



## **GlassFish Server Open Source Edition**

Release Notes

Release 5.0

September 2017

These *Release Notes* provide late-breaking information about GlassFish Server 5.0 software and documentation. Also included are a summary of new product features in the 5.0 release, and descriptions and workarounds for known issues and limitations.

Beta Draft

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# Preface

This preface contains information about and conventions for the entire GlassFish Server Open Source Edition (GlassFish Server) documentation set.

GlassFish Server is developed through the GlassFish project open-source community at <https://javaee.github.io/glassfish/>. The GlassFish project provides a structured process for developing the GlassFish Server platform that makes the new features of the Java EE platform available faster, while maintaining the most important feature of Java EE: compatibility. It enables Java developers to access the GlassFish Server source code and to contribute to the development of the GlassFish Server. The GlassFish project is designed to encourage communication between Oracle engineers and the community.

The following topics are addressed here:

- [GlassFish Server Documentation Set](#)
- [Related Documentation](#)
- [Typographic Conventions](#)
- [Symbol Conventions](#)
- [Default Paths and File Names](#)
- [Documentation](#)
- [Documentation Accessibility](#)

## GlassFish Server Documentation Set

The GlassFish Server documentation set describes deployment planning and system installation. For an introduction to GlassFish Server, refer to the books in the order in which they are listed in the following table.

Book Title	Description
<i>Release Notes</i>	Provides late-breaking information about the software and the documentation and 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 GlassFish Server product.
<i>Installation Guide</i>	Explains how to install the software and its components.

<b>Book Title</b>	<b>Description</b>
<i>Upgrade Guide</i>	Explains how to upgrade to the latest version of GlassFish Server. This guide also describes differences between adjacent product releases and configuration options that can result in incompatibility with the product specifications.
<i>Deployment Planning Guide</i>	Explains how to build a production deployment of GlassFish Server that meets the requirements of your system and enterprise.
<i>Administration Guide</i>	Explains how to configure, monitor, and manage GlassFish Server subsystems and components from the command line by using the <code>asadmin</code> utility. Instructions for performing these tasks from the Administration Console are provided in the Administration Console online help.
<i>Security Guide</i>	Provides instructions for configuring and administering GlassFish Server security.
<i>Application Deployment Guide</i>	Explains how to assemble and deploy applications to the GlassFish Server and provides information about deployment descriptors.
<i>Application Development Guide</i>	Explains how to create and implement Java Platform, Enterprise Edition (Java EE platform) applications that are intended to run on the GlassFish Server. These applications follow the open Java standards model for Java EE components and application programmer interfaces (APIs). This guide provides information about developer tools, security, and debugging.
<i>Embedded Server Guide</i>	Explains how to run applications in embedded GlassFish Server and to develop applications in which GlassFish Server is embedded.
<i>High Availability Administration Guide</i>	Explains how to configure GlassFish Server to provide higher availability and scalability through failover and load balancing.
<i>Performance Tuning Guide</i>	Explains how to optimize the performance of GlassFish Server.
<i>Troubleshooting Guide</i>	Describes common problems that you might encounter when using GlassFish Server and explains how to solve them.
<i>Error Message Reference</i>	Describes error messages that you might encounter when using GlassFish Server.
<i>Reference Manual</i>	Provides reference information in man page format for GlassFish Server administration commands, utility commands, and related concepts.
<i>Message Queue Release Notes</i>	Describes new features, compatibility issues, and existing bugs for Open Message Queue.
<i>Message Queue Technical Overview</i>	Provides an introduction to the technology, concepts, architecture, capabilities, and features of the Message Queue messaging service.
<i>Message Queue Administration Guide</i>	Explains how to set up and manage a Message Queue messaging system.
<i>Message Queue Developer's Guide for JMX Clients</i>	Describes the application programming interface in Message Queue for programmatically configuring and monitoring Message Queue resources in conformance with the Java Management Extensions (JMX).
<i>Message Queue Developer's Guide for Java Clients</i>	Provides information about concepts and procedures for developing Java messaging applications (Java clients) that work with GlassFish Server.

Book Title	Description
<i>Message Queue Developer's Guide for C Clients</i>	Provides programming and reference information for developers working with Message Queue who want to use the C language binding to the Message Queue messaging service to send, receive, and process Message Queue messages.

## Related Documentation

The following tutorials explain how to develop Java EE applications:

- Your First Cup: An Introduction to the Java EE Platform (<https://javaee.github.io/firstcup/>). For beginning Java EE programmers, this short tutorial explains the entire process for developing a simple enterprise application. The sample application is a web application that consists of a component that is based on the Enterprise JavaBeans specification, a JAX-RS web service, and a JavaServer Faces component for the web front end.
- The Java EE 8 Tutorial (<https://javaee.github.io/tutorial/>). This comprehensive tutorial explains how to use Java EE 7 platform technologies and APIs to develop Java EE applications.

Javadoc tool reference documentation for packages that are provided with GlassFish Server is available as follows.

- The API specification for version 8 of Java EE is located at <https://javaee.github.io/javaee-spec/javadocs/>.
- The API specification for GlassFish Server 5.0, including Java EE 8 platform packages and nonplatform packages that are specific to the GlassFish Server product, is located at <https://javaee.github.io/javaee-spec/javadocs/>.

Additionally, the Java EE Specifications (<https://javaee.github.io/javaee-spec/Specifications>) might be useful.

For information about creating enterprise applications in the NetBeans Integrated Development Environment (IDE), see the NetBeans Documentation, Training & Support page (<http://www.netbeans.org/kb/>).

For information about the Java DB database for use with the GlassFish Server, see the Java DB product page (<https://db.apache.org/derby/manuals/>).

The Java EE Samples project is a collection of sample applications that demonstrate a broad range of Java EE technologies. The Java EE Samples are bundled with the Java EE Software Development Kit (SDK) and are also available from the Java EE Samples project page (<http://glassfish-samples.java.net/>).

## Typographic Conventions

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

Typeface	Meaning	Example
AaBbCc123	The names of commands, files, and directories, and onscreen computer output	Edit your <code>.login</code> file. Use <code>ls a</code> to list all files. <code>machine_name%</code> you have mail.

Typeface	Meaning	Example
<b>AaBbCc123</b>	What you type, contrasted with onscreen computer output	machine_name% <b>su</b> Password:
<i>AaBbCc123</i>	A placeholder to be replaced with a real name or value	The command to remove a file is <i>rm filename</i> .
<i>AaBbCc123</i>	Book titles, new terms, and terms to be emphasized (note that some emphasized items appear bold online)	Read Chapter 6 in the <i>User's Guide</i> . A <i>cache</i> is a copy that is stored locally. Do <i>not</i> save the file.

## Symbol Conventions

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

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

## Default Paths and File Names

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

Placeholder	Description	Default Value
<i>as-install</i>	Represents the base installation directory for GlassFish Server.	Installations on the Oracle Solaris operating system, Linux operating system, and Mac OS operating system: <i>user's-home-directory/glassfish5/glassfish</i> Installations on the Windows operating system: <i>SystemDrive:\glassfish5\glassfish</i>
<i>as-install-parent</i>	Represents the parent of the base installation directory for GlassFish Server.	Installations on the Oracle Solaris operating system, Linux operating system, and Mac operating system: <i>user's-home-directory/glassfish5</i> Installations on the Windows operating system: <i>SystemDrive:\glassfish5</i>

Placeholder	Description	Default Value
<i>domain-root-dir</i>	Represents the directory in which a domain is created by default.	<i>as-install/domains/</i>
<i>domain-dir</i>	Represents the directory in which a domain's configuration is stored.	<i>domain-root-dir/domain-name</i>
<i>instance-dir</i>	Represents the directory for a server instance.	<i>domain-dir/instance-name</i>

## Documentation

The Oracle web site provides information about the documentation:

- Documentation (<https://javaee.github.io/glassfish/documentation>)

## Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at

<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.





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# GlassFish Server Open Source Edition 5.0 Release Notes

GlassFish Server provides a lightweight, modular server for the development of Java Platform Enterprise Edition (Java EE) 8 applications. It delivers a highly productive platform for developing with the latest Java EE technologies.

For issues with GlassFish Server Open Source Edition, the GlassFish Server Community (<https://javaee.github.io/glassfish/>) can offer help.

These *Release Notes* provide late-breaking information about GlassFish Server 5.0 software and documentation. These *Release Notes* include summaries of supported hardware, operating environments, and JDK and JDBC/RDBMS requirements. Also included are a summary of new product features in the 5.0 release, and descriptions and workarounds for known issues and limitations.

Refer to this document prior to installing, configuring, or using GlassFish Server 5.0 software. Consult this document periodically to view the most up-to-date product information.

- ["Revision History"](#)
- ["What's New in the GlassFish Server 5.0 Release?"](#)
- ["Hardware and Software Requirements"](#)
- ["Known Issues in GlassFish Server 5.0"](#)
- ["Restrictions and Deprecated Functionality"](#)
- ["Documentation Errata"](#)
- ["Features Available Only in the Full Platform"](#)
- ["Java EE Standards Support"](#)
- ["Java EE SDK"](#)
- ["How to Report Problems and Provide Feedback"](#)
- ["Additional Resources"](#)

## Revision History

This section lists the revision history for these *Release Notes*.

**Table 1–1 Revision History**

Date	Description of Changes
September 2017	GlassFish Server Open Source Edition 5.0.
September 2014	Initial release of GlassFish Server Open Source Edition 4.1.

