sun Java(TM) System Web Server Admin Console - Microsoft Internet Explorer". The address bar shows the URL: "https://192.168.1.168:8989/admingui/admingui/serverConfigurations/General/serverConfigurationsGeneral/generalConfigurationsTable.config?ref=hong". The main content area displays the "hong - Configuration Virtual Servers" page. The page header includes the user "User: admin" and the server "Server: hong". It features a "Sun Java™ System Web Server" logo and a "Sun" Microsoft logo. Below the header is a navigation menu with tabs: "Virtual Servers" (which is selected and highlighted in blue), "HTTP Listeners", "Instances", "General", "Performance", "Access Control", "Certificates", "Java", and "Summary". The main content area is titled "hong - Configuration Virtual Servers" and contains a note about using virtual servers for monitoring. Below this is a table titled "Virtual Servers (1)". The table has columns: "Name", "Listener", "Hosts", and "Document Root". It shows one entry: "hong" with "Listener" set to "[""80"]", "Hosts" set to "hong", and "Document Root" set to "Jdocs".

Figure 2.9: The details of the configuration that corresponds to the web server instance to be monitored

4. Click on the **General** tab page in Figure 2.9. Figure 2.10 will then appear. Click on the **Monitor Settings** tab page within the **General** tab page.

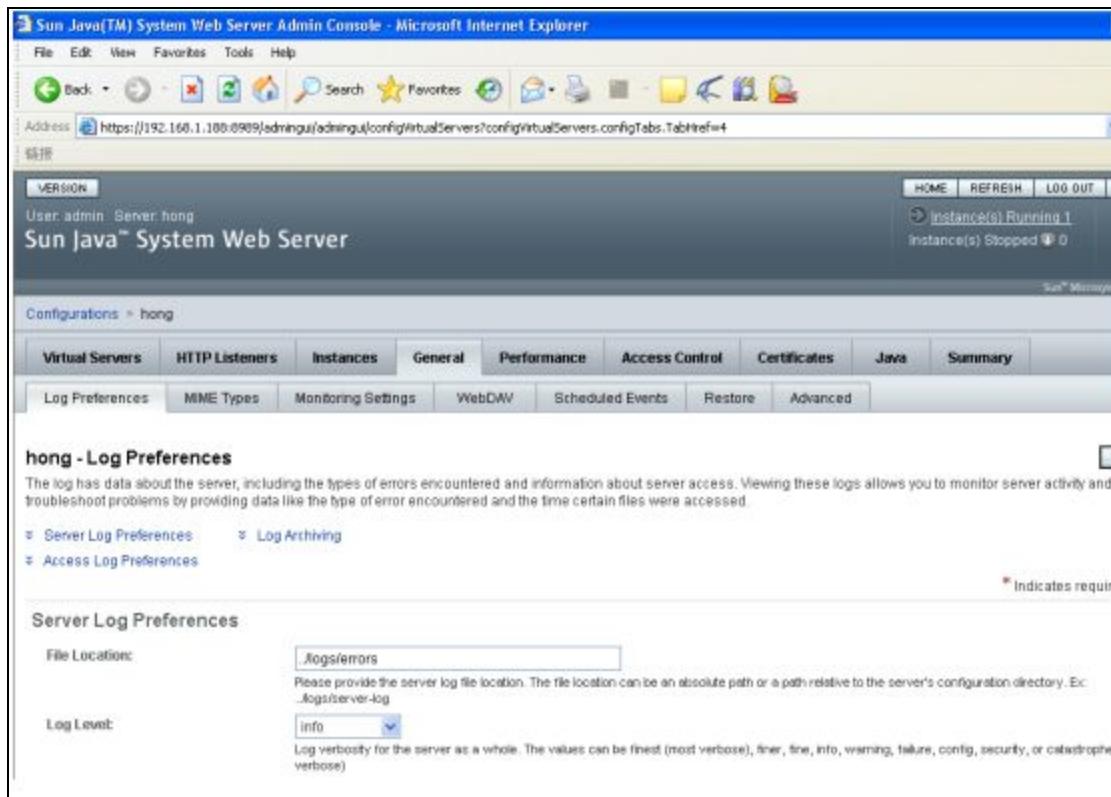


Figure 2.10: The General tab page

5. This will invoke Figure 2.11. Select the **Enabled** check box against **Statistics collection** to enable metrics collection. Similarly, enable profiling by clicking on the check box against **Profiling**. Then, click the **Save** button in Figure 2.11.

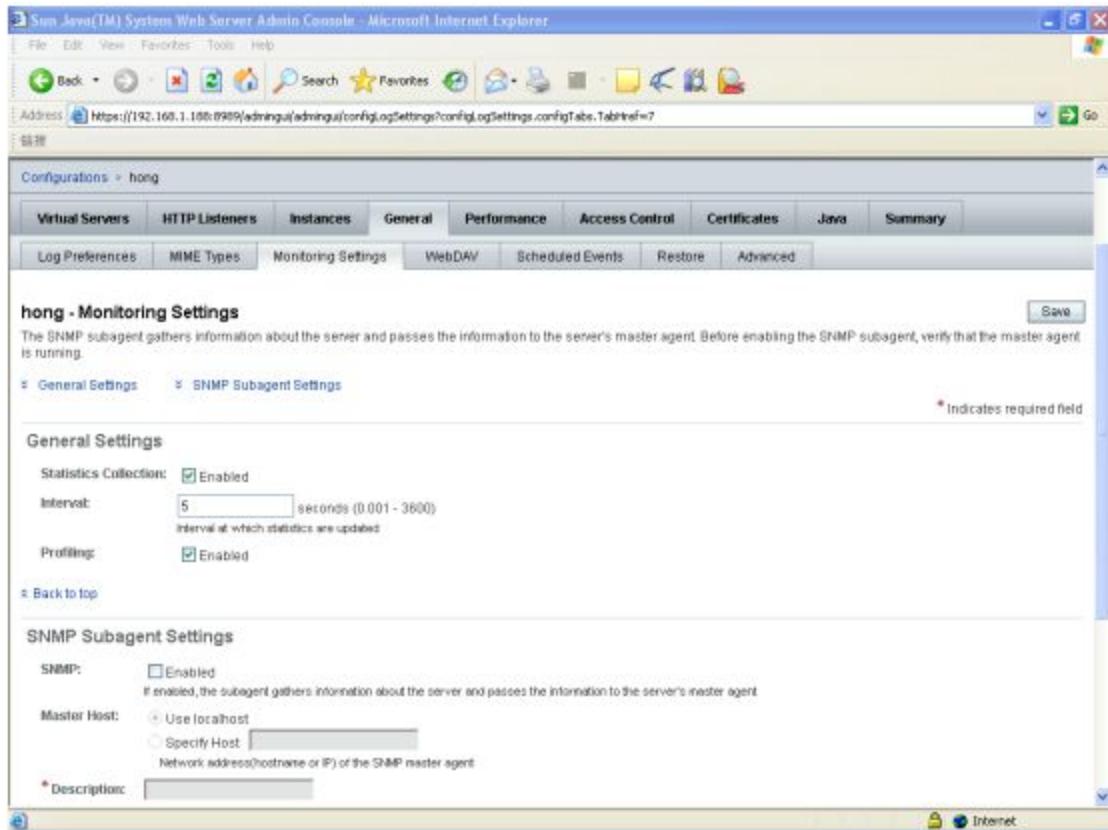


Figure 2.11: The Monitoring Settings tab page

- Once the settings are saved, a **Deployment Pending** alert appears as depicted by Figure 2.12. Click on the **Deploy** button therein to deploy the new configuration setting.

