# **For Review Purposes Only**

# GlassFish v3 Application Server Release Notes

**Technology Preview 2** 



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# GlassFish™ v3 Technology Preview 2 Application Server Overview

The GlassFish v3 Technology Preview 2 Application Server product greatly simplifies the task of creating and administering web applications.

The following topics are addressed here:

- "About These Release Notes" on page 3
- "Accessibility Features" on page 4
- "Related Documentation" on page 4
- "How to Report Problems and Provide Feedback" on page 5
- "Sun Welcomes Your Comments" on page 5
- "Additional Resources" on page 6

#### **About These Release Notes**

These Release Notes contain important information available at the time of release of GlassFish v3 Technology Preview 2 Application Server. Enhancements, known problems, and other late-breaking issues are addressed here. Read this document before you begin using GlassFish v3 Technology Preview 2 Application Server.

The most up-to-date version of these release notes can be found in the GlassFish Application Server product documentation on the web (http://docs.sun.com/coll/1343.7). Check the documentation on the web before installing and setting up your software and then periodically thereafter to view the most up-to-date release notes and product documentation.

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

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# **Accessibility Features**

To obtain accessibility features that have been released since the publishing of these media, consult Section 508 product assessments available from Sun upon request to determine which versions are best suited for deploying accessible solutions. Updated versions of applications can be found at: http://sun.com/software/javaenterprisesystem/get.html

For information on Sun's commitment to accessibility, visit http://sun.com/access.

#### **Related Documentation**

TABLE 1-1 Books in the Application Server Documentation Set

Book Title	Description	
Release Notes	Provide late-breaking information about the software and the documentation. Includes a comprehensive, table-based summary of the supported hardware, operating system, Java $^{TM}$ Development Kit (JDK $^{TM}$ ), and database drivers.	
Quick Start Guide	Explains how to get started with the Application Server product.	
Installation Guide	Explains how to install the software and its components.	
Application Deployment Guide	Explains how to assemble and deploy applications to the Application Server and provides information about deployment descriptors.	
Developer's Guide	Explains how to create and implement Java Platform, Enterprise Edition (Java EE platform) applications that are intended to run on the Application Server. These applications follow th open Java standards model for Java EE components and APIs. This guide provides information about developer tools, security, debugging, and creating lifecycle modules.	
Java EE 5 Tutorial	Explains how to use Java EE 5 platform technologies and APIs to develop Java EE applications.	
Java WSIT Tutorial	Explains how to develop web applications by using the Web Service Interoperability Technologies (WSIT). The tutorial focuses on developing web service endpoints and clients that can interoperate with Windows Communication Foundation (WCF) endpoints and clients.	

BookTitle	Description		
Administration Guide	Provides conceptual and background information that is related to configuring, managing, and monitoring Application Server subsystems and components. This guide also explains how to perform these tasks from the command line by using the asadmin(1M) utility. Instructions for performing these tasks from the Admin Console are provided in the Admin Console online help.		
RESTful Web Services Developer's Guide	Explains how to develop RESTful web services for Application Server.		
jRuby Application Developer's Guide	Explains how to develop Ruby on Rails applications for deployment to Application Server.		
jMaki Application Developer's Guide	Explains how to use the jMaki framework to develop Ajax-enabled web applications that are centered on JavaScript $^{\text{TM}}$ technology for deployment to Application Server.		
Reference Manual	Provides reference information in man page format for Application Server administration commands, utility commands, and related concepts.		

### **How to Report Problems and Provide Feedback**

If you have problems with GlassFish v3 Technology Preview 2 Application Server, provide feedback through one of the following mechanisms:

- Feedback Submittal form (http://java.sun.com/docs/forms/J2EE14SubmittalForm.html) A form for submitting feedback on the Application Server product
- GlassFish mailing lists
   (https://glassfish.dev.java.net/servlets/ProjectMailingListList) A variety of GlassFish community mailing lists for various interests and feedback
- Issue Tracker (https://glassfish.dev.java.net/servlets/ProjectIssues)
- Bug database on Java Developer Connection (http://developer.java.sun.com/servlet/SessionServlet?url=/developer/bugParade/index.jshtml) To view bugs or to submit a bug, use the Java Developer Connection Bug Parade
- Java Technology Forums (http://forum.java.sun.com/) An interactive message board for sharing knowledge and questions about Java technologies and programming techniques; use the Java EE 5 SDK forum for discussions related to the GlassFish Application Server v3 Technology Preview 2 product

#### **Sun Welcomes Your Comments**

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nine-digit number that can be found on the title page of the book or at the top of the document. For example, the title of this book is *GlassFish v3 Application Server Release Notes*, and the part number is 820-4494-05.

