

Upgrading to Sun Java Enterprise System 6

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This document is maintained by the Java ES team.

This document provides information about upgrading to the product versions in Sun Java™ Enterprise System (Java ES) 6 Base, the core offering of Java ES. For information about the other offerings in Java ES 6, including the various Java ES suites, see sun.com/software/javaenterprisesystem.

This document is updated as needed. See “[Revision History](#)” on page 10 to learn about these updates. The most recent version of this document can be found in the Java ES 6 documentation collection at docs.sun.com/coll/1286.4.

This document covers the following topics:

- “[Planning for Upgrades](#)” on page 2
- “[Product-by-Product Upgrade Instructions](#)” on page 3
- “[Upgrading to Solaris Cluster 3.2 1/09](#)” on page 4
- “[Upgrading to Solaris Cluster Geographic Edition 3.2 1/09](#)” on page 4
- “[Upgrading to Directory Server Enterprise Edition 6.3.1](#)” on page 4
- “[Upgrading to Web Server 7.0 Update 4](#)” on page 6
- “[Upgrading to Message Queue 4.3](#)” on page 7
- “[Upgrading to GlassFish Enterprise Server 2.1](#)” on page 8
- “[Upgrading to Web Proxy Server 4.0.8](#)” on page 8
- “[Upgrading to OpenSSO Enterprise 8.0](#)” on page 9
- “[Documentation for Java ES 6](#)” on page 9
- “[Documentation, Support, and Training](#)” on page 10
- “[Searching Sun Product Documentation](#)” on page 10
- “[Third-Party Web Site References](#)” on page 10
- “[Sun Welcomes Your Comments](#)” on page 10

Planning for Upgrades

An upgrade plan is the essential starting point for performing an upgrade to Java ES 6. In an upgrade plan you specify the Java ES products you will upgrade and the sequence by which you will upgrade those products on the different computers or operating system instances in your Java ES deployment.

Your upgrade plan depends on a number of factors, each of which should be given careful consideration in preparing for upgrade to Java ES 6:

- “[Upgrade Objectives and Priorities](#)” on page 2
- “[Upgrade Dependencies](#)” on page 2
- “[Multi-Instance Upgrades](#)” on page 3
- “[The Java ES Upgrade Process](#)” on page 3

Upgrade Objectives and Priorities

An upgrade plan reflects your upgrade objectives and priorities, which often depend on the scope and complexity of your existing deployment architecture.

For example, your Java ES deployment architecture might consist of a single Java ES product running on a single computer, and your upgrade objective is to fix some bug in the previous software release. On the other hand, your Java ES deployment architecture might consist of a number of interoperating Java ES products deployed across a number of different computers, and your upgrade objective is to achieve some new functionality by upgrading the minimum number of products required to achieve that end with minimal downtime.

In general, the greater the number of Java ES products and computers in your deployment architecture, and the more ambitious your upgrade objectives, the more complex will be your upgrade plan.

Upgrade Dependencies

One of the main issues in planning the upgrade of a Java ES product is to understand that product's dependencies on other Java ES products, and whether other products need to be upgraded to support the upgrade of the intended product. Researching and working through this issue can affect your upgrade plan in two distinct ways:

- It can add to the set of products you need to upgrade in order to achieve your upgrade objectives.
- It can change the order in which you upgrade individual products.

“Backward Compatibility of the Product Versions in Java ES 6” in *Interoperability of the Products in Sun Java Enterprise System 6* provides dependency information about each product in Java ES 6 Base, including supported product versions for each dependency. Use this information, coupled with knowledge of the product versions in your existing Java ES deployment, to determine whether you need to upgrade some additional products in order to support your intended upgrades.

Multi-Instance Upgrades

The sequence of upgrade procedures in an upgrade plan depends on how redundancy is being used in a deployment architecture. Multiple instances of a Java ES product can be used to achieve high availability, scalability, serviceability, or some combination of these service qualities. Three technologies make use of redundant products in Java ES deployment architectures: load balancing (Directory Proxy Server, Web Server, Web Proxy Server, Application Server, Access Manager, and Portal Server), high availability techniques (Sun Cluster and High Availability Session Store, and others), and Directory Server replication.

