Sun GlassFish Web Space Server 10.0 Installation Guide

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Contents

Preface

This guide provides instructions for installing and updating Sun GlassFish Web Space Server 10.0 software, the next-generation Web 2.0 application aggregation and presentation platform from Sun Microsystems, Inc.. This guide also includes a basic "quick tour" through the Web Space Server interface and instructions for quickly getting up and running with the product.

Who Should Use This Book

This guide is intended for anyone who wants to install and/or get basic instructions for using Web Space Server software. In particular, the installation instructions in the second chapter of the guide is intended for Web Space Server application developers and system administrators. The first chapter and the last two chapters are intended for all Web Space Server users.

How This Book Is Organized

This book is divided into four chapters:

- Chapter 1, "Overview," provides an overview of Web Space Server features and uses.
- Chapter 2, "Installation and Configuration," provides detailed instructions for installing Web Space Server and the required Sun GlassFish Enterprise Server or Oracle WebLogic Server application server software in which Web Space Server runs. This chapter is *not* intended for general users, but rather only for application developers or system administrators who want to install Web Space Server software. Users just interested in familiarizing themselves with how Web Space Server works can skip this chapter.
- Chapter 3, "Using Sun GlassFish Web Space Server Software," provides a "quick tour" through the Web Space Server interface, and is intended for all Web Space Server software users.

- Chapter 4, "Frequently Asked Questions," provides answers to some commonly asked questions about Web Space Server software.

Additional Sun GlassFish Web Space Server Documentation

The Sun GlassFish Web Space Server 10.0 software documentation set is available on the Sun GlassFish Web Space Server 10.0 Document Collection page.

Additional documentation is also available on the Liferay wiki and OpenPortal documentation sites.

Related Third-Party Web Site References

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

Note – Sun is not responsible for the availability of third-party Web sites mentioned in this document. Sun does not endorse and is not responsible or liable for any content, advertising, products, or other materials that are available on or through such sites or resources. Sun will not be responsible or liable for any actual or alleged damage or loss caused or alleged to be caused by or in connection with use of or reliance on any such content, goods, or services that are available on or through such sites or resources.

Documentation, Support, and Training

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

- Documentation (`http://www.sun.com/documentation/`)
- Support (`http://www.sun.com/support/`)
- Training (`http://www.sun.com/training/`)

Sun Welcomes Your Comments

Sun is interested in improving its documentation and welcomes your comments and suggestions. To share your comments, go to `http://docs.sun.com` and click Feedback.

Typographic Conventions

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

TABLE P–1 Typographic Conventions

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	Placeholder: replace 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	Read Chapter 6 in the *User's Guide*. A *cache* is a copy that is stored locally. Do *not* save the file. **Note:** Some emphasized items appear bold online.

Shell Prompts in Command Examples

The following table shows the default UNIX® system prompt and superuser prompt for the C shell, Bourne shell, and Korn shell.

TABLE P–2 Shell Prompts

Shell	Prompt
C shell	`machine_name%`
C shell for superuser	`machine_name#`
Bourne shell and Korn shell	`$`
Bourne shell and Korn shell for superuser	`#`

◆ ◆ ◆ CHAPTER 1

Overview

This guide provides instructions for installing and updating Sun GlassFish Web Space Server 10.0 software, the next-generation Web 2.0 application aggregation and presentation platform from Sun Microsystems, Inc.. This guide also includes a basic "quick tour" through the Web Space Server interface and instructions for quickly getting up and running with the product.

This chapter includes the following topics:

How to Use This Guide

This guide is divided into two major sections:

- Chapter 2, "Installation and Configuration"
- Chapter 3, "Using Sun GlassFish Web Space Server Software"

The best way to use this guide depends on whether someone has already installed Sun GlassFish Web Space Server 10.0 software for you to explore or whether you want to install Web Space Server yourself.

- **If Web Space Server has already been installed by someone else** — Skip the installation chapter and jump ahead to Chapter 3, "Using Sun GlassFish Web Space Server Software," to start using Web Space Server right away. Most users fall into this category. Web Space Server is browser-based, so if someone has given you the address to use for a Web Space Server installation, you can just point your browser to it and you do not need to install anything on your system.

- **If you want to install or upgrade Web Space Server yourself** — If you are a system administrator, application developer, or general user who wants to install Web Space Server for yourself or your organization, start with Chapter 2, "Installation and Configuration."

Whichever kind of user you are, it is recommended that you read the remainder of this chapter to get a sense of what Web Space Server is and what it can do for your organization. You may also find it useful to refer to Chapter 4, "Frequently Asked Questions," for answers to common questions about Web Space Server software.

What is Sun GlassFish Web Space Server?

Sun GlassFish Web Space Server 10.0 software is Sun's next-generation Web 2.0 application aggregation and presentation platform. It is a suite of integrated software products that enables businesses large and small to pull together applications and content from a variety of Web-based and internal sources and present them as a unified, customizable portal on Web browsers, kiosks, and mobile devices. Web Space Server makes it easier for users to find and use the tools and information they need when they need them.

Sun GlassFish Web Space Server is a collaborative effort between Sun Microsystem's Portal Server team, the Liferay Community, and the OpenPortal community. Web Space Server integrates technologies from these three products to enable enterprise-class portals that are easy to use for end users, system administrators, and developers alike.

Web Space Server enables:

- **Social Networking for the Enterprise**

  Find people with the answers across organizations, silos, and hierarchies, and boost productivity in distributed teams.
- **Enterprise Widgets for Collaboration Work**

  Bundled Productivity Widget Suites to get work done (CMS, Workflow), and Information Widget Suite for Effective Collaboration (blogs, wikis).
- **Internet Widgets on the Enterprise Extranet**

  Build stickiness into your intranet with Google Gadgets, YouTube, and Facebook widgets.

Who Uses Sun GlassFish Web Space Server?

Sun GlassFish Web Space Server 10.0 software offers features for general users, system administrators, and application and portal developers.

- For **General Users**, Web Space Server makes it easy to communicate, collaborate, and customize the applications shared by your organization. Social networking components, like blogs, wikis, bookmarks, and messaging can be presented side-by-side with proprietary

and third-party business and productivity applications. Different user communities can have their own portals, layouts, and customizations, and Web Space Server can be scaled down or up to suit organizations from the very small up to the enterprise level.

- For **System Administrators**, Web Space Server makes it easy to manage users, groups, communities, permissions, and highly specific levels of security. A browser-based GUI makes managing portals, portlets, plugins, and applications as simple as dragging and dropping. Web Space Server runs on top of the enterprise-class, open source GlassFish Enterprise Server, which means that Web Space Server can be optimized according to your needs for performance, reliability, security, load balancing, and clustering, among other server characteristics.
- For **Application and Portal Developers**, Web Space Server makes it easy to develop portlets, portals, plugins, services, content management, workflows, and themes using your own tools, including NetBeans™, Eclipse, and Dreamweaver. Web Space Server is based on the open source OpenPortal and Liferay 5.2 code bases, which means what you develop in Web Space Server will be standards-based, portable, and maintainable. You can combine familiar Ajax, Jmaki, Ruby, PHP, and Java technologies and techniques with Web Space Server's powerful presentation capabilities to deliver the kind of rich, dynamic, interactive user experience previously available only in complex custom-built Web applications.

Sun GlassFish Web Space Server Features

Sun GlassFish Web Space Server 10.0 software provides a new class of portal functionality by which users can define their own Web spaces. With built-in content and document management, human workflow development tools, enterprise identity integration, and social networking features, system administrators and application developers can now deploy a platform that allows for rapid rollout of next generation Web capabilities for their users.

Key Web Space Server features include:

- Identity-based content delivery
- User-managed Web spaces, including user self-Web publishing and user access controls
- Rapid and simple Web site design tools make it possible to quickly set up Web sites for content, collaboration, and interactivity, with out of the box templates
- Built-in collaboration, with bundled wiki, blog, task management, calendaring, document sharing, polls, IM, and email applications
- Document and Web content management system with workflow, staging, and publication tools
- Localized in 22 languages; Japanese (`ja`) and Chinese (`zh_CN`) localizations are directly supported by Sun Microsystems; localizations in other languages are community driven
- Fully internationalized, which makes it possible to add new languages
- User interface designed to support federal and international accessibility standards

- Syndicate portlets and widgets with REST
- Develop widgets using the JSR 286 portlet standard as well as scripting standards such as Ruby, PHP, and JMaki.

Additional Sun GlassFish Web Space Server Documentation

The Sun GlassFish Web Space Server 10.0 software documentation set is available on the Sun GlassFish Web Space Server 10.0 Document Collection page.

Additional documentation is also available on the Liferay wiki and OpenPortal documentation sites.

◆ ◆ ◆ CHAPTER 2

Installation and Configuration

This chapter explains how to get, install, and configure Sun GlassFish Web Space Server 10.0 software.

Tip – If you are a general user for whom Web Space Server software has already been installed by someone else, skip this chapter and jump ahead to Chapter 3, "Using Sun GlassFish Web Space Server Software."

Before You Begin

This section explains some basic requirements and concepts you should review before proceeding with Web Space Server 10.0 software installation.

Software and Hardware Requirements

Table 2–1 lists the operating system, Java platform, and system memory requirements for Web Space Server 10.0 software.

TABLE 2–1 Sun GlassFish Web Space Server 10.0 Software and Hardware Requirements

Operating Systems	■ Solaris 2.9, 10, or later (SPARC/x86) ■ Modern Linux operating systems (Ubuntu 8, SuSE 10, 11, OpenSuSE 11, Red Hat Enterprise Linux 4, 5) ■ Microsoft Windows 2003 Server, XP Professional, 2007, 2008 R2, Vista 32–bit
Java Platform	■ Java Runtime Environment 1.6.0_7 or later (1.5 or later on Mac OS X) ■ Java JDK 1.6.0_7 or later (1.5 or later on Mac OS X)
Web Container	■ Sun GlassFish Enterprise Server v2.1 **Note –** Other versions of Sun GlassFish will work with Web Space Server, such as GlassFish v3 Prelude, but are recommended for evaluation or testing purposes only, rather than a production environment. ■ Oracle WebLogic Server 10g Enterprise Edition
Database	■ HSQL ■ MySQL ■ Microsoft SQL ■ Oracle 10g, 11g
Apache Ant	■ Apache Ant 1.7 or later **Note –** The version of Ant bundled with Sun GlassFish v2 or later *does not work* with Web Space Server 10.0. Make sure that Ant 1.7 or later is installed on your system, and that your `ANT_HOME` environment variable points to this newer version.
System Memory (RAM)	■ Solaris, Linux: 1 GB minimum, at least 2 GB recommended ■ Windows: 2 GB minimum, at least 3 GB recommended ■ MacOS X: 1 GB minimum, at least 2 GB recommended

Installation Directory References

As described in "Getting Sun GlassFish Web Space Server Software" on page 19, Web Space Server software is available in several different package formats. The directory in which the software is installed may vary depending on the package you are using. Throughout this document, the following conventions for references to installation directories are used:

- **Web Space Server root directory:** *ws-install-dir*
- **Sun GlassFish Enterprise Server root directory:** *gf-install-dir*
- **Oracle WebLogic Server root directory:** *or-install-dir*

See "File System Layout" on page 20 for a detailed explanation of the Web Space Server installation directory structure.

Platform-Specific Path Separators

The instructions and examples in this document use UNIX-style forward slash (`/`) path separators in file and command names. If Web Space Server is installed on a Windows system, be sure to use backslashes (`\`) instead of forward slashes; for example:

- **UNIX systems or Linux systems** — *ws-install-dir*`/bin/asadmin`
- **Windows systems** — *ws-install-dir*`\bin\asadmin`

Installing an Application Server

Web Space Server requires a Java EE–compliant application server in which to run. Currently, Web Space Server runs on the following application servers:

- Sun GlassFish Enterprise Server v2.1. Note that GlassFish Enterprise v3 software can also be used, but it is not supported for production deployments. Refer to Software and Hardware Requirements for the complete list of Web Space Server installation requirements.
- Oracle WebLogic Server 10g Enterprise Edition

The following subsections explain how to install these two application servers for use with Web Space Server.

- "Installing Sun GlassFish Enterprise Server Software" on page 15
- "Installing Oracle WebLogic Server Software" on page 18

Installing Sun GlassFish Enterprise Server Software

There are two paths for installing GlassFish Enterprise Server for use with Web Space Server:

- **Use the bundled version of GlassFish included with Web Space Server**

  The various Web Space Server 10.0 **evaluation** bundles include a copy of GlassFish 2.1 Enterprise Server software suitable for production use. You can use the bundled version of GlassFish if you do not already have or do not wish to perform a separate GlassFish Enterprise Server installation. See "Getting Sun GlassFish Web Space Server Software" on page 19 for more information about the various Web Space Server bundles.

