



Sun Java™ System

# Application Server Platform Edition 8.1 Administration Reference

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2005Q1

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Santa Clara, CA 95054  
U.S.A.

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# Preface

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

## Before You Read This Book

Application Server is a component of Sun Java™ Enterprise System, a software infrastructure that supports enterprise applications distributed across a network or Internet environment. You should be familiar with the documentation provided with Sun Java Enterprise System, which can be accessed online at <http://docs.sun.com/app/docs/prod/entsys.05q1#hic>.

# How This Book Is Organized

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

## Conventions Used in This Book

The tables in this section describe the conventions used in this book.

### Typographic Conventions

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

| Table 1    Typographic Conventions   |  |   |
|--------------------------------------|--|---|
| Typeface                             | Meaning  | Examples  |
| AaBbCc123<br>(Monospace)             | API and language elements, HTML tags, web site URLs, command names, file names, directory path names, onscreen computer output, sample code. | Edit your <code>.login</code> file.<br><br>Use <code>ls -a</code> to list all files.<br><br>% You have mail.  |
| <b>AaBbCc123</b><br>(Monospace bold) | What you type, when contrasted with onscreen computer output.  | % <b>su</b><br>Password:  |
| <i>AaBbCc123</i><br>(Italic)         | Book titles, new terms, words to be emphasized.<br><br>A placeholder in a command or path name to be replaced with a real name or value.     | Read Chapter 6 in the <i>User’s Guide</i> .<br><br>These are called <i>class</i> options.<br><br>Do <i>not</i> save the file.<br><br>The file is located in the <i>install-dir/bin</i> directory. |

### Symbols

The following table describes the symbol conventions used in this book.

**Table 2** Symbol Conventions

| Symbol | Description  | Example                | Meaning  |
|--------|--|------------------------|--|
| [ ]    | Contains optional command options.                           | ls [-l]                | The -l option is not required.   |
| {   }  | Contains a set of choices for a required command option.     | -d {y n}               | The -d option requires that you use either the y argument or the n argument. |
| -      | Joins simultaneous multiple keystrokes.                      | Control-A              | Press the Control key while you press the A key.                             |
| +      | Joins consecutive multiple keystrokes.                       | Ctrl+A+N               | Press the Control key, release it, and then press the subsequent keys.       |
| >      | Indicates menu item selection in a graphical user interface. | File > New > Templates | From the File menu, choose New. From the New submenu, choose Templates.      |

## Default Paths and File Names

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

**Table 3** Default Paths and File Names

| Term               | Description  |
|--------------------|--|
| <i>install_dir</i> | <p>By default, the Application Server installation directory is located here:</p> <ul style="list-style-type: none"> <li>Sun Java Enterprise System installations on the Solaris™ platform:<br/>/opt/SUNWappserver/appserver</li> <li>Sun Java Enterprise System installations on the Linux platform:<br/>/opt/sun/appserver/</li> <li>Other Solaris and Linux installations, non-root user:<br/><i>user's home directory</i>/SUNWappserver</li> <li>Other Solaris and Linux installations, root user:<br/>/opt/SUNWappserver</li> <li>Windows, all installations:<br/><i>SystemDrive</i>: \Sun\AppServer</li> </ul> |

**Table 3** Default Paths and File Names

| Term                   | Description  |
|------------------------|--|
| <i>domain_root_dir</i> | By default, the directory containing all domains is located here: <ul style="list-style-type: none"><li>• Sun Java Enterprise System installations on the Solaris platform:<br/><i>/var/opt/SUNWappserver/domains/</i></li><li>• Sun Java Enterprise System installations on the Linux platform:<br/><i>/var/opt/sun/appserver/domains/</i></li><li>• All other installations:<br/><i>install_dir/domains/</i></li></ul> |
| <i>domain_dir</i>      | By default, each domain directory is located here:<br><i>domain_root_dir/domain_dir</i><br><br>In configuration files, you might see <i>domain_dir</i> represented as follows:<br><i>\${com.sun.aas.instanceRoot}</i>  |

## Shell Prompts

The following table describes the shell prompts used in this book.

**Table 4** Shell Prompts

| Shell  | Prompt               |
|--|----------------------|
| C shell on UNIX or Linux                               | <i>machine-name%</i> |
| C shell superuser on UNIX or Linux                     | <i>machine-name#</i> |
| Bourne shell and Korn shell on UNIX or Linux           | <i>\$</i>            |
| Bourne shell and Korn shell superuser on UNIX or Linux | <i>#</i>             |
| Windows command line                                   | <i>C:\</i>           |

# Related Documentation

The <http://docs.sun.com><sup>SM</sup> web site enables you to access Sun technical documentation online. You can browse the archive or search for a specific book title or subject.

## Books in This Documentation Set

The Sun Java System Application Server manuals are available as online files in Portable Document Format (PDF) and Hypertext Markup Language (HTML).

The following table summarizes the books included in the Application Server core documentation set.

**Table 5** Books in This 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 Sun Java System Application Server product.   |
| <i>Installation Guide</i>          | Installing the Sun Java System Application Server 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 Sun Java System 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 and deploying the applications on the Sun Java System Application Server.  |
| <i>Administration Guide</i>        | Configuring, managing, and deploying the Sun Java System Application Server subsystems and components from the Administration Console.  |
| <i>Administration Reference</i>    | Editing the Sun Java System Application Server configuration file, <code>domain.xml</code> .  |
| <i>Upgrade and Migration Guide</i> | Migrating your applications to the new Sun Java System 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 Sun Java System Application Server problems.  |
| <i>Error Message Reference</i>     | Solving Sun Java System Application Server error messages.  |
| <i>Reference Manual</i>            | Utility commands available with the Sun Java System Application Server; written in manpage style. Includes the <code>asadmin</code> command line interface.   |

## Other Server Documentation

For other server documentation, go to the following:

- Message Queue documentation  
<http://docs.sun.com/db?p=prod/s1.s1msgqu>
- Directory Server documentation  
[http://docs.sun.com/coll/DirectoryServer\\_04q2](http://docs.sun.com/coll/DirectoryServer_04q2)
- Web Server documentation  
[http://docs.sun.com/coll/S1\\_websvr61\\_en](http://docs.sun.com/coll/S1_websvr61_en)

## Accessing Sun Resources Online

For product downloads, professional services, patches and support, and additional developer information, go to the following:

- Download Center  
<http://www.sun.com/software/download/>
- Professional Services  
<http://www.sun.com/service/sunps/sunone/index.html>
- Sun Enterprise Services, Solaris Patches, and Support  
<http://sunsolve.sun.com/>
- Developer Information  
<http://developers.sun.com/prodtech/index.html>

## Contacting Sun Technical Support

If you have technical questions about this product that are not answered in the product documentation, go to <http://www.sun.com/service/contacting>.

## Related Third-Party Web Site References

For general information about DTD files and XML, see the XML specification at:

<http://www.w3.org/TR/REC-xml>

For a list of valid cache control response directives, see section 14.9 of the following document:

<http://www.ietf.org/rfc/rfc2616.txt>

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# The domain.xml File

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

- [About the domain.xml File](#)
- [Alphabetical List of Elements](#)

## 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](#)
- [Default Values](#)
- [Variables](#)
- [Element Referencing](#)
- [Element Hierarchy](#)

## 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.

---

|             |  |
|-------------|--|
| <b>NOTE</b> | <p>Do not edit the sun-domain_1_1.dtd file; its contents change only with new versions of Sun Java System Application Server.</p> <p>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.</p> <p>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.</p> |
|-------------|--|

---

For general information about DTD files and XML, see the XML specification at:

<http://www.w3.org/TR/REC-xml>

---

|             |  |
|-------------|--|
| <b>NOTE</b> | <p>Subelements must be defined in the order in which they are listed under each <b>Subelements</b> heading in this chapter unless otherwise noted.</p> |
|-------------|--|

---

## 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 Sun Java System 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](#) element or the [jvm-options](#) 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](#), [config](#), and [domain](#) 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 Sun Java System 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` element references an application or module that is deployed to its parent `server` element. The `application-ref` element's `ref` attribute has the same value as the `name` attribute of a `lifecycle-module`, `j2ee-application`, `ejb-module`, `web-module`, `connector-module`, or `appclient-module` 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` as their last or only subelement are marked with a <sup>P</sup>, and the `property` subelements are not shown. Parent/child relationships between elements are shown, but not order or 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 <sup>P</sup>
- . . . . auth-realm <sup>P</sup>
- . . . . jacc-provider <sup>P</sup>
- . . . . audit-module <sup>P</sup>
- . . . . message-security-config
- . . . . . provider-config <sup>P</sup>
- . . . . . . request-policy
- . . . . . . response-policy
- . . . transaction-service <sup>P</sup>
- . . . monitoring-service <sup>P</sup>
- . . . . module-monitoring-levels <sup>P</sup>
- . . . java-config <sup>P</sup>
- . . . . profiler <sup>P</sup>
- . . . . . jvm-options
- . . . . . jvm-options
- . . . thread-pools
- . . . . thread-pool
- . . . alert-service <sup>P</sup>
- . . . . alert-subscription
- . . . . . listener-config <sup>P</sup>
- . . . . . filter-config <sup>P</sup>
- . . . system-property
- . . . . description
- . servers
- . . server <sup>P</sup>
- . . . application-ref
- . . . resource-ref
- . . . system-property
- . . . . description
- . system-property
- . . description

# Alphabetical List of Elements

A B C D E F H I J L M O P R S T U V W

## A

## admin-object-resource

Defines an administered object for an inbound resource adapter.