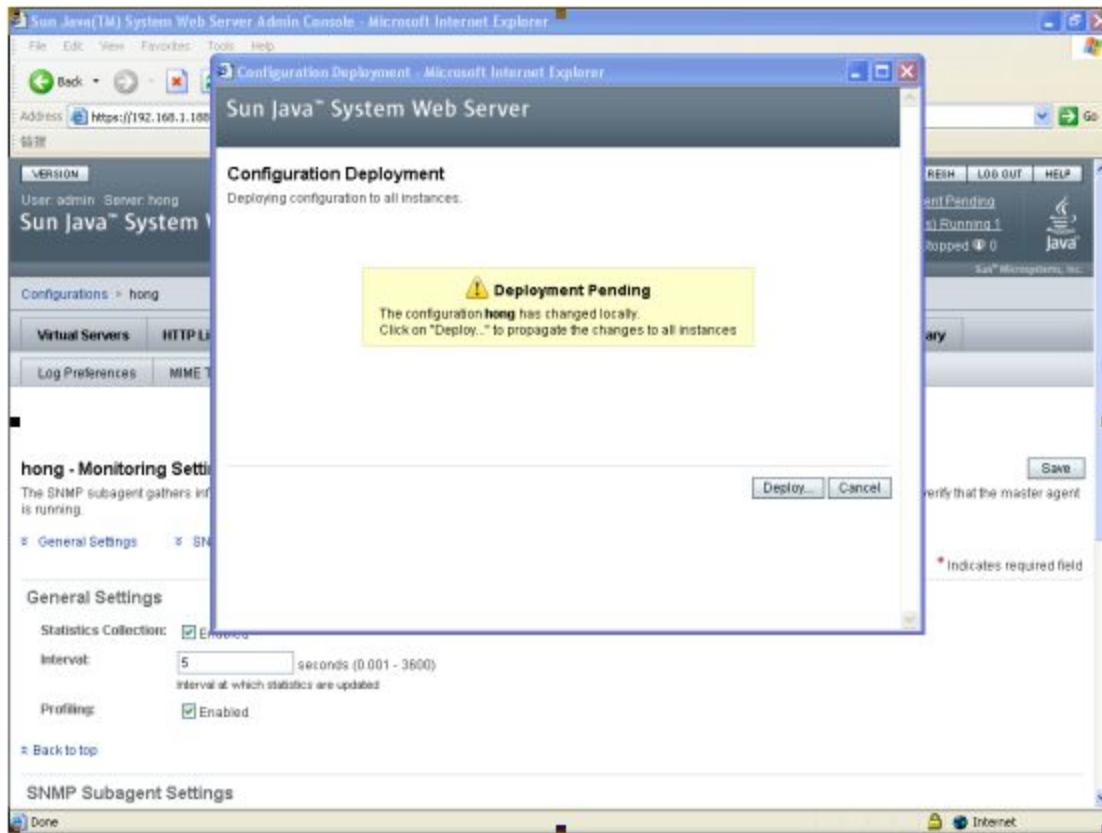


Figure 2.12: The Deployment Pending alert

7. This will open Figure 2.13, which will prompt you to restart the web server instance that is affected by the configuration change. With the **Now** option selected click on the **OK** button to restart the web server instance immediately.

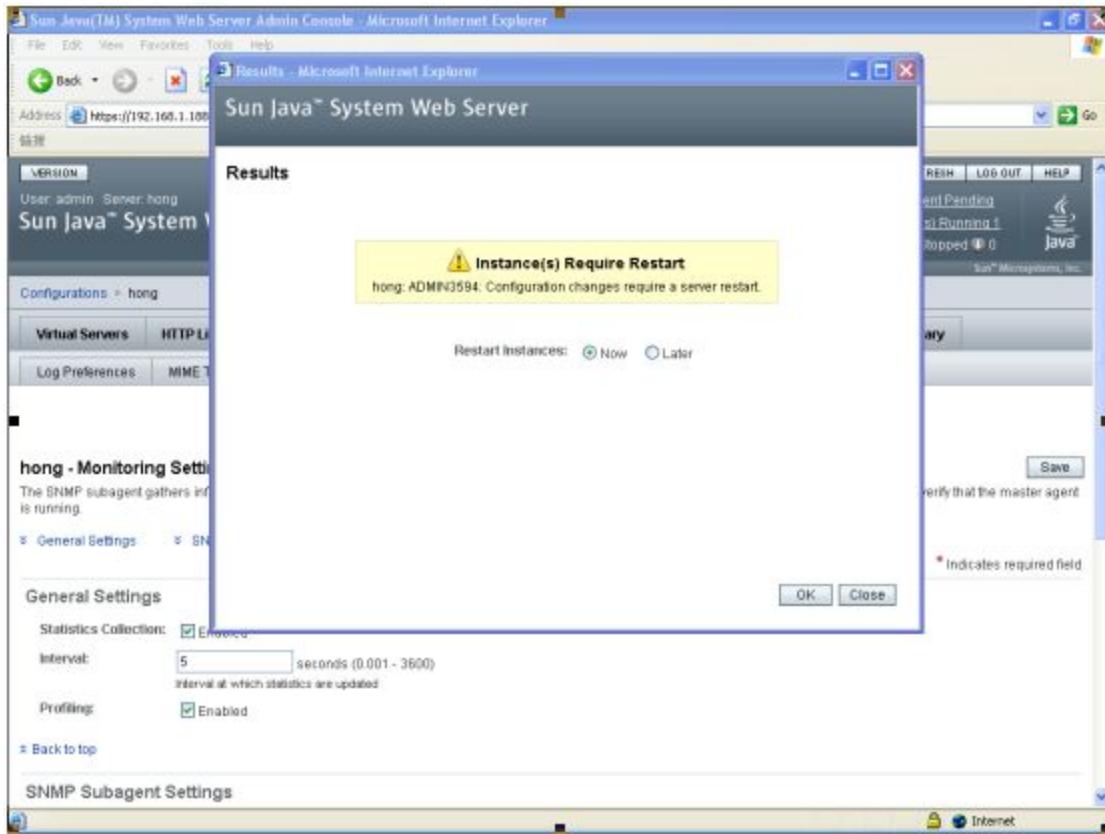


Figure 2.13: Restarting the web server instance

- Upon successful restart, Figure 2.14 will appear indicating the same. Click on the **Close** button to complete the operation.

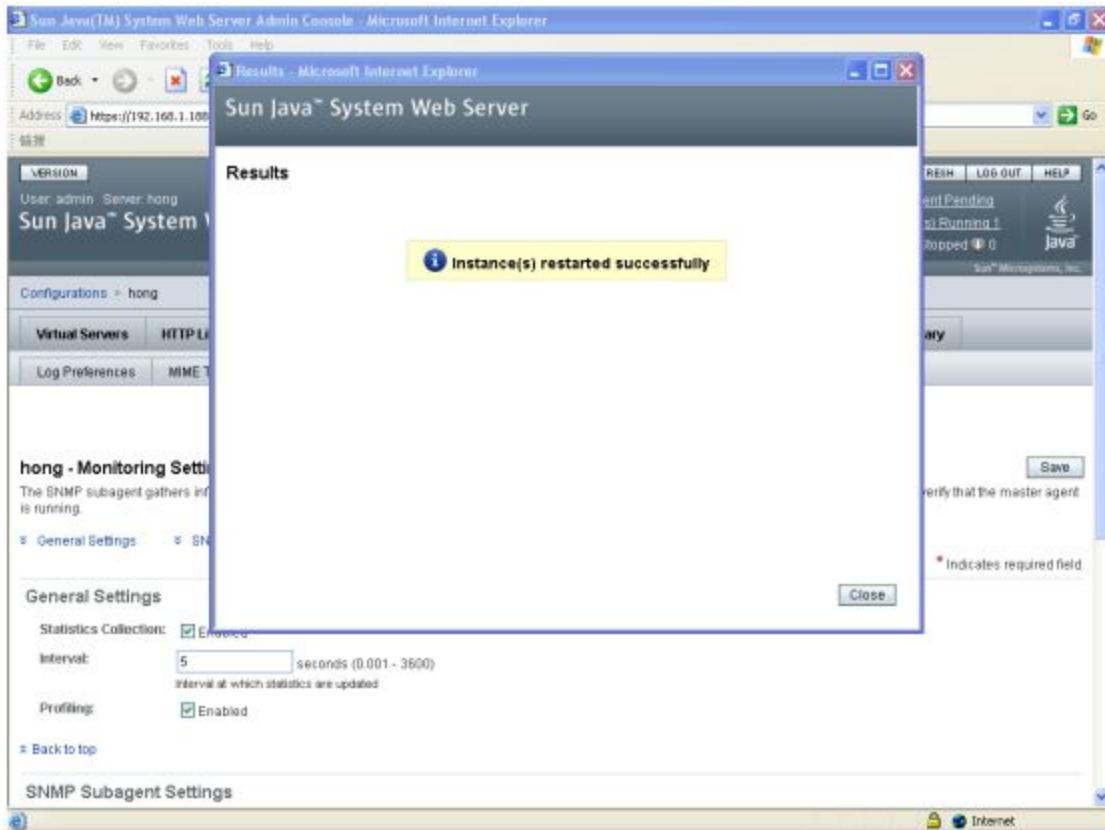


Figure 2.14: Finishing the configuration change

Once all the pre-requisites are fulfilled, the eG agent starts extracting critical performance metrics from the server and reports the same to the eG manager. The manager then presents these metrics to the users using the monitoring model indicated by Figure 3.1.

The sections that will follow will discuss each layer of this model.

## 2.2 Managing the Oracle iPlanet Web Server

The eG Enterprise cannot automatically discover the Oracle iPlanet Web Server. This implies that you need to manually add the component for monitoring. Remember that the eG Enterprise automatically manages the components that are added manually. To manage a Oracle iPlanet Web Server component, do the following:

1. Log into the eG administrative interface.
2. Follow the Components -> Add/Modify menu sequence in the **Infrastructure** tile of the **Admin** menu.
3. In the **COMPONENT** page that appears next, select Oracle iPlanet Web Server as the **Component**

**type.** Then, click the **Add New Component** button. This will invoke Figure 2.15.

COMPONENT

This page enables the administrator to provide the details of a new component

Category	Component type
All	Oracle iPlanet Web Server

**Component information**

Host IP/Name	192.168.10.1
Nick name	oraweb
Port number	80

**Monitoring approach**

Agentless	<input type="checkbox"/>
Internal agent assignment	<input checked="" type="radio"/> Auto <input type="radio"/> Manual
External agents	192.168.9.104

**Add**

Figure 2.15: Adding the Oracle iPlanet Web Server

4. Specify the **Host IP/Name** and the **Nick name** for the Server in 2.2. Then, click the **Add** button to register the changes.
5. When you attempt to sign out, a list of unconfigured tests appears (see Figure 2.16).