- **Use a standalone version of GlassFish Enterprise Server**

  In many production environments, Sun GlassFish Enterprise Server may already be installed or it may be desirable, for any number of reasons, to install GlassFish separately from Web Space Server. For such environments, GlassFish Enterprise Server software is available in two package formats:

- **GlassFish JAR-based installer**

  The JAR-based installer is useful for development and testing environments, and is typically installed by an individual on his or her personal desktop.

- **GlassFish production packages**

  The various Sun GlassFish Enterprise Server production packages are recommended for deploying Web Space Server in production environments, and can be bundled with MySQL, HADB support, and/or Enterprise Manager administration software.

Instructions for installing these two packages are provided in the next two sections.

- "To Install GlassFish Enterprise Server Using the JAR-Based Installer" on page 16
- "To Install Other GlassFish Enterprise Server Packages" on page 17

▼ To Install GlassFish Enterprise Server Using the JAR-Based Installer

1 **Set the `JAVA_HOME` environment variable to point to the directory in which JDK 1.6 is installed.**

The latest JDK packages are available from the Sun Java SE downloads page.

2 **Set the `ANT_HOME` environment variable to point to an installation of Ant 1.7 or above.**

The latest Ant packages are available from the Apache Ant Project downloads page.

Note – GlassFish Enterprise Server is bundled with Ant 1.6.5, which is too old to work with Web Space Server. Make sure that `ANT_HOME` points to an installation of Ant 1.7 or later, and is *not* pointing to the version of Ant bundled with GlassFish.

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3 **Download the GlassFish Enterprise v2.1 package to the directory of your choice.**

4 **Change to the directory in which you downloaded the GlassFish JAR package, and then start the GlassFish installer:**

```
cd download_directory
java -Xmx256m -jar filename.jar
```

The directory in which the GlassFish components are unpacked is referred to throughout this documentation as *gf-install-dir*.

5 **Change to the *gf-install-dir* directory and run the GlassFish setup script.**

```
cd gf-install-dir
ant -f setup.xml
```

If you prefer to install GlassFish with clustering support, run the `setup-cluster.xml` script instead of `setup.xml`.

```
ant -f setup-cluster.xml
```

6 **Change to the *gf-install-dir*/bin directory and start the default GlassFish domain.**

```
cd gf-install-dir/bin
./asadmin start-domain
```

7 **Proceed to the instructions in "To Install Web Space Server Software Into an Existing Sun GlassFish Enterprise Server Configuration" on page 27.**

See Also Refer to the GlassFish Quick Start Guides more information about getting started with the various GlassFish packages. For more information about configuring GlassFish clustering and load balancing, refer to Configuring the Cluster/Load Balancer with GlassFish V2.

▼ To Install Other GlassFish Enterprise Server Packages

The installation instructions for the various GlassFish Enterprise packages vary depending on the particular bundle and features being used. For comprehensive instructions about installing Sun GlassFish Enterprise Server, see the *Sun GlassFish Enterprise Server 2.1 Installation Guide*.

With the foregoing in mind, this procedure explains only the steps required to configure GlassFish Enterprise Server so it can work with Web Space Server. This procedure is not meant to provide comprehensive GlassFish installation instructions.

1 **Set the `JAVA_HOME` environment variable to point to the directory in which JDK 1.6 is installed.**

The latest JDK packages are available from the Sun Java SE downloads page.

2 **Set the `ANT_HOME` environment variable to point to an installation of Ant 1.7 or above.**

The latest Ant packages are available from the Apache Ant Project downloads page.

Note – GlassFish Enterprise Server is bundled with Ant 1.6.5, which is too old to work with Web Space Server. Make sure that `ANT_HOME` points to an installation of Ant 1.7 or later, and is *not* pointing to the version of Ant bundled with GlassFish.

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3 **Install Sun GlassFish Enterprise Server 2.1 on your machine.**

Follow the installation instructions for your particular GlassFish Enterprise Server package.

The directory in which the GlassFish components are installed is referred to throughout this documentation as *gf-install-dir*.

4 **Change to the *gf-install-dir*/bin directory and start the default GlassFish domain.**

```
cd gf-install-dir/bin
./asadmin start-domain
```

5 **Proceed to the instructions in "To Install Web Space Server Software Into an Existing Sun GlassFish Enterprise Server Configuration" on page 27 for additional GlassFish configuration steps.**

See Also Refer to the GlassFish Quick Start Guides more information about getting started with the various GlassFish packages. For more information about configuring GlassFish clustering and load balancing, refer to Configuring the Cluster/Load Balancer with GlassFish V2.

Installing Oracle WebLogic Server Software

There are several different WebLogic packages available for several platforms. The specific instructions for your package and platform will vary. The intention in this section is to simply highlight the configuration steps that are relevant for running Web Space Server software in a WebLogic Server environment.

Refer to the Oracle WebLogic Server product page for complete WebLogic installation and configuration instructions.

▼ To Install Oracle WebLogic Server Software

In these instructions, the root WebLogic installation directory is referred to as *or-install-dir*.

1. **Download the Oracle WebLogic Server package you want to use.**

   Web Space Server 10.0 software works with Weblogic **10g** and **11g** software.

2. **Start the WebLogic configuration wizard.**

   - **On Linux and Solaris, enter the following in a command shell:**

     ```
     /root/Oracle/Middleware/wlserver_10.3/common/bin/config.sh
     ```

   - **On Microsoft Windows, go to Start→Programs→Oracle WebLogic→WebLogic Server→Tools→Configuration Wizard.**

3. **Create a WebLogic domain for Web Space Server.**

   a. **Click Generate Domain, and then click Next.**

   b. **Specify `domain1` as the domain name.**

   c. **Enter a user name and password.**

   d. **Select Development mode and choose the Sun or JRockit JDK.**

   e. **Click Create.**

4. **Start the WebLogic domain.**

   a. **In a command shell, change to the *or-install-dir*`/domains/domain1/bin` directory.**

b. Enter the domain startup command.

- **On Linux and Solaris:**

  ```
  ./startWeblogic.sh
  ```

- **On Microsoft Windows:**

  ```
  .\startWeblogic.cmd
  ```

Getting Sun GlassFish Web Space Server Software

Sun GlassFish Web Space Server 10.0 software is available as a downloadable ZIP file from the Sun GlassFish Web Space Server page in three general package configurations:

- **Integration bundle:** Intended for live production environments; does not include a bundled application server
- **Deployment bundle:** Intended for live production environments; includes a bundled version of GlassFish Enterprise Server v2.1
- **Evaluation bundle:** Intended for evaluation purposes only; includes GlassFish v2.1 and Web Space Server sample applications

The package you should choose depends on your operating system and how you want to use Web Space Server software. The three Web Space Server ZIP package configurations are described in more detail in Table 2–2.

TABLE 2–2 Web Space Server 10.0 ZIP Downloads

ZIP Package Name	Description
`webspace-10.0.6-for-glassfish.zip` `webspace-10.0.6-for-weblogic.zip`	**Integration bundles:** Include Web Space Server 10.0 software only, and are meant to be installed into an existing Sun GlassFish Enterprise Server v2.1 or Oracle WebLogic Server 11g environment. These bundles do not include application server software or the Web Space Server sample applications. These are the recommended bundles for deploying Web Space Server in a production environment.

`webspace-10.0.6-gfv2-linux.zip`
`webspace-10.0.6-gfv2-macosx.zip`
`webspace-10.0.6-gfv2-sunos-x86.zip`
`webspace-10.0.6-gfv2-sunos.zip`
`webspace-10.0.6-gfv2-windows.zip`
	Deployment bundles: Platform-specific packages that include Web Space Server 10.0 software and GlasFish Enterprise Server software. These bundles do not include the Web Space Server sample applications. These bundles are intended for deploying Web Space Server in a production environment on GlassFish where GlassFish has not yet been installed.

TABLE 2–2 Web Space Server 10.0 ZIP Downloads *(Continued)*

ZIP Package Name	Description

`webspace-10.0.6-evaluation-gfv2-linux.zip`
`webspace-10.0.6-evaluation-gfv2-macosx.zip`
`webspace-10.0.6-evaluation-gfv2-sunos-x86.zip`
`webspace-10.0.6-evaluation-gfv2-sunos.zip`
`webspace-10.0.6-evaluation-gfv2-windows.zip`
	Evaluation bundles: Platform-specific packages that include Web Space Server 10.0, Sun GlassFish Enterprise Server v2.1, plus all sample Web Space Server applications. These bundles are recommended primarily for evaluation purposes rather than for deployment in a live production environment.

Installing Web Space Server Software

Web Space Server 10.0 software installation involves downloading and unzipping the product ZIP package, configuring your operating system environment, and running an Ant setup script.

File System Layout

The root directory that is created when the Web Space Server product bundle is downloaded and unzipped is referred to throughout the entire Sun GlassFish Web Space Server 10.0 Document Collection as *ws-install-dir*. This *ws-install-dir* directory contains a subdirectory and file structure comprising, among other components, the Web Space Server product, the GlassFish Update Center, and a set of customization directories in which you can place your Web Space Server customizations and deployable components.

In addition, depending on how and which application server you have installed (Sun GlassFish Enterprise Server or Oracle WebLogic Server), the Web Space Server installation directories may also incorporate the GlassFish or WebLogic directories. For example, if installing one of the Web Space Server evaluation bundles, the GlassFish Enterprise Server directories will be included in the Web Space Server installation directories.

Regardless of where you choose to install GlassFish or WebLogic software, this document and the entire Web Space Server documentation set refer to the application server root installation directories as follows:

- **Sun GlassFish Enteprise Server:** *gf-install-dir*

- **Oracle WebLogic Server:** *or-install-dir*

Figure 2–1 shows the primary Web Space Server directories in more detail. Note that this illustration shows only a very limited subset of Web Space Server files and directories. Also note that this example includes the GlassFish Enterprise Server installation directories. Refer to the list following the illustration for explanations of the numbered items.

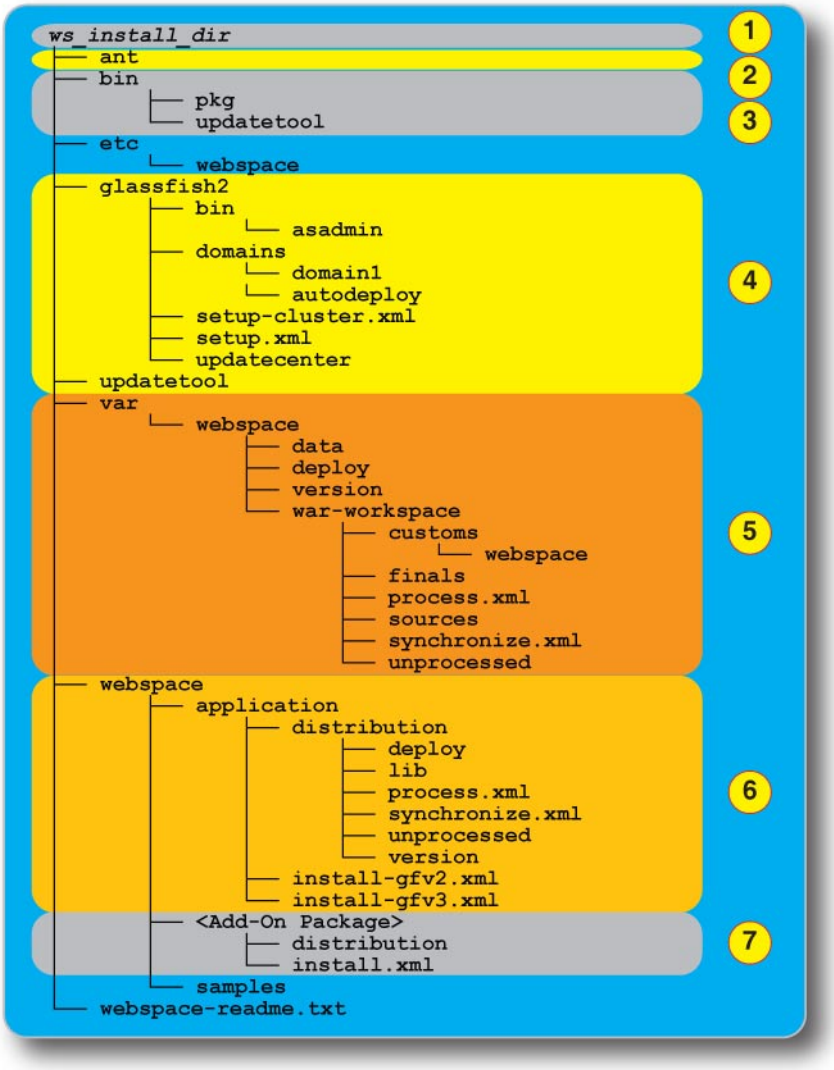


FIGURE 2–1 Primary Web Space Server Installation Directories

1 *ws-install-dir* is the root installation directory in which the Web Space Server download bundle is unzipped. If using the Web Space Server Evaluation Bundle, this directory also includes the GlassFish Enterprise Server root, referred to here as *gf-install-dir*. If not using the Evaluation Bundle, Web Space Server can be unzipped in *gf-install-dir* or some other directory of your choice.

