



# Sun GlassFish Enterprise Server v3 Domain File Format Reference



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# Preface

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This *Domain File Format Reference* provides information about the Sun GlassFish™ Enterprise Server configuration file, `domain.xml`. This file contains most of the Enterprise Server configuration.

This preface contains information about and conventions for the entire Sun GlassFish Enterprise Server (Enterprise Server) documentation set.

Enterprise Server v3 is developed through the GlassFish project open-source community at <https://glassfish.dev.java.net/>. The GlassFish project provides a structured process for developing the Enterprise Server platform that makes the new features of the Java EE platform available faster, while maintaining the most important feature of Java EE: compatibility. It enables Java developers to access the Enterprise Server source code and to contribute to the development of the Enterprise Server. The GlassFish project is designed to encourage communication between Sun engineers and the community.

The following topics are addressed here:

- “Enterprise Server Documentation Set” on page 9
- “Related Documentation” on page 11
- “Typographic Conventions” on page 12
- “Symbol Conventions” on page 12
- “Default Paths and File Names” on page 13
- “Documentation, Support, and Training” on page 14
- “Searching Sun Product Documentation” on page 14
- “Third-Party Web Site References” on page 14
- “Sun Welcomes Your Comments” on page 14

## Enterprise Server Documentation Set

The Enterprise Server documentation set describes deployment planning and system installation. The Uniform Resource Locator (URL) for Enterprise Server documentation is <http://docs.sun.com/coll/1343.9>. For an introduction to Enterprise Server, refer to the books in the order in which they are listed in the following table.

TABLE P-1 Books in the Enterprise Server Documentation Set

Book Title	Description
<i>Release Notes</i>	Provides late-breaking information about the software and the documentation. Includes a comprehensive, table-based summary of the supported hardware, operating system, Java™ Development Kit (JDK™), and database drivers.
<i>Quick Start Guide</i>	Explains how to get started with the Enterprise Server product.
<i>Installation Guide</i>	Explains how to install the software and its components.
<i>Upgrade Guide</i>	Explains how to upgrade to the latest version of Enterprise Server. This guide also describes differences between adjacent product releases and configuration options that can result in incompatibility with the product specifications.
<i>Administration Guide</i>	Explains how to configure, monitor, and manage Enterprise Server subsystems and components from the command line by using the <code>asadmin(1M)</code> utility. Instructions for performing these tasks from the Administration Console are provided in the Administration Console online help.
<i>Application Deployment Guide</i>	Explains how to assemble and deploy applications to the Enterprise Server and provides information about deployment descriptors.
<i>Your First Cup: An Introduction to the Java EE Platform</i>	Provides a short tutorial for beginning Java EE programmers that explains the entire process for developing a simple enterprise application. The sample application is a web application that consists of a component that is based on the Enterprise JavaBeans™ specification, a JAX-RS web service, and a JavaServer™ Faces component for the web front end.
<i>Application Development Guide</i>	Explains how to create and implement Java Platform, Enterprise Edition (Java EE platform) applications that are intended to run on the Enterprise Server. These applications follow the open Java standards model for Java EE components and APIs. This guide provides information about developer tools, security, and debugging.
<i>Add-On Component Development Guide</i>	Explains how to use published interfaces of Enterprise Server to develop add-on components for Enterprise Server. This document explains how to perform <i>only</i> those tasks that ensure that the add-on component is suitable for Enterprise Server.
<i>Embedded Server Guide</i>	Explains how to run applications in embedded Enterprise Server and to develop applications in which Enterprise Server is embedded.
<i>Scripting Framework Guide</i>	Explains how to develop scripting applications in languages such as Ruby on Rails and Groovy on Grails for deployment to Enterprise Server.
<i>Troubleshooting Guide</i>	Describes common problems that you might encounter when using Enterprise Server and how to solve them.

TABLE P-1 Books in the Enterprise Server Documentation Set (Continued)

Book Title	Description
<i>Error Message Reference</i>	Describes error messages that you might encounter when using Enterprise Server.
<i>Reference Manual</i>	Provides reference information in man page format for Enterprise Server administration commands, utility commands, and related concepts.
<i>Domain File Format Reference</i>	Describes the format of the Enterprise Server configuration file, <code>domain.xml</code> .
<i>Java EE 6 Tutorial, Volume I</i>	Explains how to use Java EE 6 platform technologies and APIs to develop Java EE applications.
<i>Message Queue Release Notes</i>	Describes new features, compatibility issues, and existing bugs for Sun GlassFish Message Queue.
<i>Message Queue Administration Guide</i>	Explains how to set up and manage a Sun GlassFish Message Queue messaging system.
<i>Message Queue Developer's Guide for JMX Clients</i>	Describes the application programming interface in Sun GlassFish Message Queue for programmatically configuring and monitoring Message Queue resources in conformance with the Java Management Extensions (JMX).
<i>System Virtualization Support in Sun Java System Products</i>	Summarizes Sun support for Sun Java System products when used in conjunction with system virtualization products and features.

## Related Documentation

*The Java EE 6 Tutorial, Volume II* ([https://www.sun.com/offers/details/java\\_ee6\\_tutorial.xml](https://www.sun.com/offers/details/java_ee6_tutorial.xml)) contains all the topics in *Java EE 6 Tutorial, Volume I* and adds advanced topics, additional technologies, and case studies. The document is available to registered users of Enterprise Server.

Javadoc™ tool reference documentation for packages that are provided with Enterprise Server is available as follows:

- The API specification for version 6 of Java EE is located at <http://java.sun.com/javase/6/docs/api/>.
- The API specification for Enterprise Server v3, including Java EE 6 platform packages and nonplatform packages that are specific to the Enterprise Server product, is located at: <https://glassfish.dev.java.net/nonav/docs/v3/api/>.

Additionally, the following resources might be useful:

- The Java EE Specifications (<http://java.sun.com/javase/technologies/index.jsp>)
- The Java EE Blueprints (<http://java.sun.com/reference/blueprints/index.html>)

For information about creating enterprise applications in the NetBeans™ Integrated Development Environment (IDE), see <http://www.netbeans.org/kb/60/index.html>.

For information about the Java DB for use with the Enterprise Server, see <http://developers.sun.com/javadb/>.

The sample applications demonstrate a broad range of Java EE technologies. The samples are bundled with the Java EE Software Development Kit (SDK).

## Typographic Conventions

The following table describes the typographic changes that are used in this book.

TABLE P-2 Typographic Conventions

Typeface	Meaning	Example
AaBbCc123	The names of commands, files, and directories, and onscreen computer output	Edit your <code>.login</code> file. Use <code>ls -a</code> to list all files. <code>machine_name%</code> you have mail.
<b>AaBbCc123</b>	What you type, contrasted with onscreen computer output	<code>machine_name%</code> <b>su</b> Password:
<i>AaBbCc123</i>	A placeholder to be replaced with a real name or value	The command to remove a file is <i>rm filename</i> .
<i>AaBbCc123</i>	Book titles, new terms, and terms to be emphasized (note that some emphasized items appear bold online)	Read Chapter 6 in the <i>User's Guide</i> . A <i>cache</i> is a copy that is stored locally. Do <i>not</i> save the file.

## Symbol Conventions

The following table explains symbols that might be used in this book.

TABLE P-3 Symbol Conventions

Symbol	Description	Example	Meaning
[ ]	Contains optional arguments and command options.	<code>ls [-l]</code>	The <code>-l</code> option is not required.
{   }	Contains a set of choices for a required command option.	<code>-d {y n}</code>	The <code>-d</code> option requires that you use either the <code>y</code> argument or the <code>n</code> argument.

TABLE P-3 Symbol Conventions (Continued)

Symbol	Description	Example	Meaning
<code>{ }</code>	Indicates a variable reference.	<code>{com.sun.javaRoot}</code>	References the value of the <code>com.sun.javaRoot</code> variable.
-	Joins simultaneous multiple keystrokes.	Control-A	Press the Control key while you press the A key.
+	Joins consecutive multiple keystrokes.	Ctrl+A+N	Press the Control key, release it, and then press the subsequent keys.
→	Indicates menu item selection in a graphical user interface.	File → New → Templates	From the File menu, choose New. From the New submenu, choose Templates.

## Default Paths and File Names

The following table describes the default paths and file names that are used in this book.

TABLE P-4 Default Paths and File Names

Placeholder	Description	Default Value
<i>as-install</i>	Represents the base installation directory for Enterprise Server.  In configuration files, <i>as-install</i> is represented as follows: <code>{com.sun.aas.installRoot}</code>	Installations on the Solaris™ operating system, Linux operating system, and Mac operating system: <i>user's-home-directory/glassfishv3/glassfish</i>  Windows, all installations: <i>SystemDrive:\glassfishv3\glassfish</i>
<i>as-install-parent</i>	Represents the parent of the base installation directory for Enterprise Server.	Installations on the Solaris operating system, Linux operating system, and Mac operating system: <i>user's-home-directory/glassfishv3</i>  Windows, all installations: <i>SystemDrive:\glassfishv3</i>
<i>domain-root-dir</i>	Represents the directory in which a domain is created by default.	<i>as-install/domains/</i>
<i>domain-dir</i>	Represents the directory in which a domain's configuration is stored.  In configuration files, <i>domain-dir</i> is represented as follows: <code>{com.sun.aas.instanceRoot}</code>	<i>domain-root-dir/domain-name</i>

## Documentation, Support, and Training

The Sun web site provides information about the following additional resources:

- [Documentation](http://www.sun.com/documentation/) (<http://www.sun.com/documentation/>)
- [Support](http://www.sun.com/support/) (<http://www.sun.com/support/>)
- [Training](http://www.sun.com/training/) (<http://www.sun.com/training/>)

## Searching Sun Product Documentation

Besides searching Sun product documentation from the docs.sun.com<sup>SM</sup> web site, you can use a search engine by typing the following syntax in the search field:

```
search-term site:docs.sun.com
```

For example, to search for “broker,” type the following:

```
broker site:docs.sun.com
```

To include other Sun web sites in your search (for example, [java.sun.com](http://java.sun.com), [www.sun.com](http://www.sun.com), and [developers.sun.com](http://developers.sun.com)), use sun . com in place of docs . sun . com in the search field.

## Third-Party Web Site References

Third-party URLs are referenced in this document and provide additional, related information.

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## The domain.xml File

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This chapter describes the `domain.xml` configuration file for Sun GlassFish™ Enterprise Server v3 in these sections:

- “About the domain.xml File” on page 15
- “Alphabetical List of Elements” on page 21

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**Note** – Some features are not available if you have installed the Web Profile. Elements related to these features are ignored.

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**Note** – Sun GlassFish Enterprise Server v3 does not support clustering or load balancing features. Elements related to these features are ignored.

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**Note** – Subelements must be defined in the order in which they are listed under each **Subelements** heading in this chapter unless otherwise noted.

---

### About the domain.xml File

The `domain.xml` file contains most of the Sun GlassFish Enterprise Server configuration. The `domain.xml` file is located in the domain configuration directory, which is typically `domain-dir/config`.

There is no DTD file or schema that determines the format of the `domain.xml` file. The server's configuration is dictated by the Java interfaces with appropriate annotations and `domain.xml` serves as a seed for that configuration. At any point in time, the overall structure of an XML

element present in `domain.xml` is clearer when one sees the Java interface in the package `com.sun.enterprise.config.serverbeans`. Thus these Java interfaces take the place of the DTD file in previous releases.

This file is further described in the following sections:

- “Verification” on page 16
- “Extensibility” on page 16
- “Backup” on page 16
- “Default Values” on page 17
- “Variables” on page 17
- “Element Referencing” on page 18
- “Element Hierarchy” on page 18

---

**Note** – Settings in the Enterprise Server deployment descriptors override corresponding settings in the `domain.xml` file unless otherwise stated. For more information about the Enterprise Server deployment descriptors, see the [Sun GlassFish Enterprise Server v3 Application Deployment Guide](#).

---

## Verification

To verify that the structure and content of the `domain.xml` file are correct, use the `asadmin verify-domain-xml` command. To use this command on the default domain in the default location, simply type `asadmin verify-domain-xml` at the command line. Any errors found are printed on the screen. For more information about this command, see [verify-domain-xml\(1\)](#).

## Extensibility

If you create new add-on components for the Enterprise Server, you can add any configuration these components require to the `domain.xml` file. For more information on extending the Enterprise Server by creating add-on components, see the [Sun GlassFish Enterprise Server v3 Add-On Component Development Guide](#).

## Backup

A backup of the `domain.xml` file is created whenever the configuration is changed using the Administration Console or the `asadmin` command. The backup file is located in the domain configuration directory, typically `domain-dir/config`, and is named `domain.xml.bak`. If you make a mistake editing the `domain.xml` file, you can overwrite it using the backup file.



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## Default Values

In this manual, the term *default* is used in its broader sense, and not in the specific way it is used in the XML 1.0 standard. A default value is an initial value or the value used if no value is present in the XML file. A default value can be any of the following:

- A value supplied by the XML parser when no value is found in the `domain.xml` file. The relevant element or attribute is optional.
- A value supplied by the Enterprise Server when no value is found in the `domain.xml` file and the XML parser doesn't provide a value. The relevant element or attribute is optional.
- An initial value supplied when the `domain.xml` file is created. The relevant element or attribute might or might not be optional.

---

**Note** – Removal of initial values in `domain.xml` is not recommended because attributes may be left without values or values may revert to internal defaults. Explicitly changing values is recommended.

Only values that differ from internal defaults are included in the `domain.xml` file.

---

## Variables

Variables and variable references are needed for two reasons:

- Parts of the Enterprise Server share much configuration information but differ in specific details.
- Parts of the configuration come from the system environment but must still be captured in the configuration.

Variable references appear in the `domain.xml` file as strings that begin with the characters `${` and end with the character `}`. For example, the string `${com.sun.enterprise.myVar}` is a reference to the variable `com.sun.enterprise.myVar`.

Variables are defined both outside of and within `domain.xml`. Predefined variables that exist outside of `domain.xml` are defined as Java System Properties. Within `domain.xml`, a variable is defined using the “[system-property](#)” on page 130 element or the “[jvm-options](#)” on page 90 element.

The `system-property` element's name attribute is the name of a variable; its `value` attribute is the definition of the variable. For example, the following `system-property` element defines a `port-number` variable with the value `6500`:

```
<system-property name="port-number" value="6500"/>
```

Multiple `system-property` subelements are permitted within “[server](#)” on page 123, “[config](#)” on page 35, and “[domain](#)” on page 49 elements.

A variable defined in the `jvm-options` element is a Java System Property with the `-D` flag. For example, the following `jvm-options` element defines a `port-number` variable with the value `5500`:

```
<jvm-option>-Dport-number=5500</jvm-option>
```

Multiple definitions for the same variable are permitted. The Enterprise Server determines the actual value of a variable by searching for its first definition in a strict hierarchy of the elements within `domain.xml`. The hierarchy is as follows:

```
server → config → jvm-options → domain → System
```

Implicit in this hierarchy is the notion of reference and containment. A variable referenced in a `server` element is only looked up:

- In the `config` element that references that specific `server`
- In the `jvm-options` subelements of the `config` element referenced by that `server`

## Element Referencing

One element *references* another when an attribute of the referencing element has the same value as an attribute of the referenced element. For example, the “[application-ref](#)” on page 30 element references an application that is deployed to its parent “[server](#)” on page 123 element. The `application-ref` element’s `ref` attribute has the same value as the `name` attribute of an “[application](#)” on page 26 element.

The referencing `application-ref` element might look like this:

```
<application-ref ref="MyServlet"/>
```

The referenced “[application](#)” on page 26 element might look like this:

```
<application name="MyServlet" location="myservletdir"/>
```

## Element Hierarchy

The element hierarchy for the `domain.xml` file is as follows. To make the hierarchy more readable, elements having “[property](#)” on page 109 as their last or only subelement are marked with a *P*, and the `property` subelements are not shown. Parent/child relationships between elements are shown, but not cardinality. For those details, see the element descriptions.

```
domain      P
.  system-applications
.  .  application      P
```

```

. . . engine P
. . . module
. . . . engine P
. . . . . web-module-config
. . . . . env-entry
. . . . . . env-entry-name
. . . . . . env-entry-type
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## A

### access-log

Defines access log settings for each “[http-access-log](#)” on page 64 subelement of each “[virtual-server](#)” on page 138.

#### Superelements

“[http-service](#)” on page 69

#### Subelements

none

#### Attributes

The following table describes attributes for the `access-log` element.

TABLE 1-1 access-log Attributes

Attribute	Default	Description
<code>format</code>	<code>%client.name% %auth-user-name% %datetime% %request% %status% %response.length%</code>	(optional) Specifies the format of the access log. For a complete list of token values you can use in the format, see the online help for the Access Log tab of the HTTP Service page in the Administration Console.
<code>rotation-policy</code>	<code>time</code>	(optional) Specifies the condition that triggers log rotation. The only legal value is <code>time</code> , which rotates log files at the <code>rotation-interval-in-minutes</code> interval.

TABLE 1-1 access-log Attributes (Continued)

Attribute	Default	Description
rotation-interval -in-minutes	1440	(optional) Specifies the time interval between log rotations if rotation-policy is set to time.
rotation-suffix	yyyy-MM-dd	(optional) Specifies the format of the timestamp appended to the access log name when log rotation occurs.  For supported formats, see <a href="http://java.sun.com/javase/6/docs/api/java/text/SimpleDateFormat.html">http://java.sun.com/javase/6/docs/api/java/text/SimpleDateFormat.html</a> .  The following value is supported for backward compatibility. It results in the same format as the default.  %YYYY;%MM;%DD;-%hh;h:mm;m:ss;s
rotation-enabled	true	(optional) If true, enables log rotation.

## admin-object-resource

Defines an administered object for a resource adapter.

### Superelements

“resources” on page 119

### Subelements

The following table describes subelements for the admin-object-resource element.

TABLE 1-2 admin-object-resource Subelements

Element	Required	Description
“description” on page 48	zero or one	Contains a text description of this element.
“property” on page 109	zero or more	Specifies a property or a variable.

### Attributes

The following table describes attributes for the admin-object-resource element.

TABLE 1-3 admin-object-resource Attributes

Attribute	Default	Description
jndi-name	none	Specifies the JNDI name for the resource.

TABLE 1-3 admin-object-resource Attributes (Continued)

Attribute	Default	Description
res-type	none	Specifies the fully qualified type of the resource.
res-adapter	none	Specifies the name of the resource adapter, as specified in the name attribute of a connector “application” on page 26 element.
object-type	user	(optional) Defines the type of the resource. Allowed values are: <ul style="list-style-type: none"> <li>▪ system-all - A system resource for all server instances and the domain application server.</li> <li>▪ system-admin - A system resource only for the domain application server.</li> <li>▪ system-instance - A system resource for all server instances only.</li> <li>▪ user - A user resource.</li> </ul>
enabled	true	(optional) Determines whether this resource is enabled at runtime.

## Properties

Properties of the `admin-object-resource` element are the names of setter methods of the class referenced by the `adminobject-class` element of the `ra.xml` file. Some of the property names can be specified in the `adminobjectType` element.

## admin-service

Contains configuration for JMX connectors, the domain admin server (DAS), and related properties.

## Superelements

“config” on page 35

## Subelements

The following table describes subelements for the `admin-service` element.

TABLE 1-4 admin-service Subelements

Element	Required	Description
“jmx-connector” on page 87	zero or more	Configures a JSR 160/255 compliant remote JMX connector, which responds to JConsole port 8686.
“das-config” on page 47	only one	Defines a domain administration server configuration.
“property” on page 109	zero or more	Specifies a property or a variable.



## Attributes

The following table describes attributes for the `admin-service` element.

TABLE 1-5 `admin-service` Attributes

Attribute	Default	Description
<code>type</code>	<code>das-and-server</code>	Specifies whether the server instance is a regular instance ( <code>server</code> ), a domain administration server ( <code>das</code> ), or a combination ( <code>das-and-server</code> ). modifying this value is not recommended.
<code>system-jmx-connector-name</code>	<code>none</code>	Specifies the name of the internal <code>"jmx-connector"</code> on page 87.

## appclient-module

This element is deprecated. Use an `"application"` on page 26 element instead.

Specifies a deployed application client container (ACC) module.

## Superelements

`"applications"` on page 30

## Subelements

The following table describes subelements for the `appclient-module` element.

TABLE 1-6 `appclient-module` Subelements

Element	Required	Description
<code>"description"</code> on page 48	zero or one	Contains a text description of this element.
<code>"property"</code> on page 109	zero or more	Specifies a property or a variable.

## Attributes

The following table describes attributes for the `appclient-module` element.

TABLE 1-7 `appclient-module` Attributes

Attribute	Default	Description
<code>name</code>	<code>none</code>	The name of the ACC module.

TABLE 1-7 appclient-module Attributes (Continued)

Attribute	Default	Description
location	none	A fully qualified or relative path to the directory to which the contents of the client . jar file have been extracted. If relative, it is relative to the following directory: <i>domain-dir/applications/</i>
directory-deployed	false	(optional) Specifies whether the application has been deployed as a directory.
java-web-start-enabled	true	(optional) Specifies whether Java Web Start access is permitted for this application client.

## application

Specifies a system application, a Java EE module or application, or an application created using another supported technology such as JRuby.

The `application` element replaces the `web-module`, `j2ee-application`, `appclient-module`, `connector-module`, `lifecycle-module`, `extension-module`, and `ejb-module` elements of previous releases, which are converted to `application` elements during the upgrade process.

## Superelements

[“system-applications” on page 130](#), [“applications” on page 30](#)

## Subelements

The following table describes subelements for the `application` element.

TABLE 1-8 application Subelements

Element	Required	Description
<a href="#">“module” on page 99</a>	one or more	Specifies a stand-alone module or a component of a Java EE application.
<a href="#">“engine” on page 54</a>	one or more	Specifies an engine.
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

## Attributes

The following table describes attributes for the `application` element.

TABLE 1-9 application Attributes

Attribute	Default	Description
name	none	The name of the application.
description	none	(optional) Specifies a text description of this element.
location	none	(optional) The location of the application in the Enterprise Server file system. If a relative path is specified, it is relative to the <i>domain-dir/applications/</i> directory.  <b>Note</b> – Deployment directories may change between Enterprise Server releases.
libraries	none	(optional) Specifies a comma-separated list of absolute or relative paths to libraries specific to this module or application. A relative path is relative to <i>domain-dir/lib/applibs</i> . If the path is absolute, the path must be accessible to the domain administration server (DAS), which means it must be under <i>domain-dir</i> . The libraries are made available to the application in the order in which they are specified.
object-type	user	(optional) Defines the type of the resource. For an application, the only allowed value is <i>user</i> .
enabled	true	(optional) Determines whether the application is enabled.
context-root	none	(optional) The context root at which the application is deployed. The context root can be the empty string or just <i>/</i> . The context root can start with the <i>/</i> character, but doesn't have to.
directory-deployed	false	(optional) Specifies whether the application has been deployed as a directory.

## Properties

The following table describes properties for the `application` element. These properties are specified during deployment using one of the following:

- The `--property` or `--properties` option of the `asadmin deploy` command. For more information, see [deploy\(1\)](#).
- The properties table on the deployment page for the application or module type in the Administration Console. For more information, see the Administration Console Online Help.

The properties that are valid for a given application depend on the `sniffer` attribute values of the child or grandchild “[engine](#)” on page 54 elements.

TABLE 1-10 application Properties

Property	Default	Description
java-web-start-enabled	true	Specifies whether Java Web Start access is permitted for an application client module.

TABLE 1-10 application Properties (Continued)

Property	Default	Description
jar-signing-alias	s1as	<p>Specifies the alias for the security certificate with which the application client container JAR file is signed.</p> <p>Java Web Start won't execute code requiring elevated permissions unless it resides in a JAR file signed with a certificate that the user's system trusts. For your convenience, Enterprise Server signs the JAR file automatically using the self-signed certificate from the domain, s1as. Java Web Start then asks the user whether to trust the code and displays the Enterprise Server certificate information.</p> <p>To sign this JAR file with a different certificate, add the certificate to the domain keystore, then use this property. To add a certificate to the domain keystore, see <a href="#">“Administering JSSE Certificates” in Sun GlassFish Enterprise Server v3 Administration Guide</a>.</p> <p>For example, you can use a certificate from a trusted authority, which avoids the Java Web Start prompt, or from your own company, which users know they can trust.</p>
class-name	none	The fully qualified name of a lifecycle module class file. A lifecycle module class must implement the <code>com.sun.appserv.server.LifecycleListener</code> interface.
classpath	value of application-root attribute of “domain” on page 49 element	The classpath for a lifecycle module. Specifies where the module is located.
load-order	none	Determines the order in which lifecycle modules are loaded at startup. Modules with smaller integer values are loaded sooner. Values can range from 101 to the operating system's MAXINT. Values from 1 to 100 are reserved.
is-failure-fatal	false	Determines whether the server is shut down if a lifecycle module fails.
keepSessions	false	<p>If <code>true</code>, specifies that active sessions of the application being redeployed are preserved and then restored when redeployment is complete.</p> <p>If any active session of the application fails to be preserved or restored, none of the sessions are available when the redeployment is complete. However, redeployment continues and a warning is logged.</p> <p>To preserve active sessions, the Enterprise Server serializes the sessions and saves them in memory. To restore the sessions, the class loader of the newly redeployed application deserializes any sessions that were previously saved.</p>

TABLE 1-10 application Properties (Continued)

Property	Default	Description
compatibility	none (no backward compatibility)	Specifies the Enterprise Server release with which to be backward compatible in terms of JAR visibility requirements for applications. The only allowed value is v2, which refers to GlassFish version 2 or Enterprise Server version 9.1 or 9.1.1.  The Java EE 6 platform specification imposes stricter requirements than Java EE 5 did on which JAR files can be visible to various modules within an EAR file. In particular, application clients must not have access to EJB JAR files or other JAR files in the EAR file unless references use the standard Java SE mechanisms (extensions, for example) or the Java EE library-directory mechanism. Setting this property to v2 removes these Java EE 6 restrictions.
jruby.home	as-install/jruby	Specifies the directory where JRuby itself (not the Enterprise Server JRuby container) is installed. Overrides the jruby-home attribute of “ <a href="#">jruby-container</a> ” on <a href="#">page 88</a> .
jruby.runtime	1	Specifies the initial number of JRuby runtimes to start. Must be at greater than zero, at least jruby.runtime.min, and jruby.runtime.max or less. Overrides the jruby-runtime attribute of “ <a href="#">jruby-runtime-pool</a> ” on <a href="#">page 89</a> .
jruby.runtime.min	1	Specifies the minimum number of JRuby runtimes in the pool. Must be greater than zero, jruby.runtime or less, and jruby.runtime.max or less. Overrides the jruby-runtime-min attribute of “ <a href="#">jruby-runtime-pool</a> ” on <a href="#">page 89</a> .
jruby.runtime.max	1	Specifies the maximum number of JRuby runtimes in the pool. Must be greater than zero, at least jruby.runtime.min, and at least jruby.runtime. Overrides the jruby-runtime-max attribute of “ <a href="#">jruby-runtime-pool</a> ” on <a href="#">page 89</a> .
jruby.rackEnv	development	Specifies the environment in which a JRuby application such as Rails or Merb runs. Allowed values are development, production, or test.
jruby.applicationType	Computed through auto-detection	Specifies the name of a supported framework or the path to a script that initializes the user’s framework. Allowed values corresponding to supported frameworks are rails, merb, or sinatra.  Setting this property bypasses the normal, and potentially lengthy, auto-detection process and forces deployment on the specified framework. If the deployed application is not written for the specified framework, errors result.
jruby.MTSafe	Computed through auto-detection	If true, specifies that a framework being started using jruby.applicationType is thread-safe and therefore does not need a pool created for it.  This property affects applications started using an auto-detected user-provided startup script. If jruby.applicationType is set and jruby.MTSafe is not set or is set to false, the application starts with a pool of application instances, and each instance of the application is accessed by one thread at a time. This property only affects frameworks being launched where the thread safety cannot be automatically determined. Setting jruby.MTSafe to true does not cause an auto-detected Rails 2.1.x application to be launched in thread-safe mode, nor can it be used to force a thread-safe framework to start in pooled mode.

## application-ref

References an application or module deployed to the server.

### Superelements

[“server” on page 123](#)

### Subelements

none

### Attributes

The following table describes attributes for the `application-ref` element.

TABLE 1-11 `application-ref` Attributes

Attribute	Default	Description
<code>enabled</code>	<code>true</code>	(optional) Determines whether the application or module is enabled on the server on which it is deployed.
<code>virtual-servers</code>	all virtual servers	(optional) In a comma-separated list, references <code>id</code> attributes of the <a href="#">“virtual-server” on page 138</a> elements to which the web <a href="#">“application” on page 26</a> is deployed.  If you deploy a web application and don't specify any assigned virtual servers, the web application is assigned to all currently defined virtual servers. If you then create additional virtual servers and want to assign existing web applications to them, you must redeploy the web applications. For more information about deployment, see the <i>Sun GlassFish Enterprise Server v3 Application Deployment Guide</i> .
<code>disable-timeout-in-minutes</code>	<code>30</code>	(optional) Specifies the time it takes this application to reach a quiescent state after having been disabled.
<code>ref</code>	<code>none</code>	References the name attribute of an <a href="#">“application” on page 26</a> element.

## applications

Contains deployed Java EE applications, Java EE modules, and applications created using other supported technologies.

### Superelements

[“domain” on page 49](#)

### Subelements

The following table describes subelements for the `applications` element.

TABLE 1-12 applications Subelements

Element	Required	Description
<a href="#">“application” on page 26</a>	zero or more	Specifies an application.  The application element replaces the web-module, j2ee-application, applclient-module, connector-module, lifecycle-module, extension-module, and ejb-module elements of previous releases, which are converted to application elements during the upgrade process.
<a href="#">“lifecycle-module” on page 91</a>	zero or more	Deprecated. Use application instead.
<a href="#">“j2ee-application” on page 73</a>	zero or more	Deprecated. Use application instead.
<a href="#">“ejb-module” on page 52</a>	zero or more	Deprecated. Use application instead.
<a href="#">“web-module” on page 146</a>	zero or more	Deprecated. Use application instead.
<a href="#">“connector-module” on page 42</a>	zero or more	Deprecated. Use application instead.
<a href="#">“applclient-module” on page 25</a>	zero or more	Deprecated. Use application instead.
<a href="#">“extension-module” on page 57</a>	zero or more	Deprecated. Use application instead.

## audit-module

Specifies an optional plug-in module that implements audit capabilities. Audit modules collect and store information on incoming requests (servlets, EJB components) and outgoing responses.

### Superelements

[“security-service” on page 121](#)

### Subelements

The following table describes subelements for the audit-module element.

TABLE 1-13 audit-module Subelements

Element	Required	Description
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

### Attributes

The following table describes attributes for the audit-module element.

TABLE 1-14 audit-module Attributes

Attribute	Default	Description
name	default	Specifies the name of this audit module.
classname	com.sun.enterprise.security.Audit	Specifies the Java class that implements this audit module.

## Properties

The following table describes properties for the audit-module element.

TABLE 1-15 audit-module Properties

Attribute	Default	Description
auditOn	false	If true, causes the loading of the audit module and ensures that it is called by the Enterprise Server's audit library at audit points.

## auth-realm

Defines a realm for authentication.

Authentication realms require provider-specific properties, which vary depending on what a particular implementation needs.

For more information about how to define realms, see the [Sun GlassFish Enterprise Server v3 Administration Guide](#).

Here is an example of the default file realm:

```
<auth-realm name="file"
  classname="com.sun.enterprise.security.auth.realm.file.FileRealm">
  <property name="file" value="{com.sun.aas.instanceRoot}/config/admin-keyfile"/>
  <property name="jaas-context" value="fileRealm"/>
</auth-realm>
```

Which properties an auth-realm element uses depends on the value of the auth-realm element's name attribute. The file realm uses file and jaas-context properties. Other realms use different properties.

## Superelements

[“security-service” on page 121](#)

## Subelements

The following table describes subelements for the auth-realm element.



TABLE 1-16 auth-realmSubelements

Element	Required	Description
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

## Attributes

The following table describes attributes for the auth-realm element.

TABLE 1-17 auth-realm Attributes

Attribute	Default	Description
name	none	Specifies the name of this realm.
classname	none	Specifies the Java class that implements this realm.

## Properties

The standard realms provided with Enterprise Server have required and optional properties. A custom realm might have different properties.

The following table describes properties for the auth-realm element.

TABLE 1-18 auth-realm Properties

Property	Realms	Description
jaas-context	all	Specifies the JAAS (Java Authentication and Authorization Service) context.
assign-groups	all	(optional) If this property is set, its value is taken to be a comma-separated list of group names. All clients who present valid certificates are assigned membership to these groups for the purposes of authorization decisions in the web and EJB containers.
file	file	Specifies the file that stores user names, passwords, and group names. The default is <i>domain-dir/config/keyfile</i> .
clientAuth	certificate	If true, specifies that client authentication is required for all applications that use the certificate realm. The default is false.  To require client authentication for a specific web application, set the method of authentication in the web.xml file to CLIENT-CERT.
directory	ldap	Specifies the LDAP URL to your server.
base-dn	ldap	Specifies the LDAP base DN for the location of user data. This base DN can be at any level above the user data, since a tree scope search is performed. The smaller the search tree, the better the performance.

TABLE 1-18 auth-realm Properties (Continued)

Property	Realms	Description
search-filter	ldap	(optional) Specifies the search filter to use to find the user. The default is uid=%s (%s expands to the subject name).
group-base-dn	ldap	(optional) Specifies the base DN for the location of groups data. By default, it is same as the base-dn, but it can be tuned, if necessary.
group-search-filter	ldap	(optional) Specifies the search filter to find group memberships for the user. The default is uniquemember=%d (%d expands to the user element DN).
group-target	ldap	(optional) Specifies the LDAP attribute name that contains group name entries. The default is CN.
search-bind-dn	ldap	(optional) Specifies an optional DN used to authenticate to the directory for performing the search-filter lookup. Only required for directories that do not allow anonymous search.
search-bind-password	ldap	(optional) Specifies the LDAP password for the DN given in search-bind-dn.
datasource-jndi	jdbc	Specifies the jndi-name of the “ <a href="#">jdbc-resource</a> ” on page 83 for the database.
user-table	jdbc	Specifies the name of the user table in the database.
user-name-column	jdbc	Specifies the name of the user name column in the database's user table.
password-column	jdbc	Specifies the name of the password column in the database's user table.
group-table	jdbc	Specifies the name of the group table in the database.
group-name-column	jdbc	Specifies the name of the group name column in the database's group table.
db-user	jdbc	(optional) Allows you to specify the database user name in the realm instead of the “ <a href="#">jdbc-connection-pool</a> ” on page 77. This prevents other applications from looking up the database, getting a connection, and browsing the user table. By default, the <code>jdbc-connection-pool</code> configuration is used.
db-password	jdbc	(optional) Allows you to specify the database password in the realm instead of the “ <a href="#">jdbc-connection-pool</a> ” on page 77. This prevents other applications from looking up the database, getting a connection, and browsing the user table. By default, the <code>jdbc-connection-pool</code> configuration is used.
digest-algorithm	jdbc	(optional) Specifies the digest algorithm. The default is MD5. You can use any algorithm supported in the JDK, or none.
encoding	jdbc	(optional) Specifies the encoding. Allowed values are Hex and Base64. If <code>digest-algorithm</code> is specified, the default is Hex. If <code>digest-algorithm</code> is not specified, by default no encoding is specified.
charset	jdbc	(optional) Specifies the charset for the digest algorithm.

## B

## backend-principal

Specifies the user name and password required by the Enterprise Information System (EIS).

### Superelements

[“security-map” on page 121](#)

### Subelements

none

### Attributes

The following table describes attributes for the `backend-principal` element.

TABLE 1-19 backend-principal Attributes

Attribute	Default	Description
user-name	none	Specifies the user name required by the EIS.
password	none	(optional) Specifies the password required by the EIS, if any.

## C

## config

Defines a configuration, which is a collection of settings that controls how a server instance functions.

### Superelements

[“configs” on page 37](#)

### Subelements

The following table describes subelements for the `config` element.

TABLE 1–20 config Subelements

Element	Required	Description
“http-service” on page 69	only one	Configures the HTTP service.
“network-config” on page 103	only one	Configures the communication network for the Enterprise Server.
“iiop-service” on page 72	only one	Configures the IIOP service.
“admin-service” on page 24	only one	Determines whether the server to which the configuration applies is an administration server.
“connector-service” on page 44	zero or one	Configures the connector service.
“web-container” on page 145	only one	Configures the web container.
“ejb-container” on page 50	only one	Configures the Enterprise JavaBeans™ (EJB™) container.
“mdb-container” on page 97	only one	Configures the message-driven bean (MDB) container.
“jms-service” on page 85	zero or one	Configures the Java™ Message Service (JMS) provider.
“log-service” on page 92	only one	Configures the system logging service.
“security-service” on page 121	only one	Configures the Java EE security service.
“transaction-service” on page 133	only one	Configures the transaction service.
“monitoring-service” on page 102	only one	Configures the monitoring service.
“java-config” on page 75	only one	Configures the Virtual Machine for the Java platform (JVM™ software).
“thread-pools” on page 133	only one	Configures thread pools.
“system-property” on page 130	zero or more	Specifies a system property.
“property” on page 109	zero or more	Specifies a property or a variable.
“jruby-container” on page 88	zero or one	Configures the JRuby container.

## Attributes

The following table describes attributes for the config element.

TABLE 1–21 config Attributes

Attribute	Default	Description
name	server-config	Specifies the name of the configuration.
dynamic-reconfiguration-enabled	true	(optional) If true, any changes to the system (for example, applications deployed, resources created) are automatically applied to the affected servers without a restart being required. If false, such changes are only picked up by the affected servers when each server restarts.

## configs

Contains configurations.

### Superelements

[“domain” on page 49](#)

### Subelements

The following table describes subelements for the `configs` element.

TABLE 1-22 `configs` Subelements

Element	Required	Description
<a href="#">“config” on page 35</a>	only one	Defines a configuration.

## connection-pool

This element is not supported. If this element is present in the `domain.xml` file, its attributes are remapped to other elements and then it is deleted. For remapping details, see the Attributes table for this element.

### Superelements

[“http-service” on page 69](#)

### Subelements

none

### Attributes

The following table describes attributes for the `connection-pool` element.

TABLE 1-23 `connection-pool` Attributes

Attribute	Default	Description
<code>queue-size-in-bytes</code>	4096	Remapped to the <code>max-queue-size</code> attribute of the <a href="#">“thread-pool” on page 132</a> element.
<code>max-pending-count</code>	4096	Remapped to the <code>max-connections-count</code> attribute of the <a href="#">“transport” on page 136</a> element.

TABLE 1-23 connection-pool Attributes (Continued)

Attribute	Default	Description
receive-buffer-size-in-bytes	4096	Remapped to the request-body-buffer-size-bytes attribute of the “http” on page 61 element.
send-buffer-size-in-bytes	8192	Remapped to the send-buffer-size-bytes attribute of the “http” on page 61 element.

## connector-connection-pool

Defines a connector connection pool.

### Superelements

“resources” on page 119

### Subelements

The following table describes subelements for the connector-connection-pool element.

TABLE 1-24 connector-connection-pool Subelements

Element	Required	Description
“description” on page 48	zero or one	Contains a text description of this element.
“security-map” on page 121	zero or more	Maps the principal received during servlet or EJB authentication to the credentials accepted by the EIS.
“property” on page 109	zero or more	Specifies a property or a variable.

### Attributes

The following table describes attributes for the connector-connection-pool element. Changing the following attributes requires a server restart: resource-adapter-name, connection-definition-name, transaction-support, associate-with-thread, lazy-connection-association, and lazy-connection-enlistment. In addition, when you change a connector-connection-pool configuration, you should also redeploy or disable and re-enable the referring modules and applications.

TABLE 1-25 connector-connection-pool Attributes

Attribute	Default	Description
name	none	Specifies the name of the connection pool. A “connector-resource” on page 43 element’s pool-name attribute refers to this name.

TABLE 1-25 connector-connection-pool Attributes (Continued)

Attribute	Default	Description
resource-adapter-name	none	Specifies the name attribute of the deployed connector “application” on page 26 element. If no name is specified during deployment, the name of the .rar file is used. If the resource adapter is embedded in an application, then it is <i>app_name#rar_name</i> .
connection-definition-name	none	Specifies a unique name, identifying a resource adapter’s connection-definition element in the ra.xml file. This is usually the connectionfactory-interface of the connection-definition element.
steady-pool-size	8	(optional) Specifies the initial and minimum number of connections maintained in the pool.
max-pool-size	32	(optional) Specifies the maximum number of connections that can be created to satisfy client requests.
max-wait-time-in-millis	60000	(optional) Specifies the amount of time, in milliseconds, that the caller is willing to wait for a connection. If 0, the caller is blocked indefinitely until a resource is available or an error occurs.
pool-resize-quantity	2	(optional) Specifies the number of idle connections to be destroyed if the existing number of connections is above the steady-pool-size (subject to the max-pool-size limit).  This is enforced periodically at the idle-timeout-in-seconds interval. An idle connection is one that has not been used for a period of idle-timeout-in-seconds. When the pool size reaches steady-pool-size, connection removal stops.
idle-timeout-in-seconds	300	(optional) Specifies the maximum time that a connection can remain idle in the pool. After this amount of time, the pool can close this connection.
fail-all-connections	false	(optional) If true, closes all connections in the pool if a single validation check fails.
transaction-support	none	(optional) Specifies the transaction support for this connection pool. Overrides the transaction support defined in the resource adapter in a downward compatible way: supports a transaction level lower than or equal to the resource adapter’s, but not higher. Allowed values in descending order are: <ul style="list-style-type: none"> <li>■ XATransaction - Supports distributed transactions.</li> <li>■ LocalTransaction - Supports local transactions only.</li> <li>■ NoTransaction - No transaction support.</li> </ul>
is-connection-validation-required	false	(optional) Specifies whether connections have to be validated before being given to the application. If a resource’s validation fails, it is destroyed, and a new resource is created and returned.
validate-atmost-once-period-in-seconds	0	Specifies the time interval within which a connection is validated at most once. Minimizes the number of validation calls. A value of zero allows unlimited validation calls.
connection-leak-timeout-in-seconds	0	Detects potential connection leaks by the application. A connection that is not returned back to the pool by the application within the specified period is assumed to be potentially leaking, and a stack trace of the caller is logged. A zero value disables leak detection. A nonzero value enables leak tracing.

TABLE 1-25 connector-connection-pool Attributes (Continued)

Attribute	Default	Description
connection-leak-reclaim	false	If true, the pool will reclaim a connection after connection-leak-timeout-in-seconds occurs.
connection-creation-retry-attempts	0	Specifies the number of attempts to create a new connection.
connection-creation-retry-interval-in-seconds	10	Specifies the time interval between attempts to create a connection when connection-creation-retry-attempts is greater than 0.
lazy-connection-enlistment	false	If true, a connection is not enlisted in a transaction until it is used. If false, any connection object available to a transaction is enlisted in the transaction.
lazy-connection-association	false	If true, a physical connection is not associated with a logical connection until it is used. If false, a physical connection is associated with a logical connection even before it is used.
associate-with-thread	false	<p>If true, allows connections to be saved as ThreadLocal in the calling thread. Connections get reclaimed only when the calling thread dies or when the calling thread is not in use and the pool has run out of connections. If false, the thread must obtain a connection from the pool each time the thread requires a connection.</p> <p>This attribute associates connections with a thread such that when the same thread is in need of connections, it can reuse the connections already associated with that thread. In this case, the overhead of getting connections from the pool is avoided. However, when this value is set to true, you should verify that the value of the max-pool-size attribute is comparable to the max-thread-pool-size attribute of the “thread-pool” on page 132 element. If the max-thread-pool-size value is much higher than the max-pool-size value, a lot of time is spent associating connections with a new thread after dissociating them from an older one. Use this attribute in cases where the thread pool should reuse connections to avoid this overhead.</p>
match-connections	true	If true, enables connection matching. You can set to false if connections are homogeneous.
max-connection-usage-count	0	Specifies the number of times a connections is reused by the pool, after which it is closed. A zero value disables this feature. By limiting the maximum number of times a connection can be reused, you can avoid statement leaks if the application does not close statements.
ping	false	(optional) Specifies whether to ping the pool during pool creation or reconfiguration to identify and warn of any erroneous attribute values.
pooling	true	(optional) If false, disables connection pooling.

## Properties

Most properties of the connector-connection-pool element are the names of setter methods of the managedconnectionfactory-class element in the ra.xml file. Properties of the connector-connection-pool element override the ManagedConnectionFactory JavaBean configuration settings.



All but the last four properties in the following table are `connector-connection-pool` properties of `jmsra`, the resource adapter used to communicate with the Sun GlassFish Message Queue software. For a complete list of the available properties (called *administered object attributes* in the Message Queue software), see the [Sun GlassFish Message Queue 4.4 Administration Guide](#).

Changes to `connector-connection-pool` properties require a server restart.

TABLE 1-26 `connector-connection-pool` Properties

Property	Default	Description
<code>AddressList</code>	none	Specifies a list of host/port combinations of the Message Queue software. For JMS resources of the Type <code>javax.jms.TopicConnectionFactory</code> or <code>javax.jms.QueueConnectionFactory</code> .
<code>ClientId</code>	none	Specifies the JMS Client Identifier to be associated with a <code>Connection</code> created using the <code>createTopicConnection</code> method of the <code>TopicConnectionFactory</code> class. For JMS resources of the Type <code>javax.jms.TopicConnectionFactory</code> .  Durable subscription names are unique and only valid within the scope of a client identifier. To create or reactivate a durable subscriber, the connection must have a valid client identifier. The JMS specification ensures that client identifiers are unique and that a given client identifier is allowed to be used by only one active connection at a time.
<code>UserName</code>	guest	Specifies the user name for connecting to the Message Queue software. For JMS resources of the Type <code>javax.jms.TopicConnectionFactory</code> or <code>javax.jms.QueueConnectionFactory</code> .
<code>Password</code>	guest	Specifies the password for connecting to the Message Queue software. For JMS resources of the Type <code>javax.jms.TopicConnectionFactory</code> or <code>javax.jms.QueueConnectionFactory</code> .
<code>ReconnectAttempts</code>	6	Specifies the number of attempts to connect (or reconnect) for each address in the <code>imqAddressList</code> before the client runtime moves on to try the next address in the list. A value of -1 indicates that the number of reconnect attempts is unlimited (the client runtime attempts to connect to the first address until it succeeds).
<code>ReconnectInterval</code>	30000	Specifies the interval between reconnect attempts in milliseconds. This applies to attempts on each address in the <code>imqAddressList</code> and on successive addresses in the list. If too short, this time interval does not give a broker time to recover. If too long, the reconnect might represent an unacceptable delay.
<code>ReconnectEnabled</code>	false	If true, specifies that the client runtime attempts to reconnect to a message server (or the list of addresses in <code>imqAddressList</code> ) when a connection is lost.
<code>AddressListBehavior</code>	priority	Specifies whether connection attempts are in the order of addresses in the <code>imqAddressList</code> attribute ( <code>priority</code> ) or in a random order ( <code>random</code> ). If many clients are attempting a connection using the same connection factory, use a random order to prevent them from all being connected to the same address.
<code>AddressListIterations</code>	-1	Specifies the number of times the client runtime iterates through the <code>imqAddressList</code> in an effort to establish (or reestablish) a connection. A value of -1 indicates that the number of attempts is unlimited.

TABLE 1-26 connector-connection-pool Properties (Continued)

Property	Default	Description
prefer-validate-over-recreate	false	Specifies that validating idle connections is preferable to closing them. This property has no effect on non-idle connections. If set to <code>true</code> , idle connections are validated during pool resizing, and only those found to be invalid are destroyed and recreated. If <code>false</code> , all idle connections are destroyed and recreated during pool resizing.
LazyConnectionEnlistment	false	Deprecated. Use the equivalent attribute.
LazyConnectionAssociation	false	Deprecated. Use the equivalent attribute.
AssociateWithThread	false	Deprecated. Use the equivalent attribute.
MatchConnections	true	Deprecated. Use the equivalent attribute.

---

**Note** – All JMS administered object resource properties that worked with version 7 of the Enterprise Server are supported for backward compatibility.

---

## connector-module

This element is deprecated. Use an “[application](#)” on page 26 element instead.

Specifies a deployed connector module.

### Superelements

“[applications](#)” on page 30

### Subelements

The following table describes subelements for the `connector-module` element.

TABLE 1-27 connector-module Subelements

Element	Required	Description
“ <a href="#">description</a> ” on page 48	zero or one	Contains a text description of this element.
“ <a href="#">property</a> ” on page 109	zero or more	Specifies a property or a variable.

### Attributes

The following table describes attributes for the `connector-module` element.

TABLE 1-28 connector-module Attributes

Attribute	Default	Description
name	none	The name of the connector module.
location	none	A fully qualified or relative path to the directory to which the contents of the .rar file have been extracted. If relative, it is relative to the following directory: <i>domain-dir/applications/</i>
object-type	user	(optional) Defines the type of the resource. Allowed values are: <ul style="list-style-type: none"> <li>▪ system-all - A system resource for all server instances and the domain application server.</li> <li>▪ system-admin - A system resource only for the domain application server.</li> <li>▪ system-instance - A system resource for all server instances only.</li> <li>▪ user - A user resource.</li> </ul>
enabled	true	(optional) Determines whether the connector module is enabled.
directory-deployed	false	(optional) Specifies whether the application has been deployed as a directory.

## connector-resource

Defines the connection factory object of a specific connection definition in a connector (resource adapter).

### Superelements

[“resources” on page 119](#)

### Subelements

The following table describes subelements for the connector-resource element.

TABLE 1-29 connector-resource Subelements

Element	Required	Description
<a href="#">“description” on page 48</a>	zero or one	Contains a text description of this element.
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

### Attributes

The following table describes attributes for the connector-resource element.

TABLE 1-30 connector-resource Attributes

Attribute	Default	Description
jndi-name	none	Specifies the JNDI name for the resource.
pool-name	none	Specifies the name of the associated connector connection pool, defined in a <a href="#">“connector-connection-pool”</a> on page 38 element.
object-type	user	(optional) Defines the type of the resource. Allowed values are: <ul style="list-style-type: none"> <li>▪ system-all - A system resource for all server instances and the domain application server.</li> <li>▪ system-admin - A system resource only for the domain application server.</li> <li>▪ system-instance - A system resource for all server instances only.</li> <li>▪ user - A user resource.</li> </ul>
enabled	true	(optional) Determines whether this resource is enabled at runtime.

## connector-service

Configures the connector service.

### Superelements

[“config”](#) on page 35

### Subelements

none

### Attributes

The following table describes attributes for the connector-service element.

TABLE 1-31 connector-service Attributes

Attribute	Default	Description
shutdown-timeout-in-seconds	30	(optional) Specifies the maximum time allowed during application server shutdown for the ResourceAdapter.stop() method of a connector module’s instance to complete. Resource adapters that take longer to shut down are ignored, and Enterprise Server shutdown continues.

TABLE 1-31 connector-service Attributes (Continued)

Attribute	Default	Description
class-loading-policy	derived	(optional) Specifies the resource adapters accessible to applications. Allowed values are: <ul style="list-style-type: none"> <li>▪ <code>derived</code> — Applications access resource adapters based on references in their deployment descriptors. These references can be <code>resource-ref</code>, <code>resource-env-ref</code>, <code>resource-adapter-mid</code>, or equivalent annotations.</li> <li>▪ <code>global</code> — All stand-alone resource adapters are available to all applications.</li> </ul>

## context-param

Configures a context parameter for a web module at deployment time. This is an alternative to setting a `context-param` in the `web.xml` file. To override a `context-param` in the `web.xml` file, set the `ignore-descriptor-item` attribute to `true`.

### Superelements

[“web-module-config” on page 147](#)

### Subelements

The following table describes subelements for the `context-param` element.

TABLE 1-32 context-param Subelements

Element	Required	Description
<a href="#">“param-name” on page 106</a>	only one	Contains a context parameter name.
<a href="#">“param-value” on page 106</a>	only one	Contains a context parameter value.
<a href="#">“description” on page 48</a>	zero or one	Contains a text description of this element.

### Attributes

The following table describes attributes for the `context-param` element.

TABLE 1-33 context-param Attributes

Attribute	Default	Description
<code>ignore-descriptor-item</code>	<code>false</code>	(optional) If <code>true</code> , specifies that if the same context parameter occurs in the deployment descriptor it is ignored.

## custom-resource

Defines a custom resource, which specifies a custom server-wide resource object factory. Such object factories implement the `javax.naming.spi.ObjectFactory` interface.

### Superelements

“resources” on page 119

### Subelements

The following table describes subelements for the `custom-resource` element.

TABLE 1-34 `custom-resource` Subelements

Element	Required	Description
“description” on page 48	zero or one	Contains a text description of this element.
“property” on page 109	zero or more	Specifies a property or a variable.

### Attributes

The following table describes attributes for the `custom-resource` element.

TABLE 1-35 `custom-resource` Attributes

Attribute	Default	Description
<code>jndi-name</code>	none	Specifies the JNDI name for the resource.
<code>res-type</code>	none	Specifies the fully qualified type of the resource.
<code>factory-class</code>	none	Specifies the fully qualified name of the user-written factory class, which implements <code>javax.naming.spi.ObjectFactory</code> .
<code>object-type</code>	user	(optional) Defines the type of the resource. Allowed values are: <ul style="list-style-type: none"> <li>▪ <code>system-all</code> - A system resource for all server instances and the domain application server.</li> <li>▪ <code>system-admin</code> - A system resource only for the domain application server.</li> <li>▪ <code>system-instance</code> - A system resource for all server instances only.</li> <li>▪ <code>user</code> - A user resource.</li> </ul>
<code>enabled</code>	true	(optional) Determines whether this resource is enabled at runtime.

## D

## das-config

Defines a domain administration server configuration. The domain administration server runs the Administration Console.

### Superelements

[“admin-service” on page 24](#)

### Subelements

The following table describes subelements for the `das-config` element.

TABLE 1-36 `das-config` Subelements

Element	Required	Description
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

### Attributes

The following table describes attributes for the `das-config` element. For more information about deployment topics such as dynamic reloading and autodeployment, see the *Sun GlassFish Enterprise Server v3 Application Development Guide*.

TABLE 1-37 `das-config` Attributes

Attribute	Default	Description
<code>dynamic-reload-enabled</code>	<code>true</code>	(optional) If <code>true</code> , checks the timestamp on a <code>.reload</code> file at every module and application directory level, to trigger dynamic reloading.
<code>dynamic-reload-poll-interval-in-seconds</code>	2	(optional) Controls the polling frequency of dynamic reloading.
<code>autodeploy-enabled</code>	<code>true</code>	(optional) If <code>true</code> , enables autodeployment, which lets you quickly deploy applications and modules to a running Enterprise Server without performing an explicit server instance restart or a separate deployment operation.
<code>autodeploy-polling-interval-in-seconds</code>	2	(optional) Controls the polling frequency of autodeployment.

TABLE 1-37 `das-config` Attributes (Continued)

Attribute	Default	Description
<code>autodeploy-dir</code>	<code>autodeploy</code>	(optional) Specifies the source directory (absolute or relative to <i>domain-dir</i> ) in which autodeployment looks for deployable components.
<code>autodeploy-verifier-enabled</code>	<code>false</code>	(optional) If <code>true</code> , the verifier is run before autodeployment. If verification fails, deployment is not performed.
<code>autodeploy-jsp-precompilation-enabled</code>	<code>false</code>	(optional) If <code>true</code> , JSP pages are precompiled during autodeployment.
<code>auto-deploy-retry-timeout</code>	4	(optional) Specifies the number of autodeployment retry attempts before autodeployment times out.
<code>deploy-xml-validation</code>	<code>full</code>	(optional) Specifies the type of XML validation performed on standard and Enterprise Server deployment descriptors: <ul style="list-style-type: none"> <li>▪ <code>full</code> - If XML validation fails, deployment fails.</li> <li>▪ <code>parsing</code> - XML validation errors are reported but deployment occurs.</li> <li>▪ <code>none</code> - No XML validation is performed.</li> </ul>
<code>admin-session-timeout-in-minutes</code>	<code>sun-web.xml</code> <code>timeoutSeconds</code> property value or <code>web.xml</code> <code>session-timeout</code> attribute value	(optional) Specifies the Administration Console timeout.

## description

Contains a text description of the parent element.

## Superelements

“`admin-object-resource`” on page 23, “`appclient-module`” on page 25, “`application`” on page 26, “`connector-connection-pool`” on page 38, “`connector-module`” on page 42, “`connector-resource`” on page 43, “`context-param`” on page 45, “`custom-resource`” on page 46, “`ejb-module`” on page 52, “`env-entry`” on page 56, “`extension-module`” on page 57, “`external-jndi-resource`” on page 58, “`j2ee-application`” on page 73, “`jdbc-connection-pool`” on page 77, “`jdbc-resource`” on page 83, “`lifecycle-module`” on page 91, “`mail-resource`” on page 94, “`property`” on page 109, “`system-property`” on page 130, “`transformation-rule`” on page 135, “`web-module`” on page 146

## Subelements

`none` - contains data



## domain

Defines a domain. This is the root element; there can only be one domain element in a domain.xml file.

### Superelements

none

### Subelements

The following table describes subelements for the domain element.

TABLE 1-38 domain Subelements

Element	Required	Description
<a href="#">“system-applications” on page 130</a>	zero or one	Contains system applications.
<a href="#">“applications” on page 30</a>	zero or one	Contains deployed Java EE applications, Java EE modules, and applications created using other supported technologies.
<a href="#">“resources” on page 119</a>	zero or one	Contains configured resources.
<a href="#">“configs” on page 37</a>	only one	Contains configurations.
<a href="#">“servers” on page 124</a>	only one	Contains server instances.
<a href="#">“system-property” on page 130</a>	zero or more	Specifies a system property.
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

### Attributes

The following table describes attributes for the domain element.

TABLE 1-39 domain Attributes

Attribute	Default	Description
application-root	<i>domain-dir</i> /applications	(optional) Specifies the absolute path where deployed applications reside for this domain.
log-root	<i>domain-dir</i> /logs	(optional) Specifies where the domain’s log files are kept. The directory in which the log is kept must be writable by whatever user account the server runs as. See the <a href="#">“log-service” on page 92</a> description for details about logs.
locale	operating system default	(optional) Specifies the domain’s language.

TABLE 1-39 domain Attributes (Continued)

Attribute	Default	Description
version	none; value changes with each major release	Specifies the version of the Enterprise Server as returned by the <code>fullVersion</code> field of the <code>com.sun.appserv.server.util.Version</code> class.

## E

### ejb-container

Configures the EJB container. Stateless session beans are maintained in pools. Stateful session beans have session affinity and are cached. Entity beans associated with a database primary key are also cached. Entity beans not yet associated with a primary key are maintained in pools. Pooled entity beans are used to run `ejbCreate()` and finder methods.

### Superelements

[“config” on page 35](#)

### Subelements

The following table describes subelements for the `ejb-container` element.

TABLE 1-40 ejb-container Subelements

Element	Required	Description
<a href="#">“ejb-timer-service” on page 53</a>	zero or one	Configures the EJB timer service.
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

### Attributes

The following table describes attributes for the `ejb-container` element.

TABLE 1-41 ejb-container Attributes

Attribute	Default	Description
steady-pool-size	32	(optional) Specifies the initial and minimum number of beans maintained in the pool. Must be 0 or greater and less than max-pool-size.  Bean instances are removed from the pool and returned after use. The pool is replenished or cleaned up periodically to maintain this size.  Applies to stateless session beans and entity beans.
pool-resize-quantity	16	(optional) Specifies the number of beans to be removed when the pool-idle-timeout-in-seconds timer expires. A cleaner thread removes any unused instances. Must be 0 or greater and less than max-pool-size. The pool is not resized below the steady-pool-size.  Applies to stateless session beans and entity beans.
max-pool-size	64	(optional) Specifies the maximum number of beans that can be created to satisfy client requests. A value of 0 indicates an unbounded pool.  Applies to stateless session beans and entity beans.
cache-resize-quantity	32	(optional) Specifies the number of beans to be: <ul style="list-style-type: none"> <li>■ created if a request arrives when the pool has no available beans (subject to the max-cache-size limit)</li> <li>■ passivated when the cache-idle-timeout-in-seconds timer expires and a cleaner thread removes any unused instances, or when the cache size exceeds max-cache-size.</li> </ul> Must be greater than 1 and less than max-cache-size.  Applies to stateful session beans and entity beans.
max-cache-size	512	(optional) Specifies the maximum number of beans in the cache. A value of 0 indicates an unbounded cache.  Applies to stateful session beans and entity beans.
pool-idle-timeout-in-seconds	600	(optional) Specifies the maximum time that a bean can remain idle in the pool. After this amount of time, the pool can remove this bean. A value of 0 specifies that idle beans can remain in the pool indefinitely.  Applies to stateless session beans and entity beans.
cache-idle-timeout-in-seconds	600	(optional) Specifies the maximum time that a bean can remain idle in the cache. After this amount of time, the container can passivate this bean. A value of 0 specifies that beans never become candidates for passivation.  Applies to stateful session beans and entity beans.

TABLE 1-41 `ejb-container` Attributes (Continued)

Attribute	Default	Description
<code>removal-timeout-in-seconds</code>	5400	(optional) Specifies the amount of time that a bean can remain passivated before it is removed from the session store. A value of 0 specifies that the container does not remove inactive beans automatically.  If <code>removal-timeout-in-seconds</code> is less than or equal to <code>cache-idle-timeout-in-seconds</code> , beans are removed immediately without being passivated.  The <code>session-store</code> attribute of the “ <code>server</code> ” on page 123 element determines the location of the session store.  Applies to stateful session beans.
