Clearspace Installation Guide

This document describes how to install Clearspace, a team collaboration tool that combines discussions, blogs, wiki documents and tags.

> **Clearspace Distributions:** Clearspace is downloadable in three distributions. For more information, see Files in the Distributions (page 3) .

This document includes the following sections:

Installation Overview (page 1) — A high-level view of the installation steps.

System Requirements (page 2) — Describes the technologies that Clearspace needs and supports.

Files in the Distributions (page 3) — A list of what's included in the distribution.

Java Setup (page 4) — Setting up Java if you're using the standalone application server.

Database Setup (page 5) — Setting up a database to support Clearspace.

Application Server Setup (page 9) — How to set up your application server to support Clearspace.

Setting the jiveHome Directory (page 11) — Finding a good location for the jiveHome directory.

Installation Overview

Here's a high level view of installing Clearspace.

1. Review the system requirements (page 2) to make sure your system supports Clearspace.

2. Copy the Clearspace distribution (or, optionally on Windows, its installer program) to the server you'll be using. You'll find the distribution at the Jive Software web site.

3. Decide what database technology you'll be using with Clearspace. Data about people, content, and the means for organizing them is stored in a database that you specify while using the Clearspace setup tool. You should use a separate database for a production deployment, but the Clearspace distribution includes its own database you can use for evaluation purposes.

4. If you're not using the evaluation database, prepare your database (page 5) for Clearspace.

5. Decide what application server technology you'll be using. The installer and standalone distributions of Clearspace include an application server. If you're installing with the WAR File, set up your application server (page 9) by installing the application files and JDBC driver.

6. Deploy Clearspace using the database and application server decisions you made in the preceding steps (if you're using the installer program, it will deploy for you).

7. Set the jiveHome directory (page 11) .

8. It is recommended that you allocate extra memory for Clearspace when starting your application server. For example, -Xmx512M

9. This process is finished when you complete the setup tool that is displayed when you launch Clearspace for the first time.

After you finish installing Clearspace and start the server, use its web-based setup tool to establish a database connection and to set up the administrator account. Clearspace will display the setup tool the first time you

navigate to Clearspace using a web browser. The URL you use will vary depending on the application server technology you're using. By default for a local installation with the included server (standalone or installer distribution), the URL will be http://localhost:8080/clearspace. You'll find more information about the setup tool in the *Clearspace Administrators' Guide*.

After you complete the setup tool, use the admin console to begin configuring your Clearspace installation.

System Requirements

Clearspace requires a Java application server and a database, as described in the following recommendations. The following lists supported technologies and recommended system configuration.

Recommended Platform

Jive Software recommends that you use the following platform configuration:

- Linux (2.6 Kernel)
- JDK 1.6
- Tomcat 6
- Postgres 8.x

Supported Components

Operating Systems

- Windows Server 2003 SP2
- Linux (2.6 Kernel)
- Solaris 10

Java

- Sun JDK 1.6 (Java 6) or better
- IBM JDK 1.6 (Java 6) or better
- JAVA_HOME environment variable set

Application Servers (see Application Server Setup (page 9) for application server-specific installation instructions)

- Apache Tomcat 6.0.10 or later
- BEA WebLogic Server 9.2
- ~~IBM WebSphere 6.1, Fixpack 11~~ (Clearspace version 2.0 is not supported on IBM WebSphere.)

Databases (see Database Setup (page 5) for specific information about databases)

- MySQL 5.x
- Oracle 10.x
- Postgres 8.x

Environment

- We recommend a server with at least 1GB of RAM and at least one 1.5 Ghz processor.

- An optimal deployment for a larger community would have 2GB of RAM and 2 CPUs for better multi-threaded performance.

- For optimal performance we recommend the application and database servers be hosted separately.

- Clearspace easily integrates with a LDAP repository or an Active Directory. (Be sure to see the LDAP and Active Directory Guide for more information on configuring those resources for use in Clearspace.)