2. The `ant` directory contains a version of Ant that is compatible with Web Space Server. Web Space Server requires Ant version 1.7.1 or later, which is a newer version than that which is currently bundled with GlassFish. It is important that you use either the Ant 1.7.1 located in this `ant` directory or some other 1.7.1 or later version of Ant on your system rather than the version of Ant bundled with GlassFish.

3. The `bin` directory contains the versions of `updatetool` and `pkg` that are compatible with Web Space Server. It is important that you use the `updatetool` and `pkg` binaries from this directory rather than the older binaries that are bundled with GlassFish Enterprise Server v2 in the *gf-install-dir*`/updatecenter` directory.

4. The `glassfish2` directory in the Web Space Server Evaluation Bundle contains GlassFish Enterprise Server v2. If you are not using a Web Space Server Evaluation Bundle, your GlassFish directory will likely be located somewhere else, and could contain GlassFish v2 or v3 software. Similarly, if you are using Oracle WebLogic Server, your WebLogic directory will be located elsewhere..

5. The `var` directory and its subdirectories are the most important in terms of customization and deployment-oriented tasks. In particular, the `deploy` directory contains hot-deployable WAR files that will subsequently be deployed to Web Space Server.

   The `customs` directory is where you place your customized `portal-ext.properties` file. This `portal-ext.properties` file contains your deployed application settings and any custom properties; these values override any corresponding values in the GlassFish `portal.properties` file.

   The `unprocessed` directory contains application files that cannot be hot deployed – for example, any application in a clustered GlassFish environment – prior to being processed. The `process.xml` Ant script processes the applications in the `unprocessed` directory and copies the resulting WAR files to the `finals` directory.

   Finally, the `synchronize.xml` Ant script uses the `portal-ext.properties` file and applications in the `deployed` and `finals` directory as input to rebuild the `webspace.war` file, and then deploys the new `webspace.war` and your applications to the GlassFish server.

6. The `webspace` directory contains the Web Space Server installation and upgrade scripts. In the non-evaluation (not bundled with GlassFish) version of Web Space Server, and after installing any Web Space Server update package, run the `install.xml` script to install Web Space Server into an existing GlassFish environment.

7. There is a separate <*Add-On Package*> directory and related subdirectories for each of the Web Space Server Add-On packages you choose to install. Refer to the Sun GlassFish Web Space Server Add-On Collection for instructions on working with any of the Web Space Server Add-On products.

▼ To Install Web Space Server Software Bundled With GlassFish

This procedure describes how to install the Web Space Server ZIP package that **includes** Sun GlassFish Enterprise Server software. See "To Install Web Space Server Software Into an

Existing Sun GlassFish Enterprise Server Configuration" on page 27 for instructions on installing the Web Space Server ZIP package that does not include GlassFish. See "Getting Sun GlassFish Web Space Server Software" on page 19 for information about all available Web Space Server packages.

Before You Begin Apache Ant 1.7 or later must be installed on your system before performing the Web Space Server installation. The version of Ant bundled with Sun GlassFish does not work with Web Space Server 10.0. Make sure that Ant 1.7 or later is installed on your system, and that your `PATH` and `ANT_HOME` environment variables point to this newer version. You can verify the version of Ant that will be used by default by entering the following command in a command shell for your operating system:

```
ant -version
```

Refer to the documentation included with your Ant package for complete installation instructions.

1 *(Mac OS X systems only)* **Configure your Java environment.**

- **If using JDK 1.6, use the Java Preferences application to specify the correct JDK version.**

  Also be sure to set `JAVA_HOME` to point to JDK 1.6.

  ```
  export JAVA_HOME=/System/Library/Frameworks/JavaVM.framework/Versions/1.6.0/Home
  ```

- **If using JDK 1.5, rename the `14compatibility.jar` file.**

  The `14compatibility.jar` file includes some aspects of the Xalan XSLT processor and the Crimson XML parser that conflict with newer versions of the classes bundled with Web Space Server 10.0.

  Use the following commands to rename the `14compatibility.jar` file:

  ```
  cd /System/Library/Frameworks/JavaVM.framework/Versions/1.5.0/ \
  Classes/.compatibility
  sudo mv 14compatibility.jar 14compatibility.jar.orig
  cd /System/Library/Frameworks/JavaVM.framework/Versions/A/Resources/.compatibility
  sudo mv 14compatibility.jar 14compatibility.jar.orig
  ```

2 *(Linux systems only)* **Increase the maximum limit on files the operating system can open.**

This step is only required on some Linux systems, and resolves an issue in which some of the Web Space Server `.war` files fail to deploy properly in GlassFish.

a. **Enter the following command to verify the open file limit in your environment:**

   ```
   ulimit -n
   ```

b. **If the number returned is `1024` or less, modify the `/etc/sysctl.conf` and `/etc/security/limits.conf` files, as follows:**

- `/etc/sysctl.conf`: Add `fs.file-max = 200000`
- `/etc/security/limits.conf`: Add the following two lines:

```
* soft nofile 5000
* hard nofile 5000
```

c. **Reboot the system.**

3 **Download one of the Web Space Server deployment or evaluation ZIP bundles and unzip it in the directory of your choice.**

For the remainder of these instructions, the directory in which the Web Space Server ZIP file is unpacked is referred to as *ws-install-dir*.

4 **Change to the *ws-install-dir*`/glassfish2` directory.**

5 **Run the Ant `setup.xml` script.**

```
ant -f setup.xml
```

If you want to configure your Sun GlassFish server for clustering, run the `setup-cluster.xml` script instead.

The default GlassFish domain and database configuration proceeds. When the "`BUILD SUCCESSFUL`" message is displayed, the Web Space Server installation is complete.

6 **Change to the *ws-install-dir*`/glassfish2/bin` directory and start the Sun GlassFish Enterprise Server default domain.**

Web Space Server software is installed by default in `domain1`

```
cd ws-install-dir/glassfish2/bin
./asadmin start-domain
```

Some additional Web Space Server configuration occurs as the GlassFish server, database server, and the Web Space Server components are started.

7 *(Mac OS X systems only)* **Configure the `domain.xml` file 64–bit JVM.**

When running any 64-bit JVM such as JDK 1.6 (which runs by default in 64-bit mode on Mac OS X), you need to edit the `domain.xml` file in the GlassFish `domain1/config` directory.

a. **Stop the GlassFish `domain1` server.**

```
cd ws-install-dir/glassfish2/bin
./asadmin stop-domain
```

b. **Edit the `domain.xml` file for `domain1`, changing the `PermSize` and `MaxPermSize` property values.**

This `domain.xml` file is located in the *ws-install-dir*`/glassfish2/domains/domain1/config` directory. Change the `PermSize` and `MaxPermSize` values as follows:

- `-XX:PermSize=192M` to `-XX:PermSize=256M`
- `-XX:MaxPermSize=192M` to `-XX:MaxPermSize=256M`

c. Restart `domain1`.

ws-install-dir`/glassfish2/bin/asadmin start-domain`

8 *(All operating systems)* **Open the Web Space Server default home page.**

Point your Web browser to `http://localhost:8080`.

Note – The page may take a long time to load the first time after server start. If you see the default GlassFish "Your site is installed" page or an empty page, wait a few minutes and then refresh the page. Subsequent page loads should proceed more rapidly. Also note that repeated attempts to access pages before the server has fully started may result in a "`index.jsp resource not found exception`," which could require a server restart.

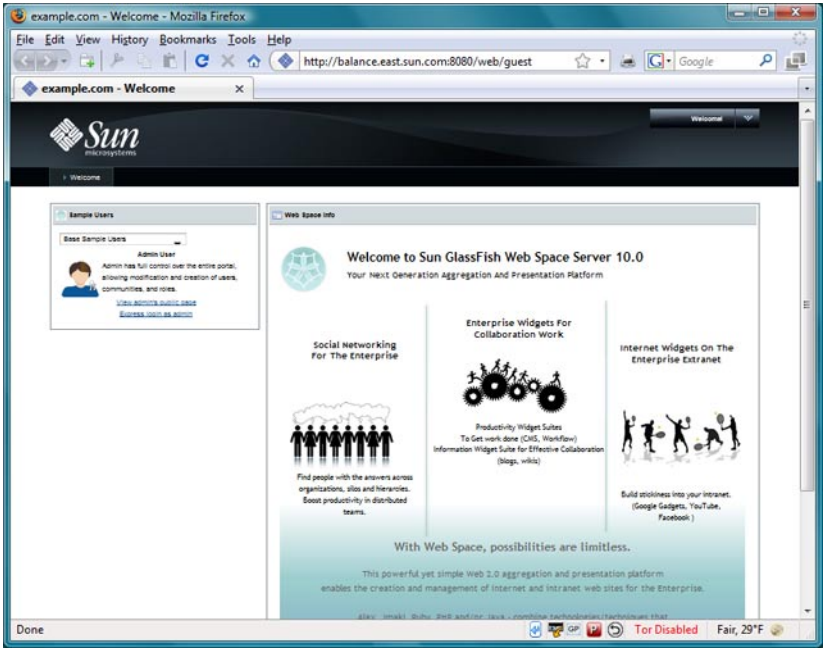


FIGURE 2–2 Web Space Server Example Site Main Screen

9 **(Optional) Configure Web Space Server to work with a database other than the default HSQL database.**

In most production environments, you will want to use a database other than the default HSQL database that is bundled with Web Space Server. See "Configuring a Database for Use With Web Space Server" on page 49 for detailed instructions.

▼ To Install Web Space Server Software Into an Existing Sun GlassFish Enterprise Server Configuration

This procedure describes how to install the Web Space Server ZIP package that **does not include** Sun GlassFish Enterprise Server software. See "To Install Web Space Server Software Bundled With GlassFish" on page 23 for instructions on installing the Web Space Server ZIP package that does include GlassFish. See "Getting Sun GlassFish Web Space Server Software" on page 19 for information about all available Web Space Server packages.

Before You Begin Sun GlassFish v2.1 Enterprise Server software must be **installed and running** on your system before proceeding with these instructions. See "Installing Sun GlassFish Enterprise Server Software" on page 15 for more information about installing GlassFish Enterprise Server software.

- **GlassFish version:** GlassFish v2.1 is the recommended GlassFish version for production environments. Web Space Server 10.0 software works with other versions of GlassFish, but versions other than v2.1 are recommended for evaluation or testing purposes only.
- **Ant version:** Apache Ant 1.7 or later must be installed on your system before performing the Web Space Server installation. The version of Ant bundled with Sun GlassFish does not work with Web Space Server 10.0. Make sure that Ant 1.7 or later is installed on your system, and that your `PATH` and `ANT_HOME` environment variables point to this newer version. You can verify the version of Ant that will be used by default by entering the following command in a command shell for your operating system:

  ```
  ant -version
  ```

  Refer to the documentation included with your Ant package for complete installation instructions.

1 *(Mac OS X systems only)* **Configure your Java environment.**

- **If using JDK 1.6, use the Java Preferences application to specify the correct JDK version.**

  Also be sure to set `JAVA_HOME` to point to JDK 1.6.

  ```
  export JAVA_HOME=/System/Library/Frameworks/JavaVM.framework/Versions/1.6.0/Home
  ```

- **If using JDK 1.5, rename the `14compatibility.jar` file.**

  The `14compatibility.jar` file includes some aspects of the Xalan XSLT processor and the Crimson XML parser that conflict with newer versions of the classes bundled with Web Space Server 10.0.

  Use the following commands to rename the `14compatibility.jar` file:

  ```
  cd /System/Library/Frameworks/JavaVM.framework/Versions/1.5.0/ \
  Classes/.compatibility
  sudo mv 14compatibility.jar 14compatibility.jar.orig
  cd /System/Library/Frameworks/JavaVM.framework/Versions/A/Resources/.compatibility
  sudo mv 14compatibility.jar 14compatibility.jar.orig
  ```

2 *(Linux systems only)* **Increase the maximum limit on files the operating system can open.**

This step is only required on some Linux systems, and resolves an issue in which some of the Web Space Server `.war` files fail to deploy properly in GlassFish.

a. **Enter the following command to verify the open file limit in your environment:**

   ```
   ulimit -n
   ```

b. **If the number returned is `1024` or less, modify the `/etc/sysctl.conf` and `/etc/security/limits.conf` files, as follows:**

   - `/etc/sysctl.conf`: Add `fs.file-max = 200000`
   - `/etc/security/limits.conf`: Add the following two lines:

     ```
     * soft nofile 5000
     * hard nofile 5000
     ```

c. **Reboot the system.**

3 **Download the `webspace-10.0.6-for-glassfish.zip` integration bundle and unzip it in the directory of your choice.**

Tip – To avoid the chance of overwriting existing GlassFish configuration settings or files, it is strongly recommended that you *not* unzip the Web Space Server package into an existing GlassFish directory structure.

