Eclipse GlassFish Installation Guide, Release 7

Eclipse GlassFish

Installation Guide

Release 7

Contributed 2018 - 2024

This book contains instructions for installing and uninstalling Eclipse GlassFish software.

Eclipse GlassFish Installation Guide, Release 7

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Preface

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This document contains instructions for installing and uninstalling Eclipse GlassFish.

This preface contains information about and conventions for the entire Eclipse GlassFish (Eclipse GlassFish) documentation set.

Eclipse GlassFish 7 is developed through the GlassFish project open-source community at https://github.com/eclipse-ee4j/glassfish. The GlassFish project provides a structured process for developing the Eclipse GlassFish platform that makes the new features of the Jakarta EE platform available faster, while maintaining the most important feature of Jakarta EE: compatibility. It enables Java developers to access the Eclipse GlassFish source code and to contribute to the development of the Eclipse GlassFish.

The following topics are addressed here:

- Eclipse GlassFish Documentation Set
- Related Documentation
- Typographic Conventions
- Symbol Conventions
- Default Paths and File Names

Eclipse GlassFish Documentation Set

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

Book Title	Description
Release Notes	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.
Quick Start Guide	Explains how to get started with the Eclipse GlassFish product.
Installation Guide	Explains how to install the software and its components.

Book Title	Description
Upgrade Guide	Explains how to upgrade to the latest version of Eclipse GlassFish. This guide also describes differences between adjacent product releases and configuration options that can result in incompatibility with the product specifications.
Deployment Planning Guide	Explains how to build a production deployment of Eclipse GlassFish that meets the requirements of your system and enterprise.
Administration Guide	Explains how to configure, monitor, and manage Eclipse GlassFish subsystems and components from the command line by using the `asadmin`(1M) utility. Instructions for performing these tasks from the Administration Console are provided in the Administration Console online help.
Security Guide	Provides instructions for configuring and administering Eclipse GlassFish security.
Application Deployment Guide	Explains how to assemble and deploy applications to the Eclipse GlassFish and provides information about deployment descriptors.
Application Development Guide	Explains how to create and implement Java Platform, Enterprise Edition (Jakarta EE platform) applications that are intended to run on the Eclipse GlassFish. These applications follow the open Java standards model for Jakarta EE components and application programmer interfaces (APIs). This guide provides information about developer tools, security, and debugging.
Add-On Component Development Guide	Explains how to use published interfaces of Eclipse GlassFish to develop add-on components for Eclipse GlassFish. This document explains how to perform only those tasks that ensure that the add-on component is suitable for Eclipse GlassFish.
Embedded Server Guide	Explains how to run applications in embedded Eclipse GlassFish and to develop applications in which Eclipse GlassFish is embedded.
High Availability Administration Guide	Explains how to configure Eclipse GlassFish to provide higher availability and scalability through failover and load balancing.
Performance Tuning Guide	Explains how to optimize the performance of Eclipse GlassFish.
Troubleshooting Guide	Describes common problems that you might encounter when using Eclipse GlassFish and explains how to solve them.
Error Message Reference	Describes error messages that you might encounter when using Eclipse GlassFish.
Reference Manual	Provides reference information in man page format for Eclipse GlassFish administration commands, utility commands, and related concepts.
Message Queue Release Notes	Describes new features, compatibility issues, and existing bugs for Open Message Queue.

Book Title	Description
Message Queue Technical Overview	Provides an introduction to the technology, concepts, architecture, capabilities, and features of the Message Queue messaging service.
Message Queue Administration Guide	Explains how to set up and manage a Message Queue messaging system.
Message Queue Developer's Guide for JMX Clients	Describes the application programming interface in Message Queue for programmatically configuring and monitoring Message Queue resources in conformance with the Java Management Extensions (JMX).
Message Queue Developer's Guide for Java Clients	Provides information about concepts and procedures for developing Java messaging applications (Java clients) that work with Eclipse GlassFish.
Message Queue Developer's Guide for C Clients	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 Jakarta EE applications:

- Your First Cup: An Introduction to the Jakarta EE Platform. For beginning Jakarta 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 Jakarta EE Tutorial. This comprehensive tutorial explains how to use Jakarta EE platform technologies and APIs to develop Jakarta EE applications.

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

- The Jakarta EE specifications and API specification is located at https://jakarta.ee/specifications/.
- The API specification for Eclipse GlassFish 7, including Jakarta EE platform packages and nonplatform packages that are specific to the Eclipse GlassFish product, is located at https://glassfish.org/docs/.

For information about creating enterprise applications in the NetBeans Integrated Development Environment (IDE), see the NetBeans Documentation, Training & Support page.

For information about the Derby database for use with the Eclipse GlassFish, see the Derby page.

The Jakarta EE Samples project is a collection of sample applications that demonstrate a broad range of Jakarta EE technologies. The Jakarta EE Samples are bundled with the Jakarta EE Software Development Kit (SDK) and are also available from the repository (`https://github.com/eclipse-ee4j/glassfish-samples`).

