



Sun Java™ System  
Application Server 8  
Reference

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U.S.A.

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# About This Guide

This guide provides reference information about the Sun Java™ System Application Server Platform Edition 8 configuration file, `domain.xml`.

This preface contains information about the following topics:

- [Who Should Use This Guide](#)
- [Using the Documentation](#)
- [Documentation Conventions](#)
- [Contacting Sun](#)

## Who Should Use This Guide

The intended audience for this guide is the person who administers Sun Java System Application Servers in a corporate enterprise.

This guide assumes you are familiar with the following topics:

- J2EE specification
- HTML
- Java APIs as defined in the Java™ Servlet, JavaServer Pages™ (JSP™), Enterprise JavaBeans™ (EJB™), and Java™ Database Connectivity (JDBC™) specifications
- Structured database query languages such as SQL
- Relational database concepts
- Software development processes, including debugging and source code control

# Using the Documentation

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

The following table lists tasks and concepts described in the Sun Java System Application Server manuals.

**Table 1** Sun Java System Application Server Documentation Roadmap

<b>For information about</b>	<b>See the following</b>
Late-breaking information about the software and the documentation. Includes a comprehensive, table-based summary of supported hardware, operating system, JDK, and JDBC/RDBMS.	<i>Release Notes</i>
Installing the Sun Java System Application Server software and its components, such as sample applications, the Administration Console, and the high-availability components. Instructions for implementing a basic high-availability configuration are included.	<i>Installation 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 application design, developer tools, security, assembly, deployment, debugging, and creating lifecycle modules. A comprehensive Sun Java System Application Server glossary is included.	<i>Developer's Guide</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>J2EE 1.4 Tutorial</i>
Information and instructions on the configuration, management, and deployment of the Sun Java System Application Server subsystems and components, from both the Administration Console and the command-line interface. Topics include cluster management, the high-availability database, load balancing, and session persistence. A comprehensive Sun Java System Application Server glossary is included.	<i>Administration Guide</i>
Editing the Sun Java System Application Server configuration file, <code>domain.xml</code> .	<i>Reference</i>
Migrating your applications to the new Sun Java System Application Server programming model, specifically from iPlanet Application Server 6.x and from Netscape Application Server 4.0. Includes a sample migration.	<i>Migrating and Redeploying Server Applications Guide</i>
Information on solving Sun Java System Application Server problems.	<i>Troubleshooting Guide</i>
Utility commands available with the Sun Java System Application Server; written in manpage style.	<i>Utility Reference Manual</i>



**Table 1** Sun Java System Application Server Documentation Roadmap (*Continued*)

For information about	See the following
Using the Sun™ Java System Message Queue 3.5 software.	The Sun Java System Message Queue documentation at: <a href="http://docs.sun.com/db?prod/s1.s1msgqu">http://docs.sun.com/db?prod/s1.s1msgqu</a>

## Documentation Conventions

This section describes the types of conventions used throughout this guide:

- [General Conventions](#)
- [Conventions Referring to Directories](#)

### General Conventions

The following general conventions are used in this guide:

- **File and directory paths** are given in UNIX® format (with forward slashes separating directory names). For Windows versions, the directory paths are the same, except that backslashes are used to separate directories.

- **URLs** are given in the format:

`http://server.domain/path/file.html`

In these URLs, *server* is the server name where applications are run; *domain* is your Internet domain name; *path* is the server's directory structure; and *file* is an individual filename. Italic items in URLs are placeholders.

- **Font conventions** include:
  - The monospace font is used for sample code and code listings, API and language elements (such as function names and class names), file names, pathnames, directory names, and HTML tags.
  - *Italic* type is used for code variables.
  - *Italic* type is also used for book titles, emphasis, variables and placeholders, and words used in the literal sense.

- **Bold** type is used as either a paragraph lead-in or to indicate words used in the literal sense.
- **Installation root directories** for most platforms are indicated by *install\_dir* in this document. Exceptions are noted in [“Conventions Referring to Directories” on page 10](#).

By default, the location of *install\_dir* on **most** platforms is:

- Solaris and Linux file-based installations, non-root user:  
*user's home directory/SUNWappserver*
- Solaris and Linux file-based installations, root user:  
*/opt/SUNWappserver*
- Windows, all installations:  
*system drive:\Sun\AppServer*

For the platforms listed above, *default\_config\_dir* is identical to *install\_dir*. See [“Conventions Referring to Directories” on page 10](#) for exceptions and additional information.

- **Domain root directories** are indicated by *domain\_dir* in this document, which by default is an abbreviation for the following:

*install\_dir/domains/domain\_dir*

However, for package-based installations, the directory containing all the domains can be changed from *install\_dir/domains/* to another directory during installation. In configuration files, you may see *domain\_dir* represented as follows:

```

${com.sun.aas.instanceRoot}

```

- **UNIX-specific descriptions** throughout this manual apply to the Linux operating system as well, except where Linux is specifically mentioned.

## Conventions Referring to Directories

By default, when using the Solaris package-based or Linux RPM-based installation, the application server files are spread across several root directories. This guide uses the following document conventions to correspond to the various default installation directories provided:

- *install\_dir* refers to */opt/SUNWappserver*, which is the default location for the static portion of the installation image. All utilities, executables, and libraries that make up the application server reside in this location.

- *default\_config\_dir* refers to `/var/opt/SUNWappserver/domains`, which is the default location for any domains that are created.

## Contacting Sun

You might want to contact Sun Microsystems in order to:

- [Give Us Feedback](#)
- [Obtain Training](#)
- [Contact Product Support](#)

### Give Us Feedback

If you have general feedback on the product or documentation, please send this to [appserver-feedback@sun.com](mailto:appserver-feedback@sun.com).

### Obtain Training

Application Server training courses are available at:

[http://training.sun.com/US/catalog/enterprise/web\\_application.html/](http://training.sun.com/US/catalog/enterprise/web_application.html/)

Visit this site often for new course availability on the Sun Java System Application Server.

### Contact Product Support

If you have problems with your system, contact customer support using one of the following mechanisms:

- The online support web site at:  
<http://www.sun.com/supporttraining/>
- The telephone dispatch number associated with your maintenance contract

Please have the following information available prior to contacting support. This helps to ensure that our support staff can best assist you in resolving problems:

- Description of the problem, including the situation where the problem occurs and its impact on your operation

- Machine type, operating system version, and product version, including any patches and other software that might be affecting the problem. Here are some of the commonly used commands:
  - **Solaris:** `pkginfo, showrev`
  - **Linux:** `rpm`
  - **All:** `asadmin version --verbose`
- Detailed steps on the methods you have used to reproduce the problem
- Any error logs or core dumps
- Configuration files such as:
  - `domain_dir/config/domain.xml`
  - a web application's `web.xml` file, when a web application is involved in the problem
- For an application, whether the problem appears when it is running in a cluster or standalone

# The domain.xml File

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

- [About the domain.xml File](#)
- [General Configuration Elements](#)
- [Listener Service Elements](#)
- [Container Elements](#)
- [J2EE Service Elements](#)
- [Java Configuration Elements](#)
- [Resource Elements](#)
- [Application Elements](#)
- [Sample domain.xml File](#)

## About the domain.xml File

The `domain.xml` file contains most of the Sun Java™ System Application Server Platform Edition 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\\_0.dtd Schema File](#)
- [Element Referencing](#)

## The sun-domain\_1\_0.dtd Schema File

The sun-domain\_1\_0.dtd schema 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\_0.dtd file is located in the *install\_dir/lib/dtds* directory.

---

**NOTE** Do not edit the sun-domain\_1\_0.dtd file; its contents change only with new versions of Sun Java System Application Server.

The sun-domain\_1\_0.dtd interface is Unstable. An unstable interface may be experimental or transitional, and hence may change incompatibly, be removed, or be replaced by a more stable interface in the next release.

Elements or attributes that appear in the sun-domain\_1\_0.dtd file but are not described in this chapter are not implemented and should not be used.