For the remainder of these instructions, the root directory of the existing GlassFish installation is referred to as *gf-install-dir*, and the directory in which the Web Space Server installer has been unzipped is referred to as *ws-install-dir*.

4 **Stop the GlassFish domain into which Web Space Server is to be installed.**

For example, if Web Space Server will be installed in `domainfoo`:

```
cd gf-install-dir/bin
asadmin stop-domain domainfoo
```

5 **Add the following code to the** `server.policy` **file in the** *gf-install-dir*`/domains/`*domainfoo* **directory.**

```
grant codeBase "file:${com.sun.aas.instanceRoot}/lib/-" {
   permission java.security.AllPermission;
};

// permissions for Webspace
grant codeBase "file:${com.sun.aas.instanceRoot}/applications/j2ee-modules/webspace/-" {
   permission java.security.AllPermission;
};

grant codeBase "file:${com.sun.aas.instanceRoot}/applications/j2ee-modules/saw-web/-" {
  permission java.security.AllPermission;
}; // Basic set of required permissions granted to all remaining code
grant {
..............
..............
permission java.lang.reflect.ReflectPermission "suppressAccessChecks";
};

grant codeBase "file:${com.sun.aas.instanceRoot}/applications/j2ee-modules/ruon-web/-" {
permission java.security.AllPermission;
};

grant codeBase "file:${com.sun.aas.instanceRoot}/applications/j2ee-modules/wsrp-portlet/-" {
permission java.security.AllPermission;
};
```

Note – Permissions must be granted for any Web application that needs to create database tables, similar to the `Webspace` example above.

---

6 **Create a directory named** *ws-install-dir*`/var/webspace/war-workspace/customs/webspace/WEB-INF/classes`**, if it does not already exist, and then change to it.**

```
mkdir -p ws-install-dir/var/webspace/war-workspace/customs/webspace/WEB-INF/classes
cd ws-install-dir/var/webspace/war-workspace/customs/webspace/WEB-INF/classes
```

7 **Create and modify a text file named** `portal-ext.properties`**, if it does not already exist.**

a. **Add or verify the following default properties:**

```
auto.deploy.glassfish-tomcat.jee.deployment.enabled=true
auto.deploy.glassfish-tomcat.jee.dm.id=deployer:Sun:AppServer::localhost:4848
auto.deploy.glassfish-tomcat.jee.dm.user=admin
auto.deploy.glassfish-tomcat.jee.dm.passwd=adminadmin
```

b. Add any non-default properties your configuration may require.

For example, to use HTTPS, add the following line:

```
auto.deploy.glassfish-tomcat.jee.dm.id=deployer:Sun:AppServer::localhost:4848:https
```

8 Start the GlassFish domain into which Web Space Server will be installed.

For example, if Web Space Server will be installed in `domainfoo`:

```
cd gf-install-dir/bin
asadmin start-domain domainfoo
```

9 (Optional) Configure Web Space Server to work with a database other than the default HSQL database.

In most production environments, you will want to use a database other than the default HSQL database that is bundled with Web Space Server. See "Configuring a Database for Use With Web Space Server" on page 49 for detailed instructions. Continue with the next step, below, after configuring your database.

10 Change to the *ws-install-dir*`/webspace/application` directory.

11 Run the Ant `install.xml` script.

```
ant -f install.xml
```

12 Follow the prompts to complete the Web Space Server installation in the GlassFish domain you want to use.

The Web Space Server installer stops the domain you have chosen to use for the installation and installs the Web Space Server configuration and `.war` files.

13 Change to the *gf-install-dir*`/bin` directory and restart the Sun GlassFish Enterprise Server domain you chose to use during the Web Space Server installation.

For example:

```
cd gf-install-dir/bin
./asadmin start-domain domainfoo
```

Some additional Web Space Server configuration occurs as the GlassFish server, database server, and the Web Space Server components are started.

14 *(Mac OS X systems only)* Configure the `domain.xml` file 64–bit JVM.

When running any 64-bit JVM such as JDK 1.6 (which runs by default in 64-bit mode on Mac OS X), you need to edit the `domain.xml` file in the GlassFish *domain_name*`/config` directory.

a. Stop the GlassFish domain you are using for Web Space Server.

```
cd gf-install-dir/bin
./asadmin stop-domain domain_name
```

b. Edit the `domain.xml` file for the domain, changing the `PermSize` and `MaxPermSize` property values.

This `domain.xml` file is located in the *gf-install-dir*`/domains/`*domain_name*`/config` directory. Change the `PermSize` and `MaxPermSize` values as follows:

- `-XX:PermSize=192M` to `-XX:PermSize=256M`
- `-XX:MaxPermSize=192M` to `-XX:MaxPermSize=256M`

c. Restart the default domain you are using for Web Space Server.

gf-install-dir`/bin/asadmin start-domain` *domain_name*

15 *(All operating systems)* **Open the Web Space Server site.**

Web Space Server uses whatever HTTP/HTTPS port is defined for your domain. For example:

```
http://domainfoo:8080
```

▼ To Install Web Space Server Software Into an Existing Oracle WebLogic Server Configuration

This procedure describes how to install the Web Space Server package specifically intended for use with WebLogic Server software. Only install this Web Space Server package on WebLogic; do not install any of the Web Space Server evaluation bundles or GlasFish bundles. See "Getting Sun GlassFish Web Space Server Software" on page 19 for information about all available Web Space Server packages.

Before You Begin Oracle WebLogic Server software must be **installed and running** on your system before proceeding with these instructions. See "Installing Oracle WebLogic Server Software" on page 18for more information about installing Oracle WebLogic Server software.

- **WebLogic version:** WebLogic 10g or 11g are the recommended WebLogic versions for production environments.
- **Ant version:** Apache Ant 1.7 or later must be installed on your system before performing the Web Space Server installation. The version of Ant bundled with Sun GlassFish does not work with Web Space Server 10.0. Make sure that Ant 1.7 or later is installed on your system, and that your `PATH` and `ANT_HOME` environment variables point to this newer version. You can verify the version of Ant that will be used by default by entering the following command in a command shell for your operating system:

  ```
  ant -version
  ```

  Refer to the documentation included with your Ant package for complete installation instructions.

1 *(Mac OS X systems only)* **Configure your Java environment.**

- **If using JDK 1.6, use the Java Preferences application to specify the correct JDK version.**

  Also be sure to set `JAVA_HOME` to point to JDK 1.6.

  ```
  export JAVA_HOME=/System/Library/Frameworks/JavaVM.framework/Versions/1.6.0/Home
  ```

- **If using JDK 1.5, rename the `14compatibility.jar` file.**

  The `14compatibility.jar` file includes some aspects of the Xalan XSLT processor and the Crimson XML parser that conflict with newer versions of the classes bundled with Web Space Server 10.0.

  Use the following commands to rename the `14compatibility.jar` file:

  ```
  cd /System/Library/Frameworks/JavaVM.framework/Versions/1.5.0/ \
  Classes/.compatibility
  sudo mv 14compatibility.jar 14compatibility.jar.orig
  cd /System/Library/Frameworks/JavaVM.framework/Versions/A/Resources/.compatibility
  sudo mv 14compatibility.jar 14compatibility.jar.orig
  ```

2 **Open the WebLogic administration console in a Web browser; for example:**

```
http://localhost:7001/console
```

3 **Navigate to the domain in which Web Space Server will be installed, and then click on the Web Applications tab.**

4 **Enable the `Optimistic Serialization` option and save the setting.**

5 **Stop the WebLogic domain.**

6 **Download the `webspace-10.0.6-for-weblogic.zip` integration bundle and unzip it in the directory of your choice.**

Tip – To avoid the chance of overwriting existing WebLogic configuration settings or files, it is strongly recommended that you *not* unzip the Web Space Server package into an existing WebLogic directory structure.

For the remainder of these instructions, the root directory of the existing WebLogic installation is referred to as *or-install-dir*, and the directory in which the Web Space Server installer has been unzipped is referred to as *ws-install-dir*.

7 **Change to the *ws-install-dir*`/webspace/application` directory and run the `install.xml` script.**

```
cd ws-install-dir/webspace/application
ant -f ./install.xml
```

8 **Follow the prompts to complete the Web Space Server installation in the WebLogic domain you want to use.**

The Web Space Server WAR files are copied to the *ws-install-dir*`/var/webspace/war-workspace/finals/` directory.

9 **(Optional) Configure Web Space Server to work with a database other than the default HSQL database.**

In most production environments, you will want to use a database other than the default HSQL database that is bundled with Web Space Server. See "Configuring a Database for Use With Web Space Server" on page 49 for detailed instructions. Continue with the next step, below, after configuring your database.

10 **Start the WebLogic domain.**

a. **In a command shell, change to the** *or-install-dir*`/domains/domain1/bin` **directory.**

b. **Enter the domain startup command.**

- **On Linux and Solaris:**

```
./startWeblogic.sh
```

- **On Microsoft Windows:**

```
.\startWeblogic.cmd
```

11 **Deploy the Web Space Server WAR files.**

The Web Space Server WARs can be deployed using the GUI-based WebLogic administration console or the WebLogic command line.

- **To deploy the Web Space Server WARs using the GUI-based WebLogic administration console**

a. **Use a Web browser to log in to the WebLogic administration console; for example:**

```
http://localhost:7001/console
```

b. **Click Deployments, and manually deploy the Web Space Server WAR files, one at a time.**

The Web Space Server WAR files are located in the *ws-install-dir*`/var/webspace/war-workspace/finals/` directory.

Tip – When running WebLogic in Production mode, you must explicitly click the Start button in the WebLogic administration console for each WAR file you deploy.

- **To deploy the Web Space Server WARs using the WebLogic command line**

  a. **Open a root command shell for your operating environment on the server on which WebLogic is running.**

  b. **Add the `weblogic.jar` to the Java `CLASSPATH`.**

  ```
  export  CLASSPATH=$CLASSPATH:or-install-dir/server/lib/weblogic.jar
  ```

  c. **Deploy the `webspace.war` file.**

  ```
  java weblogic.Deployer -adminurl t3://localhost:7001 -user \
  weblogic -password weblogic -deploy webspace.war
  ```

  Note that the above command should be entered on a single line. To start the application, invoke the above command with the `-start` option.

  d. **Deploy the `tunnel-web.war` file.**

  ```
  java weblogic.Deployer -adminurl t3://localhost:7001 -user \
  weblogic -password weblogic -deploy tunnel-web.war
  ```

  As with the `webspace.war` example, this command should be entered on a single line, and the application can be started by invoking the command with the `-start` option.

  e. **(Optional) Verify that the application WARs are deployed.**

  ```
  java weblogic.Deployer -adminurl t3://localhost:7001 -user \
  weblogic -password weblogic -listapps
  ```

12 **(Optional) Open the Web Space Server site.**

Web Space Server uses whatever HTTP/HTTPS port is defined for your domain. For example:

```
http://domainfoo:7001
```

▼ To Install Web Space Server Software Into a Clustered WebLogic Configuration

The procedure for installing Web Space Server on a WebLogic cluster are almost exactly the same as those for installing on a non-clustered WebLogic server, as described in "To Install Web Space Server Software Into an Existing Oracle WebLogic Server Configuration" on page 31. The only difference is that rather than deploying the Web Space Server WAR files on the primary WebLogic server, the WARs are deployed on one of the managed cluster nodes.

1 **Configure your WebLogic clusters as described in the WebLogic documentation.**

For example, you may want to refer to Using Clusters for Oracle WebLogic Server 11g.

2 **Follow the instructions in "To Install Web Space Server Software Into an Existing Oracle WebLogic Server Configuration" on page 31.**

3 **Where the above instructions direct you to perform actions on a WebLogic server, perform them on a managed cluster node rather than the primary WebLogic server.**

▼ To Install Web Space Server Add-Ons On a WebLogic Server

This procedure explains how to install Web Space Server Add-Ons (OpenSSO, Sharepoint, SWA, among others) when Web Space Server is running on a WebLogic server. This procedure is not meant to provide exhaustive Add-On instructions, but rather only highlights the primary steps you need to take when running on a WebLogic server. For detailed instructions for you particular Web Space Server Add-On, refer to the Sun GlassFish Web Space Server 10.0 Add-On Document Collection.

