



# **Sun Java System Application Server Platform Edition 8.1 2005Q2 Update 2 Administration Reference**



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# Preface

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This *Administration Reference* provides information about the Sun Java™ System Application Server configuration file, `domain.xml`. This file contains most of the Application Server configuration.

## Who Should Use This Book

This *Administration Reference* is intended for use by administrators and software developers who maintain and use Sun Java System servers and software. Application Server administrators and software developers should already understand the following technologies:

- Java technology
- The Java 2 Platform, Enterprise Edition (J2EE™ platform), version 1.4
- Extensible Markup Language (XML)

## How This Book Is Organized

This book contains one chapter, [Chapter 1, “The domain.xml File,”](#) which describes in detail the structure and content of this file. The file’s elements are listed in alphabetical order.

## Application Server Documentation Set

The Application Server documentation set describes deployment planning and system installation. The URL for stand-alone Application Server documentation is <http://docs.sun.com/app/docs/coll/1343.1>. For an introduction to Application Server, refer to the books in the order in which they are listed in the following table.

TABLE P-1 Books in the Application Server Documentation Set

Book Title	Description
<i>Release Notes</i>	Late-breaking information about the software and the documentation. Includes a comprehensive, table-based summary of the supported hardware, operating system, JDK, and JDBC/RDBMS.
<i>Quick Start Guide</i>	How to get started with the Application Server product.
<i>Installation Guide</i>	Installing the software and its components.
<i>Developer's Guide</i>	Creating and implementing Java 2 Platform, Enterprise Edition (J2EE platform) applications intended to run on the Application Server that follow the open Java standards model for J2EE components and APIs. Includes general information about developer tools, security, assembly, deployment, debugging, and creating lifecycle modules.
<i>J2EE 1.4 Tutorial</i>	Using J2EE 1.4 platform technologies and APIs to develop J2EE applications.
<i>Administration Guide</i>	Configuring, managing, and deploying Application Server subsystems and components from the Administration Console.
<i>Administration Reference</i>	Editing the Application Server configuration file, <code>domain.xml</code> .
<i>Upgrade and Migration Guide</i>	Migrating your applications to the new Application Server programming model, specifically from Application Server 6.x and 7. This guide also describes differences between adjacent product releases and configuration options that can result in incompatibility with the product specifications.
<i>Troubleshooting Guide</i>	Solving Application Server problems.
<i>Error Message Reference</i>	Solving Application Server error messages.
<i>Reference Manual</i>	Utility commands available with the Application Server; written in man page style. Includes the <code>asadmin</code> command line interface.

## Related Books

For other Sun Java System server documentation, go to the following:

- Message Queue documentation
- Directory Server documentation
- Web Server documentation

The URL for all documentation about Java ES and its components is

<http://docs.sun.com/prod/entsys.05q4>.



# Default Paths and File Names

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

TABLE P-2 Default Paths and File Names

Placeholder	Description	Default Value
<i>install-dir</i>	Represents the base installation directory for Application Server.	<p>Sun Java Enterprise System installations on the Solaris™ platform:</p> <p><code>/opt/SUNWappserver/appserver</code></p> <p>Sun Java Enterprise System installations on the Linux platform:</p> <p><code>/opt/sun/appserver/</code></p> <p>Other Solaris and Linux installations, non-root user:</p> <p><i>user's home directory</i>/SUNWappserver</p> <p>Other Solaris and Linux installations, root user:</p> <p><code>/opt/SUNWappserver</code></p> <p>Windows, all installations:</p> <p><i>SystemDrive</i>: \Sun\AppServer</p>
<i>domain-root-dir</i>	Represents the directory containing all domains.	<p>Sun Java Enterprise System installations on the Solaris platform:</p> <p><code>/var/opt/SUNWappserver/domains/</code></p> <p>Sun Java Enterprise System installations on the Linux platform:</p> <p><code>/var/opt/sun/appserver/domains/</code></p> <p>All other installations:</p> <p><i>install-dir</i>/domains/</p>
<i>domain-dir</i>	<p>Represents the directory for a domain.</p> <p>In configuration files, you might see <i>domain-dir</i> represented as follows:</p> <p><code>\${com.sun.aas.instanceRoot}</code></p>	<i>domain-root-dir/domain-dir</i>

# Typographic Conventions

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

TABLE P-3 Typographic Conventions

Typeface	Meaning	Example
AaBbCc123	The names of commands, files, and directories, and onscreen computer output	Edit your <code>.login</code> file. Use <code>ls -a</code> to list all files. <code>machine_name%</code> you have mail.
<b>AaBbCc123</b>	What you type, contrasted with onscreen computer output	<code>machine_name% 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> . A <i>cache</i> is a copy that is stored locally. Do <i>not</i> save the file.

# Symbol Conventions

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

TABLE P-4 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-4 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.

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- Services and solutions
- Support (including patches and updates)
- Training
- Research
- Communities (for example, Sun Developer Network)

## Third-Party Web Site References

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

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# The domain.xml File

---

This chapter describes the `domain.xml` configuration file in these sections:

- [“About the domain.xml File” on page 13](#)
- [“Alphabetical List of Elements” on page 18](#)

## About the domain.xml File

The `domain.xml` file contains most of the Sun Java™ System Application Server configuration. The encoding is UTF-8 to maintain compatibility with regular UNIX text editors. The `domain.xml` file is located in the domain configuration directory, which is typically `domain-dir/config`. This file is further described in the following sections:

- [“The sun-domain\\_1\\_1.dtd File” on page 13](#)
- [“Default Values” on page 14](#)
- [“Variables” on page 14](#)
- [“Element Referencing” on page 15](#)
- [“Element Hierarchy” on page 16](#)

## The sun-domain\_1\_1.dtd File

The `sun-domain_1_1.dtd` file defines the structure of the `domain.xml` file, including the elements it can contain and the subelements and attributes these elements can have. The `sun-domain_1_1.dtd` file is located in the `install-dir/lib/dtds` directory.

---

**Note** – Do not edit the `sun-domain_1_1.dtd` file; its contents change only with new versions of the Application Server.

The `sun-domain_1_1.dtd` 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.

Elements or attributes that appear in the `sun-domain_1_1.dtd` file but are not described in this chapter are not implemented and should not be used.

---

For general information about DTD files and XML, see the [XML specification](http://www.w3.org/TR/REC-xml) (<http://www.w3.org/TR/REC-xml>).

## 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 Application 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.

## Variables

Variables and variable references are needed for two reasons:

- Parts of the Application 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 98](#) element or the “[jvm-options](#)” on [page 64](#) 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 91](#), [“config” on page 27](#), and [“domain” on page 39](#) 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 Application 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 22](#) element references an application or module that is deployed to its parent [“server” on page 91](#) element. The application-ref element's ref attribute has the same value as the name attribute of a [“lifecycle-module” on page 65](#), [“j2ee-application” on page 52](#), [“ejb-module” on page 43](#), [“web-module” on page 108](#), [“connector-module” on page 33](#), or [“appclient-module” on page 21](#) element.

The referencing application-ref element might look like this:

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

The referenced web-module element might look like this:

```
<web-module 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 82](#) 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
.  applications
.    .  lifecycle-module      P
.    .    .  description
.    .  j2ee-application
.    .    .  description
.    .  web-module
.    .    .  description
.    .  ejb-module
.    .    .  description
.    .  connector-module
.    .    .  description
.    .  appclient-module
.    .    .  description
.  resources
.    .  custom-resource      P
.    .    .  description
.    .  external-jndi-resource      P
.    .    .  description
.    .  jdbc-resource      P
.    .    .  description
.    .  mail-resource      P
.    .    .  description
.    .  persistence-manager-factory-resource      P
.    .    .  description
.    .  admin-object-resource      P
.    .    .  description
.    .  connector-resource      P
.    .    .  description
.    .  resource-adapter-config      P
.    .  jdbc-connection-pool      P
.    .    .  description
.    .  connector-connection-pool      P
.    .    .  description
.    .    .  security-map
.    .    .    .  principal
.    .    .    .  user-group
.    .    .    .  backend-principal
.  configs
.    .  config      P
.    .    .  http-service      P

```



```

. . . . http-listener      P
. . . . . ssl
. . . . . virtual-server  P
. . . . iiop-service
. . . . . orb            P
. . . . . ssl-client-config
. . . . . . ssl
. . . . . iiop-listener   P
. . . . . . ssl
. . . . admin-service     P
. . . . . 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
. . . . alert-service      P
. . . . . alert-subscription
. . . . . . listener-config    P
. . . . . . filter-config      P
. . . . system-property
. . . . . description

```

- . servers
- . . server *P*
- . . . application-ref
- . . . resource-ref
- . . . system-property
- . . . . description
- . system-property
- . . description

# Alphabetical List of Elements

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

[“A” on page 18](#) [“B” on page 26](#) [“C” on page 27](#) [“D” on page 37](#) [“E” on page 40](#) [“F” on page 47](#)  
[“H” on page 47](#) [“I” on page 50](#) [“J” on page 52](#) [“L” on page 65](#) [“M” on page 69](#) [“O” on page 78](#)  
[“P” on page 79](#) [“R” on page 84](#) [“S” on page 89](#) [“T” on page 100](#) [“U” on page 104](#) [“V” on page 104](#)  
[“W” on page 107](#)

## A

### admin-object-resource

Defines an administered object for an inbound resource adapter.

#### Superelements

[“resources” on page 87](#)

#### Subelements

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

TABLE 1-1 admin-object-resource Subelements

Element	Required	Description
<a href="#">“description” on page 39</a>	zero or one	Contains a text description of this element.

TABLE 1-1 admin-object-resource Subelements (Continued)

Element	Required	Description
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

## Attributes

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

TABLE 1-2 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 inbound resource adapter, as specified in the name attribute of a <a href="#">“connector-module” on page 33</a> element.
object-type	user	(optional) Defines the type of the resource. Allowed values are: <ul style="list-style-type: none"> <li>■ system-all - A system resource for all server instances and the domain application server.</li> <li>■ system-admin - A system resource only for the domain application server.</li> <li>■ system-instance - A system resource for all server instances only.</li> <li>■ user - A user resource.</li> </ul>
enabled	true	(optional) Determines whether this resource is enabled at runtime.