### Superelements

[resources](#)

### 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</a> | zero or one  | Contains a text description of this element. |
| <a href="#">property</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   |
|--------------------------|---------|---|
| <code>jndi-name</code>   | none    | Specifies the JNDI name for the resource.   |
| <code>res-type</code>    | none    | Specifies the fully qualified type of the resource.   |
| <code>res-adapter</code> | none    | Specifies the name of the inbound resource adapter, as specified in the <code>name</code> attribute of a <a href="#">connector-module</a> element.  |
| <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 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.  |

**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 *Sun Java System Message Queue Administration Guide*.

**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`

**Subelements**

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

**Table 1-3**    `admin-service` Subelements

| Element                 | Required     | Description   |
|-------------------------|--------------|---|
| <code>das-config</code> | only one     | Defines a domain administration server configuration. |
| <code>property</code>   | 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](#)

### Subelements

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

**Table 1-5** `alert-service` Subelements

| Element                            | Required     | Description  |
|------------------------------------|--------------|--|
| <a href="#">alert-subscription</a> | zero or more | Configures a subscription to system status alerts. |
| <a href="#">property</a>           | zero or more | Specifies a property or a variable.                |

## alert-subscription

Configures a subscription to system status alerts.

### Superelements

[alert-service](#)

### Subelements

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

**Table 1-6** `alert-subscription` Subelements

| Element                         | Required    | Description   |
|---------------------------------|-------------|---|
| <a href="#">listener-config</a> | only one    | Configures the listener class that listens for alerts from notification emitters. |
| <a href="#">filter-config</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](#)

### Subelements

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

**Table 1-8** appclient-module Subelements

| Element                     | Required    | Description                                  |
|-----------------------------|-------------|--|
| <a href="#">description</a> | zero or one | Contains a text description of this element. |

### Attributes

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

**Table 1-9** appclient-module Attributes

| Attribute          | Default | Description   |
|--------------------|---------|---|
| name               | none    | The name of the ACC module.   |
| location           | none    | The location of the ACC module in the Sun Java System Application Server file system. |
| directory-deployed | false   | (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](#)

### 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.   |
| <code>virtual-servers</code>            | all virtual servers | (optional) In a comma-separated list, references <code>id</code> attributes of the <code>virtual-server</code> elements to which the <code>web-module</code> or the web modules within this <code>j2ee-application</code> are deployed.       |
| <code>lb-enabled</code>                 | <code>false</code>  | (optional) If <code>true</code> , all load-balancers consider this application available to them.   |
| <code>disable-timeout-in-minutes</code> | 30                  | (optional) Specifies the time it takes this application to reach a quiescent state after having been disabled.  |
| <code>ref</code>                        | none                | References the <code>name</code> attribute of a <code>lifecycle-module</code> , <code>j2ee-application</code> , <code>ejb-module</code> , <code>web-module</code> , <code>connector-module</code> , or <code>appclient-module</code> element. |

## applications

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

### Superelements

`domain`

### Subelements

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

**Table 1-11** `applications` Subelements

| Element                       | Required     | Description                            |
|-------------------------------|--------------|--|
| <code>lifecycle-module</code> | zero or more | Specifies a deployed lifecycle module. |
| <code>j2ee-application</code> | zero or more | Specifies a deployed J2EE application. |
| <code>ejb-module</code>       | zero or more | Specifies a deployed EJB module.       |
| <code>web-module</code>       | zero or more | Specifies a deployed web module.       |
| <code>connector-module</code> | zero or more | Specifies a deployed connector module. |

**Table 1-11** applications Subelements (*Continued*)

| Element                       | Required     | Description   |
|-------------------------------|--------------|---|
| <code>appclient-module</code> | 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`

**Subelements**

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

**Table 1-12** audit-module Subelements

| Element               | Required     | Description                         |
|-----------------------|--------------|-------------------------------------|
| <code>property</code> | 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 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](#)

### Subelements

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

**Table 1-14** `auth-realm` Subelements

| Element                  | Required     | Description                         |
|--------------------------|--------------|-------------------------------------|
| <a href="#">property</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 Sun Java System 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> ,<br><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> .  |
| <code>assign-groups</code>        | <code>certificate</code>  | (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. |
| <code>directory</code>            | <code>ldap</code>   | Specifies the LDAP URL to your server.  |
| <code>base-dn</code>              | <code>ldap</code>   | 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.  |
| <code>search-filter</code>        | <code>ldap</code>   | (optional) Specifies the search filter to use to find the user. The default is <code>uid=%s</code> ( <code>%s</code> expands to the subject name).  |
| <code>group-base-dn</code>        | <code>ldap</code>   | (optional) Specifies the base DN for the location of groups data. By default, it is same as the <code>base-dn</code> , but it can be tuned, if necessary.   |
| <code>group-search-filter</code>  | <code>ldap</code>   | (optional) Specifies the search filter to find group memberships for the user. The default is <code>uniquemember=%d</code> ( <code>%d</code> expands to the user element DN).   |
| <code>group-target</code>         | <code>ldap</code>   | (optional) Specifies the LDAP attribute name that contains group name entries. The default is <code>CN</code> .   |
| <code>search-bind-dn</code>       | <code>ldap</code>   | (optional) Specifies an optional DN used to authenticate to the directory for performing the <code>search-filter</code> lookup. Only required for directories that do not allow anonymous search.   |
| <code>search-bind-password</code> | <code>ldap</code>   | (optional) Specifies the LDAP password for the DN given in <code>search-bind-dn</code> .  |

B

**backend-principal**

Specifies the user name and password required by the EIS.

**Superelements**

[security-map](#)

**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](#)

**Subelements**

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

**Table 1-18** `config` Subelements

| Element                      | Required | Description                  |
|------------------------------|----------|------------------------------|
| <a href="#">http-service</a> | only one | Configures the HTTP service. |
| <a href="#">iiop-service</a> | only one | Configures the IIOP service. |

**Table 1-18** `config` Subelements (*Continued*)

| Element                          | Required     | Description   |
|----------------------------------|--------------|---|
| <code>admin-service</code>       | only one     | Determines whether the server to which the configuration applies is an administration server. |
| <code>connector-service</code>   | zero or one  | Configures the connector service.   |
| <code>web-container</code>       | only one     | Configures the web container.   |
| <code>ejb-container</code>       | only one     | Configures the Enterprise JavaBeans™ (EJB™) container.  |
| <code>mdb-container</code>       | only one     | Configures the message-driven bean (MDB) container.   |
| <code>jms-service</code>         | zero or one  | Configures the Java™ Message Service (JMS) provider.  |
| <code>log-service</code>         | only one     | Configures the system logging service.  |
| <code>security-service</code>    | only one     | Configures the J2EE security service.   |
| <code>transaction-service</code> | only one     | Configures the transaction service.   |
| <code>monitoring-service</code>  | only one     | Configures the monitoring service.  |
| <code>java-config</code>         | only one     | Configures the Java™ Virtual Machine (JVM™).  |
| <code>thread-pools</code>        | only one     | Configures thread pools.  |
| <code>alert-service</code>       | zero or one  | Configures the alert service.   |
| <code>system-property</code>     | zero or more | Specifies a system property.  |
| <code>property</code>            | 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   |
|-------------------|----------------------------|---|
| <code>name</code> | <code>server-config</code> | 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  |
|--|-------------------|--|
| <code>dynamic-reconfiguration-enabled</code> | <code>true</code> | (optional) If <code>true</code> , any changes to the system (for example, applications deployed, resources created) are automatically applied to the affected servers without a restart being required. If <code>false</code> , such changes are only picked up by the affected servers when each server restarts. |

## configs

Contains configurations. In the Platform Edition, there is only one configuration.