## What's New in the GlassFish Server 5.0 Release?

GlassFish Server 5.0 supports Java EE 8, which provides the foundation for delivering dynamic, scalable HTML5 applications. For example, the Java API for WebSocket enables low-latency bi-directional communication. The Java API for JSON processing simplifies data parsing for portable applications. The Java API for RESTful Web Services 2.0, Concurrency Utilities for Java EE, and Servlet 3.1 add concurrency features to enable highly scalable applications to handle more HTML5 clients simultaneously.

GlassFish Server 5.0 includes the following new and updated Java EE standards.

### New or Significant Updates

- Java EE Security API 1.0
- Java API for WebSocket 1.1
- Batch Applications for the Java Platform 1.0
- Concurrency Utilities for Java EE 1.0
- Java Message Service (JMS) 2.0
- Java API for RESTful Web Services (JAX-RS) 2.1

### Updated

- Java API for JSON Processing (JSON-P) 1.1
- Enterprise Java Beans (EJB) 3.2
- Contexts and Dependency Injection for Java EE (CDI) 2.0
- Java Persistence API (JPA) 2.2
- JavaServer Faces (JSF) 2.3
- Java Servlet 4.0
- Bean Validation (BV) 2.0
- Expression Language (EL) 3.0
- Interceptors 1.2
- Java Transaction API (JTA) 1.2
- JavaServer Pages (JSP) 2.3
- JavaMail 1.6

For a complete list of the Java EE technologies included in GlassFish Server 5.0, see [Java EE Standards Support](#).

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**Note:** The main thrust of the GlassFish Server Open Source Edition 5.0 release is to provide an application server for developers to explore and begin exploiting the new and updated technologies in the Java EE 8 platform. Thus, the following features of GlassFish Server were not a focus of this release:

- Clusters and centralized management of standalone instances
- High availability features
- Upgrade
- Embedded Server

These features are included in the release, but they may not function properly with some of the new features added in support of the Java EE 8 platform.

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## Hardware and Software Requirements

This section lists the requirements that must be met before installing GlassFish Server Open Source Edition Release 5.0 software.

The following topics are addressed here:

- [Required JDK Versions](#)
- [Required Disk Space](#)
- [Required Free Ports](#)
- [Message Queue Broker Requirements](#)
- [Paths and Environment Settings for the JDK Software](#)

### Required JDK Versions

GlassFish Server Open Source Edition Release 5.0 requires Oracle JDK 7 Update 65 or later, or Oracle JDK 8 Update 20 or later.

Also be sure to see [Paths and Environment Settings for the JDK Software](#) for important JDK configuration instructions.

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**Note:** It is recommended that any machine that is hosting a GlassFish Server DAS or server instance have a minimum of 1 GB RAM.

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### Required Disk Space

The download sizes for GlassFish Server 5.0 vary depending on the package you choose. The following are the approximate sizes of the ZIP packages for the Full and Web profiles:

- Full \*.zip: 118 MB (144 MB unzipped)
- Web \*.zip: 69 MB (90 MB unzipped)

The installation sizes will vary depending on your configuration, but the approximate amount of disk space used by GlassFish Server 5.0 is as follows:

- Full: 250 MB

- Web: 175 MB

## Required Free Ports

You must have seventeen unused ports available for the ports GlassFish Server uses. 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 1–2 Default Port Assignments for GlassFish Server 5.0**

Port Number	Usage
4848	Administration Console
8080	HTTP
8081	HTTPS
8686	Pure JMX clients
3700	IIOP
3820	IIOP/SSL
3920	IIOP/SSL with mutual authentication
22	SSH port
9009	Java debugger
7676	JMS provider
Auto-generated from the operating system's dynamic port range	Message Queue TCP port
Auto-generated from the operating system's dynamic port range	Message Queue Admin port
9090	GMS TCP start port
9200	GMS TCP end port
Auto-generated between GMS TCP start and end ports	GMS listener port
Auto generated between 2048 and 49151	GMS multicast port

In some situations, such as when multiple domains are running on a single host, port conflicts can arise in the auto-generated ports used by Message Queue and the GMS. To avoid these conflicts, you can configure the JMS host and the GMS to use specific ports.

### To Configure Specific Ports for a JMS Host

When you create a JMS Host, GlassFish server automatically selects ports for the JMS provider (called the *portmapper* port in Message Queue terminology), the Message Queue TCP port and the Message Queue admin port.

To provide specific values for these ports, use the `--mqport` and `--property` options when creating the JMS host:

```
asadmin> create-jms-host --mqhost hostName --mqport portNumber \
--mquser adminUser --mqpassword adminPassword --target glassfishTarget \
--property imq\\.jms\\.tcp\\.port=tcpPort:imq\\.admin\\.tcp\\.port=adminPort \
```

*jms-host-name*

**--mqport *portNumber***

This option specifies the JMS provider port number.

**--property *imq\\.jms\\.tcp\\.port=tcpPort:imq\\.admin\\.tcp\\.port=adminPort***

The *imq.jms.tcp.port* and *imq.admin.tcp.port* properties specify the TCP port and the admin port numbers. The double backslashes (\\) are used in the **--properties** option to escape the dots in the property names.

### To Configure Specific GMS Ports for a Cluster

When you create a cluster, GlassFish server automatically selects a port for GMS multicast that does not conflict with the GMS multicast port of any other cluster in the domain. Additionally, when you start a cluster, the GMS automatically selects an available port in a specific range for its TCP listener.

If two or more domains are running on the same host, configure the clusters in the domains to ensure that no GMS port conflicts can arise among the clusters. To avoid possible port conflicts, use the **--multicast** and **--properties** options when creating the cluster:

```
asadmin> create-cluster --multicastport multicast-port \
--properties GMS_TCPSTARTPORT=start-port:GMS_TCPENDPORT=end-port \
cluster-name
```

**--multicastport *multicast-port***

This option specifies the port number for the GMS to use for UDP multicast.

**--properties *GMS\_TCPSTARTPORT=start-port:GMS\_TCPENDPORT=end-port***

The *GMS\_TCPSTARTPORT* and *GMS\_TCPENDPORT* properties specify the range of port numbers the GMS is to use when selecting an available port for its TCP listener.

## Message Queue Broker Requirements

GlassFish Server 5.0 is now bundled with Message Queue (MQ) Broker 5.1. Refer to the *Open Message Queue Release Notes* for complete information about MQ Broker requirements.

## Paths and Environment Settings for the JDK Software

Ensure that your JDK configuration settings on all local and remote GlassFish Server hosts adhere to the guidelines listed below. Failure to adhere to these guidelines can cause various problems that may be difficult to trace.

The following topics are addressed here:

- [Use the JDK Binaries](#)
- [Set the JAVA\\_HOME Environment Variable](#)
- [Set Other Environment Variables As Necessary](#)

### Use the JDK Binaries

The following binary files that are used with GlassFish Server must come from the JDK software, not the Java Runtime Environment (JRE) software:

- `java`
- `keytool`

To meet this requirement, ensure that the `bin` directory for the JDK software precedes the `bin` directory for the JRE software in your path.

### Set the `JAVA_HOME` Environment Variable

Before performing any GlassFish Server installation or configuration procedures, set the `JAVA_HOME` environment variable on the GlassFish Server host machine to point to the correct Java version. Also be sure to add the `JAVA_HOME/bin` directory to the `PATH` variable for your environment. The `JAVA_HOME` variable must be set on all local and remote GlassFish Server hosts.

### Set Other Environment Variables As Necessary

All remote `asadmin` subcommands require the correct version of Java to be available on the affected remote machine. For example, when creating a cluster or server instance on a remote machine, the remote machine uses its local default Java installation, not the Java installation that is on the DAS. Errors will therefore occur if the remote machine uses the wrong Java version.

Depending on the remote subcommand, the errors may not occur when the subcommand is executed, but may occur later, when interacting with a configuration or resource created or modified by the subcommand. For example, when creating a clustered server instance on a remote machine, the error may only first appear when you attempt to deploy an application on that server instance.

This issue is more likely to be encountered when GlassFish Server is installed on the remote server by means of a ZIP file package rather than a self-extracting installer run in GUI mode. This is because the GUI installer gives you the option to specifically choose your Java version, whereas you do not have that option when simply unzipping a ZIP file.

Depending on what shell is invoked via SSH on the remote host, the `JAVA_HOME` and `PATH` environment variables may need to be explicitly set in `.bashrc`, `.cshrc`, or some other shell configuration file. This configuration file may differ from the one that is used when you log in to the machine, such as `.profile`.

Alternatively, you can specifically set the Java path with the `AS_JAVA` property in the `as-install/config/asenv.conf` file.

## Known Issues in GlassFish Server 5.0

This section describes known issues and any available workarounds for GlassFish Server Open Source Edition 5.0 software.