In most cases where redundancy is involved, upgrades must be performed without incurring significant downtime. These rolling upgrades attempt to successively upgrade redundant instances of a product without compromising the service that they provide.

Redundant instances are usually deployed across multiple computers. For upgrade planning, you might need to isolate the upgrade of replicated products from other product upgrades in order to achieve minimal downtime. In such cases, you often perform all the pre-upgrade tasks for the replicated products on each computer before performing the rolling upgrade.

Each replication technology has configuration or reconfiguration procedures that might affect the overall sequence of Java ES product upgrades. For example, products that run in a Sun Cluster environment can require upgrading Sun Cluster before upgrading the products that are running in the Sun Cluster environment.

The Java ES Upgrade Process

The process of upgrading a Java ES deployment can involve a number of individual product upgrades performed in a particular order to ensure a smooth transition to a updated software system. Upgrades of large or complex Java ES deployments are normally carried out first in a staging environment, before being executed in a production environment. The use of a staging environment allows you to test after each product upgrade as well as to write scripts to simplify or accelerate the upgrade in a production environment.

When you have tested the upgrade process in a staging environment, and have confidence that the upgrade is working properly, you can reproduce the process in your production environment.

Product-by-Product Upgrade Instructions

The following sections provide information about upgrading each product in Java ES 6 Base. Each section presents an overview of the various upgrade paths and scenarios supported by a product, and then provides references to the product documentation where you will find complete instructions for performing each upgrade path or scenario.

In general, the product upgrade instructions follow a common process:

1. **Pre-upgrade preparation.** You back up configuration and application data, perform any patching of the operating system, upgrade any required dependencies, and perform other tasks in preparation for upgrading the product.
2. **Upgrade.** You obtain all the necessary packages, patches, and tools needed for the upgrade. You install upgraded software and the product as prescribed, including the migration of data to the upgraded product.

3. **Verification.** You verify that the upgrade has been successful using prescribed verification tests, including starting the upgraded product and testing various usage scenarios.
4. **Post-upgrade procedures.** You perform any additional configuration, customization, or other tasks that might be necessary to make the upgraded product operational, for example, to incorporate new functions.

For many products, the upgrade tools provided with the product perform several of these steps for you.

Upgrading to Solaris Cluster 3.2 1/09

Solaris Cluster provides several different upgrade paths to version 3.2 1/09:

- Standard upgrade
- Dual-partition upgrade
- Live upgrade
- Rolling upgrade

Several factors determine which paths are available to a given deployment of Solaris Cluster:

- The current operating system version: Solaris 8, Solaris 9, or Solaris 10
- The processor architecture: SPARC or x86
- The current version of Solaris Cluster: 3.0 through 3.2
- Whether a concurrent operating system upgrade is planned

The *Sun Cluster Upgrade Guide for Solaris OS* describes which paths are available in each context, provides guidance in choosing the most appropriate path, and gives detailed instructions for performing the tasks associated with each upgrade path. Additionally, the *Solaris Cluster 3.2 1/09 Release Notes* provide information about issues related to upgrading to Solaris Cluster 3.2 1/09.

Note – Solaris Cluster does not support direct upgrade on x86 based systems running Solaris 8 or Solaris 9. See the *Sun Cluster Upgrade Guide for Solaris OS* for the best approach to upgrading in this situation.

Upgrading to Solaris Cluster Geographic Edition 3.2 1/09

Solaris Cluster Geographic Edition does not provide a direct upgrade path to version 3.2 1/09. Instead, upgrade is performed by:

1. Uninstalling the existing version of Solaris Cluster Geographic Edition.
2. Installing Solaris Cluster Geographic Edition.

Note that Solaris Cluster Geographic Edition software configuration data is retained across this upgrade process, so no reconfiguration is necessary.

For more information about upgrading Solaris Cluster Geographic Edition, including detailed instructions for performing the upgrade, see [Chapter 4, “Upgrading the Sun Cluster Geographic Edition Software,” in *Sun Cluster Geographic Edition Installation Guide*](#). Additionally, the *Solaris Cluster Geographic Edition 3.2 1/09 Release Notes* provide information about issues related to upgrading to Solaris Cluster Geographic Edition 3.2 1/09.