## Properties

Properties of the admin-object-resource element are the names of setter methods of the adminobject-class specified in the adminobject element of the ra.xml file. Some of the property names can be specified in the adminobject element itself. For example, in jmsra, the resource adapter used to communicate with the Sun Java system Message Queue software, jmsra, Name and Description are valid properties.

For a complete list of the available properties (called *administered object attributes* in Sun Java System Message Queue), see the Message Queue administration material.

# admin-service

Determines whether the server instance is a regular instance, a domain administration server, or a combination. In the Platform Edition, there is only one server instance, and it is a combination.

## Superelements

[“config” on page 27](#)

## Subelements

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

TABLE 1-3 `admin-service` Subelements

Element	Required	Description
<a href="#">“das-config” on page 37</a>	only one	Defines a domain administration server configuration.
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

## Attributes

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

TABLE 1-4 `admin-service` Attributes

Attribute	Default	Description
<code>type</code>	<code>das-and-server</code>	Specifies whether the server instance is a regular instance ( <code>server</code> ), a domain administration server ( <code>das</code> ), or a combination ( <code>das-and-server</code> ). For the Platform Edition, the default is the only value allowed.

# alert-service

Configures the alert service, which allows you to register for and receive system status alerts.

## Superelements

[“config” on page 27](#)

## Subelements

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

TABLE 1-5 alert-service Subelements

Element	Required	Description
<a href="#">“alert-subscription” on page 21</a>	zero or more	Configures a subscription to system status alerts.
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

## alert-subscription

Configures a subscription to system status alerts.

### Superelements

[“alert-service” on page 20](#)

### Subelements

The following table describes subelements for the alert-subscription element.

TABLE 1-6 alert-subscription Subelements

Element	Required	Description
<a href="#">“listener-config” on page 66</a>	only one	Configures the listener class that listens for alerts from notification emitters.
<a href="#">“filter-config” on page 47</a>	zero or one	Configures the filter class that filters alerts from notification emitters.

### Attributes

The following table describes attributes for the alert-subscription element.

TABLE 1-7 alert-subscription Attributes

Attribute	Default	Description
name	none	Specifies the name of this alert subscription.

## appclient-module

Specifies a deployed application client container (ACC) module.

### Superelements

[“applications” on page 23](#)

## Subelements

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

TABLE 1-8 `applicant-module` Subelements

Element	Required	Description
<a href="#">“description” on page 39</a>	zero or one	Contains a text description of this element.

## Attributes

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

TABLE 1-9 `applicant-module` Attributes

Attribute	Default	Description
<code>name</code>	<code>none</code>	The name of the ACC module.
<code>location</code>	<code>none</code>	The location of the ACC module in the Application Server file system.
<code>directory-deployed</code>	<code>false</code>	(optional) Specifies whether the application has been deployed to a directory.

# application-ref

References an application or module deployed to the server instance.

## Superelements

[“server” on page 91](#)

## Subelements

`none`

## Attributes

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

TABLE 1-10 `application-ref` Attributes

Attribute	Default	Description
<code>enabled</code>	<code>true</code>	(optional) Determines whether the application or module is enabled.

TABLE 1-10 application-ref Attributes (Continued)

Attribute	Default	Description
virtual-servers	all virtual servers	(optional) In a comma-separated list, references id attributes of the “virtual-server” on page 104 elements to which the “web-module” on page 108 or the web modules within this “j2ee-application” on page 52 are deployed.
lb-enabled	false	(optional) If true, all load-balancers consider this application available to them.
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 a “lifecycle-module” on page 65, “j2ee-application” on page 52, “ejb-module” on page 43, “web-module” on page 108, “connector-module” on page 33, or “appclient-module” on page 21 element.

## applications

Contains deployed J2EE applications, J2EE modules, and Lifecycle modules.

### Superelements

“domain” on page 39

### Subelements

The following table describes subelements for the applications element.

TABLE 1-11 applications Subelements

Element	Required	Description
“lifecycle-module” on page 65	zero or more	Specifies a deployed lifecycle module.
“j2ee-application” on page 52	zero or more	Specifies a deployed J2EE application.
“ejb-module” on page 43	zero or more	Specifies a deployed EJB module.
“web-module” on page 108	zero or more	Specifies a deployed web module.
“connector-module” on page 33	zero or more	Specifies a deployed connector module.
“appclient-module” on page 21	zero or more	Specifies a deployed application client container (ACC) module.

**Note** – Subelements of an applications element can occur in any order.

# audit-module

Specifies an optional plug-in module that implements audit capabilities.

## Superelements

[“security-service” on page 90](#)

## Subelements

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

TABLE 1-12 `audit-module` Subelements

Element	Required	Description
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

## Attributes

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

TABLE 1-13 `audit-module` Attributes

Attribute	Default	Description
<code>name</code>	<code>none</code>	Specifies the name of this audit module.
<code>classname</code>	<code>none</code>	Specifies the Java class that implements this audit module.

# auth-realm

Defines a realm for authentication.

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

For more information about how to define realms, see the *Sun Java System Application Server Platform Edition 8.1 2005Q2 Update 2 Developer’s Guide*.