The following topics are addressed here:

- [JAXB and JAX-WS no longer part of Java EE platform](#)
- [Installation fails with error on ubuntu \(20439\)](#)
- [JDK8 breaks Logger resource bundle lookup in GlassFish due to OSGi class loaders \(20410\)](#)
- [\[Regression\] MES object and MSES object continuously keep on throwing RejectedExecutionException for successive submission if once same exception is encountered. \(20367\)](#)
- [\[UB\] joinedTx missed data from another instance \(20011\)](#)
- [\[Regression\] Some asadmin commands don't work against GF4.0 \(17578\)](#)

- Resource Injection does not work in HandlerChain due to EJB initialization order (non-deterministic) (4021)
- Deadlock while running quicklook tests (test\_gd\_security profile) (20582)
- Java SE 7 Update 21 enforces stricter security for applications launched using Java Web Start
- No asadmin subcommand to undo configuration changes made with `configure-ldap-for-admin`
- man pages missing from `concurrent-impl.jar` (20624)
- `restart-instance` takes a long time on Solaris 11 (`sun.security.pkcs11.SunPKCS11`) (15537)
- `tcp-no-delay` attribute in `Http` is not working (16901)
- (JDK) NLS: Crashed when tried to install the bundle in ko locale (16699)
- `PKG_CLIENT_READ_TIMEOUT` is too small (16999)
- Fail to install the bundle named with `-jdk7` when unset `JAVA_HOME` in solaris 11 Express x86 (16698)
- `domain.xml` encoding can cause upgrade problems and startup failure with certain locale changes (16304)
- Unable to restart Embedded GlassFish Server instance once a remote EJB is deployed (16916)
- EJB Timer Service is not loaded correctly after Embedded GlassFish Server restart (16230)
- Stopping Embedded GlassFish Server leaves several daemon threads running (11088)
- [JDK\_Issue] Performance degradation caused by invoking `setSoLinger` or `setReuseAddress` (Issue 7109)
- Managed Bean support not available in app clients launched using Java Web Start (Issue 11257)
- Unable to open installation log files using links on the Summary screen on Linux and Mac OS (Issue 6621)
- `updatetool` command does not work if you reinstall into the same install directory on Windows (Issue 8233)
- There doesn't appear to be any explanation about the classpath-prefix and classpath-suffix in the GF 3.x documentation (Issue 16082)
- Release Notes: document Restart Required issues (Umbrella issue 16040)
- `lazy-init` attribute missing from admin console Edit IIOP Listener page (15975)
- [UB]Release note security permissions required for CDI applications (15456)
- Create Resource Adapter Config is throwing an exception if JMS is already started (15571)
- Intermittent issue: Left tree not refreshed when new elements are added/removed in IE and firefox (15997)
- [UB][regression] `jpaRLCreateEMF` failure on sybase (15763)
- Caching JMS session in a session bean causes errors when invoked by a MDB when under load (15558)

- [Modifying keyfile path in a newly created config does not properly list the users \(15429\)](#)
- [\[BigApps\] \[STRESS\] ~17 occurrences of "EOFException" warnings coming from JMS \(15424\)](#)
- [Mysql ping fails when additional properties are not deleted \(14547\)](#)
- [If TS resource had been changed, tables are not created after server restart \(13873\)](#)
- [GlassFish/Grizzly not able to accept new request if a remote client hangs \(6963818\)](#)
- [Could not find Factory: javax.faces.context.FacesContextFactory \(16061\)](#)
- [App client cannot find EJB behind NAT \(17147\) and EJB remote deployed on GF behind a NAT inaccessible \(17151\)](#)
- [asadmin update-node-ssh command hangs when SSH port is not provided \(18185\)](#)
- [QL bean-validator/simple-bv-servlet test failed in security\\_manager ON mode \(17288\)](#)
- [Require username/password to access admin console locally \(18063\)](#)
- [IE9 and Google Chrome only: Export a LB config xml not working properly \(18281\)](#)
- [Traffic loss during instance start between the time 8080 is up and application is loaded \(18267\)](#)
- [Incorrect maximum allowed value for the --multicastport option in the validate-multicast\(1\) help page](#)
- [Disabling group search in LDAP user name search](#)
- [ORB tuning: Limiting the maximum number of client connections](#)
- [Chunking support added to GlassFish load balancer plug-in](#)
- [Documentation missing for disabling JReplika cookies](#)
- [Incorrect closed network patch numbers listed in the GlassFish Server 3.1.x documentation](#)
- [Cannot instantiate default ORB implementation](#)
- [Error occurs in applications using the JDBC realm](#)
- [Installation guide covers "missing" binary installer](#)

## JAXB and JAX-WS no longer part of Java EE platform

### Description

JAXB and JAX-WS are no longer part of Java EE platform, instead these technologies are shipped with Java SE since version 6. However, the jars are packaged in GlassFish. The APIs have been updated with newer versions (i.e 2.3.0) using the endorsed standard mechanism of JDK.

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**Note:** These updated jars are present only in the full profile of GlassFish and not part of web profile.

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**Workaround**

None

**Installation fails with error on ubuntu (20439)****Description**

Java installation fails when the 32-bit version of JDK 7 for Linux is installed on a 64-bit Ubuntu system. This is caused by missing 32-bit libraries.

**Workaround**

Run `apt-get install libc6-i386` to install the required 32-bit libraries before installing the 32-bit version of JDK 7 for Linux on a 64-bit Ubuntu system.

For the complete report about this issue, see GLASSFISH-20439.

**JDK8 breaks Logger resource bundle lookup in GlassFish due to OSGi class loaders (20410)****Description**

Logger resource bundle lookup is not working in GlassFish Server due to a JDK 8 issue. The server will not start.

**Workaround**

Use JDK 8\_05 or later with GlassFish Server 4.1.

For the complete report about this issue, see GLASSFISH-20410.

**[Regression] MES object and MSES object continuously keep on throwing RejectedExecutionException for successive submission if once same exception is encountered. (20367)****Description**

If multiple servlets share the same concurrent resource (managed executor service, managed scheduled executor service, or managed thread factory), and the resource rejects submission of a task from one servlet, it will reject submission of a task from all other servlets using that resource. This is expected behavior and occurs when a concurrent resource is disabled and then reenabled, at which time a different instance of the resource is created.

**Workaround**

Restart the application.

For the complete report about this issue, see GLASSFISH-20367.

## [UB] joinedTx missed data from another instance (20011)

### Description

Updates made to an unsynchronized persistence context before it is joined to the current transaction and the transaction is committed are not persisted to a database or replicated in a cluster and data could be lost in the event of a server crash or failover.

### Workaround

None. This is working as designed. The JPA 2.1 feature delays synchronization to a database until explicitly instructed to synchronize. Exercise caution when using an unsynchronized persistence context in a data-critical application.

For the complete report about this issue, see GLASSFISH-20011

## [Regression] Some `asadmin` commands don't work against GF4.0 (17578)

### Description

In GlassFish Server 5.0 the realm class was renamed to `com.sun.enterprise.security.ee.auth.realm.jdbc.JDBCRealm` (note the `.ee`). The subcommands `create-auth-realm` and `set-assign-groups-realm` fail if the correct realm class name is not used.

### Workaround

Use the correct realm class name when running the subcommands:  
`com.sun.enterprise.security.ee.auth.realm.jdbc.JDBCRealm`.

For the complete report about this issue, see GLASSFISH-17578.

## Resource Injection does not work in HandlerChain due to EJB initialization order (non-deterministic) (4021)

### Description

EJB module deployment may fail when an EJB that is exposed as a web service, and which has a handler, is initialized before an EJB on which it has dependencies. This is caused by the way the EJB container initializes and loads EJB web services.

### Workaround

EJB initialization usually happens in alphabetical order. Rename the EJBs so that the EJB exposed as a web service is initialized after the EJB on which it has dependencies.

In the following example, B is initialized first together with handler X, which expects C to be available but it is not, and deployment fails. The workaround is to rename B to D (for example), so lexicographically it follows C, in which case C should be initialized first and be available for injection to X.

EJB module sth:

```
@Stateless public class C {...}
@Stateless @WebService @HandlerChain(file = "handlers.xml") public class B {...}
```

handlers.xml:

```
<?xml version="1.0" encoding="UTF-8"?>
<jws:handler-chains ...>
  <jws:handler-chain>
    <jws:handler>
      <jws:handler-class>X</jws:handler-class>
    </jws:handler>
  </jws:handler-chain>
</jws:handler-chains>
```

Handler:

```
public class X implements SOAPHandler<SOAPMessageContext> {
  @EJB private C;
  ...}
```

For the complete report about this issue, see GLASSFISH-4021

## Deadlock while running quicklook tests (test\_gd\_security profile) (20582)

### Description

GlassFish Server 5.0 is certified with Java HotSpot 7u21. Due to an issue with the JDK logging libraries, JDK logging code could deadlock in certain cases. This issue has been fixed in Java HotSpot 7u25 and later.

### Workaround

If you encounter this issue, use Java HotSpot 7u25 or later.

For the complete report about this issue, see GLASSFISH-20582

## Java SE 7 Update 21 enforces stricter security for applications launched using Java Web Start

### Description

Java SE 7 Update 21 enforces stricter security for applications launched using Java Web Start. To minimize impacts to application users, all Java Web Start applications should be signed with a trusted certificate instead of the GlassFish Server self-signed certificate.

### Workaround

Obtain a trusted certificate if your organization does not already have one, replace the GlassFish Server self-signed certificate with the trusted certificate, and delete any signed JARs already generated by GlassFish Server. For more information about these steps, see "Automatically Signing JAR Files" in *GlassFish Server Open Source Edition Application Development Guide*.

## **No `asadmin` subcommand to undo configuration changes made with `configure-ldap-for-admin`**

### **Description**

No subcommand exists to undo the configuration changes made to `domain.xml` with the `configure-ldap-for-admin` subcommand.

### **Workaround**

Back up `domain.xml` before running the `configure-ldap-for-admin` subcommand.

## **man pages missing from `concurrent-impl.jar` (20624)**

### **Description**

The man pages for the concurrency CLI commands do not display when you use the `--help` option because they are not in the `concurrent-impl.jar` file.

