

# **GlassFish v3 Application Server Release Notes**

Technology Preview 2



Sun Microsystems, Inc.  
4150 Network Circle  
Santa Clara, CA 95054  
U.S.A.

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# GlassFish v3 Technology Preview 2 Application Server Overview

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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 5
- “Accessibility Features” on page 6
- “Application Server Documentation Set” on page 6
- “How to Report Problems and Provide Feedback” on page 7
- “Sun Welcomes Your Comments” on page 7
- “Additional Resources” on page 7

## About These Release Notes

These Release Notes contain important information that is 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) (<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 publication 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/javaenterprisystem/get.html>.

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

## Application Server Documentation Set

TABLE 1-1 Books in the Application Server Documentation Set

Book Title	Description
<i>Release Notes</i>	Provides late-breaking information about the software and the documentation. Includes a comprehensive, table-based summary of the supported hardware, operating system, Java™ Development Kit (JDK™), and database drivers.
<i>Quick Start Guide</i>	Explains how to get started with the Application Server product.
<i>Installation Guide</i>	Explains how to install the software and its components.
<i>Application Deployment Guide</i>	Explains how to assemble and deploy applications to the Application Server and provides information about deployment descriptors.
<i>Developer's Guide</i>	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 the open Java standards model for Java EE components and APIs. This guide provides information about developer tools, security, debugging, and creating lifecycle modules.
<i>Java EE 5 Tutorial</i>	Explains how to use Java EE 5 platform technologies and APIs to develop Java EE applications.
<i>Java WSIT Tutorial</i>	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.

**TABLE 1–1** Books in the Application Server Documentation Set *(Continued)*

Book Title	Description
<i>Administration Guide</i>	Explains how to configure and manage Application Server subsystems and components from the command line by using the <code>asadmin(1M)</code> utility. Instructions for performing these tasks from the Admin Console are provided in the Admin Console online help.
<i>RESTful Web Services Developer's Guide</i>	Explains how to develop Representational State Transfer (RESTful) web services for Application Server.
<i>Getting Started With JRuby on Rails for the GlassFish Application Server</i>	Explains how to develop Ruby on Rails applications for deployment to Application Server.
<i>Getting Started With Project jMaki for the GlassFish Application Server</i>	Explains how to use the jMaki framework to develop Ajax-enabled web applications that are centered on JavaScript™ technology for deployment to Application Server.
<i>Reference Manual</i>	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:

- **GlassFish mailing lists** (<https://glassfish.dev.java.net/servlets/ProjectMailingListList>) – A variety of GlassFish community mailing lists for various interests and feedback
- **GlassFish forum** (<http://forums.java.net/jive/forum.jspa?forumID=56>) – A forum for discussing the GlassFish project

## Sun Welcomes Your Comments

Sun is interested in improving its documentation and welcomes your comments and suggestions.

To share your comments, go to <http://docs.sun.com> and click Send Comments. In the online form, provide the document title and part number. The part number is a seven-digit or 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: 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

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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 9
- “[Hardware and Software Requirements](#)” on page 10
- “[Java EE 5 Platform APIs](#)” on page 13
- “[Using the Java DB With Application Server](#)” on page 14
- “[Switching to Another Supported Java Version](#)” on page 15
- “[Other Requirements](#)” on page 16
- “[Restrictions for GlassFish v3 Technology Preview 2 Application Server](#)” on page 17
- “[Issues](#)” on page 17
- “[Updating and Extending the Application Server Through the Update Tool](#)” on page 18

### **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) (<http://wiki.updatecenter.java.net/Wiki.jsp?page=GettingStarted2>). The Update Tool is developed through the [Update Center](http://wiki.updatecenter.java.net/) (<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 enables GlassFish v3 Technology Preview 2 Application Server to be applied beyond developments that are centered 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:

- Java Architecture for XML Binding 2.1 (JAXB 2.1)
- Java Persistence API 1.0
- Java Servlet 2.5
- JavaServer™ 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 10
- “[Disk Space](#)” on page 11
- “[Free Ports](#)” on page 11
- “[Important Patch Information](#)” on page 12
- “[JDK Version](#)” on page 12
- “[JDBC Drivers and Databases](#)” on page 12
- “[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
Solaris 10 (SPARC™ platform, x86 platform)	512 MB	512 MB	250 MB free	500 MB free	J2SE™ 5.0 Java SE 6
RedHat Enterprise Linux 4.0	512 MB	1 GB	250 MB free	500 MB free	J2SE 5.0 Java SE 6
Windows XP Pro SP1+ Windows Vista	1 GB	2 GB	500 MB free	1 GB free	J2SE 5.0 Java SE 6

On UNIX® platforms, you can check your operating system version by using the `uname` command. Disk space can be checked by using the `df` command.

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**Note** – Use the NTFS file system rather than FAT or FAT32 when running the Application Server on any Microsoft Windows platform.

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### Disk Space

Your temporary directory must have a minimum of 35 MB of free space for the installation of GlassFish Application Server.

### Free Ports

You must have six 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	HTTP
8181	HTTPS

**TABLE 2–2** Default Port Assignments for GlassFish v3 Technology Preview 2 Application Server  
*(Continued)*

Port Number	Usage
8686	Pure JMX clients
3700	IIOP
3820	IIOP/SSL
3920	IIOP/SSL with mutual authentication

### Important Patch Information

#### Solaris Patch Requirements

If you are using the Solaris 10 OS, you must apply the appropriate patch for your platform as listed in the following table.

Platform	Patch Number
SPARC platform	119963-08
x86 platform	119964-08

These patches are available from the SunSolve<sup>SM</sup> program web site (<http://sunsolve.sun.com/pub-cgi/show.pl?target=patchpage>).

If you are using the Solaris 10 OS (x86, SPARC platforms), ensure that the “Sun recommended patch cluster” is applied. This patch cluster is available under “Recommended and Security Patches” on the SunSolve program web site.

#### JDK Version

The minimum (and certified) version of JDK required for GlassFish v3 Technology Preview 2 Application Server is 1.5.0\_15.

#### JDBC Drivers and Databases

The following table 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 combination of database and driver from this table, such as the Java DB and driver. In addition, the Application Server is designed to support connectivity through Java DataBase Connectivity (“JDBC™”) technology to any additional database management system (DBMS) with a corresponding driver that supports the JDBC API (“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
MySQL Connector/J Driver 5.1.6	Type 4	MySQL 5.0
Oracle 10G	Type 4	Oracle 10g
PostGres	Type 4	8.2.x

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

## Browsers

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

**TABLE 2–4** Supported Web Browsers

Browser	Version
Mozilla	1.7.12
Internet Explorer	7.0
Firefox	2.x

## 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 2–5** Major API Changes on the Java EE 5 Platform

API	Java Specification Request (JSR)
<b>Java EE 5</b>	
Java Platform, Enterprise Edition 5 ( <a href="http://java.sun.com/javaee/5/docs/api/">http://java.sun.com/javaee/5/docs/api/</a> )	JSR 244 ( <a href="http://jcp.org/aboutJava/communityprocess/pr/jsr244/">http://jcp.org/aboutJava/communityprocess/pr/jsr244/</a> )
<b>Web Services Technologies</b>	
Java API for XML-Based Web Services (JAX-WS) 2.1 ( <a href="https://jax-ws.dev.java.net/">https://jax-ws.dev.java.net/</a> )	JSR 224 ( <a href="http://jcp.org/en/jsr/detail?id=224">http://jcp.org/en/jsr/detail?id=224</a> )