Upgrading to Directory Server Enterprise Edition 6.3.1

Past versions of Directory Server Enterprise Edition (DSEE) were delivered in two ways:

- File-based format, packed in a ZIP distribution
- Package-based format, included in past Java ES releases

Additionally, prior to version 6.0, the constituent components of Directory Server Enterprise Edition were delivered as separate products; for example, Directory Server 5.2 and Directory Proxy Server 5.2.

To support these past practices, Directory Server Enterprise Edition provides these upgrade paths to version 6.3.1:

- Upgrading from a file-based ZIP distribution of version 6.x
- Upgrading from a file-based ZIP distribution of version 5.x
- Upgrading from a package-based distribution of version 6.x (Java ES 5 and 5 Update 1)
- Upgrading from a package-based distribution of version 5.x (Java ES 2005Q4)

Upgrading from a File-Based ZIP Distribution of DSEE 6.x

Use the following steps to upgrade from a file-based ZIP distribution of Directory Server Enterprise Edition 6.0, 6.1, 6.2, or 6.3 to the file-based ZIP distribution of version 6.3.1:

1. Upgrade the installation to version 6.3.1, as described in “[Upgrading Directory Server Enterprise Edition to 6.3.1 Using ZIP distribution](#)” in *Sun Java System Directory Server Enterprise Edition 6.3.1 Release Notes*.
2. Install the Directory Service Control Center if it was not already installed in the previous 6.x version, as described in “[Installing Directory Service Control Center From Zip Distribution](#)” in *Sun Java System Directory Server Enterprise Edition 6.3 Installation Guide*.

Upgrading from a File-Based ZIP Distribution of DSEE 5.x

Use the following steps to upgrade from a file-based ZIP distribution of Directory Server Enterprise Edition 5.x to the file-based ZIP distribution of version 6.3.1:

1. Install Directory Server Enterprise Edition 6.3, as described in “[To Install Directory Server Enterprise Edition 6.3 From Zip Distribution](#)” in *Sun Java System Directory Server Enterprise Edition 6.3 Installation Guide*.
2. Migrate all the Directory Server 5.x instances to version 6.3, as described in the *Sun Java System Directory Server Enterprise Edition 6.3 Migration Guide*.
3. Upgrade the installation to version 6.3.1, as described in “[Upgrading Directory Server Enterprise Edition to 6.3.1 Using ZIP distribution](#)” in *Sun Java System Directory Server Enterprise Edition 6.3.1 Release Notes*.
4. Install the Directory Service Control Center, as described in “[Installing Directory Service Control Center From Zip Distribution](#)” in *Sun Java System Directory Server Enterprise Edition 6.3 Installation Guide*.

Upgrading from a Package-Based Distribution of DSEE 6.x

To upgrade from the package-based distribution of Directory Server Enterprise Edition 6.0 (in Java ES 5) or 6.2 (in Java ES 5 Update 1) to version 6.3.1, follow the instructions in “[Upgrading Directory Server Enterprise Edition to 6.3.1 Using Native Packages](#)” in *Sun Java System Directory Server Enterprise Edition 6.3.1 Release Notes*. Note that the upgraded installation is not exactly equivalent to installing the file-based ZIP distribution of version 6.3.1 because it represents a package-based upgrade, not a file-based installation.

Upgrading from a Package-Based Distribution of DSEE 5.x

Use the following steps to upgrade from the package-based distribution of Directory Server 5.2 and Directory Proxy Server 5.2 (in Java ES 2005Q4) to Directory Server Enterprise Edition 6.3.1. Note that the upgraded installation is not exactly equivalent to installing the file-based ZIP distribution of version 6.3.1 because it represents a package-based upgrade, not a file-based installation.

1. Install Directory Server Enterprise Edition 6.0 from Java ES 5, as described in:
 - For Solaris and Linux: [Chapter 3, “Installing With the Graphical Interface,”](#) in *Sun Java Enterprise System 5 Installation Guide for UNIX*
 - For Windows: [Chapter 3, “Installing With the Graphical Interface,”](#) in *Sun Java Enterprise System 5 Installation Guide for Microsoft Windows*

For detailed instructions, refer to “[Software Installation](#)” in *Sun Java System Directory Server Enterprise Edition 6.0 Installation Guide*.

