

Oracle® GlassFish Server 3.0.1 Domain File Format Reference

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Preface

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

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

GlassFish Server 3.0.1 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 GlassFish 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 GlassFish Server source code and to contribute to the development of the GlassFish Server. The GlassFish project is designed to encourage communication between Oracle engineers and the community.

The following topics are addressed here:

- “GlassFish 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 Oracle Product Documentation” on page 14
- “Third-Party Web Site References” on page 14

GlassFish Server Documentation Set

The GlassFish Server documentation set describes deployment planning and system installation. The Uniform Resource Locator (URL) for GlassFish Server documentation is <http://docs.sun.com/coll/1343.13>. For an introduction to GlassFish Server, refer to the books in the order in which they are listed in the following table.

TABLE P-1 Books in the GlassFish 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 GlassFish 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 GlassFish 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 GlassFish 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 GlassFish 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 GlassFish 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 GlassFish Server to develop add-on components for GlassFish Server. This document explains how to perform <i>only</i> those tasks that ensure that the add-on component is suitable for GlassFish Server.
<i>Embedded Server Guide</i>	Explains how to run applications in embedded GlassFish Server and to develop applications in which GlassFish 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 GlassFish Server.
<i>Troubleshooting Guide</i>	Describes common problems that you might encounter when using GlassFish Server and how to solve them.

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

Book Title	Description
<i>Error Message Reference</i>	Describes error messages that you might encounter when using GlassFish Server.
<i>Reference Manual</i>	Provides reference information in man page format for GlassFish Server administration commands, utility commands, and related concepts.
<i>Domain File Format Reference</i>	Describes the format of the GlassFish Server configuration file, <code>domain.xml</code> .
<i>Java EE 6 Tutorial</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 GlassFish Message Queue.
<i>Message Queue Administration Guide</i>	Explains how to set up and manage a Message Queue messaging system.
<i>Message Queue Developer's Guide for JMX Clients</i>	Describes the application programming interface in Message Queue for programmatically configuring and monitoring Message Queue resources in conformance with the Java Management Extensions (JMX).

Related Documentation

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

- The API specification for version 6 of Java EE is located at http://download.oracle.com/docs/cd/E17410_01/javaee/6/api/.
- The API specification for GlassFish Server 3.0.1, including Java EE 6 platform packages and nonplatform packages that are specific to the GlassFish 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/javaee/technologies/index.jsp>)
- The Java EE Blueprints (<http://java.sun.com/reference/blueprints/>)

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

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

The GlassFish Samples project is a collection of sample applications that demonstrate a broad range of Java EE technologies. The GlassFish Samples are bundled with the Java EE Software Development Kit (SDK), and are also available from the GlassFish Samples project page at <https://glassfish-samples.dev.java.net/>.

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.
AaBbCc123	What you type, contrasted with onscreen computer output	<code>machine_name% su</code> 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> . <i>A cache</i> is a copy that is stored locally. <i>Do 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.
<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.

TABLE P-3 Symbol Conventions (Continued)

Symbol	Description	Example	Meaning
→	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 GlassFish Server. In configuration files, <i>as-install</i> is represented as follows: <code>\${com.sun.aas.installRoot}</code>	Installations on the Oracle 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 GlassFish Server.	Installations on the Oracle 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 Oracle web site provides information about the following additional resources:

- [Documentation \(http://docs.sun.com/\)](http://docs.sun.com/)
- [Support \(http://www.sun.com/support/\)](http://www.sun.com/support/)
- [Training \(http://education.oracle.com/\)](http://education.oracle.com/)

Searching Oracle Product Documentation

Besides searching Oracle product documentation from the docs.sun.com 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 Oracle web sites in your search (for example, java.sun.com, www.sun.com, and 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.

Note – Oracle is not responsible for the availability of third-party web sites mentioned in this document. Oracle does not endorse and is not responsible or liable for any content, advertising, products, or other materials that are available on or through such sites or resources. Oracle will not be responsible or liable for any actual or alleged damage or loss caused or alleged to be caused by or in connection with use of or reliance on any such content, goods, or services that are available on or through such sites or resources.

The domain.xml File

This chapter describes the `domain.xml` configuration file for Oracle GlassFish Server 3.0.1 in these sections:

- [“About the domain.xml File” on page 15](#)
- [“Alphabetical List of Elements” on page 21](#)

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

Note – Oracle GlassFish Server 3.0.1 does not support clustering or load balancing features. Elements related to these features are ignored.

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 Oracle GlassFish 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 GlassFish Server deployment descriptors override corresponding settings in the `domain.xml` file unless otherwise stated. For more information about the GlassFish Server deployment descriptors, see the [Oracle GlassFish Server 3.0.1 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 GlassFish Server, you can add any configuration these components require to the `domain.xml` file. For more information on extending the GlassFish Server by creating add-on components, see the [Oracle GlassFish Server 3.0.1 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.

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 GlassFish 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 GlassFish 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 129](#) element or the “[jvm-options](#)” on [page 89](#) 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 122](#), “[config](#)” on [page 35](#), and “[domain](#)” on [page 48](#) 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 GlassFish 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 122](#) 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 108](#) 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
. . . . . . env-entry-value
. . . . . context-param
. . . . . . param-name
. . . . . . param-value
. applications
. . application P
. . . engine P
. . . module
. . . . engine P
. . . . . web-module-config
. . . . . env-entry
. . . . . . env-entry-name
. . . . . . env-entry-type
. . . . . . env-entry-value
. . . . . context-param
. . . . . . param-name
. . . . . . param-value
. . . lifecycle-module P
. . . j2ee-application P
. . . web-module P
. . . . web-service-endpoint
. . . . . registry-location
. . . . . transformation-rule
. . . ejb-module P
. . . . web-service-endpoint
. . . . . registry-location
. . . . . transformation-rule
. . . connector-module P
. . . appclient-module P
. . . extension-module P
. resources
. . custom-resource P
. . . external-jndi-resource P
. . . jdbc-resource P
. . . mail-resource P
. . . admin-object-resource P
. . . connector-resource P
. . . resource-adapter-config P
. . . jdbc-connection-pool P
. . . connector-connection-pool P
. . . security-map

```

```
. . . . principal
. . . . user-group
. . . . backend-principal
. . . work-security-map
. . . . principal-map
. . . . group-map
. configs
. . config P
. . . http-service P
. . . . access-log
. . . . virtual-server P
. . . . . http-access-log
. . . network-config
. . . . transports
. . . . . selection-key-handler
. . . . . transport
. . . . . protocols
. . . . . protocol
. . . . . . http
. . . . . . . file-cache
. . . . . . port-unification
. . . . . . protocol-finder
. . . . . . protocol-chain-instance-handler
. . . . . . protocol-chain
. . . . . . protocol-filter
. . . . . . ssl
. . . . network-listeners
. . . . . network-listener
. . . iiop-service
. . . . orb P
. . . . ssl-client-config
. . . . . ssl
. . . . . iiop-listener P
. . . . . . ssl
. . . . admin-service P
. . . . . jmx-connector P
. . . . . . ssl
. . . . . das-config P
. . . . connector-service
. . . . web-container P
. . . . . session-config
. . . . . . session-manager
. . . . . . . manager-properties P
. . . . . . . store-properties P
. . . . . . session-properties P
. . . . . ejb-container P
. . . . . ejb-timer-service P
. . . . . mdb-container P
```