### Superelements

`domain`

### Subelements

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

**Table 1-20** `configs` Subelements

| Element             | Required | Description              |
|---------------------|----------|--------------------------|
| <code>config</code> | only one | Defines a configuration. |

## connector-connection-pool

Defines a connector connection pool.

### Superelements

`resources`

### Subelements

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

**Table 1-21** `connector-connection-pool` Subelements

| Element                   | Required     | Description  |
|---------------------------|--------------|--|
| <code>description</code>  | zero or one  | Contains a text description of this element.   |
| <code>security-map</code> | zero or more | Maps the principal received during servlet or EJB authentication to the credentials accepted by the EIS. |

**Table 1-21** connector-connection-pool Subelements (*Continued*)

| Element                  | Required     | Description                         |
|--------------------------|--------------|-------------------------------------|
| <a href="#">property</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  |
|----------------------------|---------|--|
| name                       | none    | Specifies the name of the connection pool. A <a href="#">connector-resource</a> element's pool-name attribute refers to this name.   |
| resource-adapter-name      | none    | Specifies the name attribute of the deployed <a href="#">connector-module</a> . If no name is specified during deployment, the name of the .rar file is used. If the resource adapter is embedded in an application, then it is <i>app_name#rar_name</i> .   |
| connection-definition-name | none    | Specifies a unique name, identifying a resource adapter's connection-definition element in the ra.xml file. This is usually the connectionfactory-interface of the connection-definition element.  |
| steady-pool-size           | 8       | (optional) Specifies the initial and minimum number of connections maintained in the pool.   |
| max-pool-size              | 32      | (optional) Specifies the maximum number of connections that can be created to satisfy client requests.   |
| max-wait-time-in-millis    | 60000   | (optional) Specifies the amount of time, in milliseconds, that the caller is willing to wait for a connection. If 0, the caller is blocked indefinitely until a resource is available or an error occurs.  |
| pool-resize-quantity       | 2       | (optional) Specifies the number of connections to be destroyed if the existing number of connections is above the steady-pool-size (subject to the max-pool-size limit).<br><br>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 1-22** connector-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.  |
| fail-all-connections    | false   | (optional) If <code>true</code> , closes all connections in the pool if a single validation check fails.   |
| 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>• <code>XATransaction</code> - Supports distributed transactions.</li> <li>• <code>LocalTransaction</code> - Supports local transactions only.</li> <li>• <code>NoTransaction</code> - 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 *Sun Java System Message Queue Administration Guide*.

**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 <code>javax.jms.TopicConnectionFactory</code> or <code>javax.jms.QueueConnectionFactory</code> . |

**Table 1-23** connector-connection-pool Properties (*Continued*)

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

---

|             |  |
|-------------|--|
| <b>NOTE</b> | 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](#)

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

**Table 1-24** `connector-module` Subelements

| Element                     | Required    | Description                                  |
|-----------------------------|-------------|--|
| <a href="#">description</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   |
|---------------------------------|-----------------------|---|
| <code>name</code>               | name of the .rar file | The name of the connector module.   |
| <code>location</code>           | none                  | The location of the connector module in the Sun Java System Application Server file system.   |
| <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 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 the connector module is enabled.  |
| <code>directory-deployed</code> | 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](#)

### Subelements

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

**Table 1-26** `connector-resource` Subelements

| Element                     | Required     | Description                                  |
|-----------------------------|--------------|--|
| <a href="#">description</a> | zero or one  | Contains a text description of this element. |
| <a href="#">property</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   |
|--------------------------|-------------------|---|
| <code>jndi-name</code>   | <code>none</code> | Specifies the JNDI name for the resource.   |
| <code>pool-name</code>   | <code>none</code> | Specifies the name of the associated connector connection pool, defined in a <a href="#">connector-connection-pool</a> element.   |
| <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 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 this resource is enabled at runtime.  |

## connector-service

Configures the connector service.

**Superelements**[config](#)**Subelements**

none

**Attributes**

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

**Table 1-28** `connector-service` Attributes

| Attribute                                | Default | Description   |
|--|---------|---|
| <code>shutdown-timeout-in-seconds</code> | 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](#)**Subelements**

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

**Table 1-29** `custom-resource` Subelements

| Element                     | Required     | Description                                  |
|-----------------------------|--------------|--|
| <a href="#">description</a> | zero or one  | Contains a text description of this element. |
| <a href="#">property</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> .  |
| object-type   | user    | (optional) Defines the type of the resource. Allowed values are: <ul style="list-style-type: none"><li><code>system-all</code> - A system resource for all server instances and the domain application server.</li><li><code>system-admin</code> - A system resource only for the the domain application server.</li><li><code>system-instance</code> - A system resource for all server instances only.</li><li><code>user</code> - A user resource.</li></ul> |
| enabled       | true    | (optional) Determines whether this resource is enabled at runtime.  |

D

**das-config**

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

**Superelements**

[admin-service](#)

**Subelements**

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

**Table 1-31** das-config Subelements

| Element                  | Required     | Description                         |
|--------------------------|--------------|-------------------------------------|
| <a href="#">property</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 Developer's Guide*.

**Table 1-32** `das-config` Attributes

| Attribute  | Default   | Description  |
|--|---|--|
| <code>dynamic-reload-enabled</code>                  | <code>false</code>  | (optional) If <code>true</code> , checks the timestamp on a <code>.reload</code> file at every module and application directory level, to trigger dynamic reloading.   |
| <code>dynamic-reload-poll-interval-in-seconds</code> | <code>2</code>  | (optional) Controls the polling frequency of dynamic reloading.  |
| <code>autodeploy-enabled</code>                      | <code>false</code>  | (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.  |
| <code>autodeploy-polling-interval-in-seconds</code>  | <code>2</code>  | (optional) Controls the polling frequency of autodeployment.   |
| <code>autodeploy-dir</code>                          | <code>autodeploy</code>   | (optional) Specifies the source directory (absolute or relative to <code>domain_dir</code> ) in which autodeployment looks for deployable components.  |
| <code>autodeploy-verifier-enabled</code>             | <code>false</code>  | (optional) If <code>true</code> , the verifier is run before autodeployment. If verification fails, deployment is not performed.   |
| <code>autodeploy-jsp-precompilation-enabled</code>   | <code>false</code>  | (optional) If <code>true</code> , JSP pages are precompiled during autodeployment.   |
| <code>deploy-xml-validation</code>                   | <code>full</code>   | (optional) Specifies the type of XML validation performed on standard and Sun Java System 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> |
| <code>admin-session-timeout-in-minutes</code>        | <code>sun-web.xml</code><br><code>timeoutSeconds</code><br>property value or<br><code>web.xml</code><br><code>session-timeout</code><br>attribute value | (optional) Specifies the Administration Console timeout.   |

description

Contains a text description of the parent element.

Superelements

admin-object-resource, appclient-module, connector-connection-pool, connector-module, connector-resource, custom-resource, ejb-module, external-jndi-resource, j2ee-application, jdbc-connection-pool, jdbc-resource, lifecycle-module, mail-resource, persistence-manager-factory-resource, property, system-property, web-module

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    | zero or one  | Contains deployed J2EE applications, J2EE modules, and lifecycle modules. |
| resources       | zero or one  | Contains configured resources.  |
| configs         | only one     | Contains configurations.  |
| servers         | only one     | Contains server instances.  |
| system-property | zero or more | Specifies a system property.  |
| property        | 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</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](#)

#### 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</a> | zero or one  | Configures the EJB timer service.   |
| <a href="#">property</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  |
|------------------------------|---------|--|
| steady-pool-size             | 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>   |
| pool-resize-quantity         | 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>  |
| max-pool-size                | 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>  |
| cache-resize-quantity        | 32      | <p>(optional) Specifies the number of beans to be:</p> <ul style="list-style-type: none"> <li>created if a request arrives when the pool has no available beans (subject to the <code>max-cache-size</code> limit)</li> <li>passivated when the <code>cache-idle-timeout-in-seconds</code> timer expires and a cleaner thread removes any unused instances, or when the cache size exceeds <code>max-cache-size</code>.</li> </ul> <p>Must be greater than 1 and less than <code>max-cache-size</code>.</p> <p>Applies to stateful session beans and entity beans.</p> |
| max-cache-size               | 512     | <p>(optional) Specifies the maximum number of beans in the cache. A value of 0 indicates an unbounded cache.</p> <p>Applies to stateful session beans and entity beans.</p>  |
| pool-idle-timeout-in-seconds | 600     | <p>(optional) Specifies the maximum time that a bean can remain idle in the pool. After this amount of time, the pool can remove this bean. A value of 0 specifies that idle beans can remain in the pool indefinitely.</p> <p>Applies to stateless session beans and entity beans.</p>  |

**Table 1-36** `ejb-container` Attributes (*Continued*)

| Attribute                                  | Default  | Description   |
|--|--|---|
| <code>cache-idle-timeout-in-seconds</code> | 600  | <p>(optional) Specifies the maximum time that a bean can remain idle in the cache. After this amount of time, the container can passivate this bean. A value of 0 specifies that beans never become candidates for passivation.</p> <p>Applies to stateful session beans and entity beans.</p>  |
| <code>removal-timeout-in-seconds</code>    | 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 <code>server</code> element determines the location of the session store.</p> <p>Applies to stateful session beans.</p> |
| <code>victim-selection-policy</code>       | <code>nru</code>                                       | <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>   |
| <code>commit-option</code>                 | <code>B</code>   | <p>(optional) Determines which commit option is used for entity beans. Legal values are <code>B</code> or <code>C</code>.</p>   |
| <code>session-store</code>                 | <code>domain_dir</code><br><code>/session-store</code> | <p>(optional) Specifies the directory where passivated stateful session beans and persisted HTTP sessions are stored in the file system.</p>  |

## ejb-module

Specifies a deployed EJB module.