#### **Additional Resources**

Useful information can be found at the following locations:

- GlassFish Community (https://glassfish.dev.java.net/)
- Glassfish Wiki: Plan for GlassFish v3
   (http://wiki.glassfish.java.net/Wiki.jsp?page=PlanForGlassFishV3)
- Sun Developer Information (http://developers.sun.com)
- Sun Developer Support Services (http://www.sun.com/developers/support)
- Sun Microsystems product documentation (http://docs.sun.com/)



# About GlassFish v3 Technology Preview 2 Application Server

GlassFish v3 Technology Preview 2 Application Server is a server for the development and deployment of web applications.

The following topics are addressed here:

- "What's New in the GlassFish v3 Technology Preview 2 Application Server Release" on page 7
- "Hardware and Software Requirements" on page 8
- "Java EE 5 Platform APIs" on page 14
- "Switching to Another Supported Java Version" on page 15
- "Other Requirements" on page 16
- "Known Java ES 5 Compatibility Issues" on page 17
- "Updating and Extending the Application Server Through the Update Tool" on page 18
- "More About WSIT Integration" on page 19

# What's New in the GlassFish v3 Technology Preview 2 Application Server Release

GlassFish v3 Technology Preview 2 Application Server provides a server for the development of web applications. Web applications that are developed by using GlassFish v3 Application Server Technology Preview 2 can be deployed in earlier versions of the Application Server, for example, GlassFish v2 Application Server.

New features of GlassFish v3 Technology Preview 2 Application Server are described in the subsections that follow.

#### **Modularity and Extensibility**

The modular architecture of GlassFish v3 Technology Preview 2 Application Server enables you to download and install only the modules that you require for the applications that you are deploying. As a result, start-up times, memory consumption, and disk space requirements are all minimized. This modular architecture also enables the extension of the Application Server's basic functionality through addition of modules through the Update Tool

(http://wiki.updatecenter.java.net/Wiki.jsp?page=GettingStarted2). The Update Tool is developed through the Update Center (http://wiki.updatecenter.java.net/) project.

#### **Scripting Language Support**

GlassFish v3 Technology Preview 2 Application Server supports the Ruby scripting language by providing native support for JRuby. This support enablesGlassFish v3 Technology Preview 2 Application Server to be applied beyond developments that are centred on Java technology.

#### Java EE Web Tier Support

GlassFish v3 Technology Preview 2 Application Server supports the web tier of the Java EE specification to enable the deployment of web applications. GlassFish v3 Technology Preview 2 Application Server implements the following Java EE standards:

- JAXB 2.0
- Java Persistence API 1.0
- Java Server Faces 1.2
- Java Server Pages 2.1 (JSP 2.1)
- Java Server Pages Standard Tag Library (JSTL) 1.2
- Streaming API for XML (StAX)
- Java API for XML based Web Services 2.1 (JAX-WS 2.1)
- Common Annotations for the Java Platform 1.0 (CAJ 1.0)

# **Hardware and Software Requirements**

This section lists the requirements that must be met before installing the GlassFish v3 Technology Preview 2 Application Server product.

- "Supported Platforms" on page 8
- "Disk Space" on page 10
- "Free Ports" on page 10
- "Important Patch Information" on page 10
- "JDK Version" on page 10
- "Apache Ant Version" on page 11
- "JDBC Drivers and Databases" on page 11
- "Using the Bundled Java DB Database" on page 12
- "Web Servers" on page 13
- "Browsers" on page 13

#### Supported Platforms

The following table lists the operating systems with which the GlassFish v3 Technology Preview 2 Application Server is compatible.