```

. . . jms-service P
. . . . jms-host P
. . . log-service P
. . . . module-log-levels P
. . . security-service P
. . . . auth-realm P
. . . . jacc-provider P
. . . . audit-module P
. . . . message-security-config
. . . . . provider-config P
. . . . . request-policy
. . . . . response-policy
. . . transaction-service P
. . . monitoring-service P
. . . . module-monitoring-levels P
. . . java-config P
. . . . profiler P
. . . . . jvm-options
. . . . jvm-options
. . . thread-pools
. . . . thread-pool P
. . . system-property
. . . jruby-container
. . . . jruby-runtime-pool
. servers
. . server P
. . . application-ref
. . . resource-ref
. . . system-property
. system-property

```

Alphabetical List of Elements

- [“A” on page 22](#)
- [“B” on page 35](#)
- [“C” on page 35](#)
- [“D” on page 46](#)
- [“E” on page 49](#)
- [“F” on page 59](#)
- [“G” on page 60](#)
- [“H” on page 61](#)
- [“I” on page 71](#)
- [“J” on page 73](#)
- [“K” on page 89](#)
- [“L” on page 90](#)
- [“M” on page 93](#)

- “N” on page 102
- “O” on page 104
- “P” on page 105
- “R” on page 114
- “S” on page 120
- “T” on page 131
- “U” on page 137
- “V” on page 137
- “W” on page 145

A

access - log

Defines access log settings for each “[http-access-log](#)” on page 64 subelement of each “[virtual-server](#)” on page 137.

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
format	%client.name% %auth-user-name% %datetime% %request% %status% %response.length%	(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.
rotation-policy	time	(optional) Specifies the condition that triggers log rotation. The only legal value is time, which rotates log files at the rotation-interval-in-minutes interval.
rotation-interval-in-minutes	1440	(optional) Specifies the time interval between log rotations if rotation-policy is set to time.

TABLE 1-1 access-log Attributes (Continued)

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

admin-object - resource

Defines an administered object for a resource adapter.

Superelements

[“resources” on page 118](#)

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 108	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.
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.

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

Attribute	Default	Description
object-type	user	(optional) Defines the type of the resource. Allowed values are: <ul style="list-style-type: none">■ system-all - A system resource for all server instances and the domain application server.■ system-admin - A system resource only for the domain application server.■ system-instance - A system resource for all server instances only.■ user - A user resource.
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 86	zero or more	Configures a JSR 160/255 compliant remote JMX connector, which responds to JConsole port 8686.
“das-config” on page 46	only one	Defines a domain administration server configuration.
“property” on page 108	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
type	das-and-server	Specifies whether the server instance is a regular instance (server), a domain administration server (das), or a combination (das-and-server). modifying this value is not recommended.
system-jmx-connector-name	none	Specifies the name of the internal “jmx-connector” on page 86.

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
“ description ” on page 48	zero or one	Contains a text description of this element.
“ property ” on page 108	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
name	none	The name of the ACC module.
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.

TABLE 1-7 appclient-module Attributes (Continued)

Attribute	Default	Description
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 129](#), [“applications” on page 30](#)

Subelements

The following table describes subelements for the application element.

TABLE 1-8 application Subelements

Element	Required	Description
“module” on page 98	one or more	Specifies a stand-alone module or a component of a Java EE application.
“engine” on page 53	one or more	Specifies an engine.
“property” on page 108	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 GlassFish Server file system. If a relative path is specified, it is relative to the <i>domain-dir/applications/</i> directory. Note – Deployment directories may change between GlassFish Server releases.

TABLE 1-9 application Attributes (Continued)

Attribute	Default	Description
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 /. The context root can start with the / 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 53](#) 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, GlassFish 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 GlassFish 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 “Administering JSSE Certificates” in Oracle GlassFish Server 3.0.1 Administration Guide.</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 com.sun.appserv.server.LifecycleListener interface.
classpath	value of application-root attribute of “domain” on page 48 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 true, 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 GlassFish 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)	<p>Specifies the GlassFish 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 GlassFish Server version 9.1 or 9.1.1.</p> <p>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.</p>
jruby.home	as-install/jruby	Specifies the directory where JRuby itself (not the GlassFish Server JRuby container) is installed. Overrides the jruby-home attribute of “ jruby-container ” on page 88.
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 “ jruby-runtime-pool ” on page 88.
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 “ jruby-runtime-pool ” on page 88.
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 “ jruby-runtime-pool ” on page 88.
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	<p>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.</p> <p>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.</p>
jruby.MTSafe	Computed through auto-detection	<p>If true, specifies that a framework being started using jruby.applicationType is thread-safe and therefore does not need a pool created for it.</p> <p>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.</p>

application-ref

References an application or module deployed to the server.

Superelements

“server” on page 122

Subelements

none

Attributes

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

TABLE 1-11 application-ref Attributes

Attribute	Default	Description
enabled	true	(optional) Determines whether the application or module is enabled on the server on which it is deployed.
virtual-servers	all virtual servers	(optional) In a comma-separated list, references id attributes of the “virtual-server” on page 137 elements to which the web “application” on page 26 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>Oracle GlassFish Server 3.0.1 Application Deployment Guide</i> .
disable-timeout-in-minutes	30	(optional) Specifies the time it takes this application to reach a quiescent state after having been disabled.
ref	none	References the name attribute of an “application” on page 26 element.

applications

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

Superelements

“domain” on page 48

Subelements

The following table describes subelements for the applications element.

TABLE 1–12 applications Subelements

Element	Required	Description
“application” on page 26	zero or more	Specifies an application. 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.
“lifecycle-module” on page 90	zero or more	Deprecated. Use application instead.
“j2ee-application” on page 73	zero or more	Deprecated. Use application instead.
“ejb-module” on page 52	zero or more	Deprecated. Use application instead.
“web-module” on page 145	zero or more	Deprecated. Use application instead.
“connector-module” on page 42	zero or more	Deprecated. Use application instead.
“appclient-module” on page 25	zero or more	Deprecated. Use application instead.
“extension-module” on page 57	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 120](#)

Subelements

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

TABLE 1–13 audit-module Subelements

Element	Required	Description
“property” on page 108	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 GlassFish 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 [Oracle GlassFish Server 3.0.1 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 120](#)

Subelements

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

TABLE 1-16 auth-realm Subelements

Element	Required	Description
“property” on page 108	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 GlassFish 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 <i>web.xml</i> 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.
search-filter	ldap	(optional) Specifies the search filter to use to find the user. The default is <code>uid=%s</code> (%s expands to the subject name).

TABLE 1-18 auth-realmProperties (Continued)

Property	Realms	Description
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 <code>uniquemember=%d</code> (%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 “ jdbc-resource ” 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 “ jdbc-connection-pool ” on page 76 . 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 “ jdbc-connection-pool ” on page 76 . 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 120](#)

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 102	only one	Configures the communication network for the GlassFish 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 49	only one	Configures the Enterprise JavaBeans (EJB) container.
“mdb-container” on page 96	only one	Configures the message-driven bean (MDB) container.
“jms-service” on page 84	zero or one	Configures the Java Message Service (JMS) provider.
“log-service” on page 91	only one	Configures the system logging service.
“security-service” on page 120	only one	Configures the Java EE security service.
“transaction-service” on page 132	only one	Configures the transaction service.
“monitoring-service” on page 101	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 132	only one	Configures thread pools.
“system-property” on page 129	zero or more	Specifies a system property.
“property” on page 108	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
<code>name</code>	<code>server-config</code>	Specifies the name of the configuration.
<code>dynamic-reconfiguration-enabled</code>	<code>true</code>	(optional) If <code>true</code> , any changes to the system (for example, applications deployed, resources created) are automatically applied to the affected servers without a restart being required. If <code>false</code> , such changes are only picked up by the affected servers when each server restarts.

configs

Contains configurations.

Superelements

[“domain” on page 48](#)

Subelements

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

TABLE 1–22 `configs` Subelements

Element	Required	Description
“config” on page 35	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 “thread-pool” on page 131 element.
<code>max-pending-count</code>	4096	Remapped to the <code>max-connections-count</code> attribute of the “transport” on page 135 element.
<code>receive-buffer-size-in-bytes</code>	4096	Remapped to the <code>request-body-buffer-size-bytes</code> attribute of the “http” on page 61 element.

TABLE 1-23 connection-pool Attributes (Continued)

Attribute	Default	Description
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 118](#)

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 120	zero or more	Maps the principal received during servlet or EJB authentication to the credentials accepted by the EIS.
“property” on page 108	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.
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> .

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

Attribute	Default	Description
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"> ■ XATransaction - Supports distributed transactions. ■ LocalTransaction - Supports local transactions only. ■ NoTransaction - No transaction support.
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.
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.

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

Attribute	Default	Description
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 131 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.
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 GlassFish Message Queue software. For a complete list of the available properties (called *administered object attributes* in the Message Queue software), see the [Oracle GlassFish Message Queue 4.4.2 Administration Guide](#).

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

TABLE 1-26 connector-connection-pool Properties

Property	Default	Description
AddressList	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> .
ClientId	none	Specifies the JMS Client Identifier to be associated with a Connection 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.
UserName	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> .
Password	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> .
ReconnectAttempts	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).
ReconnectInterval	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.
ReconnectEnabled	false	If <code>true</code> , 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.
AddressListBehavior	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.
AddressListIterations	-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.