### Superelements

[applications](#)

### Subelements

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

**Table 1-37** `ejb-module` Subelements

| Element                  | Required    | Description                                  |
|--------------------------|-------------|--|
| <code>description</code> | 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 Sun Java System 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 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`

**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</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>    | 7000   | (optional) Specifies the minimum time before an expiration for a particular timer can occur. This guards against extremely small timer increments that can overload the server.         |
| <code>max-redeliveries</code>                       | 1  | (optional) Specifies the maximum number of times the EJB timer service attempts to redeliver a timer expiration due for exception or rollback.  |
| <code>timer-datasource</code>                       | <code>jdbc/</code><br><code>__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-internal-in-millis</code> | 5000   | (optional) Specifies how long the EJB timer service waits after a failed <code>ejbTimeout</code> delivery before attempting a redelivery.   |

## 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](#)

### 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</a> | zero or one  | Contains a text description of this element. |
| <a href="#">property</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   |
|------------------|---------|---|
| jndi-name        | none    | Specifies the JNDI name for the resource.   |
| jndi-lookup-name | none    | Specifies the JNDI lookup name for the resource.  |
| res-type         | none    | Specifies the fully qualified type of the resource.   |
| factory-class    | none    | Specifies the fully qualified name of the factory class, which implements<br>javax.naming.spi.InitialContextFactory.<br><br>For more information about JNDI, see the <i>Sun Java System Application Server Developer's Guide</i> .  |
| object-type      | user    | (optional) Defines the type of the resource. Allowed values are: <ul style="list-style-type: none"><li>• system-all - A system resource for all server instances and the domain application server.</li><li>• system-admin - A system resource only for the 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.  |

F

**filter-config**

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

**Superelements**

[alert-subscription](#)

**Subelements**

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

**Table 1-43** `filter-config` Subelements

| Element                  | Required     | Description                         |
|--------------------------|--------------|-------------------------------------|
| <a href="#">property</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](#)

**Subelements**

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

**Table 1-45** http-listener Subelements

| Element  | Required     | Description                         |
|----------|--------------|-------------------------------------|
| ssl      | zero or one  | Defines SSL parameters.             |
| property | 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  |
|------------------------|---------|--|
| id                     | none    | The unique listener name. An http-listener name cannot begin with a number.  |
| address                | none    | IP address of the listener. Can be in dotted-pair or IPv6 notation. Can be any (for INADDR_ANY) to listen on all IP addresses. Can be a hostname.  |
| port                   | none    | 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.   |
| acceptor-threads       | 1       | (optional) Number of acceptor threads for the listener, typically the number of processors in the machine. Legal values are 1 - 1024.  |
| security-enabled       | false   | (optional) Determines whether the listener runs SSL. To turn SSL2 or SSL3 on or off and set ciphers, use an ssl subelement.  |
| default-virtual-server | none    | References the id attribute of the default virtual-server for this particular listener.  |
| server-name            | none    | 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 server-name should be the alias name.<br><br>If a colon and port number are appended, that port is used in URLs the server sends to the client. |
| 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](#)

### Subelements

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

**Table 1-47** `http-service` Subelements

| Element                        | Required     | Description                         |
|--------------------------------|--------------|-------------------------------------|
| <a href="#">http-listener</a>  | one or more  | Defines an HTTP listen socket.      |
| <a href="#">virtual-server</a> | one or more  | Defines a virtual server.           |
| <a href="#">property</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](#) subelements.

**Table 1-48** `http-service` Properties

| Property  | Default                     | Description  |
|---|-----------------------------|--|
| <code>monitoring-cache-enabled</code>           | <code>true</code>           | If <code>true</code> , enables the monitoring cache.   |
| <code>monitoring-cache-refresh-in-millis</code> | <code>5000</code>           | Specifies the interval between refreshes of the monitoring cache.                                      |
| <code>ssl-cache-entries</code>                  | <code>10000</code>          | Specifies the number of SSL sessions to be cached.   |
| <code>ssl3-session-timeout</code>               | <code>86400</code>          | Specifies the interval at which SSL3 sessions are cached.  |
| <code>ssl-client-auth-data-limit</code>         | <code>1048576</code>        | Specifies the maximum amount of data cached during the handshake phase.                                |
| <code>ssl-client-auth-timeout</code>            | <code>60</code>             | Specifies the timeout for the client certificate phase.  |
| <code>ssl-session-timeout</code>                | <code>100</code>            | Specifies the interval at which SSL2 sessions are cached.  |
| <code>keep-alive-query-mean-time</code>         | <code>100</code>            | Specifies the keep-alive latency.  |
| <code>keep-alive-query-max-sleep-time</code>    | <code>100</code>            | Specifies the upper limit to the time slept after polling keep-alive connections for further requests. |
| <code>stack-size</code>                         | 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`

## Subelements

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

**Table 1-49** `iiop-listener` Subelements

| Element               | Required     | Description                         |
|-----------------------|--------------|-------------------------------------|
| <code>ssl</code>      | zero or one  | Defines SSL parameters.             |
| <code>property</code> | 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](#)

### Subelements

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

**Table 1-51** `iiop-service` Subelements

| Element                           | Required     | Description                         |
|-----------------------------------|--------------|-------------------------------------|
| <a href="#">orb</a>               | only one     | Configures the ORB.                 |
| <a href="#">ssl-client-config</a> | zero or one  | Defines SSL parameters for the ORB. |
| <a href="#">iiop-listener</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   |
|---|--------------------|---|
| <code>client-authentication-required</code> | <code>false</code> | (optional) If <code>true</code> , the server rejects unauthenticated requests and inserts an authentication-required bit in IORs sent to clients. |

## J

## j2ee-application

Specifies a deployed J2EE application.

### Superelements

[applications](#)

### Subelements

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

**Table 1-53** j2ee-application Subelements

| Element                     | Required    | Description                                  |
|-----------------------------|-------------|--|
| <a href="#">description</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   |
|---------------------------------|--------------------|---|
| <code>name</code>               | <code>none</code>  | The name of the application.  |
| <code>location</code>           | <code>none</code>  | The location of the application in the Sun Java System 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 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 application is enabled.   |
| <code>directory-deployed</code> | <code>false</code> | (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](#)

**Subelements**

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

**Table 1-55** `jacc-provider` Subelements

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

### Subelements

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

**Table 1-57** `java-config` Subelements

| Element                  | Required     | Description  |
|--------------------------|--------------|--|
| <code>profiler</code>    | zero or one  | Configures a profiler for use with Sun Java System Application Server. |
| <code>jvm-options</code> | zero or more | Contains JVM command line options.                                     |
| <code>property</code>    | 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.   |
| debug-enabled              | false   | (optional) If true, the server starts up in debug mode ready for attachment with a JPDA-based debugger.   |
| debug-options              | -Xdebug<br>-Xrunjdpw:transport<br>=dt_socket,server=y<br>,suspend=n | <p>(optional) Specifies JPDA (Java Platform Debugger Architecture) options. A list of debugging options is available here:</p> <p><a href="http://java.sun.com/products/jpda/doc/conninv.html#Invocation">http://java.sun.com/products/jpda/doc/conninv.html#Invocation</a></p> <p>For more information about debugging, see the <i>Sun Java System Application Server Developer's Guide</i>.</p>   |
| rmic-options               | -iiop -poa<br>-alwaysgenerate<br>-keepgenerated -g                  | <p>(optional) Specifies options passed to the RMI compiler at application deployment time. The -keepgenerated option saves generated source for stubs and ties.</p> <p>For details about the rmic command, see:</p> <p><a href="http://java.sun.com/j2se/1.4.2/docs/tooldocs/solaris/rmic.html">http://java.sun.com/j2se/1.4.2/docs/tooldocs/solaris/rmic.html</a></p>  |
| 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  | <p>(optional) Specifies the classpath for the environment from which the server was started. This classpath can be accessed using</p> <p><code>System.getProperty("java.class.path")</code>.</p>  |
| native-library-path-prefix | none  | <p>(optional) Specifies a prefix for the native library path.</p> <p>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.</p> |
| 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 Sun Java System 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](#)