---

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

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

---

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

---

## 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"/>
```

# General Configuration Elements

General elements are as follows:

- `domain`
- `configs`
- `config`
- `thread-pools`
- `thread-pool`
- `servers`
- `server`
- `application-ref`
- `resource-ref`
- `admin-service`
- `das-config`
- `property`
- `description`

## domain

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

### Subelements

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

**Table 1-1** domain Subelements

Element	Required	Description
<code>applications</code>	zero or one	Contains deployed J2EE applications, J2EE modules, and lifecycle modules.
<code>resources</code>	zero or one	Contains configured resources.
<code>configs</code>	only one	Contains configurations.
<code>servers</code>	only one	Contains server instances.
<code>property</code>	zero or more	Specifies a property or a variable.

## Attributes

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

**Table 1-2** `domain` Attributes

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

## configs

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

### Subelements

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

**Table 1-3** `configs` Subelements

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

### Attributes

none

## config

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

### Subelements

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



**Table 1-4** config Subelements

Element	Required	Description
<code>http-service</code>	only one	Configures the HTTP service.
<code>iiop-service</code>	only one	Configures the IIOP service.
<code>admin-service</code>	only one	Determines whether the server to which the configuration applies is an administration server.
<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>property</code>	zero or more	Specifies a property or a variable.

### Attributes

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

**Table 1-5** 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.

## thread-pools

Contains thread pools.

### Subelements

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

**Table 1-6** `thread-pools` Subelements

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

### Attributes

none

## thread-pool

Defines a thread pool.

### Subelements

none

### Attributes

**Table 1-7** `thread-pool` Attributes

Attribute	Default	Description
<code>thread-pool-id</code>	none	Specifies the thread pool ID.
<code>min-thread-pool-size</code>	0	(optional) Specifies the minimum number of threads in the pool. These are created when the thread pool is instantiated.
<code>max-thread-pool-size</code>	200	(optional) Specifies the maximum number of threads the pool can contain.
<code>idle-thread-timeout-in-seconds</code>	120	(optional) Specifies the amount of time after which idle threads are removed from the pool.
<code>num-work-queues</code>	1	(optional) Specifies the total number of work queues serviced by this thread pool.

## servers

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

### Subelements

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

**Table 1-8** `servers` Subelements

Element	Required	Description
<code>server</code>	only one	Defines a server instance.

### Attributes

none

## 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.

---

### Subelements

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

**Table 1-9** `server` Subelements

Element	Required	Description
<code>application-ref</code>	zero or more	References an application or module deployed to the server instance.
<code>resource-ref</code>	zero or more	References a resource deployed to the server instance.
<code>property</code>	zero or more	Specifies a property or a variable.

### Attributes

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

**Table 1-10** `server` Attributes

Attribute	Default	Description
<code>name</code>	none	Specifies the name of the server instance.
<code>config-ref</code>	default <code>config</code> element's name attribute value, <code>server-config</code>	References the configuration used by the server instance. For the Platform Edition, the default is the only value allowed.

## application-ref

References an application or module deployed to the server instance.

### Subelements

none

### Attributes

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

**Table 1-11** `application-ref` Attributes

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

## resource-ref

References a resource deployed to the server instance.

### Subelements

none

### Attributes

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

**Table 1-12** resource-ref Attributes

Attribute	Default	Description
enabled	true	(optional) Determines whether the resource is enabled.
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.

## 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.

### Subelements

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

**Table 1-13** admin-service Subelements

Element	Required	Description
<code>das-config</code>	only one	Defines a domain administration server configuration.

### Attributes

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

**Table 1-14** admin-service Attributes

Attribute	Default	Description
type	das-and-server	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.

## das-config

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

### Subelements

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

**Table 1-15** `das-config` Subelements

Element	Required	Description
<code>property</code>	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 1-16** `das-config` Attributes

Attribute	Default	Description
<code>dynamic-reload-enabled</code>	false	(optional) If <code>true</code> , checks the timestamp on a <code>.reload</code> file at every module and application directory level to trigger dynamic reloading.
<code>dynamic-reload-poll-interval-in-seconds</code>	2	(optional) Controls the polling frequency of dynamic reloading.
<code>autodeploy-enabled</code>	false	(optional) If <code>true</code> , enables autodeployment, which lets you quickly deploy applications and modules to a running application server without performing an explicit server instance restart or a separate deployment operation.
<code>autodeploy-polling-interval-in-seconds</code>	2	(optional) Controls the polling frequency of autodeployment.
<code>autodeploy-dir</code>	<code>autodeploy</code>	(optional) Specifies the source directory (absolute or relative to <code>domain_dir</code> ) in which autodeployment looks for deployable components.
<code>autodeploy-verifier-enabled</code>	false	(optional) If <code>true</code> , the verifier is run before autodeployment. If verification fails, deployment is not performed.
<code>autodeploy-jsp-precompilation-enabled</code>	false	(optional) If <code>true</code> , JSP pages are precompiled during autodeployment.

**Table 1-16** das-config Attributes (*Continued*)

Attribute	Default	Description
deploy-xml-validation	full	(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>
admin-session-timeout-in-minutes	sun-web.xml timeoutSeconds property value or web.xml session-timeout attribute value	(optional) Specifies the Administration Console timeout.

## 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.

## Subelements

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

**Table 1-17** `property` 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 `property` element.

**Table 1-18** `property` Attributes

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

**description**

Contains a text description of the parent element.

**Subelements**

none

**Attributes**

none

## Listener Service Elements

Listener service elements are as follows:

- `http-service`
- `http-listener`
- `ssl`
- `virtual-server`
- `iiop-service`
- `orb`



- `ssl-client-config`
- `iiop-listener`

## http-service

Defines the HTTP service.

### Subelements

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

**Table 1-19** `http-service` Subelements

Element	Required	Description
<code>http-listener</code>	zero or more	Defines an HTTP listen socket.
<code>virtual-server</code>	zero or more	Defines a virtual server.
<code>property</code>	zero or more	Specifies a property or a variable.

---

**NOTE** The `http-listener` and `virtual-server` elements can occur in any order, but `property` elements must occur last.

---

### Attributes

none

## http-listener

Defines an HTTP listen socket.

### Subelements

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

**Table 1-20** `http-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 `http-listener` element.

**Table 1-21** `http-listener` Attributes

Attribute	Default	Description
<code>id</code>	<code>none</code>	The unique listener name. An <code>http-listener</code> name cannot begin with a number.
<code>address</code>	<code>none</code>	IP address of the listener. Can be in dotted-pair or IPv6 notation. Can be <code>any</code> (for <code>INADDR_ANY</code> ) to listen on all IP addresses. Can be a hostname.
<code>port</code>	<code>none</code>	Port number on which the listener listens. Legal values are 1 - 65535. On UNIX, creating sockets that listen on ports 1 - 1024 requires superuser privileges. Configuring an SSL listener to listen on port 443 is standard.
<code>acceptor-threads</code>	1	(optional) Number of acceptor threads for the listener, typically the number of processors in the machine. Legal values are 1 - 1024.
<code>security-enabled</code>	<code>false</code>	(optional) Determines whether the listener runs SSL. You can turn SSL2 or SSL3 on or off and set ciphers using an <code>ssl</code> subelement.
<code>default-virtual-server</code>	<code>none</code>	References the <code>id</code> attribute of the default <code>virtual-server</code> for this particular listener.
<code>server-name</code>	<code>none</code>	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. This name should be the alias name if your server uses an alias.  If you append a colon and port number, that port will be used in URLs the server sends to the client.
<code>redirect-port</code>	<code>none</code>	(optional) If the listener is supporting non-SSL requests and a request is received for which a matching <code>&lt;security-constraint&gt;</code> requires SSL transport, the request is automatically redirected to the port number specified here.
<code>xpowered-by</code>	<code>true</code>	(optional) If true, X-Powered-By headers are used according to the Servlet 2.4 and JSP 2.0 specifications.
<code>enabled</code>	<code>true</code>	(optional) Determines whether the listener is active.

## 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`.

An `ssl` element is only allowed inside an `http-listener` or `iiop-listener` element.

**Subelements**

none

**Attributes**

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

**Table 1-22** `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 <code>tokenname:nickname</code> . Including the <code>tokenname:</code> part of the name in this attribute is optional.
<code>ssl2-enabled</code>	false	(optional) Determines whether SSL2 is enabled.  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> .  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>tls-rollback-enabled</code>	true	(optional) Determines whether TLS rollback is enabled. TLS rollback should be enabled for Microsoft Internet Explorer 5.0 and 5.5. For more information, see the <i>Sun Java System Application Server Administrator's Guide</i> .
<code>client-auth-enabled</code>	false	(optional) Determines whether SSL3 client authentication is performed on every request, independent of ACL-based access control.

## 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 may 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 you first install Sun Java System Application Server, 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.

### Subelements

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

**Table 1-23** `virtual-server` Subelements

Element	Required	Description
<code>property</code>	zero or more	Specifies a property or a variable.

### Attributes

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

**Table 1-24** virtual-server Attributes

Attribute	Default	Description
id	none	Virtual server ID. This is a unique ID that allows lookup of a specific virtual server. A virtual server ID cannot begin with a number.
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.  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 whatever user account the server runs as. See the <code>log-service</code> description for details about logs.

### Properties

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

**Table 1-25** 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.

**Table 1-25** virtual-server Properties (Continued)

Property	Default	Description
sso-max-inactive-seconds	300	Specifies the time after which a user's single sign-on record becomes eligible for purging if no client activity is received. Since single sign-on applies across several applications on the same virtual server, access to any of the applications keeps the single sign-on record active. Higher values provide longer single sign-on persistence for the users at the expense of more memory use on the server.
sso-reap-interval-seconds	60	Specifies the interval between purges of expired single sign-on records.

## iiop-service

Defines the IIOP service.

### Subelements

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

**Table 1-26** iiop-service Subelements

Element	Required	Description
<code>orb</code>	only one	Configures the ORB.
<code>ssl-client-config</code>	zero or one	Defines SSL parameters for the ORB.
<code>iiop-listener</code>	zero or more	Defines an IIOP listen socket.

### Attributes

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

**Table 1-27** iiop-service Attributes

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

## orb

Configures the ORB.

To enable SSL for outbound connections, include an `ssl-client-config` subelement in the parent `iiop-service` element.

### Subelements

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

**Table 1-28** `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 1-29** `orb` Attributes

Attribute	Default	Description
<code>use-thread-pool-ids</code>	none	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>	1024	(optional) GIOPv1.2 messages larger than this number of bytes are fragmented.
<code>max-connections</code>	1024	(optional) The maximum number of incoming connections on all IIOP listeners. Legal values are integers.

## ssl-client-config

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

### Subelements

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

**Table 1-30** `ssl-client-config` Subelements

Element	Required	Description
<code>ssl</code>	only one	Defines SSL parameters.

**Attributes**

none

**iiop-listener**

Defines an IIOP listen socket.

To enable SSL for this listener, include an `ssl` subelement.

**Subelements**

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

**Table 1-31** `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 1-32** `iiop-listener` Attributes

Attribute	Default	Description
<code>id</code>	none	The listener name. An <code>iiop-listener</code> name cannot begin with a number.
<code>address</code>	none	IP address of the listener. Can be in dotted-pair or IPv6 notation or just a name.
<code>port</code>	3700 (for the first server instance)	(optional) Port number to create the listener on. Legal values are 1 - 65535. On UNIX, creating sockets that listen on ports 1 - 1024 requires superuser privileges.
<code>security-enabled</code>	false	(optional) Determines whether the listener runs SSL. You can turn SSL2 or SSL3 on or off and set ciphers using an <code>ssl</code> element.
<code>enabled</code>	true	(optional) Determines whether the listener is active.



# Container Elements

Container configuration elements are as follows:

- `web-container`
- `session-config`
- `session-manager`
- `manager-properties`
- `store-properties`
- `session-properties`
- `ejb-container`
- `ejb-timer-service`
- `mdb-container`

## web-container

Configures the web container.

### Subelements

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

**Table 1-33** `web-container` Subelements

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

### Attributes

none

## 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.

### Subelements

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

**Table 1-34** `session-config` Subelements

Element	Required	Description
<code>session-manager</code>	zero or one	Specifies session manager configuration information.
<code>session-properties</code>	zero or one	Specifies session properties.

### Attributes

none

## session-manager

Specifies session manager information.

---

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

---

### Subelements

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

**Table 1-35** `session-manager` Subelements

Element	Required	Description
<code>manager-properties</code>	zero or one	Specifies session manager properties.
<code>store-properties</code>	zero or one	Specifies session persistence (storage) properties.

### Attributes

none

## manager-properties

Specifies session manager properties.

### Subelements

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

**Table 1-36** `manager-properties` Subelements

Element	Required	Description
<code>property</code>	zero or more	Specifies a property, which has a name and a value.

### Attributes

**Table 1-37** `manager-properties` Attributes

Attribute	Default	Description
<code>reap-interval-in-seconds</code>	60	(optional) Specifies the time between checks for expired sessions. You should 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-filename</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>session-id-generator-classname</code>	internal class generator	(optional) Specifies the name of the class that generates session IDs.

## store-properties

Specifies session persistence (storage) properties.

### Subelements

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

**Table 1-38** `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 1-39** `store-properties` Attributes

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

## session-properties

Specifies session properties.

### Subelements

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

**Table 1-40** `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 1-41** 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 1-42** session-properties Properties

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

## 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.

### Subelements

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

**Table 1-43** `ejb-container` Subelements

Element	Required	Description
<code>ejb-timer-service</code>	zero or one	Configures the EJB timer service.
<code>property</code>	zero or more	Specifies a property or a variable.

**Attributes**

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

**Table 1-44** `ejb-container` Attributes

Attribute	Default	Description
<code>steady-pool-size</code>	32	<p>(optional) Specifies the initial and minimum number of beans maintained in the pool. Must be 0 or greater and less than <code>max-pool-size</code>.</p> <p>Bean instances are removed from the pool and returned after use. The pool is replenished or cleaned up periodically to maintain this size.</p> <p>Applies to stateless session beans and entity beans.</p>
<code>pool-resize-quantity</code>	16	<p>(optional) Specifies the number of beans to be:</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-pool-size</code> limit)</li> <li>removed when the <code>pool-idle-timeout-in-seconds</code> timer expires and a cleaner thread removes any unused instances</li> </ul> <p>Must be 0 or greater and less than <code>max-pool-size</code>. The pool is not resized below the <code>steady-pool-size</code>.</p> <p>Applies to stateless session beans and entity beans.</p>
<code>max-pool-size</code>	64	<p>(optional) Specifies the maximum number of beans that can be created to satisfy client requests. A value of 0 indicates an unbounded pool.</p> <p>Applies to stateless session beans and entity beans.</p>
<code>cache-resize-quantity</code>	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>

**Table 1-44** `ejb-container` Attributes (*Continued*)

Attribute	Default	Description
<code>max-cache-size</code>	512	(optional) Specifies the maximum number of beans in the cache. A value of 0 indicates an unbounded cache.  Applies to stateful session beans and entity beans.
<code>pool-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 pool can remove this bean. A value of 0 specifies that idle beans can remain in the pool indefinitely.  Applies to stateless session beans and entity beans.
<code>cache-idle-timeout-in-seconds</code>	600	(optional) Specifies the maximum time that a bean can remain idle in the cache. After this amount of time, the container can passivate this bean. A value of 0 specifies that beans may never become candidates for passivation.  Applies to stateful session beans and entity beans.
<code>removal-timeout-in-seconds</code>	5400	(optional) Specifies the amount of time that a bean can remain passivated before it is removed from the session store. A value of 0 specifies that the container does not remove inactive beans automatically.  If <code>removal-timeout-in-seconds</code> is less than or equal to <code>cache-idle-timeout-in-seconds</code> , beans are removed immediately without being passivated.  The <code>session-store</code> attribute of the <code>server</code> element determines the location of the session store.  Applies to stateful session beans and entity beans.