Additional Recommendations

When you run a server-side application, you should also have a daily backup solution. At a minimum you should back up your database on a regular basis as well as the configuration files for Clearspace (note: those are stored in one directory).

Files in the Distributions

The files in your distribution will differ depending on whether you downloaded the installer (Windows only), standalone distribution or WAR distribution. Among the things you'll find in all three distributions are:

- A database directory that contains SQL scripts to create new Clearspace databases. See Database Setup (page 5) for more information.

- A jiveHome directory where Clearspace stores configuration files and additional resources.

- A webservices directory that contains information and files you can use to build clients that access Clearspace web services.

Installer and Standalone Distribution

These include an application server. The installer distribution requires the least amount of installation effort and is a great choice for evaluating Clearspace. For the quickest installation (such as for evaluation), use the included application server and evaluation database. With the standalone distribution, included app server and evaluation database, installation is complete when you extract the distribution's contents as shown in the hierarchy below.

If you're going to be using a separate database technology (rather than the evaluation database), see Database Setup (page 5) for further installation instructions.

To start Clearspace:

- Standalone distribution - From a command prompt, use the BAT (for Windows) and SH (for Unix-based OSes) files to start and stop Clearspace on the included app server.

- Installer distribution - Use the Start menu command, desktop shortcut, or Clearspace executable (depending on what you requested during installation).

```
jive_clearspace_<dist>_x_x_x/  |- database/  |- jiveHome/  |-
                 server/  |- webservices/  |- README.html  |- start-clearspace.bat  |-
                 start-clearspace.sh  |- stop-clearspace.bat  |- stop-clearspace.sh
```

WAR Distribution

The WAR distribution does not include an application server. This distribution is intended for deployment on the application server of your choice. Clearspace supports several app server technologies as describes in the System Requirements (page 2) .

The clearspace.war file is a standard Web Application Archive (WAR) that contains the Clearspace application.

```
jive_clearspace_war_x_x_x/  |- database/  |- jiveHome/  |- webservices/  |-
                    clearspace.war  |- EditWAR.jar  |- README.html
```

Java Setup

Clearspace requires a valid Java installation and a JAVA_HOME environment variable set. If you already have an application server installed then you already have Java installed and working properly. You'll need to go through the following steps if you're using the standalone distribution. The installer installs Java for you.

Java Installation Instructions

You can install Java so that it will be found system-wide, or you can install it so that it will be found by the standalone distribution.

Download the Java Distribution

1. Download the Java distribution for your OS:
   - Windows

   - Linux

   - Solaris

Installing Java for Standalone Use

1. Follow the installation instructions for your platform. Record the path to the directory where you installed Java.

2. Set a JAVA_HOME environment variable. An environment variable is a way tell Clearspace where Java is installed.
   - **Windows**
     - On your desktop, right click on 'My Computer', select 'Properties'

     - Click the Advanced Tab

     - Click the Environment Variables button

     - Under System Variable, click New.

     - In the 'Variable name' field, enter: JAVA_HOME

     - In the 'Variable value' field, enter the path to your JDK installation (e.g. C:\Program Files\Java\jdk1.6.0).

     - Click OK on all open System Properties screens (3)
   - **Unix**

- Open your favorite text editor and type the following text: `export JAVA_HOME="<java_install_path>"`, where `<java_install_path>` is the directory where Java is installed. For example: `export JAVA_HOME="/Library/Java/Home/"`.

- Save this to a file called setJavaHome in the Clearspace standalone installation directory. For example, if you extracted Clearspace to /home/clearspace/jive_clearspace_standalone_1_0_2 then you'll save this file as /home/clearspace/jive_clearspace_standalone_1_0_2/setJavaHome.