List of unconfigured tests for 'Oracle iPlanet Web Server'		
Performance		
SWS Conn Queues	SWS DNS Cache	SWS File Cache
SWS Instances	SWS Instances HTTP	SWS Instances Web Applications
SWS JVM	SWS Keep Alives	SWS Processes
SWS Thread Pools	SWS HTTP	SWS Web Applications
Application Process	Hardware - ArrayControl	Hardware - Drive
Hardware - Fan	Hardware - Overview	Hardware - Status
Hardware - Temperature	Hardware - Voltage	Processes

Figure 2.16: List of unconfigured tests for the Oracle iPlanet Web Server

6. To know how to configure the tests, refer to [Monitoring the Oracle iPlanet Web Server](#).
7. Finally, sign out of the eG administrative interface.

## Chapter 3: Monitoring the Oracle iPlanet Web Server

eG Enterprise provides a 100%, web-based Oracle iPlanet Server monitoring model that scans the web server bottom-up – from the operating system to the virtual servers to the server instances to the web applications deployed on the server - so that potential server overloads/slowdowns, errors encountered in real-time by the server, etc., can be quickly captured and proactively reported to administrators.

Each layer of the monitoring model is mapped to tests that report a wide variety of metrics related to the web server. These metrics provide accurate answers to the following performance queries:

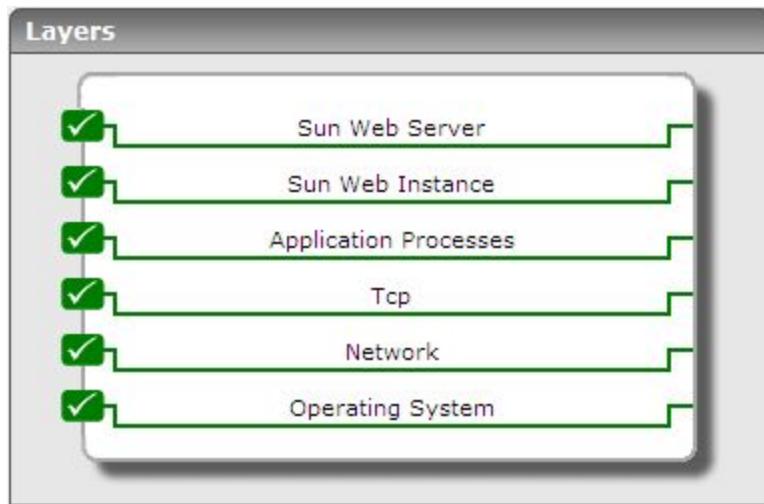


Figure 3.1: The layer model of the Oracle iPlanet Web Server

To enable the eG agent to extract these useful metrics from the web server, the pre-requisites documented in Section 2.1 should be fulfilled.

### 3.1 The Sun Web Instance Layer

Using the tests mapped to this layer, you can measure the following for the configuration on the single node on which the target web server instance is running:

- The quality of the HTTP requests to and from the web server instance;
- The session activity on the web applications deployed on the virtual servers for the configuration;
- The responsiveness of and the traffic handled by the web server instance;
- The memory usage and thread usage of the web server instance;

- The current size and usage of the connection queues of the web server instance;
- How effectively the DNS cache and file cache were utilized by the server instance;
- The overall health of the JVM of the web server instance;
- The request processing ability of the web server instance measured on the basis of thread pool usage;

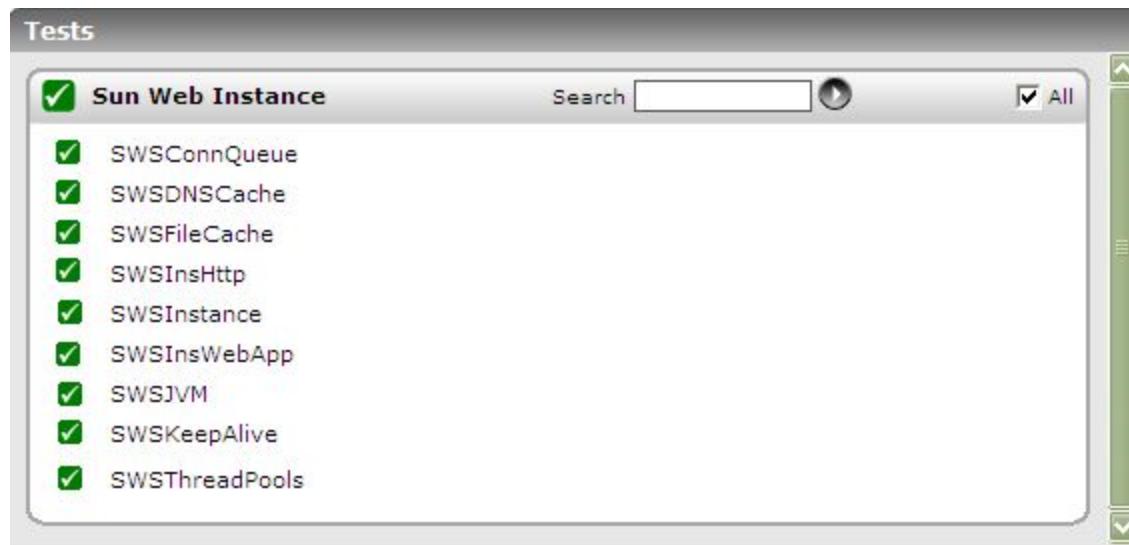


Figure 3.2: The tests pertaining to the Sun Web Instance layer

### 3.1.1 SWS Conn Queues Test

In Web Server, acceptor threads on a listen socket accept connections and put them into a connection queue. Request processing threads in a thread pool then pick up connections from the queue and service the requests.

If the connection queue becomes full, the server will be forced to drop new connections, thus denying users access to the server. To avoid such an unpleasant outcome, it is imperative that the connection queues are monitored periodically.

This test keeps track of the changes to the size of the connection queues, so that administrators are proactively alerted to any abnormal increase in the queue size or an unusual delay while connections are being picked up for processing.

**Target of the test :** An Oracle iPlanet Web Server

**Agent deploying the test :** An internal agent

**Outputs of the test :** One set of results for each volume that is to be monitored.

## Configurable parameters for the test

Parameter	Description
Test period	How often should the test be executed.
Host	The host for which the test is to be configured.
Port	The port number at which the specified Host listens to.
User	Specify the name of the administrator of the administration server to which the target web server is registered.
PasswdFile	The eG agent connects to the administration server to which the target web server is registered to extract the required metrics. To enable the eG agent to communicate with this administration server, you first need to create a password file containing the administrator password for accessing the server; this password file should be created in the install directory of the web server. Specify the name of this file in the PasswdFile text box; by default, this is <i>admin.passwd</i> .
AdminServer	Specify the IP address of the administration server to which the target web server is registered.
AdminPort	Indicate the port at which the administration server listens.
Config	In Web Server 7.0, all configurable elements of a server instance like web applications, configuration files, and search collection indexes are logically grouped and termed as a <b>Configuration</b> . To enable the test to locate the web server instance to be monitored, you need to mention the <b>Configuration</b> that applies to the instance. In the Config text box therefore, specify the name of the <b>Configuration</b> which the target web server instance uses.
Node	<b>Node</b> is a network resource, such as a server or a host. <b>Instance</b> refers to the environment of a web server daemon on a given node, including its configuration, log files and other runtime artifacts such as lock databases, caches and temporary files. To enable the test to identify the exact web server instance to be monitored, you need to specify the name of the Node on which the instance executes. The test will thus monitor only that web server instance that operates on the given Node and which uses the specified Config.
SSL	Set this flag to <b>Yes</b> if the administration server is SSL-enabled; if not, set it to <b>No</b> .
WebServerDir	Here, specify the Oracle iPlanet web server installation directory.

### Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Present Conns Queued	Indicates the number of connections currently in the queue.	Number	
No. of connections queued	Indicates the total number of times a connection was queued during the last measurement period.	Number	This number includes newly-accepted connections and connections from the keep-alive system.
No. of connections overflowed	Indicates the number of connections that overflowed during the last measurement period.	Number	If the connection queue is full, then the acceptor threads will drop subsequent connections. The dropped connections represent the overflowed connections.  Ideally, the value of this measure should be 0.
Maximum queue size	Indicates the maximum size of the connection queue.	Number	This number is:  Maximum Queue Size = Thread Pool Queue Size + Maximum Threads + Keep-Alive Queue Size  If the value of this measure is close to the limit, you can increase the maximum connection queue size to avoid dropping connections under heavy load.
Ticks spent	Indicates the amount of time that connections spent in the connection queue during last measurement period.	Secs	
Average queuing delay	Indicates the average amount of time a connection spent in the connection queue during last measurement period.	Secs	This represents the delay between when a request connection is accepted by the server and when a request processing thread begins servicing the request.  If the value of this measure is high, it

Measurement	Description	Measurement Unit	Interpretation
			could indicate a processing bottleneck on the server.
Peak queue size	Indicates the largest number of connections that have been in the queue simultaneously.	Number	

### 3.1.2 SWS DNS Cache Test

The DNS cache caches IP addresses and DNS names. The Web Server uses DNS caching for logging and for access control by IP address.

Using this test, you can determine whether the DNS cache is enabled or not, and if so, how effectively the web server instance has been using it.