### 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</a> | zero or one  | Contains a text description of this element. |
| <a href="#">property</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 <code>jdbc-resource</code> element's <code>pool-name</code> 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 <code>steady-pool-size</code> (subject to the <code>max-pool-size</code> limit).<br><br>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> .                               |
| 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.   |

**Table 1-60** jdbc-connection-pool Attributes (*Continued*)

| Attribute                         | Default                             | Description  |
|-----------------------------------|-------------------------------------|--|
| transaction-isolation-level       | default JDBC driver isolation level | <p>(optional) Specifies the transaction isolation level on the pooled database connections. Allowed values are <code>read-uncommitted</code>, <code>read-committed</code>, <code>repeatable-read</code>, or <code>serializable</code>.</p> <p>Applications that change the isolation level on a pooled connection programmatically risk polluting the pool, which can lead to errors. See <code>is-isolation-level-guaranteed</code> for more details.</p> |
| is-isolation-level-guaranteed     | true                                | <p>(optional) Applicable only when <code>transaction-isolation-level</code> is explicitly set. If <code>true</code>, 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 <code>false</code> if you are certain that the hosted applications do not return connections with altered isolation levels.</p>                             |
| is-connection-validation-required | false                               | <p>(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.</p>   |
| connection-validation-method      | auto-commit                         | <p>(optional) Legal values are as follows:</p> <ul style="list-style-type: none"> <li>• <code>auto-commit</code> (default), which uses <code>Connection.setAutoCommit(Connection.getAutoCommit())</code></li> <li>• <code>meta-data</code>, which uses <code>Connection.getMetaData()</code></li> <li>• <code>table</code>, which performs a query on a table specified in the <code>validation-table-name</code> attribute</li> </ul>                     |
| validation-table-name             | none                                | <p>(optional) Specifies the table name to be used to perform a query to validate a connection. This parameter is mandatory if and only if <code>connection-validation-type</code> is set to <code>table</code>.</p>  |
| fail-all-connections              | false                               | <p>(optional) If <code>true</code>, closes all connections in the pool if a single validation check fails. This parameter is mandatory if and only if <code>is-connection-validation-required</code> is set to <code>true</code>.</p>  |

**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 Sun Java System 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   |
|------------------------------|---|
| <code>user</code>            | Specifies the user name for this connection pool.   |
| <code>password</code>        | Specifies the password for this connection pool.  |
| <code>databaseName</code>    | Specifies the database for this connection pool.  |
| <code>serverName</code>      | Specifies the database server for this connection pool.   |
| <code>port</code>            | Specifies the port on which the database server listens for requests.   |
| <code>networkProtocol</code> | Specifies the communication protocol.   |
| <code>roleName</code>        | Specifies the initial SQL role name.  |
| <code>datasourceName</code>  | Specifies an underlying <code>XADataSource</code> , or a <code>ConnectionPoolDataSource</code> if connection pooling is done. |
| <code>description</code>     | Specifies a text description.   |
| <code>url</code>             | Specifies the URL for this connection pool. Although this is not a standard property, it is commonly used.                    |

**`jdbc-resource`**

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

**Superelements**

[resources](#)

### Subelements

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

**Table 1-62** `jdbc-resource` Subelements

| Element                  | Required     | Description                                  |
|--------------------------|--------------|--|
| <code>description</code> | zero or one  | Contains a text description of this element. |
| <code>property</code>    | 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  |
|--------------------------|-------------------|--|
| <code>jndi-name</code>   | <code>none</code> | Specifies the JNDI name for the resource.  |
| <code>pool-name</code>   | <code>none</code> | Specifies the name of the associated <code>jdbc-connection-pool</code> .   |
| <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 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 this resource is enabled at runtime.   |

## jms-host

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

### Superelements

`jms-service`

### Subelements

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

**Table 1-64**    `jms-host` Subelements

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

**jms-service**

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

**Superelements**

`config`

**Subelements**

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

**Table 1-66**    `jms-service` Subelements

| Element               | Required     | Description                         |
|-----------------------|--------------|-------------------------------------|
| <code>jms-host</code> | zero or more | Specifies a host.                   |
| <code>property</code> | 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   |
|-------------------------------|---------|---|
| init-timeout-in-seconds       | 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.  |
| type                          | 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>   |
| start-args                    | none    | (optional) Specifies the string of arguments supplied for startup of the corresponding JMS instance.  |
| default-jms-host              | none    | Specifies the name of the default <code>jms-host</code> . If <code>type</code> is set to <code>LOCAL</code> , this <code>jms-host</code> is automatically started at application server start-up.   |
| reconnect-interval-in-seconds | 60      | (optional) Specifies the interval between reconnect attempts.   |
| reconnect-attempts            | 3       | (optional) Specifies the number of reconnect attempts.  |
| reconnect-enabled             | true    | (optional) If <code>true</code> , reconnection is enabled. The JMS service automatically tries to reconnect to the JMS provider when the connection is broken.<br><br>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. |
| addresslist-behavior          | random  | (optional) Specifies whether the reconnection logic selects the broker from the <code>imqAddressList</code> in a <code>random</code> or <code>sequential</code> (priority) fashion.   |
| addresslist-iterations        | 3       | (optional) Specifies the number of times the reconnection logic iterates over the <code>imqAddressList</code> if <code>addresslist-behavior</code> is set to <code>PRIORITY</code> .  |
| mq-scheme                     | mq      | (optional) Specifies the scheme for establishing connection with the broker. For example, specify <code>http</code> for connecting to the broker over HTTP.   |
| mq-service                    | 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](#), [profiler](#)

Subelements

`none` - contains data

lifecycle-module

Specifies a deployed lifecycle module. For more information about lifecycle modules, see the *Sun Java System Application Server Developer's Guide*.

Superelements

[applications](#)

### Subelements

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

**Table 1-69** `lifecycle-module` Subelements

| Element                  | Required     | Description                                  |
|--------------------------|--------------|--|
| <code>description</code> | zero or one  | Contains a text description of this element. |
| <code>property</code>    | 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 <code>server</code> 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 <code>MAXINT</code> . Values from 1 to 100 are reserved. |
| <code>is-failure-fatal</code> | <code>false</code>  | (optional) Determines whether the server is shut down if the lifecycle module fails.  |
| <code>enabled</code>          | <code>true</code>   | (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,Louie@sun.com" />
  <property name="fromAddress" value="DonaldDuck@sun.com" />
```