Before You Begin WebLogic and Web Space Server must be **up and running** before proceeding with the instructions in this section. See "Installing Oracle WebLogic Server Software" on page 18 and "To Install Web Space Server Software Into an Existing Oracle WebLogic Server Configuration" on page 31 for more instructions.

1 **Stop and undeploy the `webspace.war` application file.**

This step is only necessary if the Web Space Server Add-On you are installing causes the `webspace.war` to be rebuilt. For example, installing the OpenSSO Add-On involves rebuilding the `webspace.war` file.

The `webspace.war` file can be undeployed using the GUI-based WebLogic administration console or the WebLogic command line.

- **To undeploy the `webspace.war` file using the GUI-based WebLogic administration console**

  a. **Use a Web browser to log in to the WebLogic administration console; for example:**

  ```
  http://localhost:7001/console
  ```

  b. **Click Deployments, select the `webspace.war` file, and undeploy it.**

- **To undeploy `webspace.war` using the WebLogic command line**

  a. **Open a root command shell for your operating environment on the server on which WebLogic is running.**

b. **Undeploy the `webspace.war` file.**

```
java weblogic.Deployer -adminurl t3://localhost:7001 -user \
weblogic -password weblogic -name webspace.war -undeploy -graceful
```

Note that the above command should be entered on a single line.

c. **(Optional) Verify that the `webspace.war` file is undeployed.**

```
java weblogic.Deployer -adminurl t3://localhost:7001 -user \
weblogic -password weblogic -listapps
```

2 **Follow the installation instructions for the particular Web Space Server Add-On you want to install.**

3 **If the Add-On you installed caused the `webspace.war` file to be rebuilt, manually deploy `webpspace.war` again.**

Note – Any portlets that rely on `webspace.war` also need to be redeployed and started after `webspace.war` is redeployed.

As with undeployment, the `webspace.war` file can be deployed using the GUI-based WebLogic administration console or the WebLogic command line.

- **To deploy `webspace.war` using the GUI-based WebLogic administration console**

  a. **Use a Web browser to log in to the WebLogic administration console; for example:**

  ```
  http://localhost:7001/console
  ```

  b. **Click Deployments, and manually deploy the `webspace.war` file.**

  The `webspace.war` file is located in the *ws-install-dir*`/var/webspace/war-workspace/finals/` directory.

  Tip – When running WebLogic in Production mode, you must explicitly click the Start button in the WebLogic administration console for each WAR file you deploy.

- **To deploy the `webspace.war` file using the WebLogic command line**

  a. **Open a root command shell for your operating environment on the server on which WebLogic is running.**

  b. **Deploy the `webspace.war` file.**

  ```
  java weblogic.Deployer -adminurl t3://localhost:7001 -user \
  weblogic -password weblogic -deploy webspace.war
  ```

Note that the above command should be entered on a single line. To start the application, invoke the above command with the `-start` option.

c. **(Optional) Verify that the `webspace.war` file is deployed.**

```
java weblogic.Deployer -adminurl t3://localhost:7001 -user \
weblogic -password weblogic -listapps
```

Upgrading an Existing Web Space Server Installation

This section provides instructions for upgrading an existing Web Space Server 10.0 installation with the latest **Update** release.

Upgrades to Web Space Server and Web Space Server plugins are performed in either of thre ways:

- "Using Update Tool" on page 37
- "Using a Web Space Server Administrator Account" on page 42
- "Performing Upgrades in Offline Mode" on page 44

Note – Update Tool can be used to upgrade Web Space Server and Web Space Server plugins. However, when using a Web Space Server administrator account from within a Web Space Server session, only plugins can be upgraded, and it is recommended that only community or private plugins be upgraded in this way. In general, you should perform all upgrades using Upgrade Tool.

Using Update Tool

After installing the core Web Space Server 10.0 software, updates to Web Space Server and any plugins can be performed entirely through the *Update Tool* that is bundled with Web Space Server 10.0.

Note – The version of Update Tool included with some versions of GlassFish Enterprise Server is not compatible with the Web Space Server update repositories. You must use the version of Update Tool that comes with Web Space Server 10.0 software rather than the version that is bundled with GlassFish .

Update Tool also includes a command-line (CLI) Image Packaging System (IPS) utility, called `pkg`, that provides the same core functionality as its GUI-based counterpart. This IPS tool is started with the *ws-install-dir*`/bin/pkg` command. See the Update Center wiki for complete information about Update Tool and the `pkg` command.

You can install Web Space Server 10.0 Update components through either the Update Tool GUI or with the `pkg` CLI utility.

▼ To Determine the Current Web Space Server Version

Before installing a Web Space Server Update package, or when performing Web Space Server maintenance tasks in general, it is often useful to know the full version information about the currently running Web Space Server installation. This information can be displayed through Update Center, but the quickest and most complete information is found the Web Space Server `version` file.

- **In a command shell, change to the *ws-install-dir*`/var/webspace` directory, and display the contents of the `version`.**

```
cd ws-install-dir/var/webspace
less version
```

For example, the following version information is returned for Web Space Server Update 5:

```
Version=10.0.5
Build=1.19
Revisions=1626-31998-26479
VanityVersion=Web Space Server 10.0 Update 5
```

▼ To Install the Update Components Using the GUI-Based Update Tool

This procedure explains how to install an Update patch on top of an existing Web Space Server 10.0 installation using the GUI-based Update Tool. If you prefer to use the `pkg` command line tool, see "To Install the Update Components Using the CLI-Based `pkg` Tool" on page 40.

Before You Begin Note the following before you begin the Update installation:

- Web Space Server 10.0 software must be **installed and running**, as described in "Installing Web Space Server Software" on page 20.
- Installation of the 10.0 Update components cannot be rolled back.

1. **In a command shell for your operating system, change to the *ws-install-dir*`/bin` directory and run the `updatetool` command.**

   If this is the first time you have launched `updatetool`, the full Update Tool product will not yet be installed, and you are prompted to allow installation to proceed.

   a. **Type y when prompted to install Update Tool.**

      The installer downloads and installs the full Update Tool product and then exits.

   b. **Enter the `updatetool` command again to launch Update Tool.**

   The Update Tool main window is displayed, with Available Updates highlighted.

2. **(Optional) Specify proxy server settings, if necessary.**

   This step is only required if you are using Update Tool from behind a firewall that implements a proxy server.

   a. **Click Preferences in the Update Tool main window to display the proxy server settings dialog.**

   b. **Enter your proxy settings, and then close the dialog to return to the Update Tool main screen.**

3. **Click the Web Space node in the Application Images pane on the left in Update Tool.**

   Details about the currently selected software repositories are displayed. To get the Web Space Server updates, the update repository URL must be modified in this list.

4. **Click Edit Properties on the right side of the Image Details pane.**

   The repositories displayed by default depend on the version of Web Space Server you are using.

   - **If you are using Web Space Server Update 6:**

     a. **Select the `webspace.sun.com` repository in the Image Properties dialog, and then click Edit.**

     b. **In the Repository Properties dialog, modify the Repository URL so it reads:**

        `http://pkg.sun.com/webspace/10/_support_`

     c. **Click OK twice to return to the Update Tool main window.**

   - **If you are using Web Space Server Update 5 or earlier:**

     a. **Select the `support.sun.com` repository in the Image Properties dialog, and then click Edit.**

b. **In the Repository Properties dialog, modify the Repository URL so it reads:**

```
http://pkg.sun.com/webspace/10/_support_
```

c. **Click OK twice to return to the Update Tool main window.**

- **Verify that the `support.sun.com` repository is now Enabled and selected as Preferred.**

5 **Back in the Update Tool main window, choose the Available Updates node in the Application Images pane to display the list of available Updates.**

The available updates and their associated WAR files are displayed. It is recommended that you always choose the latest available update.

6 **Select the Web Space Server update package you want to install, and then click Install to install the update.**

7 **Restart the application server.**

For example, if running GlassFish Enterprise Server, use the following commands:

```
cd gf-install-dir/bin
./asadmin stop-domain domain_name
./asadmin start-domain domain_name
```

8 **Change to the *ws-install-dir*`/webspace/application` directory.**

9 **Run the Ant `install.xml` script to regenerate and redeploy the Web Space Server WAR files.**

```
ant -f install.xml
```

10 **Restart the application server once again.**

For example, if running GlassFish Enterprise Server:

```
cd gf-install-dir/bin
./asadmin start-domain domain_name
```

▼ To Install the Update Components Using the CLI-Based `pkg` Tool

This procedure explains how to install an Update patch on top of an existing Web Space Server 10.0 installation using the CLI-based `pkg` utility. If you prefer to use the GUI-based Update Tool, see "To Install the Update Components Using the GUI-Based Update Tool" on page 38.

Before You Begin

Note the following before you begin the Update installation:

- Web Space Server 10.0 software must be **installed and running**, as described in "Installing Web Space Server Software" on page 20.
- Installation of the 10.0 Update components cannot be rolled back.

1. **In a command shell for your operating system, change to the** *ws-install-dir*`/bin` **directory and run the** `updatetool` **command.**

   If this is the first time you have launched `updatetool`, the full Update Tool product will not yet be installed, and you are prompted to allow installation to proceed.

2. **Type y when prompted to install Update Tool.**

   The installer downloads and installs the full Update Tool product and then exits.

3. **Change to the** *ws-install-dir*`/pkg/bin` **directory.**

4. **Use the** `pkg` **command to download the Update components.**

   - **If you are using Web Space Server Update 6, enter the following command:**

     ```
     pkg set-publisher -O http://pkg.sun.com/webspace/10/_support_ webspace.sun.com
     ```

   - **If you are using Web Space Server Update 5 or earlier, enter the following command:**

```
pkg set-authority -P --enable -O http://pkg.sun.com/webspace/10/_support_ support.sun.com
```

5. **Enter the following command to install the Update components:**

   ```
   pkg image-update
   ```

6. **Restart the application server.**

   For example, if running GlassFish Enterprise Server, use the following commands:

   ```
   cd gf-install-dir/bin
   ./asadmin stop-domain domain_name
   ./asadmin start-domain domain_name
   ```

7. **Change to the** *ws-install-dir*`/webspace/application` **directory.**

8. **Run the Ant** `install.xml` **script to regenerate and redeploy the Web Space Server WAR files.**

   ```
   ant -f install.xml
   ```

9. **Restart the application server.**

   For example, if running GlassFish Enterprise Server:

   ```
   cd gf-install-dir/bin
   ./asadmin start-domain domain_name
   ```

▼ To Use Update Tool With an Older Version of Web Space Server Behind a Proxy That Requires Authentication

When using Update Tool to upgrade a version of Web Space Server **prior to Update 5**, a workaround is required when performing the upgrade from behind a proxy server that requires authentication.

Before You Begin The workaround presented here is only required when updating Web Space Server versions prior to Update 5. Web Space Server Update 5 and later are bundled with Update Center 2.2, which supports proxy authentication and therefore does not require this workaround. See "To Determine the Current Web Space Server Version" on page 38 for instructions on displaying the current Web Space Server version.

1. **Download Update Center 2.2 package suitable for your platform from the Update Center wiki.**
2. **Unzip the Update Center 2.2 package to the temporary directory of your choice.**

   In this example, the temporary directory is named `/tmp/uc2.2`, and the package is for the Sun Solaris x86 operating environment.
3. **Copy the `pkg-bootstrap.jar` and `pkg-client.jar` files from `/tmp/uc2.2/pkg-toolkit-`*platform_name*`/pkg/lib` to the *ws-install-dir*`/pkg/lib` directory.**
4. **Change to the *ws-install-dir*`/bin` directory and run the `updatetool` command.**

   You are prompted to specify the proxy host and port.
5. **Enter the proxy information as prompted.**

   The latest versions of the `updatetool` and `pkg` files are downloaded and installed.
6. **Run `updatetool` again, and proceed with the Web Space Server update, as described in "To Install the Update Components Using the GUI-Based Update Tool" on page 38 or "To Install the Update Components Using the CLI-Based `pkg` Tool" on page 40.**

Using a Web Space Server Administrator Account

In addition to "Using Update Tool" on page 37, upgrades to Web Space Server plugins can be performed directly from a Web Space Server Administrator account.

Note – Performing upgrades in this way requires that Update Tool be installed and upgrade servers configured as described in "Using Update Tool" on page 37. Also note that only plugins can be upgraded from within aWeb Space Server session; Web Space Server core components cannot be upgraded from within a running Web Space Server session. Moreover, it is recommended that only community or private plugins be upgraded in this way. Because of this, performing upgrades through a Web Space Server Administrator account in a running Web Space Server session is typically only a supplementary means for performing upgrades using Update Tool.