<code>victim-selection-policy</code>	<code>nru</code>	(optional) Specifies how entity and stateful session beans are selected for passivation. Allowed values are <code>fifo</code> , <code>lru</code> , and <code>nru</code> :  <ul style="list-style-type: none"> <li>• <code>fifo</code> selects the oldest instance.</li> <li>• <code>lru</code> selects the least recently accessed instance.</li> <li>• <code>nru</code> selects a not recently used instance.</li> </ul>
<code>commit-option</code>	<code>B</code>	(optional) Determines which commit option is used for entity beans. Legal values are <code>B</code> or <code>C</code> .
<code>session-store</code>	<code>domain_dir</code> <code>/session-store</code>	(optional) Specifies the directory where passivated beans and persisted HTTP sessions are stored in the file system.

## ejb-timer-service

Configures the EJB timer service.

### Subelements

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

**Table 1-45** `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 1-46** `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> <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.

## mdb-container

Configures the message-driven bean (MDB) container.

### Subelements

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



**Table 1-47** `mdb-container` Subelements

Element	Required	Description
<code>property</code>	zero or more	Specifies a property or a variable.

### Attributes

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

**Table 1-48** `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 1-49** `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.
<code>reconnect-enabled</code>	true	If true, the MDB container automatically tries to reconnect to the JMS provider when the connection is broken.  When the connection is broken, depending on the message processing stage, the <code>onMessage()</code> method may not be able to complete successfully or the transaction may be rolled back due to a JMS exception. When the MDB container reestablishes the connection, JMS message redelivery semantics apply.
<code>reconnect-delay-in-seconds</code>	60	Specifies the delay between reconnect attempts.

**Table 1-49** `mdb-container` Properties (*Continued*)

Property	Default	Description
<code>reconnect-max-retries</code>	60	Specifies the maximum number of reconnect attempts.

## J2EE Service Elements

J2EE service elements are as follows:

- `.jms-service`
- `.jms-host`
- `log-service`
- `module-log-levels`
- `security-service`
- `auth-realm`
- `transaction-service`
- `monitoring-service`
- `module-monitoring-levels`

### **.jms-service**

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

#### **Subelements**

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

**Table 1-50** `.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 1-51** `jms-service` Attributes

Attribute	Default	Description
<code>init-timeout-in-seconds</code>	60	(optional) Specifies the amount of time the server instance waits at startup for the corresponding JMS instance to respond. If there is no response, startup is aborted. If set to 0, the server instance waits indefinitely.
<code>type</code>	LOCAL	(optional) Specifies the type of JMS service: <ul style="list-style-type: none"> <li>LOCAL means the JMS provider is started along with the application server</li> <li>REMOTE means the JMS host is remote and is not started by the application server</li> <li>NONE means no JMS service is used</li> </ul>
<code>start-args</code>	none	(optional) Specifies the string of arguments supplied for startup of the corresponding JMS instance.

### Properties

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

**Table 1-52** `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>	none	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> .

## `jms-host`

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

### Subelements

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

**Table 1-53** `javax.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 `javax.jms.Host` element.

**Table 1-54** `javax.jms.Host` Attributes

Attribute	Default	Description
<code>name</code>	<code>none</code>	Specifies the name of the JMS host.
<code>host</code>	<code>machine_name</code>	(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.

## log-service

Configures the system logging service, which includes the following log files:

- The **server log** file 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`.
- A **virtual server log** file stores messages from a `virtual-server` element that has an explicitly specified `log-file` attribute.
- The **access log** file stores HTTP access messages from the default virtual server. The default name is `access.log`.
- The **transaction log** files store transaction messages from the default virtual server. The default name of the directory for these files is `tx`.

### Subelements

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

**Table 1-55** log-service Subelements

Element	Required	Description
<code>module-log-levels</code>	zero or one	Specifies log levels.
<code>property</code>	zero or more	Specifies a property or a variable.

### Attributes

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

**Table 1-56** log-service Attributes

Attribute	Default	Description
<code>file</code>	<code>server.log</code> in the directory specified by the <code>log-root</code> attribute of the <code>domain</code> 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 whatever user account the server runs as.  If you specify an absolute path, this value overrides the <code>log-root</code> attribute of the <code>domain</code> element.  If you specify a relative path, it is relative to the <code>log-root</code> attribute of the <code>domain</code> 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) If <code>true</code> , specifies that logs are sent to <code>stderr</code> when the <code>asadmin start-domain --verbose</code> command is used.
<code>log-rotation-limit-in-bytes</code>	<code>500000</code>	(optional) Log files are rotated when the file size reaches the specified limit.
<code>alarms</code>	<code>false</code>	(optional) If <code>true</code> , turns on alarms for the logger. The <code>SEVERE</code> and <code>WARNING</code> messages can be routed through the JMX framework to raise <code>SEVERE</code> and <code>WARNING</code> alerts.

## 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.

### Subelements

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

**Table 1-57** `module-log-levels` Subelements

Element	Required	Description
<code>property</code>	zero or more	Specifies a property or a variable.

### Attributes

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

**Table 1-58** `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.
<code>server</code>	<code>INFO</code>	(optional) Specifies the default level of messages logged by the server instance.
<code>ejb-container</code>	<code>INFO</code>	(optional) Specifies the level of messages logged by the EJB container.
<code>cmp-container</code>	<code>INFO</code>	(optional) Specifies the level of messages logged by the CMP subsystem of the EJB container.
<code>mdb-container</code>	<code>INFO</code>	(optional) Specifies the level of messages logged by the MDB container.
<code>web-container</code>	<code>INFO</code>	(optional) Specifies the level of messages logged by the web container.
<code>classloader</code>	<code>INFO</code>	(optional) Specifies the level of messages logged by the classloader hierarchy.
<code>configuration</code>	<code>INFO</code>	(optional) Specifies the level of messages logged by the configuration subsystem.
<code>naming</code>	<code>INFO</code>	(optional) Specifies the level of messages logged by the naming subsystem.

**Table 1-58** module-log-levels Attributes (*Continued*)

<b>Attribute</b>	<b>Default</b>	<b>Description</b>
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.
saaj	INFO	(optional) Specifies the level of messages logged by the SOAP with Attachments API for Java module.
corba	INFO	(optional) Specifies the level of messages logged by the ORB.
javamail	INFO	(optional) Specifies the level of messages logged by the JavaMail subsystem.
jms	INFO	(optional) Specifies the level of messages logged by the Java Message Service.
connector	INFO	(optional) Specifies the level of messages logged by the connector subsystem.
jdo	INFO	(optional) Specifies the level of messages logged by the Java Data Objects module.
cmp	INFO	(optional) Specifies the level of messages logged by the CMP subsystem.
resource-adapter	INFO	(optional) Specifies the level of messages logged by the resource adapter subsystem.

## security-service

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

### Subelements

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

**Table 1-59** `security-service` Subelements

Element	Required	Description
<code>auth-realm</code>	one or more	Defines a realm for authentication.
<code>jacc-provider</code>	one or more	Specifies a Java Authorization Contract for Containers (JACC) provider for pluggable authorization.
<code>audit-module</code>	zero or more	Specifies an optional plug-in module that implements audit capabilities.
<code>property</code>	zero or more	Specifies a property or a variable.

### Attributes

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

**Table 1-60** `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-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. Audit information consists of: <ul style="list-style-type: none"> <li>• Authentication success and failure events</li> <li>• Servlet and EJB access grants and denials</li> </ul>



**Table 1-60** security-service Attributes (*Continued*)

Attribute	Default	Description
jacc	default	(optional) Specifies the name of the <a href="#">jacc-provider</a> element to use for setting up the JACC infrastructure. The default value does not need to be changed unless you are adding a custom JACC provider.
audit-modules	default	(optional) Specifies a comma-separated list of audit provider modules used by the audit subsystem. The default value refers to the internal log-based audit module.

## 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.

### Subelements

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

**Table 1-61** 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 1-62** `auth-realm` Attributes

Attribute	Default	Description
<code>name</code>	none	Specifies the name of this realm.
<code>classname</code>	none	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 may have different properties.

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

**Table 1-63** `auth-realm` Properties

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

**Table 1-63** auth-realm Properties (*Continued*)

Property	Realms	Description
search-bind-password	ldap	(optional) Specifies the LDAP password for the DN given in search-bind-dn.

## jacc-provider

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

### Subelements

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

**Table 1-64** 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 1-65** jacc-provider Attributes

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

## audit-module

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

### Subelements

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

**Table 1-66** `audit-module` 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 `audit-module` element.

**Table 1-67** `audit-module` Attributes

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

**transaction-service**

Configures the Java Transaction Service (JTS).

**Subelements**

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

**Table 1-68** `transaction-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 `transaction-service` element.

**Table 1-69** `transaction-service` Attributes

Attribute	Default	Description
<code>automatic-recovery</code>	false	(optional) If <code>true</code> , the server instance attempts transaction recovery during startup.
<code>timeout-in-seconds</code>	0	(optional) Specifies the amount of time after which the transaction is aborted. If set to 0, the transaction never times out.

**Table 1-69** transaction-service Attributes (*Continued*)

Attribute	Default	Description
tx-log-dir	directory specified by the log-root attribute of the server element	(optional) Overrides the location of the transaction log directory. The directory in which the transaction logs are kept must be writable by whatever user account the server runs as. See the log-service description for details about logs.
heuristic-decision	rollback	(optional) During recovery, if the outcome of a transaction cannot be determined from the logs, this property determines the outcome. Allowed values are rollback and commit.
retry-timeout-in-seconds	600	(optional) Determines the retry time in the following scenarios: <ul style="list-style-type: none"> <li>At the transaction recovery time, if resources are unreachable.</li> <li>If there are any transient exceptions in the second phase of a two phase commit protocol.</li> </ul> A negative value specifies infinite retries. A value of 0 (zero) specifies no retries. A positive value indicates the time after which a retry is attempted.
keypoint-interval	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 1-70** transaction-service Properties

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

## monitoring-service

Configures the monitoring service.

### Subelements

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

**Table 1-71** `monitoring-service` Subelements

Element	Required	Description
<code>module-monitoring-levels</code>	zero or one	Controls the level of monitoring of server subsystems.
<code>property</code>	zero or more	Specifies a property or a variable.

### Attributes

none

## module-monitoring-levels

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

### Subelements

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

**Table 1-72** `module-monitoring-levels` Subelements

Element	Required	Description
<code>property</code>	zero or more	Specifies a property or a variable.

### Attributes

**Table 1-73** `module-monitoring-levels` Attributes

Attribute	Default	Description
<code>thread-pool</code>	<code>OFF</code>	(optional) Specifies the level of monitoring of the thread pool subsystem.
<code>orb</code>	<code>OFF</code>	(optional) Specifies the level of monitoring of the ORB.
<code>ejb-container</code>	<code>OFF</code>	(optional) Specifies the level of monitoring of the EJB container.
<code>web-container</code>	<code>OFF</code>	(optional) Specifies the level of monitoring of the web container.

**Table 1-73** module-monitoring-levels Attributes (*Continued*)

Attribute	Default	Description
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.

## Java Configuration Elements

Java configuration elements are as follows:

- [java-config](#)
- [profiler](#)
- [jvm-options](#)

### java-config

Specifies Java Virtual Machine (JVM) configuration parameters.

#### Subelements

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

**Table 1-74** java-config Subelements

Element	Required	Description
<a href="#">profiler</a>	zero or one	Configures a profiler for use with Sun Java System Application Server.
<a href="#">jvm-options</a>	zero or more	Contains JVM command line options.
<a href="#">property</a>	zero or more	Specifies a property or a variable.

#### Attributes

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

**Table 1-75** java-config Attributes

Attribute	Default	Description
java-home	none	The path to the directory where the JDK is installed.
debug-enabled	false	(optional) If <code>true</code> , the server starts up in debug mode ready for attachment with a JPDA-based debugger.
debug-options	-Xdebug -Xrunjdpw:transport =dt_socket,server=y ,suspend=n	(optional) Specifies JPDA (Java Platform Debugger Architecture) options. A list of debugging options that you can include is available here: <a href="http://java.sun.com/products/jpda/doc/conninv.html#Invocation">http://java.sun.com/products/jpda/doc/conninv.html#Invocation</a>  For more information about debugging, see the <i>Sun Java System Application Server Developer's Guide</i> .
rmic-options	-iiop -poa -alwaysgenerate -keepgenerated -g	(optional) Specifies options passed to the RMI compiler at application deployment time. The <code>-keepgenerated</code> option saves generated source for stubs and ties.  For details about the <code>rmic</code> command, see: <a href="http://java.sun.com/j2se/1.4.2/docs/tooldocs/solaris/rmic.html">http://java.sun.com/j2se/1.4.2/docs/tooldocs/solaris/rmic.html</a>
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. You should only prefix the system classpath if you wish to override system classes, such as the XML parser classes. Use this attribute with caution.
classpath-suffix	none	(optional) Specifies a suffix for the system classpath.
server-classpath	none	(optional) Specifies the classpath for the environment from which the server was started. This classpath can be accessed using <code>System.getProperty("java.class.path")</code> .
native-library-path-prefix	none	(optional) Specifies a prefix for the native library path.  The native library path is the automatically constructed concatenation of the Application Server installation relative path for its native shared libraries, the standard JRE native library path, the shell environment setting ( <code>LD_LIBRARY_PATH</code> on UNIX), and any path specified in the <code>profiler</code> element. Since this is synthesized, it does not appear explicitly in the server configuration.
native-library-path-suffix	none	(optional) Specifies a suffix for the native library path.



**Table 1-75** 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	(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.  For a development environment, this value should be set to <code>false</code> . For a production environment, this value should be set to <code>true</code> to prevent environment variable side effects.

## 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*.

### Subelements

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

**Table 1-76** profiler Subelements

Element	Required	Description
<code>jvm-options</code>	zero or more	Contains profiler-specific JVM command line options.
<code>property</code>	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 1-77** profiler Attributes

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

## jvm-options

Contains JVM command line options, for example:

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

For information about the options you can use, see:

<http://java.sun.com/docs/hotspot/VMOptions.html>

### Subelements

none

### Attributes

none

# Resource Elements

Resource elements are as follows:

- [resources](#)
- [custom-resource](#)
- [external-jndi-resource](#)
- [jdbc-resource](#)
- [mail-resource](#)
- [persistence-manager-factory-resource](#)
- [admin-object-resource](#)
- [connector-resource](#)

- [resource-adapter-config](#)
- [jdbc-connection-pool](#)
- [connector-connection-pool](#)
- [security-map](#)
- [principal](#)
- [user-group](#)
- [backend-principal](#)

## resources

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

---

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

---

## Subelements

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

**Table 1-78** `resources` Subelements

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

**Table 1-78** resources Subelements (*Continued*)

Element	Required	Description
<a href="#">resource-adapter-config</a>	zero or more	Defines a resource adapter configuration.
<a href="#">jdbc-connection-pool</a>	zero or more	Defines the properties that are required for creating a JDBC connection pool.
<a href="#">connector-connection-pool</a>	zero or more	Defines the properties that are required for creating a connector connection pool.

---

**NOTE** Subelements of a `resources` element can occur in any order.

---

**Attributes**

none

**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.

**Subelements**

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

**Table 1-79** 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 1-80** custom-resource Attributes

Attribute	Default	Description
<code>jndi-name</code>	none	Specifies the JNDI name for the resource.
<code>res-type</code>	none	Specifies the fully qualified type of the resource.

**Table 1-80** custom-resource Attributes (*Continued*)

Attribute	Default	Description
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.

## 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.

### Subelements

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

**Table 1-81** 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 1-82** 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.

**Table 1-82** external-jndi-resource Attributes (*Continued*)

Attribute	Default	Description
res-type	none	Specifies the fully qualified type of the resource.
factory-class	none	Specifies the fully qualified name of the factory class, which implements <code>javax.naming.spi.InitialContextFactory</code> . For more information about JNDI, see the <i>Sun 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>• <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.

## jdbc-resource

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

### Subelements

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

**Table 1-83** 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 1-84** jdbc-resource Attributes

Attribute	Default	Description
jdbc-name	none	Specifies the JNDI name for the resource.
pool-name	none	Specifies the name of the associated JDBC connection pool, defined in a <a href="#">jdbc-connection-pool</a> element.