**Target of the test :** An Oracle iPlanet Web Server

**Agent deploying the test :** An internal agent

**Outputs of the test :** One set of results for the Oracle iPlanet web server instance being monitored.

**Configurable parameters for the test**

Parameter	Description
Test period	How often should the test be executed.
Host	The host for which the test is to be configured.
Port	The port number at which the specified Host listens to.
User	Specify the name of the administrator of the administration server to which the target web server is registered.
PasswdFile	The eG agent connects to the administration server to which the target web server is registered to extract the required metrics. To enable the eG agent to communicate with this administration server, you first need to create a password file containing the administrator password for accessing the server; this password file should be created in the install directory of the web server. Specify the name of this file in the PasswdFile text box; by default, this is <i>admin.passwd</i> .
AdminServer	Specify the IP address of the administration server to which the target web server is

Parameter	Description
	registered.
AdminPort	Indicate the port at which the administration server listens.
Config	In Web Server 7.0, all configurable elements of a server instance like web applications, configuration files, and search collection indexes are logically grouped and termed as a <b>Configuration</b> . To enable the test to locate the web server instance to be monitored, you need to mention the <b>Configuration</b> that applies to the instance. In the Config text box therefore, specify the name of the <b>Configuration</b> which the target web server instance uses.
Node	<b>Node</b> is a network resource, such as a server or a host. <b>Instance</b> refers to the environment of a web server daemon on a given node, including its configuration, log files and other runtime artifacts such as lock databases, caches and temporary files. To enable the test to identify the exact web server instance to be monitored, you need to specify the name of the Node on which the instance executes. The test will thus monitor only that web server instance that operates on the given Node and which uses the specified Config.
SSL	Set this flag to <b>Yes</b> if the administration server is SSL-enabled; if not, set it to <b>No</b> .
WebServerDir	Here, specify the Oracle iPlanet web server installation directory.

### Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
No of cache hits	Indicates the number of times the DNS cache was successfully looked up for an IP address.	Number	
No. of cache misses	Indicates the number of times an IP address was not found in the cache.	Number	This number includes newly-accepted connections and connections from the keep-alive system.
Hit ratio	Indicates the number of cache hits compared to the number of cache lookups.	Percent	<p>Ideally, the value of this measure should be high. A low value is indicative of too many cache misses. This could be owing to a badly sized cache.</p> <p>Typically, the cache should be as large as the maximum number of</p>

Measurement	Description	Measurement Unit	Interpretation
			<p>clients that access your web site concurrently.</p> <p>Note that setting the cache size too high wastes memory and degrades performance.</p>
Async lookup enabled	Indicates whether the server uses its own asynchronous DNS resolver instead of the operating system's synchronous resolver.	Boolean	
Lookups in progress	Indicates the current number of lookups in progress.	Number	
Async name lookups	Indicates the number of times during the last measurement period DNS names were looked up in the cache, so that the corresponding IP addresses could be resolved.	Number	
Async address lookups	Indicates the number of times IP addresses were looked up in the cache, so that the corresponding DNS name could be identified.	Number	
DNS cache enabled	Indicates whether the cache is enabled or not.	Boolean	

### 3.1.3 SWS File Cache Test

The file cache caches static content so that the server handles requests for static content quickly. The file cache contains information about files and static file content. The file cache also caches information that is used to speed up processing of server-parsed HTML.

By periodically monitoring the usage of the file cache, you will not only be introduced to ineffective cache usage patterns, but also irregularities in the cache size, both of which may contribute to a slowdown in server operations.

Using this test, you can monitor the usage of the file cache and detect sizing inadequacies.

**Target of the test :** An Oracle iPlanet Web Server

**Agent deploying the test :** An internal agent

**Outputs of the test :** One set of results for the Oracle iPlanet web server instance being monitored.

**Configurable parameters for the test**

Parameter	Description
Test period	How often should the test be executed.
Host	The host for which the test is to be configured.
Port	The port number at which the specified Host listens to.
User	Specify the name of the administrator of the administration server to which the target web server is registered.
PasswdFile	The eG agent connects to the administration server to which the target web server is registered to extract the required metrics. To enable the eG agent to communicate with this administration server, you first need to create a password file containing the administrator password for accessing the server; this password file should be created in the install directory of the web server. Specify the name of this file in the PasswdFile text box; by default, this is <i>admin.passwd</i> .
AdminServer	Specify the IP address of the administration server to which the target web server is registered.
AdminPort	Indicate the port at which the administration server listens.
Config	In Web Server 7.0, all configurable elements of a server instance like web applications, configuration files, and search collection indexes are logically grouped and termed as a <b>Configuration</b> . To enable the test to locate the web server instance to be monitored, you need to mention the <b>Configuration</b> that applies to the instance. In the Config text box therefore, specify the name of the <b>Configuration</b> which the target web server instance uses.
Node	<b>Node</b> is a network resource, such as a server or a host. <b>Instance</b> refers to the environment of a web server daemon on a given node, including its configuration, log files and other runtime artifacts such as lock databases, caches and temporary files.

Parameter	Description
	To enable the test to identify the exact web server instance to be monitored, you need to specify the name of the Node on which the instance executes. The test will thus monitor only that web server instance that operates on the given Node and which uses the specified Config.
SSL	Set this flag to <b>Yes</b> if the administration server is SSL-enabled; if not, set it to <b>No</b> .
WebServerDir	Here, specify the Oracle iPlanet web server installation directory.

### Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
No of cache hits	Indicates the number of times during the last measurement period the file cache was looked.	Number	Ideally, this value should be high.
No. of cache misses	Indicates the number of times during the last measurement period the file cache could not service requests for file information or static content.	Number	Ideally, this value should be low. A high value indicates an ineffective cache – in other words, the cache may not have adequate entries to service requests. This could be owing to the small cache heap size. You may want to consider resizing the cache heap, so that the file cache is able to accommodate more entries, and thus service more number of requests.
No. of cache content hits	Indicates the number of times during the last measurement period the cache was looked up for static content.	Number	Ideally, this value should be high.
Cache content misses	Indicates the number of times during the last measurement period the file cache could not service requests for static content.	Number	Ideally, this value should be low. A high value indicates an ineffective cache – in other words, enough content may not have been cached by the server, thus causing many requests to go unserviced. This could be owing to the small cache heap size.

Measurement	Description	Measurement Unit	Interpretation
			You may want to consider resizing the cache heap, so that the file cache is able to accommodate more content, and thus service more number of requests.
No. of file info lookups	Indicates the number of times during the last measurement period the file cache was looked up for file information.	Number	Ideally, this value should be high.
No of FI lookup failures	Indicates the number of times during the last measurement period the file cache could not service requests for file information.	Number	Ideally, this value should be low. A high value indicates an ineffective cache – in other words, enough file information may not have been cached by the server, thus causing many requests for file info to go unserviced. This could be owing to the small cache heap size. You may want to consider resizing the cache heap, so that the file cache is able to accommodate more file information, and thus service more number of requests.
No of entries	Indicates the current number of cache entries.	Number	
Maximum cache size	Indicates the maximum number of entries that can be available in the file cache.	Number	The optimal file cache size is dependent on whether you are running a 32-bit or a 64-bit server. The available address space for a 32-bit server is limited to 4GB. The max-entries for file cache is based on the amount of Java heap, the number of threads (as specified by thread-pool/max-threads), and the connection queue size. It is recommended to cache small, frequently accessed static files in the file cache and use perfdump to ensure that the file cache hit ratio is close to 100%. To achieve

Measurement	Description	Measurement Unit	Interpretation
			this, you may increase file cache size and fine tune the max-entries for optimal performance. In a 64-bit server, due to the increased availability of address space, you can cache more static content in the file cache.
No of open file entries	Indicates the current number of open file entries.	Number	For performance reasons, the web server caches the open file descriptors of large files, to avoid opening and closing such files frequently. The value of this measure represents the number of open file descriptors that are currently in the cache.
Max open files allowed	Indicates the maximum number of open files allowed.	Number	
Heap size	Indicates the current cache heap size.	MB	
Maximum heap cache size	Indicates the maximum cache heap size.	MB	The optimal cache heap size depends upon how much system memory is free. A larger heap size means that the Web Server can cache more content and therefore obtain a better hit ratio. However, the heap size should not be so large that the operating system starts paging cached files.
Size of Mem mapped file	Indicates the current size of the memory mapped file content.	KB	For performance reasons, the web server caches the content of small files in memory. The value of this measure represents the number of small files that in cache.
Max mem mapped file size	Indicates the maximum size of the memory mapped file.	KB	
Maximum age of entries	Indicates the maximum age of a valid cache entry.	Secs	This measure controls how long cached information is used after a file

Measurement	Description	Measurement Unit	Interpretation
			has been cached. An entry older than the maximum age is replaced by a new entry for the same file.
File cache enabled	Indicates whether the file cache has been enabled or not.	Boolean	

### 3.1.4 SWS Instances HTTP Test

When you use virtual servers you can offer companies or individuals domain names, IP addresses, and some server monitoring capabilities with a single installed server.

All virtual servers have an HTTP Listener specified. When a new request comes in, the web server determines which virtual server to send it to based on the configured HTTP Listener.

This test monitors the HTTP requests to and responses from each virtual server configured on a web server instance, and thus reveals the quality of the HTTP service on the virtual servers.