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 `.login` file. Use `ls a` to list all files. `machine_name% you have mail.`

`AaBbCc123`	What you type, contrasted with onscreen computer output	`machine_name% su`
		
		`Password:`

AaBbCc123	A placeholder to be replaced with a real name or value	The command to remove a file is `rm` filename.
AaBbCc123	Book titles, new terms, and terms to be emphasized (note that some emphasized items appear bold online)	Read Chapter 6 in the User's Guide. A cache is a copy that is stored locally. Do not 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
as-install	Represents the base installation directory for Eclipse GlassFish. In configuration files, as-install is represented as follows: `${com.sun.aas.installRoot}`	• Installations on the Oracle Solaris operating system, Linux operating system, and Mac OS operating system: user's-home-directory`/glassfish7/glassfish` • Installations on the Windows operating system: SystemDrive`:\glassfish7\glassfish`
as-install-parent	Represents the parent of the base installation directory for Eclipse GlassFish.	• Installations on the Oracle Solaris operating system, Linux operating system, and Mac operating system: user's-home-directory`/glassfish7` • Installations on the Windows operating system: SystemDrive`:\glassfish7`
domain-root-dir	Represents the directory in which a domain is created by default.	as-install`/domains/`
domain-dir	Represents the directory in which a domain's configuration is stored. In configuration files, domain-dir is represented as follows: `${com.sun.aas.instanceRoot}`	domain-root-dir/domain-name
instance-dir	Represents the directory for a server instance.	domain-dir/instance-name

1 Installing Eclipse GlassFish 7

This chapter provides instructions for installing Eclipse GlassFish 7 software on Solaris, Linux, Mac OS X, and Windows systems.

The following topics are addressed here:

- Installation Requirements
- Installation Files for Eclipse GlassFish 7
- Installing Eclipse GlassFish From a ZIP File

Installation Requirements

Before installing Eclipse GlassFish 7, ensure that your system meets the requirements listed in "Hardware and Software Requirements" in Eclipse GlassFish Release Notes. If necessary, download and install the required JDK software. Problems are likely to arise if you attempt to install on a platform that is not supported or on a system that in some other way does not meet release requirements. Also see "Known Issues" in Eclipse GlassFish Release Notes for known issues related to installation.

- On Solaris, Linux, macOS and Windows systems, JDK software is available from the Java SE downloads page.

Javassist Library License Notice

You are receiving a copy of the Javassist (Java Programming Assistant) Library in source form at `https://github.com/jboss-javassist/javassist/archive/rel_3_22_0_cr2.zip` and in object code form in the jar file `glassfish7/glassfish/modules/javassist.jar` included with the distribution. The terms of the Oracle license do NOT apply to the Javassist (Java Programming Assistant) program; it is licensed under the following license, separately from the Oracle programs you receive. If you do not wish to install this program, you may choose to not proceed with the installation of Eclipse GlassFish.

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Installation Files for Eclipse GlassFish 7

The following topics are addressed here:

- Eclipse GlassFish Download Locations
- Eclipse GlassFish Installation Methods
- Choosing an Installation Method
- Eclipse GlassFish ZIP Files

Eclipse GlassFish Download Locations

Installation files for Eclipse GlassFish 7 are available by download from the Eclipse GlassFish Downloads page.

Eclipse GlassFish 7 is also part of the Jakarta EE SDK distributions. The specifications are available from Jakarta EE specifications page and are not described in this document.

Eclipse GlassFish Installation Methods

Table 1-1 lists the various Eclipse GlassFish installation methods. The table also provides links to installation instructions for each method.

Before performing any Eclipse GlassFish installation, ensure that your

> environment adheres to the JDK guidelines in "Paths and Environment Settings for the JDK Software" in Eclipse GlassFish Release Notes.

Table 1-1 Eclipse GlassFish 7 Installation Methods

Installation Method	Installation Instructions
Multi-platform ZIP file	Installing Eclipse GlassFish From a ZIP File.

Each of the installation methods listed in Table 1-1 also let you choose between installing the Full Platform or the Web Profile. These two distributions are explained in the next section.

Choosing an Installation Method

There are two general sets of questions you should consider when deciding which Eclipse GlassFish 7 installation method to use.

- ZIP Package
- Full Platform or Web Profile Distribution

ZIP Package

The relative features and strengths of the Eclipse GlassFish ZIP packages are listed below.

- ZIP Package
  - Is simpler to install, but provides no configuration options during the installation
  - Any additional configurations must be performed manually, after installation
  - If uninstallation is desired, product must be uninstalled manually

Full Platform or Web Profile Distribution

Each of the installation methods listed in Table 1-1 also let you choose to install either the Eclipse GlassFish Full Platform or Web Profile distribution. Table 1-2 lists the features available in each of these two distributions. Note that some of these features are value-adds, and are not required by the Jakarta EE specification.