<code>victim-selection-policy</code>	<code>nru</code>	(optional) Specifies how stateful session beans are selected for passivation. Allowed values are <code>fifo</code> , <code>lru</code> , and <code>nru</code> : <ul style="list-style-type: none"> <li>■ <code>fifo</code> - Selects the oldest instance.</li> <li>■ <code>lru</code> - Selects the least recently accessed instance.</li> <li>■ <code>nru</code> - Selects a not recently used instance.</li> </ul>
<code>commit-option</code>	<code>B</code>	(optional) Determines which commit option is used for entity beans. Legal values are <code>B</code> or <code>C</code> .
<code>session-store</code>	<code>domain-dir/session-store</code>	(optional) Specifies the directory where passivated stateful session beans and persisted HTTP sessions are stored in the file system.

## ejb-module

This element is deprecated. Use an “[application](#)” on page 26 element instead.

Specifies a deployed EJB module.

## Superelements

“[applications](#)” on page 30

## Subelements

The following table describes subelements for the `ejb-module` element.

TABLE 1-42 `ejb-module` Subelements

Element	Required	Description
“ <a href="#">description</a> ” on page 48	zero or one	Contains a text description of this element.
“ <a href="#">web-service-endpoint</a> ” on page 147	zero or more	Configures a web service endpoint.

TABLE 1-42 `ejb-module` Subelements (Continued)

Element	Required	Description
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

## Attributes

The following table describes attributes for the `ejb-module` element.

TABLE 1-43 `ejb-module` Attributes

Attribute	Default	Description
<code>name</code>	<code>none</code>	The name of the EJB module.
<code>location</code>	<code>none</code>	A fully qualified or relative path to the directory to which the contents of the EJB .jar file have been extracted. If relative, it is relative to the following directory:  <i>domain-dir/applications/</i>
<code>object-type</code>	<code>user</code>	(optional) Defines the type of the resource. For an EJB module, the only allowed value is <code>user</code> .
<code>enabled</code>	<code>true</code>	(optional) Determines whether the EJB module is enabled.
<code>libraries</code>	<code>none</code>	(optional) Specifies an absolute or relative path to libraries specific to this module or application. A relative path is relative to <i>domain-dir/lib/applibs</i> . If the path is absolute, the path must be accessible to the domain administration server (DAS), which means it must be under <i>domain-dir</i> . To include more than one path, use a system-specific separator, such as a colon for Solaris or a semicolon for Windows. The libraries are made available to the application in the order in which they are specified.
<code>directory-deployed</code>	<code>false</code>	(optional) Specifies whether the application has been deployed as a directory.

## `ejb-timer-service`

Configures the EJB timer service.

### Superelements

[“ejb-container” on page 50](#)

### Subelements

The following table describes subelements for the `ejb-timer-service` element.

TABLE 1-44 `ejb-timer-service` Subelements

Element	Required	Description
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

## Attributes

The following table describes attributes for the `ejb-timer-service` element.

TABLE 1-45 `ejb-timer-service` Attributes

Attribute	Default	Description
<code>minimum-delivery-interval-in-millis</code>	1000	(optional) Specifies the minimum time before an expiration for a particular timer can occur. This guards against extremely small timer increments that can overload the server.
<code>max-redeliveries</code>	1	(optional) Specifies the maximum number of times the EJB timer service attempts to redeliver a timer expiration due for exception or rollback.
<code>timer-datasource</code>	<code>jdbc/__TimerPool</code>	(optional) Overrides, for the server instance, the <code>cmp-resource</code> value specified in <code>sun-ejb-jar.xml</code> for the timer service system application ( <code>__ejb_container_timer_app</code> ).
<code>redelivery-interval-internal-in-millis</code>	5000	(optional) Specifies how long the EJB timer service waits after a failed <code>ejbTimeout</code> delivery before attempting a redelivery.

## engine

Specifies an engine for an [“application” on page 26](#) or [“module” on page 99](#). An engine runs a sniffer during deployment, which is responsible for identifying a type of deployment artifact (such as a WAR file) and setting up the associated container (such as the web container). Multiple engines, each with its own sniffer, can be associated with a given application or module.

## Superelements

[“application” on page 26](#), [“module” on page 99](#)

## Subelements

The following table describes subelements for the `engine` element.

TABLE 1-46 engine Subelements

Element	Required	Description
<a href="#">“web-module-config” on page 147</a>	zero or one	Configures the parent web module. Applicable only if this engine element has a <code>sniffer</code> value of <code>web</code> .
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

## Attributes

The following table describes attributes for the engine element.

TABLE 1-47 engine Attributes

Attribute	Default	Description
<code>sniffer</code>	none	<p>Specifies the type of sniffer. Allowed values include the following:</p> <ul style="list-style-type: none"> <li>▪ <code>web</code> — Specifies that the parent module is a web application.</li> <li>▪ <code>security</code> — Specifies that security is enabled for the parent module.</li> <li>▪ <code>jpa</code> — Specifies that the parent module uses the Java Persistence API.</li> <li>▪ <code>connector</code> — Specifies that the parent module is a connector.</li> <li>▪ <code>ejb</code> — Specifies that the parent module is an EJB module. The EJB container add-on component must be installed in the Enterprise Server.</li> <li>▪ <code>webservices</code> — Specifies that the parent module is a web service endpoint. The Metro add-on component must be installed in the Enterprise Server.</li> <li>▪ <code>appclient</code> — Specifies that the parent module is an application client. This value is valid only in the full platform distribution of the Enterprise Server.</li> <li>▪ <code>ear</code> — Specifies that the parent application is a Java EE application (EAR file). This value is valid only in the full platform distribution of the Enterprise Server.</li> <li>▪ <code>webbeans</code> — Specifies that the parent module is a Web Bean. The Web Beans add-on component must be installed in the Enterprise Server.</li> <li>▪ <code>jruby</code> — Specifies that the parent module is a JRuby application. The JRuby add-on component must be installed in the Enterprise Server.</li> <li>▪ <code>osgi</code> — Specifies that the parent module is an OSGi add-on component.</li> <li>▪ <code>grizzly</code> — Specifies that the parent module is a Grizzly add-on component.</li> </ul>
<code>description</code>	none	(optional) Specifies a text description for this element.

## env-entry

Configures an environment entry for a web module at deployment time. This is an alternative to setting an `env-entry` in the `web.xml` file. To override an `env-entry` in the `web.xml` file, set the `ignore-descriptor-item` attribute to `true`.

### Superelements

[“web-module-config” on page 147](#)

### Subelements

The following table describes subelements for the `env-entry` element.

TABLE 1-48 env-entry Subelements

Element	Required	Description
<a href="#">“env-entry-name” on page 56</a>	only one	Contains an environment entry name.
<a href="#">“env-entry-type” on page 57</a>	only one	Contains an environment entry type.
<a href="#">“env-entry-value” on page 57</a>	only one	Contains an environment entry value.
<a href="#">“description” on page 48</a>	zero or one	Contains a text description of this element.

### Attributes

The following table describes attributes for the `env-entry` element.

TABLE 1-49 env-entry Attributes

Attribute	Default	Description
<code>ignore-descriptor-item</code>	<code>false</code>	(optional) If <code>true</code> , specifies that if the same environment entry occurs in the deployment descriptor it is ignored.

## env-entry-name

Contains an environment entry name.

### Superelements

[“env-entry” on page 56](#)

### Subelements

none - contains data



## env-entry-type

Contains an environment entry type.

### Superelements

[“env-entry” on page 56](#)

### Subelements

none - contains data

## env-entry-value

Contains an environment entry value.

### Superelements

[“env-entry” on page 56](#)

### Subelements

none - contains data

## extension-module

This element is deprecated. Use an [“application” on page 26](#) element instead.

Specifies a deployed extension module.

### Superelements

[“applications” on page 30](#)

### Subelements

The following table describes subelements for the `extension-module` element.

TABLE 1-50 extension-module Subelements

Element	Required	Description
<a href="#">“description” on page 48</a>	zero or one	Contains a text description of this element.

TABLE 1-50 extension-module Subelements (Continued)

Element	Required	Description
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

## Attributes

The following table describes attributes for the `extension-module` element.

TABLE 1-51 extension-module Attributes

Attribute	Default	Description
<code>name</code>	none	The name of the extension module.
<code>location</code>	none	A fully qualified or relative path to the directory to which the contents of the <code>.jar</code> or <code>.war</code> file have been extracted. If relative, it is relative to the following directory: <i>domain-dir/applications/</i>
<code>module-type</code>	none	Specifies a <code>String</code> that identifies the extension module type, which the runtime uses to find the appropriate add-on container. When an extension module is registered with the Enterprise Server, the Enterprise Server specifies the module type automatically.
<code>object-type</code>	<code>user</code>	(optional) Defines the type of the resource. For an extension module, the only allowed value is <code>user</code> .
<code>enabled</code>	<code>true</code>	(optional) Determines whether the extension module is enabled.
<code>libraries</code>	none	(optional) Specifies an absolute or relative path to libraries specific to this module or application. A relative path is relative to <i>domain-dir/lib/applibs</i> . If the path is absolute, the path must be accessible to the domain administration server (DAS), which means it must be under <i>domain-dir</i> . To include more than one path, use a system-specific separator, such as a colon for Solaris or a semicolon for Windows. The libraries are made available to the application in the order in which they are specified.
<code>directory-deployed</code>	<code>false</code>	(optional) Specifies whether the application has been deployed as a directory.

## external-jndi-resource

Defines a resource that resides in an external JNDI repository. For example, a generic Java object could be stored in an LDAP server. An external JNDI factory must implement the `javax.naming.spi.InitialContextFactory` interface.

## Superelements

[“resources” on page 119](#)

## Subelements

The following table describes subelements for the `external-jndi-resource` element.

TABLE 1-52 external-jndi-resource Subelements

Element	Required	Description
<a href="#">“description” on page 48</a>	zero or one	Contains a text description of this element.
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

## Attributes

The following table describes attributes for the external-jndi-resource element.

TABLE 1-53 external-jndi-resource Attributes

Attribute	Default	Description
jndi-name	none	Specifies the JNDI name for the resource.
jndi-lookup-name	none	Specifies the JNDI lookup name for the resource.
res-type	none	Specifies the fully qualified type of the resource.
factory-class	none	Specifies the fully qualified name of the factory class, which implements <code>javax.naming.spi.InitialContextFactory</code> .  For more information about JNDI, see the <i>Sun GlassFish Enterprise Server v3 Application Development Guide</i> .
object-type	user	(optional) Defines the type of the resource. Allowed values are: <ul style="list-style-type: none"> <li>▪ <code>system-all</code> - A system resource for all server instances and the domain application server.</li> <li>▪ <code>system-admin</code> - A system resource only for the domain application server.</li> <li>▪ <code>system-instance</code> - A system resource for all server instances only.</li> <li>▪ <code>user</code> - A user resource.</li> </ul>
enabled	true	(optional) Determines whether this resource is enabled at runtime.

## F

### file-cache

Configures the HTTP file cache.

### Superelements

[“http” on page 61](#)

## Subelements

none

## Attributes

The following table describes attributes for the `file-cache` element.

TABLE 1-54 `file-cache` Attributes

Attribute	Default	Description
<code>enabled</code>	<code>false</code>	(optional) If <code>true</code> , enables caching of the file content.
<code>max-age-seconds</code>	<code>30</code>	(optional) Specifies the maximum age of a file cache entry.
<code>max-cache-size-bytes</code>	<code>1048576</code>	(optional) Specifies the total size of all files that are cached as memory mapped files.
<code>max-files-count</code>	<code>1024</code>	(optional) Specifies the maximum number of files in the file cache.

## G

## group-map

Maps an EIS group to a group defined in the Enterprise Server domain.

## Superelements

[“work-security-map” on page 148](#)

## Subelements

none

## Attributes

The following table describes attributes for the `group-map` element.

TABLE 1-55 `group-map` Attributes

Attribute	Default	Description
<code>eis-group</code>	<code>none</code>	Specifies an EIS group.
<code>mapped-group</code>	<code>none</code>	Specifies a group defined in the Enterprise Server domain.

# H

## http

Configures HTTP parameters.

### Superelements

[“protocol” on page 110](#)

### Subelements

The following table describes subelements for the `http` element.

TABLE 1-56 http Subelements

Element	Required	Description
<a href="#">“file-cache” on page 59</a>	zero or one	Configures the HTTP file cache.

### Attributes

The following table describes attributes for the `http` element.

TABLE 1-57 http Attributes

Attribute	Default	Description
<code>default-virtual-server</code>	none	Specifies the <code>id</code> attribute of the default <a href="#">“virtual-server” on page 138</a> for the <a href="#">“network-listener” on page 103</a> that references the parent <a href="#">“protocol” on page 110</a> element.
<code>server-name</code>	none	(optional) Tells the server what to put in the host name section of any URLs it sends to the client. This affects URLs the server automatically generates; it doesn't affect the URLs for directories and files stored in the server. If your server uses an alias, the <code>server-name</code> should be the alias name.  If a colon and port number are appended, that port is used in URLs the server sends to the client.
<code>redirect-port</code>	none	(optional) If the <a href="#">“network-listener” on page 103</a> that references the parent <a href="#">“protocol” on page 110</a> element is supporting non-SSL requests and a request is received for which a matching <code>&lt;security-constraint&gt;</code> requires SSL transport, the request is automatically redirected to the port number specified here.

TABLE 1-57 http Attributes (Continued)

Attribute	Default	Description
xpowered-by	true	(optional) If true, X-Powered-By headers are used according to the Servlet 2.4 and JSP 2.0 specifications.
request-body-buffer-size-bytes	4096	(optional) Specifies the size of the request buffer for “network-listener” on page 103 elements that reference the parent “protocol” on page 110 element.
send-buffer-size-bytes	8192	(optional) Specifies the size of the send buffer for “network-listener” on page 103 elements that reference the parent “protocol” on page 110 element.
auth-pass-through-enabled	false	(optional) If true, indicates that the “network-listener” on page 103 that references the parent “protocol” on page 110 element receives traffic from an SSL-terminating proxy server.
max-connections	250	(optional) Specifies the maximum number of requests that can be pipelined until the connection is closed by the server. Set this property to 1 to disable HTTP/1.0 keep-alive, as well as HTTP/1.1 keep-alive and pipelining. A value of 0 means requests are always rejected. A value of -1 sets no limit to the number of keep-alive connections.  The default of 250 is the initial value set in domain.xml. The internal configuration default is 256.
trace-enabled	true	(optional) If true, enables the TRACE operation. Set this property to false to make the Enterprise Server less susceptible to cross-site scripting attacks.
comet-support-enabled	false	(optional) If true, enables Comet support for the “network-listener” on page 103 that references the parent “protocol” on page 110 element.  If your servlet or JSP page uses Comet technology, make sure it is initialized when the Enterprise Server starts up by adding the load-on-startup element to your web.xml file. For example:  <pre>&lt;servlet&gt;   &lt;servlet-name&gt;CheckIn&lt;/servlet-name&gt;   &lt;servlet-class&gt;CheckInServlet&lt;/servlet-class&gt;   &lt;load-on-startup&gt;0&lt;/load-on-startup&gt; &lt;/servlet&gt;</pre>
compression	off	(optional) Specifies use of HTTP/1.1 GZIP compression to save server bandwidth. Allowed values are: <ul style="list-style-type: none"> <li>■ off — Disables compression.</li> <li>■ on — Compresses data.</li> <li>■ force — Forces data compression in all cases.</li> </ul> If compression is set to on or force, you must set compression-min-size-bytes as well.
compression-min-size-bytes	none	(optional) Specifies the minimum size of a file when compression is applied. Required if compression is set to on or force.

TABLE 1-57 http Attributes (Continued)

Attribute	Default	Description
compressable-mime-type	text/html, text/xml, text/plain	(optional) Specifies a comma-separated list of MIME types for which HTTP compression is used.
no-compression-user-agents	empty String (regex matching disabled)	(optional) Specifies a comma-separated list of regular expressions matching user-agents of HTTP clients for which compression should not be used.
upload-timeout-enabled	false	(optional) If true, the connection for a servlet that reads bytes slowly is closed after the connection-upload-timeout-millis is reached.
connection-upload-timeout-millis	5	(optional) Specifies the timeout for uploads. Applicable only if upload-timeout-enabled is set to true.
uri-encoding	UTF-8	(optional) Specifies the character set used to decode the request URIs received on the “network-listener” on page 103 that references the parent “protocol” on page 110 element. Must be a valid IANA character set name.
restricted-user-agents	none	(optional) Specifies a list of restricted user agents on which HTTP compression is applied. If no user agents are specified (the default), HTTP compression is applied to all user agents.
chunking-enabled	true	(optional) If true, enables HTTP response chunking.
version	HTTP/1.1	(optional) Specifies the version of the HTTP protocol used.
forced-response-type	text/html; charset=iso-8859-1	(optional) Specifies the request type used if no MIME mapping is available that matches the file extension. The format is a semicolon-delimited string consisting of the content-type, encoding, language, and charset.
default-response-type	text/html; charset=iso-8859-1	(optional) Specifies the default response type. The format is a semicolon-delimited string consisting of the content-type, encoding, language, and charset.
timeout-seconds	30	(optional) Specifies the maximum time for which a keep alive connection is kept open. A value of 0 or less means keep alive connections are kept open indefinitely.
header-buffer-length-bytes	8192	(optional) Specifies the size of the buffer used by the request processing threads to read the request data.
adapter	com.sun.grizzly.tcp.StaticResourcesAdapter	(Optional) Specifies the class name of the static resources adapter.
max-post-size-bytes	2097152	(Optional) Specifies the maximum size of the body of a POST request. POST requests greater than this size are rejected. A value of zero means the maximum post size is unlimited.
request-timeout-seconds	30	(Optional) Specifies the request timeout. If the request is not processed before the timeout is reached, the request is ignored.
dns-lookup-enabled	false	(optional) If true, looks up the DNS entry for the client.

TABLE 1-57 http Attributes (Continued)

Attribute	Default	Description
rcm-support-enabled	false	(optional) If true, enables support for resource consumption management (RCM). A ResourceAllocationFilter is added to the HTTP protocol chain, and a thread pool for request processing is assigned to each HTTP resource (such as a web application).

## http-access-log

Defines an access log file for a “virtual-server” on page 138. The “access-log” on page 22 subelement of the virtual server’s parent “http-service” on page 69 element determines the access log file’s format and rotation settings.

### Superelements

“virtual-server” on page 138

### Subelements

none

### Attributes

The following table describes attributes for the http-access-log element.

TABLE 1-58 http-access-log Attributes

Attribute	Default	Description
log-directory	\${com.sun.aas.instanceRoot}/logs/access	(optional) Specifies the location of the access log file. The \${com.sun.aas.instanceRoot} system property refers to the domain-dir. See “system-property” on page 130.
iponly	true	(optional) If true, specifies that only the IP address of the user agent is listed. If false, performs a DNS lookup.

## http-file-cache

This element is not supported. If this element is present in the domain.xml file, its attributes are remapped to other elements and then it is deleted. For remapping details, see the Attributes table for this element.

### Superelements

“http-service” on page 69



## Subelements

none

## Attributes

The following table describes attributes for the `http-file-cache` element.

TABLE 1-59 `http-file-cache` Attributes

Attribute	Default	Description
<code>globally-enabled</code>	false	Not implemented. Do not use.
<code>file-caching-enabled</code>	false	Remapped to the <code>enabled</code> attribute of the “ <a href="#">file-cache</a> ” on page 59 element.
<code>max-age-in-seconds</code>	30	Remapped to the <code>max-age-seconds</code> attribute of the “ <a href="#">file-cache</a> ” on page 59 element.
<code>medium-file-size-limit-in-bytes</code>	537600	Not implemented. Do not use.
<code>medium-file-space-in-bytes</code>	1048576	Remapped to the <code>max-cache-size-bytes</code> attribute of the “ <a href="#">file-cache</a> ” on page 59 element.
<code>small-file-size-limit-in-bytes</code>	2048	Not implemented. Do not use.
<code>small-file-space-in-bytes</code>	1048576	Not implemented. Do not use.
<code>file-transmission-enabled</code>	false	Not implemented. Do not use.
<code>max-files-count</code>	1024	Remapped to the <code>max-files-count</code> attribute of the “ <a href="#">file-cache</a> ” on page 59 element.
<code>hash-init-size</code>	0	Not implemented. Do not use.

## http-listener

This element is not supported. If this element is present in the `domain.xml` file, its attributes and properties are remapped to other elements and then it is deleted. For remapping details, see the Attributes and Properties tables for this element.

## Superelements

“[http-service](#)” on page 69

## Subelements

The following table describes subelements for the `http-listener` element.

TABLE 1-60 `http-listener` Subelements

Element	Required	Description
<a href="#">“ssl” on page 127</a>	zero or one	Defines Secure Socket Layer (SSL) parameters.
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

## Attributes

The following table describes attributes for the `http-listener` element.

TABLE 1-61 `http-listener` Attributes

Attribute	Default	Description
<code>id</code>	none	Remapped to the <code>name</code> attribute of a <a href="#">“network-listener” on page 103</a> element.
<code>address</code>	none	Remapped to the <code>address</code> attribute of a <a href="#">“network-listener” on page 103</a> element.
<code>port</code>	none	Remapped to the <code>port</code> attribute of a <a href="#">“network-listener” on page 103</a> element.
<code>external-port</code>	none	Not implemented. Do not use.
<code>family</code>		Not implemented. Do not use.
<code>blocking-enabled</code>	false	Not implemented. Do not use.
<code>acceptor-threads</code>	1	Remapped to the <code>acceptor-threads</code> attribute of a <a href="#">“transport” on page 136</a> element.
<code>security-enabled</code>	false	Remapped to the <code>security-enabled</code> attribute of a <a href="#">“protocol” on page 110</a> element.
<code>default-virtual-server</code>	none	Remapped to the <code>default-virtual-server</code> attribute of an <a href="#">“http” on page 61</a> element.
<code>server-name</code>	none	Remapped to the <code>server-name</code> attribute of an <a href="#">“http” on page 61</a> element.
<code>redirect-port</code>	none	Remapped to the <code>redirect-port</code> attribute of an <a href="#">“http” on page 61</a> element.
<code>xpowered-by</code>	true	Remapped to the <code>xpowered-by</code> attribute of an <a href="#">“http” on page 61</a> element.
<code>enabled</code>	true	Remapped to the <code>enabled</code> attribute of a <a href="#">“network-listener” on page 103</a> element.

## Properties

The following table describes property remappings for the `http-listener` element. A few of these properties can be defined as [“http-service” on page 69](#) properties, applying to all [“network-listener” on page 103](#) elements.

TABLE 1-62 http-listener Properties

Property	Default	Description
monitoring-cache-enabled	true	Not implemented. Do not use.
monitoring-cache-refresh-in-millis	5000	Not implemented. Do not use.
ssl-cache-entries	10000	Implemented only for “ <a href="#">http-service</a> ” on page 69.
ssl3-session-timeout	86400	Implemented only for “ <a href="#">http-service</a> ” on page 69.
ssl-session-timeout	100	Implemented only for “ <a href="#">http-service</a> ” on page 69.
recycle-objects	true	Not implemented. Do not use.
reader-threads	0	Not implemented. Do not use.
acceptor-queue-length	4096	Not implemented. Do not use.
reader-queue-length	4096	Not implemented. Do not use.
use-nio-direct-bytebuffer	true	Remapped to the <code>byte-buffer-type</code> attribute of a “ <a href="#">transport</a> ” on page 136 element.
authPassthroughEnabled	false	Remapped to the <code>auth-pass-through-enabled</code> attribute of an “ <a href="#">http</a> ” on page 61 element.
proxyHandler	<code>com.sun.enterprise.web.ProxyHandlerImpl</code>	Implemented only for “ <a href="#">http-service</a> ” on page 69.
proxiedProtocol	none	Not implemented. Do not use.
bufferSize	4096	Remapped to the <code>buffer-size-bytes</code> attribute of a “ <a href="#">transport</a> ” on page 136 element.
connectionTimeout	30	Implemented only for “ <a href="#">http-service</a> ” on page 69.
maxKeepAliveRequests	250	Remapped to the <code>max-connections</code> attribute of an “ <a href="#">http</a> ” on page 61 element.
traceEnabled	true	Remapped to the <code>trace-enabled</code> attribute of an “ <a href="#">http</a> ” on page 61 element.
cometSupport	false	Remapped to the <code>comet-support-enabled</code> attribute of an “ <a href="#">http</a> ” on page 61 element.
jdkEnabled	false	Remapped to the <code>jdk-enabled</code> attribute of a “ <a href="#">network-listener</a> ” on page 103 element.
compression	off	Remapped to the <code>compression</code> attribute of an “ <a href="#">http</a> ” on page 61 element.
compressableMimeType	<code>text/html</code> , <code>text/xml</code> , <code>text/plain</code>	Remapped to the <code>compressable-mime-type</code> attribute of an “ <a href="#">http</a> ” on page 61 element.

TABLE 1-62 http-listener Properties (Continued)

Property	Default	Description
noCompression UserAgents	emptyString (regexp matching disabled)	Remapped to the no-compression-user-agents attribute of an “http” on page 61 element.
minCompressionSize or compressionMinSize	none	Remapped to the compression-min-size-bytes attribute of an “http” on page 61 element.
crlFile	none	Remapped to the crl-file attribute of an “ssl” on page 127 element.
trustAlgorithm	none	Remapped to the trust-algorithm attribute of an “ssl” on page 127 element.
trustMaxCertLength	5	Remapped to the trust-max-cert-length attribute of an “ssl” on page 127 element.
disableUploadTimeout	true	Remapped to the upload-timeout-enabled attribute of an “http” on page 61 element.
connectionUpload Timeout	5	Remapped to the connection-upload-timeout-millis attribute of an “http” on page 61 element.
uriEncoding	UTF-8	Remapped to the uri-encoding attribute of an “http” on page 61 element.

## http-protocol

This element is not supported. If this element is present in the domain.xml file, its attributes are remapped to other elements and then it is deleted. For remapping details, see the Attributes table for this element.

### Superelements

“http-service” on page 69

### Subelements

none

### Attributes

The following table describes attributes for the http-protocol element.

TABLE 1-63 http-protocol Attributes

Attribute	Default	Description
version	HTTP/1.1	Remapped to the version attribute of an “http” on page 61 element.

TABLE 1-63 http-protocol Attributes (Continued)

Attribute	Default	Description
dns-lookup-enabled	false	Remapped to the dns-lookup-enabled attribute of an “http” on page 61 element.  (optional) If true, looks up the DNS entry for the client.
forced-type	text/html; charset=iso-8859-1	Remapped to the forced-response-type attribute of an “http” on page 61 element.
default-type	text/html; charset=iso-8859-1	Remapped to the default-response-type attribute of an “http” on page 61 element.
forced-response-type	text/plain; charset=iso-8859-1	Remapped to the forced-response-type attribute of an “http” on page 61 element.
default-response-type	text/plain; charset=iso-8859-1	Remapped to the default-response-type attribute of an “http” on page 61 element.
ssl-enabled	true	Not implemented. Use ssl subelements of “protocol” on page 110 elements.

## http-service

Defines the HTTP service.

### Superelements

“config” on page 35

### Subelements

The following table describes subelements for the http-service element.

TABLE 1-64 http-service Subelements

Element	Required	Description
“access-log” on page 22	zero or one	Defines access log settings for each “http-access-log” on page 64 subelement of each “virtual-server” on page 138.
“http-listener” on page 65	one or more	Not implemented. See the element description for attribute and property remapping.
“virtual-server” on page 138	one or more	Defines a virtual server.
“request-processing” on page 117	zero or one	Not implemented. See the element description for attribute remapping.
“keep-alive” on page 90	zero or one	Not implemented. See the element description for attribute remapping.

TABLE 1-64 http-service Subelements (Continued)

Element	Required	Description
<a href="#">“connection-pool” on page 37</a>	zero or one	Not implemented. See the element description for attribute remapping.
<a href="#">“http-protocol” on page 68</a>	zero or one	Not implemented. See the element description for attribute remapping.
<a href="#">“http-file-cache” on page 64</a>	zero or one	Not implemented. See the element description for attribute remapping.
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

## Attributes

The following table describes attributes for the `http-service` element.

TABLE 1-65 http-service Attributes

Attribute	Default	Description
<code>access-logging-enabled</code>	false	If true, enables access logging for all <code>virtual-server</code> subelements that specify this attribute as true or inherit. If false, disables access logging for all <code>virtual-server</code> subelements that specify this attribute as false or inherit.
<code>sso-enabled</code>	false	<p>If true, single sign-on is enabled by default for all web applications on all virtual servers on this server instance that are configured for the same realm. If false, single sign-on is disabled by default for all virtual servers, and users must authenticate separately to every application on each virtual server.</p> <p>A true or false setting of the <code>sso-enabled</code> property of the <a href="#">“virtual-server” on page 138</a> element overrides this setting for an individual virtual server. An inherit setting of the <code>sso-enabled</code> property of the <a href="#">“virtual-server” on page 138</a> element uses this setting for an individual virtual server.</p> <p>At the <code>http-service</code> level, you cannot change the <code>sso-max-inactive-seconds</code> and <code>sso-reap-interval-seconds</code> values from their defaults. However, you can change these values at the <code>virtual-server</code> level.</p>

## Properties

The following table describes properties for the `http-service` element that are still supported. These properties apply to all [“network-listener” on page 103](#) elements.

Most properties for this element are no longer supported. For information about how other properties have been remapped, see the Properties table for [“http-listener” on page 65](#).

TABLE 1-66 http-service Properties

Property	Default	Description
ssl-cache-entries	10000	Specifies the number of SSL sessions to be cached.
ssl3-session-timeout	86400	Specifies the interval at which SSL3 sessions are cached.
ssl-session-timeout	100	Specifies the interval at which SSL2 sessions are cached.
proxyHandler	com.sun.enterprise.web.ProxyHandlerImpl	<p>Specifies the fully qualified class name of a custom implementation of the <code>com.sun.appserv.ProxyHandler</code> abstract class, which allows a back-end application server instance to retrieve information about the original client request that was intercepted by an SSL-terminating proxy server. An implementation of this abstract class inspects a given request for the custom request headers through which the proxy server communicates the information about the original client request to the Enterprise Server instance, and returns that information to its caller.</p> <p>The default implementation reads the client IP address from an HTTP request header named <code>Proxy-ip</code>, the SSL key size from an HTTP request header named <code>Proxy-keysize</code>, and the SSL client certificate chain from an HTTP request header named <code>Proxy-auth-cert</code>. The <code>Proxy-auth-cert</code> value must contain the BASE-64 encoded client certificate chain without the BEGIN CERTIFICATE and END CERTIFICATE boundaries and with <code>\n</code> replaced with <code>%d%a</code>.</p> <p>Only used if the <code>auth-pass-through-enabled</code> attribute of the “<a href="#">network-listener</a>” on page 103 element’s grandchild “<a href="#">http</a>” on page 61 element is set to <code>true</code>.</p>
connectionTimeout	30	Specifies the number of seconds an HTTP “ <a href="#">network-listener</a> ” on page 103 waits, after accepting a connection, for the request URI line to be presented.

## iiop-listener

Defines an IIOP listen socket. To enable SSL for this listener, include an `ssl` subelement.

### Superelements

“[iiop-service](#)” on page 72

### Subelements

The following table describes subelements for the `iiop-listener` element.

TABLE 1-67 `iiop-listener` Subelements

Element	Required	Description
<a href="#">“ssl” on page 127</a>	zero or one	Defines SSL parameters.
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

## Attributes

The following table describes attributes for the `iiop-listener` element.

TABLE 1-68 `iiop-listener` Attributes

Attribute	Default	Description
<code>id</code>	none	The listener name. An <code>iiop-listener</code> name cannot begin with a number.
<code>address</code>	none	IP address of the listener. Can be in dotted-pair or IPv6 notation, or just a name.
<code>port</code>	1072	(optional) Port number for the listener. Legal values are 1 - 65535. On UNIX, creating sockets that listen on ports 1 - 1024 requires superuser privileges.