TABLE 2-1 Supported Operating Systems

Operating System	Minimum Memory	Recommended Memory	Minimum Disk Space	Recommended Disk Space	JVM Machine
Sun Solaris 9, 10 (SPARC)	512 MB	512 MB	250 MB free	500 MB free	J2SE 5.0
Solaris 9, 10 (x86)					Java SE 6
64-bit Sun Solaris 10 (SPARC, x86)	512 MB	512 MB	250 MB free	500 MB free	J2SE 5.0 Java SE 6
RedHat	512 MB	1 GB	250 MB free	500 MB free	J2SE 5.0
Enterprise Linux 3.0 U1, 4.0					Java SE 6
SuSE Linux Enterprise	512 MB	1 GB	250 MB free	500 MB free	J2SE 5.0
Server 10 SP1					Java SE 6
64–bit SuSE Linux	512 MB	1 GB	250 MB free	500 MB free	J2SE 5.0
Enterprise Server 10 SP1					Java SE 6
Windows Server 2000 SP4+	1 GB	2 GB	500 MB free	1 GB free	J2SE 5.0
Windows 2000 Advanced Server SP4+					Java SE 6
Windows Server 2003					
Windows XP Pro SP1+					
Windows Vista					

On UNIX $^{\circ}$  platforms, you can check your operating system version by using the uname command. Disk space can be checked by using the df command.

**Note** – Its recommended that you use the NTFS file system rather than FAT or FAT32 when running the Application Server on any Microsoft Windows platform.

#### **Disk Space**

Your temporary directory must have enough free space for the installation of the following software:

- GlassFish Application Server: 35 MB minimum
- SDK: 250 MB minimum

#### **Free Ports**

You must have seven unused ports available.

The installation program automatically detects ports that are in use and suggests currently unused ports for the default settings.

The initial default port assignments are listed in the following table. If these default port numbers are in use, the installation program assigns a randomly selected port number from the dynamic port range. The selected port number might not be the next available port number.

TABLE 2-2 Default Port Assignments for GlassFish v3 Technology Preview 2 Application Server

Port Number	Usage	
8080	НТТР	
8181	HTTPS	
4848	Administration Server	
8686	Pure JMX clients	
3700	IIOP	
3820	IIOP/SSL	
3920	IIOP/SSL with mutual authentication	

#### Important Patch Information

#### Solaris Patch Requirements

It is recommended that Solaris 9, 10 (x86, SPARC) users have the "Sun recommended patch cluster" installed. This patch cluster is available under "Recommended and Security Patches" on the SunSolve (http://sunsolve.sun.com/pub-cgi/show.pl?target=patchpage) Web site.

#### JDK Version

The minimum (and certified) version of JDK required for GlassFish v3 Technology Preview 2 Application Server is **1.5.0\_12**.

#### **Apache Ant Version**

Version **1.6.5** of Apache Ant is bundled with GlassFish v3 Technology Preview 2 Application Server.

#### JDBC Drivers and Databases

Table 2–3 lists databases and drivers that meet the Java EE compatibility requirements. All supported configurations of the GlassFish v3 Technology Preview 2 Application Server must contain at least one database/driver combination from this table, such as the bundled Java DB database and driver. In addition, the Application Server is designed to support JDBC connectivity to any additional DBMS with a corresponding JDBC driver.

TABLE 2-3 Java EE-Compatible JDBC Drivers

JDBC Driver Vendor	JDBC Driver Type	Supported Database Server
Derby Network Client	Type 4	Derby 10.2
DataDirect 3.6.x, 3.7.x	Type 4	Oracle 10g
		Oracle 9i
		Sybase ASE 15
		MS SQL 2005
		DB2 9.1
		DB2 8.2
MySQL Connector/J Driver 5.1.6	Type 4	MySQL 5.0
Oracle 10G	Type 4	Oracle 10g
		-RAC
PostGres	Type 4	8.2. <i>x</i>

Table 2–4 lists additional databases and drivers that the Application Server FCS supports.

TABLE 2-4 Other Supported JDBC Drivers and Databases

JDBC Driver Vendor	JDBC Driver Type	Supported Database Server	
Oracle OCI	Type 2	Oracle 9i	
IBM DB2	Type 2	DB2 9.1	

In general, the GlassFish v3 Technology Preview 2 Application Server supports all JDBC drivers that meet the Java EE specification.

#### Using the Bundled Java DB Database

This section provides information about using the Java DB database implementation that is bundled with GlassFish v3 Technology Preview 2 Application Server. Java DB is based on the Apache Derby database.

- "Commands for Starting and Stopping the Java DB Database" on page 12
- "Java DB Utility Scripts" on page 12

#### Commands for Starting and Stopping the Java DB Database

The following commands start and stop the Java DB database implementation that is bundled with GlassFish v3 Technology Preview 2 Application Server:

- The start-database(1) command starts the database.
- The stop-database(1) command stops the database.