Here is an example of the default file realm:

```
<auth-realm name="file"
  classname="com.iplanet.ias.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

[“security-service” on page 90](#)

## Subelements

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

TABLE 1-14 `auth-realm` Subelements

Element	Required	Description
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

## Attributes

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

TABLE 1-15 `auth-realm` Attributes

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

## Properties

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

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

TABLE 1-16 `auth-realm` Properties

Property	Realms	Description
<code>jaas-context</code>	<code>file</code> , <code>ldap</code> , <code>solaris</code>	Specifies the JAAS (Java Authentication and Authorization Service) context.
<code>file</code>	<code>file</code>	Specifies the file that stores user names. The default is <code>domain-dir/config/keyfile</code> .

TABLE 1-16 auth-realm Properties (Continued)

Property	Realms	Description
assign-groups	certificate	(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.
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 uid=%s (%s expands to the subject name).
group-base-dn	ldap	(optional) Specifies the base DN for the location of groups data. By default, it is same as the base-dn, but it can be tuned, if necessary.
group-search-filter	ldap	(optional) Specifies the search filter to find group memberships for the user. The default is uniquemember=%d (%d expands to the user element DN).
group-target	ldap	(optional) Specifies the LDAP attribute name that contains group name entries. The default is CN.
search-bind-dn	ldap	(optional) Specifies an optional DN used to authenticate to the directory for performing the search-filter lookup. Only required for directories that do not allow anonymous search.
search-bind-password	ldap	(optional) Specifies the LDAP password for the DN given in search-bind-dn.

B

backend-principal

Specifies the user name and password required by the EIS.

## Superelements

[“security-map” on page 89](#)

## Subelements

none

## Attributes

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

TABLE 1-17 `backend-principal` Attributes

Attribute	Default	Description
<code>user-name</code>	none	Specifies the user name required by the EIS.
<code>password</code>	none	Specifies the password required by the EIS.

# C

## config

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

## Superelements

[“configs” on page 29](#)

## Subelements

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

TABLE 1-18 `config` Subelements

Element	Required	Description
<a href="#">“http-service” on page 49</a>	only one	Configures the HTTP service.
<a href="#">“iiop-service” on page 51</a>	only one	Configures the IIOP service.

TABLE 1–18    config Subelements        (Continued)

Element	Required	Description
<a href="#">“admin-service” on page 20</a>	only one	Determines whether the server to which the configuration applies is an administration server.
<a href="#">“connector-service” on page 35</a>	zero or one	Configures the connector service.
<a href="#">“web-container” on page 107</a>	only one	Configures the web container.
<a href="#">“ejb-container” on page 40</a>	only one	Configures the Enterprise JavaBeans™ (EJB™) container.
<a href="#">“mdb-container” on page 72</a>	only one	Configures the message-driven bean (MDB) container.
<a href="#">“jms-service” on page 62</a>	zero or one	Configures the Java Message Service (JMS) provider.
<a href="#">“log-service” on page 67</a>	only one	Configures the system logging service.
<a href="#">“security-service” on page 90</a>	only one	Configures the J2EE security service.
<a href="#">“transaction-service” on page 101</a>	only one	Configures the transaction service.
<a href="#">“monitoring-service” on page 77</a>	only one	Configures the monitoring service.
<a href="#">“java-config” on page 54</a>	only one	Configures the Java Virtual Machine (JVM™).
<a href="#">“thread-pools” on page 101</a>	only one	Configures thread pools.
<a href="#">“alert-service” on page 20</a>	zero or one	Configures the alert service.
<a href="#">“system-property” on page 98</a>	zero or more	Specifies a system property.
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

Attributes

The following table describes attributes for the config element.

TABLE 1–19    config Attributes

Attribute	Default	Description
name	server-config	Specifies the name of the configuration. For the Platform Edition, the default is the only value allowed.

TABLE 1–19 config Attributes (Continued)

Attribute	Default	Description
dynamic-reconfiguration-enabled	true	(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. In the Platform Edition, there is only one configuration.

### Superelements

[“domain” on page 39](#)

### Subelements

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

TABLE 1–20 configs Subelements

Element	Required	Description
<a href="#">“config” on page 27</a>	only one	Defines a configuration.

## connector-connection-pool

Defines a connector connection pool.

### Superelements

[“resources” on page 87](#)

### Subelements

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

TABLE 1-21 connector-connection-pool Subelements

Element	Required	Description
<a href="#">“description” on page 39</a>	zero or one	Contains a text description of this element.
<a href="#">“security-map” on page 89</a>	zero or more	Maps the principal received during servlet or EJB authentication to the credentials accepted by the EIS.
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

Attributes

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

TABLE 1-22 connector-connection-pool Attributes

Attribute	Default	Description
<code>name</code>	none	Specifies the name of the connection pool. A <a href="#">“connector-resource” on page 34</a> element’s <code>pool-name</code> attribute refers to this name.
<code>resource-adapter-name</code>	none	Specifies the name attribute of the deployed <a href="#">“connector-module” on page 33</a> . If no name is specified during deployment, the name of the <code>.rar</code> file is used. If the resource adapter is embedded in an application, then it is <code>app_name#rar_name</code> .
<code>connection-definition-name</code>	none	Specifies a unique name, identifying a resource adapter’s <code>connection-definition</code> element in the <code>ra.xml</code> file. This is usually the <code>connectionfactory-interface</code> of the <code>connection-definition</code> element.
<code>steady-pool-size</code>	8	(optional) Specifies the initial and minimum number of connections maintained in the pool.
<code>max-pool-size</code>	32	(optional) Specifies the maximum number of connections that can be created to satisfy client requests.
<code>max-wait-time-in-millis</code>	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.
<code>pool-resize-quantity</code>	2	(optional) Specifies the number of connections to be destroyed if the existing number of connections is above the <code>steady-pool-size</code> (subject to the <code>max-pool-size</code> limit).  This is enforced periodically at the <code>idle-time-out-in-seconds</code> interval. An idle connection is one that has not been used for a period of <code>idle-time-out-in-seconds</code> .
<code>idle-timeout-in-seconds</code>	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.
<code>fail-all-connections</code>	false	(optional) If <code>true</code> , closes all connections in the pool if a single validation check fails.

TABLE 1-22 connector-connection-pool Attributes (Continued)

Attribute	Default	Description
transaction-support	none	<p>(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:</p> <ul style="list-style-type: none"> <li>■ XATransaction - Supports distributed transactions.</li> <li>■ LocalTransaction - Supports local transactions only.</li> <li>■ NoTransaction - No transaction support.</li> </ul>

## Properties

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 this element override the ManagedConnectionFactory JavaBean configuration settings.

The following table describes the connector-connection-pool properties of jmsra, the resource adapter used to communicate with the Sun Java System Message Queue software. For a complete list of the available properties (called *administered object attributes* in Sun Java System Message Queue), see the Message Queue administration material.

TABLE 1-23 connector-connection-pool Properties

Property	Default	Description
AddressList	none	Specifies a list of host/port combinations of the Sun Java System Message Queue. For JMS resources of the Type javax.jms.TopicConnectionFactory or javax.jms.QueueConnectionFactory.
ClientId	none	<p>Specifies the JMS Client Identifier to be associated with a Connection created using the createTopicConnectionFactory method of the TopicConnectionFactory class. For JMS resources of the Type javax.jms.TopicConnectionFactory.</p> <p>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.</p>

TABLE 1-23 connector-connection-pool Properties (Continued)

Property	Default	Description
UserName	guest	Specifies the user name for connecting to the Sun Java System Message Queue. For JMS resources of the Type javax.jms.TopicConnectionFactory or javax.jms.QueueConnectionFactory.
Password	guest	Specifies the password for connecting to the Sun Java System Message Queue. For JMS resources of the Type javax.jms.TopicConnectionFactory or javax.jms.QueueConnectionFactory.
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.



TABLE 1-23 connector-connection-pool Properties (Continued)

Property	Default	Description
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.

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

## connector-module

Specifies a deployed connector module.

### Superelements

[“applications” on page 23](#)

### Subelements

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

TABLE 1-24 connector-module Subelements

Element	Required	Description
<a href="#">“description” on page 39</a>	zero or one	Contains a text description of this element.

### Attributes

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

TABLE 1-25 connector-module Attributes

Attribute	Default	Description
name	name of the .rar file	The name of the connector module.
location	none	The location of the connector module in the Application Server file system.

TABLE 1–25 connector-module Attributes (Continued)

Attribute	Default	Description
object-type	user	(optional) Defines the type of the resource. Allowed values are: <ul style="list-style-type: none"><li>■ system-all - A system resource for all server instances and the domain application server.</li><li>■ system-admin - A system resource only for the domain application server.</li><li>■ system-instance - A system resource for all server instances only.</li><li>■ user - A user resource.</li></ul>
enabled	true	(optional) Determines whether the connector module is enabled.
directory-deployed	false	(optional) Specifies whether the application has been deployed to a directory.

## connector-resource

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

### Superelements

[“resources” on page 87](#)

### Subelements

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

TABLE 1–26 connector - resource Subelements

Element	Required	Description
<a href="#">“description” on page 39</a>	zero or one	Contains a text description of this element.
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

### Attributes

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

TABLE 1-27 connector - resource Attributes

Attribute	Default	Description
jndi-name	none	Specifies the JNDI name for the resource.
pool-name	none	Specifies the name of the associated connector connection pool, defined in a <a href="#">“connector-connection-pool” on page 29</a> element.
object-type	user	(optional) Defines the type of the resource. Allowed values are: <ul style="list-style-type: none"> <li>■ system-all - A system resource for all server instances and the domain application server.</li> <li>■ system-admin - A system resource only for the domain application server.</li> <li>■ system-instance - A system resource for all server instances only.</li> <li>■ user - A user resource.</li> </ul>
enabled	true	(optional) Determines whether this resource is enabled at runtime.

## connector-service

Configures the connector service.

### Superelements

[“config” on page 27](#)

### Subelements

none

### Attributes

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

TABLE 1-28 connector-service Attributes

Attribute	Default	Description
shutdown-timeout-in-seconds	30	(optional) Specifies the maximum time allowed during application 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 Application Server shutdown continues.

## 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 87](#)

### Subelements

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

TABLE 1-29 custom-resource Subelements

Element	Required	Description
<a href="#">“description” on page 39</a>	zero or one	Contains a text description of this element.
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

### Attributes

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

TABLE 1-30 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 <code>javax.naming.spi.ObjectFactory</code> .

TABLE 1-30 custom-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"> <li>■ system-all - A system resource for all server instances and the domain application server.</li> <li>■ system-admin - A system resource only for the domain application server.</li> <li>■ system-instance - A system resource for all server instances only.</li> <li>■ user - A user resource.</li> </ul>
enabled	true	(optional) Determines whether this resource is enabled at runtime.

## D

### das-config

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

### Superelements

[“admin-service” on page 20](#)

### Subelements

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

TABLE 1-31 das-config Subelements

Element	Required	Description
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

### Attributes

The following table describes attributes for the `das-config` element. For more information about deployment topics such as dynamic reloading and autodeployment, see the *Sun Java System Application Server Platform Edition 8.1 2005Q2 Update 2 Developer’s Guide*.

TABLE 1-32 das-config Attributes

Attribute	Default	Description
dynamic-reload-enabled	false	(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.
dynamic-reload-poll-interval-in-seconds	2	(optional) Controls the polling frequency of dynamic reloading.
autodeploy-enabled	false	(optional) If <code>true</code> , enables autodeployment, which lets you quickly deploy applications and modules to a running Application Server without performing an explicit server instance restart or a separate deployment operation.
autodeploy-polling-interval-in-seconds	2	(optional) Controls the polling frequency of autodeployment.
autodeploy-dir	autodeploy	(optional) Specifies the source directory (absolute or relative to <i>domain-dir</i> ) in which autodeployment looks for deployable components.
autodeploy-verifier-enabled	false	(optional) If <code>true</code> , the verifier is run before autodeployment. If verification fails, deployment is not performed.
autodeploy-jsp-precompilation-enabled	false	(optional) If <code>true</code> , JSP pages are precompiled during autodeployment.
deploy-xml-validation	full	(optional) Specifies the type of XML validation performed on standard and Application Server deployment descriptors: <ul style="list-style-type: none"> <li>■ <code>full</code> - If XML validation fails, deployment fails.</li> <li>■ <code>parsing</code> - XML validation errors are reported but deployment occurs.</li> <li>■ <code>none</code> - No XML validation is performed.</li> </ul>
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 18, “appclient-module” on page 21, “connector-connection-pool” on page 29, “connector-module” on page 33, “connector-resource” on page 34, “custom-resource” on page 36, “ejb-module” on page 43, “external-jndi-resource” on page 45, “j2ee-application” on page 52, “jdbc-connection-pool” on page 56, “jdbc-resource” on page 60, “lifecycle-module” on page 65, “mail-resource” on page 69, “persistence-manager-factory-resource” on page 79, “property” on page 82, “system-property” on page 98, “web-module” on page 108

## 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 1-33 domain Subelements

Element	Required	Description
“applications” on page 23	zero or one	Contains deployed J2EE applications, J2EE modules, and lifecycle modules.
“resources” on page 87	zero or one	Contains configured resources.
“configs” on page 29	only one	Contains configurations.
“servers” on page 92	only one	Contains server instances.
“system-property” on page 98	zero or more	Specifies a system property.

TABLE 1-33 domain Subelements (Continued)

Element	Required	Description
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

## Attributes

The following table describes attributes for the domain element.

TABLE 1-34 domain Attributes

Attribute	Default	Description
application-root	<i>domain-dir/applications</i>	(optional) Specifies the absolute path where deployed applications reside for this domain.
log-root	<i>domain-dir/logs</i>	(optional) Specifies where the domain’s log files are kept. The directory in which the log is kept must be writable by whatever user account the server runs as. See the <a href="#">“log-service” on page 67</a> description for details about logs.
locale	operating system default	(optional) Specifies the domain’s language.

# 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 27](#)

## Subelements

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



TABLE 1-35 ejb-container Subelements

Element	Required	Description
<a href="#">“ejb-timer-service” on page 44</a>	zero or one	Configures the EJB timer service.
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

## Attributes

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

TABLE 1-36 ejb-container Attributes

Attribute	Default	Description
<code>steady-pool-size</code>	32	<p>(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>.</p> <p>Bean instances are removed from the pool and returned after use. The pool is replenished or cleaned up periodically to maintain this size.</p> <p>Applies to stateless session beans and entity beans.</p>
<code>pool-resize-quantity</code>	16	<p>(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.</p> <p>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>.</p> <p>Applies to stateless session beans and entity beans.</p>
<code>max-pool-size</code>	64	<p>(optional) Specifies the maximum number of beans that can be created to satisfy client requests. A value of 0 indicates an unbounded pool.</p> <p>Applies to stateless session beans and entity beans.</p>

TABLE 1-36 ejb-container Attributes (Continued)

Attribute	Default	Description
cache-resize-quantity	32	(optional) Specifies the number of beans to be: <ul style="list-style-type: none"><li>■ created if a request arrives when the pool has no available beans (subject to the max-cache-size limit)</li><li>■ passivated when the cache-idle-timeout-in-seconds timer expires and a cleaner thread removes any unused instances, or when the cache size exceeds max-cache-size. Must be greater than 1 and less than max-cache-size. Applies to stateful session beans and entity beans.</li></ul>
max-cache-size	512	(optional) Specifies the maximum number of beans in the cache. A value of 0 indicates an unbounded cache.  Applies to stateful session beans and entity beans.
pool-idle-timeout-in-seconds	600	(optional) Specifies the maximum time that a bean can remain idle in the pool. After this amount of time, the pool can remove this bean. A value of 0 specifies that idle beans can remain in the pool indefinitely.  Applies to stateless session beans and entity beans.
cache-idle-timeout-in-seconds	600	(optional) Specifies the maximum time that a bean can remain idle in the cache. After this amount of time, the container can passivate this bean. A value of 0 specifies that beans never become candidates for passivation.  Applies to stateful session beans and entity beans.

TABLE 1-36 ejb-container Attributes (Continued)

Attribute	Default	Description
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 <code>removal-timeout-in-seconds</code> is less than or equal to <code>cache-idle-timeout-in-seconds</code>, beans are removed immediately without being passivated.</p> <p>The <code>session-store</code> attribute of the “<a href="#">server</a>” on <a href="#">page 91</a> 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 <code>fifo</code>, <code>lru</code>, and <code>nru</code>:</p> <ul style="list-style-type: none"> <li>■ <code>fifo</code> - Selects the oldest instance.</li> <li>■ <code>lru</code> - Selects the least recently accessed instance.</li> <li>■ <code>nru</code> - Selects a not recently used instance.</li> </ul>
commit-option	B	(optional) Determines which commit option is used for entity beans. Legal values are B or C.
session-store	<i>domain-dir/session-store</i>	(optional) Specifies the directory where passivated stateful session beans and persisted HTTP sessions are stored in the file system.

## ejb-module

Specifies a deployed EJB module.

## Superelements

“[applications](#)” on [page 23](#)

## Subelements

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

TABLE 1-37 `ejb-module` Subelements

Element	Required	Description
<a href="#">“description” on page 39</a>	zero or one	Contains a text description of this element.

## Attributes

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

TABLE 1-38 `ejb-module` Attributes

Attribute	Default	Description
<code>name</code>	<code>none</code>	The name of the EJB module.
<code>location</code>	<code>none</code>	The location of the EJB module in the Application Server file system.
<code>object-type</code>	<code>user</code>	(optional) Defines the type of the resource. Allowed values are: <ul style="list-style-type: none"><li>■ <code>system-all</code> - A system resource for all server instances and the domain application server.</li><li>■ <code>system-admin</code> - A system resource only for the domain application server.</li><li>■ <code>system-instance</code> - A system resource for all server instances only.</li><li>■ <code>user</code> - A user resource.</li></ul>
<code>enabled</code>	<code>true</code>	(optional) Determines whether the EJB module is enabled.
<code>directory-deployed</code>	<code>false</code>	(optional) Specifies whether the application has been deployed to a directory.

## ejb-timer-service

Configures the EJB timer service.

## Superelements

[“ejb-container” on page 40](#)

## Subelements

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

TABLE 1-39 `ejb-timer-service` Subelements

Element	Required	Description
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