### **Workaround**

None. For information about the usage of these commands, see the *GlassFish Server Open Source Edition Reference Manual*.

For the complete report about this issue, see GLASSFISH-20624

## **`restart-instance` takes a long time on Solaris 11 (`sun.security.pkcs11.SunPKCS11`) (15537)**

### **Description**

The `asadmin restart-domain` and `restart-instance` subcommands intermittently hang on Solaris 11 systems. This is caused by native Security SPI code in the JDK. This issue does not occur on operating systems other than Solaris 11.

### **Workaround**

None. This issue does not cause any problems other than the occasional long wait for the subcommand to complete.

For the complete report about this issue, see GLASSFISH-15537

## **`tcp-no-delay` attribute in `Http` is not working (16901)**

### **Description**

The `tcp-no-delay` attribute for HTTP type network listeners is not working properly. Setting this attribute as follows has no effect:

```
asadmin> set
server-config.network-config.protocols.protocol.http-listener-1.http.tcp-no-delay=
true
```

**Workaround**

Set the `tcpNoDelay` property of the HTTP service instead, as follows:

```
asadmin> set server-config.http-service.property.tcpNoDelay=true
```

This enables `tcpNoDelay` for all network listeners.

For the complete report about this issue, see GLASSFISH-16901

**(JDK) NLS: Crashed when tried to install the bundle in ko locale (16699)****Description**

Installation of the Solaris x86 SDK bundle fails in the `ko` and `zh_TW` locales.

**Workaround**

GlassFish Server users can install the ZIP distribution or temporarily switch to an unaffected locale. SDK users can install using the Update Center or temporarily switch to an unaffected locale.

**PKG\_CLIENT\_READ\_TIMEOUT is too small (16999)****Description**

Installation of the Update Center sometimes times out and fails.

**Workaround**

If Update Center installation fails in the installer or when running `pkg` or `updatetool` from the command line, enter the following from the command line:

```
> set PKG_CLIENT_CONNECT_TIMEOUT=300> set PKG_CLIENT_READ_TIMEOUT=300>
glassfish3\bin\updatetool
```

**Fail to install the bundle named with -jdk7 when unset JAVA\_HOME in solaris 11 Express x86 (16698)****Description**

The JDK bundle is not installed if the `JAVA_HOME` or `PATH` environment variable is not set properly.

**Workaround**

Do one of the following:

- Add the actual JDK installation location to the `PATH`.
- Add the directory for a stand-alone JDK installation to the `PATH`.
- Set `JAVA_HOME` to the actual JDK installation location.

- Run the `/usr/sbin/pkg developer/java/jdk` command from the root (`/`) directory. If this command reports that the `developer/java/jdk` package is not installed, install that package before installing GlassFish Server.

## **domain.xml encoding can cause upgrade problems and startup failure with certain locale changes (16304)**

### **Description**

If you change the system locale to something incompatible with the current encoding of the `domain.xml` file, GlassFish Server fails to start. This can happen during an upgrade.

### **Workaround**

Change the system locale back to the previous setting.

If you are upgrading, convert the `domain.xml` file to native encoding before upgrading. On Unix systems, follow these steps:

1. Back up the `domain.xml` file.
2. Run the following commands:

```
native2ascii domain.xml domain.xml.ascii
native2ascii -reverse -encoding UTF-8 domain.xml.ascii domain.xml
```
3. Run the `asupgrade` command under `c:\glassfish311\glassfish\bin\`.
4. Run the following commands:

```
native2ascii -encoding UTF-8 domain.xml domain.xml.ascii
native2ascii -reverse domain.xml.ascii domain.xml
```

## **Unable to restart Embedded GlassFish Server instance once a remote EJB is deployed (16916)**

### **Description**

Code that performs these steps fails with ORB and EJB container exceptions at the restart step:

1. Start embedded GlassFish Server.
2. Deploy a remote EJB application.
3. Undeploy the application.
4. Stop the server.
5. Restart the server.
6. Redeploy the application.

### **Workaround**

Perform these steps:

1. Start embedded GlassFish Server.

2. Deploy a remote EJB application.
3. Undeploy the application.
4. Stop the server using the `dispose` method.
5. Restart the host virtual machine (JVM).
6. Recreate the embedded GlassFish Server instance.
7. Redeploy the application.

## **EJB Timer Service is not loaded correctly after Embedded GlassFish Server restart (16230)**

### **Description**

Code that performs these steps fails at the redeploy step:

1. Start embedded GlassFish Server.
2. Deploy an application that uses the EJB Timer Service.
3. Undeploy the application.
4. Stop the server.
5. Restart the server.
6. Redeploy the application.

### **Workaround**

Perform these steps:

1. Start embedded GlassFish Server.
2. Deploy an application that uses the EJB Timer Service.
3. Undeploy the application.
4. Stop the server using the `dispose` method.
5. Restart the host virtual machine (JVM).
6. Recreate the embedded GlassFish Server instance.
7. Redeploy the application.

## **Stopping Embedded GlassFish Server leaves several daemon threads running (11088)**

### **Description**

After you stop embedded GlassFish Server, some daemon threads continue to run. Some of these threads don't exit until the virtual machine (JVM) exits. Restarting embedded GlassFish Server repeatedly in the same JVM can cause Out of Memory errors.

### **Workaround**

Restart the JVM.

## **[JDK\_Issue] Performance degradation caused by invoking `setSoLinger` or `setReuseAddress` (Issue 7109)**

### **Description**

When the `setSoLinger` method or the `setReuseAddress` method is invoked, performance is degraded and the following exception is thrown:

```
[#|2009-01-26T00:33:56.325-0800|WARNING|sun-appserver9.1|  
javax.enterprise.system.container.web|_ThreadID=17;  
_ThreadName=SelectorReaderThread-8084;  
_RequestID=11ae0030-c392-4217-8408-cfa7efe0a879;|setSoLinger  
exception  
java.net.SocketException: Invalid argument
```

This issue is caused by an issue with the JDK software. This issue is resolved in JDK version 7.

### **Workaround**

None.

For the complete report about this issue, see GLASSFISH-7109

## **Managed Bean support not available in app clients launched using Java Web Start (Issue 11257)**

### **Description**

When using Java Web Start to launch an application client, any managed beans in the application client will not be recognized.

### **Workaround**

Launch the application client using the `appclient` script. Managed beans in the application client will be supported normally.

For the complete report about this issue, see GLASSFISH-11257

## **Unable to open installation log files using links on the Summary screen on Linux and Mac OS (Issue 6621)**

### **Description**

Installation log files cannot be opened by clicking the links on the Summary page that displays at the end of the installation process in the graphical installer.

### **Workaround**

Access the files manually. The names of the installation log and summary files are *timestamp-install.log* and *timestamp-install-summary.html*. On Linux and Mac systems these files are generated under the *\$TMP* directory.

For the complete report about this issue, see GLASSFISH-6621



## **updatetool command does not work if you reinstall into the same install directory on Windows (Issue 8233)**

### **Description**

If you reinstall GlassFish Server (with Update Tool) in the same installation directory with the same defaults and invoke Update Tool using the `updatetool` command, you receive a message saying that Update Tool is not installed and are asked if you want to install it. This occurs on Windows systems only.

### **Workaround**

Following uninstallation, manually remove the remaining `.org*` directory before reinstalling.

For more information this issue, see GLASSFISH-8233

## **There doesn't appear to be any explanation about the classpath-prefix and classpath-suffix in the GF 3.x documentation (Issue 16082)**

### **Description**

In previous GlassFish Server versions, the JVM options provided a `classpath-prefix` and `classpath-suffix` attributes that made it possible to add JAR files or directories either in front of, or after the application server's system classpath. These options are no longer present in GlassFish Server 5.0.

Starting with GlassFish Server v3 Preview, after switching to OSGi, the `classpath-prefix` and `classpath-suffix` options have been labeled "do not use."

### **Workaround**

The `classpath-prefix` was typically used to substitute another package for one of the GlassFish Server packages, for example if a newer one was available. This same result can be achieved by using the Java Endorsed Standards Override Mechanism or on a per-application basis with the `--libraries` option for the `deploy` subcommand. These are documented in the *GlassFish Server Open Source Edition Application Development Guide*. The Java Optional Package Mechanism, which is documented in this guide, does what `classpath-suffix` used to do.

## **Release Notes: document Restart Required issues (Umbrella issue 16040)**

### **Description**

There are a number of configuration functions for which a server restart is required, and a number for which a restart is not required. However, the underlying component modules for the functions listed below are not correctly prompting the user about the restart requirements. These incorrect or missing restart prompts occur regardless of whether the given function is performed from the command line or through the Administration Console.

This is an umbrella issue for the sub-issues listed below. The URL for the JIRA query that you can use to display these sub-issues is:

<https://github.com/javaee/glassfish/issues/>.

- GLASSFISH-18234: Restart required not cleared with instance restart
- GLASSFISH-15638: Show "restart required" status when IIOP service configuration / port is changed
- GLASSFISH-3850: Changing default realm does not indicate that a server restart required
- (No Issue ID): Server restart is required after configuration is changed using the `configure-ldap-for-admin` subcommand

### Workaround

Restart the DAS after performing any of the functions listed above.

For the complete report about this issue, see GLASSFISH-16040

## lazy-init attribute missing from admin console Edit IIOP Listener page (15975)

### Description

It is not possible to set the `lazy-init` value for an IIOP listener from either the GlassFish Server Administration Console or the command line. Even the `asadmin set` command cannot be used to change the value.