For more information, see:

- "To Start the Database" in GlassFish v3 Application Server Administration Guide
- "To Stop the Database" in GlassFish v3 Application Server Administration Guide

#### **Java DB Utility Scripts**

The Java DB configuration that is supplied with GlassFish v3 Technology Preview 2 Application Server includes scripts that can help you use Java DB. The following scripts are available for use in the *as-install/javadb/bin* directory:

- startNetworkServer, startNetworkServer.bat Script to start the network server
- stopNetworkServer, stopNetworkServer.bat—Script to stop the network server
- ij, ij.bat— Interactive JDBC scripting tool
- dblook, dblook.bat Script to view all or part of the DDL for a database
- sysinfo.sysinfo.bat Script to display versioning information about the Java DB environment
- NetworkServerControl, NetworkServerControl.bat Script which provides a means of executing commands on the NetworkServerControl API

# **▼** To Configure Your Environment to Run the Java DB Utility Scripts

- 1 Ensure that the JAVA\_HOME environment variable specifies the directory where the JDK is installed.
- 2 Set the DERBY HOME environment variable to point to the as-install/javadb directory.

**See Also** For more information about these utilities, see the following Derby documentation:

- Derby Tools and Utilities Guide (http://db.apache.org/derby/docs/10.1/tools/)
- Derby Server and Administration Guide (http://db.apache.org/derby/docs/10.1/adminguide/)

#### Web Servers

This section lists the web servers that are supported for the GlassFish v3 Technology Preview 2 Application Server.

TABLE 2-5 Supported Web Servers

Web Server	Version	Operating System
Sun Java System Web Server	6.1+	Solaris SPARC 8, 9, 10
		Solaris x86 9, 10
		Red Hat Enterprise Linux 2.1 Update 2, 3.0 Update 1
Apache Web Server	1.3+, 1.4, 2.0	Solaris SPARC 9, 10
		Solaris x86 10
		Red Hat Enterprise Linux 2.1 Update 2, 3.0 Update 1
Microsoft IIS <sup>TM</sup>	5.0+	Windows Server 2003
		Windows 2000 Advanced Server Service Pack 4+

Support for additional platforms, including Windows and HP-UX, will be available at a later date.

#### **Browsers**

This section lists the browsers that are supported with the GlassFish Application Server v3 Technology Preview 2.

TABLE 2-6 Supported Web Browsers

Browser	Version
Mozilla	1.7.12
Internet Explorer	6.0 Service Pack 2, 7.0
Firefox	1.5.x, 2.x
Safari	2
Netscape	8.0.4, 8.1, 9.0, 9.0. <i>x</i>

# Java EE 5 Platform APIs

The GlassFish Application Server v3 Technology Preview 2 supports the Java EE 5 platform. The following table lists the enhanced APIs available on the Java EE 5 platform.