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.

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

Property	Default	Description
LazyConnection Association	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 GlassFish 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
“description” on page 48	zero or one	Contains a text description of this element.
“property” on page 108	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.

TABLE 1-28 connector-module Attributes (Continued)

Attribute	Default	Description
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"> ■ system-all - A system resource for all server instances and the domain application server. ■ system-admin - A system resource only for the domain application server. ■ system-instance - A system resource for all server instances only. ■ user - A user resource.
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 118](#)

Subelements

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

TABLE 1-29 connector - resource Subelements

Element	Required	Description
“description” on page 48	zero or one	Contains a text description of this element.
“property” on page 108	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 “ connector-connection-pool ” on page 38 element.
object-type	user	(optional) Defines the type of the resource. Allowed values are: <ul style="list-style-type: none">■ system-all - A system resource for all server instances and the domain application server.■ system-admin - A system resource only for the domain application server.■ system-instance - A system resource for all server instances only.■ user - A user resource.
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 GlassFish Server shutdown for the <code>ResourceAdapter.stop()</code> method of a connector module’s instance to complete. Resource adapters that take longer to shut down are ignored, and GlassFish Server shutdown continues.
class-loading-policy	derived	(optional) Specifies the resource adapters accessible to applications. Allowed values are: <ul style="list-style-type: none">■ derived — 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.■ global — All stand-alone resource adapters are available to all applications.

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 146](#)

Subelements

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

TABLE 1-32 context-param Subelements

Element	Required	Description
“param-name” on page 105	only one	Contains a context parameter name.
“param-value” on page 105	only one	Contains a context parameter value.
“description” on page 48	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
ignore-descriptor-item	false	(optional) If true, 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 118](#)

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 108	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
jndi-name	none	Specifies the JNDI 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 user-written factory class, which implements javax.naming.spi.ObjectFactory.
object-type	user	(optional) Defines the type of the resource. Allowed values are: <ul style="list-style-type: none">■ system-all - A system resource for all server instances and the domain application server.■ system-admin - A system resource only for the domain application server.■ system-instance - A system resource for all server instances only.■ user - A user resource.
enabled	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
“property” on page 108	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 [Oracle GlassFish Server 3.0.1 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 GlassFish 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.
<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 GlassFish Server deployment descriptors: <ul style="list-style-type: none"> <code>full</code> - If XML validation fails, deployment fails. <code>parsing</code> - XML validation errors are reported but deployment occurs. <code>none</code> - No XML validation is performed.

TABLE 1-37 das-config Attributes (Continued)

Attribute	Default	Description
admin-session-timeout-in-minutes	sun-web.xml timeoutSeconds property value or web.xml session-timeout 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 45](#), [“ejb-module” on page 52](#), [“env-entry” on page 55](#), [“extension-module” on page 57](#), [“external-jndi-resource” on page 58](#), [“j2ee-application” on page 73](#), [“jdbc-connection-pool” on page 76](#), [“jdbc-resource” on page 83](#), [“lifecycle-module” on page 90](#), [“mail-resource” on page 93](#), [“property” on page 108](#), [“system-property” on page 129](#), [“transformation-rule” on page 134](#), [“web-module” on page 145](#)

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
“system-applications” on page 129	zero or one	Contains system applications.
“applications” on page 30	zero or one	Contains deployed Java EE applications, Java EE modules, and applications created using other supported technologies.
“resources” on page 118	zero or one	Contains configured resources.
“configs” on page 37	only one	Contains configurations.
“servers” on page 123	only one	Contains server instances.
“system-property” on page 129	zero or more	Specifies a system property.
“property” on page 108	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
<code>application-root</code>	<code>domain-dir/applications</code>	(optional) Specifies the absolute path where deployed applications reside for this domain.
<code>log-root</code>	<code>domain-dir/logs</code>	(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 “log-service” on page 91 description for details about logs.
<code>locale</code>	operating system default	(optional) Specifies the domain’s language.
<code>version</code>	none; value changes with each major release	Specifies the version of the GlassFish 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
“ejb-timer-service” on page 53	zero or one	Configures the EJB timer service.
“property” on page 108	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
<code>steady-pool-size</code>	32	(optional) Specifies the initial and minimum number of beans maintained in the pool. Must be 0 or greater and less than <code>max-pool-size</code> . 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.
<code>pool-resize-quantity</code>	16	(optional) Specifies the number of beans to be removed when the <code>pool-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> . Applies to stateless session beans and entity beans.
<code>max-pool-size</code>	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.

TABLE 1-41 ejb-container Attributes (Continued)

Attribute	Default	Description
cache-resize-quantity	32	<p>(optional) Specifies the number of beans to be:</p> <ul style="list-style-type: none"> ■ created if a request arrives when the pool has no available beans (subject to the max-cache-size limit) ■ 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. <p>Must be greater than 1 and less than max-cache-size.</p> <p>Applies to stateful session beans and entity beans.</p>
max-cache-size	512	<p>(optional) Specifies the maximum number of beans in the cache. A value of 0 indicates an unbounded cache.</p> <p>Applies to stateful session beans and entity beans.</p>
pool-idle-timeout-in-seconds	600	<p>(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.</p> <p>Applies to stateless session beans and entity beans.</p>
cache-idle-timeout-in-seconds	600	<p>(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.</p> <p>Applies to stateful session beans and entity beans.</p>
removal-timeout-in-seconds	5400	<p>(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.</p> <p>If removal-timeout-in-seconds is less than or equal to cache-idle-timeout-in-seconds, beans are removed immediately without being passivated.</p> <p>The session-store attribute of the “server” on page 122 element determines the location of the session store.</p> <p>Applies to stateful session beans.</p>
victim-selection-policy	nru	<p>(optional) Specifies how stateful session beans are selected for passivation. Allowed values are fifo, lru, and nru:</p> <ul style="list-style-type: none"> ■ fifo - Selects the oldest instance. ■ lru - Selects the least recently accessed instance. ■ nru - Selects a not recently used instance.
commit-option	B	<p>(optional) Determines which commit option is used for entity beans. Legal values are B or C.</p>
session-store	domain-dir/ session-store	<p>(optional) Specifies the directory where passivated stateful session beans and persisted HTTP sessions are stored in the file system.</p>

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
“ description ” on page 48	zero or one	Contains a text description of this element.
“ web-service-endpoint ” on page 147	zero or more	Configures a web service endpoint.
“ property ” on page 108	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 <code>EJB.jar</code> 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 49](#)

Subelements

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

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

Element	Required	Description
“property” on page 108	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 98](#). 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 98](#)

Subelements

The following table describes subelements for the engine element.

TABLE 1–46 engine Subelements

Element	Required	Description
“web-module-config” on page 146	zero or one	Configures the parent web module. Applicable only if this engine element has a sniffer value of web.
“property” on page 108	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
sniffer	none	<p>Specifies the type of sniffer. Allowed values include the following:</p> <ul style="list-style-type: none"> ■ <code>web</code> — Specifies that the parent module is a web application. ■ <code>security</code> — Specifies that security is enabled for the parent module. ■ <code>jpa</code> — Specifies that the parent module uses the Java Persistence API. ■ <code>connector</code> — Specifies that the parent module is a connector. ■ <code>ejb</code> — Specifies that the parent module is an EJB module. The EJB container add-on component must be installed in the GlassFish Server. ■ <code>webservices</code> — Specifies that the parent module is a web service endpoint. The Metro add-on component must be installed in the GlassFish Server. ■ <code>appclient</code> — Specifies that the parent module is an application client. This value is valid only in the full platform distribution of the GlassFish Server. ■ <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 GlassFish Server. ■ <code>webbeans</code> — Specifies that the parent module is a Web Bean. The Web Beans add-on component must be installed in the GlassFish Server. ■ <code>jruby</code> — Specifies that the parent module is a JRuby application. The JRuby add-on component must be installed in the GlassFish Server. ■ <code>osgi</code> — Specifies that the parent module is an OSGi add-on component. ■ <code>grizzly</code> — Specifies that the parent module is a Grizzly add-on component.
description	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 146](#)

Subelements

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

TABLE 1–48 env-entry Subelements

Element	Required	Description
“env-entry-name” on page 56	only one	Contains an environment entry name.
“env-entry-type” on page 56	only one	Contains an environment entry type.
“env-entry-value” on page 57	only one	Contains an environment entry value.
“description” on page 48	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
ignore-descriptor-item	false	(optional) If true, 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 55](#)

Subelements

none - contains data

env-entry-type

Contains an environment entry type.

Superelements

[“env-entry” on page 55](#)

Subelements

none - contains data

env-entry-value

Contains an environment entry value.

Superelements

[“env-entry” on page 55](#)

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
“description” on page 48	zero or one	Contains a text description of this element.
“property” on page 108	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>

TABLE 1-51 extension-module Attributes (Continued)

Attribute	Default	Description
module-type	none	Specifies a String 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 GlassFish Server, the GlassFish Server specifies the module type automatically.
object-type	user	(optional) Defines the type of the resource. For an extension module, the only allowed value is user.
enabled	true	(optional) Determines whether the extension 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.

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 118](#)

Subelements

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

TABLE 1-52 external-jndi-resource Subelements

Element	Required	Description
“description” on page 48	zero or one	Contains a text description of this element.
“property” on page 108	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 javax.naming.spi.InitialContextFactory. For more information about JNDI, see the Oracle GlassFish Server 3.0.1 Application Development Guide .
object-type	user	(optional) Defines the type of the resource. Allowed values are: <ul style="list-style-type: none"> ■ system-all - A system resource for all server instances and the domain application server. ■ system-admin - A system resource only for the domain application server. ■ system-instance - A system resource for all server instances only. ■ user - A user resource.
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
enabled	false	(optional) If true, enables caching of the file content.
max-age-seconds	30	(optional) Specifies the maximum age of a file cache entry.