```
<property name="subject" value="Help!" />
<property name="includeDiagnostics" value="false" />
<property name="mailSMTPHost" value="ducks.sun.com" />
</listener-config>
```

**Superelements**  
[alert-subscription](#)

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

**Table 1-71** `listener-config` Subelements

| Element                  | Required     | Description                         |
|--------------------------|--------------|-------------------------------------|
| <a href="#">property</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  |
|--------------------------------------|---------|--|
| <code>listener-class-name</code>     | none    | Specifies the class name of the listener. The <code>com.sun.appserv.admin.notification.MailAlert</code> class is provided with Sun Java System Application Server, but a custom listener can be used.  |
| <code>subscribe-listener-with</code> | 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 Sun Java System 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](#).

- 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](#).

### Superelements

[config](#)

### 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</a> | zero or one  | Specifies log levels.               |
| <a href="#">property</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  |
|--|--|--|
| <code>file</code>                        | <code>server.log</code><br>in the<br>directory<br>specified by<br>the <code>log-root</code><br>attribute of<br>the <a href="#">domain</a><br>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.<br><br>An absolute path overrides the <code>log-root</code> attribute of the <a href="#">domain</a> element.<br><br>A relative path is relative to the <code>log-root</code> attribute of the <a href="#">domain</a> element. If no <code>log-root</code> value is specified, it is relative to <code>domain_dir/config</code> . |
| <code>use-system-logging</code>          | <code>false</code>   | (optional) If <code>true</code> , uses the UNIX <code>syslog</code> service to produce and manage logs.  |
| <code>log-handler</code>                 | <code>none</code>  | (optional) Specifies a custom log handler to be added to end of the chain of system handlers to log to a different destination.  |
| <code>log-filter</code>                  | <code>none</code>  | (optional) Specifies a log filter to do custom filtering of log records.   |
| <code>log-to-console</code>              | <code>false</code>   | (optional) Deprecated and ignored.   |
| <code>log-rotation-limit-in-bytes</code> | <code>2000000</code>   | (optional) Log files are rotated when the file size reaches the specified limit.   |

**Table 1-74** log-service Attributes (*Continued*)

| Attribute                             | Default | Description   |
|---------------------------------------|---------|---|
| log-rotation-timelimit<br>-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).<br><br>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](#)

**Subelements**

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

**Table 1-75** mail-resource Subelements

| Element                     | Required     | Description                                  |
|-----------------------------|--------------|--|
| <a href="#">description</a> | zero or one  | Contains a text description of this element. |
| <a href="#">property</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                               |
|-----------|---------|---|
| jndi-name | none    | Specifies the JNDI name for the resource. |

**Table 1-76** mail-resource Attributes (*Continued*)

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

**Properties**

You can set properties for the `mail-resource` element and then get these properties in a `JavaMail Session` object later. Every property name must start with a `mail-` prefix. Sun Java System 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](#)

**Subelements**

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

**Table 1-77** `manager-properties` Subelements

| Element                  | Required     | Description   |
|--------------------------|--------------|---|
| <a href="#">property</a> | zero or more | Specifies a property, which has a name and a value. |

**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.  |
| <code>reap-interval-in-seconds</code>       | 60   | (optional) Specifies the time between checks for expired sessions.<br><br>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 website, or you could lose the last few hits each time you restart the server. |
| <code>max-sessions</code>                   | -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.  |
| <code>session-id-generator-classname</code> | 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](#)

### Subelements

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

**Table 1-79** `mdb-container` Subelements

| Element                  | Required     | Description                         |
|--------------------------|--------------|-------------------------------------|
| <a href="#">property</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   |
|--------------------------------------|---------|---|
| <code>steady-pool-size</code>        | 10      | (optional) Specifies the initial and minimum number of beans maintained in the pool.  |
| <code>pool-resize-quantity</code>    | 2       | (optional) Specifies the number of beans to be created if a request arrives when the pool is empty (subject to the <code>max-pool-size</code> limit), or the number of beans to remove if idle for more than <code>idle-timeout-in-seconds</code> . |
| <code>max-pool-size</code>           | 60      | (optional) Specifies the maximum number of beans that can be created to satisfy client requests.  |
| <code>idle-timeout-in-seconds</code> | 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  |
|---|---------|--|
| <code>cmt-max-runtime-exceptions</code> | 1       | Specifies the maximum number of <code>RuntimeException</code> occurrences allowed from a message-driven bean's <code>onMessage()</code> method when container-managed transactions are used. Deprecated. |

**message-security-config**

Specifies configurations for message security providers.

**Superelements**

[security-service](#)

**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</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   |
|--------------------------------------|---------|---|
| <code>auth-layer</code>              | none    | Specifies the message layer at which authentication is performed. The value must be <code>SOAP</code> .               |
| <code>default-provider</code>        | none    | (optional) Specifies the server provider that is invoked for any application not bound to a specific server provider. |
| <code>default-client-provider</code> | 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](#)

## 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</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> | <code>INFO</code> | (optional) Specifies the default level of messages logged by the entire Sun Java System Application Server installation. |

**Table 1-85** module-log-levels Attributes (*Continued*)

| Attribute     | Default | Description   |
|---------------|---------|---|
| server        | INFO    | (optional) Specifies the default level of messages logged by the server instance.                   |
| ejb-container | INFO    | (optional) Specifies the level of messages logged by the EJB container.                             |
| cmp-container | INFO    | (optional) Specifies the level of messages logged by the CMP subsystem of the EJB container.        |
| mdb-container | INFO    | (optional) Specifies the level of messages logged by the MDB container.                             |
| web-container | INFO    | (optional) Specifies the level of messages logged by the web container.                             |
| classloader   | INFO    | (optional) Specifies the level of messages logged by the classloader hierarchy.                     |
| configuration | INFO    | (optional) Specifies the level of messages logged by the configuration subsystem.                   |
| naming        | INFO    | (optional) Specifies the level of messages logged by the naming subsystem.                          |
| security      | INFO    | (optional) Specifies the level of messages logged by the security subsystem.                        |
| jts           | INFO    | (optional) Specifies the level of messages logged by the Java Transaction Service.                  |
| jta           | INFO    | (optional) Specifies the level of messages logged by the Java Transaction API.                      |
| admin         | INFO    | (optional) Specifies the level of messages logged by the Administration Console subsystem.          |
| deployment    | INFO    | (optional) Specifies the level of messages logged by the deployment subsystem.                      |
| verifier      | INFO    | (optional) Specifies the level of messages logged by the deployment descriptor verifier.            |
| jaxr          | INFO    | (optional) Specifies the level of messages logged by the XML registry.                              |
| jaxrpc        | INFO    | (optional) Specifies the level of messages logged by the XML RPC module.                            |
| saaaj         | INFO    | (optional) Specifies the level of messages logged by the SOAP with Attachments API for Java module. |

**Table 1-85** module-log-levels Attributes (*Continued*)

| Attribute        | Default | Description  |
|------------------|---------|--|
| 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](#)

### 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</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](#)

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</a> | zero or one  | Controls the level of monitoring of server subsystems. |
| <a href="#">property</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` subelement in the parent `iiop-service` element.

### Superelements

`iiop-service`

### Subelements

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

**Table 1-89** `orb` Subelements

| Element               | Required     | Description                         |
|-----------------------|--------------|-------------------------------------|
| <code>property</code> | 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  |
|------------------------------------|-------------------|--|
| <code>use-thread-pool-ids</code>   | <code>none</code> | Specifies a comma-separated list of <code>thread-pool-id</code> values defined in <code>thread-pool</code> elements used by the ORB. |
| <code>message-fragment-size</code> | <code>1024</code> | (optional) GIOPv1.2 messages larger than this number of bytes are fragmented.  |
| <code>max-connections</code>       | <code>1024</code> | (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](#)

**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</a> | zero or one  | Contains a text description of this element. |
| <a href="#">property</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> from which database connections are obtained. Must be the jndi-name of an existing jdbc-resource. |

**Table 1-92** persistence-manager-factory-resource Attributes (*Continued*)

| Attribute   | Default | Description   |
|-------------|---------|---|
| object-type | user    | (optional) Defines the type of the resource.<br>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 the domain application server.</li> <li>• <code>system-instance</code> - A system resource for all server instances only.</li> <li>• <code>user</code> - A user resource.</li> </ul> |
| enabled     | true    | (optional) Determines whether this resource is enabled at runtime.  |

## principal

Contains the principal of the servlet or EJB client.

### Superelements

[security-map](#)

### Subelements

none - contains data

## profiler

Configures a profiler for use with Sun Java System Application Server. For more information about profilers, see the *Sun Java System Application Server Developer's Guide*.

### Superelements

[java-config](#)

### Subelements

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

**Table 1-93** profiler Subelements

| Element                     | Required     | Description  |
|-----------------------------|--------------|--|
| <a href="#">jvm-options</a> | zero or more | Contains profiler-specific JVM command line options. |
| <a href="#">property</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 Sun Java System Application Server
- Needed by a system or object that Sun Java System 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`, `admin-service`, `alert-service`, `audit-module`,  
`auth-realm`, `config`, `connector-connection-pool`, `connector-resource`,  
`custom-resource`, `das-config`, `domain`, `ejb-container`, `ejb-timer-service`,  