TABLE 2-7 Major API changes on the Java EE 5 Platform

API	JSR	
Java EE 5		
Java Platform, Enterprise Edition 5 (http://java.sun.com/javaee/5/docs/api/)	<pre>JSR 244 (http://jcp.org/ aboutJava/communityprocess/pr/jsr244/)</pre>	
Web Services Technologies		
Implementing Enterprise Web Services	<pre>JSR 109 (http://jcp.org/en/jsr/detail?id=109)</pre>	
Java API for XML-Based Web Services (JAX-WS) 2.0 (https://jax-ws.dev.java.net/)	<pre>JSR 224 (http://jcp.org/en/jsr/detail?id=224)</pre>	
Java API for XML-Based RPC (JAX-RPC) 1.1 (https://jax-rpc.dev.java.net/)	<pre>JSR 101 (http://jcp.org/en/jsr/detail?id=101)</pre>	
Java Architecture for XML Binding (JAXB) 2.0 (https://jaxb.dev.java.net/)	<pre>JSR 222 (http://jcp.org/en/jsr/detail?id=222)</pre>	
SOAP with Attachments API for Java (SAAJ) (https://saaj.dev.java.net/)	<pre>JSR 67 (http://jcp.org/en/jsr/detail?id=67)</pre>	
Streaming API for XML (http://java.sun.com/webservices/docs/1.6/tutorial/doc/SJSXP.html)	<pre>JSR 173 (http://jcp.org/en/jsr/detail?id=173)</pre>	
Web Service Metadata for the Java Platform	<pre>JSR 181 (http://jcp.org/en/jsr/detail?id=181)</pre>	
Component Model Technologies		
Enterprise JavaBeans 3.0 (http://java.sun.com/products/ejb/)	<pre>JSR 220 (http://jcp.org/en/jsr/detail?id=220)</pre>	
J2EE Connector Architecture 1.5 (http://java.sun.com/j2ee/connector/)	<pre>JSR 112 (http://jcp.org/en/jsr/detail?id=112)</pre>	
Java Servlet 2.5 (http://java.sun.com/products/servlet/)	<pre>JSR 154 (http://jcp.org/en/jsr/detail?id=154)</pre>	
JavaServer Faces 1.2 (http://java.sun.com/j2ee/javaserverfaces/)	<pre>JSR 252 (http://jcp.org/en/jsr/detail?id=252)</pre>	
JavaServer Pages 2.1 (http://java.sun.com/products/jsp/)	<pre>JSR 245 (http://jcp.org/en/jsr/detail?id=245)</pre>	
JavaServer Pages Standard Tag Library 1.2 (http://java.sun.com/products/jsp/jstl/)	<pre>JSR 52 (http://jcp.org/en/jsr/detail?id=52)</pre>	

API	JSR	
Management Technologies		
J2EE Management (http://java.sun.com/j2ee/tools/management/)	<pre>JSR 77 (http://jcp.org/en/jsr/detail?id=77)</pre>	
J2EE Application Deployment (http://java.sun.com/j2ee/tools/deployment/)	<pre>JSR 88 (http://jcp.org/en/jsr/detail?id=88)</pre>	
Java Authorization Contract for Containers (http://java.sun.com/j2ee/javaacc/)	<pre>JSR 115 (http://jcp.org/en/jsr/detail?id=115)</pre>	
Other Java EE Technologies		
Common Annotations for the Java Platform	<pre>JSR 250 (http://jcp.org/en/jsr/detail?id=250)</pre>	
Java Transaction API (JTA) (http://java.sun.com/products/jta/)	<pre>JSR 907 (http://jcp.org/en/jsr/detail?id=907)</pre>	
JavaBeans Activation Framework (JAF) 1.1 (http://java.sun.com/products/javabeans/glasgow/jaf.html)	<pre>JSR 925 (http://jcp.org/en/jsr/detail?id=925)</pre>	
JavaMail (http://java.sun.com/products/javamail/)	<pre>JSR 919 (http://jcp.org/en/jsr/detail?id=919)</pre>	
Java Message Service API (http://java.sun.com/products/jms/)	<pre>JSR 914 (http://www.jcp.org/en/jsr/detail?id=914)</pre>	
Java Persistence API (http://java.sun.com/ j2ee/persistence/faq.html)	<pre>JSR 220 (http://www.jcp.org/en/jsr/detail?id=220)</pre>	

# **Switching to Another Supported Java Version**

GlassFish v3 Technology Preview 2 Application Server requires J2SE 5.0 or greater as the underlying Virtual Machine for the Java platform (Java Virtual Machine or JVM $^{TM}$  machine). If you want to switch from one Java version to another, perform the following general steps.

**Note** – Downgrading to an earlier Java version is not recommended after a domain has been created with a newer JVM machine. If you must downgrade your JVM machine, it is recommended that you do it only for individual domains.

# ▼ To Switch a Domain to Another Supported Java Version

1 If you have not already done so, download the desired Java SDK (not the JRE) and install it on your system.

The Java SDK can be downloaded from http://java.sun.com/j2se.

2 Start the domain for which you are changing the JDK.

as-install/bin/asadmin start-domain domain-name

3 If necessary, change the JVM machine attributes for the domain.

In particular, you might need to change the JAVA HOME variable.

Use one of the following means to change these settings:

- Log in to the Admin Console and use the JVM Settings page.
- Use the asadmin command.

For example, to change the JAVA\_HOME variable, type:

as-install/bin/asadmin set "server.java-config.java-home=path-to-java-home"

# **Other Requirements**

#### Solaris: Requirements for Installation With Previously Installed Servers

You might install GlassFish v3 Technology Preview 2 Application Server on a machine where a version of Application Server is already installed. In this situation, follow the guidelines in the subsections that follow.