object-type	user	(optional) Defines the type of the resource. Allowed values are: <ul style="list-style-type: none"> <li>system-all - A system resource for all server instances and the domain application server.</li> <li>system-admin - A system resource only for the 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.

## mail-resource

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

### Subelements

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

**Table 1-85** 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 1-86** mail-resource Attributes

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

**Table 1-86** 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). Example values are <code>imap</code> and <code>pop3</code> .
store-protocol-class	<code>com.sun.mail.imap.IMAPStore</code>	(optional) Specifies the service provider implementation class for storage.
transport-protocol	smtp	(optional) Specifies the transport protocol service, which sends messages.
transport-protocol-class	<code>com.sun.mail.smtp.SMTPTransport</code>	(optional) Specifies the service provider implementation class for transport.
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 and 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, if you want 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 you get the JavaMail Session object, you can get the `mail.password` property to retrieve the value `adminadmin`, as follows:

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

## persistence-manager-factory-resource

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

### Subelements

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

**Table 1-87** `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 1-88** `persistence-manager-factory-resource` Attributes

Attribute	Default	Description
<code>jndi-name</code>	<code>none</code>	Specifies the JNDI name for the resource.
<code>factory-class</code>	<code>com.sun.jdo.spi.persistence.support.sqlstore.impl.PersistenceManagerFactoryImpl</code>	(optional) Specifies the name of the factory class. This attribute supports third party CMP persistence manager factories. Use the name required by the third party CMP implementation. Do not specify this attribute for the built-in CMP implementation.

**Table 1-88** persistence-manager-factory-resource Attributes (*Continued*)

Attribute	Default	Description
jdbc-resource-jndi-name	none	(optional) Specifies the <code>jdbc-resource</code> from which database connections are obtained. Must be the <code>jndi-name</code> of an existing <code>jdbc-resource</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.

## admin-object-resource

Defines an administered object for an inbound resource adapter.

### Subelements

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

**Table 1-89** admin-object-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 `admin-object-resource` element.

**Table 1-90** admin-object-resource Attributes

Attribute	Default	Description
<code>jndi-name</code>	none	Specifies the JNDI name for the resource.

**Table 1-90** admin-object-resource Attributes (*Continued*)

Attribute	Default	Description
res-type	none	Specifies the fully qualified type of the resource.
res-adapter	none	Specifies the name of the inbound resource adapter, as specified in the name or resource-adapter-name attribute of a <a href="#">resource-adapter-config</a> element.
enabled	true	(optional) Determines whether this resource is enabled at runtime.

### Properties

The following table describes the most commonly used JMS properties for the admin-object-resource element. 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 1-91** admin-object-resource Properties

Property	Default	Description
Name	none	Specifies the JMS physical destination name associated with this JMS resource. You must specify this property for JMS resources of the Type <code>javax.jms.Topic</code> or <code>javax.jms.Queue</code> .
Description	none	Specifies a text description of the JMS resource.
MessageServiceAddressList	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> .
ClientID	none	Specifies the JMS Client Identifier to be associated with a <code>Connection</code> created using the <code>createQueueConnection</code> and <code>createTopicConnection</code> methods of the <code>QueueConnectionFactory</code> and <code>TopicConnectionFactory</code> classes, respectively.  For JMS resources of the Type <code>javax.jms.TopicConnectionFactory</code> or <code>javax.jms.QueueConnectionFactory</code> .  Durable subscription names are unique and only valid within the scope of a client identifier. To create or reactivate a durable subscriber, the connection must have a valid client identifier. The JMS specification ensures that client identifiers are unique and that a given client identifier is allowed to be used by only one active connection at a time.
UserName	guest	Specifies the user name for connecting to the Sun Java System Message Queue. For JMS resources of the Type <code>javax.jms.TopicConnectionFactory</code> or <code>javax.jms.QueueConnectionFactory</code> .

**Table 1-91** `admin-object-resource` Properties (*Continued*)

Property	Default	Description
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> .

---

**NOTE** All JMS administered object resource properties that used to work with version 7 of the Application Server are supported for backward compatibility.

---

## connector-resource

Defines a connector (resource adapter) resource.

### Subelements

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

**Table 1-92** `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 1-93** `connector-resource` Attributes

Attribute	Default	Description
<code>jndi-name</code>	none	Specifies the JNDI name for the resource.
<code>pool-name</code>	none	Specifies the name of the associated connector connection pool, defined in a <a href="#">connector-connection-pool</a> element.

**Table 1-93** connector-resource Attributes (*Continued*)

Attribute	Default	Description
object-type	user	(optional) Defines the type of the resource. Allowed values are: <ul style="list-style-type: none"> <li>system-all - A system resource for all server instances and the domain application server.</li> <li>system-admin - A system resource only for the 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.

## resource-adapter-config

Defines a resource adapter configuration.

### Subelements

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

**Table 1-94** resource-adapter-config Subelements

Element	Required	Description
<a href="#">property</a>	zero or more	Specifies a property or a variable.

### Attributes

**Table 1-95**

Attribute	Default	Description
name	none	(optional) Specifies a unique name for the resource adapter.
thread-pool-ids	none	(optional) Specifies the id of a <a href="#">thread-pool</a> element.
resource-adapter-name	none	Specifies the fully qualified file name of the resource adapter.

## Properties

Any properties defined here override the default values present in `ra.xml`.

## `jdbc-connection-pool`

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

---

**TIP** You can create a pool definition and then copy, paste, and edit it to configure multiple JDBC data sources.

---

## Subelements

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

**Table 1-96** `jdbc-connection-pool` 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-connection-pool` element.

**Table 1-97** `jdbc-connection-pool` Attributes

Attribute	Default	Description
<code>name</code>	none	Specifies the name of the connection pool. A <code>jdbc-resource</code> element's <code>pool-name</code> attribute refers to this name.
<code>datasource-classname</code>	none	Specifies the class name of the associated vendor-supplied data source. This class must implement <code>java.sql.DataSource</code> or <code>java.sql.XADataSource</code> or both.
<code>res-type</code>	<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> or <code>javax.sql.XADataSource</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.

**Table 1-97** jdbc-connection-pool Attributes (*Continued*)

Attribute	Default	Description
steady-pool-size	8	(optional) Specifies the initial and minimum number of connections maintained in the pool.
max-pool-size	32	(optional) Specifies the maximum number of connections that can be created to satisfy client requests.
max-wait-time-in-millis	60000	(optional) Specifies the amount of time, in milliseconds, that the caller is willing to wait for a connection. If 0, the caller is blocked indefinitely until a resource is available or an error occurs.
pool-resize-quantity	2	(optional) Specifies the number of connections to be destroyed if the existing number of connections is above the steady-pool-size (subject to the max-pool-size limit). This is enforced periodically at the idle-time-out-in-seconds interval. An idle connection is one that has not been used for a period of idle-time-out-in-seconds.
idle-timeout-in-seconds	300	(optional) Specifies the maximum time that a connection can remain idle in the pool. After this amount of time, the pool can close this connection.
transaction-isolation-level	default JDBC driver isolation level	(optional) Specifies the transaction isolation level on the pooled database connections. Allowed values are read-uncommitted, read-committed, repeatable-read, or serializable.  Applications that change the isolation level on a pooled connection programmatically risk polluting the pool, which can lead to errors. See is-isolation-level-guaranteed for more details.
is-isolation-level-guaranteed	true	(optional) Applicable only when transaction-isolation-level is explicitly set. If true, every connection obtained from the pool is guaranteed to have the desired isolation level. This may impact performance on some JDBC drivers. You can set this attribute to false if you are certain that the hosted applications do not return connections with altered isolation levels.
is-connection-validation-required	false	(optional) Specifies whether connections have to be validated before being given to the application. If a resource's validation fails, it is destroyed, and a new resource is created and returned.

**Table 1-97** jdbc-connection-pool Attributes (*Continued*)

Attribute	Default	Description
connection-validation-method	auto-commit	(optional) Legal values are as follows: <ul style="list-style-type: none"> <li>auto-commit (default), which uses <code>Connection.setAutoCommit(Connection.getAutoCommit())</code></li> <li>meta-data, which uses <code>Connection.getMetaData()</code></li> <li>table, which performs a query on a table specified in the <code>validation-table-name</code> attribute</li> </ul>
validation-table-name	none	(optional) Specifies the table name to be used to perform a query to validate a connection. This parameter is mandatory if and only if <code>connection-validation-type</code> is set to <code>table</code> .
fail-all-connections	false	(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> .

### Properties

Most JDBC 2.0 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 may be necessary for most databases. For details, see Section 5.3 of JDBC 2.0 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 1-98** 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.



**Table 1-98** jdbc-connection-pool Properties (*Continued*)

Property	Description
databaseName	Specifies the database for this connection pool.
serverName	Specifies the database server for this connection pool.
port	Specifies the port on which the database server listens for requests.
networkProtocol	Specifies the communication protocol.
roleName	Specifies the initial SQL role name.
datasourceName	Specifies an underlying XADataSource, or a ConnectionPoolDataSource if connection pooling is done.
description	Specifies a text description.
url	Specifies the URL for this connection pool. Although this is not a standard property, it is commonly used.

## connector-connection-pool

Defines a connector connection pool.

---

**TIP** You can create a pool definition and then copy, paste, and edit it to configure multiple connector connection pools.

---

### Subelements

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

**Table 1-99** connector-connection-pool Subelements

Element	Required	Description
<a href="#">description</a>	zero or one	Contains a text description of this element.
<a href="#">security-map</a>	zero or more	Maps the principal received during servlet or EJB authentication to the credentials accepted by the EIS.
<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 1-100** connector-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.
resource-adapter-name	none	Specifies the name of resource adapter. The name of the <code>.rar</code> file is used as the unique name for the resource adapter.
connection-definition-name	none	Specifies a unique name, identifying one <code>connection-definition</code> in a Resource Adapter. This is a <code>ConnectionFactory</code> type.
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). 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.
fail-all-connections	false	(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> .

### Properties

You can specify properties to override the `ManagedConnectionFactory` JavaBean configuration settings.

When one or more of these properties are specified, they are passed as is using `setName(Value)` methods to the Resource Adapter's `ManagedConnectionFactory` class (specified in `ra.xml`).

## security-map

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

### Subelements

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

**Table 1-101** `security-map` Subelements

Element	Required	Description
<code>principal</code>	one or more	Contains the principal of the servlet or EJB client.
<code>user-group</code>	one or more	Contains the group to which the principal belongs.
<code>backend-principal</code>	only one	Specifies the user name and password required by the EIS.

### Attributes

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

**Table 1-102** `security-map` Attributes

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

## principal

Contains the principal of the servlet or EJB client.

### Subelements

`none`

### Attributes

`none`

**user-group**

Contains the group to which the principal belongs.

**Subelements**

none

**Attributes**

none

**backend-principal**

Specifies the user name and password required by the EIS.

**Subelements**

none

**Attributes**

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

**Table 1-103** `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.

## Application Elements

Application elements are as follows:

- `applications`
- `lifecycle-module`
- `j2ee-application`
- `web-module`
- `ejb-module`
- `connector-module`
- `appclient-module`

## applications

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

### Subelements

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

**Table 1-104** `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.
<code>appliance-client-module</code>	zero or more	Specifies a deployed application client container (ACC) module.

---

**NOTE** Subelements of an `applications` element can occur in any order.

---

### Attributes

none

## lifecycle-module

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

### Subelements

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

**Table 1-105** `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 1-106** `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.

## j2ee-application

Specifies a deployed J2EE application.

### Subelements

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

**Table 1-107** `j2ee-application` 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 `j2ee-application` element.

**Table 1-108** j2ee-application Attributes

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

## ejb-module

Specifies a deployed EJB module.

### Subelements

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

**Table 1-109** `ejb-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 `ejb-module` element.

**Table 1-110** `ejb-module` Attributes

Attribute	Default	Description
name	none	The name of the EJB module.
location	none	The location of the EJB module in the Sun Java System Application Server file system.

**Table 1-110** `ejb-module` Attributes (*Continued*)

Attribute	Default	Description
<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.

## web-module

Specifies a deployed web module.

### Subelements

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

**Table 1-111** `web-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 `web-module` element.

**Table 1-112** `web-module` Attributes

Attribute	Default	Description
<code>name</code>	<code>none</code>	The name of the web module.
<code>context-root</code>	<code>empty string</code>	(optional) The context root (context path without the <code>/</code> in front) at which the web module is installed.
<code>location</code>	<code>none</code>	A fully qualified or relative path to the directory to which the contents of the <code>.war</code> file have been extracted. If relative, it is relative to the following directory:  <i>domain_dir/applications/j2ee-modules/</i>



**Table 1-112** web-module Attributes (*Continued*)

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

## connector-module

Specifies a deployed connector module.

### Subelements

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

**Table 1-113** connector-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 `connector-module` element.

**Table 1-114** connector-module Attributes

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

**Table 1-114** connector-module Attributes (*Continued*)

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

## appclient-module

Specifies a deployed application client container (ACC) module.

### Subelements

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

**Table 1-115** 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 1-116** 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.

# Sample domain.xml File

When you first install Sun Java System Application Server, the domain.xml file looks like this:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE domain PUBLIC "-//Sun Microsystems Inc.//DTD Application Server 8.0 Domain//EN"
"http://www.sun.com/software/appserver/dtds/sun-domain_1_0.dtd">
<!--
    Copyright 2004 Sun Microsystems, Inc. All rights reserved.
    SUN PROPRIETARY/CONFIDENTIAL. Use is subject to license terms.
-->
<!-- Generated from default-domain.xml.template -->
<domain application-root="${com.sun.aas.instanceRoot}/applications"
log-root="${com.sun.aas.instanceRoot}/logs">
    <applications>
        <j2ee-application enabled="true"
location="${com.sun.aas.instanceRoot}/applications/j2ee-apps/MEjbApp" name="MEjbApp"
object-type="system-all"/>
        <j2ee-application enabled="true"
location="${com.sun.aas.instanceRoot}/applications/j2ee-apps/__ejb_container_timer_app"
name="__ejb_container_timer_app" object-type="system-all"/>
        <web-module context-root="/web1" enabled="true"
location="${com.sun.aas.installRoot}/lib/install/applications/adminapp/adminapp_war"
name="adminapp" object-type="system-admin">
            <!-- System Web Module - DO NOT DELETE! -->
        </web-module>
        <web-module context-root="/asadmin" enabled="true"
location="${com.sun.aas.installRoot}/lib/install/applications/admingui/adminGUI_war"
name="admingui" object-type="system-admin">
            <!-- System Web Module - DO NOT DELETE! -->
        </web-module>
        <web-module context-root="/com_sun_web_ui" enabled="true"
location="${com.sun.aas.installRoot}/lib/install/applications/com_sun_web_ui"
name="com_sun_web_ui" object-type="system-admin">
            <!-- System Web Module - DO NOT DELETE! -->
        </web-module>
    </applications>
</domain>
```

```

    </web-module>

    <web-module context-root="/webapps-simple" enabled="true"
location="{com.sun.aas.instanceRoot}/applications/j2ee-modules/webapps-simple"
name="webapps-simple" object-type="user"/>

    </applications>

    <resources>

        <jdbc-resource enabled="true" jndi-name="jdbc/__TimerPool"
object-type="system-all" pool-name="__TimerPool"/>

        <jdbc-resource enabled="true" jndi-name="jdbc/PointBase" object-type="user"
pool-name="PointBasePool"/>

        <jdbc-connection-pool connection-validation-method="auto-commit"
datasource-classname="com.pointbase.xa.xaDataSource" fail-all-connections="false"
idle-timeout-in-seconds="300" is-connection-validation-required="false"
is-isolation-level-guaranteed="true" max-pool-size="32" max-wait-time-in-millis="60000"
name="__TimerPool" pool-resize-quantity="2" res-type="javax.sql.XADataSource"
steady-pool-size="8">

            <property name="DatabaseName"
value="jdbc:pointbase:embedded:ejbtimer,database.home={com.sun.aas.instanceRoot}/lib/dat
abases"/>

            <property name="User" value="pbPublic"/>

            <property name="Password" value="pbPublic"/>

        </jdbc-connection-pool>

        <jdbc-connection-pool connection-validation-method="auto-commit"
datasource-classname="com.pointbase.xa.xaDataSource" fail-all-connections="false"
idle-timeout-in-seconds="300" is-connection-validation-required="false"
is-isolation-level-guaranteed="true" max-pool-size="32" max-wait-time-in-millis="60000"
name="PointBasePool" pool-resize-quantity="2" res-type="javax.sql.XADataSource"
steady-pool-size="8">

            <property name="DatabaseName"
value="jdbc:pointbase:server://localhost:9092/sun-appserv-samples"/>

            <property name="Password" value="pbPublic"/>

            <property name="User" value="pbPublic"/>

        </jdbc-connection-pool>

    </resources>

    <configs>

        <config name="server-config">