`external-jndi-resource`, `filter-config`, `http-listener`, `http-service`,  
`iiop-listener`, `jacc-provider`, `java-config`, `jdbc-connection-pool`,

[jdbc-resource](#), [jms-host](#), [jms-service](#), [lifecycle-module](#), [listener-config](#), [log-service](#), [mail-resource](#), [manager-properties](#), [mdb-container](#), [module-log-levels](#), [module-monitoring-levels](#), [monitoring-service](#), [orb](#), [persistence-manager-factory-resource](#), [profiler](#), [provider-config](#), [resource-adapter-config](#), [security-service](#), [server](#), [session-properties](#), [store-properties](#), [transaction-service](#), [virtual-server](#), [web-container](#)

### Subelements

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

**Table 1-95** `property` Subelements

| Element                     | Required    | Description                                  |
|-----------------------------|-------------|--|
| <a href="#">description</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                                      |
|--------------------|-------------------|--|
| <code>name</code>  | <code>none</code> | Specifies the name of the property or variable.  |
| <code>value</code> | <code>none</code> | 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](#)

### Subelements

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

**Table 1-97** provider-config Subelements

| Element                         | Required     | Description  |
|---------------------------------|--------------|--|
| <a href="#">request-policy</a>  | zero or one  | Defines the authentication policy requirements of the authentication provider's request processing.  |
| <a href="#">response-policy</a> | zero or one  | Defines the authentication policy requirements of the authentication provider's response processing. |
| <a href="#">property</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](#)

**Subelements**

none

### Attributes

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

**Table 1-99** `request-policy` Attributes

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

## resource-adapter-config

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

### Superelements

[resources](#)

### 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</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   |
|------------------------------|---------|---|
| <code>name</code>            | none    | (optional) Not used. See <code>resource-adapter-name</code> .         |
| <code>thread-pool-ids</code> | none    | (optional) Specifies the id of a <a href="#">thread-pool</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 the domain application server.</li><li>system-instance - A system resource for all server instances only.</li><li>user - A user resource.</li></ul> |
| resource-adapter-name | none    | Specifies the name attribute of a deployed connector-module. If the resource adapter is embedded in an application, then it is app_name#rar_name.   |

**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

**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. |

**Table 1-102** resource-ref Attributes (*Continued*)

| Attribute | Default | Description  |
|-----------|---------|--|
| ref       | none    | References the name attribute of a <code>custom-resource</code> , <code>external-jndi-resource</code> , <code>jdbc-resource</code> , <code>mail-resource</code> , <code>persistence-manager-factory-resource</code> , <code>admin-object-resource</code> , <code>connector-resource</code> , <code>resource-adapter-config</code> , <code>jdbc-connection-pool</code> , or <code>connector-connection-pool</code> element. |

## resources

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

|             |   |
|-------------|---|
| <b>NOTE</b> | You must specify a Java Naming and Directory Interface™ (JNDI) name for each resource. To avoid collisions with names of other enterprise resources in JNDI, and to avoid portability problems, all names in a Sun Java System Application Server application should begin with the string <code>java:comp/env</code> . |
|-------------|---|

## Superelements

`domain`

## Subelements

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

**Table 1-103** resources Subelements

| Element   | Required     | Description   |
|---|--------------|---|
| <code>custom-resource</code>                      | zero or more | Defines a custom resource.                                      |
| <code>external-jndi-resource</code>               | zero or more | Defines a resource that resides in an external JNDI repository. |
| <code>jdbc-resource</code>                        | zero or more | Defines a JDBC (Java Database Connectivity) resource.           |
| <code>mail-resource</code>                        | zero or more | Defines a JavaMail resource.                                    |
| <code>persistence-manager-factory-resource</code> | zero or more | Defines a persistence manager factory resource for CMP.         |
| <code>admin-object-resource</code>                | zero or more | Defines an administered object for an inbound resource adapter. |

**Table 1-103** resources Subelements (*Continued*)

| Element                                | Required     | Description  |
|--|--------------|--|
| <code>connector-resource</code>        | zero or more | Defines a connector (resource adapter) resource.                                   |
| <code>resource-adapter-config</code>   | zero or more | Defines a resource adapter configuration.  |
| <code>jdbc-connection-pool</code>      | zero or more | Defines the properties that are required for creating a JDBC connection pool.      |
| <code>connector-connection-pool</code> | zero or more | Defines the properties that are required for creating a connector connection pool. |

|             |   |
|-------------|---|
| <b>NOTE</b> | Subelements of a <code>resources</code> element can occur in any order. |
|-------------|---|

**response-policy**

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

**Superelements**

`provider-config`

**Subelements**

none

**Attributes**

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

**Table 1-104** response-policy Attributes

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

## S

## security-map

Maps the principal received during servlet or EJB authentication to the credentials accepted by the EIS.

### Superelements

[connector-connection-pool](#)

### Subelements

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

**Table 1-105** `security-map` Subelements

| Element                           | Required    | Description   |
|-----------------------------------|-------------|---|
| <a href="#">principal</a>         | one or more | Contains the principal of the servlet or EJB client.      |
| <a href="#">user-group</a>        | one or more | Contains the group to which the principal belongs.        |
| <a href="#">backend-principal</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                                |
|-------------------|-------------------|--|
| <code>name</code> | <code>none</code> | Specifies a name for the security mapping. |

## security-service

Defines parameters and configuration information needed by the J2EE security service.

### Superelements

[config](#)

### Subelements

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

**Table 1-107** security-service Subelements

| Element                                 | Required     | Description   |
|---|--------------|---|
| <a href="#">auth-realm</a>              | one or more  | Defines a realm for authentication.   |
| <a href="#">jacc-provider</a>           | one or more  | Specifies a Java Authorization Contract for Containers (JACC) provider for pluggable authorization. |
| <a href="#">audit-module</a>            | zero or more | Specifies an optional plug-in module that implements audit capabilities.                            |
| <a href="#">message-security-config</a> | zero or more | Specifies configurations for message security providers.  |
| <a href="#">property</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   |
|--|----------------------|---|
| <code>default-realm</code>                   | <code>file</code>    | (optional) Specifies the active authentication realm (an <code>auth-realm</code> name attribute) for this server instance.  |
| <code>default-principal</code>               | <code>none</code>    | (optional) Used as the identity of the default security context when necessary and when no principal is provided. This attribute need not be set for normal server operation.   |
| <code>default-principal<br/>-password</code> | <code>none</code>    | (optional) The password of the default principal. This attribute need not be set for normal server operation.   |
| <code>anonymous-role</code>                  | <code>ANYONE</code>  | (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.   |
| <code>audit-enabled</code>                   | <code>false</code>   | (optional) If <code>true</code> , additional access logging is performed to provide audit information.<br><br>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> |
| <code>jacc</code>                            | <code>default</code> | (optional) Specifies the name of the <a href="#">jacc-provider</a> element to use for setting up the JACC infrastructure. Do not change the default value unless you are adding a custom JACC provider.   |

**Table 1-108** security-service Attributes (*Continued*)

| Attribute     | Default | Description   |
|---------------|---------|---|
| 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](#)

## Subelements

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

**Table 1-109** server Subelements

| Element                         | Required     | Description  |
|---------------------------------|--------------|--|
| <a href="#">application-ref</a> | zero or more | References an application or module deployed to the server instance. |
| <a href="#">resource-ref</a>    | zero or more | References a resource deployed to the server instance.               |
| <a href="#">system-property</a> | zero or more | Specifies a system property.   |
| <a href="#">property</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. |

**Table 1-110** server Attributes (*Continued*)

| Attribute  | Default  | Description  |
|------------|--|--|
| config-ref | default <a href="#">config</a> element's name, server-config | (optional) References the name of the <a href="#">config</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](#)

**Subelements**

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

**Table 1-111** servers Subelements

| Element                | Required | Description                |
|------------------------|----------|----------------------------|
| <a href="#">server</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](#)

**Subelements**

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

**Table 1-112** session-config Subelements

| Element                            | Required    | Description  |
|------------------------------------|-------------|--|
| <a href="#">session-manager</a>    | zero or one | Specifies session manager configuration information. |
| <a href="#">session-properties</a> | zero or one | Specifies session properties.                        |

## session-manager

Specifies session manager information.

|             |   |
|-------------|---|
| <b>NOTE</b> | 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](#)

### Subelements

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

**Table 1-113** `session-manager` Subelements

| Element                            | Required    | Description   |
|------------------------------------|-------------|---|
| <a href="#">manager-properties</a> | zero or one | Specifies session manager properties.               |
| <a href="#">store-properties</a>   | zero or one | Specifies session persistence (storage) properties. |

## session-properties

Specifies session properties.

### Superelements

[session-config](#)

### Subelements

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

**Table 1-114** `session-properties` Subelements

| Element                  | Required     | Description   |
|--------------------------|--------------|---|
| <a href="#">property</a> | zero or more | Specifies a property, which has a name and a value. |

Attributes

Table 1-115 session-properties Attributes

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

Properties

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

Table 1-116 session-properties Properties

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

ssl

Defines SSL (Secure Socket Layer) parameters.

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

In Platform Edition, SSL is globally disabled.

Superelements

[http-listener](#), [iiop-listener](#), [ssl-client-config](#)

## Subelements

none