## Attributes

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

TABLE 1-40 `ejb-timer-service` Attributes

Attribute	Default	Description
<code>minimum-delivery-interval-in-millis</code>	<code>7000</code>	(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>	<code>1</code>	(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 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-interval-in-millis</code>	<code>5000</code>	(optional) Specifies how long the EJB timer service waits after a failed <code>ejbTimeout</code> delivery before attempting a redelivery.

## 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 87](#)

## Subelements

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

TABLE 1-41 external-jndi-resource Subelements

Element	Required	Description
<a href="#">“description” on page 39</a>	zero or one	Contains a text description of this element.
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

## Attributes

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

TABLE 1-42 external-jndi-resource Attributes

Attribute	Default	Description
<code>jndi-name</code>	none	Specifies the JNDI name for the resource.
<code>jndi-lookup-name</code>	none	Specifies the JNDI lookup name for the resource.
<code>res-type</code>	none	Specifies the fully qualified type of the resource.
<code>factory-class</code>	none	Specifies the fully qualified name of the factory class, which implements <code>javax.naming.spi.InitialContextFactory</code> .  For more information about JNDI, see the <i>Sun Java System Application Server Platform Edition 8.1 2005Q2 Update 2 Developer's Guide</i> .
<code>object-type</code>	user	(optional) Defines the type of the resource. Allowed values are: <ul style="list-style-type: none"><li>■ <code>system-all</code> - A system resource for all server instances and the domain application server.</li><li>■ <code>system-admin</code> - A system resource only for the domain application server.</li><li>■ <code>system-instance</code> - A system resource for all server instances only.</li><li>■ <code>user</code> - A user resource.</li></ul>
<code>enabled</code>	true	(optional) Determines whether this resource is enabled at runtime.

F

filter-config

Configures the filter class that filters alerts from notification emitters. See also [“listener-config” on page 66](#).

Superelements

[“alert-subscription” on page 21](#)

Subelements

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

TABLE 1-43 `filter-config` Subelements

Element	Required	Description
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

Attributes

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

TABLE 1-44 `filter-config` Attributes

Attribute	Default	Description
<code>filter-class-name</code>	none	Specifies the class name of the filter.

H

http-listener

Defines an HTTP listen socket.

Superelements

[“http-service” on page 49](#)

Subelements

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

TABLE 1-45 http-listener Subelements

Element	Required	Description
<a href="#">“ssl” on page 95</a>	zero or one	Defines SSL parameters.
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

## Attributes

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

TABLE 1-46 http-listener Attributes

Attribute	Default	Description
<code>id</code>	<code>none</code>	The unique listener name. An <code>http-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>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>acceptor-threads</code>	<code>1</code>	(optional) Number of acceptor threads for the listener, typically the number of processors in the machine. Legal values are 1 - 1024 .
<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> subelement.
<code>default-virtual-server</code>	<code>none</code>	References the <code>id</code> attribute of the default <a href="#">“virtual-server” on page 104</a> for this particular listener.
<code>server-name</code>	<code>none</code>	<p>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.</p> <p>If a colon and port number are appended, that port is used in URLs the server sends to the client.</p>



TABLE 1–46 http-listener Attributes (Continued)

Attribute	Default	Description
redirect-port	none	(optional) If the listener is supporting non-SSL requests and a request is received for which a matching <security-constraint> requires SSL transport, the request is automatically redirected to the port number specified here.
xpowered-by	true	(optional) If true, X-Powered-By headers are used according to the Servlet 2.4 and JSP 2.0 specifications.
enabled	true	(optional) Determines whether the listener is active.

## http-service

Defines the HTTP service.

### Superelements

[“config” on page 27](#)

### Subelements

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

TABLE 1–47 http-service Subelements

Element	Required	Description
<a href="#">“http-listener” on page 47</a>	one or more	Defines an HTTP listen socket.
<a href="#">“virtual-server” on page 104</a>	one or more	Defines a virtual server.
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

### Properties

The following table describes properties for the http-service element, which configure SSL for all [“http-listener” on page 47](#) subelements.

TABLE 1–48 http-service Properties

Property	Default	Description
monitoring-cache-enabled	true	If true, enables the monitoring cache.

TABLE 1-48 http-service Properties (Continued)

Property	Default	Description
monitoring-cache-refresh-in-millis	5000	Specifies the interval between refreshes of the monitoring cache.
ssl-cache-entries	10000	Specifies the number of SSL sessions to be cached.
ssl3-session-timeout	86400	Specifies the interval at which SSL3 sessions are cached.
ssl-client-auth-data-limit	1048576	Specifies the maximum amount of data cached during the handshake phase.
ssl-client-auth-timeout	60	Specifies the timeout for the client certificate phase.
ssl-session-timeout	100	Specifies the interval at which SSL2 sessions are cached.
keep-alive-query-mean-time	100	Specifies the keep-alive latency.
keep-alive-query-max-sleep-time	100	Specifies the upper limit to the time slept after polling keep-alive connections for further requests.
stack-size	depends on operating system	Specifies the maximum stack size of the native thread.

## iiop-listener

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

### Superelements

[“iiop-service” on page 51](#)

### Subelements

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

TABLE 1-49 `iiop-listener` Subelements

Element	Required	Description
<a href="#">“ssl” on page 95</a>	zero or one	Defines SSL parameters.
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

## Attributes

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

TABLE 1-50 `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 27](#)

## Subelements

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

TABLE 1-51 `iiop-service` Subelements

Element	Required	Description
<a href="#">“orb” on page 78</a>	only one	Configures the ORB.

TABLE 1-51 iiop-service Subelements (Continued)

Element	Required	Description
<a href="#">“ssl-client-config” on page 97</a>	zero or one	Defines SSL parameters for the ORB.
<a href="#">“iiop-listener” on page 50</a>	zero or more	Defines an IIOP listen socket.

Attributes

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

TABLE 1-52 iiop-service Attributes

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

j2ee-application

Specifies a deployed J2EE application.

Superelements

[“applications” on page 23](#)

Subelements

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

TABLE 1-53 j2ee-application Subelements

Element	Required	Description
<a href="#">“description” on page 39</a>	zero or one	Contains a text description of this element.

Attributes

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

TABLE 1-54 j2ee-application Attributes

Attribute	Default	Description
name	none	The name of the application.
location	none	The location of the application in the Application Server file system.
object-type	user	(optional) Defines the type of the resource. Allowed values are: <ul style="list-style-type: none"> <li>■ system-all - A system resource for all server instances and the domain application server.</li> <li>■ system-admin - A system resource only for the domain application server.</li> <li>■ system-instance - A system resource for all server instances only.</li> <li>■ user - A user resource.</li> </ul>
enabled	true	(optional) Determines whether the application is enabled.
directory-deployed	false	(optional) Specifies whether the application has been deployed to a directory.

## jacc-provider

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

### Superelements

[“security-service” on page 90](#)

### Subelements

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

TABLE 1-55 jacc-provider Subelements

Element	Required	Description
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

### Attributes

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

TABLE 1-56 jacc-provider Attributes

Attribute	Default	Description
name	default	Specifies the name of the JACC provider.
policy-provider	none	Corresponds to and can be overridden by the system property <code>javax.security.jacc.policy.provider</code> .
policy-configuration-factory-provider	none	Corresponds to and can be overridden by the system property <code>javax.security.jacc.PolicyConfigurationFactory.provider</code> .

## java-config

Specifies Java Virtual Machine (JVM) configuration parameters.

### Superelements

[“config” on page 27](#)

### Subelements

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

TABLE 1-57 java-config Subelements

Element	Required	Description
<a href="#">“profiler” on page 81</a>	zero or one	Configures a profiler for use with the Application Server.
<a href="#">“jvm-options” on page 64</a>	zero or more	Contains JVM command line options.
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

### Attributes

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

TABLE 1-58 java-config Attributes

Attribute	Default	Description
java-home	none	The path to the directory where the JDK is installed.

TABLE 1-58 java-config Attributes (Continued)

Attribute	Default	Description
debug-enabled	false	(optional) If true, the server starts up in debug mode ready for attachment with a JPDA-based debugger.
debug-options	-Xdebug -Xrunjdwp:transport=dt_socket,server=y,suspend=n	(optional) Specifies JPDA (Java Platform Debugger Architecture) options. A list of debugging options is available at <a href="http://java.sun.com/products/jpda/doc/conninv.html#Invocation">http://java.sun.com/products/jpda/doc/conninv.html#Invocation</a> .  For more information about debugging, see the <i>Sun Java System Application Server Platform Edition 8.1 2005Q2 Update 2 Developer's Guide</i> .
rmic-options	-iiop -poa -alwaysgenerate -keepgenerated -g	(optional) Specifies options passed to the RMI compiler at application deployment time. The -keepgenerated option saves generated source for stubs and ties.
javac-options	-g	(optional) Specifies options passed to the Java compiler at application deployment time.
classpath-prefix	none	(optional) Specifies a prefix for the system classpath. Only prefix the system classpath to override system classes, such as the XML parser classes. Use this attribute with caution.
classpath-suffix	none	(optional) Specifies a suffix for the system classpath.
server-classpath	none	(optional) Specifies the classpath for the environment from which the server was started. This classpath can be accessed using <code>System.getProperty("java.class.path")</code> .
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 Application Server installation relative path for its native shared libraries, the standard JRE native library path, the shell environment setting (LD_LIBRARY_PATH 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.

TABLE 1-58 java-config Attributes (Continued)

Attribute	Default	Description
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	<p>(optional) If <code>false</code>, the <code>CLASSPATH</code> environment variable is read and appended to the Application Server classpath. The <code>CLASSPATH</code> environment variable is added after the <code>classpath-suffix</code>, at the very end.</p> <p>For a development environment, this value should be set to <code>false</code>. To prevent environment variable side effects in a production environment, set this value to <code>true</code>.</p>

## jdbc-connection-pool

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

### Superelements

[“resources” on page 87](#)

### Subelements

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

TABLE 1-59 jdbc-connection-pool Subelements

Element	Required	Description
<a href="#">“description” on page 39</a>	zero or one	Contains a text description of this element.
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

### Attributes

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



TABLE 1-60 jdbc-connection-pool Attributes

Attribute	Default	Description
name	none	Specifies the name of the connection pool. A “ <a href="#">jdbc-resource</a> ” on <a href="#">page 60</a> element’s pool-name attribute refers to this name.
datasource-classname	none	Specifies the class name of the associated vendor-supplied data source. This class must implement <code>java.sql.DataSource</code> , <code>java.sql.XADataSource</code> , <code>javax.sql.ConnectionPoolDataSource</code> , or a combination.
res-type	<code>javax.sql.DataSource</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> , or <code>javax.sql.ConnectionPoolDataSource</code> . If the value is not one of these interfaces, the default is used. An error occurs if this attribute has a legal value and the indicated interface is not implemented by the data source class.
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 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-time-out-in-seconds interval. An idle connection is one that has not been used for a period of idle-time-out-in-seconds.

TABLE 1-60 jdbc-connection-pool Attributes (Continued)

Attribute	Default	Description
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.
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.
connection-validation-method	auto-commit	(optional) Legal values are as follows: <ul style="list-style-type: none"> <li>■ auto-commit (default), which uses <code>Connection.setAutoCommit(Connection.getAutoCommit())</code></li> <li>■ meta-data, which uses <code>Connection.getMetaData()</code></li> <li>■ table, which performs a query on a table specified in the validation-table-name attribute</li> </ul>

TABLE 1-60 jdbc-connection-pool Attributes (Continued)

Attribute	Default	Description
validation-table-name	none	(optional) Specifies the table name to be used to perform a query to validate a connection. This parameter is mandatory if and only if connection-validation-type is set to table.
fail-all-connections	false	(optional) If true, closes all connections in the pool if a single validation check fails. This parameter is mandatory if and only if is-connection-validation-required is set to true.

## Properties

Most JDBC 3.0 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 Application Server, some properties might be necessary for most databases. For details, see the JDBC 3.0 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.

TABLE 1-61 jdbc-connection-pool Properties

Property	Description
user	Specifies the user name for this connection pool.
password	Specifies the password for this connection pool.
databaseName	Specifies the database for this connection pool.
serverName	Specifies the database server for this connection pool.
port	Specifies the port on which the database server listens for requests.
networkProtocol	Specifies the communication protocol.
roleName	Specifies the initial SQL role name.

TABLE 1-61 jdbc-connection-pool Properties (Continued)

Property	Description
datasourceName	Specifies an underlying XADataSource, or a ConnectionPoolDataSource if connection pooling is done.
description	Specifies a text description.
url	Specifies the URL for this connection pool. Although this is not a standard property, it is commonly used.

## jdbc-resource

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

### Superelements

[“resources” on page 87](#)

### Subelements

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

TABLE 1-62 jdbc-resource Subelements

Element	Required	Description
<a href="#">“description” on page 39</a>	zero or one	Contains a text description of this element.
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

### Attributes

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

TABLE 1-63 jdbc-resource Attributes

Attribute	Default	Description
jndi-name	none	Specifies the JNDI name for the resource.
pool-name	none	Specifies the name of the associated <a href="#">“jdbc-connection-pool” on page 56</a> .

TABLE 1-63 jdbc-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"> <li>■ system-all - A system resource for all server instances and the domain application server.</li> <li>■ system-admin - A system resource only for the domain application server.</li> <li>■ system-instance - A system resource for all server instances only.</li> <li>■ user - A user resource.</li> </ul>
enabled	true	(optional) Determines whether this resource is enabled at runtime.

## jms-host

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

### Superelements

[“jms-service” on page 62](#)

### Subelements

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

TABLE 1-64 jms-host Subelements

Element	Required	Description
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

### Attributes

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

TABLE 1-65 jms-host Attributes

Attribute	Default	Description
name	none	Specifies the name of the JMS host.

TABLE 1-65 `jms-host` Attributes (Continued)

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

## jms-service

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

### Superelements

[“config” on page 27](#)

### Subelements

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

TABLE 1-66 `jms-service` Subelements

Element	Required	Description
<a href="#">“jms-host” on page 61</a>	zero or more	Specifies a host.
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

### Attributes

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

TABLE 1-67 `jms-service` Attributes

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

TABLE 1-67 `jms-service` Attributes (Continued)

Attribute	Default	Description
<code>type</code>	LOCAL	(optional) Specifies the type of JMS service: <ul style="list-style-type: none"> <li>LOCAL means the JMS provider is started along with the Application Server</li> <li>REMOTE means the JMS provider is remote and is not started by the Application Server</li> </ul>
<code>start-args</code>	none	(optional) Specifies the string of arguments supplied for startup of the corresponding JMS instance.
<code>default-jms-host</code>	none	Specifies the name of the default “ <code>jms-host</code> ” on <a href="#">page 61</a> . If <code>type</code> is set to LOCAL, this <code>jms-host</code> is automatically started at Application Server startup.
<code>reconnect-interval-in-seconds</code>	60	(optional) Specifies the interval between reconnect attempts.
<code>reconnect-attempts</code>	3	(optional) Specifies the number of reconnect attempts.
<code>reconnect-enabled</code>	true	(optional) If true, reconnection is enabled. The JMS service automatically tries to reconnect to the JMS provider when the connection is broken.  When the connection is broken, depending on the message processing stage, the <code>onMessage()</code> method might not be able to complete successfully or the transaction might be rolled back due to a JMS exception. When the JMS service reestablishes the connection, JMS message redelivery semantics apply.
<code>addresslist-behavior</code>	random	(optional) Specifies whether the reconnection logic selects the broker from the <code>imqAddressList</code> in a random or sequential (priority) fashion.
<code>addresslist-iterations</code>	3	(optional) Specifies the number of times the reconnection logic iterates over the <code>imqAddressList</code> if <code>addresslist-behavior</code> is set to PRIORITY.
<code>mq-scheme</code>	mq	(optional) Specifies the scheme for establishing connection with the broker. For example, specify <code>http</code> for connecting to the broker over HTTP.
<code>mq-service</code>	jms	(optional) Specifies the type of broker service. If a broker supports SSL, the type of service can be <code>ssljms</code> .

## Properties

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

TABLE 1-68 `.jms-service` Properties

Property	Default	Description
<code>instance-name</code>	<code>imqbroker</code>	Specifies the full Sun Java System Message Queue broker instance name.
<code>instance-name-suffix</code>	<code>none</code>	Specifies a suffix to add to the full Sun Java System 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 Sun Java System 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> .

## jvm-options

Contains JVM command line options, for example:

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

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

## Superelements

“`java-config`” on page 54, “`profiler`” on page 81

## Subelements

`none` - contains data



## L

## lifecycle-module

Specifies a deployed lifecycle module. For more information about lifecycle modules, see the *Sun Java System Application Server Platform Edition 8.1 2005Q2 Update 2 Developer's Guide*.

### Superelements

[“applications” on page 23](#)

### Subelements

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

TABLE 1-69 `lifecycle-module` Subelements

Element	Required	Description
<a href="#">“description” on page 39</a>	zero or one	Contains a text description of this element.
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

### Attributes

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

TABLE 1-70 `lifecycle-module` Attributes

Attribute	Default	Description
<code>name</code>	<code>none</code>	The name of the lifecycle module.
<code>class-name</code>	<code>none</code>	The fully qualified name of the lifecycle module's class file, which must implement the <code>com.sun.appserv.server.LifecycleListener</code> interface.
<code>classpath</code>	value of <code>application-root</code> attribute of <a href="#">“server” on page 91</a> element	(optional) The classpath for the lifecycle module. Specifies where the module is located.
<code>load-order</code>	<code>none</code>	(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.

TABLE 1-70 lifecycle-module Attributes (Continued)

Attribute	Default	Description
is-failure-fatal	false	(optional) Determines whether the server is shut down if the lifecycle module fails.
enabled	true	(optional) Determines whether the lifecycle module is enabled.

## listener-config

Configures the listener class that listens for alerts from notification emitters. For example:

```
<listener-config
  listener-class-name="com.sun.enterprise.admin.notification.MailAlert"
  subscribe-listener-with="LogMBean,ServerStatusMonitor" >
  <property name="recipients" value="Huey@sun.com,Dewey@sun.com" />
  <property name="fromAddress" value="Louie@sun.com" />
  <property name="subject" value="Help!" />
  <property name="includeDiagnostics" value="false" />
  <property name="mailSMTPHost" value="ducks.sun.com" />
</listener-config>
```

## Superelements

[“alert-subscription” on page 21](#)

## Subelements

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

TABLE 1-71 listener-config Subelements

Element	Required	Description
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

## Attributes

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

TABLE 1-72 listener-config Attributes

Attribute	Default	Description
listener-class-name	none	Specifies the class name of the listener. The <code>com.sun.appserv.admin.notification.MailAlert</code> class is provided with the Application Server, but a custom listener can be used.
subscribe-listener-with	none	Specifies a comma-separated list of notification emitters to which the listener listens. The <code>LogMBean</code> and <code>ServerStatusMonitor</code> notification emitters are provided with the Application Server, but custom emitters can be used.

## 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` 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 104](#).
- 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 101](#).

## Superelements

[“config” on page 27](#)

## Subelements

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

TABLE 1-73 log-service Subelements

Element	Required	Description
<a href="#">“module-log-levels” on page 74</a>	zero or one	Specifies log levels.
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

## Attributes

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

TABLE 1-74 log-service Attributes

Attribute	Default	Description
file	server.log  in the directory specified by the log-root attribute of the “domain” on page 39 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 39 element.  A relative path is relative to the log-root attribute of the “domain” on page 39 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	none	(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) Deprecated and ignored.

# M

## mail-resource

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

### Superelements

[“resources” on page 87](#)

### Subelements

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

TABLE 1-75 mail - resource Subelements

Element	Required	Description
<a href="#">“description” on page 39</a>	zero or one	Contains a text description of this element.
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

### Attributes

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

TABLE 1-76 mail - resource Attributes

Attribute	Default	Description
<code>jndi-name</code>	<code>none</code>	Specifies the JNDI name for the resource.
<code>store-protocol</code>	<code>imap</code>	(optional) Specifies the storage protocol service, which connects to a mail server, retrieves messages, and saves messages in folder(s). Allowed values are <code>imap</code> , <code>pop3</code> , <code>imaps</code> , and <code>pop3s</code> .
<code>store-protocol-class</code>	<code>com.sun.mail.imap.IMAPStore</code>	(optional) Specifies the service provider implementation class for storage. Allowed values are:  <code>com.sun.mail.imap.IMAPStore</code> <code>com.sun.mail.pop3.POP3Store</code> <code>com.sun.mail.imap.IMAPSSLStore</code> <code>com.sun.mail.pop3.POP3SSLStore</code>

TABLE 1-76 mail-resource Attributes (Continued)

Attribute	Default	Description
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"> <li>■ system-all - A system resource for all server instances and the domain application server.</li> <li>■ system-admin - A system resource only for the domain application server.</li> <li>■ system-instance - A system resource for all server instances only.</li> <li>■ user - A user resource.</li> </ul>
enabled	true	(optional) Determines whether this resource is enabled at runtime.

## Properties

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 Application 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");
```