```

```

<http-service>
    <http-listener acceptor-threads="100" address="0.0.0.0"
default-virtual-server="server" enabled="true" id="http-listener-1" port="8080"
security-enabled="false" server-name="" xpowered-by="true">
        </http-listener>
    <http-listener acceptor-threads="100" address="0.0.0.0"
default-virtual-server="server" enabled="true" id="http-listener-2" port="1043"
security-enabled="true" server-name="" xpowered-by="true">
        </http-listener>
    <http-listener acceptor-threads="100" address="0.0.0.0"
default-virtual-server="__asadmin" enabled="true" id="admin-listener" port="4848"
security-enabled="false" server-name="" xpowered-by="true">
        </http-listener>
    <virtual-server hosts="goliath"
http-listeners="http-listener-1,http-listener-2" id="server" state="on">
        <property name="docroot" value="\${com.sun.aas.instanceRoot}/docroot"/>
        <property name="accesslog"
value="\${com.sun.aas.instanceRoot}/logs/access"/>
    </virtual-server>
    <virtual-server default-web-module="admingui" hosts="goliath"
http-listeners="admin-listener" id="__asadmin" state="on">
        <property name="accesslog"
value="\${com.sun.aas.instanceRoot}/logs/access"/>
    </virtual-server>
</http-service>
<iiop-service client-authentication-required="false">
    <orb max-connections="1024" message-fragment-size="1024"
use-thread-pool-ids="thread-pool-1"/>
    <iiop-listener address="0.0.0.0" enabled="true" id="orb-listener-1"
port="3700" security-enabled="false"/>
    <iiop-listener address="0.0.0.0" enabled="true" id="SSL" port="1060"
security-enabled="true">
        <ssl cert-nickname="slas" client-auth-enabled="false"
ssl2-enabled="false" ssl3-enabled="true" tls-enabled="true"
tls-rollback-enabled="true"/>
    </iiop-listener>