## Attributes

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

**Table 1-117** `ssl` Attributes

| Attribute                        | Default | Description   |
|----------------------------------|---------|---|
| <code>cert-nickname</code>       | 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.   |
| <code>ssl2-enabled</code>        | false   | (optional) Determines whether SSL2 is enabled.<br><br>If both SSL2 and SSL3 are enabled for a <a href="#">virtual-server</a> , the server tries SSL3 encryption first. If that fails, the server tries SSL2 encryption.   |
| <code>ssl2-ciphers</code>        | none    | (optional) A comma-separated list of the SSL2 ciphers used, with the prefix + to enable or - to disable, for example <code>+rc4</code> . Allowed values are <code>rc4</code> , <code>rc4export</code> , <code>rc2</code> , <code>rc2export</code> , <code>idea</code> , <code>des</code> , <code>desede3</code> .   |
| <code>ssl3-enabled</code>        | true    | (optional) Determines whether SSL3 is enabled. The default is <code>true</code> .<br><br>If both SSL2 and SSL3 are enabled for a <a href="#">virtual-server</a> , the server tries SSL3 encryption first. If that fails, the server tries SSL2 encryption.  |
| <code>ssl3-tls-ciphers</code>    | none    | (optional) A comma-separated list of the SSL3 ciphers used, with the prefix + to enable or - to disable, for example <code>+rsa_des_sha</code> . Allowed SSL3 values are <code>rsa_rc4_128_md5</code> , <code>rsa_3des_sha</code> , <code>rsa_des_sha</code> , <code>rsa_rc4_40_md5</code> , <code>rsa_rc2_40_md5</code> , <code>rsa_null_md5</code> . Allowed TLS values are <code>rsa_des_56_sha</code> , <code>rsa_rc4_56_sha</code> . |
| <code>tls-enabled</code>         | true    | (optional) Determines whether TLS is enabled.   |
| <code>client-auth-enabled</code> | 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](#)

**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</a> | only one | Defines SSL parameters. |

**store-properties**

Specifies session persistence (storage) properties.

**Superelements**

[session-manager](#)

**Subelements**

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

**Table 1-119** `store-properties` Subelements

| Element                  | Required     | Description   |
|--------------------------|--------------|---|
| <a href="#">property</a> | zero or more | Specifies a property, which has a name and a value. |

**Attributes**

**Table 1-120** `store-properties` Attributes

| Attribute              | Default   | Description  |
|------------------------|---|--|
| <code>directory</code> | <code>domain_dir/generated</code><br><code>/jsp/j2ee-apps/</code><br><code>appname/appname_war</code> | (optional) Specifies the absolute or relative pathname of the directory into which individual session files are written. A relative path is relative to the temporary work directory for this web application. |

**Table 1-120** store-properties Attributes (*Continued*)

| Attribute                | Default | Description   |
|--------------------------|---------|---|
| reap-interval-in-seconds | 60      | <p>(optional) Specifies the time between checks for expired sessions.</p> <p>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 website, or you could lose the last few hits each time you restart the server.</p> |

**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](#), [server](#), or [config](#). A value set at a higher level can be overridden at a lower level. Some system properties are predefined; see [Table 1-123](#). You can also create system properties using this element.

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

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

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

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

**Superelements**

[config](#), [domain](#), [server](#)

**Subelements**

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

**Table 1-121** *system-property* Subelements

| Element                     | Required    | Description                                  |
|-----------------------------|-------------|--|
| <a href="#">description</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                                 |
|-----------|---------|---|
| name      | none    | Specifies the name of the system property.  |
| value     | none    | Specifies the value of the system property. |

**Properties**

The following table lists predefined system properties.

**Table 1-123** Predefined System Properties

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

**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.  |
| 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](#)

**Subelements**

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

**Table 1-125** `thread-pools` Subelements

| Element                  | Required    | Description            |
|--------------------------|-------------|------------------------|
| <code>thread-pool</code> | one or more | Defines a thread pool. |

**transaction-service**

Configures the Java Transaction Service (JTS).

**Superelements**

`config`

**Subelements**

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

**Table 1-126** `transaction-service` Subelements

| Element               | Required     | Description                         |
|-----------------------|--------------|-------------------------------------|
| <code>property</code> | 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 <code>domain</code> 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 <code>domain</code> element. |

**Table 1-127** transaction-service Attributes (*Continued*)

| Attribute                | Default  | Description   |
|--------------------------|----------|---|
| heuristic-decision       | rollback | (optional) If the outcome of a distributed transaction cannot be determined because other participants are unreachable, this property determines the outcome. Allowed values are <code>rollback</code> and <code>commit</code> .  |
| retry-timeout-in-seconds | 600      | <p>(optional) Determines the retry time in the following scenarios:</p> <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> <p>A negative value specifies infinite retries. A value of 0 (zero) specifies no retries. A positive value indicates the time after which a retry is attempted.</p>                                    |
| 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                           | <p>If true, disables transaction logging, which might improve performance.</p> <p>If the <code>automatic-recovery</code> attribute is set to true, this property is ignored.</p> |
| xaresource-txn-timeout                  | specific to the XAResource used | Changes the XAResource timeout. In some cases, the XAResource default timeout can cause transactions to be aborted, so it is desirable to change it.                             |

**Table 1-128** transaction-service Properties (*Continued*)

| Property                     | Default  | Description   |
|------------------------------|--|---|
| pending-txn-cleanup-interval | none if this property is absent, 60 if this property is present but has no value | Specifies the interval, in seconds, at which an asynchronous thread checks for pending transactions and completes them.   |
| use-last-agent-optimization  | true   | If true, enables last agent optimization, which improves the throughput of transactions. If one non-XA resource is used with XA resources in the same transaction, the non XA resource is the last agent. |

U

**user-group**

Contains the group to which the principal belongs.

**Superelements**

[security-map](#)

**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 Sun Java System Application Server is first installed, a default virtual server is created. (You can also assign a default virtual server to each new [http-listener](#) 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 Sun Java System 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 `hosts` attribute of a virtual server. If no `Host` header is present or no `hosts` attribute matches, the default virtual server for the listener is selected.

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

### Superelements

[http-service](#)

### Subelements

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

**Table 1-129** `virtual-server` Subelements

| Element                  | Required     | Description                         |
|--------------------------|--------------|-------------------------------------|
| <a href="#">property</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. |

**Table 1-130** virtual-server Attributes (Continued)

| Attribute          | Default  | Description  |
|--------------------|--|--|
| http-listeners     | none   | (optional) In a comma-separated list, references <code>id</code> attributes of <code>http-listener</code> 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> .  |
| default-web-module | system default web module  | (optional) References the <code>name</code> attribute of the default <code>web-module</code> for this virtual server, which responds to requests that cannot be resolved to other web modules deployed to this virtual server (see the <code>application-ref</code> element).  |
| hosts              | none   | A comma-separated list of values, each of which selects the current virtual server when included in the <code>Host</code> request header. Two or more <code>virtual-server</code> elements that reference or are referenced by the same <code>http-listener</code> cannot have any <code>hosts</code> values in common.  |
| state              | on   | (optional) Determines whether a <code>virtual-server</code> is active ( <code>on</code> ) or inactive ( <code>off</code> , <code>disabled</code> ). The default is <code>on</code> (active). When inactive, a <code>virtual-server</code> does not service requests.<br><br>If a <code>virtual-server</code> is disabled, only the global server administrator can turn it <code>on</code> . |
| log-file           | <code>server.log</code> in the directory specified by the <code>log-root</code> attribute of the <code>domain</code> 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 <code>log-service</code> 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 <code>true</code> , single sign-on is enabled for web applications on this virtual server that are configured for the same realm. If <code>false</code> , single sign-on is disabled for this virtual server, and users must authenticate separately to every application on the virtual server.   |
| 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. |

**Table 1-131** virtual-server Properties (*Continued*)

| Property                  | Default | Description   |
|---------------------------|---------|---|
| sso-reap-interval-seconds | 60      | Specifies the interval between purges of expired single sign-on records.  |
| setCacheControl           | none    | Specifies a comma-separated list of Cache-Control response directives. For a list of valid directives, see section 14.9 of the following document:<br><a href="http://www.ietf.org/rfc/rfc2616.txt">http://www.ietf.org/rfc/rfc2616.txt</a> |

# W

## web-container

Configures the web container.

### Superelements

[config](#)

### Subelements

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

**Table 1-132** web-container Subelements

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

## web-module

Specifies a deployed web module.

### Superelements

[applications](#)

### Subelements

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

**Table 1-133** web-module Subelements

| Element                     | Required    | Description                                  |
|-----------------------------|-------------|--|
| <a href="#">description</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   |
|---------------------------------|--------------------|---|
| <code>name</code>               | <code>none</code>  | The name of the web module.   |
| <code>context-root</code>       | <code>none</code>  | The context root at which the web module is deployed. The context root can be the empty string or just <code>/</code> . The context root can start with the <code>/</code> character, but doesn't have to.  |
| <code>location</code>           | <code>none</code>  | A fully qualified or relative path to the directory to which the contents of the <code>.war</code> file have been extracted. If relative, it is relative to the following directory:<br><br><i>domain_dir/applications/j2ee-modules/</i>  |
| <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 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 web module is enabled.  |
| <code>directory-deployed</code> | <code>false</code> | (optional) Specifies whether the application has been deployed to a directory.  |

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