3. You've now completed the Java installation.

Installing Java for WAR Use

1. Follow the installation instructions for your platform. Record the path to the directory where you installed Java.

2. Set a JAVA_HOME environment variable. An environment variable is a way tell Clearspace where Java is installed.

- **Windows**
  - On your desktop, right click on 'My Computer', select 'Properties'
  - Click the Advanced Tab
  - Click the Environment Variables button
  - Under System Variable, click New
  - In the 'Variable name' field, enter: JAVA_HOME
  - In the 'Variable value' field, enter the path to your JDK installation (E.g. C:\Program Files\Java\jdk1.6.0).
  - Click OK on all of the open System Properties screens.
  - Close any open command prompt windows. The next time you open a command prompt, the "JAVA_HOME" variable will be set correctly.

- **Unix/Linux**
  - Edit the ".profile" file in your home directory (or corresponding file for your shell).
  - Set the JAVA_HOME environment variable by adding the following line to the file:
  - export JAVA_HOME=/path/to/java/directory
  - Be sure there are no spaces after the end of the directory name.
  - Do not add an extra slash after the directory name.
  - Save changes to the file and then "source" it: source .profile

Database Setup

Clearspace stores data about users, documents, spaces, and so on in a database. While the setup tool is designed to install the schema for the database you specify, these instructions are for when you might want or need to install the schema manually.

You can use either your own database (Clearspace supports several of the most common) or the evaluation database that's included with the Clearspace distribution. When you're setting up Clearspace with its setup tool, you'll be prompted for information about the data source you want to connect to — in other words, it's a good idea to make your database decision *before* using the Clearspace setup tool.

All three distributions include an evaluation database, but you should use a separate database for production deployment. If you're using the evaluation database, you can skip to Application Server Setup (page 9) .

If you're using a separate database technology, you should set it up before you set up your application server. You will need to create a database from schema and ensure that the application server you're using includes JDBC drivers for the database. You can find schemas in the distribution's database directory. View the Database Setup (page 5) to learn how to install the schemas and JDBC drivers.

JNDI Settings: The Clearspace setup tool provides a mechanism for configuring your data source connection, however, you can also configure this connection via your application server's JNDI settings.

Note: The evaluation database Clearspace provides is suitable for evaluation and testing, but you shouldn't use it for deployment. If you want to use the evaluation database, simply select the "Evaluation Database" option when running through the Clearspace setup tool. For more information on the setup tool, see the Clearspace Administrators' Guide.

This guide includes setup guidelines for the following database technologies:

MySQL (page 6)
Oracle (page 7)
PostgreSQL (page 8)

Clearspace Schemas. If you use your own database, you'll need to create a new database using the database schema appropriate to your database technology before using the Clearspace setup tool. You'll find schemas for nine database technologies in the database directory just beneath the root of the Clearspace distribution.

Required JDBC Drivers. You'll need to put a JDBC driver for your database technology in the application server's classpath. Your database's setup documentation should include information on how to install the schemas and required JDBC drivers. The installer and standalone distributions of Clearspace include a standalone application server; if you use this server the path is for installing the JDBC driver is `<installation_directory>/server/shared/lib`. You'll need to restart your application server for the driver to be registered. For more information about setup instructions specific to certain application servers, see Application Server Setup (page 9) .

Note: If you need to re-run the setup tool, open the jiveHome/setup.xml file, find the line `<setup>true</setup>`, and change the `true` value to `false`. Restart your application server, point your browser at http://localhost:8080/clearspace

MySQL

Setup Instructions

1. Make sure that you are using MySQL 5.0 or later and the MyISAM table type (default).

2. Create a database for the Clearspace tables using the MySQL command line tool:
   `mysql> CREATE DATABASE <database_name>;`

3. Next import the schema file from the database directory of the installation:
   - Unix/Linux: `mysql <database_name> < jive_clearspace_mysql.sql`

   - Windows: `mysql <database_name> < jive_clearspace_mysql.sql`

4. Start the Clearspace setup tool, and use the appropriate JDBC connection settings.

MySQL Character Encoding Issues

MySQL does not have proper Unicode support, which makes supporting postings in non-Western languages difficult. However, the MySQL JDBC driver has a workaround which you can enable by adding `<mysql><useUnicode>true</useUnicode></mysql>` to the `<database>` section of your jive_startup.xml file. When using this setting, you should also set the Jive character encoding to utf-8 in the Admin Console.