max-cache-size-bytes	1048576	(optional) Specifies the total size of all files that are cached as memory mapped files.
max-files-count	1024	(optional) Specifies the maximum number of files in the file cache.

G

group-map

Maps an EIS group to a group defined in the GlassFish 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
eis-group	none	Specifies an EIS group.
mapped-group	none	Specifies a group defined in the GlassFish Server domain.

H

http

Configures HTTP parameters.

Superelements

[“protocol” on page 109](#)

Subelements

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

TABLE 1-56 http Subelements

Element	Required	Description
“file-cache” on page 59	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>	<code>none</code>	Specifies the <code>id</code> attribute of the default “virtual-server” on page 137 for the “network-listener” on page 102 that references the parent “protocol” on page 109 element.
<code>server-name</code>	<code>none</code>	(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>	<code>none</code>	(optional) If the “network-listener” on page 102 that references the parent “protocol” on page 109 element is supporting non-SSL requests and a request is received for which a matching <code>security-constraint</code> requires SSL transport, the request is automatically redirected to the port number specified here.
<code>xpowered-by</code>	<code>true</code>	(optional) If true, X-Powered-By headers are used according to the Servlet 2.4 and JSP 2.0 specifications.

TABLE 1-57 http Attributes (Continued)

Attribute	Default	Description
request-body-buffer-size-bytes	4096	(optional) Specifies the size of the request buffer for “ network-listener ” on page 102 elements that reference the parent “ protocol ” on page 109 element.
send-buffer-size-bytes	8192	(optional) Specifies the size of the send buffer for “ network-listener ” on page 102 elements that reference the parent “ protocol ” on page 109 element.
auth-pass-through-enabled	false	(optional) If true, indicates that the “ network-listener ” on page 102 that references the parent “ protocol ” on page 109 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 GlassFish Server less susceptible to cross-site scripting attacks.
comet-support-enabled	false	(optional) If true, enables Comet support for the “ network-listener ” on page 102 that references the parent “ protocol ” on page 109 element. If your servlet or JSP page uses Comet technology, make sure it is initialized when the GlassFish Server starts up by adding the load-on-startup element to your web.xml file. For example: <pre><servlet> <servlet-name>CheckIn</servlet-name> <servlet-class>CheckInServlet</servlet-class> <load-on-startup>0</load-on-startup> </servlet></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"> off — Disables compression. on — Compresses data. force — Forces data compression in all cases. 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 102 that references the parent “ protocol ” on page 109 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 137. 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 137

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 129.
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
globally-enabled	false	Not implemented. Do not use.
file-caching-enabled	false	Remapped to the enabled attribute of the “file-cache” on page 59 element.
max-age-in-seconds	30	Remapped to the max-age-seconds attribute of the “file-cache” on page 59 element.
medium-file-size-limit-in-bytes	537600	Not implemented. Do not use.
medium-file-space-in-bytes	1048576	Remapped to the max-cache-size-bytes attribute of the “file-cache” on page 59 element.
small-file-size-limit-in-bytes	2048	Not implemented. Do not use.
small-file-space-in-bytes	1048576	Not implemented. Do not use.
file-transmission-enabled	false	Not implemented. Do not use.
max-files-count	1024	Remapped to the max-files-count attribute of the “file-cache” on page 59 element.
hash-init-size	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
“ssl” on page 126	zero or one	Defines Secure Socket Layer (SSL) parameters.
“property” on page 108	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>	<code>none</code>	Remapped to the <code>name</code> attribute of a “network-listener” on page 102 element.
<code>address</code>	<code>none</code>	Remapped to the <code>address</code> attribute of a “network-listener” on page 102 element.
<code>port</code>	<code>none</code>	Remapped to the <code>port</code> attribute of a “network-listener” on page 102 element.
<code>external-port</code>	<code>none</code>	Not implemented. Do not use.
<code>family</code>		Not implemented. Do not use.
<code>blocking-enabled</code>	<code>false</code>	Not implemented. Do not use.
<code>acceptor-threads</code>	<code>1</code>	Remapped to the <code>acceptor-threads</code> attribute of a “transport” on page 135 element.
<code>security-enabled</code>	<code>false</code>	Remapped to the <code>security-enabled</code> attribute of a “protocol” on page 109 element.
<code>default-virtual-server</code>	<code>none</code>	Remapped to the <code>default-virtual-server</code> attribute of an “http” on page 61 element.
<code>server-name</code>	<code>none</code>	Remapped to the <code>server-name</code> attribute of an “http” on page 61 element.
<code>redirect-port</code>	<code>none</code>	Remapped to the <code>redirect-port</code> attribute of an “http” on page 61 element.
<code>xpowered-by</code>	<code>true</code>	Remapped to the <code>xpowered-by</code> attribute of an “http” on page 61 element.
<code>enabled</code>	<code>true</code>	Remapped to the <code>enabled</code> attribute of a “network-listener” on page 102 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 102](#) 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 “ http-service ” on page 69.
ssl3-session-timeout	86400	Implemented only for “ http-service ” on page 69.
ssl-session-timeout	100	Implemented only for “ http-service ” 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 byte-buffer-type attribute of a “ transport ” on page 135 element.
authPassthrough Enabled	false	Remapped to the auth-pass-through-enabled attribute of an “ http ” on page 61 element.
proxyHandler	com.sun.enterprise.web.ProxyHandlerImpl	Implemented only for “ http-service ” on page 69.
proxiedProtocol	none	Not implemented. Do not use.
bufferSize	4096	Remapped to the buffer-size-bytes attribute of a “ transport ” on page 135 element.
connectionTimeout	30	Implemented only for “ http-service ” on page 69.
maxKeepAliveRequests	250	Remapped to the max-connections attribute of an “ http ” on page 61 element.
traceEnabled	true	Remapped to the trace-enabled attribute of an “ http ” on page 61 element.
cometSupport	false	Remapped to the comet-support-enabled attribute of an “ http ” on page 61 element.
jkEnabled	false	Remapped to the jk-enabled attribute of a “ network-listener ” on page 102 element.
compression	off	Remapped to the compression attribute of an “ http ” on page 61 element.
compressableMimeType	text/html, text/xml, text/plain	Remapped to the compressable-mime-type attribute of an “ http ” on page 61 element.

TABLE 1-62 http-listener Properties (Continued)

Property	Default	Description
noCompression UserAgents	empty String (regex 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 126 element.
trustAlgorithm	none	Remapped to the trust-algorithm attribute of an “ssl” on page 126 element.
trustMaxCertLength	5	Remapped to the trust-max-cert-length attribute of an “ssl” on page 126 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.
dns-lookup-enabled	false	Remapped to the dns-lookup-enabled attribute of an “http” on page 61 element.

TABLE 1-63 http-protocol Attributes (Continued)

Attribute	Default	Description
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 109 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 137 .
“http-listener” on page 65	one or more	Not implemented. See the element description for attribute and property remapping.
“virtual-server” on page 137	one or more	Defines a virtual server.
“request-processing” on page 115	zero or one	Not implemented. See the element description for attribute remapping.
“keep-alive” on page 89	zero or one	Not implemented. See the element description for attribute remapping.
“connection-pool” on page 37	zero or one	Not implemented. See the element description for attribute remapping.
“http-protocol” on page 68	zero or one	Not implemented. See the element description for attribute remapping.
“http-file-cache” on page 64	zero or one	Not implemented. See the element description for attribute remapping.

TABLE 1-64 http-service Subelements (Continued)

Element	Required	Description
“property” on page 108	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
access-logging-enabled	false	If true, enables access logging for all virtual-server subelements that specify this attribute as true or inherit. If false, disables access logging for all virtual-server subelements that specify this attribute as false or inherit.
sso-enabled	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 sso-enabled attribute of the “virtual-server” on page 137 element overrides this setting for an individual virtual server. An inherit setting of the sso-enabled attribute of the “virtual-server” on page 137 element uses this setting for an individual virtual server.</p> <p>At the http-service level, you cannot change the sso-max-inactive-seconds and sso-reap-interval-seconds values from their defaults. However, you can change these values at the virtual-server 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 102](#) 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.

TABLE 1-66 http-service Properties (Continued)

Property	Default	Description
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 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 GlassFish 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 “network-listener” on page 102 element's grandchild “http” on page 61 element is set to <code>true</code>.</p>
connectionTimeout	30	Specifies the number of seconds an HTTP “ network-listener ” on page 102 waits, after accepting a connection, for the request URI line to be presented.

I

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
“ ssl ” on page 126	zero or one	Defines SSL parameters.

TABLE 1-67 iiop-listener Subelements *(Continued)*

Element	Required	Description
“property” on page 108	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>	<code>none</code>	The listener name. An <code>iiop-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, or just a name.
<code>port</code>	<code>1072</code>	(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>	<code>false</code>	(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>	<code>true</code>	(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
“orb” on page 104	only one	Configures the ORB.
“ssl-client-config” on page 127	zero or one	Defines SSL parameters for the ORB.
“iiop-listener” on page 71	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
client-authentication-required	false	(optional) If <code>true</code> , 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
“description” on page 48	zero or one	Contains a text description of this element.
“web-service-endpoint” on page 147	zero or more	Configures a web service endpoint.
“property” on page 108	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 <code>.ear</code> file have been extracted. If relative, it is relative to the following directory: <i>domain-dir/applications/</i>

TABLE 1-72 j2ee-application Attributes (Continued)

Attribute	Default	Description
object-type	user	(optional) Defines the type of the resource. For an application, the only allowed value is user.
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 120](#)

Subelements

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

TABLE 1-73 jacc-provider Subelements

Element	Required	Description
“property” on page 108	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.

TABLE 1-74 jacc-provider Attributes (Continued)

Attribute	Default	Description
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

Property	Default	Description
repository	<i>domain-dir/generated/policy</i>	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
“profiler” on page 107	zero or one	Configures a profiler for use with the GlassFish Server.
“jvm-options” on page 89	zero or more	Contains JVM command line options.
“property” on page 108	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
java-home	<code>\${com.sun.aas.javaRoot}</code>	The path to the directory where the JDK is installed.
debug-enabled	false	(optional) If true, the server starts up in debug mode ready for attachment with a JPDA-based debugger.
debug-options	<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 http://java.sun.com/javase/technologies/core/toolsapis/jpda/ . For more information about debugging, see the <i>Oracle GlassFish Server 3.0.1 Application Development Guide</i> .
rmic-options	<code>-iiop -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 http://java.sun.com/javase/6/docs/technotes/tools/solaris/rmic.html .
javac-options	<code>-g</code>	(optional) Specifies options passed to the Java compiler at application deployment time.
classpath-suffix	none	Not implemented. Do not use.
system-classpath	none	Not implemented. Do not use.
native-library-path-prefix	none	(optional) Specifies a prefix for the native library path. The native library path is the automatically constructed concatenation of the GlassFish 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.
native-library-path-suffix	none	(optional) Specifies a suffix for the native library path.