**Target of the test :** An Oracle iPlanet Web Server

**Agent deploying the test :** An internal agent

**Outputs of the test :** One set of results for the each virtual server configured on the Oracle iPlanet web server instance being monitored.

**Configurable parameters for the test**

Parameter	Description
Test period	How often should the test be executed.
Host	The host for which the test is to be configured.
Port	The port number at which the specified Host listens to.
User	Specify the name of the administrator of the administration server to which the target web server is registered.
PasswdFile	The eG agent connects to the administration server to which the target web server is registered to extract the required metrics. To enable the eG agent to communicate with this administration server, you first need to create a password file containing the

Parameter	Description
	administrator password for accessing the server; this password file should be created in the install directory of the web server. Specify the name of this file in the PasswdFile text box; by default, this is <i>admin.passwd</i> .
AdminServer	Specify the IP address of the administration server to which the target web server is registered.
AdminPort	Indicate the port at which the administration server listens.
Config	In Web Server 7.0, all configurable elements of a server instance like web applications, configuration files, and search collection indexes are logically grouped and termed as a <b>Configuration</b> . To enable the test to locate the web server instance to be monitored, you need to mention the <b>Configuration</b> that applies to the instance. In the Config text box therefore, specify the name of the <b>Configuration</b> which the target web server instance uses.
Node	<b>Node</b> is a network resource, such as a server or a host. <b>Instance</b> refers to the environment of a web server daemon on a given node, including its configuration, log files and other runtime artifacts such as lock databases, caches and temporary files. To enable the test to identify the exact web server instance to be monitored, you need to specify the name of the Node on which the instance executes. The test will thus monitor only that web server instance that operates on the given Node and which uses the specified Config.
SSL	Set this flag to <b>Yes</b> if the administration server is SSL-enabled; if not, set it to <b>No</b> .
WebServerDir	Here, specify the Oracle iPlanet web server installation directory.

### Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Requests	Indicates the rate of requests to this virtual server.	Reqs/Sec	
No. of requests	Indicates the number of requests to this virtual server during the last measurement period.	Number	
No. of errors	Indicates the number of errors logged on this virtual server during the last	Number	Ideally, this value should be 0.

Measurement	Description	Measurement Unit	Interpretation
	measurement period.		
No. of open connections	Indicates the number of connections currently open on this virtual server .	Number	
Data received	Indicates the rate of data received by this virtual server.	KB/Sec	
Data transmitted	Indicates the rate of data transmitted by this virtual server.	KB/Sec	
No of 200 responses	Indicates the number of HTTP responses sent out by this virtual server during the last measurement period, with the 200 code.	Number	The 200 response is the standard response for successful HTTP requests.
Successful responses	Indicates the number of successful responses sent out by this virtual server during the last measurement period.	Number	The value of this measure typically represents the number of responses with the 2xx code. This class of status codes indicates the action requested by the client was received, understood, accepted and processed successfully.
No of 302 responses	Indicates the number of responses sent out by this virtual server during the last measurement period, with the 302 code.	Number	The 302 response indicates that the requested resource has been found under a different URI but the client should continue to use the original URI.
No. of 304 responses	Indicates the number of responses sent out by this virtual server during the last measurement period, with the 304 code.	Number	The 304 response indicates that the resource has not been modified since the last request.
Redirection	Indicates the number of responses with the 3xx code that were sent out by this virtual server during	Number	This class of status code indicates that further action needs to be taken by the user agent in order to fulfill the request. The action required may be

Measurement	Description	Measurement Unit	Interpretation
	the last measurement period.		carried out by the user agent without interaction with the user if and only if the method used in the second request is GET or HEAD. A user agent should not automatically redirect a request more than five times, since such redirections usually indicate an infinite loop.
No of 400 responses	Indicates the number of responses with the 400 code that were sent out by this virtual server during the last measurement period.	Number	This type of response indicates that the request contains bad syntax or cannot be fulfilled.
No of 401 responses	Indicates the number of responses with the 401 code that were sent out by this virtual server during the last measurement period.	Number	This type of response indicates that the request needs user authentication.
No of 403 responses	Indicates the number of responses with the 403 code that were sent out by this virtual server during the last measurement period.	Number	This type of response indicates that the request was a legal request, but the server is refusing to respond to it.
No of 404 responses	Indicates the number of responses with the 404 code that were sent out by this virtual server during the last measurement period.	Number	This type of response indicates that the document/file requested by the client was not found.
	Client errors responses: Indicates the number of responses with the 4xx code that were sent out by this virtual server during	Number	Normally, value of the measure should be 0. A nonzero value indicates there are some problems with the requested content.

Measurement	Description	Measurement Unit	Interpretation
	the last measurement period.		
No of 503 responses	Indicates the number of responses with the 503 code that were sent out by this virtual server during the last measurement period.	Number	The 503 code indicates that the request was unsuccessful due to the server being down or overloaded.
Server errors responses	Indicates the number of responses with the 5xx code that were sent out by this virtual server during the last measurement period.	Number	Response status codes beginning with the digit "5" indicate cases in which the server is aware that it has encountered an error or is otherwise incapable of performing the request. Normally, the value of the measure should be 0. A nonzero value indicates there are some errors in the web server.

### 3.1.5 SWS Instances Test

**Instance** refers to the environment of a web server daemon on a given node, including its configuration, log files and other runtime artifacts such as lock databases, caches and temporary files.

This test reports useful performance statistics related to a web server instance, which indicate the following:

- How long has the instance been up and running?
- How quickly does the instance respond to requests? Is there a processing bottleneck on the server instance?
- Have any been errors been captured on the instance?
- How is the data traffic to and from the instance?

**Target of the test :** An Oracle iPlanet Web Server

**Agent deploying the test :** An internal agent

**Outputs of the test :** One set of results for the web server instance being monitored.

### Configurable parameters for the test

Parameter	Description
Test period	How often should the test be executed.
Host	The host for which the test is to be configured.
Port	The port number at which the specified Host listens to.
User	Specify the name of the administrator of the administration server to which the target web server is registered.
PasswdFile	The eG agent connects to the administration server to which the target web server is registered to extract the required metrics. To enable the eG agent to communicate with this administration server, you first need to create a password file containing the administrator password for accessing the server; this password file should be created in the install directory of the web server. Specify the name of this file in the PasswdFile text box; by default, this is <i>admin.passwd</i> .
AdminServer	Specify the IP address of the administration server to which the target web server is registered.
AdminPort	Indicate the port at which the administration server listens.
Config	In Web Server 7.0, all configurable elements of a server instance like web applications, configuration files, and search collection indexes are logically grouped and termed as a <b>Configuration</b> . To enable the test to locate the web server instance to be monitored, you need to mention the <b>Configuration</b> that applies to the instance. In the Config text box therefore, specify the name of the <b>Configuration</b> which the target web server instance uses.
Node	<b>Node</b> is a network resource, such as a server or a host. <b>Instance</b> refers to the environment of a web server daemon on a given node, including its configuration, log files and other runtime artifacts such as lock databases, caches and temporary files. To enable the test to identify the exact web server instance to be monitored, you need to specify the name of the Node on which the instance executes. The test will thus monitor only that web server instance that operates on the given Node and which uses the specified Config.
SSL	Set this flag to <b>Yes</b> if the administration server is SSL-enabled; if not, set it to <b>No</b> .
WebServerDir	Here, specify the Oracle iPlanet web server installation directory.
Detailed Diagnosis	To make diagnosis more efficient and accurate, the eG Enterprise suite embeds an optional detailed diagnostic capability. With this capability, the eG agents can be

Parameter	Description
	<p>configured to run detailed, more elaborate tests as and when specific problems are detected. To enable the detailed diagnosis capability of this test for a particular server, choose the <b>On</b> option. To disable the capability, click on the <b>Off</b> option.</p> <p>The option to selectively enable/disable the detailed diagnosis capability will be available only if the following conditions are fulfilled:</p> <ul style="list-style-type: none"> <li>• The eG manager license should allow the detailed diagnosis capability</li> <li>• Both the normal and abnormal frequencies configured for the detailed diagnosis measures should not be 0.</li> </ul>

### Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Instance running time	Indicates the total time for which the instance has been up and running.	Secs	<p>By observing the variations in this measure over time, you can determine whether there were frequent breaks in the availability of the instance.</p> <p>The detailed diagnosis of this measure (if enabled) displays starting time of the instance.</p>
Requests	Indicates the rate of requests to all the virtual servers in the instance.	Reqs/Sec	
No. of errors	Indicates the number of errors logged on all the virtual servers in the instance during the last measurement period.	Number	Ideally, this value should be 0.
Maximum response time	Indicates the maximum response time of all virtual servers since the instance was up.	Secs	A low response time is typically desired. A high value of this measure could indicate a processing bottleneck on the web server instance or a network congestion.
Avg res time in Last5min	Average response time of all virtual servers in the instance during last 5	Secs	

Measurement	Description	Measurement Unit	Interpretation
	minutes.		
Data transmitted	Indicates the rate of data transmitted by this instance.	KB/Sec	
Data received	Indicates the rate of data received by this instance.	KB/Sec	

### 3.1.6 SWS Instances Web Applications Test

This test auto-discovers the web applications deployed on each virtual server configured on the web server instance being monitored, and monitors the uptime of and session activity on each web application.