```

```

        <iiop-listener address="0.0.0.0" enabled="true" id="SSL_MUTUALAUTH"
port="1061" security-enabled="true">
            <ssl cert-nickname="slas" client-auth-enabled="true"
ssl2-enabled="false" ssl3-enabled="true" tls-enabled="true" tls-rollback-enabled="true"/>
        </iiop-listener>
    </iiop-service>
    <admin-service type="das-and-server">
        <das-config admin-session-timeout-in-minutes="60"
autodeploy-dir="{com.sun.aas.instanceRoot}/autodeploy" autodeploy-enabled="true"
autodeploy-jsp-precompilation-enabled="false" autodeploy-polling-interval-in-seconds="2"
autodeploy-verifier-enabled="false" deploy-xml-validation="full"
dynamic-reload-enabled="true" dynamic-reload-poll-interval-in-seconds="2"/>
    </admin-service>
    <web-container/>
    <ejb-container cache-idle-timeout-in-seconds="600" cache-resize-quantity="32"
commit-option="B" max-cache-size="512" max-pool-size="32"
pool-idle-timeout-in-seconds="600" pool-resize-quantity="8"
removal-timeout-in-seconds="5400"
session-store="{com.sun.aas.instanceRoot}/session-store" steady-pool-size="0"
victim-selection-policy="nru"/>
    <mdb-container idle-timeout-in-seconds="600" max-pool-size="32"
pool-resize-quantity="8" steady-pool-size="0"/>
    <jms-service init-timeout-in-seconds="60" type="LOCAL">
        <jms-host admin-password="admin" admin-user-name="admin" host="goliath"
name="default_JMS_host" port="7676"/>
    </jms-service>
    <log-service alarms="false" file="{com.sun.aas.instanceRoot}/logs/server.log"
log-rotation-limit-in-bytes="2000000000" log-to-console="false"
use-system-logging="false">
        <module-log-levels admin="INFO" classloader="INFO" cmp="INFO"
cmp-container="INFO" configuration="INFO" connector="INFO" corba="INFO" deployment="INFO"
ejb-container="INFO" javamail="INFO" jaxr="INFO" jaxrpc="INFO" jdo="INFO" jms="INFO"
jta="INFO" jts="INFO" mdb-container="INFO" naming="INFO" resource-adapter="INFO"
root="INFO" saaj="INFO" security="INFO" server="INFO" verifier="INFO"
web-container="INFO"/>
    </log-service>