bytecode-preprocessors	none	(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.
env-classpath-ignored	true	Not implemented. Do not use.

jdbc-connection-pool

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

Superelements

[“resources” on page 118](#)

Subelements

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

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

Element	Required	Description
“property” on page 108	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>	<code>none</code>	Specifies the name of the connection pool. A “jdbc-resource” on page 83 element’s <code>pool-name</code> attribute refers to this name.
<code>description</code>	<code>none</code>	(optional) Specifies a text description of this element.
<code>datasource-classname</code>	<code>none</code>	(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>	<code>none</code>	(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 <code>datasource-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.
<code>driver-classname</code>	<code>none</code>	(optional) Specifies the vendor-supplied JDBC driver class name. This driver must implement the <code>java.sql.Driver</code> interface.
<code>ping</code>	<code>false</code>	(optional) Specifies whether to ping the pool during pool creation or reconfiguration to identify and warn of any erroneous attribute values.

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

Attribute	Default	Description
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. 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 read-uncommitted, read-committed, repeatable-read, or serializable. Applications that change the isolation level on a pooled connection programmatically risk polluting the pool, which can lead to errors. See is-isolation-level-guaranteed for more details.
is-isolation-level-guaranteed	true	(optional) Applicable only when transaction-isolation-level 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"> ■ auto-commit, which uses <code>Connection.setAutoCommit(Connection.getAutoCommit())</code> ■ meta-data, which uses <code>Connection.getMetaData()</code> ■ table, which performs a query on a table specified in the <code>validation-table-name</code> attribute ■ custom-validation, which uses a user-defined validation mechanism specified by the custom implementation class in <code>validation-classname</code>. <p>Because many JDBC drivers cache the results of auto-commit and meta-data 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 table 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 Connection Validation in GlassFish JDBC.</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 GlassFish 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	<p>(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.</p> <p>Use this attribute along with <code>connection-leak-reclaim</code> to avoid potential connection leaks from the application. More details are at Connection Leak Tracing.</p>
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	<p>(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.</p> <p>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>.</p>
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 “thread-pool” on page 131 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 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.
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 0 disables statement caching.
pooling	true	(optional) If <code>false</code> , disables connection pooling.
wrap-jdbc-objects	true	<p>(optional) If <code>true</code>, wrapped JDBC objects are returned for <code>Statement</code>, <code>PreparedStatement</code>, <code>CallableStatement</code>, <code>ResultSet</code>, and <code>DatabaseMetaData</code>.</p> <p>This option ensures that <code>Statement.getConnection()</code> is the same as <code>DataSource.getConnection()</code>. Therefore, this option should be <code>true</code> when both <code>Statement.getConnection()</code> and <code>DataSource.getConnection()</code> are done.</p>

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 GlassFish 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 <code>XADataSource</code> , or a <code>ConnectionPoolDataSource</code> if connection pooling is done.
<code>description</code>	Specifies a text description.
<code>url</code>	Specifies the URL for this connection pool. Although this is not a standard property, it is commonly used.
<code>prefer-validate-over-recreate</code>	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> .
<code>LazyConnectionEnlistment</code>	Deprecated. Use the equivalent attribute.
<code>LazyConnectionAssociation</code>	Deprecated. Use the equivalent attribute.

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

Property	Description
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 118](#)

Subelements

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

TABLE 1-81 jdbc - resource Subelements

Element	Required	Description
“property” on page 108	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
jndi-name	none	Specifies the JNDI name for the resource.
description	none	(optional) Specifies a text description of this element.
pool-name	none	Specifies the name of the associated “jdbc-connection-pool” on page 76 .
object-type	user	(optional) Defines the type of the resource. Allowed values are: <ul style="list-style-type: none"> ■ system-all - A system resource for all server instances and the domain application server. ■ system-admin - A system resource only for the domain application server. ■ system-instance - A system resource for all server instances only. ■ user - A user resource.
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 GlassFish Server.

Superelements

[“jms-service” on page 84](#)

Subelements

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

TABLE 1-83 `jms - host` Subelements

Element	Required	Description
“property” on page 108	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
<code>name</code>	<code>none</code>	Specifies the name of the JMS host.
<code>host</code>	<i>machine-name</i>	(optional) Specifies the host name of the JMS host.
<code>port</code>	<code>7676</code>	(optional) Specifies the port number used by the JMS provider.
<code>admin-user-name</code>	<code>admin</code>	(optional) Specifies the administrator user name for the JMS provider.
<code>admin-password</code>	<code>admin</code>	(optional) Specifies the administrator password for the JMS provider.

jms - service

Configures the built-in Java Message Service (JMS) that is managed by the GlassFish 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
“jms-host” on page 84	zero or more	Specifies a host.
“property” on page 108	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.
<code>type</code>	EMBEDDED	Specifies the type of JMS service: <ul style="list-style-type: none"> EMBEDDED means the JMS provider is started in the same JVM machine as the GlassFish Server, and the networking stack is bypassed. Lazy initialization starts the default embedded broker on the first access of JMS services rather than at GlassFish Server startup. LOCAL means the JMS provider is started along with the GlassFish Server. The LOCAL setting implicitly sets up a 1:1 relationship between a GlassFish Server instance and a Message Queue broker. REMOTE means the JMS provider is remote and is not started by the GlassFish Server.
<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 “jms-host” on page 84 . If type is set to LOCAL, this <code>.jms-host</code> is automatically started at GlassFish 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.

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

Attribute	Default	Description
<code>addresslist-behavior</code>	<code>random</code>	(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>	<code>3</code>	(optional) Specifies the number of times the reconnection logic iterates over the <code>imqAddressList</code> if <code>addresslist-behavior</code> is set to <code>PRIORITY</code> .
<code>mq-scheme</code>	<code>mq</code>	(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>	<code>jms</code>	(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
<code>instance-name</code>	<code>imqbroker</code>	Specifies the full GlassFish Message Queue broker instance name.
<code>instance-name-suffix</code>	<code>none</code>	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 (<code>_</code>). For example, if the instance name is <code>imqbroker</code> , appending the suffix <code>xyz</code> changes the instance name to <code>imqbroker_xyz</code> .
<code>append-version</code>	<code>false</code>	If <code>true</code> , appends the major and minor version numbers, preceded by underscore characters (<code>_</code>), to the full Message Queue broker instance name. For example, if the instance name is <code>imqbroker</code> , appending the version numbers changes the instance name to <code>imqbroker_8_0</code> .
<code>user-name</code>	<code>guest</code>	Specifies the user name for creating the JMS connection. Needed only if the default username/password of <code>guest/guest</code> is not available in the broker.
<code>password</code>	<code>guest</code>	Specifies the password for creating the JMS connection. Needed only if the default username/password of <code>guest/guest</code> 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
“ssl” on page 126	zero or one	Defines SSL parameters.
“property” on page 108	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
<code>name</code>	<code>none</code>	Specifies the name of the connector used by the designated system JMX connector for JMX communication between server instances. Do not modify this name.
<code>protocol</code>	<code>rmi_jrmp</code>	(optional) Specifies the protocol that this JMX connector supports. The only supported protocol is <code>rmi_jrmp</code> . Do not modify this value.
<code>address</code>	<code>0.0.0.0</code>	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.
<code>port</code>	<code>8686</code>	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.
<code>auth-realm-name</code>	<code>admin-realm</code>	Specifies the name of an “auth-realm” on page 32 subelement of the “security-service” on page 120 element for the server instance that is running this JMX connector's server end. Note that this is a dedicated administration security realm.
<code>security-enabled</code>	<code>false</code>	(optional) Determines whether JMX communication is encrypted.
<code>enabled</code>	<code>true</code>	(optional) Enables the JMX connector. Do not modify this value.

j ruby - 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 j ruby - container element.

TABLE 1-90 j ruby - container Subelements

Element	Required	Description
“j ruby - runtime - pool” on page 88	only one	Configures the JRuby runtime pool.

Attributes

The following table describes attributes for the j ruby - container element.

TABLE 1-91 j ruby - container Attributes

Attribute	Default	Description
j ruby - home	<i>as-install/j ruby</i>	Specifies the directory where JRuby itself (not the GlassFish Server JRuby container) is installed. Overridden by the j ruby . home property of “application” on page 26 if defined.

j ruby - runtime - pool

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

Superelements

[“j ruby - container” on page 88](#)

Subelements

none

Attributes

The following table describes attributes for the j ruby - runtime - pool element.

TABLE 1-92 jruby-runtime-pool Attributes

Attribute	Default	Description
jruby-runtime	1	Specifies the initial number of JRuby runtimes to start. Must be greater than zero, at least jruby-runtime-min, and jruby-runtime-max or less. Overridden by the jruby.runtime property of “application” on page 26 if defined.
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. Overridden by the jruby.runtime.min property of “application” on page 26 if defined.
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. Overridden by the jruby.runtime.max property of “application” 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/javase/technologies/hotspot/vmoptions.jsp>.

Superelements

“java-config” on page 75, “profiler” on page 107

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-a-live element.

TABLE 1-93 keep-a-live Attributes

Attribute	Default	Description
thread-count	1	Not implemented. Do not use.
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 *Oracle GlassFish Server 3.0.1 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 108	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.
classpath	value of application - root attribute of “domain” on page 48 element	(optional) The classpath for the lifecycle module. Specifies where the module is located.
load-order	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 MAXINT. Values from 1 to 100 are reserved.
is-failure-fatal	false	(optional) Determines whether the server is shut down if the lifecycle module fails.
object-type	user	(optional) Defines the type of the resource. For a lifecycle module, the only allowed value is <code>user</code> .
enabled	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 137.
- 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 132.

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 99	zero or one	Specifies log levels.
“property” on page 108	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 48 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 48 element. A relative path is relative to the log-root attribute of the “domain” on page 48 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 99 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 118](#)

Subelements

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