Table 1-2 Eclipse GlassFish Full Profile and Web Profile Features

Feature	Full Platform	Web Profile
Java Platform, Enterprise Edition 8	X	X
Jakarta EE Security API	X	X
Java API for JSON Processing 1.1	X	X
Java API for JSON Binding 1.0	X	X
EJB 3.2 Lite (Support for Local Container only)	X	X
JTA 1.2	X	X

Feature	Full Platform	Web Profile
OSGi-based microkernel	X	X
Java Web Technologies (Servlet 4.0, JSP 2.2, JSF 2.3, JSTL 1.2, EL 3.0)	X	X
Grizzly/Comet	X	X
JPA 2.2, (EclipseLink), JDBC Connection Pooling	X	X
JDBC 4.0	X	X
Apache Derby 10.13.1.1	X	X
Web Administration Console and CLI	X	X
Rapid Redeployment (Maintain session state on application redeploy)	X	X
OMG CORBA APIs 3.0	X	X
Debugging Support for Other Languages 1.0	X	X
Common Annotations for Java 1.3	X	X
Dependency Injection for Java 1.0	X	X
Managed Beans 1.0	X	X
Interceptors 1.2	X	X
Contexts and Dependency Injection for Java 2.0 (CDI, ex-Web Beans)	X	X
Bean Validation 2.0	X	X
JAX-RS 2.1 (Jersey)	X	X
EJB 3.2 Full API (Support for Remote Container)	X	-
Jakarta EE Connector Architecture 1.7	X	-
JAX-WS 2.3	X	-
JAXB 2.2	X	-
Implementing Java Web Services 1.4	X	-
Web Services Metadata for the Java Platform 2.1	X	-
JMS 2.0	X	-
Jakarta Mail 2.1	X	-
JACC 1.5	X	-
Java Authentication Service Provider Interface for Containers 1.1	X	-
Jakarta EE Application Deployment 1.2	X	-
J2EE Management 1.1	X	-
JAX-RPC 1.1	X	-
JAXR 1.0	X	-
CORBA 3.0.0	X	*
Metro	X	-

- The Full Jakarta EE Platform contains the complete CORBA package. The OMG CORBA v3.0 APIs are available in the Jakarta EE Web Profile.
  - Transaction propagation not supported.

Eclipse GlassFish ZIP Files

The Eclipse GlassFish 7 multi-platform ZIP files are compatible with Solaris, Linux, Mac OS, UNIX, and Windows operating systems. See Eclipse GlassFish Download Locations for a list of download locations.

Table 1-3 lists the available ZIP file downloads.

Table 1-3 Eclipse GlassFish Downloadable ZIP Files

ZIP File	Description
`glassfish-7.0.0.zip`	Full Platform distribution of Eclipse GlassFish
`glassfish-7.0.0-web.zip`	Web Profile distribution Eclipse GlassFish

Installing Eclipse GlassFish From a ZIP File

This section describes how to install Eclipse GlassFish 7 using the multi-platform ZIP file. Eclipse GlassFish is installed by unzipping the file in the installation directory of your choice.

> It is not possible to specify any Eclipse GlassFish configuration options during a ZIP file installation. Any configuration changes, such as creating domains, clusters, and server instances, must be made manually after installation.

To Install Eclipse GlassFish Using the ZIP File

Before You Begin

Ensure that your system meets the requirements listed in "Hardware and Software Requirements" in Eclipse GlassFish Release Notes.

Also see "Known Issues" in Eclipse GlassFish Release Notes for known issues related to installation.

1. Download the desired Eclipse GlassFish 7 ZIP file.
   See Eclipse GlassFish Download Locations for a list of download locations. See Table 1-3 for a list of available ZIP files.
2. Change to the directory where you downloaded the ZIP file.
3. Unzip the file.
   - Solaris, Linux, and Mac OS X systems:

```
unzip zip-file-name
```

zip-file-name is the name of the file that you downloaded.

For example:

```
glassfish-5.0.zip
```

- Windows systems:

  Unzip using your favorite file compression utility.

  Eclipse GlassFish 7 is extracted into a new `glassfish7` directory under your current directory. This `glassfish7` directory is referred to throughout the Eclipse GlassFish documentation set as as-install-parent.

4. Start Eclipse GlassFish using the instructions in the Eclipse GlassFish Quick Start Guide.

   The guide explains how to perform basic tasks such as starting the server, accessing the Administration Console, and deploying a sample application.

2 Uninstalling GlassFish

This chapter describes how to uninstall Eclipse GlassFish.

Removing a Eclipse GlassFish Installation

This procedure describes how to uninstall Eclipse GlassFish software that was installed using a ZIP file, as described in Installing Eclipse GlassFish From a ZIP File.

Before You Begin

Stop all domains and other related processes, including command prompts using the installation directory or its subdirectories and any applications using Java SE files.

To stop domains, use the `asadmin stop-domain` command. For more information about stopping a domain, see "To Stop a Domain" in Eclipse GlassFish Administration Guide.

If orphaned processes remain, identify and terminate the processes as follows:

- Solaris, Linux, and Mac OS X systems:

  Use the `ps -ef` command and terminate the processes using the `kill` command.

- Windows systems:

  Use the Task Manager and terminate the processes.

Also see "Known Issues" in Eclipse GlassFish Release Notes for known issues related to uninstallation.

1. Save any files in the installation directory that you may want to keep.
2. Manually delete installation directory and all its contents.