- "To Perform Upgrades Through a Web Space Server Administrator Account" on page 43
- "To Enable or Disable Update Prompts in a Web Space Server Administrator Account" on page 43

▼ To Perform Upgrades Through a Web Space Server Administrator Account

Before You Begin Update servers must be initially configured using Update Tool, as described in "Using Update Tool" on page 37.

1. **Log in to Web Space Server using an Administrator account.**

   If updates are available, a prompt is displayed at the top of the Web Space Server window.

2. **Click the "Updates are available for Web Space" link.**

   Click Close if you do not want to perform updates at this time.

   Clicking the "Updates are available" link displays the Update Manger Page. Components for which updates are available are displayed with `Update Available` in the Status column.

3. **Click the Action button next to the updates you want to install.**

▼ To Enable or Disable Update Prompts in a Web Space Server Administrator Account

The display of update prompts in a Web Space Server Administrator account can be enabled or disabled by setting the `plugin.notifications.enabled` property to `true` or `false` in the `portal-ext.properties` file.

1. **In a command shell, change to the** *ws-install-dir*`/var/webspace/war-workspace/customs/webspace/WEB-INF/classes` **directory.**

2. **Edit the** `portal-ext.properties` **file, as follows:**

   - **To enable update prompts:**

     ```
     plugin.notifications.enabled=true
     ```

   - **To disable update prompts:**

     ```
     plugin.notifications.enabled=fales
     ```

3. **Change to the** *ws-install-dir*`/var/webspace/war-workspace` **directory and run the** `synchronize.xml` **Ant script.**

   ```
   cd ws-install-dir/var/webspace/war-workspace
   ant -f synchronize.xml
   ```

   The Web Space Server domain is stopped by the `synchronize.xml` script.

4 **Restart the Web Space Server domain.**

```
cd gf-install-dir/bin
asadmin start-domain
```

Performing Upgrades in Offline Mode

In some cases, a Web Space Server installation might be configured such that the server cannot access the public Internet. For example, Web Space Server might be installed behind a restrictive firewall, or it might be installed on a LAN that is physically isolated from other networks for security reasons. In such cases, Update Tool cannot contact a remote repository to download updates, so a local repository server must be configured and the updates installed from there.

Configuring Web Space Server for offline updates comprises four general procedures:

1. Install and configure Update Tool to work without an Internet connection.
2. Configure and run a local repository server daemon on a locally accessible host.
3. Configure Update Tool on the machines to be upgraded to use the local repository.
4. Install the Web Space Server updates.

Figure Figure 2–3 illustrates this process.

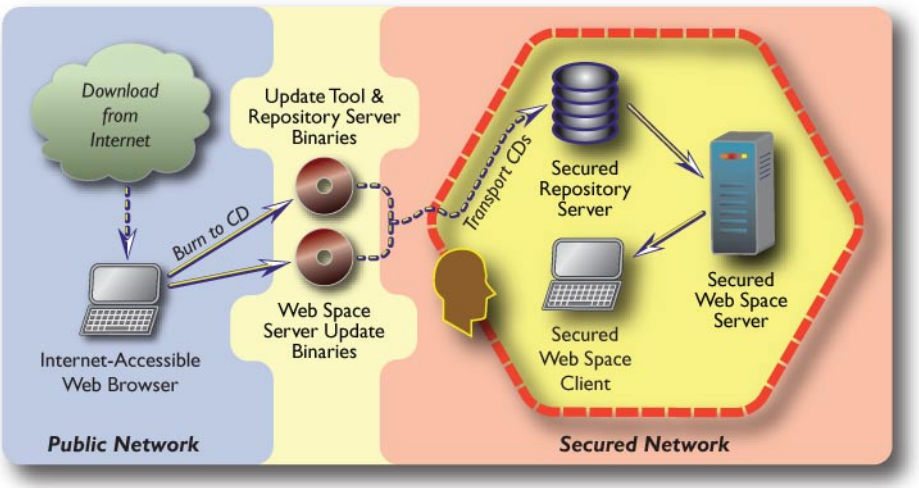


FIGURE 2–3 Offline Update Procedure

These procedures are described in the following sections:

▼ To Install Update Tool Without an Internet Connection

GlassFish Enterprise Server and Web Space Server both include bundled versions of the GlassFish Update Tool. However, to reduce the size of the product bundles and provide greater cross-platform compatibility, only stub (bootstrap) installer components for Update Tool are actually provided. As described in "Using Update Tool" on page 37, the first time Update Tool is launched after a fresh installation, the full product bits for Update Tool are automatically downloaded and installed. After installing the full Update Tool product bits, Update Tool can be run in online or offline mode, depending on the location of the repository to which you want to connect.

The above default scenario requires an Internet connection to download the full Update Tool product bits. To get around this requirement in environments where an Internet connection is not possible, you must manually obtain and install Update Tool, as described in this procedure.

Note – When Update Tool is installed as described in this procedure, it can only be run in command-line (CLI) mode. It is not possible to run the Update Tool GUI when installed using this procedure.

Before You Begin Access to some Internet-connected machine outside your secure network is required for the first part of this procedure. This Internet-connected machine must be one to which Update Tool can be downloaded and saved to some type of removable media, such as CD, DVD, USB drive, or flash memory card.

1. **Download the pre-installed toolkit image ZIP bundle for your server's operating environment from the Pre-installed Toolkit Images and Starter Repositories wiki page and save it to the location of your choice.**

2. **Copy the downloaded toolkit image ZIP file or the expanded archive to the removable medium of your choice.**

   For example, you might want to copy the ZIP file to a USB flash drive or SD card, or extract the ZIP and burn the files to a CD. The goal is to copy the toolkit image files onto a medium that you can then physically transport into the secured network area and then copy to a server on that secured network.

   In most cases, the download ZIP file size is approximately 4MB. The size of the expanded ZIP file varies depending on the package you download. On Windows, the expanded ZIP is approximately 11MB; on Linux and Solaris, approximately 13MB.

3 **Copy or expand the toolkit image in the directory of your choice on the following host machines:**

- The server on which the secure network repository server daemon will be run
- The server(s) on which Web Space Server is running and will be updated

Depending on your secure network configuration and the number of Web Space Server hosts involved, the repository server daemon and the Web Space Server software may be running on different hosts or the same host.

Regardless of the host machine used, the directory in which the toolkit image is extracted is referred to for the remainder of these instructions as *tookit-dir*.

4 **In a command shell on the desired host machine, change to the** *tookit-dir*`/pkg/bin` **directory.**

5 **Run the following command to verify that the** `pkg` **tool is installed correctly.**

```
./pkg --help
```

A list of available `pkg` subcommands and options should be displayed.

▼ To Configure a Local Update Repository Server

This procedure describes how to get the standalone Web Space Server repository and then configure a local repository server in a secure (not connected to the Internet or other network) LAN. This local repository server will subsequently be used to provide updates to other Web Space Server hosts within the secure LAN.

Before You Begin This procedure assumes that Update Tool has been installed as described in "To Install Update Tool Without an Internet Connection" on page 45. As described in that procedure, access to some Internet-connected machine outside your secure network is required for the first part of the procedure in this section. This Internet-connected machine must be one to which the standalone Web Space Server repository can be downloaded and saved to some type of removable media.

1 **Download the standalone Web Space Server repository and save it to the location of your choice.**

Ask your Web Space Server support representative for the location of the correct repository to use.

2 **Copy the downloaded repository ZIP file or the expanded archive to the removable medium of your choice.**

The goal here is to copy the repository files onto a medium that you can then physically transport into the secure network area and then copy to a server on that secured network.

The Web Space Server standalone repository ZIP file is approximately 2.6GB, and approximately 3GB when expanded. Because of this large file size, the most practical media format for the standalone repository is, in most cases, either DVD or removable hard drive (USB or hot swappable).

3 **Expand (unzip) the Web Space Server repository archive in the directory of your choice on the server that will be used to run the Update Tool repository server daemon.**

This directory should be different than the directory in which the Update Tool toolkit image was expanded, as described in "To Install Update Tool Without an Internet Connection" on page 45.

The directory in which the Web Space Server repository image is extracted is referred to for the remainder of these instructions as *repository-dir*. The directory in which the Update Tool toolkit image is extracted is referred to as *toolkit-dir*.

4 **Start the repository server daemon from a command prompt on the desired secure network machine.**

Use the following command syntax:

toolkit-dir`/pkg/bin/pkg.depotd --readonly -d` *repository-dir* `-p` *port*

For *port*, specify the port number of your choosing. The default port is `80`.

Several startup messages are displayed as the repository daemon initializes; for example:

```
[date/time] ENGINE Listening for SIGHUP.
[date/time] ENGINE Listening for SIGTERM.
[date/time] ENGINE Listening for SIGUSR1.
[date/time] ENGINE Bus STARTING
[date/time] ENGINE Started monitor thread '_TimeoutMonitor'.
[date/time] ENGINE Serving on 0.0.0.0:81
[date/time] ENGINE Bus STARTED
```

▼ To Configure Update Tool to Use a Local Repository

After downloading the Web Space Server repository image and starting the repository server daemon on the secure network, as described in "To Configure Update Tool to Use a Local Repository" on page 47, the next step is to configure the secure Web Space Server host on which updates are to be performed. The goal in this procedure is to configure the Web Space Server host to use the local update repository image rather than the default behavior of going out on the Internet to access a remote update repository.

Before You Begin The Update Tool repository toolkit must be installed on each Web Space Server host for which updates will be performed, as described in "To Install Update Tool Without an Internet Connection" on page 45.

- **From a command shell on the Web Space Server host you want to upgrade, use the `pkg set-publisher` command to redirect Update Tool to use the local repository rather than a remote repository.**

  Use the following command syntax:

  toolkit-dir`/pkg/bin/pkg -R` *ws-install-dir* `set-publisher -Pe -O http://`*repo-host*`:`*port*`/` *pubname*

  Where:

  - *ws-install-dir* is the path to the directory containing the Web Space Server installation that is to be updated
  - *repo-host* is the name of the server on which the `pkg.depotd` repository server daemon is running
  - *port* is the port use for the `pkg.depotd` daemon, as specified in "To Configure a Local Update Repository Server" on page 46.
  - *pubname* is the name of the preconfigured Web Space Server publisher. For Web Space Server, use `webspace.sun.com`

  For example, to specify a Web Space Server installation directory named `/opt/wssonfoo`, and a Web Space Server repository server running on port `81` on a host named `foo`, enter the following command:

toolkit-dir`/pkg/bin/pkg -R /opt/wssonfoo set-publisher -Pe -O http://foo:81 webspace.sun.com`

To Install Updates From a Local Repository

The final procedure in the offline update process is to use install the Web Space Server updates on the desired Web Space Server host(s).

Before You Begin Note the following before you begin the Update installation:

- Web Space Server software must be **installed and running**, as described in "Installing Web Space Server Software" on page 20.
- Installation of the Update components cannot be rolled back.

1. **In a command shell on the Web Space Server host on which updates will be installed, enter the following command to install the Update components:**

   toolkit-dir`/pkg/bin/pkg image-update`

2. **Restart the application server.**

   For example, to restart GlassFish Enterprise Server:

   `cd` *gf-install-dir*`/bin`
   `./asadmin stop-domain` *domain_name*
   `./asadmin start-domain` *domain_name*

3. **Change to the** *ws-install-dir*`/webspace/application` **directory.**

4 **Run the Ant `install.xml` script to regenerate and redeploy the Web Space Server WAR files.**

```
ant -f install.xml
```

5 **Restart the application server once more.**

For example, if using GlassFish:

```
cd gf-install-dir/bin
./asadmin start-domain domain_name
```

Configuring a Database for Use With Web Space Server

By default, Web Space Server is bundled with an HSQL database that is intended for evaluation purposes only. In most production environments, you will want to use a more robust database, such as MySQL, Oracle, or Microsoft SQL.

The following procedures explain how to configure a database other than HSQL for use with Web Space Server. After performing the instructions for your particular database, be sure to complete the steps in "To Connect to a Database Other Than HSQL" on page 53 for final configuration steps common to all databases with Web Space Server.

▼ To Install and Configure MySQL

This procedure describes only the most basic MySQL installation on Solaris with UTF-8 support. The Web Space Server configuration portion of this procedure applies to all platforms. For more detailed MySQL installation instructions, refer to the MySQL installation documentation.

1 **Install MySQL.**

Enter the following commands in a command shell as the `root` user.

```
# groupadd mysql
# useradd -g mysql mysql
# cd /usr/local
# gunzip install-dir/mysql-VERSION-OS.tar.gz | tar xvf -
# ln -s install-dir/mysql-VERSION-OS mysql
# cd mysql
# chown -R mysql .
# chgrp -R mysql .
# scripts/mysql_install_db --user=mysql
```

```
# chown -R root .
# chown -R mysql data
# bin/mysqld_safe --user=mysql & *
```

2 **Log in to MySQL as the `root` user.**

```
bin/mysql -u root
```

3 **Create the Web Space Server database with UTF-8 support.**

```
create database lportal default character set utf8;
use lportal;
grant all privileges on lportal.* to 'lportal'@'localhost' identified by 'lportal';
```

This example creates a database and a user, both named `lportal`, but you can use different database and user names, and these names can be whatever you want.