TABLE 1-99 `mail-resource` Subelements

Element	Required	Description
“description” on page 48	zero or one	Contains a text description of this element.
“property” on page 108	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
<code>jndi-name</code>	none	Specifies the JNDI name for the resource.

TABLE 1-100 mail-resource Attributes (Continued)

Attribute	Default	Description
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 imap, pop3, imaps, and pop3s .
store-protocol-class	com.sun.mail.imap.IMAPStore	(optional) Specifies the service provider implementation class for storage. Allowed values are: com.sun.mail.imap.IMAPStore com.sun.mail.pop3.POP3Store com.sun.mail.imap.IMAPSSLStore com.sun.mail.pop3.POP3SSLStore
transport-protocol	smtp	(optional) Specifies the transport protocol service, which sends messages. Allowed values are smtp and smtps.
transport-protocol-class	com.sun.mail.smtp.SMTPTransport	(optional) Specifies the service provider implementation class for transport. Allowed values are: com.sun.mail.smtp.SMTPTransport com.sun.mail.smtp.SMTPSSLTransport
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"> ■ system-all - A system resource for all server instances and the domain application server. ■ system-admin - A system resource only for the domain application server. ■ system-instance - A system resource for all server instances only. ■ user - A user resource.
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 JavaMail Session object later. Every property name must start with a mail- prefix. The GlassFish Server changes the dash (-) character to a period (.) in the name of the property, then saves the property to the MailConfiguration and JavaMail Session 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 JavaMail Session object, first edit `domain.xml` as follows:

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

After getting the JavaMail Session 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 124](#)

Subelements

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

TABLE 1-101 `manager-properties` Subelements

Element	Required	Description
“property” on page 108	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
“property” on page 108	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
cmt-max-runtime-exceptions	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 120](#)

Subelements

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

TABLE 1-106 message-security-config Subelements

Element	Required	Description
“provider-config” on page 113	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 53](#) 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
“ engine ” on page 53	one or more	Specifies an engine.
“ property ” on page 108	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 91](#)

Subelements

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

TABLE 1-110 module-log-levels Subelements

Element	Required	Description
“property” on page 108	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 GlassFish Server system loggers.

TABLE 1-111 module-log-levels Attributes

Attribute	Default	Description
root	INFO	(optional) Specifies the default level of messages logged by the entire GlassFish Server installation.
server	INFO	(optional) Specifies the default level of messages logged by the server instance.
ejb-container	INFO	(optional) Specifies the level of messages logged by the EJB container.
cmp-container	INFO	(optional) Specifies the level of messages logged by the CMP subsystem of the EJB container.
mdb-container	INFO	(optional) Specifies the level of messages logged by the MDB container.
web-container	INFO	(optional) Specifies the level of messages logged by the web container.
classloader	INFO	(optional) Specifies the level of messages logged by the classloader hierarchy.
configuration	INFO	(optional) Specifies the level of messages logged by the configuration subsystem.
naming	INFO	(optional) Specifies the level of messages logged by the naming subsystem.
security	INFO	(optional) Specifies the level of messages logged by the security subsystem.
jts	INFO	(optional) Specifies the level of messages logged by the Java Transaction Service.

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

Attribute	Default	Description
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 101](#)

Subelements

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

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

Element	Required	Description
“property” on page 108	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
“module-monitoring-levels” on page 100	zero or one	Controls the level of monitoring of server subsystems.
“property” on page 108	zero or more	Specifies a property or a variable.

N

network-config

Configures the communication network for the GlassFish Server. The network configuration includes most of the features that were in the HTTP Service in previous GlassFish 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-config element.

TABLE 1-115 network-config Subelements

Element	Required	Description
“network-listeners” on page 103	only one	Contains network listeners.
“protocols” on page 112	only one	Contains protocols.
“transports” on page 136	only one	Contains transports.

network-listener

Configures a network listener.

When you first install the GlassFish 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 103](#)

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 GlassFish 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 GlassFish 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 “virtual-server” on page 137 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 “protocol” on page 109 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 “thread-pool” on page 131 associated with this network listener.
<code>transport</code>	<code>none</code>	Specifies the name of the “transport” on page 135 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 102](#)

Subelements

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

TABLE 1-117 `network-listeners` Subelements

Element	Required	Description
“network-listener” on page 102	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 127](#) 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
“property” on page 108	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 “thread-pool” on page 131 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 109](#)

Subelements

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

TABLE 1-120 port-unification Subelements

Element	Required	Description
“protocol-finder” on page 112	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
name	none	Specifies a unique name for the port-unification.
classname	none	Specifies the class name of the port-unification implementation.

principal

Contains the principal of the servlet or EJB client.

Superelements

[“security-map” on page 120](#)

Subelements

none - contains data

principal-map

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

profiler

Configures a profiler for use with the GlassFish Server. For more information about profilers, see the *Oracle GlassFish Server 3.0.1 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
“jvm-options” on page 89	zero or more	Contains profiler-specific JVM command line options.
“property” on page 108	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.
<code>classpath</code>	none	(optional) Specifies the classpath for the profiler.

TABLE 1-124 profiler Attributes (Continued)

Attribute	Default	Description
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 GlassFish Server
- Needed by a system or object that the GlassFish 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 45](#), [“das-config” on page 46](#), [“domain” on page 48](#), [“ejb-container” on page 49](#), [“ejb-module” on page 52](#), [“ejb-timer-service” on page 53](#), [“engine” on page 53](#), [“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 76](#), [“jdbc-resource” on page 83](#), [“jms-host” on page 84](#), [“jms-service” on page 84](#), [“jmx-connector” on page 86](#), [“lifecycle-module” on page 90](#), [“log-service” on page 91](#), [“mail-resource” on page 93](#), [“manager-properties” on page 95](#), [“mdb-container” on page 96](#), [“module-log-levels” on page 99](#), [“module-monitoring-levels” on page 100](#), [“monitoring-service” on page 101](#), [“orb” on page 104](#), [“profiler” on page 107](#), [“provider-config” on page 113](#), [“resource-adapter-config” on page 116](#), [“security-service” on page 120](#), [“server” on page 122](#), [“session-properties” on page 125](#), [“store-properties” on page 128](#),

[“thread-pool” on page 131](#), [“transaction-service” on page 132](#), [“virtual-server” on page 137](#), [“web-container” on page 145](#), [“web-module” on page 145](#)

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 111](#) — Defines a custom protocol as a chain of [“protocol-filter” on page 111](#) links.
- [“port-unification” on page 105](#) — Defines a composite protocol, which can consist of several protocol definitions. Port unification makes it possible for a single [“network-listener” on page 102](#) to host several protocols at the same time. For example, HTTP and IIOP can work simultaneously on port 8080.

Superelements

[“protocols” on page 112](#)

Subelements

The following table describes subelements for the protocol element.

TABLE 1–126 protocol Subelements

Element	Required	Description
“http” on page 61	zero or one	Configures HTTP parameters.

TABLE 1-126 protocol Subelements (Continued)

Element	Required	Description
“port-unification” on page 105	zero or one	Configures port unification.
“protocol-chain-instance-handler” on page 111	zero or one	Configures a protocol chain instance handler.
“protocol-filter” on page 111	zero or one	Configures a protocol filter.
“ssl” on page 126	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 “network-listener” on page 102 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 111](#)

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.
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 109](#)

Subelements

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

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

Element	Required	Description
“protocol-chain” on page 110	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 109](#)

Subelements

none

Attributes

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

TABLE 1–131 protocol-filter Attributes

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

protocol-finder

Configures a protocol finder.

Superelements

[“port-unification” on page 105](#)

Subelements

none

Attributes

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

TABLE 1–132 protocol-finder Attributes

Attribute	Default	Description
name	none	Specifies a unique name for the protocol finder.
classname	none	Specifies the class name of the protocol finder implementation.
protocol	none	Specifies the name of the “protocol” on page 109 associated with this protocol finder.

protocols

Contains protocols.

Superelements

[“network-config” on page 102](#)

Subelements

The following table describes subelements for the protocols element.

TABLE 1-133 protocols Subelements

Element	Required	Description
“protocol” on page 109	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 97](#)

Subelements

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

TABLE 1-134 provider-config Subelements

Element	Required	Description
“request-policy” on page 115	zero or one	Defines the authentication policy requirements of the authentication provider’s request processing.
“response-policy” on page 119	zero or one	Defines the authentication policy requirements of the authentication provider’s response processing.
“property” on page 108	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
<code>provider-id</code>	none	Specifies a unique identifier for this <code>provider-config</code> element.
<code>provider-type</code>	none	Specifies whether the provider is a <code>client</code> , <code>server</code> , or <code>client-server</code> authentication provider.

TABLE 1-135 provider-config Attributes (Continued)

Attribute	Default	Description
class-name	none	Specifies the Java implementation class of the provider. Client authentication providers must implement the com.sun.enterprise.security.jauth.ClientAuthModule interface. Server authentication providers must implement the com.sun.enterprise.security.jauth.ServerAuthModule 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	domain-dir/ config/ wss-server- config-1.0.xml	Specifies the location of the message security configuration file. To point to a configuration file in the domain-dir/config 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 “system-property” on page 129.
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 CallbackHandler for each request. If false, the user name and password for wsse:UsernameToken(s) is collected once, during module initialization. This property is only applicable for a ClientAuthModule.
encryption.key. alias	s1as	Specifies the encryption key used by the provider. The key is identified by its keystore alias.
signature.key. alias	s1as	Specifies the signature key used by the provider. The key is identified by its keystore alias.

R

registry-location

This element is deprecated. Web services are implemented in the “engine” on page 53 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 jndi-name of the “ connector-resource ” 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 113](#)

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
thread-count	20	Remapped to the max-thread-pool-size attribute of a “thread-pool” on page 131 element.