## manager-properties

Specifies session manager properties.

### Superelements

[“session-manager” on page 93](#)

### Subelements

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

TABLE 1-77 `manager-properties` Subelements

Element	Required	Description
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

### Attributes

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

TABLE 1-78 `manager-properties` Attributes

Attribute	Default	Description
<code>session-file-name</code>	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.

TABLE 1-78 manager-properties Attributes (Continued)

Attribute	Default	Description
reap-interval-in-seconds	60	(optional) Specifies the time between checks for expired sessions.  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) Specifies the name of the class that generates session IDs.

## mdb-container

Configures the message-driven bean (MDB) container.

### Superelements

[“config” on page 27](#)

### Subelements

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

TABLE 1-79 mdb-container Subelements

Element	Required	Description
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

### Attributes

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



TABLE 1-80 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 created if a request arrives when the pool is empty (subject to the max-pool-size limit), or the number of beans to remove if idle for more than idle-timeout-in-seconds.
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 1-81 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 90](#)

## Subelements

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

TABLE 1-82 message-security-config Subelements

Element	Required	Description
<a href="#">“provider-config” on page 83</a>	one or more	Specifies a configuration for one message security provider.

Attributes

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

TABLE 1-83 message-security-config Attributes

Attribute	Default	Description
auth-layer	none	Specifies the message layer at which authentication is performed. The value must be SOAP.
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-log-levels

Controls the level of messages logged by server subsystems to the server log. Allowed values 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 67](#)

Subelements

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

TABLE 1-84 module-log-levels Subelements

Element	Required	Description
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

## Attributes

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

**TABLE 1–85** `module-log-levels` Attributes

Attribute	Default	Description
<code>root</code>	INFO	(optional) Specifies the default level of messages logged by the entire Application Server installation.
<code>server</code>	INFO	(optional) Specifies the default level of messages logged by the server instance.
<code>ejb-container</code>	INFO	(optional) Specifies the level of messages logged by the EJB container.
<code>cmp-container</code>	INFO	(optional) Specifies the level of messages logged by the CMP subsystem of the EJB container.
<code>mdb-container</code>	INFO	(optional) Specifies the level of messages logged by the MDB container.
<code>web-container</code>	INFO	(optional) Specifies the level of messages logged by the web container.
<code>classloader</code>	INFO	(optional) Specifies the level of messages logged by the classloader hierarchy.
<code>configuration</code>	INFO	(optional) Specifies the level of messages logged by the configuration subsystem.
<code>naming</code>	INFO	(optional) Specifies the level of messages logged by the naming subsystem.
<code>security</code>	INFO	(optional) Specifies the level of messages logged by the security subsystem.
<code>jts</code>	INFO	(optional) Specifies the level of messages logged by the Java Transaction Service.
<code>jta</code>	INFO	(optional) Specifies the level of messages logged by the Java Transaction API.
<code>admin</code>	INFO	(optional) Specifies the level of messages logged by the Administration Console subsystem.
<code>deployment</code>	INFO	(optional) Specifies the level of messages logged by the deployment subsystem.
<code>verifier</code>	INFO	(optional) Specifies the level of messages logged by the deployment descriptor verifier.

TABLE 1-85 module-log-levels Attributes (Continued)

Attribute	Default	Description
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.
saaj	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.

## 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 77](#)

### Subelements

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

TABLE 1-86 module-monitoring-levels Subelements

Element	Required	Description
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

## Attributes

TABLE 1-87 module-monitoring-levels Attributes

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

## monitoring-service

Configures the monitoring service.

## Superelements

[“config” on page 27](#)

## Subelements

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

TABLE 1-88 `monitoring-service` Subelements

Element	Required	Description
<a href="#">“module-monitoring-levels” on page 76</a>	zero or one	Controls the level of monitoring of server subsystems.
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

# O

## orb

Configures the ORB.

To enable SSL for outbound connections, include an [“ssl-client-config” on page 97](#) subelement in the parent `iiop-service` element.

## Superelements

[“iiop-service” on page 51](#)

## Subelements

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

TABLE 1-89 `orb` Subelements

Element	Required	Description
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

## Attributes

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

TABLE 1-90 orb Attributes

Attribute	Default	Description
use-thread-pool-ids	none	Specifies a comma-separated list of thread-pool-id values defined in <a href="#">“thread-pool” on page 100</a> elements used by the ORB.
message-fragment-size	1024	(optional) GIOPv1.2 messages larger than this number of bytes are fragmented.
max-connections	1024	(optional) The maximum number of incoming connections on all IIOP listeners. Legal values are integers.

## P

### persistence-manager-factory-resource

Defines a persistence manager factory resource for container-managed persistence (CMP).

#### Superelements

[“resources” on page 87](#)

#### Subelements

The following table describes subelements for the persistence-manager-factory-resource element.

TABLE 1-91 persistence-manager-factory-resource Subelements

Element	Required	Description
<a href="#">“description” on page 39</a>	zero or one	Contains a text description of this element.
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

#### Attributes

The following table describes attributes for the persistence-manager-factory-resource element.

TABLE 1-92 persistence-manager-factory-resource Attributes

Attribute	Default	Description
jndi-name	none	Specifies the JNDI name for the resource.
factory-class	com.sun.jdo.spi.persistence.support.sqlstore.impl.PersistenceManagerFactoryImpl	(optional) Deprecated. Do not specify this attribute for the built-in CMP implementation.
jdbc-resource-jndi-name	none	Specifies the “ <a href="#">jdbc-resource</a> ” on <a href="#">page 60</a> from which database connections are obtained. Must be the jndi-name of an existing jdbc-resource.
object-type	user	(optional) Defines the type of the resource. Allowed values are: <ul style="list-style-type: none"><li>■ system-all - A system resource for all server instances and the domain application server.</li><li>■ system-admin - A system resource only for the domain application server.</li><li>■ system-instance - A system resource for all server instances only.</li><li>■ user - A user resource.</li></ul>
enabled	true	(optional) Determines whether this resource is enabled at runtime.

## principal

Contains the principal of the servlet or EJB client.

## Superelements

“[security-map](#)” on [page 89](#)

## Subelements

none - contains data



## profiler

Configures a profiler for use with the Application Server. For more information about profilers, see the *Sun Java System Application Server Platform Edition 8.1 2005Q2 Update 2 Developer's Guide*.