4 **Proceed to "To Connect to a Database Other Than HSQL" on page 53 for additional configuration instructions.**

▼ To Install and Configure Oracle

This procedure explains how to install configure Web Space Server to work with an Oracle database. Note that this procedure explains on the most basic Oracle installation instructions. For complete Oracle installation instructions, see the Oracle Documentation page.

1 **Download and run the installer for the Oracle package you want to use.**

Refer to the Oracle documentation for complete instructions.

2 **In a command shell, open an Oracle SQL session and create Web Space Server database with UTF-8 support.**

In this example, the new database is named `lportal`. Use the following commands to create the database:

```
CREATE DATABASE lportal
   CHARACTER SET UTF8
   NATIONAL CHARACTER SET AL16UTF16

CHARACTER SET Clause
```

Note that you cannot specify `AL16UTF16` as the `CHARACTER SET`, although it is acceptable for `NATIONAL CHARACTER SET`.

Note also that `NATIONAL CHARACTER SET` is used for columns specifically defined as `NCHAR`, `NCLOB`, or `NVARCHAR2`. Allowed values are `AL16UTF16` (default) and `UTF8`. See the *Oracle Database Globalization Support Guide* for information about Unicode data type support.

3 **Create the Web Space Server database user.**

- **If using Oracle 10g:**

  a. **Use a Web browser to connect to the Oracle server, and log in as administrator; for example:**

     ```
     http://localhost:8080/apex
     ```

  b. **Click Administration→Database Users→Create Users to create a new user.**

     Use the following settings:

     - User name: `lportal`
     - Password: `lportal`
     - User privileges: All except for `DBA`

- **If using Oracle 11g:**

  a. **Use a Web browser to connect to the Oracle server, and log in as administrator; for example:**

     ```
     https://localhost:1158/em
     ```

  b. **Click Servers→Users→Create User to create a new user.**

     Use the following settings:

     - User name: `lportal`
     - Password: `lportal`
     - User role: `DBA`
     - Default tablespace: `USERS`
     - Temporary tablespace: `TEMP`

4 **Open an Oracle SQL command prompt as administrator, and enter the following commands:**

```
connect lportal/lportal;
create schema authorization lportal;
```

5 **Proceed to "To Connect to a Database Other Than HSQL" on page 53 for additional configuration instructions.**

▼ To Install and Configure Microsoft SQL

This procedure provides basic Microsoft SQL installation instructions, and explains how to configure Microsoft SQL to work with Web Space Server. For complete Microsoft SQL installation instructions see the Microsoft SQL Server page.

Before You Begin Before proceeding with these instructions, make sure the following are installed on your Web Space Server system:

- .NET Framework 3.5
- Windows Installer 4.5
- Windows Power Shell

1. **Install SQL Server Express 2008 with Management Tools.**

   Refer to the Microsoft site for complete download and installation instructions.

2. **Navigate to the Microsoft SQL Server Configuration page, and change the following values:**

   - Use `NT AUTHORITY\SYSTEM` as the SQL Server account name.
   - Change the SQL Server browser startup to `Automatic`.

3. **Navigate to the Microsoft SQL Server Database Engine Configuration page, and change the following values:**

   - Select Mixed Node.
   - Specify a password for the `sa` account.

4. **Start the Microsoft SQL server.**

   a. **Run the Microsoft SQL Server Configuration Manager.**

   b. **Navigate to SQL Server Network Configuration→Protocols for SQL SERVER, and enable TCP/IP and Named Pipes (SQL server uses port `1433` by default).**

   c. **Right click SQL Server Services→SQL Server, and then click Start.**

   d. **Verify the database is running.**

      You can verify this in Solaris by entering `netstat -an | grep 1433` at a command prompt:

5. **Connect to the Microsoft SQL server using the Management Studio tool.**

   a. **Launch the SQL Server Management Studio.**

   b. **Navigate to File→Connect Object Explorer.**

   c. **Apply the following settings:**

      - Server Type: Database Engine
      - Server Name: *host_name*

- Authentication: SQL Server Authentication. Note that to use SQL Server authentication, you need to select the Mixed Mode (Windows authentication + SQL Server authentication) option when installing Microsoft SQL.
- Login: `sa`
- Password: Administrator password defined during Microsoft SQL installation.

d. Click Connect.

e. Select New Query in the Management Studio tool.

f. Enter `create database lportal`, and then click Execute.

The message "`Query executed successfully`" is displayed on successful creation of the database named `lportal`.

6 Download the `jtds` JDBC driver from `http://jtds.sourceforge.net/`.

7 Copy the `jtds.jar` file to the *gf-install-dir*`/domains/domain1/lib` directory.

8 Proceed to "To Connect to a Database Other Than HSQL" on page 53 for additional configuration instructions.

▼ To Connect to a Database Other Than HSQL

This procedure describes how to connect Web Space Server to a database other than HSQL. The instructions are basically the same for connecting to MySQL, Oracle, or Microsoft SQL.

Before You Begin Make sure you have followed the initial configuration instructions for your particular database.

- "To Install and Configure MySQL" on page 49
- "To Install and Configure Oracle" on page 50
- "To Install and Configure Microsoft SQL" on page 51

1 Create a directory structure, if it does not already exist, named `webspace/WEB-INF/classes/` under *ws-install-dir*`/var/webspace/war-workspace/customs`.

Note that if you have started the Web Space Server domain at least once after the initial Web Space Server installation, this directory will already exist. If you have not yet started Web Space Server for the first time, you will need to create this directory structure yourself.

2 Change to the `webspace/WEB-INF/classes/` directory mentioned above.

3. **Create a text file (using any text editor) named `portal-ext.properties`, if this file does not already exist.**

   As with Step 1 of this procedure, this file will already exist if you have started Web Space Server at least once after initial installation, otherwise you will need to create the `portal-ext.properties` file yourself.

4. **Enable the database you want to use by entering the following *uncommented* properties in the `portal-ext.properties` file.**

   Be sure that hash marks do not proceed any of the `jdbc.*` properties. Also make sure to use the correct *user_name* and *password* for your database.

   - **For MySQL:**

```
# MySQL
    #
    jdbc.default.driverClassName=com.mysql.jdbc.Driver
    jdbc.default.url=jdbc:mysql://localhost/lportal?useUnicode=true&characterEncoding=UTF-8&useFastDateParsing=false
    jdbc.default.username=user_name
    jdbc.default.password=password
```

   Note – To use a database name other than `lportal`, specify the name in the `jdbc.default.url` property, above, just after the `mysql://localhost` portion of the URL.

   - **For Oracle:**

```
# Oracle
    #
    jdbc.default.driverClassName=oracle.jdbc.driver.OracleDriver
    jdbc.default.url=jdbc:oracle:thin:@localhost:1521:xe
    jdbc.default.username=lportal
    jdbc.default.password=lportal
```

   Note – If running Oracle 11g, also add the following property:

```
hibernate.dialect=org.hibernate.Oracle10gDialect
```

   - **For Microsoft SQL:**

```
# SQL Server
    #
    jdbc.default.driverClassName=net.sourceforge.jtds.jdbc.Driver
    jdbc.default.url=jdbc:jtds:sqlserver://localhost:1433/lportal
    jdbc.default.username=sa
    jdbc.default.password=admin_password
```

5. **Change to the *ws-install-dir*`/var/webspace/war-workspace` directory.**

Note – If you are performing a new Web Space Server installation rather than updating the database configuration for an existing Web Space Server installation, skip this step and the remainder of this procedure.

6 **Run the Ant `synchronize.xml` script.**

```
ant -f synchronize.xml
```

7 **Restart the GlassFish server.**

◆ ◆ ◆ CHAPTER 3

Using Sun GlassFish Web Space Server Software

This chapter explains the basics of using Sun GlassFish Web Space Server software, using as a basis the *Example* site included in the Web Space Server **evaluation** ZIP bundles. This example site includes several predefined sets of user accounts and bundled applications for you to experiment with.

The samples used in this chapter are only included in the Web Space Server **evaluation** bundles, and not in the **integration** or **deployment** bundles. See "Getting Sun GlassFish Web Space Server Software" on page 19 for explanations of the different Web Space Server download bundles.

Note – The instructions in this section are based on Sun GlassFish Enterprise Server v2.1 and Web Space Server 10.0, as installed using one of the `webspace-gfv2-`*platform*`.zip` packages described earlier in this document. This Example site is only available with the `webspace-gfv2-`*platform*`.zip` packages, and is not available with the version of Web Space Server installed through Update Tool or with the `webspace-10–fcs-for-gfv2.zip` (GlassFish not included) package.

This chapter includes instructions for the following topics:

Logging In

Web Space Server is based on *users*, user *roles*, user *groups*, and user *communities*, so the first thing you need to do is log in to some user account.

The Web Space Server Example site has four sets of sample users. Each user set is designed to demonstrate user interaction scenarios in various sample community environments. You can choose a sample user set from the drop-down list in the Sample Users portlet near the top left of the example site main screen.

Note – This guide does not provide exhaustive explanations of each sample user set. You are encouraged to explore the various user sets to get practical experience with the features and capabilities of Web Space Server 10.0 software.

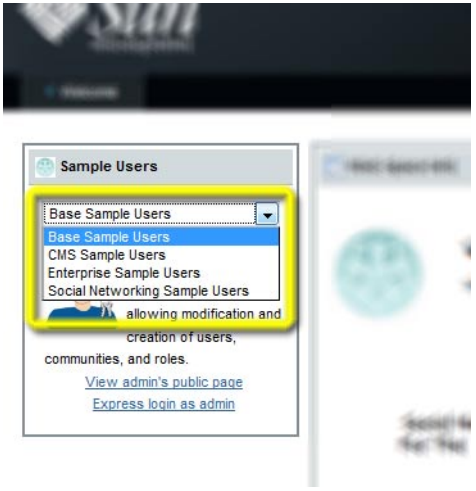


FIGURE 3–1 Sample User Set Drop-Down List

▼ To Log In to a Web Space Server Site

1 **Go to the Example site start page,** `http://<server_name>:8080`**.**

For example:

```
http://localhost:8080
```

Note – There may be a delay when the page loads for the first time after server start. Subsequent page loads should proceed more rapidly.

2 **Select a sample user set from the Sample Users portlet near the top left of the Web Space Server Example site main page**

3 **Choose *Sign in* from the *Welcome* drop-down menu in the upper right corner of the page.**

Alternatively, in the Web Space Server Example site, you can use one of the *Express login* links in the Sample Users portlet to bypass the Web Space Server *Sign in* screen. Note that in a "real life" Web Space Server production environment, it is likely that neither the sample user sets nor *Express login* links will be available, and you will need to use the *Sign in* item in the *Welcome* drop-down.

Tip – For the purposes of this example, choose the `Paul Tester` account from the `Social Networking Sample Users` set.

After logging in a with the `Paul Tester` user account, the *My Profile* page for the Paul Tester is displayed.

Taking the Quick Tour

Everything in Web Space Server is designed around the concept of *portlets*, *portals* and *pages*. Portlets are small applications that can be either standalone or shared among community members. Portals are custom collections of pages, and pages are containers into which *applications* or portlets are placed. A single portal can contain multiple pages, and a single page can contain multiple applications.

For example, after logging in using the `Paul Tester` account, the *My Profile* portal page for Paul Tester is displayed.

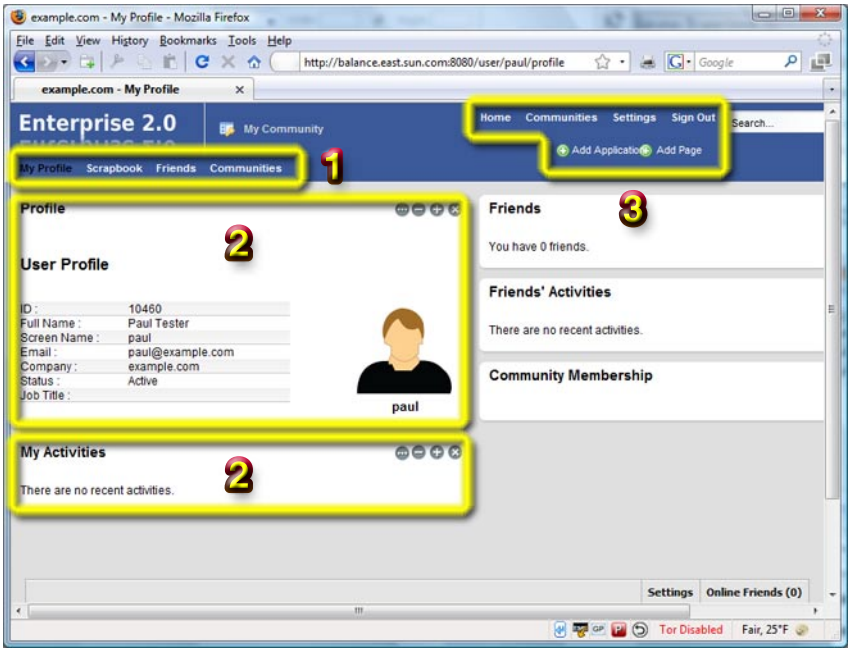


FIGURE 3–2 *My Profile* Page for Paul Tester

Looking at Figure 3–2, the main elements on Paul Tester's *My Profile* page are described below.