initial-thread-count	2	Remapped to the min-thread-pool-size attribute of a “thread-pool” on page 131 element.
thread-increment	1	Not implemented. Do not use.
request-timeout-in-seconds	30	Remapped to the request-timeout-seconds attribute of an “http” on page 61 element.
header-buffer-length-in-bytes	8192	Remapped to the header-buffer-length-bytes attribute of an “http” on page 61 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 118](#)

Subelements

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

TABLE 1-140 resource-adapter-config Subelements

Element	Required	Description
“property” on page 108	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
<code>name</code>	none	(optional) Not used. See <code>resource-adapter-name</code> .
<code>thread-pool-ids</code>	none	(optional) Specifies a comma-separated list of the name attributes of “thread-pool” on page 131 elements.
<code>object-type</code>	user	(optional) Defines the type of the resource. Allowed values are: <ul style="list-style-type: none"> ■ <code>system-all</code> - A system resource for all server instances and the domain application server. ■ <code>system-admin</code> - A system resource only for the domain application server. ■ <code>system-instance</code> - A system resource for all server instances only. ■ <code>user</code> - A user resource.
<code>resource-adapter-name</code>	none	Specifies the name attribute of a deployed connector “application” on page 26 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 122](#)

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 45 , “external-jndi-resource” on page 58 , “jdbc-resource” on page 83 , “mail-resource” on page 93 , “admin-object-resource” on page 23 , “resource-adapter-config” on page 116 , “connector-connection-pool” on page 38 , or “jdbc-connection-pool” on page 76 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 a GlassFish Server application should begin with the string `java:comp/env`.

Superelements

[“domain” on page 48](#)

Subelements

The following table describes subelements for the resources element.

TABLE 1–143 resources Subelements

Element	Required	Description
“custom-resource” on page 45	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 93	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.
“resource-adapter-config” on page 116	zero or more	Defines a resource adapter configuration.
“jdbc-connection-pool” on page 76	zero or more	Defines the properties that are required for creating a JDBC connection pool.

TABLE 1-143 resources Subelements (Continued)

Element	Required	Description
“connector-connection-pool” on page 38	zero or more	Defines the properties that are required for creating a connector connection pool.
“work-security-map” on page 148	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 113](#)

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 GlassFish 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 GlassFish 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
“ principal ” on page 106	one or more	Contains the principal of the servlet or EJB client.
“ user-group ” on page 137	one or more	Contains the group to which the principal belongs.
“ backend-principal ” on page 35	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
name	none	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 126. For connector module security, see “[security-map](#)” on page 120.

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
“auth-realm” on page 32	one or more	Defines a realm for authentication.
“jacc-provider” on page 74	one or more	Specifies a Java Authorization Contract for Containers (JACC) provider for pluggable authorization.
“audit-module” on page 31	zero or more	Specifies an optional plug-in module that implements audit capabilities.
“message-security-config” on page 97	zero or more	Specifies configurations for message security providers.
“property” on page 108	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 “auth-realm” on page 32 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>	<p>(optional) If <code>true</code>, additional access logging is performed to provide audit information.</p> <p>Audit information consists of:</p> <ul style="list-style-type: none"> ■ Authentication success and failure events ■ Servlet and EJB access grants and denials

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 136](#)

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 123

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 117	zero or more	References a resource deployed to the server instance.
“system-property” on page 129	zero or more	Specifies a system property.
“property” on page 108	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 48

Subelements

The following table describes subelements for the servers element.

TABLE 1-152 servers Subelements

Element	Required	Description
“server” on page 122	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
“session-manager” on page 124	zero or one	Specifies session manager configuration information.
“session-properties” on page 125	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 124](#)

Subelements

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

TABLE 1–154 session-manager Subelements

Element	Required	Description
“manager-properties” on page 95	zero or one	Specifies session manager properties.
“store-properties” on page 128	zero or one	Specifies session persistence (storage) properties.

session-properties

Specifies session properties.

Superelements

[“session-config” on page 124](#)

Subelements

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

TABLE 1–155 session-properties Subelements

Element	Required	Description
“property” on page 108	zero or more	Specifies a property or a variable.

Attributes

TABLE 1–156 session-properties Attributes

Attribute	Default	Description
timeout-in-seconds	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 session-timeout element is specified in the web.xml file, the session-timeout value overrides any timeout-in-seconds value. If neither session-timeout nor timeout-in-seconds is specified, the timeout-in-seconds default is used.</p> <p>Note that the session-timeout element in web.xml 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 109](#), [“http-listener” on page 65](#), [“iiop-listener” on page 71](#), [“jmx-connector” on page 86](#), [“ssl-client-config” on page 127](#)

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 <i>tokenname: nickname</i> . Including the <i>tokenname:</i> 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 “virtual-server” on page 137 , 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 137 , 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 Oracle GlassFish Server 3.0.1 Administration Guide .
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 <code>trustAlgorithm</code> 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

[“iioo-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
“ssl” on page 126	only one	Defines SSL parameters.

store-properties

Specifies session persistence (storage) properties.

Superelements

[“session-manager” on page 124](#)

Subelements

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

TABLE 1-160 `store-properties` Subelements

Element	Required	Description
“property” on page 108	zero or more	Specifies a property or a variable.

Attributes

TABLE 1-161 `store-properties` Attributes

Attribute	Default	Description
<code>directory</code>	<code>domain-dir</code> <code>/generated/jsp</code> <code>/j2ee-apps/appname/</code> <code>appname_war</code>	(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</code> <code>-in-seconds</code>	60	(optional) Not implemented. Use the <code>reap-interval-in-seconds</code> attribute of the “manager-properties” on page 95 element instead.

system-applications

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

Superelements

[“domain” on page 48](#)

Subelements

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

TABLE 1–162 `system-applications` Subelements

Element	Required	Description
“application” on page 26	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 48](#), [“server” on page 122](#), 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 129](#). 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 48](#), [“server” on page 122](#)

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 GlassFish 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 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 132](#)

Subelements

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

TABLE 1-165 thread-pool Subelements

Element	Required	Description
“property” on page 108	zero or more	Specifies a property or a variable.

Attributes

TABLE 1-166 thread-pool Attributes

Attribute	Default	Description
name	none	Specifies the thread pool name.
classname	com.sun.grizzly.http. StatsThreadPool	(Optional) Specifies the class name of the thread pool implementation.
min-thread-pool-size	2	(optional) Specifies the minimum number of threads in the pool. These are created when the thread pool is instantiated.
max-thread-pool-size	5	(optional) Specifies the maximum number of threads the pool can contain. To optimize this thread pool for use with an “iioP-listener” on page 71 , set this value to 200.
idle-thread-timeout-seconds	900	(optional) Specifies the amount of time after which idle threads are removed from the pool.
max-queue-size	4096	(optional) Specifies the maximum number of messages that can be queued until threads are available to process them for , “network-listener” on page 102 or “iioP-listener” on page 71 elements. A value of -1 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
“thread-pool” on page 131	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
“property” on page 108	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.
<code>timeout-in-seconds</code>	<code>0</code>	(optional) Specifies the amount of time after which the transaction is aborted. If set to <code>0</code> , the transaction never times out.

TABLE 1-169 transaction-service Attributes (Continued)

Attribute	Default	Description
tx-log-dir	directory specified by the log-root attribute of the “domain” on page 48 element	(optional) Specifies the parent directory of the transaction log directory <i>instance-name</i> /tx. 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 48 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 rollback and commit.
retry-timeout-in-seconds	600	(optional) Determines the retry time in the following scenarios: <ul style="list-style-type: none"> At the transaction recovery time, if resources are unreachable. If there are any transient exceptions in the second phase of a two phase commit protocol. 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 true, the Oracle XA Resource workaround is used in transaction recovery.
disable-distributed-transaction-logging	false	If true, disables transaction logging, which might improve performance. If the automatic-recovery attribute is set to true, 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.
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.

TABLE 1-170 transaction-service Properties (Continued)

Property	Default	Description
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 Chapter 15, “Using the Transaction Service,” in Oracle GlassFish Server 3.0.1 Application Development Guide .
xa-servername	host name on which the GlassFish Server runs	Specifies the host name that the transaction service uses to identify transactions being managed by the installed GlassFish Server. This can sometimes be useful for recovering transactions from the log file that was created on a different host running the GlassFish Server.

transformation-rule

This element is deprecated. Web services are implemented in the [“engine” on page 53](#) 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
“description” on page 48	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.

TABLE 1-172 `transformation-rule` Attributes (Continued)

Attribute	Default	Description
<code>apply-to</code>	<code>request</code>	(optional) Specifies whether the rule is applied to the request, the response, or both. Allowed values are: <ul style="list-style-type: none"> ■ <code>request</code> - Transformations are applied to the request in the order specified. ■ <code>response</code> - Transformations are applied to the response in the order specified. ■ <code>both</code> - Transformations are applied to both the request and the response. The order is reversed for the response.
<code>rule-file-location</code>	<code>domain-dir/generated/xml/app-or-module/xslt-file</code>	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 136

Subelements

none

Attributes

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

TABLE 1-173 `transport` Attributes

Attribute	Default	Description
<code>name</code>	<code>none</code>	Specifies a unique name for the transport.
<code>classname</code>	<code>com.sun.grizzly.TCPSelectorHandler</code>	(Optional) Specifies the class name of the transport implementation.
<code>selection-key-handler</code>	<code>none</code>	(optional) Specifies the name of the “ selection-key-handler ” on page 122 associated with this transport.
<code>idle-key-timeout-seconds</code>	<code>30</code>	(Optional) Specifies the idle key timeout.
<code>read-timeout-millis</code>	<code>30000</code> (30 seconds)	(optional) Specifies the amount of time the GlassFish Server waits during the header and body parsing phase.
<code>write-timeout-millis</code>	<code>30000</code> (30 seconds)	(optional) Specifies the amount of time the GlassFish Server waits before considering the remote client disconnected when writing the response.