### Workaround

Currently, the only workaround for this issue is to edit the `domain.xml` file directly. For example, the `domain.xml` file could contain a property similar to the following:

```
<iiop-listener port="3700" id="orb-listener-1" address="0.0.0.0"
lazy-init="true"></iiop-listener>
```

In this example, the `lazy-init` property is enabled, and it can be disabled by changing the `lazy-init` value to `false`.

Note that `lazy-init` is disabled by default, so the `domain.xml` file could contain an `iiop-listener` element similar to the following:

```
<iiop-listener port="3700" id="orb-listener-1" address="0.0.0.0"></iiop-listener>
```

In this case, to enable `lazy-init`, you would add the following property to the `iiop-listener` element:

```
lazy-init="true"
```

For the complete report about this issue, see GLASSFISH-15975.

## [UB]Release note security permissions required for CDI applications (15456)

### Description

It is necessary to grant additional permissions to CDI-enabled Java EE applications that are deployed in a GlassFish Server 5.0 domain or cluster for which security

manager is enabled. These additional permissions are not required when security manager is disabled.

### Workaround

To deploy CDI-enabled Java EE applications in a GlassFish Server 5.0 domain or cluster for which security manager is enabled, add the following permissions to the applications:

```
grant codeBase "file:${com.sun.aas.instanceRoot}/applications/[ApplicationName]" {
    permission java.lang.reflect.ReflectPermission "suppressAccessChecks";
};
```

For example, for a CDI application named `foo.war`, add the following permissions to the `server.policy` file, restart the domain or cluster, and then deploy and use the application.

```
grant codeBase "file:${com.sun.aas.instanceRoot}/applications/foo" {
    permission java.lang.reflect.ReflectPermission "suppressAccessChecks";
};
```

See "Changing Permissions for an Application" in *GlassFish Server Open Source Edition Application Development Guide* for instructions on modifying application permissions. See "Enabling and Disabling the Security Manager" in *GlassFish Server Open Source Edition Application Development Guide* for instructions on enabling and disabling security manager. For the complete report about this issue, see GLASSFISH-15456.

## Create Resource Adapter Config is throwing an exception if JMS is already started (15571)

### Description

Creating a JMSRA resource adapter configuration and setting the thread pool to `http-thread-pool` generates an exception in the `server.log`.

### Workaround

GlassFish Server 5.0 provides Grizzly-based and ORB-based thread pool implementations. By default, the `create-resource-adapter-config` subcommand takes a `thread-pool` ID parameter that is based on an ORB thread pool. When a *thread-pool* is initialized, the ORB thread pool manager verifies that the *thread-pool* is not already being used by the Grizzly thread pool manager. The *thread-pool* is initialized only if Grizzly is not already using the configuration.

For more information, see "Administering the Object Request Broker (ORB)" in *GlassFish Server Open Source Edition Administration Guide*. For the complete report about this issue, see GLASSFISH-15571.

## Intermittent issue: Left tree not refreshed when new elements are added/removed in IE and firefox (15997)

### Description

When running the GlassFish Server Administration Console in some versions of Internet Explorer and Firefox, the node tree on the left side of the Administration

Console is not always updated correctly when new elements are added to the server configuration. For example, the node tree may not update correctly after adding a new JDBC Pool, resource, or virtual server. This issue is not consistently reproducible and is very intermittent.

#### **Workaround**

Reload the Administration Console by pressing the Home button or the browser's reload button to update the values in the node tree.

For the complete report about this issue, see GLASSFISH-15997

### **[UB][regression] jpaRLCreateEMF failure on sybase (15763)**

#### **Description**

When using the DataDirect driver with Sybase, inserting an entity that uses `GenerationType.IDENTITY` will fail. The problem is that the DataDirect driver creates a stored procedure for every parameterized prepared statement.

#### **Workaround**

Set the `PrepareMethod=direct` property on the corresponding datasource to change the default DataDirect behavior for handling prepared statements.

For the complete report about this issue, see GLASSFISH-15763

### **Caching JMS session in a session bean causes errors when invoked by a MDB when under load (15558)**

#### **Description**

A stateless session bean should not save JMS connections or sessions in fields of the bean. Applications that do so may encounter errors.

#### **Workaround**

To avoid this issue, if a stateless session bean's business method requires the use of a JMS connection and session, then the business method should create the JMS connection and session, use it to send or receive messages, and then close the connection and session before returning.

For the complete report about this issue, see GLASSFISH-15558

### **Modifying keyfile path in a newly created config does not properly list the users (15429)**

#### **Description**

If an `asadmin set` subcommand is executed to change a `realm-property` for a realm that is already loaded (perhaps due to an earlier CLI command targeted at the realm), then the realm continues to behave as if the `set` subcommand was not executed.

**Workaround**

Restart GlassFish Server after using a `set` subcommand to change a property for a realm that has already been loaded.

For the complete report about this issue, see GLASSFISH-15429

**[BigApps] [STRESS] ~17 occurrences of "EOFException" warnings coming from JMS (15424)****Description**

Very occasionally, WARNING messages that state "java.io.EOFException: Trying to read 72 bytes. Already read 0 bytes" may be observed in the server log.

**Workaround**

If no other messages or exceptions are logged at the same time in either the server or broker logs these messages may be ignored.

For the complete report about this issue, see GLASSFISH-15424

**Mysql ping fails when additional properties are not deleted (14547)****Description**

Performing a MySQL ping after setting nonstandard for `mysql-pool`, the following error message is displayed:

```
Ping failed Exception - Access denied to execute this method :
setLargeRowSizeThreshold Please check the server.log for more details.
```

**Workaround**

Only set the standard documented properties for `mysql-pool`. These properties are as follows:

- `"databaseName"`
- `"serverName"`
- `"port"`
- `"networkProtocol"`
- `"user"`
- `"password"`
- `"roleName"`
- `"datasourceName"`

For more information, see "Configuration Specifics for JDBC Drivers" in *GlassFish Server Open Source Edition Administration Guide*. For the complete report about this issue, see GLASSFISH-14547.

## If TS resource had been changed, tables are not created after server restart (13873)

### Description

If an EJB Timer resource is changed after the EJB Timer Service is started on a previous resource, the EJB Timer table is not created after a server restart.

### Workaround

The DAS must be restarted if any automatic timers are to be deployed. In addition, unless the EJB Timer table is created manually, the *domain-dir/generated/ejb-timer-service-app* marker file also needs to be removed.

For the complete report about this issue, see GLASSFISH-13873.

## GlassFish/Grizzly not able to accept new request if a remote client hangs (6963818)

### Description

When closing an idle or expired connection, Grizzly waits a period of time, called the linger time, for any pending data transmission to complete. If the client on the connection is not network accessible, GlassFish Server might appear to hang.

### Workaround

Add the following JVM option to the configuration:

```
-Dcom.sun.enterprise.web.connector.grizzly.linger=-1
```

## restore-domain from a config only backup will corrupt the domain directory (7026114)

### Description

When a domain is restored using a configuration-only backup, the contents of the domain's `config` directory are restored but the other contents of the directory are lost, thus corrupting the domain.

### Workaround

Perform the following steps to restore a domain directory from a configuration-only backup.

The domain name to be restored in this example is named `domain1`. The configuration is restored to a temporary directory named `/tmp/domain1`. Once the configuration is restored, the old configuration is moved aside and the restored configuration is copied from the temporary directory to the domain directory.

1. Create a temporary directory to hold the restored configuration files for the domain.

For example:

```
mkdir /tmp/domain1
```

**2. Restore the domain.**

```
asadmin restore-domain --backupdir /tmp/das-backups --domaindir /tmp/domain1
```

**3. Stop the domain.****4. Change to the domain directory that is actually being restored.**

```
cd domain-dir
```

**5. Rename the existing domain config directory.**

For example:

```
mv config config-
```

**6. Copy the domain configuration from the /tmp directory into the real domain config directory.**

```
cp /tmp/domain1 config
```

**Could not find Factory: javax.faces.context.FacesContextFactory (16061)****Description**

JSF/Seam 3 applications intermittently fail to start, generating an error message similar to the following:

```
WARNING: StandardWrapperValve[FacesServlet]: PWC1382: Allocate exception
for servlet FacesServlet
java.lang.IllegalStateException: Application was not properly initialized at
startup, could not find Factory: javax.faces.context.FacesContextFactory
```

This issue may occur when a JSF application does not register the Faces Servlet in the application's web.xml file. The com.sun.faces.config.FacesInitializer will attempt to initialize the JSF Servlet, which normally works without problem, except when Seam Faces is included in the application, which also tries to initialize the Servlet. This issue is not deterministic because of the random ordering of listeners by GlassFish Server.

**Workaround**

Add the following code to the web.xml file for the application:

```
<servlet>
<servlet-name>Faces Servlet</servlet-name>
<servlet-class>javax.faces.webapp.FacesServlet</servlet-class>
<load-on-startup>1</load-on-startup>
</servlet>
```

For the complete report about this issue, see GLASSFISH-16061.

**App client cannot find EJB behind NAT (17147) and EJB remote deployed on GF behind a NAT inaccessible (17151)**

**Description**

The IIOP protocol as implemented in GlassFish Server calls the ORB to locate the EJB component. Because the EJB component is deployed on the same server as the ORB, the ORB sends the private IP address to the client instead of the public IP address. The ORB has no way of knowing the public IP address, which is determined by the firewall. The client then tries to connect using the private IP address, which does not go through the firewall.