1. **Page Bar**

   The Page Bar displays the topmost level of pages you have defined at any particular level in your portal. For example, for Paul Tester, there is a *My Profile* page, a *Scrapbook* page, a *Friends* page, and a *Communities* page. Each one of these pages can contain its own distinct set of applications, and be arranged with its own layout, permissions, and "look and feel."

2. **Applications**

   Applications in Web Space Server take the form of *portlets* or *widgets*, which are small, pluggable, typically network-based applications that can be displayed and moved around on a portal page. For example, Web Space Server 10.0 includes a number of sample applications, such as blog, wiki, and messaging tools, calendar and mail, friends, activities, tagging and social bookmarking, and content management, among many others. In this example, the Profile and My Activities applications are highlighted. Also available on this page are Friends, Friend's Activities, and Community Membership applications

3. **Web Space Server Main Menu**

   The Web Space Server main menu displays various site-wide commands. Of particular interest here are

   - The *Settings* menu provides additional commands for things like adding applications to a page, managing pages, and access to the Web Space Server Control Panel.

- The *Add Page* link enables you to add pages to the Page Bar. These links can point to any page you would like anywhere in your Web Space Server portal.
- The *Add Application* link enables you to add applications to a page.

Accessibility Features

Web Space Server 10.0 software is designed to support a comprehensive range of United States and international accessibility standards and requirements. These requirements are designed to assure ease of use and full accessibility to all Web Space Server features for users with various visual and/or physical limitations.

The accessibility features built into and tested with Web Space Server software include the following:

- All graphical interface elements, including the Navigation Dock, Action/Options menu, Add Applications menu, Control Panel, and all embedded forms are all fully navigable with the keyboard, including the Tab, arrow, and Enter keys.
- All forms embedded in application pages are friendly to assistive technologies through various methods, such as attaching a label to each form field, or providing an appropriate title or other nonvisual text element to each element.
- Alternative text strings are provided for all non-text elements, including icons, images, and logos.
- All dynamic elements, including Javascript code and menus and pop-up menus with strings that are displayed when a mouse is hovered over them, have embedded text string identifiers that can be read by assistive technologies.
- Product documentation, including PDF and HTML versions, have been written according to accessibility standards.
- The product has been tested and is expected to work with a variety of assistive technologies for several operating environments, including:
  - Mac OS X: Universal Access
  - Solaris and OpenSolaris: Orca
  - Linux: Orca
  - Windows: JAWS, System Access

Joining a Community

One of Web Space Server's greatest strengths is how it enables collaborative environments, on both the business process and the social networking levels. At the heart of such collaboration is the concept of the *community*. A community is a group of users and/or user groups who share a common data space and set of applications.

For example, a community might have a wiki that is available only to members of the community and not to anyone outside the community. Similarly, content management systems or business process workflows can be developed for communities as a whole. Calendaring, email, and messaging can be specifically tailored to the needs of individual communities within a larger organization. The main idea behind Web Space Server is to enable the creation of virtual spaces where members of like-minded communities can meet, share ideas, and collaborate on projects.

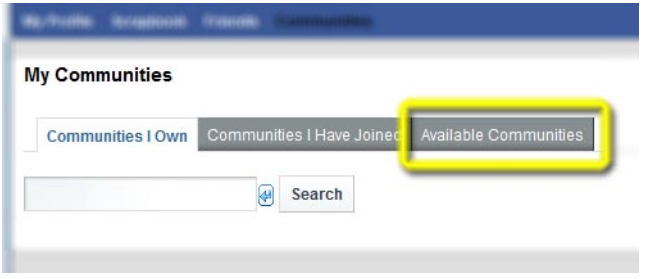
▼ To Join a Web Space Server Community

This procedure assumes that you are still logged in to the `Paul Tester` account used in the previous sections in this chapter.

1 **Starting from Paul Tester's *My Profile* page, choose *Communties* from the Page Bar.**

The *My Communities* portlet is displayed.

2 **Click the *Available Communities* entry.**



A list of communities Paul Test can join is displayed.

3 **Click *Available Communities* tab in the *My Communities* application you just added to the page.**

A list of available communities is displayed.

4 **Click the *Join* link for the `cms` community.**

This is an *Open* community, so your join request is sent to the community owner. If this was not an open community, your join request would have been sent to the community owner for approval.

5 **Click the *Communities I Have Joined* tab in the *My Communities* application.**

The `cms` Sample community is displayed in the list of communities you have joined.

Creating a Community

Creating communities is a super user role; that is, it typically cannot be done by regular users unless specific permissions have been explicitly granted to allow it.

▼ To Create a Community

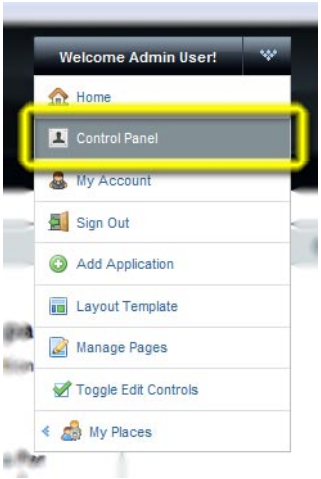
For the purposes of this example, the `Admin` user account will be used.

1 **Choose *Sign Out* from the *Welcome* menu to log out of the `Paul Tester` account, if you are still logged in to it.**

2 **Log in using the `Admin User` account.**

This account provides full super user permissions for the Web Space Server example site.

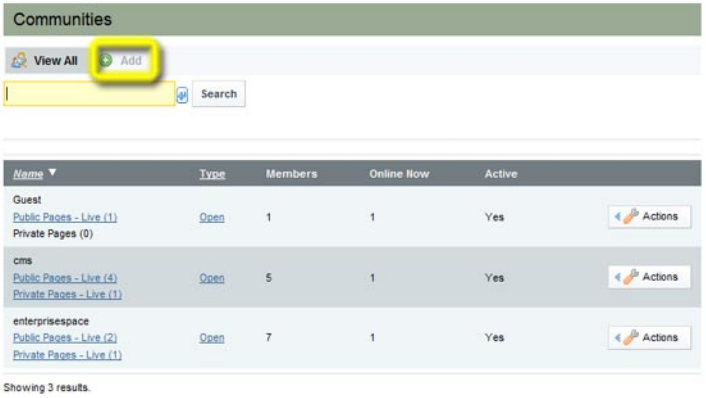
3 **Open the *Control Panel* from the *Welcome* menu.**



The Control Panel for the `Admin` user is displayed. Note that there are many more controls available in the `Admin` Control Panel than there are for regular users.

4 **Scroll down to the *Portal* section in the pane on the right, and click *Communities*.**

The *Communities* portlet is displayed.



5 **Click *Add* to create a new community.**

The *Communities* properties page is displayed.

6 **Enter a name and description for the community.**

7 **Select a community *Type*.**

- **Open** — Authenticated users can join the community without explicit permission. Users logged in with a `guest` account can view the community but cannot join it.
- **Restricted** — Anyone can request to join, but the community owner must approve the request.
- **Private** — Only those users specifically added by the community owner can be members; no specific join request from the user is required or permitted.

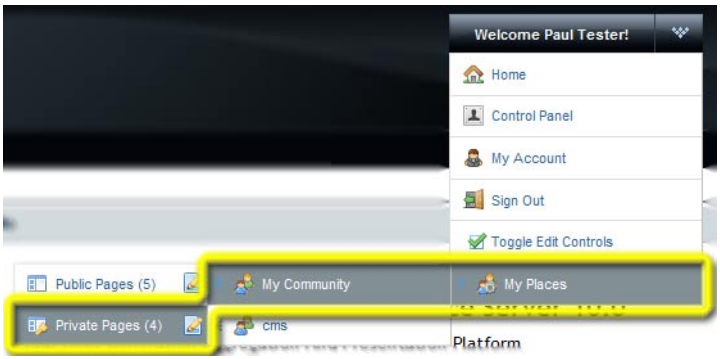
8 **Check *Active* to enable the community.**

9 **Click *Save* to return to the Community portal page in Control Panel.**

10 **Log out of the `Admin User` account and log back in to the `Paul Tester` account.**

You are returned to Paul Tester's *Home* page.

11 **From the** *Welcome* **menu, choose** *My Places->My Community->Private Pages*.



12 **Click the** *Communities* **link on the Page Bar.**

The new community is displayed in the available communities list.

13 **Click the Available Communities tab.**

The new community is displayed in the *Available Communities* list.

◆ ◆ ◆ CHAPTER 4

Frequently Asked Questions

This chapter provides a brief glossary of Web Space Server terms and answers to some commonly asked questions about Web Space Server.

This chapter includes the following sections:

Web Space Server Terminology

The following are some common terms that are useful to know.

Community A collection of users sharing common interests or goals; community members typically share a common set of portlets and pages. For example, a community might have a wiki that is not available to users outside the community. Multiple user groups can coexist within a given community.

Guest A user who does not have an account on a given Web Space Server site. Typically, guest users have limited ability to view or modify content on a Web Space Server site.

Layout Template A scheme that defines the general layout of portlets and widgets on a portal page. As with themes, layout templates can be applied by site administrators and registered users.

Organization A hierarchical collection of users, user groups, and communities. Multiple communities can coexist within a given organization.

Portlet Portlets are pluggable software components that are managed and displayed in a Web portal. Typically, a *portal page* is displayed as a collection of non-overlapping portlet windows, in which each portlet window displays one portlet. Web Space Server portlets conform to JSR286 standards.

Public Page and Private Page Every individual user account in a Web Space Server site contains *public* pages and *private* pages. Pages that can be accessed by a guest user are public pages. Pages that can only be accessed by logging in to a user account are private pages.

Theme	The "look and feel" settings that are applied to a portal page. Themes can be applied sitewide by a Web Space Server site administrator or on a page-by-page basis by registered users.
User	A person who is registered on a Web Space Server site.
User Group	A grouping of users; members of a user group typically share common sets of access permissions.
User Role	Permissions and access rights defined for a given user; typically maps to rights within groups, communities, and organizations.
Widget	Widgets are similar to portlets, except that unlike portlets, widgets are created using a programming language other than Java, such as PHP or Ruby.

Common Questions

The following are some commonly asked questions about Web Space Server software.

Question: Into what languages is Web Space Server localized?

Answer: Web Space Server 10.0 software has been localized into 22 languages. Japanese (`ja`) and Chinese (`zh_CN`) localizations are directly supported by Sun Microsystems. Localizations for other languages are community driven. Web Space Server is also fully internationalized, which makes it possible to add new languages. For more information about localization, see "Localization Support" in *Sun GlassFish Web Space Server 10.0 Administration Guide*.

Question: What databases does Web Space Server support?

Answer: HSQL, MySQL, Microsoft SQL, and Oracle 10g.

Question: What is the recommended JDK version to use with Web Space Server?

Answer: JDK 1.6.0_07 later. Also make sure that Ant 1.7.0 is installed on the machine on which you are installing Web Space Server.

Question: What size image should I use for my site logo?

Answer: It is recommended that your site logo be no larger than 50 x 50 pixels.

Question: What is the recommended amount of memory (RAM) to use with Web Space Server?

Answer: It is recommended that the machine on which a Web Space Server server is running has a minimum of 2GB RAM. Client machines connecting to a Web Space Server site should have a minimum of 1GB RAM.

Question: Which Web browsers are recommended for use with Web Space Server?

Answer: Web Space Server has been tested most with Firefox 2.*x*, Firefox 3.*x*, and IE 7 web browsers, although Web Space Server also runs well on Opera 9.*x* and Safari 3.*x* browsers

Question: On what port does Web Space Server run?

Answer: By default, Web Space Server runs on port `8080`. The port can be changed later, but the Web Space Server installation program runs on port `8080`, so this port must be free before you start the installation process. If upgrading from a previous Web Space Server installation, be sure to stop any running GlassFish domains before proceeding.