<code>security-enabled</code>	false	(optional) Determines whether the listener runs SSL. To turn SSL2 or SSL3 on or off and set ciphers, use an <code>ssl</code> element.
<code>enabled</code>	true	(optional) Determines whether the listener is active.

## `iiop-service`

Defines the IIOP service.

## Superelements

[“config” on page 35](#)

## Subelements

The following table describes subelements for the `iiop-service` element.

TABLE 1-69 `iiop-service` Subelements

Element	Required	Description
<a href="#">“orb” on page 105</a>	only one	Configures the ORB.
<a href="#">“ssl-client-config” on page 128</a>	zero or one	Defines SSL parameters for the ORB.
<a href="#">“iiop-listener” on page 71</a>	zero or more	Defines an IIOP listen socket.



## Attributes

The following table describes attributes for the `iiop-service` element.

TABLE 1–70 `iiop-service` Attributes

Attribute	Default	Description
<code>client-authentication-required</code>	false	(optional) If true, the server rejects unauthenticated requests and inserts an authentication-required bit in IORs sent to clients.

## J

### `j2ee-application`

This element is deprecated. Use an [“application” on page 26](#) element instead.

Specifies a deployed Java EE application.

### Superelements

[“applications” on page 30](#)

### Subelements

The following table describes subelements for the `j2ee-application` element.

TABLE 1–71 `j2ee-application` Subelements

Element	Required	Description
<a href="#">“description” on page 48</a>	zero or one	Contains a text description of this element.
<a href="#">“web-service-endpoint” on page 147</a>	zero or more	Configures a web service endpoint.
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

### Attributes

The following table describes attributes for the `j2ee-application` element.

TABLE 1-72 j2ee-application Attributes

Attribute	Default	Description
name	none	The name of the application.
location	none	A fully qualified or relative path to the directory to which the contents of the .ear file have been extracted. If relative, it is relative to the following directory: <i>domain-dir/applications/</i>
object-type	user	(optional) Defines the type of the resource. For an application, the only allowed value is <i>user</i> .
enabled	true	(optional) Determines whether the application is enabled.
libraries	none	(optional) Specifies an absolute or relative path to libraries specific to this module or application. A relative path is relative to <i>domain-dir/lib/applibs</i> . If the path is absolute, the path must be accessible to the domain administration server (DAS), which means it must be under <i>domain-dir</i> . To include more than one path, use a system-specific separator, such as a colon for Solaris or a semicolon for Windows. The libraries are made available to the application in the order in which they are specified.
directory-deployed	false	(optional) Specifies whether the application has been deployed as a directory.
java-web-start-enabled	true	(optional) Specifies whether Java Web Start access is permitted for application clients in this application.

## jacc-provider

Specifies a Java Authorization Contract for Containers (JACC) provider for pluggable authorization.

### Superelements

[“security-service” on page 121](#)

### Subelements

The following table describes subelements for the *jacc-provider* element.

TABLE 1-73 jacc-provider Subelements

Element	Required	Description
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

### Attributes

The following table describes attributes for the *jacc-provider* element.

TABLE 1-74 jacc-provider Attributes

Attribute	Default	Description
name	default	Specifies the name of the JACC provider.
policy-provider	com.sun.enterprise.security.provider.PolicyWrapper	Specifies the fully qualified class name of the JACC policy provider. Corresponds to and can be overridden by the system property <code>javax.security.jacc.policy.provider</code> .
policy-configuration-factory-provider	com.sun.enterprise.security.provider.PolicyConfigurationFactoryImpl	Specifies the fully qualified class name of the JACC policy configuration factory provider. Corresponds to and can be overridden by the system property <code>javax.security.jacc.PolicyConfigurationFactory.provider</code> .

## Properties

The following table describes properties for the `jacc-provider` element.

TABLE 1-75 jacc-provider Properties

Attribute	Default	Description
repository	<code>domain-dir/generated/policy</code>	Specifies the directory containing the policy file.

## java-config

Specifies the Virtual Machine for the Java platform (JVM software) configuration parameters.

## Superelements

[“config” on page 35](#)

## Subelements

The following table describes subelements for the `java-config` element.

TABLE 1-76 java-config Subelements

Element	Required	Description
<a href="#">“profiler” on page 108</a>	zero or one	Configures a profiler for use with the Enterprise Server.
<a href="#">“jvm-options” on page 90</a>	zero or more	Contains JVM command line options.
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

## Attributes

The following table describes attributes for the `java-config` element.

TABLE 1-77 `java-config` Attributes

Attribute	Default	Description
<code>java-home</code>	<code>\${com.sun.aas.javaRoot}</code>	The path to the directory where the JDK is installed.
<code>debug-enabled</code>	<code>false</code>	(optional) If <code>true</code> , the server starts up in debug mode ready for attachment with a JPDA-based debugger.
<code>debug-options</code>	<code>-Xdebug -Xrunjdpw: transport=dt_socket, server=y,suspend=n</code>	(optional) Specifies JPDA (Java Platform Debugger Architecture) options. A list of debugging options is available at <a href="http://java.sun.com/products/jpda/doc/conninv.html#Invocation">http://java.sun.com/products/jpda/doc/conninv.html#Invocation</a> .  For more information about debugging, see the <i>Sun GlassFish Enterprise Server v3 Application Development Guide</i> .
<code>rmic-options</code>	<code>-iio -poa -alwaysgenerate -keepgenerated -g</code>	(optional) Specifies options passed to the RMI compiler at application deployment time. The <code>-keepgenerated</code> option saves generated source for stubs and ties.  For details about the <code>rmic</code> command, see <a href="http://java.sun.com/javase/6/docs/technotes/tools/solaris/rmic.html">http://java.sun.com/javase/6/docs/technotes/tools/solaris/rmic.html</a> .
<code>javac-options</code>	<code>-g</code>	(optional) Specifies options passed to the Java compiler at application deployment time.
<code>classpath-suffix</code>	<code>none</code>	Not implemented. Do not use.
<code>system-classpath</code>	<code>none</code>	Not implemented. Do not use.
<code>native-library-path-prefix</code>	<code>none</code>	(optional) Specifies a prefix for the native library path.  The native library path is the automatically constructed concatenation of the Enterprise Server installation relative path for its native shared libraries, the standard JRE native library path, the shell environment setting ( <code>LD_LIBRARY_PATH</code> on UNIX), and any path specified in the <code>profiler</code> element. Since this is synthesized, it does not appear explicitly in the server configuration.
<code>native-library-path-suffix</code>	<code>none</code>	(optional) Specifies a suffix for the native library path.
<code>bytecode-preprocessors</code>	<code>none</code>	(optional) A comma separated list of class names, each of which must implement the <code>com.sun.appserv.BytecodePreprocessor</code> interface. Each of the specified preprocessor classes is called in the order specified.
<code>env-classpath-ignored</code>	<code>true</code>	Not implemented. Do not use.

## jdbc-connection-pool

Defines the properties that are required for creating a JDBC connection pool.

### Superelements

[“resources” on page 119](#)

### Subelements

The following table describes subelements for the `jdbc-connection-pool` element.

TABLE 1-78 `jdbc-connection-pool` Subelements

Element	Required	Description
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

### Attributes

The following table describes attributes for the `jdbc-connection-pool` element. Changing the following attributes requires a server restart: `datasource-classname`, `driver-classname`, `associate-with-thread`, `lazy-connection-association`, and `lazy-connection-enlistment`. In addition, when you change a `jdbc-connection-pool` configuration, you should also redeploy or disable and re-enable the referring modules and applications.

TABLE 1-79 `jdbc-connection-pool` Attributes

Attribute	Default	Description
<code>name</code>	none	Specifies the name of the connection pool. A <a href="#">“jdbc-resource” on page 83</a> element’s <code>pool-name</code> attribute refers to this name.
<code>description</code>	none	(optional) Specifies a text description of this element.
<code>datasource-classname</code>	none	(optional) Specifies the class name of the associated vendor-supplied data source. This class must implement <code>javax.sql.DataSource</code> , <code>javax.sql.XADataSource</code> , <code>javax.sql.ConnectionPoolDataSource</code> , or a combination.
<code>res-type</code>	none	(optional) Specifies the interface the data source class implements. The value of this attribute can be <code>javax.sql.DataSource</code> , <code>javax.sql.XADataSource</code> , <code>javax.sql.ConnectionPoolDataSource</code> , or <code>java.sql.Driver</code> . To support configuration of JDBC drivers and applications that use <code>java.sql.Driver</code> implementations, set this attribute to <code>java.sql.Driver</code> . This attribute must be specified to avoid ambiguity when a data source class implements two or more of these interfaces or when a <code>driver-classname</code> is specified. An error occurs if this attribute has a legal value and the indicated interface is not implemented by the data source class.

TABLE 1-79 jdbc-connection-pool Attributes (Continued)

Attribute	Default	Description
driver-classname	none	(optional) Specifies the vendor-supplied JDBC driver class name. This driver must implement the <code>java.sql.Driver</code> interface.
ping	false	(optional) Specifies whether to ping the pool during pool creation or reconfiguration to identify and warn of any erroneous attribute values.
steady-pool-size	8	(optional) Specifies the initial and minimum number of connections maintained in the pool.
max-pool-size	32	(optional) Specifies the maximum number of connections that can be created to satisfy client requests.
max-wait-time-in-millis	60000	(optional) Specifies the amount of time, in milliseconds, that the caller is willing to wait for a connection. If 0, the caller is blocked indefinitely until a resource is available or an error occurs.
pool-resize-quantity	2	(optional) Specifies the number of idle connections to be destroyed if the existing number of connections is above the <code>steady-pool-size</code> (subject to the <code>max-pool-size</code> limit).  This is enforced periodically at the <code>idle-timeout-in-seconds</code> interval. An idle connection is one that has not been used for a period of <code>idle-timeout-in-seconds</code> . When the pool size reaches <code>steady-pool-size</code> , connection removal stops.
idle-timeout-in-seconds	300	(optional) Specifies the maximum time that a connection can remain idle in the pool. After this amount of time, the pool can close this connection.  This timeout value must be kept shorter than the server side (database) timeout value to prevent the accumulation of unusable connections in the application.
transaction-isolation-level	default JDBC driver isolation level	(optional) Specifies the transaction isolation level on the pooled database connections. Allowed values are <code>read-uncommitted</code> , <code>read-committed</code> , <code>repeatable-read</code> , or <code>serializable</code> .  Applications that change the isolation level on a pooled connection programmatically risk polluting the pool, which can lead to errors. See <code>is-isolation-level-guaranteed</code> for more details.
is-isolation-level-guaranteed	true	(optional) Applicable only when <code>transaction-isolation-level</code> is explicitly set. If true, every connection obtained from the pool is guaranteed to have the desired isolation level. This might impact performance on some JDBC drivers. Only set this attribute to false if you are certain that the hosted applications do not return connections with altered isolation levels.
is-connection-validation-required	false	(optional) Specifies whether connections have to be validated before being given to the application. If a resource's validation fails, it is destroyed, and a new resource is created and returned.

TABLE 1-79 jdbc-connection-pool Attributes (Continued)

Attribute	Default	Description
connection-validation-method	table	<p>(optional) Legal values are as follows:</p> <ul style="list-style-type: none"> <li>■ auto-commit, which uses <code>Connection.setAutoCommit(Connection.getAutoCommit())</code></li> <li>■ meta-data, which uses <code>Connection.getMetaData()</code></li> <li>■ table, which performs a query on a table specified in the <code>validation-table-name</code> attribute</li> <li>■ custom-validation, which uses a user-defined validation mechanism specified by the custom implementation class in <code>validation-classname</code>.</li> </ul> <p>Because many JDBC drivers cache the results of <code>auto-commit</code> and <code>meta-data</code> calls, they do not always provide reliable validations. Check with the driver vendor to determine whether these calls are cached or not.</p> <p>The <code>table</code> must exist and be accessible, but it doesn't require any rows. Do not use an existing table that has a large number of rows or a table that is already frequently accessed. More details can be found at <a href="#">Connection Validation in GlassFish JDBC</a>.</p>
validation-table-name	none	<p>(optional) Specifies the table name to be used to perform a query to validate a connection. This parameter is mandatory if and only if <code>connection-validation</code> is enabled and <code>connection-validation-method</code> is set to <code>table</code>.</p>
validation-classname	none	<p>(optional) Specifies the custom validation implementation class name. This parameter is mandatory if and only if <code>connection-validation</code> is enabled and <code>connection-validation-method</code> is set to <code>custom-validation</code>. The classname provided must be accessible to the Enterprise Server. The specified class must implement the <code>org.glassfish.api.jdbc.ConnectionValidation</code> interface.</p> <p>Some of the built-in validation classes for commonly used databases are:</p> <pre>org.glassfish.jdbc.validation.DerbyConnectionValidation, org.glassfish.jdbc.validation.MySQLConnectionValidation, org.glassfish.jdbc.validation.OracleConnectionValidation, org.glassfish.jdbc.validation.PostgresConnectionValidation org.glassfish.jdbc.validation.JDBC40ConnectionValidation</pre> <p>The last class can apply to any JDBC 4.0 compliant driver.</p>
init-sql	none	<p>(optional) Specifies an SQL string to be executed whenever a physical connection to the database is created (not reused) from the pool. This initializes the state of the connection.</p>
fail-all-connections	false	<p>(optional) If <code>true</code>, closes all connections in the pool if a single validation check fails. This parameter is applicable if and only if <code>is-connection-validation-required</code> is set to <code>true</code>.</p>
non-transactional-connections	false	<p>(optional) If <code>true</code>, non-transactional connections can be made to the JDBC connection pool. These connections are not automatically enlisted with the transaction manager.</p>

TABLE 1-79 jdbc-connection-pool Attributes (Continued)

Attribute	Default	Description
allow-non-component-callers	false	(optional) If true, non-Java-EE components, such as servlet filters, lifecycle modules, and third party persistence managers, can use this JDBC connection pool. The returned connection is automatically enlisted with the transaction context obtained from the transaction manager. Standard Java EE components can also use such pools. Connections obtained by non-component callers are not automatically closed at the end of a transaction by the container. They must be explicitly closed by the caller.
validate-atmost-once-period-in-seconds	0	(optional) Specifies the time interval within which a connection is validated at most once. Minimizes the number of validation calls. A value of zero allows unlimited validation calls.
connection-leak-timeout-in-seconds	0	(optional) Detects potential connection leaks by the application. A connection that is not returned back to the pool by the application within the specified period is assumed to be potentially leaking, and a stack trace of the caller is logged. A zero value disables leak detection. A nonzero value enables leak tracing.  Use this attribute along with <code>connection-leak-reclaim</code> to avoid potential connection leaks from the application. More details are at <a href="#">Connection Leak Tracing</a> .
connection-leak-reclaim	false	(optional) If true, the pool will reclaim a connection after <code>connection-leak-timeout-in-seconds</code> occurs.
connection-creation-retry-attempts	0	(optional) Specifies the number of attempts to create a new connection in case of a failure.
connection-creation-retry-interval-in-seconds	10	(optional) Specifies the time interval between attempts to create a connection when <code>connection-creation-retry-attempts</code> is greater than 0.
statement-timeout-in-seconds	-1	(optional) Sets the query timeout property of a statement to enable termination of abnormally long running queries. The default value of -1 disables this feature.  An abnormally long running JDBC query executed by an application may leave it in a hanging state unless a timeout is explicitly set on the statement. This attribute guarantees that all queries automatically time out if not completed within the specified period. When statements are created, the <code>queryTimeout</code> is set according to the value specified in this attribute. This works only when the underlying JDBC driver supports <code>queryTimeout</code> for <code>Statement</code> , <code>PreparedStatement</code> , <code>CallableStatement</code> , and <code>ResultSet</code> .
lazy-connection-enlistment	false	(optional) If true, a connection is not enlisted in a transaction until it is used. If false, any connection object available to a transaction is enlisted in the transaction.
lazy-connection-association	false	(optional) If true, a physical connection is not associated with a logical connection until it is used. If false, a physical connection is associated with a logical connection even before it is used.



TABLE 1-79 jdbc-connection-pool Attributes (Continued)

Attribute	Default	Description
associate-with-thread	false	<p>(optional) Specifies whether connections are associated with the thread to enable the thread to reuse the connections. If <code>true</code>, allows connections to be saved as <code>ThreadLocal</code> in the calling thread. Connections get reclaimed only when the calling thread dies or when the calling thread is not in use and the pool has run out of connections. If <code>false</code>, the thread must obtain a connection from the pool each time the thread requires a connection.</p> <p>This attribute associates connections with a thread such that when the same thread is in need of connections, it can reuse the connections already associated with that thread. In this case, the overhead of getting connections from the pool is avoided. However, when this value is set to <code>true</code>, you should verify that the value of the <code>max-pool-size</code> attribute is comparable to the <code>max-thread-pool-size</code> attribute of the “<a href="#">thread-pool</a>” on page 132 element. If the <code>max-thread-pool-size</code> value is much higher than the <code>max-pool-size</code> value, a lot of time is spent associating connections with a new thread after dissociating them from an older one. Use this attribute in cases where the thread pool should reuse connections to avoid this overhead.</p>
match-connections	false	<p>(optional) Specifies whether a connection that is selected from the pool should be matched with the connections with certain credentials. If <code>true</code>, enables connection matching. You can set to <code>false</code> if connections are homogeneous.</p> <p>If the connection pool is used by applications that have multiple user credentials, <code>match-connections</code> must be <code>true</code>. The connection pool matches the request's credential with the connections in the pool and returns a matched connection for use. For new requests with different credentials, unmatched free connections are automatically purged to provide new connections to satisfy the new requests. This attribute need not be <code>true</code> if it is known that there is only one credential used by the applications and therefore the pool has homogeneous connections.</p>
max-connection-usage-count	0	(optional) Specifies the number of times a connection is reused by the pool, after which it is closed. A zero value disables this feature. By limiting the maximum number of times a connection can be reused, you can avoid statement leaks if the application does not close statements.
sql-trace-listeners	none	(optional) Specifies that SQL statements executed by applications need to be traced. Helps administrators analyze the statements. Expects as a value a comma-separated list of listener implementation class names. Enables easy filtering of log messages for the SQL statements. SQL trace listeners must implement the <code>org.glassfish.api.jdbc.SQLTraceListener</code> interface.
statement-cache-size	0	(optional) Specifies the number of statements to be cached using the <code>lru</code> (Least Recently Used) caching mechanism. The default value of <code>0</code> disables statement caching.
pooling	true	(optional) If <code>false</code> , disables connection pooling.

TABLE 1-79 jdbc-connection-pool Attributes (Continued)

Attribute	Default	Description
wrap-jdbc-objects	true	(optional) If true, wrapped JDBC objects are returned for Statement, PreparedStatement, CallableStatement, ResultSet, and DatabaseMetaData.  This option ensures that Statement.getConnection() is the same as DataSource.getConnection(). Therefore, this option should be true when both Statement.getConnection() and DataSource.getConnection() are done.

## Properties

Most JDBC drivers allow use of standard property lists to specify the user, password, and other resource configuration information. Although properties are optional with respect to the Enterprise Server, some properties might be necessary for most databases. For details, see the JDBC 4.0 Standard Extension API.

When properties are specified, they are passed to the vendor's data source class (specified by the `datasource-classname` attribute) as is using `setName(value)` methods.

The `user` and `password` properties are used as the default principal if container managed authentication is specified and a `default-resource-principal` is not found in the application deployment descriptors.

The following table describes some common properties for the `jdbc-connection-pool` element.

Changing JDBC driver properties requires a server restart.

TABLE 1-80 jdbc-connection-pool Properties

Property	Description
<code>user</code>	Specifies the user name for connecting to the database.
<code>password</code>	Specifies the password for connecting to the database.
<code>databaseName</code>	Specifies the database for this connection pool.
<code>serverName</code>	Specifies the database server for this connection pool.
<code>port</code>	Specifies the port on which the database server listens for requests.
<code>networkProtocol</code>	Specifies the communication protocol.
<code>roleName</code>	Specifies the initial SQL role name.
<code>datasourceName</code>	Specifies an underlying XADataSource, or a ConnectionPoolDataSource if connection pooling is done.
<code>description</code>	Specifies a text description.

TABLE 1-80 jdbc-connection-pool Properties (Continued)

Property	Description
url	Specifies the URL for this connection pool. Although this is not a standard property, it is commonly used.
prefer-validate-over-recreate	Specifies that validating idle connections is preferable to closing them. This property has no effect on non-idle connections. If set to <code>true</code> , idle connections are validated during pool resizing, and only those found to be invalid are destroyed and recreated. If <code>false</code> , all idle connections are destroyed and recreated during pool resizing. The default is <code>false</code> .
LazyConnectionEnlistment	Deprecated. Use the equivalent attribute.
LazyConnectionAssociation	Deprecated. Use the equivalent attribute.
AssociateWithThread	Deprecated. Use the equivalent attribute.
MatchConnections	Deprecated. Use the equivalent attribute.

## jdbc-resource

Defines a JDBC (`javax.sql.DataSource`) resource.

### Superelements

[“resources” on page 119](#)

### Subelements

The following table describes subelements for the `jdbc-resource` element.

TABLE 1-81 jdbc-resource Subelements

Element	Required	Description
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

### Attributes

The following table describes attributes for the `jdbc-resource` element.

TABLE 1-82 jdbc-resource Attributes

Attribute	Default	Description
jni-name	none	Specifies the JNDI name for the resource.

TABLE 1-82 jdbc-resource Attributes (Continued)

Attribute	Default	Description
description	none	(optional) Specifies a text description of this element.
pool-name	none	Specifies the name of the associated “ <a href="#">jdbc-connection-pool</a> ” on page 77.
object-type	user	(optional) Defines the type of the resource. Allowed values are: <ul style="list-style-type: none"> <li>▪ system-all - A system resource for all server instances and the domain application server.</li> <li>▪ system-admin - A system resource only for the domain application server.</li> <li>▪ system-instance - A system resource for all server instances only.</li> <li>▪ user - A user resource.</li> </ul>
enabled	true	(optional) Determines whether this resource is enabled at runtime.

## jms-host

Configures the host of the built-in Java Message Service (JMS) that is managed by the Enterprise Server.

### Superelements

“[jms-service](#)” on page 85

### Subelements

The following table describes subelements for the `jms-host` element.

TABLE 1-83 jms-host Subelements

Element	Required	Description
“ <a href="#">property</a> ” on page 109	zero or more	Specifies a property or a variable.

### Attributes

The following table describes attributes for the `jms-host` element.

TABLE 1-84 jms-host Attributes

Attribute	Default	Description
name	none	Specifies the name of the JMS host.
host	<i>machine-name</i>	(optional) Specifies the host name of the JMS host.

TABLE 1-84 `.jms-host` Attributes (Continued)

Attribute	Default	Description
<code>port</code>	7676	(optional) Specifies the port number used by the JMS provider.
<code>admin-user-name</code>	admin	(optional) Specifies the administrator user name for the JMS provider.
<code>admin-password</code>	admin	(optional) Specifies the administrator password for the JMS provider.

## `.jms-service`

Configures the built-in Java Message Service (JMS) that is managed by the Enterprise Server.

### Superelements

[“config” on page 35](#)

### Subelements

The following table describes subelements for the `.jms-service` element.

TABLE 1-85 `.jms-service` Subelements

Element	Required	Description
<a href="#">“jms-host” on page 84</a>	zero or more	Specifies a host.
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

### Attributes

The following table describes attributes for the `.jms-service` element.

TABLE 1-86 `.jms-service` Attributes

Attribute	Default	Description
<code>init-timeout-in-seconds</code>	60	(optional) Specifies the amount of time the server instance waits at startup for its configured default JMS host to respond. If there is no response, startup is aborted. If set to 0, the server instance waits indefinitely.

TABLE 1-86 `jms-service` Attributes (Continued)

Attribute	Default	Description
<code>type</code>	EMBEDDED	Specifies the type of JMS service: <ul style="list-style-type: none"> <li>■ EMBEDDED means the JMS provider is started in the same JVM machine as the Enterprise Server, and the networking stack is bypassed. Lazy initialization starts the default embedded broker on the first access of JMS services rather than at Enterprise Server startup.</li> <li>■ LOCAL means the JMS provider is started along with the Enterprise Server. The LOCAL setting implicitly sets up a 1:1 relationship between an Enterprise Server instance and a Message Queue broker.</li> <li>■ REMOTE means the JMS provider is remote and is not started by the Enterprise Server.</li> </ul>
<code>start-args</code>	none	(optional) Specifies the string of arguments supplied for startup of the corresponding JMS instance.
<code>default-jms-host</code>	none	Specifies the name of the default “ <code>jms-host</code> ” on page 84. If <code>type</code> is set to LOCAL, this <code>jms-host</code> is automatically started at Enterprise Server startup.
<code>reconnect-interval-in-seconds</code>	5	(optional) Specifies the interval between reconnect attempts.
<code>reconnect-attempts</code>	3	(optional) Specifies the number of reconnect attempts.
<code>reconnect-enabled</code>	true	(optional) If true, reconnection is enabled. The JMS service automatically tries to reconnect to the JMS provider when the connection is broken.  When the connection is broken, depending on the message processing stage, the <code>onMessage()</code> method might not be able to complete successfully or the transaction might be rolled back due to a JMS exception. When the JMS service reestablishes the connection, JMS message redelivery semantics apply.
<code>addresslist-behavior</code>	random	(optional) Specifies whether the reconnection logic selects the broker from the <code>imqAddressList</code> in a random or sequential (priority) fashion.
<code>addresslist-iterations</code>	3	(optional) Specifies the number of times the reconnection logic iterates over the <code>imqAddressList</code> if <code>addresslist-behavior</code> is set to PRIORITY.
<code>mq-scheme</code>	mq	(optional) Specifies the scheme for establishing connection with the broker. For example, specify <code>http</code> for connecting to the broker over HTTP.
<code>mq-service</code>	jms	(optional) Specifies the type of broker service. If a broker supports SSL, the type of service can be <code>ssljms</code> .

## Properties

The following table describes properties for the `jms-service` element.

TABLE 1-87 jms-service Properties

Property	Default	Description
instance-name	imqbroker	Specifies the full Sun GlassFish Message Queue broker instance name.
instance-name-suffix	none	Specifies a suffix to add to the full Message Queue broker instance name. The suffix is separated from the instance name by an underscore character (_). For example, if the instance name is imqbroker, appending the suffix xyz changes the instance name to imqbroker_xyz.
append-version	false	If true, appends the major and minor version numbers, preceded by underscore characters (_), to the full Message Queue broker instance name. For example, if the instance name is imqbroker, appending the version numbers changes the instance name to imqbroker_8_0.
user-name	guest	Specifies the user name for creating the JMS connection. Needed only if the default username/password of guest/guest is not available in the broker.
password	guest	Specifies the password for creating the JMS connection. Needed only if the default username/password of guest/guest is not available in the broker.

## jmx-connector

Configures a JSR 160/255 compliant remote JMX connector, which handles the JMX communication between the domain administration server, the node agents, and the remote server instances. This JMX connector also handles JMX communication between an external management client and the domain administration server.

Only the system JMX connector is started by the server processes at startup. Do not configure additional JMX connectors.

### Superelements

[“admin-service” on page 24](#)

### Subelements

The following table describes subelements for the `jmx-connector` element.

TABLE 1-88 jmx-connector Subelements

Element	Required	Description
<a href="#">“ssl” on page 127</a>	zero or one	Defines SSL parameters.
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

### Attributes

The following table describes attributes for the `jmx-connector` element.

TABLE 1-89 jmx-connector Attributes

Attribute	Default	Description
name	none	Specifies the name of the connector used by the designated system JMX connector for JMX communication between server instances. Do not modify this name.
protocol	rmi_j rmp	(optional) Specifies the protocol that this JMX connector supports. The only supported protocol is rmi_j rmp. Do not modify this value.
address	0.0.0.0	Specifies the IP address of the naming service where the JMX connector server stub is registered. This is not the port of the server socket that does the actual JMX communication. This is the address of the network interface where the RMI registry is started. If your system has multiple network interfaces, modify this value so that only a particular interface is selected.
port	8686	Specifies the port number on which the naming service (RMI registry) listens for RMI client connections. The only use of this naming service is to download the RMI stubs. If the default port is occupied, a free port is used. Legal values are 1 - 65535. On UNIX, creating sockets that listen on ports 1 - 1024 requires superuser privileges.
auth-realm-name	admin-realm	Specifies the name of an “auth-realm” on page 32 subelement of the “security-service” on page 121 element for the server instance that is running this JMX connector's server end. Note that this is a dedicated administration security realm.
security-enabled	false	(optional) Determines whether JMX communication is encrypted.
enabled	true	(optional) Enables the JMX connector. Do not modify this value.

## jrubby-container

Configures the JRuby container. This element is present only if at least one JRuby application is deployed.

### Superelements

[“config” on page 35](#)

### Subelements

The following table describes subelements for the jrubby-container element.

TABLE 1-90 jrubby-container Subelements

Element	Required	Description
<a href="#">“jruby-runtime-pool” on page 89</a>	only one	Configures the JRuby runtime pool.



## Attributes

The following table describes attributes for the `jruby-container` element.

TABLE 1-91 `jruby-container` Attributes

Attribute	Default	Description
<code>jruby-home</code>	<i>as-install/jruby</i>	Specifies the directory where JRuby itself (not the Enterprise Server JRuby container) is installed. Overridden by the <code>jruby.home</code> property of “ <a href="#">application</a> ” on page 26 if defined.

## `jruby-runtime-pool`

Configures the JRuby runtime pool. This element is present only if at least one JRuby application is deployed.

### Superelements

“[jruby-container](#)” on page 88

### Subelements

none

## Attributes

The following table describes attributes for the `jruby-runtime-pool` element.

TABLE 1-92 `jruby-runtime-pool` Attributes

Attribute	Default	Description
<code>jruby-runtime</code>	1	Specifies the initial number of JRuby runtimes to start. Must be greater than zero, at least <code>jruby-runtime-min</code> , and <code>jruby-runtime-max</code> or less. Overridden by the <code>jruby.runtime</code> property of “ <a href="#">application</a> ” on page 26 if defined.
<code>jruby-runtime-min</code>	1	Specifies the minimum number of JRuby runtimes in the pool. Must be greater than zero, <code>jruby-runtime</code> or less, and <code>jruby-runtime-max</code> or less. Overridden by the <code>jruby.runtime.min</code> property of “ <a href="#">application</a> ” on page 26 if defined.
<code>jruby-runtime-max</code>	1	Specifies the maximum number of JRuby runtimes in the pool. Must be greater than zero, at least <code>jruby-runtime-min</code> and at least <code>jruby-runtime</code> . Overridden by the <code>jruby.runtime.max</code> property of “ <a href="#">application</a> ” on page 26 if defined.

## jvm-options

Contains JVM command line options, for example:

```
<jvm-options>-Xdebug -Xmx128m</jvm-options>
```

For information about JVM options, see <http://java.sun.com/docs/hotspot/VMOptions.html>.

### Superelements

“java-config” on page 75, “profiler” on page 108

### Subelements

none - contains data

## K

## keep-alive

This element is not supported. If this element is present in the `domain.xml` file, its attributes are remapped to other elements and then it is deleted. For remapping details, see the Attributes table for this element.

### Superelements

“http-service” on page 69

### Subelements

none

### Attributes

The following table describes attributes for the `keep-alive` element.

TABLE 1-93 keep-alive Attributes

Attribute	Default	Description
thread-count	1	Not implemented. Do not use.

TABLE 1-93 keep-alive Attributes (Continued)

Attribute	Default	Description
max-connections	250	Remapped to the max-connections attribute of an “http” on page 61 element.
timeout-in-seconds	30	Remapped to the timeout-seconds attribute of an “http” on page 61 element.

## L

### lifecycle-module

This element is deprecated. Use an “application” on page 26 element instead.

Specifies a deployed lifecycle module. For more information about lifecycle modules, see the *Sun GlassFish Enterprise Server v3 Application Development Guide*.

#### Superelements

“applications” on page 30

#### Subelements

The following table describes subelements for the lifecycle-module element.

TABLE 1-94 lifecycle-module Subelements

Element	Required	Description
“description” on page 48	zero or one	Contains a text description of this element.
“property” on page 109	zero or more	Specifies a property or a variable.

#### Attributes

The following table describes attributes for the lifecycle-module element.

TABLE 1-95 lifecycle-module Attributes

Attribute	Default	Description
name	none	The name of the lifecycle module.
class-name	none	The fully qualified name of the lifecycle module’s class file, which must implement the <code>com.sun.appserv.server.LifecycleListener</code> interface.

TABLE 1-95 `lifecycle-module` Attributes (Continued)

Attribute	Default	Description
<code>classpath</code>	value of <code>application-root</code> attribute of “ <code>domain</code> ” on page 49 element	(optional) The classpath for the lifecycle module. Specifies where the module is located.
<code>load-order</code>	none	(optional) Determines the order in which lifecycle modules are loaded at startup. Modules with smaller integer values are loaded sooner. Values can range from 101 to the operating system’s <code>MAXINT</code> . Values from 1 to 100 are reserved.
<code>is-failure-fatal</code>	false	(optional) Determines whether the server is shut down if the lifecycle module fails.
<code>object-type</code>	user	(optional) Defines the type of the resource. For a lifecycle module, the only allowed value is <code>user</code> .
<code>enabled</code>	true	(optional) Determines whether the lifecycle module is enabled.

## log-service

Configures the *server log* file, which stores messages from the default virtual server. Messages from other configured virtual servers also go here, unless the `log-file` or `access-log` attribute is explicitly specified in the `virtual-server` element. The default name is `server.log`.

Other log files are configured by other elements:

- A *virtual server log* file stores messages from a `virtual-server` element that has an explicitly specified `log-file` attribute. See “[virtual-server](#)” on page 138.
- The *access log* file stores HTTP access messages from the default virtual server. The default name is `access.log`. See “[access-log](#)” on page 22 and “[http-access-log](#)” on page 64.
- The *transaction log* files store transaction messages from the default virtual server. The default name of the directory for these files is `tx`. See “[transaction-service](#)” on page 133.

## Superelements

“[config](#)” on page 35

## Subelements

The following table describes subelements for the `log-service` element.

TABLE 1-96 log-service Subelements

Element	Required	Description
“module-log-levels” on page 100	zero or one	Specifies log levels.
“property” on page 109	zero or more	Specifies a property or a variable.

## Attributes

The following table describes attributes for the log-service element.

TABLE 1-97 log-service Attributes

Attribute	Default	Description
file	server.log in the directory specified by the log-root attribute of the “domain” on page 49 element	(optional) Overrides the name or location of the server log. The file and directory in which the server log is kept must be writable by the user account under which the server runs.  An absolute path overrides the log-root attribute of the “domain” on page 49 element.  A relative path is relative to the log-root attribute of the “domain” on page 49 element. If no log-root value is specified, it is relative to <i>domain-dir/config</i> .
use-system-logging	false	(optional) If true, uses the UNIX syslog service to produce and manage logs.
log-handler	java.util.logging.ConsoleHandler	(optional) Specifies a custom log handler to be added to end of the chain of system handlers to log to a different destination.
log-filter	none	(optional) Specifies a log filter to do custom filtering of log records.
log-to-console	false	(optional) Deprecated and ignored.
log-rotation-limit-in-bytes	2000000	(optional) Log files are rotated when the file size reaches the specified limit.
log-rotation-timelimit-in-minutes	0	(optional) Enables time-based log rotation. The valid range is 60 minutes (1 hour) to 14400 minutes (10*24*60 minutes or 10 days).  If the value is zero, the files are rotated based on the size specified in log-rotation-limit-in-bytes. If the value is greater than zero, log-rotation-timelimit-in-minutes takes precedence over log-rotation-limit-in-bytes.
alarms	false	(optional) If true, displays alarms for “module-log-levels” on page 100 values of WARNING or SEVERE.
retain-error-statistics-for-hours	0	(optional) Specifies the number of most recent hours for which error statistics are retained in memory. The default and minimum value is 5 hours. The maximum value allowed is 500 hours. Larger values incur additional memory overhead.

## Properties

The following table describes properties for the `log-service` element.

TABLE 1-98 `log-service` Properties

Attribute	Default	Description
<code>max-queue-size</code>	5000	Specifies the number of entries the log queue holds. When the log queue is full, the system blocks until a record is written to the log file. Changing this property requires a server restart.
<code>flush-frequency</code>	1	Specifies the maximum number of messages written from the log queue to the log file at once.

## M

### mail-resource

Defines a JavaMail (`javax.mail.Session`) resource.

#### Superelements

[“resources” on page 119](#)

#### Subelements

The following table describes subelements for the `mail-resource` element.

TABLE 1-99 `mail-resource` Subelements

Element	Required	Description
<a href="#">“description” on page 48</a>	zero or one	Contains a text description of this element.
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

#### Attributes

The following table describes attributes for the `mail-resource` element.

TABLE 1-100 mail-resource Attributes

Attribute	Default	Description
jndi-name	none	Specifies the JNDI name for the resource.
store-protocol	imap	(optional) Specifies the storage protocol service, which connects to a mail server, retrieves messages, and saves messages in folder(s). Allowed values are <code>imap</code> , <code>pop3</code> , <code>imaps</code> , and <code>pop3s</code> .
store-protocol-class	<code>com.sun.mail.imap.IMAPStore</code>	(optional) Specifies the service provider implementation class for storage. Allowed values are: <code>com.sun.mail.imap.IMAPStore</code> <code>com.sun.mail.pop3.POP3Store</code> <code>com.sun.mail.imap.IMAPSSLStore</code> <code>com.sun.mail.pop3.POP3SSLStore</code>
transport-protocol	smtp	(optional) Specifies the transport protocol service, which sends messages. Allowed values are <code>smtp</code> and <code>smtps</code> .
transport-protocol-class	<code>com.sun.mail.smtp.SMTPTransport</code>	(optional) Specifies the service provider implementation class for transport. Allowed values are: <code>com.sun.mail.smtp.SMTPTransport</code> <code>com.sun.mail.smtp.SMTPSSLTransport</code>
host	none	The mail server host name.
user	none	The mail server user name.
from	none	The email address the mail server uses to indicate the message sender.
debug	false	(optional) Determines whether debugging for this resource is enabled.
object-type	user	(optional) Defines the type of the resource. Allowed values are: <ul style="list-style-type: none"> <li>■ <code>system-all</code> - A system resource for all server instances and the domain application server.</li> <li>■ <code>system-admin</code> - A system resource only for the domain application server.</li> <li>■ <code>system-instance</code> - A system resource for all server instances only.</li> <li>■ <code>user</code> - A user resource.</li> </ul>
enabled	true	(optional) Determines whether this resource is enabled at runtime.

## Properties

You can set properties for the `mail`-resource element and then get these properties in a `JavaMailSession` object later. Every property name must start with a `mail`-prefix. The Enterprise Server changes the dash (-) character to a period (.) in the name of the property,

then saves the property to the `MailConfiguration` and `JavaMailSession` objects. If the name of the property doesn't start with `mail-`, the property is ignored.

For example, to define the property `mail.password` in a `JavaMailSession` object, first edit `domain.xml` as follows:

```
...
<mail-resource jndi-name="mail/Session" ...>
  <property name="mail-password" value="adminadmin"/>
</mail-resource>
...
```

After getting the `JavaMailSession` object, get the `mail.password` property to retrieve the value `adminadmin`, as follows:

```
String password = session.getProperty("mail.password");
```

For more information about `JavaMail` properties, see [JavaMail API Documentation](http://java.sun.com/products/javamail/javadocs/index.html) (<http://java.sun.com/products/javamail/javadocs/index.html>).

## manager-properties

Specifies session manager properties.

### Superelements

[“session-manager” on page 125](#)

### Subelements

The following table describes subelements for the `manager-properties` element.

TABLE 1-101 `manager-properties` Subelements

Element	Required	Description
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

### Attributes

The following table describes attributes for the `manager-properties` element.



TABLE 1-102 manager-properties Attributes

Attribute	Default	Description
session-file-name	none; state is not preserved across restarts	(optional) Specifies the absolute or relative path to the directory in which the session state is preserved between application restarts, if preserving the state is possible. A relative path is relative to the temporary directory for this web application.  To disable this behavior and not preserve the session state, specify an empty string as the value of this attribute.
reap-interval-in-seconds	60	(optional) Specifies the time between checks for expired sessions.  If the persistence-frequency attribute of the web-container-availability element is set to time-based, active sessions are stored at this interval.  Set this value lower than the frequency at which session data changes. For example, this value should be as low as possible (1 second) for a hit counter servlet on a frequently accessed web site, or you could lose the last few hits each time you restart the server.
max-sessions	-1	(optional) Specifies the maximum number of sessions that can be in cache, or -1 for no limit. After this, an attempt to create a new session causes an <code>IllegalStateException</code> to be thrown.
session-id-generator-classname	internal class generator	(optional) Not implemented.

## mdb-container

Configures the message-driven bean (MDB) container.

### Superelements

[“config” on page 35](#)

### Subelements

The following table describes subelements for the `mdb-container` element.

TABLE 1-103 mdb-container Subelements

Element	Required	Description
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

### Attributes

The following table describes attributes for the `mdb-container` element.

TABLE 1-104 mdb-container Attributes

Attribute	Default	Description
steady-pool-size	10	(optional) Specifies the initial and minimum number of beans maintained in the pool.
pool-resize-quantity	2	(optional) Specifies the number of beans to be removed when the <code>idle-timeout-in-seconds</code> timer expires. A cleaner thread removes any unused instances. Must be 0 or greater and less than <code>max-pool-size</code> . The pool is not resized below the <code>steady-pool-size</code> .
max-pool-size	60	(optional) Specifies the maximum number of beans that can be created to satisfy client requests.
idle-timeout-in-seconds	600	(optional) Specifies the maximum time that a bean can remain idle in the pool. After this amount of time, the bean is destroyed. A value of 0 means a bean can remain idle indefinitely.

## Properties

The following table describes properties for the `mdb-container` element.

TABLE 1-105 mdb-container Properties

Property	Default	Description
<code>cmt-max-runtime-exceptions</code>	1	Specifies the maximum number of <code>RuntimeException</code> occurrences allowed from a message-driven bean's <code>onMessage()</code> method when container-managed transactions are used. Deprecated.

## message-security-config

Specifies configurations for message security providers.

### Superelements

[“security-service” on page 121](#)

### Subelements

The following table describes subelements for the `message-security-config` element.

TABLE 1-106 message-security-config Subelements

Element	Required	Description
<a href="#">“provider-config” on page 114</a>	one or more	Specifies a configuration for one message security provider.

### Attributes

The following table describes attributes for the `message-security-config` element.

TABLE 1-107 message-security-config Attributes

Attribute	Default	Description
auth-layer	HttpServlet	Specifies the message layer at which authentication is performed. The value must be SOAP or HttpServlet.
default-provider	none	(optional) Specifies the server provider that is invoked for any application not bound to a specific server provider.
default-client-provider	none	(optional) Specifies the client provider that is invoked for any application not bound to a specific client provider.

## module

Defines a stand-alone module or a component of a Java EE application.

An “[engine](#)” on [page 54](#) runs a sniffer during deployment, which is responsible for identifying a type of deployment artifact (such as a WAR file) and setting up the associated container (such as the web container). Multiple engines, each with its own sniffer, can be associated with a given module.

### Superelements

“[application](#)” on [page 26](#)

### Subelements

The following table describes subelements for the module element.

TABLE 1-108 module Subelements

Element	Required	Description
“ <a href="#">engine</a> ” on <a href="#">page 54</a>	one or more	Specifies an engine.
“ <a href="#">property</a> ” on <a href="#">page 109</a>	zero or more	Specifies a property or a variable.

### Attributes

The following table describes attributes for the module element.

TABLE 1-109 module Attributes

Attribute	Default	Description
name	none	The name of the module.

## module-log-levels

Controls the level of messages logged by server subsystems to the server log. Allowed values (levels) of each subsystem attribute are, from highest to lowest: FINEST , FINER, FINE, CONFIG, INFO, WARNING, SEVERE, and OFF. Each value logs all messages for all lower values. The default value is INFO, which logs all INFO, SEVERE , and WARNING messages.

### Superelements

[“log-service” on page 92](#)

### Subelements

The following table describes subelements for the `module-log-levels` element.

TABLE 1-110 `module-log-levels` Subelements

Element	Required	Description
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

### Attributes

The following table describes attributes for the `module-log-levels` element. The attribute names are the names of the Enterprise Server system loggers.

TABLE 1-111 `module-log-levels` Attributes

Attribute	Default	Description
<code>root</code>	INFO	(optional) Specifies the default level of messages logged by the entire Enterprise Server installation.
<code>server</code>	INFO	(optional) Specifies the default level of messages logged by the server instance.
<code>ejb-container</code>	INFO	(optional) Specifies the level of messages logged by the EJB container.
<code>cmp-container</code>	INFO	(optional) Specifies the level of messages logged by the CMP subsystem of the EJB container.
<code>mdb-container</code>	INFO	(optional) Specifies the level of messages logged by the MDB container.
<code>web-container</code>	INFO	(optional) Specifies the level of messages logged by the web container.
<code>classloader</code>	INFO	(optional) Specifies the level of messages logged by the classloader hierarchy.
<code>configuration</code>	INFO	(optional) Specifies the level of messages logged by the configuration subsystem.
<code>naming</code>	INFO	(optional) Specifies the level of messages logged by the naming subsystem.
<code>security</code>	INFO	(optional) Specifies the level of messages logged by the security subsystem.

TABLE 1-111 module-log-levels Attributes (Continued)

Attribute	Default	Description
jts	INFO	(optional) Specifies the level of messages logged by the Java Transaction Service.
jta	INFO	(optional) Specifies the level of messages logged by the Java Transaction API.
admin	INFO	(optional) Specifies the level of messages logged by the Administration Console subsystem.
deployment	INFO	(optional) Specifies the level of messages logged by the deployment subsystem.
verifier	INFO	(optional) Specifies the level of messages logged by the deployment descriptor verifier.
jaxr	INFO	(optional) Specifies the level of messages logged by the XML registry.
jaxrpc	INFO	(optional) Specifies the level of messages logged by the XML RPC module.
saaaj	INFO	(optional) Specifies the level of messages logged by the SOAP with Attachments API for Java module.
corba	INFO	(optional) Specifies the level of messages logged by the ORB.
javamail	INFO	(optional) Specifies the level of messages logged by the JavaMail subsystem.
jms	INFO	(optional) Specifies the level of messages logged by the Java Message Service.
connector	INFO	(optional) Specifies the level of messages logged by the connector subsystem.
jdo	INFO	(optional) Specifies the level of messages logged by the Java Data Objects module.
cmp	INFO	(optional) Specifies the level of messages logged by the CMP subsystem.
util	INFO	(optional) Specifies the level of messages logged by the utility subsystem.
resource-adapter	INFO	(optional) Specifies the level of messages logged by the resource adapter subsystem.
synchronization	INFO	(optional) Specifies the level of messages logged by the synchronization subsystem.
node-agent	INFO	(optional) Specifies the level of messages logged by the node agent subsystem.
self-management	INFO	(optional) Specifies the level of messages logged by the self-management (management rules) subsystem.
group-management-service	INFO	(optional) Specifies the level of messages logged by the Group Management Service.
management-event	INFO	(optional) Specifies the level of messages logged by the self-management event subsystem.

## module-monitoring-levels

Controls the level of monitoring of server subsystems. Allowed values of each subsystem attribute are LOW, HIGH, and OFF.

### Superelements

[“monitoring-service” on page 102](#)

## Subelements

The following table describes subelements for the `module-monitoring-levels` element.

TABLE 1-112 `module-monitoring-levels` Subelements

Element	Required	Description
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

## Attributes

TABLE 1-113 `module-monitoring-levels` Attributes

Attribute	Default	Description
<code>thread-pool</code>	OFF	(optional) Specifies the level of monitoring of the thread pool subsystem.
<code>orb</code>	OFF	(optional) Specifies the level of monitoring of the ORB.
<code>ejb-container</code>	OFF	(optional) Specifies the level of monitoring of the EJB container.
<code>web-container</code>	OFF	(optional) Specifies the level of monitoring of the web container.
<code>transaction-service</code>	OFF	(optional) Specifies the level of monitoring of the transaction service.
<code>http-service</code>	OFF	(optional) Specifies the level of monitoring of the HTTP service.
<code>jdbc-connection-pool</code>	OFF	(optional) Specifies the level of monitoring of the JDBC connection pool subsystem.
<code>connector-connection-pool</code>	OFF	(optional) Specifies the level of monitoring of the connector connection pool subsystem.
<code>connector-service</code>	OFF	(optional) Specifies the level of monitoring of the connector service.
<code>jms-service</code>	OFF	(optional) Specifies the level of monitoring of the JMS service.
<code>jvm</code>	OFF	(optional) Specifies the level of monitoring of the JVM subsystem.

## monitoring-service

Configures the monitoring service.

## Superelements

[“config” on page 35](#)

## Subelements

The following table describes subelements for the `monitoring-service` element.

TABLE 1-114 monitoring-service Subelements

Element	Required	Description
<a href="#">“module-monitoring-levels” on page 101</a>	zero or one	Controls the level of monitoring of server subsystems.
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

## N

### network-config

Configures the communication network for the Enterprise Server. The network configuration includes most of the features that were in the HTTP Service in previous Enterprise Server releases. HTTP Service elements that are no longer supported are converted to network configuration elements. For additional information, see [“http-service” on page 69](#).

#### Superelements

[“config” on page 35](#)

#### Subelements

The following table describes subelements for the `network-listeners` element.

TABLE 1-115 network-listeners Subelements

Element	Required	Description
<a href="#">“network-listeners” on page 104</a>	only one	Contains network listeners.
<a href="#">“protocols” on page 113</a>	only one	Contains protocols.
<a href="#">“transports” on page 137</a>	only one	Contains transports.

### network-listener

Configures a network listener.

When you first install the Enterprise Server, three `network-listener` elements exist by default, with name values of `admin-listener`, `http-listener1`, and `http-listener2`. The `http-listener2`, which is set up with SSL, is disabled by default.

---

**Note** – Network listeners are affected by properties of “[http-service](#)” on page 69.

---

## Superelements

“[network-listeners](#)” on page 104

## Subelements

none

## Attributes

The following table describes attributes for the `network-listener` element.

TABLE 1-116 `network-listener` Attributes

Attribute	Default	Description
<code>name</code>	<code>none</code>	The unique listener name. A <code>network-listener</code> name cannot begin with a number.
<code>address</code>	<code>none</code>	IP address of the listener. Can be in dotted-pair or IPv6 notation. Can be any (for <code>INADDR_ANY</code> ) to listen on all IP addresses. Can be a hostname.
<code>enabled</code>	<code>true</code>	(optional) Determines whether the listener is active. If set to <code>false</code> , any attempts to connect to the listener result in a socket exception ( <code>java.net.ConnectException</code> ).  In Enterprise Server versions prior to 9.1, a listener whose <code>enabled</code> attribute was set to <code>false</code> returned a 404 response code for any requests sent to it. To achieve this behavior in the current Enterprise Server version, set the listener's <code>enabled</code> attribute to <code>true</code> , and set every associated virtual server's state to <code>off</code> . A “ <a href="#">virtual-server</a> ” on page 138 lists its associated listeners in its <code>network-listeners</code> attribute.
<code>jk-enabled</code>	<code>false</code>	(optional) If <code>true</code> , enables <code>mod_jk</code> support for this listener.
<code>port</code>	<code>none</code>	Port number on which the listener listens. Legal values are 1 - 65535. On UNIX, creating sockets that listen on ports 1 - 1024 requires superuser privileges. Configuring an SSL listener to listen on port 443 is standard.
<code>protocol</code>	<code>none</code>	Specifies the name of the “ <a href="#">protocol</a> ” on page 110 associated with this network listener. Although this attribute is required, a protocol is automatically created with the same name as the network listener when you use the <code>asadmin create-http-listener</code> command to create a network listener.
<code>thread-pool</code>	<code>none</code>	(Optional) Specifies the name of the “ <a href="#">thread-pool</a> ” on page 132 associated with this network listener.
<code>transport</code>	<code>none</code>	Specifies the name of the “ <a href="#">transport</a> ” on page 136 associated with this network listener. Although this attribute is required, the default transport is used when you use the <code>asadmin create-http-listener</code> command to create a network listener.

## network-listeners

Contains network listeners.



## Superelements

[“network-config” on page 103](#)

## Subelements

The following table describes subelements for the `network-listeners` element.

TABLE 1-117 `network-listeners` Subelements

Element	Required	Description
<a href="#">“network-listener” on page 103</a>	one or more	Configures a network listener.

# O

## orb

Configures the ORB.

To enable SSL for outbound connections, include an [“ssl-client-config” on page 128](#) subelement in the parent `iiop-service` element.

## Superelements

[“iiop-service” on page 72](#)

## Subelements

The following table describes subelements for the `orb` element.

TABLE 1-118 `orb` Subelements

Element	Required	Description
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

## Attributes

The following table describes attributes for the `orb` element.

TABLE 1-119 orb Attributes

Attribute	Default	Description
use-thread-pool-ids	none	Specifies a comma-separated list of name values defined in <a href="#">“thread-pool” on page 132</a> elements used by the ORB.
message-fragment-size	1024	(optional) GIOPv1.2 messages larger than this number of bytes are fragmented.
max-connections	1024	(optional) The maximum number of incoming connections on all IIOP listeners. Legal values are integers.

## P

### param-name

Contains a context parameter name.

#### Superelements

[“context-param” on page 45](#)

#### Subelements

none - contains data

### param-value

Contains a context parameter value.

#### Superelements

[“context-param” on page 45](#)

#### Subelements

none - contains data

### port-unification

Configures port unification.

#### Superelements

[“protocol” on page 110](#)

## Subelements

The following table describes subelements for the `port-unification` element.

TABLE 1-120 `port-unification` Subelements

Element	Required	Description
<a href="#">“protocol-finder” on page 113</a>	zero or one	Configures the protocol finder.

## Attributes

The following table describes attributes for the `port-unification` element.

TABLE 1-121 `port-unification` Attributes

Attribute	Default	Description
<code>name</code>	none	Specifies a unique name for the <code>port-unification</code> .
<code>classname</code>	none	Specifies the class name of the <code>port-unification</code> implementation.

## principal

Contains the principal of the servlet or EJB client.

## Superelements

[“security-map” on page 121](#)

## Subelements

none - contains data

## principal-map

Maps an EIS principal to a principal defined in the Enterprise Server domain.

## Superelements

[“work-security-map” on page 148](#)

## Subelements

none

## Attributes

The following table describes attributes for the `principal-map` element.

TABLE 1-122 `principal-map` Attributes

Attribute	Default	Description
<code>eis-principal</code>	none	Specifies an EIS principal.
<code>mapped-principal</code>	none	Specifies a principal defined in the Enterprise Server domain.

## profiler

Configures a profiler for use with the Enterprise Server. For more information about profilers, see the *Sun GlassFish Enterprise Server v3 Application Development Guide*.

### Superelements

[“java-config” on page 75](#)

### Subelements

The following table describes subelements for the `profiler` element.

TABLE 1-123 `profiler` Subelements

Element	Required	Description
<a href="#">“jvm-options” on page 90</a>	zero or more	Contains profiler-specific JVM command line options.
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

---

**Note** – Subelements of a `profiler` element can occur in any order.

---

## Attributes

The following table describes attributes for the `profiler` element.

TABLE 1-124 `profiler` Attributes

Attribute	Default	Description
<code>name</code>	none	Specifies the name of the profiler.

TABLE 1-124 profiler Attributes (Continued)

Attribute	Default	Description
classpath	none	(optional) Specifies the classpath for the profiler.
native-library-path	none	(optional) Specifies the native library path for the profiler.
enabled	true	(optional) Determines whether the profiler is enabled.

## property

Specifies a property. A property adds configuration information to its parent element that is one or both of the following:

- Optional with respect to the Enterprise Server
- Needed by a system or object that the Enterprise Server doesn't have knowledge of, such as an LDAP server or a Java class

For example, an `auth-realm` element can include property subelements:

```
<auth-realm name="file"
  classname="com.sun.enterprise.security.auth.realm.file.FileRealm">
  <property name="file" value="domain-dir/config/keyfile"/>
  <property name="jaas-context" value="fileRealm"/>
</auth-realm>
```

Which properties an `auth-realm` element uses depends on the value of the `auth-realm` element's name attribute. The `file` realm uses `file` and `jaas-context` properties. Other realms use different properties.

## Superelements

“`admin-object-resource`” on page 23, “`admin-service`” on page 24, “`appclient-module`” on page 25, “`application`” on page 26, “`audit-module`” on page 31, “`auth-realm`” on page 32, “`config`” on page 35, “`connector-connection-pool`” on page 38, “`connector-module`” on page 42, “`connector-resource`” on page 43, “`custom-resource`” on page 46, “`das-config`” on page 47, “`domain`” on page 49, “`ejb-container`” on page 50, “`ejb-module`” on page 52, “`ejb-timer-service`” on page 53, “`engine`” on page 54, “`extension-module`” on page 57, “`external-jndi-resource`” on page 58, “`http-service`” on page 69, “`iiop-listener`” on page 71, “`j2ee-application`” on page 73, “`jacc-provider`” on page 74, “`java-config`” on page 75, “`jdbc-connection-pool`” on page 77, “`jdbc-resource`” on page 83, “`jms-host`” on page 84, “`jms-service`” on page 85, “`jmx-connector`” on page 87, “`lifecycle-module`” on page 91, “`log-service`” on page 92, “`mail-resource`” on page 94, “`manager-properties`” on page 96, “`mdb-container`” on page 97, “`module-log-levels`” on page 100, “`module-monitoring-levels`” on page 101, “`monitoring-service`” on page 102, “`orb`” on page 105, “`profiler`” on page 108, “`provider-config`” on page 114, “`resource-adapter-config`” on page 117, “`security-service`” on page 121, “`server`” on page 123,

“[session-properties](#)” on page 126, “[store-properties](#)” on page 129, “[thread-pool](#)” on page 132, “[transaction-service](#)” on page 133, “[virtual-server](#)” on page 138, “[web-container](#)” on page 145, “[web-module](#)” on page 146

## Subelements

none

## Attributes

The following table describes attributes for the property element.

TABLE 1-125 property Attributes

Attribute	Default	Description
name	none	Specifies the name of the property or variable.
value	none	Specifies the value of the property or variable.
description	none	(optional) Specifies a text description of this element.

## protocol

Configures a network protocol. A protocol can be defined in one of the following ways according to its subelements:

- “[http](#)” on page 61 — Defines HTTP or HTTPS protocol.
- “[protocol-chain-instance-handler](#)” on page 112 — Defines a custom protocol as a chain of “[protocol-filter](#)” on page 112 links.
- “[port-unification](#)” on page 106 — Defines a composite protocol, which can consist of several protocol definitions. Port unification makes it possible for a single “[network-listener](#)” on page 103 to host several protocols at the same time. For example, HTTP and IIOP can work simultaneously on port 8080.

## Superelements

“[protocols](#)” on page 113

## Subelements

The following table describes subelements for the protocol element.

TABLE 1-126 protocol Subelements

Element	Required	Description
<a href="#">“http” on page 61</a>	zero or one	Configures HTTP parameters.
<a href="#">“port-unification” on page 106</a>	zero or one	Configures port unification.
<a href="#">“protocol-chain-instance-handler” on page 112</a>	zero or one	Configures a protocol chain instance handler.
<a href="#">“protocol-filter” on page 112</a>	zero or one	Configures a protocol filter.
<a href="#">“ssl” on page 127</a>	zero or one	Defines SSL parameters.

## Attributes

The following table describes attributes for the protocol element.

TABLE 1-127 protocol Attributes

Attribute	Default	Description
name	none	Specifies a unique name for the protocol.
security-enabled	false	(optional) Determines whether the <a href="#">“network-listener” on page 103</a> that references this protocol runs SSL. To turn SSL2 or SSL3 on or off and set ciphers, use an <code>ssl</code> subelement.

## protocol-chain

Configures a protocol chain.

## Superelements

[“protocol-chain-instance-handler” on page 112](#)

## Subelements

none

## Attributes

The following table describes attributes for the protocol-chain element.

TABLE 1-128 protocol-chain Attributes

Attribute	Default	Description
name	none	Specifies a unique name for the protocol chain.

TABLE 1-128 protocol-chain Attributes (Continued)

Attribute	Default	Description
classname	none	Specifies the class name of the protocol chain implementation.
type	STATELESS	Specifies the type of protocol chain.

## protocol-chain-instance-handler

Configures a protocol chain instance handler.

### Superelements

[“protocol” on page 110](#)

### Subelements

The following table describes subelements for the protocol-chain-instance-handler element.

TABLE 1-129 protocol-chain-instance-handler Subelements

Element	Required	Description
<a href="#">“protocol-chain” on page 111</a>	one or more	Configures a protocol chain.

### Attributes

The following table describes attributes for the protocol-chain-instance-handler element.

TABLE 1-130 protocol-chain-instance-handler Attributes

Attribute	Default	Description
name	none	Specifies a unique name for the protocol chain instance handler.
classname	none	Specifies the class name of the protocol chain instance handler implementation.

## protocol-filter

Configures a protocol filter.

### Superelements

[“protocol” on page 110](#)



## Subelements

none

## Attributes

The following table describes attributes for the `protocol-filter` element.

TABLE 1-131 `protocol-filter` Attributes

Attribute	Default	Description
<code>name</code>	none	Specifies a unique name for the protocol filter.
<code>classname</code>	none	Specifies the class name of the protocol filter implementation.

## protocol-finder

Configures a protocol finder.

## Superelements

[“port-unification” on page 106](#)

## Subelements

none

## Attributes

The following table describes attributes for the `protocol-finder` element.

TABLE 1-132 `protocol-finder` Attributes

Attribute	Default	Description
<code>name</code>	none	Specifies a unique name for the protocol finder.
<code>classname</code>	none	Specifies the class name of the protocol finder implementation.
<code>protocol</code>	none	Specifies the name of the <a href="#">“protocol” on page 110</a> associated with this protocol finder.

## protocols

Contains protocols.

## Superelements

[“network-config” on page 103](#)

## Subelements

The following table describes subelements for the protocols element.

TABLE 1-133 protocols Subelements

Element	Required	Description
<a href="#">“protocol” on page 110</a>	one or more	Configures a protocol.

## provider-config

Specifies a configuration for one message security provider.

Although the request-policy and response-policy subelements are optional, the provider-config element does nothing if they are not specified.

Use property subelements to configure provider-specific properties. Property values are passed to the provider when its initialize method is called.

## Superelements

[“message-security-config” on page 98](#)

## Subelements

The following table describes subelements for the provider-config element.

TABLE 1-134 provider-config Subelements

Element	Required	Description
<a href="#">“request-policy” on page 116</a>	zero or one	Defines the authentication policy requirements of the authentication provider’s request processing.
<a href="#">“response-policy” on page 120</a>	zero or one	Defines the authentication policy requirements of the authentication provider’s response processing.
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

## Attributes

The following table describes attributes for the provider-config element.

TABLE 1-135 provider-config Attributes

Attribute	Default	Description
provider-id	none	Specifies a unique identifier for this provider-config element.
provider-type	none	Specifies whether the provider is a client, server, or client-server authentication provider.
class-name	none	Specifies the Java implementation class of the provider. Client authentication providers must implement the <code>com.sun.enterprise.security.jauth.ClientAuthModule</code> interface. Server authentication providers must implement the <code>com.sun.enterprise.security.jauth.ServerAuthModule</code> interface. Client-server providers must implement both interfaces.

## Properties

The following table describes properties for the provider-config element.

TABLE 1-136 provider-config Properties

Property	Default	Description
security.config	<i>domain-dir/ config/ wss-server- config-1.0.xml</i>	Specifies the location of the message security configuration file. To point to a configuration file in the <i>domain-dir/config</i> directory, use the system property <code>\${com.sun.aas.instanceRoot}/config/</code> , for example: <code>\${com.sun.aas.instanceRoot}/config/wss-server-config-1.0.xml</code> See “ <a href="#">system-property</a> ” on page 130.
debug	false	If true, enables dumping of server provider debug messages to the server log.
dynamic.username. password	false	If true, signals the provider runtime to collect the user name and password from the <code>CallbackHandler</code> for each request. If false, the user name and password for <code>wsse:UsernameToken(s)</code> is collected once, during module initialization. This property is only applicable for a <code>ClientAuthModule</code> .
encryption.key. alias	slas	Specifies the encryption key used by the provider. The key is identified by its key store alias.
signature.key. alias	slas	Specifies the signature key used by the provider. The key is identified by its key store alias.

## R

### registry-location

This element is deprecated. Web services are implemented in the “[engine](#)” on page 54 element.

Specifies the registry where web service endpoint artifacts are published.

## Superelements

[“web-service-endpoint”](#) on page 147

## Subelements

none

## Attributes

The following table describes attributes for the `registry-location` element.

TABLE 1-137 `registry-location` Attributes

Attribute	Default	Description
<code>connector-resource-jndi-name</code>	none	Specifies the <code>jndi-name</code> of the <a href="#">“connector-resource”</a> on page 43 used as the registry.

## request-policy

Defines the authentication policy requirements of the authentication provider’s request processing.

## Superelements

[“provider-config”](#) on page 114

## Subelements

none

## Attributes

The following table describes attributes for the `request-policy` element.

TABLE 1-138 `request-policy` Attributes

Attribute	Default	Description
<code>auth-source</code>	none	Specifies the type of required authentication, either sender (user name and password) or content (digital signature).
<code>auth-recipient</code>	none	Specifies whether recipient authentication occurs before or after content authentication. Allowed values are <code>before-content</code> and <code>after-content</code> .

## request-processing

This element is not supported. If this element is present in the `domain.xml` file, its attributes are remapped to other elements and then it is deleted. For remapping details, see the Attributes table for this element.

### Superelements

[“http-service” on page 69](#)

### Subelements

none

### Attributes

The following table describes attributes for the `request-processing` element.

TABLE 1-139 request-processing Attributes

Attribute	Default	Description
<code>thread-count</code>	20	Remapped to the <code>max-thread-pool-size</code> attribute of a <a href="#">“thread-pool” on page 132</a> element.
<code>initial-thread-count</code>	2	Remapped to the <code>min-thread-pool-size</code> attribute of a <a href="#">“thread-pool” on page 132</a> element.
<code>thread-increment</code>	1	Not implemented. Do not use.
<code>request-timeout-in-seconds</code>	30	Remapped to the <code>request-timeout-seconds</code> attribute of an <a href="#">“http” on page 61</a> element.
<code>header-buffer-length-in-bytes</code>	8192	Remapped to the <code>header-buffer-length-bytes</code> attribute of an <a href="#">“http” on page 61</a> element.

## resource-adapter-config

Defines a connector (resource adapter) configuration. Stores configuration information for the resource adapter `JavaBean` in property subelements.

### Superelements

[“resources” on page 119](#)

### Subelements

The following table describes subelements for the `resource-adapter-config` element.

TABLE 1-140 resource-adapter-config Subelements

Element	Required	Description
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

## Attributes

The following table describes attributes for the resource-adapter-config element.

TABLE 1-141 resource-adapter-config Attributes

Attribute	Default	Description
name	none	(optional) Not used. See resource-adapter-name.
thread-pool-ids	none	(optional) Specifies a comma-separated list of the name attributes of <a href="#">“thread-pool” on page 132</a> elements.
object-type	user	(optional) Defines the type of the resource. Allowed values are: <ul style="list-style-type: none"> <li>▪ system-all - A system resource for all server instances and the domain application server.</li> <li>▪ system-admin - A system resource only for the domain application server.</li> <li>▪ system-instance - A system resource for all server instances only.</li> <li>▪ user - A user resource.</li> </ul>
resource-adapter-name	none	Specifies the name attribute of a deployed connector <a href="#">“application” on page 26</a> element. If the resource adapter is embedded in an application, then it is <i>app_name#rar_name</i> .

## Properties

Properties of the resource-adapter-config element are the names of setter methods of the class referenced by the resourceadapter-class element in the ra.xml file, which defines the class name of the resource adapter JavaBean. Any properties defined here override the default values present in ra.xml.

## resource-ref

References a resource deployed to the server.

## Superelements

[“server” on page 123](#)

## Subelements

none

## Attributes

The following table describes attributes for the resource-ref element.

TABLE 1–142 resource-ref Attributes

Attribute	Default	Description
enabled	true	(optional) Determines whether the resource is enabled.
ref	none	References the name attribute of a “custom-resource” on page 46, “external-jndi-resource” on page 58, “jdbc-resource” on page 83, “mail-resource” on page 94, “admin-object-resource” on page 23, “resource-adapter-config” on page 117, “connector-connection-pool” on page 38, or “jdbc-connection-pool” on page 77 element.

## resources

Contains configured resources, such as database connections, JavaMail™ sessions, and so on.

**Note** – You must specify a Java Naming and Directory Interface™ (JNDI) name for each resource. To avoid collisions with names of other enterprise resources in JNDI, and to avoid portability problems, all names in an Enterprise Server application should begin with the string `java:comp/env`.

## Superelements

“domain” on page 49

## Subelements

The following table describes subelements for the resources element.

TABLE 1–143 resources Subelements

Element	Required	Description
“custom-resource” on page 46	zero or more	Defines a custom resource.
“external-jndi-resource” on page 58	zero or more	Defines a resource that resides in an external JNDI repository.
“jdbc-resource” on page 83	zero or more	Defines a JDBC (Java Database Connectivity) resource.
“mail-resource” on page 94	zero or more	Defines a JavaMail resource.
“admin-object-resource” on page 23	zero or more	Defines an administered object for an inbound resource adapter.
“connector-resource” on page 43	zero or more	Defines a connector (resource adapter) resource.

TABLE 1-143 resources Subelements (Continued)

Element	Required	Description
<a href="#">“resource-adapter-config” on page 117</a>	zero or more	Defines a resource adapter configuration.
<a href="#">“jdbc-connection-pool” on page 77</a>	zero or more	Defines the properties that are required for creating a JDBC connection pool.
<a href="#">“connector-connection-pool” on page 38</a>	zero or more	Defines the properties that are required for creating a connector connection pool.
<a href="#">“work-security-map” on page 148</a>	zero or more	Defines a work security map.

---

**Note** – Subelements of a resources element can occur in any order.

---

## response-policy

Defines the authentication policy requirements of the authentication provider’s response processing.

### Superelements

[“provider-config” on page 114](#)

### Subelements

none

### Attributes

The following table describes attributes for the response-policy element.

TABLE 1-144 response-policy Attributes

Attribute	Default	Description
auth-source	none	Specifies the type of required authentication, either sender (user name and password) or content (digital signature).
auth-recipient	none	Specifies whether recipient authentication occurs before or after content authentication. Allowed values are before-content and after-content.



## S

## security-map

Maps the principal received during servlet or EJB authentication to the credentials accepted by the EIS. This mapping is optional. It is possible to map multiple Enterprise Server principals to the same back-end principal.

This is different from a [“work-security-map” on page 148](#), which maps a principal associated with an incoming work instance to a principal in the Enterprise Server's security domain.

### Superelements

[“connector-connection-pool” on page 38](#)

### Subelements

The following table describes subelements for the `security-map` element.

TABLE 1-145 `security-map` Subelements

Element	Required	Description
<a href="#">“principal” on page 107</a>	one or more	Contains the principal of the servlet or EJB client.
<a href="#">“user-group” on page 138</a>	one or more	Contains the group to which the principal belongs.
<a href="#">“backend-principal” on page 35</a>	only one	Specifies the user name and password required by the EIS.

### Attributes

The following table describes attributes for the `security-map` element.

TABLE 1-146 `security-map` Attributes

Attribute	Default	Description
<code>name</code>	<code>none</code>	Specifies a name for the security mapping.

## security-service

Defines parameters and configuration information needed by the Java EE security service. For SSL configuration, see [“ssl” on page 127](#). For connector module security, see [“security-map” on page 121](#).

## Superelements

[“config” on page 35](#)

## Subelements

The following table describes subelements for the `security-service` element.

TABLE 1-147 `security-service` Subelements

Element	Required	Description
<a href="#">“auth-realm” on page 32</a>	one or more	Defines a realm for authentication.
<a href="#">“jacc-provider” on page 74</a>	one or more	Specifies a Java Authorization Contract for Containers (JACC) provider for pluggable authorization.
<a href="#">“audit-module” on page 31</a>	zero or more	Specifies an optional plug-in module that implements audit capabilities.
<a href="#">“message-security-config” on page 98</a>	zero or more	Specifies configurations for message security providers.
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

## Attributes

The following table describes attributes for the `security-service` element.

TABLE 1-148 `security-service` Attributes

Attribute	Default	Description
<code>default-realm</code>	<code>file</code>	(optional) Specifies the active authentication realm (an <a href="#">“auth-realm” on page 32</a> name attribute) for this server instance.
<code>default-principal</code>	<code>none</code>	(optional) Used as the identity of the default security context when necessary and when no principal is provided. This attribute need not be set for normal server operation.
<code>default-principal-password</code>	<code>none</code>	(optional) The password of the default principal. This attribute need not be set for normal server operation.
<code>anonymous-role</code>	attribute is deprecated	(optional) Deprecated. Do not use.
<code>audit-enabled</code>	<code>false</code>	(optional) If <code>true</code> , additional access logging is performed to provide audit information.  Audit information consists of: <ul style="list-style-type: none"> <li>▪ Authentication success and failure events</li> <li>▪ Servlet and EJB access grants and denials</li> </ul>

TABLE 1-148 security-service Attributes (Continued)

Attribute	Default	Description
jacc	default	(optional) Specifies the name of the “jacc-provider” on page 74 element to use for setting up the JACC infrastructure. Do not change the default value unless you are adding a custom JACC provider.
audit-modules	default	(optional) Specifies a space-separated list of audit provider modules used by the audit subsystem. The default value refers to the internal log-based audit module.
activate-default-principal-to-role-mapping	false	(optional) Applies a default principal for role mapping to any application that does not have an application-specific mapping defined. Every role is mapped to an instance of a java.security.Principal implementation class defined by mapped-principal-class. This class has the same name as the role.
mapped-principal-class	none	(optional) Customizes the java.security.Principal implementation class used when activate-default-principal-to-role-mapping is set to true.

## selection-key-handler

Configures a selection key handler.

### Superelements

“[transports](#)” on page 137

### Subelements

none

### Attributes

The following table describes attributes for the selection-key-handler element.

TABLE 1-149 selection-key-handler Attributes

Attribute	Default	Description
name	none	Specifies a unique name for the selection key handler.
classname	none	Specifies the class name of the selection key handler implementation.

## server

Defines a server instance, which is a Java EE compliant container. One server instance is specially designated as a domain administration server (DAS). The “[admin-service](#)” on page 24 subelement of the “[config](#)” on page 35 element referenced by a server's config-ref attribute determines whether the server is the DAS.

---

**Note** – Server instances are not the same thing as virtual servers. Each server instance is a completely separate server that contains one or more virtual servers.

---

## Superelements

“servers” on page 124

## Subelements

The following table describes subelements for the server element.

TABLE 1–150 server Subelements

Element	Required	Description
“application-ref” on page 30	zero or more	References an application or module deployed to the server instance.
“resource-ref” on page 118	zero or more	References a resource deployed to the server instance.
“system-property” on page 130	zero or more	Specifies a system property.
“property” on page 109	zero or more	Specifies a property or a variable.

## Attributes

The following table describes attributes for the server element.

TABLE 1–151 server Attributes

Attribute	Default	Description
name	none	Specifies the name of the server instance.
config-ref	default “config” on page 35 element’s name, server-config	(optional) References the name of the “config” on page 35 used by the server instance.

## servers

Contains server instances.

## Superelements

“domain” on page 49

## Subelements

The following table describes subelements for the servers element.

TABLE 1–152 servers Subelements

Element	Required	Description
<a href="#">“server” on page 123</a>	only one	Defines a server instance.

## session-config

Specifies session configuration information for the entire web container. Individual web applications can override these settings using the corresponding elements in their `sun-web.xml` files.

### Superelements

[“web-container” on page 145](#)

### Subelements

The following table describes subelements for the `session-config` element.

TABLE 1–153 session-config Subelements

Element	Required	Description
<a href="#">“session-manager” on page 125</a>	zero or one	Specifies session manager configuration information.
<a href="#">“session-properties” on page 126</a>	zero or one	Specifies session properties.

## session-manager

Specifies session manager information.

---

**Note** – The session manager interface is unstable. An unstable interface might be experimental or transitional, and hence might change incompatibly, be removed, or be replaced by a more stable interface in the next release.

---

### Superelements

[“session-config” on page 125](#)

### Subelements

The following table describes subelements for the `session-manager` element.

TABLE 1-154 session-manager Subelements

Element	Required	Description
<a href="#">“manager-properties” on page 96</a>	zero or one	Specifies session manager properties.
<a href="#">“store-properties” on page 129</a>	zero or one	Specifies session persistence (storage) properties.

## session-properties

Specifies session properties.

### Superelements

[“session-config” on page 125](#)

### Subelements

The following table describes subelements for the `session-properties` element.

TABLE 1-155 session-properties Subelements

Element	Required	Description
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

### Attributes

TABLE 1-156 session-properties Attributes

Attribute	Default	Description
<code>timeout-in-seconds</code>	1800	<p>(optional) Specifies the default maximum inactive interval (in seconds) for all sessions created in this web module. If set to 0 or less, sessions in this web module never expire.</p> <p>If a <code>session-timeout</code> element is specified in the <code>web.xml</code> file, the <code>session-timeout</code> value overrides any <code>timeout-in-seconds</code> value. If neither <code>session-timeout</code> nor <code>timeout-in-seconds</code> is specified, the <code>timeout-in-seconds</code> default is used.</p> <p>Note that the <code>session-timeout</code> element in <code>web.xml</code> is specified in minutes, not seconds.</p>

### Properties

The following table describes properties for the `session-properties` element.

TABLE 1-157 session-properties Properties

Property	Default	Description
enableCookies	true	Uses cookies for session tracking if set to true.
enableURLRewriting	true	Enables URL rewriting. This provides session tracking via URL rewriting when the browser does not accept cookies. You must also use an <code>encodeURL</code> or <code>encodeRedirectURL</code> call in the servlet or JavaServer Pages™ (JSP™) page.
idLengthBytes	128	Specifies the number of bytes in this web module's session ID.

## ssl

Defines SSL (Secure Socket Layer) parameters.

An `ssl` element is required inside an `http-listener` or `iiop-listener` element that has its `security-enabled` attribute set to `on`.

The grandparent “[http-service](#)” on page 69 element has properties that configure global SSL settings.

## Superelements

“[protocol](#)” on page 110, “[http-listener](#)” on page 65, “[iiop-listener](#)” on page 71, “[jmx-connector](#)” on page 87, “[ssl-client-config](#)” on page 128

## Subelements

none

## Attributes

The following table describes attributes for the `ssl` element.

TABLE 1-158 ssl Attributes

Attribute	Default	Description
cert-nickname	slas	The nickname of the server certificate in the certificate database or the PKCS#11 token. In the certificate, the name format is <code>tokenname:nickname</code> . Including the <code>tokenname</code> : part of the name in this attribute is optional.
ssl2-enabled	false	(optional) Determines whether SSL2 is enabled.  If both SSL2 and SSL3 are enabled for a “ <a href="#">virtual-server</a> ” on page 138, the server tries SSL3 encryption first. If that fails, the server tries SSL2 encryption.

TABLE 1-158 ssl Attributes (Continued)

Attribute	Default	Description
ssl2-ciphers	none	(optional) A comma-separated list of the SSL2 ciphers used, with the prefix + to enable or - to disable, for example +rc4 . Allowed values are rc4, rc4export, rc2, rc2export, idea, des , desede3.
ssl3-enabled	true	(optional) Determines whether SSL3 is enabled. The default is true .  If both SSL2 and SSL3 are enabled for a “virtual-server” on page 138, the server tries SSL3 encryption first. If that fails, the server tries SSL2 encryption.
ssl3-tls-ciphers	none	(optional) A comma-separated list of the SSL3 ciphers used, with the prefix + to enable or - to disable, for example +SSL_RSA_WITH_RC4_128_MD5 . Allowed values are SSL_RSA_WITH_RC4_128_MD5, SSL_RSA_WITH_3DES_EDE_CBC_SHA, SSL_RSA_WITH_DES_CBC_SHA, SSL_RSA_EXPORT_WITH_RC4_40_MD5, SSL_RSA_WITH_NULL_MD5, SSL_RSA_WITH_RC4_128_SHA, and SSL_RSA_WITH_NULL_SHA. Values available in previous releases are supported for backward compatibility.
tls-enabled	true	(optional) Determines whether TLS is enabled.
tls-rollback-enabled	true	(optional) Determines whether TLS rollback is enabled. TLS rollback should be enabled for Microsoft Internet Explorer 5.0 and 5.5. For more information, see the <a href="#">Sun GlassFish Enterprise Server v3 Administration Guide</a> .
client-auth-enabled	false	(optional) Determines whether SSL3 client authentication is performed on every request, independent of ACL-based access control.
crl-file	none	(optional) Specifies the location of the Certificate Revocation List (CRL) file to consult during SSL client authentication. This can be an absolute or relative file path. If relative, it is resolved against <i>domain-dir</i> . If unspecified, CRL checking is disabled.
trust-algorithm	none	(optional) Specifies the name of the trust management algorithm (for example, PKIX) to use for certification path validation.
trust-max-cert-length	5	(optional) Specifies the maximum number of non-self-issued intermediate certificates that can exist in a certification path. This property is considered only if trustAlgorithm is set to PKIX. A value of zero implies that the path can only contain a single certificate. A value of -1 implies that the path length is unconstrained (there is no maximum). Setting a value less than -1 causes an exception to be thrown.
key-store	none	(optional) Specifies a key store.
trust-store	none	(optional) Specifies a trust store.

## ssl-client-config

Defines SSL parameters for the ORB when it makes outbound SSL connections and behaves as a client.



## Superelements

[“iioop-service” on page 72](#)

## Subelements

The following table describes subelements for the `ssl-client-config` element.

TABLE 1-159 `ssl-client-config` Subelements

Element	Required	Description
<a href="#">“ssl” on page 127</a>	only one	Defines SSL parameters.

## store-properties

Specifies session persistence (storage) properties.

## Superelements

[“session-manager” on page 125](#)

## Subelements

The following table describes subelements for the `store-properties` element.

TABLE 1-160 `store-properties` Subelements

Element	Required	Description
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

## Attributes

TABLE 1-161 `store-properties` Attributes

Attribute	Default	Description
<code>directory</code>	<i>domain-dir</i> <i>/generated/jsp</i> <i>/j2ee-apps/appname/</i> <i>appname_war</i>	(optional) Specifies the absolute or relative pathname of the directory into which individual session files are written. A relative path is relative to the temporary work directory for this web application.
<code>reap-interval-in-seconds</code>	60	(optional) Not implemented. Use the <code>reap-interval-in-seconds</code> attribute of the <a href="#">“manager-properties” on page 96</a> element instead.

## system-applications

Contains system applications. Do not delete or edit these applications.

### Superelements

[“domain” on page 49](#)

### Subelements

The following table describes subelements for the `system-applications` element.

TABLE 1-162 `system-applications` Subelements

Element	Required	Description
<a href="#">“application” on page 26</a>	zero or more	Specifies an application.

## system-property

Specifies a system property. A system property defines a common value for a setting at one of these levels, from highest to lowest: [“domain” on page 49](#), [“server” on page 123](#), or [“config” on page 35](#). A value set at a higher level can be overridden at a lower level. Some system properties are predefined; see [“system-property” on page 130](#). You can also create system properties using this element.

The following example shows the use of a predefined system property:

```
<log-service file="${com.sun.aas.instanceRoot}/logs/server.log">
  <module-log-levels admin=INFO .../>
</log-service>
```

The following example shows the creation and use of a system property:

```
<config name="config1">
  ...
  <http-service>
    ...
    <http-listener id="ls1" host="0.0.0.0" port="{ls1-port}"/>
    ...
  </http-service>
  ...
  <system-property name="ls1-port" value="8080"/>
</config>
```

### Superelements

[“config” on page 35](#), [“domain” on page 49](#), [“server” on page 123](#)

## Subelements

none

## Attributes

The following table describes attributes for the system-property element.

TABLE 1-163 system-property Attributes

Attribute	Default	Description
name	none	Specifies the name of the system property.
value	none	Specifies the value of the system property.
description	none	(optional) Specifies a text description of this element.

## Properties

The following table lists predefined system properties.

TABLE 1-164 Predefined System Properties

Property	Default	Description
com.sun.aas.installRoot	depends on operating system	Specifies the directory where the Enterprise Server is installed.
com.sun.aas.instanceRoot	depends on operating system	Specifies the top level directory for a server instance.
com.sun.aas.hostName	none	Specifies the name of the host (machine).
com.sun.aas.javaRoot	depends on operating system	Specifies the installation directory for the Java runtime.
com.sun.aas.imqLib	depends on operating system	Specifies the library directory for the Sun GlassFish Message Queue software.
com.sun.aas.configName	server-config	Specifies the name of the “config” on page 35 used by a server instance.
com.sun.aas.instanceName	server1	Specifies the name of the server instance. This property is not used in the default configuration, but can be used to customize configuration.
com.sun.aas.domainName	domain1	Specifies the name of the domain. This property is not used in the default configuration, but can be used to customize configuration.
com.sun.aas.derbyRoot	as-install/javadb	Specifies the directory where Java DB is installed.

## T

## thread-pool

Defines a thread pool.

### Superelements

[“thread-pools” on page 133](#)

### Subelements

The following table describes subelements for the `thread-pool` element.

TABLE 1-165 thread-pool Subelements

Element	Required	Description
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

### Attributes

TABLE 1-166 thread-pool Attributes

Attribute	Default	Description
<code>name</code>	<code>none</code>	Specifies the thread pool name.
<code>classname</code>	<code>com.sun.grizzly.http. StatsThreadPool</code>	(Optional) Specifies the class name of the thread pool implementation.
<code>min-thread-pool-size</code>	<code>2</code>	(optional) Specifies the minimum number of threads in the pool. These are created when the thread pool is instantiated.
<code>max-thread-pool-size</code>	<code>5</code>	(optional) Specifies the maximum number of threads the pool can contain. To optimize this thread pool for use with an <a href="#">“iioop-listener” on page 71</a> , set this value to <code>200</code> .
<code>idle-thread-timeout-seconds</code>	<code>900</code>	(optional) Specifies the amount of time after which idle threads are removed from the pool.
<code>max-queue-size</code>	<code>4096</code>	(optional) Specifies the maximum number of messages that can be queued until threads are available to process them for, <a href="#">“network-listener” on page 103</a> or <a href="#">“iioop-listener” on page 71</a> elements. A value of <code>-1</code> specifies no limit.

## thread-pools

Contains thread pools.

### Superelements

[“config” on page 35](#)

### Subelements

The following table describes subelements for the `thread-pools` element.

TABLE 1-167 `thread-pools` Subelements

Element	Required	Description
<a href="#">“thread-pool” on page 132</a>	one or more	Defines a thread pool.

## transaction-service

Configures the Java Transaction Service (JTS).

### Superelements

[“config” on page 35](#)

### Subelements

The following table describes subelements for the `transaction-service` element.

TABLE 1-168 `transaction-service` Subelements

Element	Required	Description
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

### Attributes

The following table describes attributes for the `transaction-service` element.

TABLE 1-169 `transaction-service` Attributes

Attribute	Default	Description
<code>automatic-recovery</code>	<code>false</code>	(optional) If <code>true</code> , the server instance attempts transaction recovery during startup.

TABLE 1-169 transaction-service Attributes (Continued)

Attribute	Default	Description
timeout-in-seconds	0	(optional) Specifies the amount of time after which the transaction is aborted. If set to 0, the transaction never times out.
tx-log-dir	directory specified by the log-root attribute of the “domain” on page 49 element	(optional) Specifies the parent directory of the transaction log directory <i>instance-name/tx</i> . The directory in which the transaction logs are kept must be writable by the user account under which the server runs. A relative path is relative to the log-root attribute of the “domain” on page 49 element.
heuristic-decision	rollback	(optional) If the outcome of a distributed transaction cannot be determined because other participants are unreachable, this property determines the outcome. Allowed values are <code>rollback</code> and <code>commit</code> .
retry-timeout-in-seconds	600	(optional) Determines the retry time in the following scenarios: <ul style="list-style-type: none"> <li>■ At the transaction recovery time, if resources are unreachable.</li> <li>■ If there are any transient exceptions in the second phase of a two phase commit protocol.</li> </ul> A negative value specifies infinite retries. A value of 0 (zero) specifies no retries. A positive value indicates the time after which a retry is attempted.
keypoint-interval	65536 (64 K)	(optional) Specifies the number of transactions between keypoint operations in the log. Keypoint operations reduce the size of the transaction log file by compressing it. A larger value for this attribute results in a larger transaction log file, but fewer keypoint operations and potentially better performance. A smaller value results in smaller log files, but slightly reduced performance due to the greater frequency of keypoint operations.

## Properties

The following table describes properties for the `transaction-service` element.

TABLE 1-170 transaction-service Properties

Property	Default	Description
oracle-xa-recovery-workaround	true	If <code>true</code> , the Oracle XA Resource workaround is used in transaction recovery.
disable-distributed-transaction-logging	false	If <code>true</code> , disables transaction logging, which might improve performance. If the <code>automatic-recovery</code> attribute is set to <code>true</code> , this property is ignored.
xaresource-txn-timeout	specific to the XAResource used	Changes the XAResource timeout. In some cases, the XAResource default timeout can cause transactions to be aborted, so it is desirable to change it.

TABLE 1-170 transaction-service Properties (Continued)

Property	Default	Description
pending-txn-cleanup-interval	none if this property is absent, 60 if this property is present but has no value	Specifies the interval, in seconds, at which an asynchronous thread checks for pending transactions and completes them.
use-last-agent-optimization	true	If true, enables last agent optimization, which improves the throughput of transactions. If one non-XA resource is used with XA resources in the same transaction, the non XA resource is the last agent.
db-logging-resource	none	Specifies the JNDI name of the JDBC resource for the database to which transactions are logged. For more information, see <a href="#">Chapter 15, “Using the Transaction Service,” in <i>Sun GlassFish Enterprise Server v3 Application Development Guide</i></a> .
xa-servername	host name on which the Enterprise Server runs	Specifies the host name that the transaction service uses to identify transactions being managed by the installed Enterprise Server. This can sometimes be useful for recovering transactions from the log file that was created on a different host running the Enterprise Server.

## transformation-rule

This element is deprecated. Web services are implemented in the [“engine” on page 54](#) element.

Configures an eXtensible Stylesheet Language Transformation (XSLT) rule, which transforms a web service message.

### Superelements

[“web-service-endpoint” on page 147](#)

### Subelements

The following table describes subelements for the transformation-rule element.

TABLE 1-171 transformation-rule Subelements

Element	Required	Description
<a href="#">“description” on page 48</a>	zero or one	Contains a text description of this element.

### Attributes

The following table describes attributes for the transformation-rule element.

TABLE 1-172 transformation-rule Attributes

Attribute	Default	Description
name	none	The name of the rule.
enabled	true	(optional) Determines whether the rule is enabled.
apply-to	request	(optional) Specifies whether the rule is applied to the request, the response, or both. Allowed values are: <ul style="list-style-type: none"> <li>▪ request - Transformations are applied to the request in the order specified.</li> <li>▪ response - Transformations are applied to the response in the order specified.</li> <li>▪ both - Transformations are applied to both the request and the response. The order is reversed for the response.</li> </ul>
rule-file-location	<i>domain-dir/generated/xml/ app-or-module/xslt-file</i>	A fully qualified or relative path to the rule file that performs the transformation. Only XSLT files are allowed.

## transport

Configures a transport. You can configure a TCP or UDP transport or provide a custom transport implementation.

### Superelements

[“transports” on page 137](#)

### Subelements

none

### Attributes

The following table describes attributes for the `t transport` element.

TABLE 1-173 transport Attributes

Attribute	Default	Description
name	none	Specifies a unique name for the transport.
classname	<code>com.sun.grizzly. TCPSelectorHandler</code>	(Optional) Specifies the class name of the transport implementation.
selection-key-handler	none	(optional) Specifies the name of the <a href="#">“selection-key-handler” on page 123</a> associated with this transport.



TABLE 1-173 transport Attributes (Continued)

Attribute	Default	Description
idle-key-timeout-seconds	30	(Optional) Specifies the idle key timeout.
read-timeout-millis	30000 (30 seconds)	(optional) Specifies the amount of time the Enterprise Server waits during the header and body parsing phase.
write-timeout-millis	30000 (30 seconds)	(optional) Specifies the amount of time the Enterprise Server waits before considering the remote client disconnected when writing the response.
selector-poll-timeout-millis	1000 (1 second)	(optional) Specifies the time a NIO Selector blocks waiting for events (user requests).
display-configuration	false	(optional) If true, flushes the internal network configuration to the server log. Useful for debugging, but reduces performance.
snoop-enabled	false	(optional) If true, writes request/response information to the server log. Useful for debugging, but reduces performance.
tcp-no-delay	false	(optional) If true, enables TCP_NODELAY (also called Nagle's algorithm).
max-connections-count	4096	(optional) Specifies the maximum number of pending connections on a "network-listener" on page 103 that references this transport.
acceptor-threads	1	(optional) Specifies the number of processors in the machine.  To set the number of request processing threads, use the max-thread-pool-size attribute of the "thread-pool" on page 132 element.
byte-buffer-type	HEAP	(optional) Specifies the type of the buffer to be provided for input streams created by a "network-listener" on page 103. Allowed values are HEAP and DIRECT.
buffer-size-bytes	8192	(optional) Specifies the size, in bytes, of the buffer to be provided for input streams created by a "network-listener" on page 103.

## transports

Contains transports.

## Superelements

["network-config" on page 103](#)

## Subelements

The following table describes subelements for the transports element.

TABLE 1-174 t transports Subelements

Element	Required	Description
<a href="#">“selection-key-handler” on page 123</a>	zero or more	Configures a selection key handler.
<a href="#">“transport” on page 136</a>	one or more	Configures a transport.

## U

### user-group

Contains the group to which the principal belongs.

### Superelements

[“security-map” on page 121](#)

### Subelements

none - contains data

## V

### virtual-server

Defines a virtual server. A virtual server, also called a virtual host, is a virtual web server that serves content targeted for a specific URL. Multiple virtual servers can serve content using the same or different host names, port numbers, or IP addresses. The HTTP service can direct incoming web requests to different virtual servers based on the URL.

When the Enterprise Server is first installed, a default virtual server is created. (You can also assign a default virtual server to each new [“http-listener” on page 65](#) you create.)

---

**Note** – Virtual servers are not the same thing as server instances. Each server instance is a completely separate server that contains one or more virtual servers.

---

Before the Enterprise Server can process a request, it must accept the request via a listener, then direct the request to the correct virtual server. The virtual server is determined as follows:

- If the listener is configured to only a default virtual server, that virtual server is selected.
- If the listener has more than one virtual server configured to it, the request Host header is matched to the hosts attribute of a virtual server. If no Host header is present or no hosts attribute matches, the default virtual server for the listener is selected.

If a virtual server is configured to an SSL listener, its hosts attribute is checked against the subject pattern of the certificate at server startup, and a warning is generated and written to the server log if they don't match.

## Superelements

[“http-service” on page 69](#)

## Subelements

The following table describes subelements for the `virtual-server` element.

TABLE 1-175 `virtual-server` Subelements

Element	Required	Description
<a href="#">“http-access-log” on page 64</a>	zero or one	Defines an access log file.
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

## Attributes

The following table describes attributes for the `virtual-server` element.

TABLE 1-176 `virtual-server` Attributes

Attribute	Default	Description
<code>id</code>	none	Virtual server ID. This is a unique ID that allows lookup of a specific virtual server. A virtual server ID cannot begin with a number.
<code>http-listeners</code>	none	(optional) Remapped to the <code>network-listeners</code> attribute of this element.
<code>network-listeners</code>	none	(optional) In a comma-separated list, references <code>id</code> attributes of <a href="#">“network-listener” on page 103</a> elements that specify the connection(s) the virtual server uses. Required only for a <code>virtual-server</code> that is not referenced by the <code>default-virtual-server</code> attribute of an <a href="#">“http” on page 61</a> element.
<code>default-web-module</code>	none	(optional) References the name attribute of the default web <a href="#">“application” on page 26</a> for this virtual server, which responds to requests that cannot be resolved to other web modules deployed to this virtual server (see the <a href="#">“application-ref” on page 30</a> element).

TABLE 1-176 virtual-server Attributes (Continued)

Attribute	Default	Description
hosts	<code>\${com.sun.aas.hostName}</code>	A comma-separated list of values, each of which selects the current virtual server when included in the <code>Host</code> request header. Two or more <code>virtual-server</code> elements that reference or are referenced by the same <code>http-listener</code> cannot have any <code>hosts</code> values in common.
state	on	(optional) Determines whether a <code>virtual-server</code> is active (on) or inactive (off, disabled). The default is on (active). When inactive, a <code>virtual-server</code> does not service requests. If a <code>virtual-server</code> is disabled, only the global server administrator can turn it on.
docroot	<code>domain-dir/docroot</code>	(optional) Specifies the document root for this virtual server.
access-log	<code>domain-dir/logs/access</code>	(optional) Specifies the access log location. The file and directory in which the access log is kept must be writable by the user account under which the server runs. See the “ <a href="#">log-service</a> ” on page 92 description for details about logs.
log-file	server.log in the directory specified by the <code>log-root</code> attribute of the “ <a href="#">domain</a> ” on page 49 element	(optional) Writes this virtual server’s log messages to a log file separate from the server log. The file and directory in which the virtual server log is kept must be writable by the user account under which the server runs. See the “ <a href="#">log-service</a> ” on page 92 description for details about logs.
access-logging-enabled	inherit	If <code>true</code> , enables access logging for this virtual server. If <code>false</code> , disables access logging for this virtual server.  A <code>true</code> or <code>false</code> setting overrides the <code>access-logging-enabled</code> attribute setting of the “ <a href="#">http-service</a> ” on page 69 element. An <code>inherit</code> setting uses the <code>access-logging-enabled</code> attribute setting of the “ <a href="#">http-service</a> ” on page 69 element.
sso-enabled	inherit	If <code>true</code> , single sign-on is enabled for web applications on this virtual server that are configured for the same realm. If <code>false</code> , single sign-on is disabled for this virtual server, and users must authenticate separately to every application on the virtual server.  A <code>true</code> or <code>false</code> setting overrides the <code>sso-enabled</code> attribute setting of the “ <a href="#">http-service</a> ” on page 69 element. An <code>inherit</code> setting uses the <code>sso-enabled</code> attribute setting of the “ <a href="#">http-service</a> ” on page 69 element.

TABLE 1-176 virtual-server Attributes (Continued)

Attribute	Default	Description
sso-cookie-secure	dynamic	<p>Sets the Secure attribute of any JSESSIONIDSSO cookies associated with the web applications deployed to this virtual server. Applicable only if the sso-enabled attribute is set to true. Allowed values are as follows:</p> <ul style="list-style-type: none"> <li>■ true — Sets Secure to true.</li> <li>■ false — Sets Secure to false.</li> <li>■ dynamic — The JSESSIONIDSSO cookie inherits the Secure setting of the first session participating in SSO.</li> </ul> <p>To set the Secure attribute of a JSESSIONID cookie, use the cookieSecure cookie-properties property in the sun-web.xml file. For details, see “cookie-properties” in <i>Sun GlassFish Enterprise Server v3 Application Deployment Guide</i>.</p>

## Properties

The following table describes properties for the virtual-server element.

TABLE 1-177 virtual-server Properties

Property	Default	Description
sso-enabled	false	Deprecated. Use the sso-enabled attribute instead.
sso-max-inactive-seconds	300	Specifies the time after which a user's single sign-on record becomes eligible for purging if no client activity is received. Since single sign-on applies across several applications on the same virtual server, access to any of the applications keeps the single sign-on record active. Higher values provide longer single sign-on persistence for the users at the expense of more memory use on the server.
sso-reap-interval-seconds	60	Specifies the interval between purges of expired single sign-on records.
ssoCookieSecure	dynamic	Deprecated. Use the sso-cookie-secure attribute instead.
setCacheControl	none	Specifies a comma-separated list of Cache-Control response directives. For a list of valid directives, see section 14.9 of the document at <a href="http://www.ietf.org/rfc/rfc2616.txt">http://www.ietf.org/rfc/rfc2616.txt</a> .
accessLoggingEnabled	false	Deprecated. Use the access-logging-enabled attribute instead.
accessLogBufferSize	32768	Specifies the size, in bytes, of the buffer where access log calls are stored. If the value is less than 5120, a warning message is issued, and the value is set to 5120.

TABLE 1-177 virtual-server Properties (Continued)

Property	Default	Description
accessLogWriteInterval	300	Specifies the number of seconds before the log is written to the disk. The access log is written when the buffer is full or when the interval expires. If the value is 0, the buffer is always written even if it is not full. This means that each time the server is accessed, the log message is stored directly to the file.
allowRemoteAddress	none	Specifies a comma-separated list of regular expression patterns that the remote client's IP address is compared to. If this property is specified, the remote address <i>must</i> match for this request to be accepted. If this property is not specified, all requests are accepted <i>unless</i> the remote address matches a denyRemoteAddress pattern.
denyRemoteAddress	none	Specifies a comma-separated list of regular expression patterns that the remote client's IP address is compared to. If this property is specified, the remote address <i>must not</i> match for this request to be accepted. If this property is not specified, request acceptance is governed solely by the allowRemoteAddress property.
allowRemoteHost	none	Specifies a comma-separated list of regular expression patterns that the remote client's hostname (as returned by [ java.net . ] Socket . getInetAddress ( ) . getHostName ( ) ) is compared to. If this property is specified, the remote hostname <i>must</i> match for this request to be accepted. If this property is not specified, all requests are accepted <i>unless</i> the remote hostname matches a denyRemoteHost pattern.
denyRemoteHost	none	Specifies a comma-separated list of regular expression patterns that the remote client's hostname (as returned by [ java.net . ] Socket . getInetAddress ( ) . getHostName ( ) ) is compared to. If this property is specified, the remote hostname <i>must not</i> match for this request to be accepted. If this property is not specified, request acceptance is governed solely by the allowRemoteHost property.  Setting this property has no effect if jk-enabled is set to true for a “network-listener” on page 103.
authRealm	none	Specifies the name attribute of an “auth-realm” on page 32 element, which overrides the server instance's default realm for stand-alone web applications deployed to this virtual server. A realm defined in a stand-alone web application's web.xml file overrides the virtual server's realm.
securePagesWithPragma	true	Set this property to false to ensure that for all web applications on this virtual server file downloads using SSL work properly in Internet Explorer.  You can set this property for a specific web application. For details, see “sun-web-app” in <i>Sun GlassFish Enterprise Server v3 Application Deployment Guide</i> .

TABLE 1-177 virtual-server Properties (Continued)

Property	Default	Description
alternatedocroot_ <i>n</i>	none	<p>Specifies an alternate document root (docroot), where <i>n</i> is a positive integer that allows specification of more than one. Alternate docroots allow web applications to serve requests for certain resources from outside their own docroot, based on whether those requests match one (or more) of the URI patterns of the web application's alternate docroots.</p> <p>If a request matches an alternate docroot's URI pattern, it is mapped to the alternate docroot by appending the request URI (minus the web application's context root) to the alternate docroot's physical location (directory). If a request matches multiple URI patterns, the alternate docroot is determined according to the following precedence order:</p> <ul style="list-style-type: none"> <li>▪ Exact match</li> <li>▪ Longest path match</li> <li>▪ Extension match</li> </ul> <p>For example, the following properties specify three alternate docroots. The URI pattern of the first alternate docroot uses an exact match, whereas the URI patterns of the second and third alternate docroots use extension and longest path prefix matches, respectively.</p> <pre>&lt;property name="alternatedocroot_1"   value="from=/my.jpg dir=/srv/images/jpg"/&gt; &lt;property name="alternatedocroot_2"   value="from=*.jpg dir=/srv/images/jpg"/&gt; &lt;property name="alternatedocroot_3"   value="from=/jpg/* dir=/src/images"/&gt;</pre> <p>The value of each alternate docroot has two components: The first component, <code>from</code>, specifies the alternate docroot's URI pattern, and the second component, <code>dir</code>, specifies the alternate docroot's physical location (directory). Spaces are allowed in the <code>dir</code> component.</p> <p>You can set this property for a specific web application. For details, see “sun-web-app” in <i>Sun GlassFish Enterprise Server v3 Application Deployment Guide</i>.</p>
contextXmlDefault	none	<p>Specifies the location, relative to <i>domain-dir</i>, of the <code>context.xml</code> file for this virtual server, if one is used. For more information about the <code>context.xml</code> file, see “Using a <code>context.xml</code> File” in <i>Sun GlassFish Enterprise Server v3 Application Development Guide</i> and <i>The Context Container</i> (<a href="http://tomcat.apache.org/tomcat-5.5-doc/config/context.html">http://tomcat.apache.org/tomcat-5.5-doc/config/context.html</a>). Context parameters, environment entries, and resource definitions in <code>context.xml</code> are supported in the Enterprise Server.</p>
allowLinking	false	<p>If <code>true</code>, resources that are symbolic links in web applications on this virtual server are served. The value of this property in the <code>sun-web.xml</code> file takes precedence if defined. For details, see “sun-web-app” in <i>Sun GlassFish Enterprise Server v3 Application Deployment Guide</i>.</p> <p><b>Caution</b> – Setting this property to <code>true</code> on Windows systems exposes JSP source code.</p>

TABLE 1-177 virtual-server Properties (Continued)

Property	Default	Description
send-error_n	none	<p>Specifies custom error page mappings for the virtual server, which are inherited by all web applications deployed on the virtual server. A web application can override these custom error page mappings in its web.xml deployment descriptor. The value of each send-error_n property has three components, which may be specified in any order:</p> <p>The first component, code, specifies the three-digit HTTP response status code for which the custom error page should be returned in the response.</p> <p>The second component, path, specifies the absolute or relative file system path of the custom error page. A relative file system path is interpreted as relative to the domain-dir/config directory.</p> <p>The third component, reason, is optional and specifies the text of the reason string (such as Unauthorized or Forbidden) to be returned.</p> <p>For example:</p> <pre>&lt;property name="send-error_1"   value="code=401 path=/myhost/401.html reason=MY-401-REASON"/&gt;</pre> <p>This example property definition causes the contents of /myhost/401.html to be returned with 401 responses, along with this response line:</p> <pre>HTTP/1.1 401 MY-401-REASON</pre>
redirect_n	none	<p>Specifies that a request for an old URL is treated as a request for a new URL. These properties are inherited by all web applications deployed on the virtual server. The value of each redirect_n property has two components, which may be specified in any order:</p> <p>The first component, from, specifies the prefix of the requested URI to match.</p> <p>The second component, url-prefix, specifies the new URL prefix to return to the client. The from prefix is simply replaced by this URL prefix.</p> <p>For example:</p> <pre>&lt;property name="redirect_1"   value="from=/dummy url-prefix=http://etude"/&gt;</pre>
valve_n	none	<p>Specifies a fully qualified class name of a custom valve, where n is a positive integer that allows specification of more than one. The valve class must implement the org.apache.catalina.Valve interface from Tomcat or previous Enterprise Server releases, or the org.glassfish.web.valve.GlassFishValve interface from the current Enterprise Server release. For example:</p> <pre>&lt;property name="valve_1"   value="org.glassfish.extension.Valve"/&gt;</pre> <p>You can set this property for a specific web application. For details, see “sun-web-app” in <i>Sun GlassFish Enterprise Server v3 Application Deployment Guide</i>.</p>



TABLE 1-177 virtual-server Properties (Continued)

Property	Default	Description
listener_ <i>n</i>	none	<p>Specifies a fully qualified class name of a custom Catalina listener, where <i>n</i> is a positive integer that allows specification of more than one. The listener class must implement the <code>org.apache.catalina.ContainerListener</code> or <code>org.apache.catalina.LifecycleListener</code> interface. For example:</p> <pre>&lt;property name="listener_1"   value="org.glassfish.extension.MyLifecycleListener"/&gt;</pre> <p>You can set this property for a specific web application. For details, see <a href="#">“sun-web-app”</a> in <i>Sun GlassFish Enterprise Server v3 Application Deployment Guide</i>.</p>

## W

### web-container

Configures the web container.

#### Superelements

[“config”](#) on page 35

#### Subelements

The following table describes subelements for the `web-container` element.

TABLE 1-178 web-container Subelements

Element	Required	Description
<a href="#">“session-config”</a> on page 125	zero or one	Specifies session configuration information for the web container.
<a href="#">“property”</a> on page 109	zero or more	Specifies a property or a variable.

#### Properties

The following table describes properties for the `web-container` element.

TABLE 1-179 web-container Properties

Property	Default	Description
dispatcher-max-depth	20	Prevents recursive include or forward statements from creating an infinite loop by setting a maximum nested dispatch level. If this level is exceeded, the following message is written to the server log:  Exceeded maximum depth for nested request dispatches

## web-module

This element is deprecated. Use an [“application” on page 26](#) element instead.

Specifies a deployed web module.

### Superelements

[“applications” on page 30](#)

### Subelements

The following table describes subelements for the web-module element.

TABLE 1-180 web-module Subelements

Element	Required	Description
<a href="#">“description” on page 48</a>	zero or one	Contains a text description of this element.
<a href="#">“web-service-endpoint” on page 147</a>	zero or more	Configures a web service endpoint.
<a href="#">“property” on page 109</a>	zero or more	Specifies a property or a variable.

### Attributes

The following table describes attributes for the web-module element.

TABLE 1-181 web-module Attributes

Attribute	Default	Description
name	none	The name of the web module.
context-root	none	The context root at which the web module is deployed. The context root can be the empty string or just /. The context root can start with the / character, but doesn't have to.

TABLE 1-181 web-module Attributes (Continued)

Attribute	Default	Description
location	none	A fully qualified or relative path to the directory to which the contents of the .war file have been extracted. If relative, it is relative to the following directory:  <i>domain-dir/applications/</i>
object-type	user	(optional) Defines the type of the resource. For a web module, the only allowed value is <i>user</i> .
enabled	true	(optional) Determines whether the web module is enabled.
libraries	none	(optional) Specifies an absolute or relative path to libraries specific to this module or application. A relative path is relative to <i>domain-dir/lib/applibs</i> . If the path is absolute, the path must be accessible to the domain administration server (DAS), which means it must be under <i>domain-dir</i> . To include more than one path, use a system-specific separator, such as a colon for Solaris or a semicolon for Windows. The libraries are made available to the application in the order in which they are specified.
directory-deployed	false	(optional) Specifies whether the application has been deployed as a directory.

## web-module-config

Configures the grandparent web “[module](#)” on page 99. Applicable only if the parent “[engine](#)” on page 54 element has a `sniffer` value of `web`.

### Superelements

“[engine](#)” on page 54

### Subelements

The following table describes subelements for the `web-module-config` element.

TABLE 1-182 web-module-config Subelements

Element	Required	Description
“ <a href="#">env-entry</a> ” on page 56	zero or more	Configures an environment entry for a web module.
“ <a href="#">context-param</a> ” on page 45	zero or more	Configures a context parameter for a web module.

## web-service-endpoint

This element is deprecated. Web services are implemented in the “[engine](#)” on page 54 element.

Configures a web service endpoint, which can be a JAX-RPC/JAXWS 2.0 or JSR-109 web service.

## Superelements

“[ejb-module](#)” on page 52, “[j2ee-application](#)” on page 73, “[web-module](#)” on page 146

## Subelements

The following table describes subelements for the `web-service-endpoint` element.

TABLE 1-183 `web-service-endpoint` Subelements

Element	Required	Description
“ <a href="#">registry-location</a> ” on page 115	zero or more	Specifies the registry where web service endpoint artifacts are published.
“ <a href="#">transformation-rule</a> ” on page 135	zero or more	Configures an eXtensible Stylesheet Language Transformation (XSLT) rule.

## Attributes

The following table describes attributes for the `web-service-endpoint` element.

TABLE 1-184 `web-service-endpoint` Attributes

Attribute	Default	Description
<code>name</code>	none	The fully qualified name of the web service. For a web service endpoint within an application, the format is as follows:  <i>module-name#endpoint-name</i>  For example:  <code>jaxrpc-simple.war#HelloIF</code>  For a web service endpoint that is a stand-alone module, the name is just the <i>endpoint-name</i> .
<code>monitoring</code>	OFF	(optional) Specifies the monitoring level for this web service. For information about monitoring levels, see “ <a href="#">module-monitoring-levels</a> ” on page 101.
<code>max-history-size</code>	25	(optional) Specifies the maximum number of monitoring records stored for this endpoint.
<code>jbi-enabled</code>	false	(optional) Determines whether the visibility of this endpoint as a Java Business Integration service is enabled or disabled.

## work-security-map

Defines a work security map, which maps a principal associated with an incoming work instance to a principal in the Enterprise Server's security domain. It is possible to map multiple EIS group or user principals to the same Enterprise Server principal.

This is different from a “[security-map](#)” on page 121, which maps the principal received during servlet or EJB authentication to the credentials accepted by the EIS.

## Superelements

[“resources” on page 119](#)

## Subelements

The following table describes subelements for the `work-security-map` element.

TABLE 1–185 `work-security-map` Subelements

Element	Required	Description
<a href="#">“principal-map” on page 107</a>	zero or more	Maps an EIS principal to a principal defined in the Enterprise Server domain.
<a href="#">“group-map” on page 60</a>	zero or more	Maps an EIS group to a group defined in the Enterprise Server domain.

## Attributes

The following table describes attributes for the `work-security-map` element.

TABLE 1–186 `work-security-map` Attributes

Attribute	Default	Description
<code>name</code>	none	Specifies a unique name for the work security map.
<code>description</code>	none	Specifies a text description for this element.



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