**Target of the test :** An Oracle iPlanet Web Server

**Agent deploying the test :** An internal agent

**Outputs of the test :** One set of results for each *virtualserver\_webapplication* pair auto-discovered on the web server instance being monitored.

**Configurable parameters for the test**

Parameter	Description
Test period	How often should the test be executed.
Host	The host for which the test is to be configured.
Port	The port number at which the specified Host listens to.
User	Specify the name of the administrator of the administration server to which the target web server is registered.
PasswdFile	The eG agent connects to the administration server to which the target web server is registered to extract the required metrics. To enable the eG agent to communicate with this administration server, you first need to create a password file containing the administrator password for accessing the server; this password file should be created in the install directory of the web server. Specify the name of this file in the PasswdFile text box; by default, this is <i>admin.passwd</i> .
AdminServer	Specify the IP address of the administration server to which the target web server is

Parameter	Description
	registered.
AdminPort	Indicate the port at which the administration server listens.
Config	In Web Server 7.0, all configurable elements of a server instance like web applications, configuration files, and search collection indexes are logically grouped and termed as a <b>Configuration</b> . To enable the test to locate the web server instance to be monitored, you need to mention the <b>Configuration</b> that applies to the instance. In the Config text box therefore, specify the name of the <b>Configuration</b> which the target web server instance uses.
Node	<b>Node</b> is a network resource, such as a server or a host. <b>Instance</b> refers to the environment of a web server daemon on a given node, including its configuration, log files and other runtime artifacts such as lock databases, caches and temporary files. To enable the test to identify the exact web server instance to be monitored, you need to specify the name of the Node on which the instance executes. The test will thus monitor only that web server instance that operates on the given Node and which uses the specified Config.
SSL	Set this flag to <b>Yes</b> if the administration server is SSL-enabled; if not, set it to <b>No</b> .
WebServerDir	Here, specify the Oracle iPlanet web server installation directory.

### Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
No of JSPs loaded	Indicates the number of JSPs that were loaded on to this application during the last measurement period.	Number	
No of JSPs reloaded	Indicates the number of JSPs reloaded during the last measurement period.	Number	
No. of sessions serviced	Indicates the number of sessions that were created on the web application during the last measurement period.	Number	This is a good indicator of the session load on the web application.
No of sessions	Indicates the number of	Number	

Measurement	Description	Measurement Unit	Interpretation
active	currently active sessions on this web application.		
Peak sessions	Indicates the peak active sessions.	Number	
No of sessions rejected	Indicates the number of sessions rejected by this web application during the last measurement period.	Number	A very high value of this measure could indicate a problem; further investigation is recommended.
No of sessions expired	Indicates the number of sessions that expired during the last measurement period.	Number	
Average alive time	Indicates the average lifetime of all sessions that have expired.	Secs	
Peak alive time	Indicates the longest lifetime of all sessions which have expired.	Secs	

### 3.1.7 SWS JVM Test

This test reports the overall health of the JVM of the web server instance being monitored by measuring the following:

- How well the JVM manages the memory heap;
- The level of activity on the JVM in terms of the number of threads that are currently in use;

**Target of the test :** An Oracle iPlanet Web Server

**Agent deploying the test :** An internal agent

**Outputs of the test :** One set of results for the web server instance being monitored.

**Configurable parameters for the test**

Parameter	Description
Test period	How often should the test be executed.

Parameter	Description
Host	The host for which the test is to be configured.
Port	The port number at which the specified Host listens to.
User	Specify the name of the administrator of the administration server to which the target web server is registered.
PasswdFile	The eG agent connects to the administration server to which the target web server is registered to extract the required metrics. To enable the eG agent to communicate with this administration server, you first need to create a password file containing the administrator password for accessing the server; this password file should be created in the install directory of the web server. Specify the name of this file in the PasswdFile text box; by default, this is <i>admin.passwd</i> .
AdminServer	Specify the IP address of the administration server to which the target web server is registered.
AdminPort	Indicate the port at which the administration server listens.
Config	In Web Server 7.0, all configurable elements of a server instance like web applications, configuration files, and search collection indexes are logically grouped and termed as a <b>Configuration</b> . To enable the test to locate the web server instance to be monitored, you need to mention the <b>Configuration</b> that applies to the instance. In the Config text box therefore, specify the name of the <b>Configuration</b> which the target web server instance uses.
Node	<b>Node</b> is a network resource, such as a server or a host. <b>Instance</b> refers to the environment of a web server daemon on a given node, including its configuration, log files and other runtime artifacts such as lock databases, caches and temporary files. To enable the test to identify the exact web server instance to be monitored, you need to specify the name of the Node on which the instance executes. The test will thus monitor only that web server instance that operates on the given Node and which uses the specified Config.
SSL	Set this flag to <b>Yes</b> if the administration server is SSL-enabled; if not, set it to <b>No</b> .
WebServerDir	Here, specify the Oracle iPlanet web server installation directory.

### Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Heap memory size	Indicates the current heap memory size.	MB	

Measurement	Description	Measurement Unit	Interpretation
Elapsed GC Time	Indicates the time taken for garbage collection.	Secs	If adequate memory is not allotted to the JVM, then the value of this measure would be very high. This is not a good sign, as GC, during its execution, has the tendency of suspending an application, and a high value of this measure would only adversely impact the server's performance. To avoid this, it is recommended that you allot sufficient memory to the JVM.
No. of GC occurred	Indicates the number of garbage collections that occurred during the last measurement period.	Number	If adequate memory is not allotted to the JVM, then the value of this measure would be very high. A high value of this measure is indicative of a high frequency of GC. This is not a good sign, as GC, during its execution, has the tendency of suspending an application, and a high frequency of GC would only adversely impact the server's performance. To avoid this, it is recommended that you allot sufficient memory to the JVM.
Present classes loaded	Indicates the number of classes currently loaded in the JVM.	Number	
No of classes loaded	Indicates the number of classes that were loaded during the last measurement period.	Number	
No of classes unloaded	Indicates the number of classes unloaded during the last measurement period.	Number	
No of live threads	Indicates the number of live daemon and non-daemon threads.	Number	A large number of threads is indicative of high JVM activity.

Measurement	Description	Measurement Unit	Interpretation
No of started threads	Indicates the number of threads created and/or started during last measurement period.	Number	
Peak Live Thread Count	Indicates the peak live thread count since the JVM started or the peak was reset.	Number	

### 3.1.8 SWS Keep Alives Test

Http operates on what is called a request-response paradigm. This means that a client generates a request for information, and passes it to the server, which answers it. In the original implementation of HTTP, each request created a new socket connection to the server, sent the request, then read from that connection to get the response.

While this approach was simple to understand and implement, it was also slow. So, keep-alive connections were invented for HTTP. Under HTTP 1.0, if the browser supports keep-alive, it adds an additional header to the request:

```
Connection: Keep-Alive
```

Then, when the server receives this request and generates a response, it also adds a header to the response:

```
Connection: Keep-Alive
```

Following this, the connection is NOT dropped, but is instead kept open. When the client sends another request, it uses the same connection. This will continue until either the client or the server decides that the conversation is over, and one of them drops the connection.

Under HTTP 1.1, the official keepalive method is different. **All** connections are kept alive, unless stated otherwise with the following header:

```
Connection: close
```

A web server can receive hundreds of new HTTP requests per second. If every request was allowed to keep the connection open indefinitely, the server could become overloaded with connections. Using the SWSKeepAlive test you can continuously monitor the inflow of keep-alive HTTP

connections to the target web server instance, so that you can be proactively alerted to a potential connection overload, and avert it before any irreparable damage occurs.

**Target of the test :** An Oracle iPlanet Web Server

**Agent deploying the test :** An internal agent

**Outputs of the test :** One set of results for the web server instance being monitored.

**Configurable parameters for the test**

Parameter	Description
Test period	How often should the test be executed.
Host	The host for which the test is to be configured.
Port	The port number at which the specified Host listens to.
User	Specify the name of the administrator of the administration server to which the target web server is registered.
PasswdFile	The eG agent connects to the administration server to which the target web server is registered to extract the required metrics. To enable the eG agent to communicate with this administration server, you first need to create a password file containing the administrator password for accessing the server; this password file should be created in the install directory of the web server. Specify the name of this file in the PasswdFile text box; by default, this is <i>admin.passwd</i> .
AdminServer	Specify the IP address of the administration server to which the target web server is registered.
AdminPort	Indicate the port at which the administration server listens.
Config	In Web Server 7.0, all configurable elements of a server instance like web applications, configuration files, and search collection indexes are logically grouped and termed as a <b>Configuration</b> . To enable the test to locate the web server instance to be monitored, you need to mention the <b>Configuration</b> that applies to the instance. In the Config text box therefore, specify the name of the <b>Configuration</b> which the target web server instance uses.
Node	<b>Node</b> is a network resource, such as a server or a host. <b>Instance</b> refers to the environment of a web server daemon on a given node, including its configuration, log files and other runtime artifacts such as lock databases, caches and temporary files. To enable the test to identify the exact web server instance to be monitored, you need to specify the name of the Node on which the instance executes. The test will thus monitor only that web server instance that operates on the given Node and which uses

Parameter	Description
	the specified Config.
SSL	Set this flag to <b>Yes</b> if the administration server is SSL-enabled; if not, set it to <b>No</b> .
WebServerDir	Here, specify the Oracle iPlanet web server installation directory.

### Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Keep alive hits	Indicates the number of times a request was successfully received from a connection that was kept alive during the last measurement period.	Number	
Number of connections added	Indicates the current number of connections in keep-alive mode.	Number	<p>If the Number of connections added measure registers an abnormally high value, or is found to increase consistently, then, it is indicative of a probable connection overload. On UNIX and Linux systems, this could lead to a file table overflow very easily.</p> <p>To deal with this problem, the server maintains a counter for the maximum number of waiting keep-alive connections. The <i>Maximum connection size</i> measure reports the value of this counter only.</p> <p>A waiting keep-alive connection is one that has fully completed processing the previous request, and is now waiting for a new request to arrive on the same connection. If the server has more than the maximum waiting connections open when a new connection waits for a keep-alive request, the server closes the oldest</p>

Measurement	Description	Measurement Unit	Interpretation
Maximum connection size	Indicates the maximum number of connections allowed in keep-alive mode simultaneously.	Number	connection. This algorithm keeps an upper bound on the number of open waiting keep-alive connections that the server can maintain.
No of connections flushed	Indicates the number of times during the last measurement period the server had to close a connection because the total number of connections added exceeded the keep-alive maximum connections setting.	Number	The server does not always close existing connections when the keep-alive count exceeds the maximum connection size. Instead, new keep-alive connections are refused and the number of connections refused count is incremented.
No of connections refused	Indicates the number of times the server could not complete the connection to a keep-alive thread during the last measurement period.	Number	This could happen due to too many persistent connections (or when the total number of connections added exceeds the keep-alive maximum connections setting).
Keep alive timeouts	Indicates the number of times during the last measurement period the server closed idle keep-alive connections because client connections timed out without any activity.	Number	
Connection timeout	Indicates the time before idle keep-alive connections are closed.	Secs	<p>The default timeout period is 30 seconds, meaning the connection times out if idle for more than 30 seconds. The maximum is 3600 seconds (60 minutes).</p> <p>Since idle connections are a resource-drain, you may want to fine-tune the timeout settings for your keep-alive connections to prevent the wastage of resources.</p>

### 3.1.9 SWS Thread Pools Test

For web server instances that are configured with the default settings, threads from the default thread pool process requests to the instance. In addition, custom thread pools can also be created and used to run custom NSAPI functions. By default, the web server creates one additional pool, named NativePool.

This test auto-discovers the native and custom thread pools used by a web server instance, and reports how well each pool is used.

**Target of the test :** An Oracle iPlanet Web Server

**Agent deploying the test :** An internal agent

**Outputs of the test :** One set of results for each thread pool used by the web server instance being monitored.

**Configurable parameters for the test**

Parameter	Description
Test period	How often should the test be executed.
Host	The host for which the test is to be configured.
Port	The port number at which the specified Host listens to.
User	Specify the name of the administrator of the administration server to which the target web server is registered.
PasswdFile	The eG agent connects to the administration server to which the target web server is registered to extract the required metrics. To enable the eG agent to communicate with this administration server, you first need to create a password file containing the administrator password for accessing the server; this password file should be created in the install directory of the web server. Specify the name of this file in the PasswdFile text box; by default, this is <i>admin.passwd</i> .
AdminServer	Specify the IP address of the administration server to which the target web server is registered.
AdminPort	Indicate the port at which the administration server listens.
Config	In Web Server 7.0, all configurable elements of a server instance like web applications, configuration files, and search collection indexes are logically grouped and termed as a <b>Configuration</b> . To enable the test to locate the web server instance to be monitored,

Parameter	Description
	you need to mention the <b>Configuration</b> that applies to the instance. In the Config text box therefore, specify the name of the <b>Configuration</b> which the target web server instance uses.
Node	<b>Node</b> is a network resource, such as a server or a host. <b>Instance</b> refers to the environment of a web server daemon on a given node, including its configuration, log files and other runtime artifacts such as lock databases, caches and temporary files. To enable the test to identify the exact web server instance to be monitored, you need to specify the name of the Node on which the instance executes. The test will thus monitor only that web server instance that operates on the given Node and which uses the specified Config.
SSL	Set this flag to <b>Yes</b> if the administration server is SSL-enabled; if not, set it to <b>No</b> .
WebServerDir	Here, specify the Oracle iPlanet web server installation directory.

### Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
No of idle threads	Indicates the number of threads in this pool that are currently idle.	Number	A high value for this measure indicates that there are adequate free threads in the pool for servicing additional requests to the web server instance.
No of threads	Indicates the number of threads in this pool.	Number	
No of requests queued	Indicates the number of requests currently waiting for a native thread from this pool.	Number	An abnormally high value for this measure could indicate the absence of free threads in the pool to service requests.
Peak requests queued	Indicates the highest number of requests that were ever queued up simultaneously for the use of a native thread from this pool since the server was started.	Number	This value can be viewed as the maximum concurrency for requests requiring a native thread.

### 3.1.10 SWS Processes Test

This test reports useful statistics for the process of the web server instance.

**Target of the test :** An Oracle iPlanet Web Server

**Agent deploying the test :** An internal agent

**Outputs of the test :** One set of results for the web server instance being monitored.

**Configurable parameters for the test**

Parameter	Description
Test period	How often should the test be executed.
Host	The host for which the test is to be configured.
Port	The port number at which the specified Host listens to.
User	Specify the name of the administrator of the administration server to which the target web server is registered.
PasswdFile	The eG agent connects to the administration server to which the target web server is registered to extract the required metrics. To enable the eG agent to communicate with this administration server, you first need to create a password file containing the administrator password for accessing the server; this password file should be created in the install directory of the web server. Specify the name of this file in the PasswdFile text box; by default, this is <i>admin.passwd</i> .
AdminServer	Specify the IP address of the administration server to which the target web server is registered.
AdminPort	Indicate the port at which the administration server listens.
Config	In Web Server 7.0, all configurable elements of a server instance like web applications, configuration files, and search collection indexes are logically grouped and termed as a <b>Configuration</b> . To enable the test to locate the web server instance to be monitored, you need to mention the <b>Configuration</b> that applies to the instance. In the Config text box therefore, specify the name of the <b>Configuration</b> which the target web server instance uses.
Node	<b>Node</b> is a network resource, such as a server or a host. <b>Instance</b> refers to the environment of a web server daemon on a given node, including its configuration, log files and other runtime artifacts such as lock databases, caches and temporary files. To enable the test to identify the exact web server instance to be monitored, you need

Parameter	Description
	to specify the name of the Node on which the instance executes. The test will thus monitor only that web server instance that operates on the given Node and which uses the specified Config.
SSL	Set this flag to <b>Yes</b> if the administration server is SSL-enabled; if not, set it to <b>No</b> .
WebServerDir	Here, specify the Oracle iPlanet web server installation directory.

### Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Process ID	Indicates the process identifier.	Number	
Resident memory size	Indicates the size of resident memory.	MB	
Virtual memory size	Indicates the size of virtual memory.	MB	
System memory usage	Indicates the fraction of system memory used.	MB	A large value is indicative of excessive memory usage.
Thread pools	Indicates the number of thread pools.	Number	
Threads	Indicates the number of threads.	Number	
Idle threads	Indicates the number of idle threads.	Number	
JDBC pools	Indicates the number of JDBC pools.	Number	
Connection queues	Indicates the number of connection queues.	Number	
Configurations	Indicates the number of configurations loaded.	Number	

## 3.2 The Sun Web Server Layer

Using the tests mapped to this layer, you can measure the following:

- The quality of the HTTP requests to and from the virtual server across all the nodes where a specified configuration has been deployed;
- The session activity on the web applications deployed on the virtual server across all the nodes where a specified configuration has been deployed

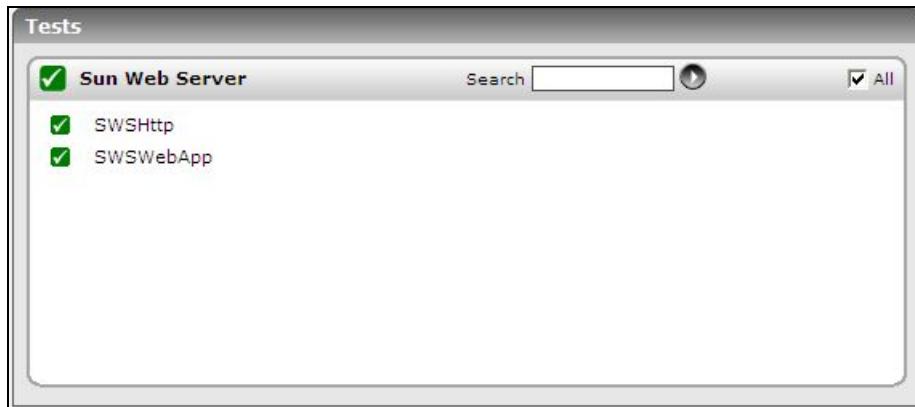


Figure 3.3: The tests mapped to the Sun Web Server layer

### 3.2.1 SWS Http Test

When you use virtual servers you can offer companies or individuals domain names, IP addresses, and some server monitoring capabilities with a single installed server.