**Workaround**

None. There is no properly tested workaround available for this issue.

**asadmin update-node-ssh command hangs when SSH port is not provided (18185)****Description**

If you attempt to change a DCOM node to an SSH node, using either the Edit Node page of the Administration Console or the `asadmin update-node-ssh` command, the operation fails unless you specify the SSH port.

**Workaround**

In the Edit Node page of the Administration Console, enter the port number. When using the `asadmin update-node-ssh` command, specify the `--sshport` option. The default SSH port value is 22.

**QL bean-validator/simple-bv-servlet test failed in security\_manager ON mode (17288)****Description**

Code that invokes `equals()` on an instance of `java.lang.annotation.Annotation` causes an `AccessControlException` when running in the IBM JDK but succeeds without an exception in a similar version of the Oracle JDK.

**Workaround**

Include the following grant in the `server.policy` file, substituting the name of your application for `app-name`:

```
grant codeBase "file:${com.sun.aas.instanceRoot}/applications/app-name/-" {  
  permission java.lang.reflect.ReflectPermission "suppressAccessChecks";  
};
```

This workaround was tested with the following versions:

- Java version 1.6.0
- Java SE Runtime Environment (build pap3260sr9fp1-20110208\_03(SR9 FP1))
- IBM J9 VM (build 2.4, JRE 1.6.0 IBM J9 2.4 AIX ppc-32 jvmap3260sr9-20110203\_74623 (JIT enabled, AOT enabled))
- J9VM - 20110203\_074623
- JIT - r9\_20101028\_17488ifx3
- GC - 20101027\_AA)
- JCL - 20110203\_01



- `uname -a` output included AIX 1 6 00090DB6D700

## Require username/password to access admin console locally (18063)

### Description

If you try to use the Administration Console from a system through a proxy server on another system back to the original system, while using the system's full host name (instead of `localhost` or `127.0.0.1`) you are denied access because the request is treated as a remote request, which requires that secure admin be enabled.

### Workaround

Do one of the following:

- Do not use a proxy server.
- Use `localhost` or `127.0.0.1` as the host name.
- Enable secure admin so that what GlassFish Server interprets as a remote request is accepted as such.

To enable secure admin, see "Managing Administrative Security" in *GlassFish Server Open Source Edition Security Guide*.

## IE9 and Google Chrome only: Export a LB config xml not working properly (18281)

### Description

If you are using the Internet Explorer 9 or Google Chrome browser, export of the `loadbalancer.xml` file succeeds but causes the Administration Console to hang.

### Workaround

Use a different browser.

## Traffic loss during instance start between the time 8080 is up and application is loaded (18267)

### Description

A traffic loss occurs when a clustered server instance is restarting. There is a time gap of a few seconds between when the AJP (Apache) connector port is running and when application loading is complete. During this gap client requests are denied with a 404 error.

### Workaround

None. The client must retry the request after application loading is complete.

## Incorrect maximum allowed value for the --multicastport option in the validate-multicast(1) help page

In GlassFish Server 5.0, the maximum allowed value of the --multicastport option of the validate-multicast subcommand is increased from 32000 to 49151. The description of the --multicastport option in the validate-multicast(1) help page incorrectly states the old value.

## Disabling group search in LDAP user name search

### Description

By default, GlassFish Server performs LDAP group search. If you have not created any groups in LDAP, the search fails.

### Workaround

To disable LDAP group search, set the `com.oracle.enterprise.security.auth.realm.ldap.DISABLEGROUP_SEARCH` Java system property to `true` in the required GlassFish Server instance or cluster configurations:

```
asadmin> create-jvm-options --target=target
-Dcom.oracle.enterprise.security.auth.realm.ldap.DISABLEGROUP_
SEARCH=true
```

where *target* is the GlassFish Server instance or cluster for which you are disabling LDAP group search.

## ORB tuning: Limiting the maximum number of client connections

You can specify the total maximum number of client connections on all ORB listener ports (TCP, SSL and SSL with mutual authentication). When open client connections exceed the maximum value you specify, the ORB rejects any new incoming client connections.

Set this value to support the expected number of simultaneous client connections, but not to exceed the VM or system file descriptor limits. If the value is set too high, the ORB will continue accepting new client connections, resulting in a "too many open files" error if the VM runs out of file descriptors.

To specify the maximum number of client connections, set the `configs.config.config-name.iiop-service.orb.max-connections` attribute to the number that you require:

```
asadmin> set
configs.config.config-name.iiop-service.orb.max-connections=
```

### **config-name**

The name of the configuration in which the IIOP service is defined. For example, `server-config` is the name for the configuration of the domain administration server (DAS).

### **max-connections**

An integer that specifies the maximum number of client connections.

For updates to this value to take effect, restart GlassFish Server.

The following example shows how to set the maximum number of client connections for the ORB in the DAS to 512:

```
asadmin> set configs.config.server-config.iiop-service.ORB.max-connections=512
configs.config.server-config.iiop-service.ORB.max-connections=512
Command set executed successfully.
```

## Chunking support added to GlassFish load balancer plug-in

By default, Oracle iPlanet Web Server unchunks the data it receives. However, when you try to upload a large file that cannot fit in the memory, Web Server fails to unchunk the data.

In GlassFish Server 3.1.2.2, Web Server can send requests from the client to the load balancer plug-in. The load balancer plug-in handles the chunked data by forwarding data to the GlassFish Server instance until the end of the chunk is reached. GlassFish Server does not return a response until the last chunk is sent from the plug-in. Once GlassFish Server receives the last chunk, it sends the response to the plug-in, which then sends the response back to Web Server.

To enable chunking:

1. In Oracle iPlanet Web Server, navigate to Home > Configuration > *your\_instance* > Performance > Maximum Unchunk Size.
2. Set this value to 0.

The default value is 8192. If this value is set to 8192, Web Server will perform unchunking as the default behavior and any attempt to upload or send large files will fail. By setting this value to 0, you enable chunking.

## Documentation missing for disabling JReplika cookies

In GlassFish Server 3.1.2, a new attribute added to the web-container-availability element allows you to explicitly turn off JReplika cookies.

To turn off JReplika cookies, set the

`cluster-name.availability-service.web-container-availability.disable-jreplika` attribute to true:

```
asadmin set
cluster-name.availability-service.web-container-availability.disable-jreplika=true
```

where `cluster-name` is the name of the targeted cluster (for example, `cluster1`).

To enable this change, restart the server instance.

## Incorrect closed network patch numbers listed in the GlassFish Server 3.1.x documentation

In the GlassFish Server 3.1.x documentation, the list of patch numbers is incorrect in "To Configure a Local Repository Inside a Closed Network" in *GlassFish Server Open Source Edition Administration Guide*.

The correct patch numbers for GlassFish Server 3.1.x are:

Operating System	Patch ID
Solaris-sparc	147902
Solaris-i386	147903

Operating System	Patch ID
Linux-i386	147904
AIX	147905
Mac OS	147906
Windows-i386	147907

## Cannot instantiate default ORB implementation

### Description

Under certain circumstances, the following error may appear when using the EJB container:

```
can't instantiate default ORB implementation  
com.sun.corba.ee.impl.orb.ORBSingleton exception
```

### Workaround

Upgrade to Java SE 8 update 20.

For the complete report about this issue, see GLASSFISH-21112 .

## Error occurs in applications using the JDBC realm

### Description

When moving from GlassFish 4.0 to GlassFish 4.1, the following error occurs in applications using the JDBC realm:

```
BadRealmException: java.lang.ClassNotFoundException:  
com.sun.enterprise.security.auth.realm.jdbc.JDBCRealm
```

### Workaround

Import the `com.sun.enterprise.security.auth.realm.jdbc.JDBCRealm` package instead of the `com.sun.enterprise.security.ee.auth.realm.jdbc.JDBCRealm` package.

For more information about this change, see <https://blogs.oracle.com/theaquarium/>.

## Installation guide covers "missing" binary installer

### Description

GlassFish Server Open Source Edition 4.1 does not have a "GUI" or "self-extracting" installer, as mentioned in the GlassFish Server Open Source Edition Installation Guide.

### Workaround

Use the `.zip` installer.

## Restrictions and Deprecated Functionality

This section describes restrictions and deprecated functionality in Oracle GlassFish Server 5.0.

The following topics are addressed here:

- [asadmin Subcommands](#)
- [Deprecated, Unsupported, and Obsolete Options](#)
- [Applications That Use Java DB](#)
- [No Support for Client VM on Windows AMD64](#)
- [Metro Reliable Messaging in InOrder Delivery Mode](#)

### asadmin Subcommands

In GlassFish Server 5.0, it is recommended that utility options of the `asadmin` command precede the subcommand. Utility options are options that control the behavior of the `asadmin` utility, as distinguished from subcommand options. Use of the following options after the subcommand is deprecated.

- `--host`
- `--port`
- `--user`
- `--passwordfile`
- `--terse`
- `--secure`
- `--echo`
- `--interactive`

### Deprecated, Unsupported, and Obsolete Options

Options in [Table 1–3](#) are deprecated or no longer supported, or are obsolete and are ignored.