**TABLE 2-5** Major API Changes on the Java EE 5 Platform *(Continued)*

API	Java Specification Request (JSR)
Java Architecture for XML Binding (JAXB) 2.0 ( <a href="https://jaxb.dev.java.net/">https://jaxb.dev.java.net/</a> )	JSR 222 ( <a href="http://jcp.org/en/jsr/detail?id=222">http://jcp.org/en/jsr/detail?id=222</a> )
Streaming API for XML ( <a href="http://java.sun.com/webservices/docs/1.6/tutorial/doc/SJSXP.html">http://java.sun.com/webservices/docs/1.6/tutorial/doc/SJSXP.html</a> )	JSR 173 ( <a href="http://jcp.org/en/jsr/detail?id=173">http://jcp.org/en/jsr/detail?id=173</a> )
<b>Component Model Technologies</b>	
Java Servlet 2.5 ( <a href="http://java.sun.com/products/servlet/">http://java.sun.com/products/servlet/</a> )	JSR 154 ( <a href="http://jcp.org/en/jsr/detail?id=154">http://jcp.org/en/jsr/detail?id=154</a> )
JavaServer Faces 1.2 ( <a href="http://java.sun.com/j2ee/javaserverfaces/">http://java.sun.com/j2ee/javaserverfaces/</a> )	JSR 252 ( <a href="http://jcp.org/en/jsr/detail?id=252">http://jcp.org/en/jsr/detail?id=252</a> )
JavaServer Pages 2.1 ( <a href="http://java.sun.com/products/jsp/">http://java.sun.com/products/jsp/</a> )	JSR 245 ( <a href="http://jcp.org/en/jsr/detail?id=245">http://jcp.org/en/jsr/detail?id=245</a> )
JavaServer Pages Standard Tag Library 1.2 ( <a href="http://java.sun.com/products/jsp/jstl/">http://java.sun.com/products/jsp/jstl/</a> )	JSR 52 ( <a href="http://jcp.org/en/jsr/detail?id=52">http://jcp.org/en/jsr/detail?id=52</a> )
<b>Other Java EE Technologies</b>	
Common Annotations for the Java Platform	JSR 250 ( <a href="http://jcp.org/en/jsr/detail?id=250">http://jcp.org/en/jsr/detail?id=250</a> )
Java Persistence API ( <a href="http://java.sun.com/j2ee/persistence/faq.html">http://java.sun.com/j2ee/persistence/faq.html</a> )	JSR 220 ( <a href="http://www.jcp.org/en/jsr/detail?id=220">http://www.jcp.org/en/jsr/detail?id=220</a> )

## Using the Java DB With Application Server

This section provides information about using the Java DB implementation that is available for use 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](#)” on page 14
- “[Java DB Utility Scripts](#)” on page 15

### Commands for Starting and Stopping the Java DB

The following `asadmin(1M)` commands start and stop the Java DB implementation that is available for use 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 the following topics:

- “[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 available for use 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 that 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/>)

## Switching to Another Supported Java Version

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

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

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## ▼ 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.

## 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.

## 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, 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 runs successfully and the unsupported option is silently ignored.

### Multimode Operation

Examples in the help for `asadmin` commands show the commands in multimode operation. Multimode operation is not supported by GlassFish v3 Technology Preview 2 Application Server. All `asadmin` commands must be typed separately on the operating system command line.

### Timers

Timers are not supported by GlassFish v3 Technology Preview 2 Application Server.

### XA Data Sources

XA data sources are not supported by GlassFish v3 Technology Preview 2 Application Server. Only local non-XA transaction are supported.

### 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.

## Issues

### Solaris: Intermittent Installer Failure on Some Solaris Systems (Issue 4903)

#### Description

On some Solaris systems, the installer fails in the following situations:

- If JDK release 6 is installed in the `JAVA_HOME` directory, the installer fails to start.

- If JDK release 5 update 14 is installed in the JAVA\_HOME directory and the Java Accessibility Bridge for GNOME is enabled, the installer freezes after the license is accepted.

### Workaround

Do one of the following:

- If you are using JDK release 6, use JDK release 5 or patch the Solaris system.
- If you are using JDK release 5 update 14, use a different JDK installation if possible. Otherwise, install the Application Server from the ZIP distribution.

## Windows: Installer Fails to Create Windows Program Group Shortcuts on Windows Vista (Issue 5087)

### Description

On Windows Vista, the installer fails to create program group shortcuts for the following tasks:

- Starting the default domain
- Stopping the default domain
- Starting the Update Tool

### Workaround

Perform the tasks from the command line as follows:

- To start the default domain, use the `start-domain(1)` command.
- To stop the default domain, use the `stop-domain(1)` command.
- To start the Update Tool, use the `updatetool` command.

## 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.

#### 1 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.