All virtual servers have an HTTP Listener specified. When a new request comes in, the web server determines which virtual server to send it to based on the configured HTTP Listener.

This test monitors the HTTP requests to and responses from each virtual server across all the nodes where a specific configuration applies, and thus reveals the quality of the HTTP service on the virtual servers.

**Target of the test :** An Oracle iPlanet Web Server

**Agent deploying the test :** An internal agent

**Outputs of the test :** One set of results for the each virtual server configured on the web server instance being monitored.

**Configurable parameters for the test**

Parameter	Description
Test period	How often should the test be executed.

Parameter	Description
Host	The host for which the test is to be configured.
Port	The port number at which the specified Host listens to.
User	Specify the name of the administrator of the administration server to which the target web server is registered.
PasswdFile	The eG agent connects to the administration server to which the target web server is registered to extract the required metrics. To enable the eG agent to communicate with this administration server, you first need to create a password file containing the administrator password for accessing the server; this password file should be created in the install directory of the web server. Specify the name of this file in the PasswdFile text box; by default, this is <i>admin.passwd</i> .
AdminServer	Specify the IP address of the administration server to which the target web server is registered.
AdminPort	Indicate the port at which the administration server listens.
Config	In Web Server 7.0, all configurable elements of a server instance like web applications, configuration files, and search collection indexes are logically grouped and termed as a <b>Configuration</b> . To enable the test to locate the web server instance to be monitored, you need to mention the <b>Configuration</b> that applies to the instance. In the Config text box therefore, specify the name of the <b>Configuration</b> which the target web server instance uses.
Node	<b>Node</b> is a network resource, such as a server or a host. <b>Instance</b> refers to the environment of a web server daemon on a given node, including its configuration, log files and other runtime artifacts such as lock databases, caches and temporary files. To enable the test to identify the exact web server instance to be monitored, you need to specify the name of the Node on which the instance executes. The test will thus monitor only that web server instance that operates on the given Node and which uses the specified Config.
SSL	Set this flag to <b>Yes</b> if the administration server is SSL-enabled; if not, set it to <b>No</b> .
WebServerDir	Here, specify the Oracle iPlanet web server installation directory.

### Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Requests	Indicates the rate of requests to this virtual	Reqs/Sec	

Measurement	Description	Measurement Unit	Interpretation
	server.		
No. of requests	Indicates the number of requests to this virtual server during the last measurement period.	Number	
No. of errors	Indicates the number of errors logged on this virtual server during the last measurement period.	Number	Ideally, this value should be 0.
No. of open connections	Indicates the number of connections currently open on this virtual server.	Number	
Data received	Indicates the rate of data received by this virtual server.	KB/Sec	
Data transmitted	Indicates the rate of data transmitted by this virtual server.	KB/Sec	
No of 200 responses	Indicates the number of HTTP responses sent out by this virtual server during the last measurement period, with the 200 code.	Number	The 200 response is the standard response for successful HTTP requests.
Successful responses	Indicates the number of successful responses sent out by this virtual server during the last measurement period.	Number	The value of this measure typically represents the number of responses with the 2xx code. This class of status codes indicates the action requested by the client was received, understood, accepted and processed successfully.
No of 302 responses	Indicates the number of responses sent out by this virtual server during the last measurement period, with the 302 code.	Number	The 302 response indicates that the requested resource has been found under a different URI but the client should continue to use the original URI.
No. of 304 responses	Indicates the number of	Number	The 304 response indicates that the

Measurement	Description	Measurement Unit	Interpretation
	responses sent out by this virtual server during the last measurement period, with the 304 code.		resource has not been modified since the last request.
Redirection	Indicates the number of responses with the 3xx code that were sent out by this virtual server during the last measurement period.	Number	This class of status code indicates that further action needs to be taken by the user agent in order to fulfill the request. The action required may be carried out by the user agent without interaction with the user if and only if the method used in the second request is GET or HEAD. A user agent should not automatically redirect a request more than five times, since such redirections usually indicate an infinite loop.
No of 400 responses	Indicates the number of responses with the 400 code that were sent out by this virtual server during the last measurement period.	Number	This type of response indicates that the request contains bad syntax or cannot be fulfilled.
No of 401 responses	Indicates the number of responses with the 401 code that were sent out by this virtual server during the last measurement period.	Number	This type of response indicates that the request needs user authentication.
No of 403 responses	Indicates the number of responses with the 403 code that were sent out by this virtual server during the last measurement period.	Number	This type of response indicates that the request was a legal request, but the server is refusing to respond to it.
No of 404 responses	Indicates the number of responses with the 404 code that were sent out by	Number	This type of response indicates that the document/file requested by the client was not found.

Measurement	Description	Measurement Unit	Interpretation
	this virtual server during the last measurement period.		
Client errors responses	Indicates the number of responses with the 4xx code that were sent out by this virtual server during the last measurement period.	Number	Normally, value of the measure should be 0. A nonzero value indicates there are some problems with the requested content.
No of 503 responses	Indicates the number of responses with the 503 code that were sent out by this virtual server during the last measurement period.	Number	The 503 code indicates that the request was unsuccessful due to the server being down or overloaded.
Server errors responses	Indicates the number of responses with the 5xx code that were sent out by this virtual server during the last measurement period.	Number	Response status codes beginning with the digit "5" indicate cases in which the server is aware that it has encountered an error or is otherwise incapable of performing the request. Normally, the value of the measure should be 0. A nonzero value indicates there are some errors in the web server.

### 3.2.2 SWS Web Applications Test

This test auto-discovers the web applications deployed on the virtual servers across all the nodes where a specific configuration has been deployed, and monitors the uptime of and session activity on each web application.

**Target of the test :** An Oracle iPlanet Web Server

**Agent deploying the test :** An internal agent

**Outputs of the test :** One set of results for each *virtualserver\_webapplication* pair auto-discovered from the server configuration being monitored.

## Configurable parameters for the test

Parameter	Description
Test period	How often should the test be executed.
Host	The host for which the test is to be configured.
Port	The port number at which the specified Host listens to.
User	Specify the name of the administrator of the administration server to which the target web server is registered.
PasswdFile	The eG agent connects to the administration server to which the target web server is registered to extract the required metrics. To enable the eG agent to communicate with this administration server, you first need to create a password file containing the administrator password for accessing the server; this password file should be created in the install directory of the web server. Specify the name of this file in the PasswdFile text box; by default, this is <i>admin.passwd</i> .
AdminServer	Specify the IP address of the administration server to which the target web server is registered.
AdminPort	Indicate the port at which the administration server listens.
Config	In Web Server 7.0, all configurable elements of a server instance like web applications, configuration files, and search collection indexes are logically grouped and termed as a <b>Configuration</b> . To enable the test to locate the web server instance to be monitored, you need to mention the <b>Configuration</b> that applies to the instance. In the Config text box therefore, specify the name of the <b>Configuration</b> which the target web server instance uses.
Node	<b>Node</b> is a network resource, such as a server or a host. <b>Instance</b> refers to the environment of a web server daemon on a given node, including its configuration, log files and other runtime artifacts such as lock databases, caches and temporary files. To enable the test to identify the exact web server instance to be monitored, you need to specify the name of the Node on which the instance executes. The test will thus monitor only that web server instance that operates on the given Node and which uses the specified Config.
SSL	Set this flag to <b>Yes</b> if the administration server is SSL-enabled; if not, set it to <b>No</b> .
WebServerDir	Here, specify the Oracle iPlanet web server installation directory.

**Measurements made by the test**

Measurement	Description	Measurement Unit	Interpretation
No of JSPs loaded	Indicates the number of JSPs that were loaded on to this application during the last measurement period.	Number	
No of JSPs reloaded	Indicates the number of JSPs reloaded during the last measurement period.	Number	
No. of sessions serviced	Indicates the number of sessions that were created on the web application during the last measurement period.	Number	This is a good indicator of the session load on the web application.
No of sessions active	Indicates the number of currently active sessions on this web application.	Number	
Peak sessions	Indicates the peak active sessions.	Number	
No of sessions rejected	Indicates the number of sessions rejected by this web application during the last measurement period.	Number	A very high value of this measure could indicate a problem; further investigation is recommended.
No of sessions expired	Indicates the number of sessions that expired during the last measurement period.	Number	
Average alive time	Indicates the average lifetime of all sessions that have expired.	Secs	
Peak alive time	Indicates the longest lifetime of all sessions which have expired.	Secs	

# About eG Innovations

eG Innovations provides intelligent performance management solutions that automate and dramatically accelerate the discovery, diagnosis, and resolution of IT performance issues in on-premises, cloud and hybrid environments. Where traditional monitoring tools often fail to provide insight into the performance drivers of business services and user experience, eG Innovations provides total performance visibility across every layer and every tier of the IT infrastructure that supports the business service chain. From desktops to applications, from servers to network and storage, from virtualization to cloud, eG Innovations helps companies proactively discover, instantly diagnose, and rapidly resolve even the most challenging performance and user experience issues.

eG Innovations is dedicated to helping businesses across the globe transform IT service delivery into a competitive advantage and a center for productivity, growth and profit. Many of the world's largest businesses use eG Enterprise to enhance IT service performance, increase operational efficiency, ensure IT effectiveness and deliver on the ROI promise of transformational IT investments across physical, virtual and cloud environments.

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