2. Upgrade to Directory Server Enterprise Edition 6.3, as described in “[Software Installation](#)” in *Sun Java System Directory Server Enterprise Edition 6.3 Installation Guide*.

3. Migrate all the Directory Server 5.x instances to version 6.3, as described in the *Sun Java System Directory Server Enterprise Edition 6.3 Migration Guide*.
4. Upgrade to Directory Server Enterprise Edition 6.3.1, as described in “Upgrading Directory Server Enterprise Edition to 6.3.1 Using Native Packages” in *Sun Java System Directory Server Enterprise Edition 6.3.1 Release Notes*

Upgrading to Web Server 7.0 Update 4

Past versions of Web Server were delivered in two ways:

- File-based format, packed in a ZIP distribution
- Package-based format, included in past Java ES releases

Additionally, in version 7.0, Web Server introduced changes that make direct upgrade from earlier versions to 7.0 Update 4 impossible.

To support these past practices, Web Server provides three upgrade paths to version 7.0 Update 4:

- Upgrading from a file-based ZIP distribution of version 7.x
- Upgrading from a package-based distribution of version 7.x (Java ES 5 and 5 Update 1)
- Migrating from version 6.x

Upgrading from a File-Based ZIP Distribution of Web Server 7.x

This installation program provided with Web Server 7.0 Update 4 can identify and upgrade Web Server file-based installations back to version 7.0.

Before Upgrading. Before using the Web Server 7.0 Update 4 installer to upgrade an older 7.x file-based installation, you should review “[Installation, Migration, and Upgrade Notes](#)” and “[Known Issues ⇒ Migration and Upgrade](#)” in *Sun Java System Web Server 7.0 Update 4 Release Notes*.

To Upgrade. To upgrade a Web Server 7.x file-based installation using the Web Server 7.0 Update 4 installer, see “[Upgrading the Web Server from 7.0 to 7.0 Update 4](#)” in *Sun Java System Web Server 7.0 Update 4 Installation and Migration Guide*.

Upgrading from a Package-Based Distribution of Web Server 7.x

To upgrade from the package-based distribution of Web Server 7.0 (in Java ES 5) or 7.0 Update 1 (in Java ES 5 Update 1) to version 7.0 Update 4, apply the patches for the appropriate platform, as described in “[Installation, Migration, and Upgrade Notes ⇒ Upgrade](#)” in *Sun Java System Web Server 7.0 Update 4 Release Notes*. Before downloading and installing the patches, you should review “[Known Issues ⇒ Migration and Upgrade](#)”, also in *Sun Java System Web Server 7.0 Update 4 Release Notes*.

Note that the upgraded installation is not exactly equivalent to installing the file-based ZIP distribution of version 7.0 Update 4 because it represents a package-based upgrade, not a file-based installation.

Upgrading from Web Server 6.x

Web Server does not support a direct upgrade to version 7.0 Update 4 from versions prior to 7.0. Instead, follow these steps to migrate from Web Server 6.x versions:

1. Install Web Server 7.0 Update 4, as described in [Chapter 2, “Installing the Web Server,”](#) in *Sun Java System Web Server 7.0 Update 4 Installation and Migration Guide*.
2. Migrate 6.x server instances to 7.0 Update 4, as described in [Chapter 5, “Migrating to Web Server 7.0,”](#) in *Sun Java System Web Server 7.0 Update 4 Installation and Migration Guide*.

Upgrading to Message Queue 4.3

Past versions of Message Queue were delivered in two ways:

- Package-based format for UNIX-based platforms (Solaris, Linux, and HP-UX)
- File-based format for Windows

To support these past practices, Message Queue provides two upgrade paths to version 4.3:

- Upgrading on the Solaris or Linux platform
- Upgrading on the Windows platform

Upgrading to Message Queue 4.3 on the Solaris or Linux Platform



Caution – The process of upgrading to GlassFish Enterprise Server 2.1 installs Message Queue to version 4.1 when the upgrade is from Sun Java System Application Server versions installed by past releases of Java ES. This installation occurs even if a newer version of Message Queue is already on the system. Therefore, you should delay upgrading to Message Queue 4.3 until after upgrading to GlassFish Enterprise Server 2.1.