```

```

        <security-service anonymous-role="ANYONE" audit-enabled="false"
audit-modules="default" default-realm="file" jacc="default">
            <auth-realm
classname="com.sun.enterprise.security.auth.realm.file.FileRealm" name="file">
                <property name="file"
value="\${com.sun.aas.instanceRoot}/config/keyfile"/>
                <property name="jaas-context" value="fileRealm"/>
            </auth-realm>
            <auth-realm
classname="com.sun.enterprise.security.auth.realm.certificate.CertificateRealm"
name="certificate">
            </auth-realm>
            <jacc-provider name="default"
policy-configuration-factory-provider="com.sun.enterprise.security.provider.PolicyConfigu
rationFactoryImpl" policy-provider="com.sun.enterprise.security.provider.PolicyWrapper">
                <property name="repository"
value="\${com.sun.aas.instanceRoot}/generated/policy"/>
            </jacc-provider>
            <audit-module classname="com.sun.enterprise.security.Audit" name="default">
                <property name="auditOn" value="false"/>
            </audit-module>
        </security-service>

        <transaction-service automatic-recovery="false" heuristic-decision="rollback"
keypoint-interval="2048" retry-timeout-in-seconds="600" timeout-in-seconds="0"
tx-log-dir="\${com.sun.aas.instanceRoot}/logs"/>

        <monitoring-service>
            <module-monitoring-levels connector-connection-pool="OFF"
ejb-container="OFF" http-service="OFF" jdbc-connection-pool="OFF" orb="OFF"
thread-pool="OFF" transaction-service="OFF" web-container="OFF"/>
        </monitoring-service>

        <java-config
classpath-suffix="\${com.sun.aas.installRoot}/pointbase/lib/pbclient.jar${path.separator}$
${com.sun.aas.installRoot}/pointbase/lib/pbembedded.jar" debug-enabled="false"
debug-options="-Xdebug -Xrunjdw:transport=dt_socket,server=y,suspend=n,address=1044"
env-classpath-ignored="true" java-home="\${com.sun.aas.javaRoot}" javac-options="-g"
rmic-options="-iiop -poa -alwaysgenerate -keepgenerated -g"