**Table 1–3** *Deprecated, Unsupported, and Obsolete Options for asadmin and Subcommands*

Option	Affected Subcommands
<code>--acceptlang</code>	Unsupported for the <code>create-virtual-server</code> subcommand.
<code>--acls</code>	Unsupported for the <code>create-virtual-server</code> subcommand.
<code>--adminpassword</code>	Unsupported for all relevant subcommands. Use <code>--passwordfile</code> instead.
<code>--autoapplyenabled</code>	Obsolete for the <code>create-http-lb</code> subcommand.
<code>--autohadb</code>	Obsolete for the <code>create-cluster</code> subcommand.
<code>--autohadboverride</code>	Obsolete for the <code>start-cluster</code> subcommand and the <code>stop-cluster</code> subcommand
<code>--blockingenabled</code>	Unsupported for the <code>create-http-listener</code> subcommand.
<code>--configfile</code>	Unsupported for the <code>create-virtual-server</code> subcommand.
<code>--defaultobj</code>	Unsupported for the <code>create-virtual-server</code> subcommand.

**Table 1–3 (Cont.) Deprecated, Unsupported, and Obsolete Options for `asadmin` and Subcommands**

Option	Affected Subcommands
<code>--defaulttvs</code>	Deprecated for the <code>create-http-listener</code> subcommand. Use <code>--default-virtual-server</code> instead.
<code>--description</code>	Obsolete for the <code>restore-domain</code> subcommand.
<code>--devicesize</code>	Obsolete for the <code>create-cluster</code> subcommand.
<code>--haadminpassword</code>	Obsolete for the <code>create-cluster</code> subcommand.
<code>--haadminpasswordfile</code>	Obsolete for the <code>create-cluster</code> subcommand.
<code>--haagentport</code>	Obsolete for the <code>create-cluster</code> subcommand.
<code>--haproperty</code>	Obsolete for the <code>create-cluster</code> subcommand.
<code>--hosts</code>	Obsolete for the <code>create-cluster</code> subcommand.
<code>--ignoreDescriptorItem</code>	Replaced by the all lowercase option <code>--ignoredescriptoritem</code> in the <code>set-web-context-param</code> subcommand and the <code>set-web-env-entry</code> subcommand.
<code>--mime</code>	Unsupported for the <code>create-virtual-server</code> subcommand.
<code>--password</code>	Unsupported for all remote subcommands. Use <code>--passwordfile</code> instead.
<code>--path</code>	Unsupported for the <code>create-domain</code> subcommand. Use <code>--domainindir</code> instead.
<code>--portbase</code>	Obsolete <i>only</i> for the <code>create-cluster</code> subcommand. This option is still valid in other subcommands such as <code>create-domain</code> , <code>create-instance</code> , and <code>create-local-instance</code> .
<code>--resourcetype</code>	Unsupported for all relevant subcommands. Use <code>--restype</code> instead.
<code>--retrievefile</code>	Obsolete for the <code>export-http-lb-config</code> subcommand.
<code>--setenv</code>	Obsolete for the <code>start-instance</code> subcommand.
<code>--target</code>	Obsolete <i>only</i> for the following subcommands: <ul style="list-style-type: none"> <li>■ <code>create-connector-connection-pool</code></li> <li>■ <code>create-resource-adapter-config</code></li> <li>■ <code>delete-connector-connection-pool</code></li> <li>■ <code>delete-connector-security-map</code></li> <li>■ <code>delete-jdbc-connection-pool</code></li> <li>■ <code>delete-resource-ref</code></li> </ul> Replaced by an operand in the <code>list-custom-resources</code> subcommand and the <code>list-jndi-entries</code> subcommand:

## Applications That Use Java DB

The directory location of Java DB in GlassFish Server 5.0 has changed from its location in previous installations. Suppose that you have deployed applications that use Java DB databases in your previous server installation, and you upgrade your existing installation to GlassFish Server 5.0. If you run the `asadmin start-database` command and successfully start Java DB, you could run into problems while trying to run applications that were deployed on your previous server installation.

To solve this problem, you can copy the `databases` directory from your previous installation to `as-install/databases`. Make sure the database is not running when you do this.

Alternatively, you can perform these steps:

1. Use the `asadmin start-database` command with the `--dbhome` option pointing to the `databases` directory in the older version of Java DB. For example:

```
asadmin start-database --dbhome c:\glassfish\databases
```

2. After upgrade, start GlassFish Server 5.0.

## No Support for Client VM on Windows AMD64

By default, the GlassFish Server DAS uses the Client VM to achieve best startup and deployment performance. If you are using Windows AMD64, edit the `domain.xml` file to remove the line `<jvm-options>-client</jvm-options>`. In this case, JVM ergonomics chooses the appropriate kind of VM for the given platform. Note that server instances use the Server VM by default.

For more information about platform support, see *Ergonomics* in the 5.0 Java Virtual Machine.

## Metro Reliable Messaging in InOrder Delivery Mode

The Metro Reliable Messaging in InOrder Delivery mode has not been tested for high availability in GlassFish Server 5.0. The feature may work, but it has not been formally tested and is therefore not a supported feature.

## No Support for Kerberos on AIX

GlassFish Server 5.0 does not support Kerberos on the AIX platform.

For the complete report about this issue, see GLASSFISH-16728.

## Documentation Errata

This section describes documentation errata.

The following topics are addressed here:

- [GlassFish 4.1 Has A Zip-Only Installer](#)
- [Upgrading to Oracle GlassFish Server Is Not Necessary](#)

### GlassFish 4.1 Has A Zip-Only Installer

The *GlassFish Server Open Source Edition Installation Guide* includes binary installer instructions. However, GlassFish Server Open Source Edition 4.1 has a zip-only installer.

### Upgrading to Oracle GlassFish Server Is Not Necessary

The *GlassFish Server Open Source Edition Administration Guide* discusses upgrading GlassFish Server Open Source Edition to Oracle GlassFish Server. GlassFish Server 4.x is only an open source release, so this upgrade is not necessary.

## Features Available Only in the Full Platform

The following features of GlassFish Server 5.0 are available only in the Full Platform:

- EJB features that make up the full EJB 3.2 API, such as remote EJB components, message-driven beans, web service EJB endpoints, and the EJB Timer Service

The EJB 3.2 Lite specification is supported in the Web Profile. This specification allows enterprise beans within web applications and includes support for local stateless session beans, stateful session beans, and singleton session beans.

- Application Client Container
- JMS resources
- Web services

In the Web Profile, a servlet or EJB component cannot be a web service endpoint. The `sun-web.xml` and `sun-ejb-jar.xml` elements that are related to web services are ignored.

- Message security
- JavaMail resources

Connector modules that use only outbound communication features and work-management that does not involve inbound communication features are supported in the Web Profile. Other connector features are supported only in the Full Platform.

## Java EE Standards Support

Table 1–4 lists the Java EE standards implemented in GlassFish Server 5.0. The table also indicates the distributions in which the implementation of a standard is available.

- X indicates that the implementation is available in the distribution.
- - indicates that the implementation is *not* available in the distribution.

**Table 1–4 Java EE Standards Implementations in GlassFish Server 5.0**

Java EE Standard	Java Specification Request (JSR)	GlassFish Server 5.0 Full Platform	GlassFish Server 5.0 Web Profile
Java Platform, Enterprise Edition 8 ( <a href="https://javaee.github.io/javaee-spec/javadocs/">https://javaee.github.io/javaee-spec/javadocs/</a> )	JSR 366 ( <a href="http://jcp.org/en/jsr/detail?id=366">http://jcp.org/en/jsr/detail?id=366</a> )	X	X
Batch Applications for the Java Platform 1.0	JSR 352 ( <a href="http://jcp.org/en/jsr/detail?id=352">http://jcp.org/en/jsr/detail?id=352</a> )	X	-
Concurrency Utilities for Java EE 1.0	JSR 236 ( <a href="http://jcp.org/en/jsr/detail?id=236">http://jcp.org/en/jsr/detail?id=236</a> )	X	-
Java API for JSON Processing 1.1	JSR 374 ( <a href="http://jcp.org/en/jsr/detail?id=374">http://jcp.org/en/jsr/detail?id=374</a> )	X	X
Java API for WebSocket 1.1	JSR 356 ( <a href="http://jcp.org/en/jsr/detail?id=356">http://jcp.org/en/jsr/detail?id=356</a> )	X	X