On Solaris and Linux, the installer provided with Message Queue 4.3 can automatically identify and upgrade Message Queue installations back to version 3.6, and the following instance data from the existing installation will be used by version 4.3:

- Configuration properties
- File-based persistent data store
- Log files
- Flat-file user repository
- Access control properties file

Before Upgrading. Before using the Message Queue 4.3 installer to upgrade an older version, you should review “[Compatibility Issues](#)” in *Sun Java System Message Queue 4.3 Installation Guide*. You should also review “[Solaris Installation ⇒ Upgrading from Previous Versions](#)” or “[Linux Installation ⇒ Upgrading from Previous Versions](#)” in *Sun Java System Message Queue 4.3 Installation Guide*.

To Upgrade. To upgrade a Message Queue installation using the Message Queue 4.3 installer, see “[Solaris Installation ⇒ Installation Procedure](#)” or “[Linux Installation ⇒ Installation Procedure](#)” in *Sun Java System Message Queue 4.3 Installation Guide*.

Upgrading to Message Queue 4.3 on the Windows Platform

On Windows, upgrading from past versions of Message Queue to version 4.3 is not supported, but version 4.3 can coexist with past versions in different locations on the same system. As an alternative, you can:

1. Save data from the past version.
2. Uninstall the past version.
3. Install version 4.3.
4. Migrate data saved in Step 1 to the version 4.3 installation.

For information about this alternative, see “[Platform Issues ⇒ Windows](#)” in *Sun Java System Message Queue 4.3 Installation Guide*.

Refer to “[Compatibility Issues](#)” in *Sun Java System Message Queue 4.3 Installation Guide* to help you decide whether to install a coexistent copy of version 4.3 or to replace the past version with version 4.3.

Upgrading to GlassFish Enterprise Server 2.1

GlassFish Enterprise Server supports upgrade from a variety of products:

- GlassFish v2 (community build)
- Sun Java System Application Server: file-based and package-based distributions
- Sun Java System Application Server, Enterprise Edition: file-based and package-based distributions
- Sun Java System Application Server, Platform Edition

For a complete list of the products, versions, and distributions that are supported for upgrade, see [“Upgrade Overview”](#) in *Sun GlassFish Enterprise Server 2.1 Upgrade guide*.

To support the various products and distributions, GlassFish Enterprise Server offers three upgrade paths:

- Side-by-side upgrade of a file-based ZIP installation
- In-place upgrade of a file-based ZIP installation
- Upgrade of a package-based installation

These upgrade paths, and the instructions for following them, are described in [Chapter 2, “Upgrading an Application Server Installation,”](#) in *Sun GlassFish Enterprise Server 2.1 Upgrade guide*.

Before performing an upgrade to GlassFish Enterprise Server 2.1, you should review [Chapter 1, “Application Server Compatibility Issues,”](#) in *Sun GlassFish Enterprise Server 2.1 Upgrade guide* and [“Upgrade Utility”](#) in *Sun GlassFish Enterprise Server 2.1 Release Notes*.

Note – Upgrading package-based installations, such as those from past Java ES releases, installs Message Queue 4.1, even if a newer version of Message Queue is already installed.

Upgrading to Web Proxy Server 4.0.8

Past versions of Web Proxy Server were delivered in two ways:

- File-based format, packed in a ZIP distribution
- Package-based format, included in past Java ES releases

Additionally, in version 4.0, Web Proxy Server introduced changes that make direct upgrade from earlier versions to 4.0.8 impossible.

To support these past practices, Web Proxy Server provides three upgrade paths to version 4.0.8:

- Upgrading from a file-based ZIP distribution of version 4.x
- Upgrading from a package-based distribution of version 4.x (Java ES 2005Q4, 5, and 5 Update 1)
- Migrating from version 3.6

Upgrading from a File-Based ZIP Distribution of Web Proxy Server 4.x

This installation program provided with Web Proxy Server 4.0.8 can identify and upgrade Web Proxy Server file-based installations back to version 4.0.