#### Starting Previously Installed Servers

If you are *not* replacing the previously installed server, start it before you begin to install GlassFish v3 Technology Preview 2 Application Server. By starting the previously installed server first, you ensure that the installation program detects all ports that are in use and avoids assigning them for other uses.

#### Replacing Previously Installed Servers

If you are replacing a previously installed version of GlassFish Application Server, ensure that the installed version is stopped before installing the new version.

#### Uninstalling GlassFish v3 Technology Preview 2 Application Server

To uninstall GlassFish v3 Technology Preview 2 Application Server, you *must* use the uninstallation program that is included with the software. To avoid problems when you try to reinstall the same version or install a new version, do *not* attempt to use any other method to uninstall GlassFish v3 Technology Preview 2 Application Server.

#### Windows: Shutting Down Firewall Software

Before installing GlassFish v3 Technology Preview 2 Application Server, you must stop any firewall software because some of this software disables all ports by default. The installation program must be able to accurately determine which ports are available.

## **Known Java ES 5 Compatibility Issues**

The following compatibility issues between GlassFishv3 Technology Preview 2 and Sun Java Enterprise System (Java ES) 5 are known:

- The Java ES 5 Service Registry is not compatible with Application Server v3 Technology Preview 2 because of the JSF 1.2 version provided by Application Server v3 Technology Preview 2. The Service Registry must be upgraded to Java ES 5 u1 before the upgrade to v3 Technology Preview 2Application Server. This limitation is also provided in the Service Registry documentation.
- The Java ES 5 Portal Server is not compatible with Application Server v3 Technology Preview 2 because of the JSF 1.2 version provided by Application Server v3 Technology Preview 2. Portal Server needs to be upgraded to Java ES 5u1 before the v3 Technology Preview 2 upgrade to v3 Technology Preview 2.

On a Java ES 5 setup that has Portal Server on Application Server 8.2, upgrading Application Server 8.2 to v3 Technology Preview 2 makes the Portal Server unusable. Application Server v3 Technology Preview 2 uses JSF 1.2, but the JSF-Portlet bridge in Release 5 Portal Server does not support JSF 1.2. On Solaris/Linux the Portal Server needs to be upgraded to JavaES5 Update 1. On Windows do not upgrade Application Server to v3 Technology Preview 2 if you want to continue using the Release 5 Portal Server, as Portal Server is not supported in Java ES 5 Update 1 on Windows.

# Restrictions for GlassFish v3 Technology Preview 2 Application Server

#### Unsupported Options in asadmin Commands

The help for asadmin commands describes some options that are not supported by GlassFish v3 Technology Preview 2 Application Server, specifically options that relate to clusters and multiple server instances, for example:

- Options that relate to clusters and multiple server instances, for example, the --target option
- Options that relate to profiles, for example, the --profile option

If you specify an unsupported option, a syntax error does not occur. Instead, the command is run successfully and the unsupported option is silently ignored.

#### Features Not Supported on All Operating Systems

The native launcher is not available on the SuSe Linux 64-bit operating system and 64-bit JVM machine.

### Updating and Extending the Application Server Through the Update Tool

The Update Tool provides automated updates to Application Server and easy access to additional components.

# To Enable the Update Tool

By default, the Update Tool is disabled. To ensure explicit agreement of automated updates, the Update Tool must be manually enabled. When Update Tool is enabled, it can perform periodic checks and automated updates.

- Start the Update Tool.
  - On the UNIX operating system or Linux operating system, type:
     as-install/bin/updatetool
  - On the Windows operating system, type:
     as-install\bin\updatetool
- 2 From the Edit menu, choose Preferences.
- 3 In the Preferences window, click the Updates tab.
- 4 In the Updates tab, select the required frequency: Daily, Weekly, or Monthly.

  To cancel periodic checking for updates, select Never.
- 5 Click OK.

The Update Tool now automatically checks for updates to Application Server components at the frequency that you specified. When an update is available, the Update Tool notifies you that the component is available to update.

# **More About WSIT Integration**

For detailed information about WSIT status, refer to the WSIT Status Notes (https://wsit.dev.java.net/source/browse/\*checkout\*/wsit/wsit/status-notes/status-notes-1-0-1-FCS.html) page. Also refer to the *The WSIT Tutorial* for information about using WSIT with Application Server.

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