```

```

server-classpath="\${com.sun.aas.javaRoot}/lib/tools.jar${path.separator}\${com.sun.aas.installRoot}/lib/install/applications/jmsra/imqjmsra.jar${path.separator}\${com.sun.aas.imqLib}/jaxm-api.jar${path.separator}\${com.sun.aas.imqLib}/fscontext.jar${path.separator}\${com.sun.aas.antLib}/ant.jar">

    <!-- various required jvm-options -->
    <jvm-options>-client</jvm-options>

    <jvm-options>-Djava.endorsed.dirs=\${com.sun.aas.installRoot}/lib/endorsed
</jvm-options>

    <jvm-options>-Djava.security.policy=\${com.sun.aas.instanceRoot}/config
/server.policy</jvm-options>

    <jvm-options>-Djava.security.auth.login.config=\${com.sun.aas.instanceRoot}
/config/login.conf</jvm-options>

    <jvm-options>-Dsun.rmi.dgc.server.gcInterval=3600000</jvm-options>
    <jvm-options>-Dsun.rmi.dgc.client.gcInterval=3600000</jvm-options>
    <jvm-options>-Dcom.sun.web.console.appbase=/\${com.sun.aas.installRoot}
/lib/install/applications/com_sun_web_ui</jvm-options>

    <jvm-options>-Xmx512m</jvm-options>

    <jvm-options>-Djavax.net.ssl.keyStore=\${com.sun.aas.instanceRoot}/config
/keystore.jks</jvm-options>

    <jvm-options>-Djavax.net.ssl.trustStore=\${com.sun.aas.instanceRoot}/config
/cacerts.jks</jvm-options>

    <jvm-options>-Djava.ext.dirs=\${com.sun.aas.javaRoot}/jre/lib/ext${path.
separator}\${com.sun.aas.instanceRoot}/lib/ext</jvm-options>

    <jvm-options>-Djdbc.drivers=com.pointbase.jdbc.jdbcUniversalDriver
</jvm-options>

    <jvm-options>-Dcom.sun.enterprise.taglibs=appserv-jstl.jar,jsf-impl.jar
</jvm-options>

    <jvm-options>-XX:NewRatio=2</jvm-options>
</java-config>
<thread-pools>

    <thread-pool idle-thread-timeout-in-seconds="120"
max-thread-pool-size="200" min-thread-pool-size="0" num-work-queues="1"
thread-pool-id="thread-pool-1"/>
</thread-pools>
</config>

```



```
<!-- config model with name "server-config" ends -->
</configs>
<servers>
  <server config-ref="server-config" name="server">
    <application-ref enabled="true" ref="adminapp" virtual-servers="__asadmin"/>
    <application-ref enabled="true" ref="admingui" virtual-servers="__asadmin"/>
    <application-ref enabled="true" ref="com_sun_web_ui"
virtual-servers="__asadmin"/>
    <application-ref enabled="true" ref="MEjbApp" virtual-servers="server"/>
    <application-ref enabled="true" ref="__ejb_container_timer_app"
virtual-servers="server"/>
    <application-ref enabled="true" ref="webapps-simple"
virtual-servers="server"/>
    <resource-ref enabled="true" ref="jdbc/__TimerPool"/>
    <resource-ref enabled="true" ref="jdbc/PointBase"/>
  </server>
</servers>
</domain>
```

Sample domain.xml File

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