TABLE 1-173 transports Attributes (Continued)

Attribute	Default	Description
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 102 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 131 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 102. 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 102.

transports

Contains transports.

Superelements

“network-config” on page 102

Subelements

The following table describes subelements for the transports element.

TABLE 1-174 transports Subelements

Element	Required	Description
“selection-key-handler” on page 122	zero or more	Configures a selection key handler.
“transport” on page 135	one or more	Configures a transport.

U

user-group

Contains the group to which the principal belongs.

Superelements

[“security-map” on page 120](#)

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 GlassFish 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 GlassFish 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
“http-access-log” on page 64	zero or one	Defines an access log file.
“property” on page 108	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>	<code>none</code>	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>	<code>none</code>	(optional) Remapped to the <code>network-listeners</code> attribute of this element.
<code>network-listeners</code>	<code>none</code>	(optional) In a comma-separated list, references <code>id</code> attributes of “network-listener” on page 102 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 “http” on page 61 element.
<code>default-web-module</code>	<code>none</code>	(optional) References the name attribute of the default web “application” on page 26 for this virtual server, which responds to requests that cannot be resolved to other web modules deployed to this virtual server (see the “application-ref” on page 30 element).
<code>hosts</code>	<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.
<code>state</code>	<code>on</code>	(optional) Determines whether a <code>virtual-server</code> is active (<code>on</code>) or inactive (<code>off</code> , <code>disabled</code>). The default is <code>on</code> (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.
<code>docroot</code>	<code>domain-dir/docroot</code>	(optional) Specifies the document root for this virtual server.

TABLE 1-176 virtual-server Attributes (Continued)

Attribute	Default	Description
access-log	<i>domain-dir/logs/access</i>	(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 “ log-service ” on page 91 description for details about logs.
log-file	server.log in the directory specified by the log-root attribute of the “ domain ” on page 48 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 “ log-service ” on page 91 description for details about logs.
access-logging-enabled	inherit	If true, enables access logging for this virtual server. If false, disables access logging for this virtual server. A true or false setting overrides the access-logging-enabled attribute setting of the “ http-service ” on page 69 element. An inherit setting uses the access-logging-enabled attribute setting of the “ http-service ” on page 69 element.
sso-enabled	inherit	If true, single sign-on is enabled for web applications on this virtual server that are configured for the same realm. If false, single sign-on is disabled for this virtual server, and users must authenticate separately to every application on the virtual server. A true or false setting overrides the sso-enabled attribute setting of the “ http-service ” on page 69 element. An inherit setting uses the sso-enabled attribute setting of the “ http-service ” on page 69 element.
sso-cookie-secure	dynamic	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: <ul style="list-style-type: none"> true — Sets Secure to true. false — Sets Secure to false. dynamic — The JSESSIONIDSSO cookie inherits the Secure setting of the first session participating in SSO. 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>Oracle GlassFish Server 3.0.1 Application Deployment Guide</i> .

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.

TABLE 1-177 virtual-server Properties (Continued)

Property	Default	Description
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 http://www.ietf.org/rfc/rfc2616.txt .
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.
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 <code>[java.net.]Socket.getInetAddress().getHostName()</code>) 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.

TABLE 1-177 virtual-server Properties (Continued)

Property	Default	Description
denyRemoteHost	none	<p>Specifies a comma-separated list of regular expression patterns that the remote client's hostname (as returned by <code>[java.net.Socket.getInetAddress().getHostName()]</code>) is compared to. If this property is specified, the remote hostname must <i>not</i> match for this request to be accepted. If this property is not specified, request acceptance is governed solely by the <code>allowRemoteHost</code> property.</p> <p>Setting this property has no effect if <code>jk-enabled</code> is set to <code>true</code> for a “network-listener” on page 102.</p>
authRealm	none	<p>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 <code>web.xml</code> file overrides the virtual server's realm.</p>
securePages WithPragma	true	<p>Set this property to <code>false</code> to ensure that for all web applications on this virtual server file downloads using SSL work properly in Internet Explorer.</p> <p>You can set this property for a specific web application. For details, see “sun-web-app” in <i>Oracle GlassFish Server 3.0.1 Application Deployment Guide</i>.</p>

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"> ■ Exact match ■ Longest path match ■ Extension match <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><property name="alternatedocroot_1" value="from=/my.jpg dir=/srv/images/jpg"/> <property name="alternatedocroot_2" value="from=*.jpg dir=/srv/images/jpg"/> <property name="alternatedocroot_3" value="from=/jpg/* dir=/src/images"/></pre> <p>The value of each alternate docroot has two components: The first component, <i>from</i>, specifies the alternate docroot's URI pattern, and the second component, <i>dir</i>, specifies the alternate docroot's physical location (directory). Spaces are allowed in the <i>dir</i> component.</p> <p>You can set this property for a specific web application. For details, see “sun-web-app” in <i>Oracle GlassFish Server 3.0.1 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 context.xml File” in <i>Oracle GlassFish Server 3.0.1 Application Development Guide</i> and <i>The Context Container</i> (http://tomcat.apache.org/tomcat-5.5-doc/config/context.html). Context parameters, environment entries, and resource definitions in <code>context.xml</code> are supported in the GlassFish Server.</p>

TABLE 1-177 virtual-server Properties (Continued)

Property	Default	Description
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>Oracle GlassFish Server 3.0.1 Application Deployment Guide</i>.</p> <p>Caution – Setting this property to <code>true</code> on Windows systems exposes JSP source code.</p>
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 <code>web.xml</code> deployment descriptor. The value of each <code>send-error_n</code> property has three components, which may be specified in any order:</p> <p>The first component, <code>code</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, <code>path</code>, specifies the absolute or relative file system path of the custom error page. A relative file system path is interpreted as relative to the <i>domain-dir/config</i> directory.</p> <p>The third component, <code>reason</code>, is optional and specifies the text of the reason string (such as <code>Unauthorized</code> or <code>Forbidden</code>) to be returned.</p> <p>For example:</p> <pre><property name="send-error_1" value="code=401 path=/myhost/401.html reason=MY-401-REASON"/></pre> <p>This example property definition causes the contents of <code>/myhost/401.html</code> to be returned with 401 responses, along with this response line:</p> <pre>HTTP/1.1 401 MY-401-REASON</pre>

TABLE 1-177 virtual-server Properties (Continued)

Property	Default	Description
<code>redirect_n</code>	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 <code>redirect_n</code> property has two components, which may be specified in any order:</p> <p>The first component, <code>from</code>, specifies the prefix of the requested URI to match.</p> <p>The second component, <code>url-prefix</code>, specifies the new URL prefix to return to the client. The <code>from</code> prefix is simply replaced by this URL prefix.</p> <p>For example:</p> <pre><property name="redirect_1" value="from=/dummy url-prefix=http://etude"/></pre>
<code>valve_n</code>	none	<p>Specifies a fully qualified class name of a custom valve, where <i>n</i> is a positive integer that allows specification of more than one. The valve class must implement the <code>org.apache.catalina.Valve</code> interface from Tomcat or previous GlassFish Server releases, or the <code>org.glassfish.web.valve.GlassFishValve</code> interface from the current GlassFish Server release. For example:</p> <pre><property name="valve_1" value="org.glassfish.extension.Valve"/></pre> <p>You can set this property for a specific web application. For details, see “sun-web-app” in <i>Oracle GlassFish Server 3.0.1 Application Deployment Guide</i>.</p>
<code>listener_n</code>	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><property name="listener_1" value="org.glassfish.extension.MyLifecycleListener"/></pre> <p>You can set this property for a specific web application. For details, see “sun-web-app” in <i>Oracle GlassFish Server 3.0.1 Application Deployment Guide</i>.</p>
<code>errorReportValve</code>	<code>org.apache.catalina.valves.ErrorReportValve</code>	<p>Specifies a fully qualified class name of a custom valve that produces default error pages for applications on this virtual server. Specify an empty string to disable the default error page mechanism for this virtual server.</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
“session - config” on page 124	zero or one	Specifies session configuration information for the web container.
“property” on page 108	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
“description” on page 48	zero or one	Contains a text description of this element.
“web-service-endpoint” on page 147	zero or more	Configures a web service endpoint.
“property” on page 108	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
<code>name</code>	<code>none</code>	The name of the web module.
<code>context-root</code>	<code>none</code>	The context root at which the web module is deployed. The context root can be the empty string or just <code>/</code> . The context root can start with the <code>/</code> character, but doesn’t have to.
<code>location</code>	<code>none</code>	A fully qualified or relative path to the directory to which the contents of the <code>.war</code> 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 a web module, the only allowed value is <code>user</code> .
<code>enabled</code>	<code>true</code>	(optional) Determines whether the web 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.

web-module-config

Configures the grandparent web [“module” on page 98](#). Applicable only if the parent [“engine” on page 53](#) element has a `sniffer` value of `web`.

Superelements

[“engine” on page 53](#)

Subelements

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

TABLE 1-182 `web-module-config` Subelements

Element	Required	Description
“env-entry” on page 55	zero or more	Configures an environment entry for a web module.
“context-param” 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 53](#) 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 145](#)

Subelements

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

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

Element	Required	Description
“registry-location” on page 114	zero or more	Specifies the registry where web service endpoint artifacts are published.
“transformation-rule” on page 134	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
name	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: jaxrpc-simple.war#HelloIF For a web service endpoint that is a stand-alone module, the name is just the <i>endpoint-name</i> .
monitoring	OFF	(optional) Specifies the monitoring level for this web service. For information about monitoring levels, see “ module-monitoring-levels ” on page 100.
max-history-size	25	(optional) Specifies the maximum number of monitoring records stored for this endpoint.
jbi-enabled	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 GlassFish Server's security domain. It is possible to map multiple EIS group or user principals to the same GlassFish Server principal.

This is different from a “[security-map](#)” on page 120, which maps the principal received during servlet or EJB authentication to the credentials accepted by the EIS.

Superelements

“[resources](#)” on page 118

Subelements

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

TABLE 1-185 work-security-map Subelements

Element	Required	Description
“ principal-map ” on page 106	zero or more	Maps an EIS principal to a principal defined in the GlassFish Server domain.
“ group-map ” on page 60	zero or more	Maps an EIS group to a group defined in the GlassFish Server domain.

Attributes

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

TABLE 1-186 work-security-map Attributes

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

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