**Table 1–4 (Cont.) Java EE Standards Implementations in GlassFish Server 5.0**

Java EE Standard	Java Specification Request (JSR)	GlassFish Server 5.0 Full Platform	GlassFish Server 5.0 Web Profile
Java Servlet Technology 4.0 ( <a href="http://www.oracle.com/technetwork/java/index-jsp-135475.html">http://www.oracle.com/technetwork/java/index-jsp-135475.html</a> )	JSR 369 ( <a href="http://jcp.org/en/jsr/detail?id=369">http://jcp.org/en/jsr/detail?id=369</a> )	X	X
JavaServer Pages 2.3 ( <a href="http://www.oracle.com/technetwork/java/javaee/jsp/index.html">http://www.oracle.com/technetwork/java/javaee/jsp/index.html</a> )	JSR 245 ( <a href="http://jcp.org/en/jsr/detail?id=245">http://jcp.org/en/jsr/detail?id=245</a> )	X	X
Expression Language 3.0	JSR 341 ( <a href="http://jcp.org/en/jsr/detail?id=341">http://jcp.org/en/jsr/detail?id=341</a> )	X	X
Debugging Support for Other Languages 1.0	JSR 45 ( <a href="http://jcp.org/en/jsr/detail?id=45">http://jcp.org/en/jsr/detail?id=45</a> )	X	X
Standard Tag Library for JavaServer Pages 1.2 ( <a href="http://www.oracle.com/technetwork/java/index-jsp-135995.html">http://www.oracle.com/technetwork/java/index-jsp-135995.html</a> )	JSR 52 ( <a href="http://jcp.org/en/jsr/detail?id=52">http://jcp.org/en/jsr/detail?id=52</a> )	X	X
JavaServer Faces 2.2 ( <a href="http://www.oracle.com/technetwork/java/javaee/javaxserverfaces-139869.html">http://www.oracle.com/technetwork/java/javaee/javaxserverfaces-139869.html</a> )	JSR 344 ( <a href="http://jcp.org/en/jsr/detail?id=344">http://jcp.org/en/jsr/detail?id=344</a> )	X	X
Common Annotations for the Java Platform 1.2	JSR 250 ( <a href="http://jcp.org/en/jsr/detail?id=250">http://jcp.org/en/jsr/detail?id=250</a> )	X	X
Java Transaction API 1.2 ( <a href="http://www.oracle.com/technetwork/java/javaee/tech/index.html">http://www.oracle.com/technetwork/java/javaee/tech/index.html</a> )	JSR 907 ( <a href="http://jcp.org/en/jsr/detail?id=907">http://jcp.org/en/jsr/detail?id=907</a> )	X	X
Java Persistence API 2.1 ( <a href="http://www.oracle.com/technetwork/java/javaee/tech/index.html">http://www.oracle.com/technetwork/java/javaee/tech/index.html</a> )	JSR 338 ( <a href="http://jcp.org/en/jsr/detail?id=338">http://jcp.org/en/jsr/detail?id=338</a> )	X	X
Managed Beans 1.0	JSR 316 ( <a href="http://jcp.org/en/jsr/detail?id=316">http://jcp.org/en/jsr/detail?id=316</a> )	X	X
Interceptors 1.2	JSR 345 ( <a href="http://jcp.org/en/jsr/detail?id=345">http://jcp.org/en/jsr/detail?id=345</a> )	X	X
Dependency Injection for Java 1.0	JSR 330 ( <a href="http://jcp.org/en/jsr/detail?id=330">http://jcp.org/en/jsr/detail?id=330</a> )	X	X
Enterprise JavaBeans 3.2 Lite ( <a href="http://www.oracle.com/technetwork/java/index-jsp-140203.html">http://www.oracle.com/technetwork/java/index-jsp-140203.html</a> )	JSR 345 ( <a href="http://jcp.org/en/jsr/detail?id=345">http://jcp.org/en/jsr/detail?id=345</a> )	X	X
Enterprise JavaBeans 3.2 Full API ( <a href="http://www.oracle.com/technetwork/java/index-jsp-140203.html">http://www.oracle.com/technetwork/java/index-jsp-140203.html</a> )	JSR 345 ( <a href="http://jcp.org/en/jsr/detail?id=345">http://jcp.org/en/jsr/detail?id=345</a> )	X	-
Contexts and Dependency Injection for Java EE 2.0	JSR 365 ( <a href="http://jcp.org/en/jsr/detail?id=365">http://jcp.org/en/jsr/detail?id=365</a> )	X	X
Java API for RESTful Web Service (JAX-RS) 2.0	JSR 339 ( <a href="http://jcp.org/en/jsr/detail?id=339">http://jcp.org/en/jsr/detail?id=339</a> )	X	X

**Table 1–4 (Cont.) Java EE Standards Implementations in GlassFish Server 5.0**

Java EE Standard	Java Specification Request (JSR)	GlassFish Server 5.0 Full Platform	GlassFish Server 5.0 Web Profile
Bean Validation 2.0	JSR 380 ( <a href="http://jcp.org/en/jsr/detail?id=380">http://jcp.org/en/jsr/detail?id=380</a> )	X	X
Java EE Connector Architecture 1.7 ( <a href="http://java.net/projects/connector-spec/">http://java.net/projects/connector-spec/</a> )	JSR 322 ( <a href="http://jcp.org/en/jsr/detail?id=322">http://jcp.org/en/jsr/detail?id=322</a> )	X	X*
Java API for XML-Based Web Services (JAX-WS) 2.2 ( <a href="http://jax-ws.java.net/">http://jax-ws.java.net/</a> )	JSR 224 ( <a href="http://jcp.org/en/jsr/detail?id=224">http://jcp.org/en/jsr/detail?id=224</a> )	X	-
Java Architecture for XML Binding (JAXB) 2.2 ( <a href="http://jaxb.java.net/">http://jaxb.java.net/</a> )	JSR 222 ( <a href="http://jcp.org/en/jsr/detail?id=222">http://jcp.org/en/jsr/detail?id=222</a> )	X	-
Implementing Enterprise Web Services 1.4	JSR 109 ( <a href="http://jcp.org/en/jsr/detail?id=109">http://jcp.org/en/jsr/detail?id=109</a> )	X	-
Web Services Metadata for the Java Platform 2.1	JSR 181 ( <a href="http://jcp.org/en/jsr/detail?id=181">http://jcp.org/en/jsr/detail?id=181</a> )	X	-
Java Message Service 2.0 ( <a href="http://www.oracle.com/technetwork/java/index-jsp-142945.html">http://www.oracle.com/technetwork/java/index-jsp-142945.html</a> )	JSR 343 ( <a href="http://jcp.org/en/jsr/detail?id=343">http://jcp.org/en/jsr/detail?id=343</a> )	X	-
JavaMail 1.5 ( <a href="http://www.oracle.com/technetwork/java/index-jsp-139225.html">http://www.oracle.com/technetwork/java/index-jsp-139225.html</a> )	JSR 919 ( <a href="http://jcp.org/en/jsr/detail?id=919">http://jcp.org/en/jsr/detail?id=919</a> )	X	-
Java Authorization Contract for Containers 1.5 ( <a href="http://java.net/projects/jacc-spec/">http://java.net/projects/jacc-spec/</a> )	JSR 115 ( <a href="http://jcp.org/en/jsr/detail?id=115">http://jcp.org/en/jsr/detail?id=115</a> )	X	-
Java Authentication Service Provider Interface for Containers 1.1	JSR 196 ( <a href="http://jcp.org/en/jsr/detail?id=196">http://jcp.org/en/jsr/detail?id=196</a> )	X	-
Java EE Application Deployment 1.2 ( <a href="http://java.sun.com/j2ee/tools/deployment/">http://java.sun.com/j2ee/tools/deployment/</a> )	JSR 88 ( <a href="http://jcp.org/en/jsr/detail?id=88">http://jcp.org/en/jsr/detail?id=88</a> )	X	-
J2EE Management 1.1 ( <a href="http://java.sun.com/j2ee/tools/management/">http://java.sun.com/j2ee/tools/management/</a> )	JSR 77 ( <a href="http://jcp.org/en/jsr/detail?id=77">http://jcp.org/en/jsr/detail?id=77</a> )	X	-
Java API for XML-Based Remote Procedure Calls (JAX-RPC) 1.1 ( <a href="http://jax-rpc.java.net/">http://jax-rpc.java.net/</a> )	JSR 101 ( <a href="http://jcp.org/en/jsr/detail?id=101">http://jcp.org/en/jsr/detail?id=101</a> )	X	-
Java API for XML-Based Registries (JAXR) 1.0	JSR 93 ( <a href="http://jcp.org/en/jsr/detail?id=93">http://jcp.org/en/jsr/detail?id=93</a> )	X	-

\* Standalone Connector 1.7 Container only.

Building on these standards, GlassFish Server 5.0 provides a number of extensions, including the following:

- **Ajax (asynchronous JavaScript and XML):** Retrieves and displays new data for a portion of a web page without affecting the rest of the page.

- **Metro:** A web services stack that implements Java Architecture for XML Binding (JAXB) and Java APIs for XML Web Services 2.1 (JAX-WS 2.1).
- **Grizzly:** A framework for building scalable and robust servers using New I/O (NIO) APIs, which make scaling to thousands of users possible. The ability to embed components that support HTTP, Bayeux Protocol, Java Servlet API, and Comet is provided.

## Java EE SDK

GlassFish Server 5.0 is available as part of the Java EE 8 SDK. The following versions of the Java EE 8 SDK are available:

- **Java EE 8 SDK:** This version includes GlassFish Server 5.0. This version is designed for developers who require the full set of Java EE APIs for enterprise application development.
- **Java EE 8 Web Profile SDK:** This version includes GlassFish Server 5.0 Web Profile. This version contains web technologies that are subset of the Full Platform and is designed for developers who do not require the full set of Java EE APIs.

More information about the Java EE SDK distributions are available at Java EE Reference at a Glance

(<http://www.oracle.com/technetwork/java/javaee/documentation/index.html>). Java EE SDK distributions are available from the Java EE SDK Downloads page (<http://www.oracle.com/technetwork/java/javaee/downloads/index.html>).

## How to Report Problems and Provide Feedback

If you have problems with GlassFish Server 5.0, provide feedback through one of the following mechanisms:

- GlassFish Server mailing lists (<https://javaee.groups.io/g/glassfish>) — A variety of GlassFish Server community mailing lists for various interests and feedback
- GlassFish Server forum — A forum for discussing the GlassFish Server project
- JIRA project tracking (<https://github.com/javaee/glassfish/issues>) — GlassFish Server project dashboards and issue tracking database

## Additional Resources

Useful information can be found at the following locations:

- GlassFish Server Community (<https://javaee.github.io/glassfish/>)
- Oracle Developer Information (<http://www.oracle.com/technetwork/index.html>)
- Oracle product documentation (<http://www.oracle.com/technetwork/indexes/documentation/index.html>)