MySQL 4.1 introduces better support for character encodings than previous versions. This new functionality will assign a default character encoding to the database and its tables and columns. It's best to set the default character encoding for your database before installing the Jive schema so that you can be sure that you will not have encoding problems in the future. After creating your database, execute the following line in the MySQL console:

```
ALTER DATABASE <database name> DEFAULT
                CHARACTER SET <character set>;
```

For example, if you plan on using UTF-8 in Clearspace, you should enable the JDBC driver workaround mentioned above and then execute this line in the MySQL console:

```
ALTER DATABASE <database name> DEFAULT
                CHARACTER SET utf8;
```

MySQL Max Attachment Size Issues

You can fix the max attachment size problem on a MySQL server by following the directions here:

http://dev.mysql.com/doc/refman/5.0/en/packet-too-large.html

The easiest way to change the MySQL server setting on Windows is to add a line to your my.ini file (you'll find this file in a location such as C:\database\mysql\5.0.19); on Linux, look for the my.cnf file instead. Add the following line after the [mysqld] section heading:

```
max_allowed_packet = 500M
```

After you add the line, restart MySQL.

JDBC Drivers

Use the following values in the Clearspace setup tool:

- Driver: `com.mysql.jdbc.Driver`
- URL: `jdbc:mysql://[host-name]:3306/[database-name]`

Oracle

Setup Instructions

1. If you're connecting to the Oracle database via the command line using SQLPLUS, you can connect to the database to execute the commands above by doing the following:
   `sqlplus system/XXXX`

where XXXX is the "system" user's password.

2. Create a "clearspace" user or some other user who will "own" the Clearspace tables. This isn't necessary, but doing so will allow your tables to exist in a separate tablespace. Typical commands are as follows:

```
CREATE USER clearspace; IDENTIFIED BY clearspace;
                        GRANT CONNECT, RESOURCES TO clearspace;
```

3. Next, import the schema from the database directory of the Clearspace installation using sqlplus (or your favorite Oracle tool such as Toad or DbVisualizer). If you have sqlplus on your PATH, you can execute the following command in the directory containing the Oracle schema. The following assumes you've set up a user account called "clearspace" with password "clearspace":

```
sqlplus clearspace/clearspace @
                        jive_clearspace_oracle.sql
```

JDBC Drivers

For most users, the best drivers for Oracle are the ones written by Oracle (which come with the database or can be downloaded from Oracle's website). Jive Software recommends using the "thin" drivers.

Please consult the Oracle documentation to decide which version of the JDBC thin driver is best for you. Typically, the drivers are in "classes12.zip" or "classes12.jar". Do not use the classes11.zip JDBC driver. If you use the ZIP file you may wish to rename the classes12.zip file to classes12.jar or oracle.jar because some application servers will not work correctly with ZIP files.

Use the following values in the Clearspace setup tool:

- Driver: `oracle.jdbc.driver.OracleDriver`
- Server: `jdbc:oracle:thin:@<host>:<port>:<oracle_sid>` (the default port is 1521)

PostgreSQL

Setup Instructions

1. Create a new database user using the PostgreSQL createuser utility:

```
createuser \-W
```

2. Create the database using the "createdb" utility:

```
createdb \--encoding=UNICODE dbname
```

3. Note, the --encoding switch is optional, but is a good idea so your database will support Unicode content.

4. Grant the user permission to the newly created database. You'll need to locate the Postgres data directory — such as /var/lib/postgresql. Consult your Postgres installation or administrator — as this value might be different between installations.