### Superelements

[“java-config” on page 54](#)

### Subelements

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

TABLE 1–93 `profiler` Subelements

Element	Required	Description
<a href="#">“jvm-options” on page 64</a>	zero or more	Contains profiler-specific JVM command line options.
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

---

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

---

### Attributes

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

TABLE 1–94 `profiler` Attributes

Attribute	Default	Description
<code>name</code>	<code>none</code>	Specifies the name of the profiler.
<code>classpath</code>	<code>none</code>	(optional) Specifies the classpath for the profiler.
<code>native-library-path</code>	<code>none</code>	(optional) Specifies the native library path for the profiler.
<code>enabled</code>	<code>true</code>	(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 Application Server
- Needed by a system or object that the Application 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 18](#), [“admin-service” on page 20](#), [“alert-service” on page 20](#), [“audit-module” on page 24](#), [“auth-realm” on page 24](#), [“config” on page 27](#), [“connector-connection-pool” on page 29](#), [“connector-resource” on page 34](#), [“custom-resource” on page 36](#), [“das-config” on page 37](#), [“domain” on page 39](#), [“ejb-container” on page 40](#), [“ejb-timer-service” on page 44](#), [“external-jndi-resource” on page 45](#), [“filter-config” on page 47](#), [“http-listener” on page 47](#), [“http-service” on page 49](#), [“iiop-listener” on page 50](#), [“jacc-provider” on page 53](#), [“java-config” on page 54](#), [“jdbc-connection-pool” on page 56](#), [“jdbc-resource” on page 60](#), [“jms-host” on page 61](#), [“jms-service” on page 62](#), [“lifecycle-module” on page 65](#), [“listener-config” on page 66](#), [“log-service” on page 67](#), [“mail-resource” on page 69](#), [“manager-properties” on page 71](#), [“mdb-container” on page 72](#), [“module-log-levels” on page 74](#), [“module-monitoring-levels” on page 76](#), [“monitoring-service” on page 77](#), [“orb” on page 78](#), [“persistence-manager-factory-resource” on page 79](#), [“profiler” on page 81](#), [“provider-config” on page 83](#), [“resource-adapter-config” on page 85](#), [“security-service” on page 90](#), [“server” on page 91](#), [“session-properties” on page 94](#), [“store-properties” on page 97](#), [“transaction-service” on page 101](#), [“virtual-server” on page 104](#), [“web-container” on page 107](#)

## Subelements

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

TABLE 1-95 property Subelements

Element	Required	Description
<a href="#">“description” on page 39</a>	zero or one	Contains a text description of this element.

## Attributes

The following table describes attributes for the property element.

TABLE 1-96 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.

## 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 73](#)

## Subelements

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

TABLE 1-97 provider-config Subelements

Element	Required	Description
<a href="#">“request-policy” on page 84</a>	zero or one	Defines the authentication policy requirements of the authentication provider’s request processing.
<a href="#">“response-policy” on page 88</a>	zero or one	Defines the authentication policy requirements of the authentication provider’s response processing.

TABLE 1-97 provider-config Subelements (Continued)

Element	Required	Description
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

Attributes

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

TABLE 1-98 provider-config Attributes

Attribute	Default	Description
provider-id	none	Specifies the provider ID.
provider-type	none	Specifies whether the provider is a client, server, or client-server authentication provider.
class-name	none	Specifies the Java implementation class of the provider. Client authentication providers must implement the 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.

R

request-policy

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

Superelements

[“provider-config” on page 83](#)

Subelements

none

Attributes

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

TABLE 1-99 request-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.

## resource-adapter-config

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

### Superelements

[“resources” on page 87](#)

### Subelements

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

TABLE 1-100 resource-adapter-config Subelements

Element	Required	Description
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

### Attributes

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

TABLE 1-101 resource-adapter-config Attributes

Attribute	Default	Description
name	none	(optional) Not used. See resource-adapter-name.
thread-pool-ids	none	(optional) Specifies the id of a <a href="#">“thread-pool” on page 100</a> element.

TABLE 1-101 resource-adapter-config Attributes (Continued)

Attribute	Default	Description
object-type	user	(optional) Defines the type of the resource. Allowed values are: <ul style="list-style-type: none"><li>■ system-all - A system resource for all server instances and the domain application server.</li><li>■ system-admin - A system resource only for the domain application server.</li><li>■ system-instance - A system resource for all server instances only.</li><li>■ user - A user resource.</li></ul>
resource-adapter-name	none	Specifies the name attribute of a deployed <a href="#">“connector-module” on page 33</a> . 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 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 instance.

Superelements

[“server” on page 91](#)

Subelements

none

Attributes

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

TABLE 1–102 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 36, “external-jndi-resource” on page 45, “jdbc-resource” on page 60, “mail-resource” on page 69, “persistence-manager-factory-resource” on page 79, “admin-object-resource” on page 18 “resource-adapter-config” on page 85, “jdbc-connection-pool” on page 56, or “connector-connection-pool” on page 29 element.

## resources

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

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

## Superelements

“domain” on page 39

## Subelements

The following table describes subelements for the resources element.

TABLE 1–103 resources Subelements

Element	Required	Description
“custom-resource” on page 36	zero or more	Defines a custom resource.
“external-jndi-resource” on page 45	zero or more	Defines a resource that resides in an external JNDI repository.
“jdbc-resource” on page 60	zero or more	Defines a JDBC (Java Database Connectivity) resource.
“mail-resource” on page 69	zero or more	Defines a JavaMail resource.

TABLE 1-103 resources Subelements (Continued)

Element	Required	Description
<a href="#">“persistence-manager-factory-resource” on page 79</a>	zero or more	Defines a persistence manager factory resource for CMP.
<a href="#">“admin-object-resource” on page 18</a>	zero or more	Defines an administered object for an inbound resource adapter.
<a href="#">“connector-resource” on page 34</a>	zero or more	Defines a connector (resource adapter) resource.
<a href="#">“resource-adapter-config” on page 85</a>	zero or more	Defines a resource adapter configuration.
<a href="#">“jdbc-connection-pool” on page 56</a>	zero or more	Defines the properties that are required for creating a JDBC connection pool.
<a href="#">“connector-connection-pool” on page 29</a>	zero or more	Defines the properties that are required for creating a connector connection pool.

**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 83](#)

### Subelements

none

### Attributes

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



TABLE 1-104 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.

#### Superelements

[“connector-connection-pool” on page 29](#)

#### Subelements

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

TABLE 1-105 security-map Subelements

Element	Required	Description
<a href="#">“principal” on page 80</a>	one or more	Contains the principal of the servlet or EJB client.
<a href="#">“user-group” on page 104</a>	one or more	Contains the group to which the principal belongs.
<a href="#">“backend-principal” on page 26</a>	only one	Specifies the user name and password required by the EIS.

#### Attributes

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

TABLE 1-106 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 J2EE security service.

### Superelements

[“config” on page 27](#)

### Subelements

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

TABLE 1-107 security-service Subelements

Element	Required	Description
<a href="#">“auth-realm” on page 24</a>	one or more	Defines a realm for authentication.
<a href="#">“jacc-provider” on page 53</a>	one or more	Specifies a Java Authorization Contract for Containers (JACC) provider for pluggable authorization.
<a href="#">“audit-module” on page 24</a>	zero or more	Specifies an optional plug-in module that implements audit capabilities.
<a href="#">“message-security-config” on page 73</a>	zero or more	Specifies configurations for message security providers.
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

### Attributes

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

TABLE 1-108 security-service Attributes

Attribute	Default	Description
default-realm	file	(optional) Specifies the active authentication realm (an auth-realm name attribute) for this server instance.

TABLE 1-108 security-service Attributes (Continued)

Attribute	Default	Description
default-principal	none	(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.
default-principal-password	none	(optional) The password of the default principal. This attribute need not be set for normal server operation.
anonymous-role	ANYONE	(optional) Used as the name for default, or anonymous, role. The anonymous role is always assigned to all principals. This role value can be used in J2EE deployment descriptors to grant access to anyone.
audit-enabled	false	(optional) If true, additional access logging is performed to provide audit information.  Audit information consists of: <ul style="list-style-type: none"><li>■ Authentication success and failure events</li><li>■ Servlet and EJB access grants and denials</li></ul>
jacc	default	(optional) Specifies the name of the “jacc-provider” on page 53 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 comma-separated list of audit provider modules used by the audit subsystem. The default value refers to the internal log-based audit module.

## server

Defines a server instance.

**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 92

## Subelements

The following table describes subelements for the server element.

TABLE 1–109 server Subelements

Element	Required	Description
<a href="#">“application-ref” on page 22</a>	zero or more	References an application or module deployed to the server instance.
<a href="#">“resource-ref” on page 86</a>	zero or more	References a resource deployed to the server instance.
<a href="#">“system-property” on page 98</a>	zero or more	Specifies a system property.
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

## Attributes

The following table describes attributes for the server element.

TABLE 1–110 server Attributes

Attribute	Default	Description
name	none	Specifies the name of the server instance.
config-ref	default <a href="#">“config” on page 27</a> element’s name, server-config	(optional) References the name of the <a href="#">“config” on page 27</a> used by the server instance. For the Platform Edition, the default is the only value allowed.

## servers

Contains server instances. In the Platform Edition, there is only one server instance.

## Superelements

[“domain” on page 39](#)

## Subelements

The following table describes subelements for the servers element.

TABLE 1-111 servers Subelements

Element	Required	Description
<a href="#">“server” on page 91</a>	only one	Defines a server instance.

## session-config

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

### Superelements

[“web-container” on page 107](#)

### Subelements

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

TABLE 1-112 session-config Subelements

Element	Required	Description
<a href="#">“session-manager” on page 93</a>	zero or one	Specifies session manager configuration information.
<a href="#">“session-properties” on page 94</a>	zero or one	Specifies session properties.

## session-manager

Specifies session manager information.

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

### Superelements

[“session-config” on page 93](#)

### Subelements

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

TABLE 1-113 session-manager Subelements

Element	Required	Description
<a href="#">“manager-properties” on page 71</a>	zero or one	Specifies session manager properties.
<a href="#">“store-properties” on page 97</a>	zero or one	Specifies session persistence (storage) properties.

## session-properties

Specifies session properties.

### Superelements

[“session-config” on page 93](#)

### Subelements

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

TABLE 1-114 session-properties Subelements

Element	Required	Description
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

### Attributes

TABLE 1-115 session-properties Attributes

Attribute	Default	Description
<code>timeout-in-seconds</code>	<code>600</code>	<p>(optional) Specifies the default maximum inactive interval (in seconds) for all sessions created in this web module. If set to <code>0</code> or less, sessions in this web module never expire.</p> <p>If a <code>session-timeout</code> element is specified in the <code>web.xml</code> file, the <code>session-timeout</code> value overrides any <code>timeout-in-seconds</code> value. If neither <code>session-timeout</code> nor <code>timeout-in-seconds</code> is specified, the <code>timeout-in-seconds</code> default is used.</p> <p>Note that the <code>session-timeout</code> element in <code>web.xml</code> is specified in minutes, not seconds.</p>

## Properties

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

TABLE 1-116 `session-properties` Properties

Property	Default	Description
<code>enableCookies</code>	<code>true</code>	Uses cookies for session tracking if set to <code>true</code> .
<code>enableURLRewriting</code>	<code>true</code>	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.
<code>idLengthBytes</code>	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`.