To upgrade a Web Proxy Server 4.x file-based installation using the Web Proxy Server 4.0.8 installer, see [Chapter 1, “Installing Sun Java System Web Proxy Server,”](#) in *Sun Java System Web Proxy Server 4.0.8 Installation and Migration Guide*.

Upgrading from a Package-Based Distribution of Web Proxy Server 4.x

To upgrade from the package-based distribution of Web Proxy Server 4.0.1 (in Java ES 2005Q4), 4.0.4 (in Java ES 5) or 4.0.5 (in Java ES 5 Update 1) to version 4.0.8, apply the patches for the appropriate platform, as described in [“Upgrade Support”](#) in *Sun Java System Web Proxy Server 4.0.8 Release Notes*.

Note that the upgraded installation is not exactly equivalent to installing the file-based ZIP distribution of version 4.0.8 because it represents a package-based upgrade, not a file-based installation.

Upgrading from Web Proxy Server 3.6

Web Proxy Server does not support a direct upgrade to version 4.0.8 from versions prior to 4.0. Instead, follow these steps to migrate from Web Proxy Server 3.6:

1. Install Web Proxy Server 4.0.8, as described in [Chapter 1, “Installing Sun Java System Web Proxy Server,” in *Sun Java System Web Proxy Server 4.0.8 Installation and Migration Guide*](#).
2. Migrate 3.6 server instances to 4.0.8, as described in [Chapter 3, “Migrating From Version 3.6,” in *Sun Java System Web Proxy Server 4.0.8 Installation and Migration Guide*](#).

Upgrading to OpenSSO Enterprise 8.0

Upgrading to OpenSSO Enterprise 8.0 is supported from the following releases and platforms:

Previous Release	Upgrade Supported From This Platform
Sun Java System Access Manager 7.1	Solaris SPARC, Solaris x86, Linux, and Windows systems
Upgrade is supported for:	
<ul style="list-style-type: none">▪ Sun Java Enterprise System package based installations▪ WAR file deployment only if the configuration data is in Sun Java System Directory Server.	
Sun Java System Access Manager 7 2005Q4	Solaris SPARC, Solaris x86, and Linux systems
Sun Java System Access Manager 6 2005Q1 (6.3)	Solaris SPARC, Solaris x86, and Linux systems
Sun Java System Federation Manager 7.0	Solaris SPARC, Solaris x86, Linux, and Windows systems

For information about upgrading to OpenSSO Enterprise 8.0, see [Sun OpenSSO Enterprise 8.0 Upgrade Guide](#).

Note – Several issues with Portal Server can arise as a result of upgrading Access Manager to OpenSSO Enterprise. For information about these issues, see “Known Issues” in [Sun Java Enterprise System 6 Release Notes](#).

Documentation for Java ES 6

Documentation for Java ES 6 and the products in Java ES 6 is available on docs.sun.com:

- Release notes: docs.sun.com/coll/1315.4
- System-level installation, upgrade, and interoperability documentation: docs.sun.com/coll/1286.4
- Collections of manuals for each product: docs.sun.com/prod/entsys.6

Additionally, you can find other kinds of documentation at:

- The Java ES information hub on BigAdmin: sun.com/bigadmin/hubs/javaes
- The Java ES Interoperability space: wikis.sun.com/display/Interoperability
- The Java ES forum: forums.sun.com/forum.jspa?forumID=872

Documentation, Support, and Training

The Sun web site provides information about the following additional resources:

- [Documentation](http://www.sun.com/documentation/) (<http://www.sun.com/documentation/>)
- [Support](http://www.sun.com/support/) (<http://www.sun.com/support/>)
- [Training](http://www.sun.com/training/) (<http://www.sun.com/training/>)

Searching Sun Product Documentation

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```
search-term site:docs.sun.com
```

For example, to search for “broker,” type the following:

```
broker site:docs.sun.com
```

To include other Sun web sites in your search (for example, java.sun.com, www.sun.com, and developers.sun.com), use `sun.com` in place of `docs.sun.com` in the search field.

Third-Party Web Site References

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

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Revision History

Version	Date	Description of Changes
10	April 2009	Final release version.

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