In Platform Edition, SSL is globally disabled.

## Superelements

[“http-listener” on page 47](#), [“iiop-listener” on page 50](#), [“ssl-client-config” on page 97](#)

## Subelements

none

## Attributes

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

TABLE 1-117 ssl Attributes

Attribute	Default	Description
cert-nickname	none	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 <a href="#">“virtual-server” on page 104</a> , the server tries SSL3 encryption first. If that fails, the server tries SSL2 encryption.
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 <a href="#">“virtual-server” on page 104</a> , 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 +rsa_des_sha . Allowed SSL3 values are rsa_rc4_128_md5, rsa_3des_sha , rsa_des_sha, rsa_rc4_40_md5, rsa_rc2_40_md5, rsa_null_md5. Allowed TLS values are rsa_des_56_sha, rsa_rc4_56_sha.
tls-enabled	true	(optional) Determines whether TLS is enabled.
client-auth-enabled	false	(optional) Determines whether SSL3 client authentication is performed on every request, independent of ACL-based access control.



## ssl-client-config

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

### Superelements

[“iiop-service” on page 51](#)

### Subelements

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

TABLE 1-118 `ssl-client-config` Subelements

Element	Required	Description
<a href="#">“ssl” on page 95</a>	only one	Defines SSL parameters.

## store-properties

Specifies session persistence (storage) properties.

### Superelements

[“session-manager” on page 93](#)

### Subelements

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

TABLE 1-119 `store-properties` Subelements

Element	Required	Description
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

## Attributes

TABLE 1-120 store-properties Attributes

Attribute	Default	Description
directory	<i>domain-dir/generated/jsp/j2ee-apps/ appname/appname_war</i>	(optional) Specifies the absolute or relative pathname of the directory into which individual session files are written. A relative path is relative to the temporary work directory for this web application.
reap-interval-in-seconds	60	(optional) Specifies the time between checks for expired sessions.  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.

## 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 39, “[server](#)” on page 91, or “[config](#)” on page 27. A value set at a higher level can be overridden at a lower level. Some system properties are predefined; see “[system-property](#)” on page 98. 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>
  ...
</config>
```

```
<system-property name="ls1-port" value="8080"/>
</config>
```

## Superelements

[“config” on page 27](#), [“domain” on page 39](#), [“server” on page 91](#)

## Subelements

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

TABLE 1–121 `system-property` Subelements

Element	Required	Description
<a href="#">“description” on page 39</a>	zero or one	Contains a text description of this element.

## Attributes

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

TABLE 1–122 `system-property` Attributes

Attribute	Default	Description
<code>name</code>	<code>none</code>	Specifies the name of the system property.
<code>value</code>	<code>none</code>	Specifies the value of the system property.

## Properties

The following table lists predefined system properties.

TABLE 1–123 Predefined System Properties

Property	Default	Description
<code>com.sun.aas.installRoot</code>	depends on operating system	Specifies the directory where the Application Server is installed.
<code>com.sun.aas.instanceRoot</code>	depends on operating system	Specifies the top level directory for a server instance.
<code>com.sun.aas.hostName</code>	<code>none</code>	Specifies the name of the host (machine).
<code>com.sun.aas.javaRoot</code>	depends on operating system	Specifies the J2SE installation directory.
<code>com.sun.aas.imqLib</code>	depends on operating system	Specifies the library directory for Sun Java System Message Queue.

TABLE 1–123    Predefined System Properties        (Continued)

Property	Default	Description
com.sun.aas.configName	server-config	Specifies the name of the “config” on page 27 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.

T

thread-pool

Defines a thread pool.

Superelements

“thread-pools” on page 101

Subelements

none

Attributes

TABLE 1–124    thread-pool Attributes

Attribute	Default	Description
thread-pool-id	none	Specifies the thread pool ID.
min-thread-pool-size	0	(optional) Specifies the minimum number of threads in the pool. These are created when the thread pool is instantiated.
max-thread-pool-size	200	(optional) Specifies the maximum number of threads the pool can contain.

TABLE 1–124 thread-pool Attributes (Continued)

Attribute	Default	Description
idle-thread-timeout-in-seconds	120	(optional) Specifies the amount of time after which idle threads are removed from the pool.
num-work-queues	1	(optional) Specifies the total number of work queues serviced by this thread pool.

## thread-pools

Contains thread pools.

### Superelements

[“config” on page 27](#)

### Subelements

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

TABLE 1–125 thread-pools Subelements

Element	Required	Description
<a href="#">“thread-pool” on page 100</a>	one or more	Defines a thread pool.

## transaction-service

Configures the Java Transaction Service (JTS).

### Superelements

[“config” on page 27](#)

### Subelements

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

TABLE 1–126 transaction-service Subelements

Element	Required	Description
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

# Attributes

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

TABLE 1-127 `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.
<code>tx-log-dir</code>	directory specified by the <code>log-root</code> attribute of the <a href="#">“domain” on page 39</a> element	(optional) Specifies the parent directory of the transaction log directory <code>tx</code> . 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 <code>log-root</code> attribute of the <a href="#">“domain” on page 39</a> element.
<code>heuristic-decision</code>	<code>rollback</code>	(optional) If the outcome of a distributed transaction cannot be determined because other participants are unreachable, this property determines the outcome. Allowed values are <code>rollback</code> and <code>commit</code> .
<code>retry-timeout-in-seconds</code>	<code>600</code>	(optional) Determines the retry time in the following scenarios: <ul style="list-style-type: none"><li>■ At the transaction recovery time, if resources are unreachable.</li><li>■ If there are any transient exceptions in the second phase of a two phase commit protocol.</li></ul> A negative value specifies infinite retries. A value of <code>0</code> (zero) specifies no retries. A positive value indicates the time after which a retry is attempted.

TABLE 1-127 transaction-service Attributes (Continued)

Attribute	Default	Description
keypoint-interval	2048	(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 (for example, 4096) results in a larger transaction log file, but fewer keypoint operations and potentially better performance. A smaller value (for example, 100) 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 1-128 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.
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.

## U

## user-group

Contains the group to which the principal belongs.

## Superelements

“security-map” on page 89

## 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 Application 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 47 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 Application 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 host s attribute of a virtual server. If no Host header is present or no host s attribute matches, the default virtual server for the listener is selected.

If a virtual server is configured to an SSL listener, its host s 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 49](#)

## Subelements

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

TABLE 1-129 `virtual-server` Subelements

Element	Required	Description
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

## Attributes

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

TABLE 1-130 `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) In a comma-separated list, references <code>id</code> attributes of <a href="#">“http-listener” on page 47</a> elements that specify the connection(s) the virtual server uses. Required only for a <code>virtual-server</code> that is not referenced by the <code>default-virtual-server</code> attribute of an <code>http-listener</code> .
<code>default-web-module</code>	system default web module	(optional) References the <code>name</code> attribute of the default <a href="#">“web-module” on page 108</a> for this virtual server, which responds to requests that cannot be resolved to other web modules deployed to this virtual server (see the <a href="#">“application-ref” on page 22</a> element).
<code>hosts</code>	<code>none</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.

TABLE 1-130 virtual-server Attributes (Continued)

Attribute	Default	Description
state	on	(optional) Determines whether a virtual-server is active (on) or inactive (off, disabled). The default is on (active). When inactive, a virtual-server does not service requests.  If a virtual-server is disabled, only the global server administrator can turn it on.
log-file	server.log in the directory specified by the log-root attribute of the “domain” on page 39 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 67 description for details about logs.

Properties

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

TABLE 1-131 virtual-server Properties

Property	Default	Description
sso-enabled	true	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.
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.

TABLE 1-131 virtual-server Properties (Continued)

Property	Default	Description
setCacheControl	none	Specifies a comma-separated list of Cache-Control response directives. For a list of valid directives, see section 14.9 of the document at <a href="http://www.ietf.org/rfc/rfc2616.txt">http://www.ietf.org/rfc/rfc2616.txt</a> .
redirect_n	none	<p>Specifies that a request for an old URL is treated as a request for a new URL. These properties are inherited by all web applications deployed on the virtual server. The value of each <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. For example:</p> <pre>&lt;property name="redirect_1" value="from=/dummy url-prefix=http://etude"/&gt;</pre>

W

web-container

Configures the web container.

Superelements

“config” on page 27

Subelements

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

TABLE 1-132 web-container Subelements

Element	Required	Description
<a href="#">“session-config” on page 93</a>	zero or one	Specifies session configuration information for the web container.
<a href="#">“property” on page 82</a>	zero or more	Specifies a property or a variable.

## web-module

Specifies a deployed web module.

### Superelements

[“applications” on page 23](#)

### Subelements

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

TABLE 1-133 web-module Subelements

Element	Required	Description
<a href="#">“description” on page 39</a>	zero or one	Contains a text description of this element.

### Attributes

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

TABLE 1-134 web-module Attributes

Attribute	Default	Description
name	none	The name of the web module.
context-root	none	The context root at which the web module is deployed. The context root can be the empty string or just /. The context root can start with the / character, but doesn't have to.
location	none	A fully qualified or relative path to the directory to which the contents of the .war file have been extracted. If relative, it is relative to the following directory:  <i>domain-dir/applications/j2ee-modules/</i>

TABLE 1-134 web-module Attributes (Continued)

Attribute	Default	Description
object-type	user	(optional) Defines the type of the resource. Allowed values are: <ul style="list-style-type: none"><li>■ system-all - A system resource for all server instances and the domain application server.</li><li>■ system-admin - A system resource only for the domain application server.</li><li>■ system-instance - A system resource for all server instances only.</li><li>■ user - A user resource.</li></ul>
enabled	true	(optional) Determines whether the web module is enabled.
directory-deployed	false	(optional) Specifies whether the application has been deployed to a directory.



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