5. Once you locate the directory it should contain a file called pg_hba.conf.

6. Open the file and go to the bottom of it — you should see an access control section. You'll need to edit access permissions for this database. The following is a sample entry:

```
local all all trust host all all 127.0.0.1
                     255.255.255.255 trust host all all your.ip.address 255.255.255.255
              trust
```

Note, this is a pretty open configuration. Please consult your system administrator for the best access configuration.

7. Log in to the psql application using the user you made above:

```
psql \-U user_you_created \-W \-d dbname
```

8. Once there, run the following command to import the Clearspace database schema from the database directory of the installation:

```
\i /path/to/jive/schema/file.sql
```

9. Proceed to the Clearspace setup tool and use the appropriate JDBC settings when prompted.

JDBC Driver

JDBC Driver for PostgreSQL can be found in various distribution packages at PostgreSQL's Home Page. Refer to the JDBC documentation at that site for the latest driver and for more information.

Use the following values in the Clearspace setup tool:

- Driver: `org.postgresql.Driver`
- URL: `jdbc:postgresql://<host_name>:<port>/<database_name>` (default port is 5432)

Application Server Setup

While Clearspace is a pure Java application, the application servers on which it can be deployed vary in how they support such applications. This document describes the application server-specific steps you might need to take in order to get your Clearspace installation fully deployed and running.

Note: If you're using the application server that's included in the installer and standalone distribution of Clearspace, you don't need this guide.

The server technologies covered here include:

- Generic Server Information (page 10)
- Apache Tomcat (page 10)
- BEA WebLogic Server (page 10)
- IBM WebSphere Application Server (page 11)

Generic Server Information

Headless Servers

When deploying the WAR distribution, if the server you are deploying Clearspace on is headless, you must set the Java system property `java.awt.headless` to "true". If you don't, certain portions of the application that use the Java AWT for generating images will not function properly.

Enable the JVM headless mode by setting the java.awt.headless flag to true, as in the following command line example:

```
-Djava.awt.headless=true
```

Apache Tomcat

1. Place the war file in the <tomcat-install>/webapps directory.

2. Restart Tomcat. <tomcat-install>/bin/startup.sh

3. Navigate to the now-running Clearspace instance and use the Clearspace setup tool to finish setting up Clearspace. Using the default port on Tomcat, navigate to the following URL: http://localhost:8080/clearspace

BEA WebLogic Server

Clearspace version 2.0 is not supported on BEA WebLogic Server.

1. You can deploy Clearspace through WebLogic's Administration Console.

2. Before deploying, unzip the Clearspace WAR to a directory: `unzip -d clearspace clearspace.war`

3. Deploy and start the Clearspace instance as you would any web application.

4. Navigate to the now-running Clearspace instance and use the Clearspace setup tool to finish setting up Clearspace. Using the default port on WebLogic: http://localhost:7001/clearspace

Issues and Workarounds

Issue: WebLogic is incompatible with certain Clearspace libraries out-of-the-box.

Workaround: Set your EXT_PRE_CLASSPATH to point to the following three JAR files. The first two are included in the Clearspace WAR file. Explode the WAR, then copy the third into the application WEB-INF/lib directory.

- commons-logging.jar — Available in the Clearspace application WEB-INF/lib directory.
- wss4j.jar — Available in the Clearspace application WEB-INF/lib directory.
- velocity-tools.jar — Download from http://velocity.apache.org/download.cgi#Tools and copy into the WEB-INF/lib directory.

Issue: Weblogic may not correctly find the context-root (not likely)

Workaround: Change directory to where you unpacked the Clearspace WAR, then create <clearspace-unzipped-war>/WEB-INF/weblogic.xml. The file should contain the following:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
```

```
<weblogic-web-app xmlns="http://www.bea.com/ns/weblogic/90">
    <context-root>clearspace</context-root>
    <container-descriptor>
        <prefer-web-inf-classes>true</prefer-web-inf-classes>
    </container-descriptor>
</weblogic-web-app>
```

IBM WebSphere Application Server

Clearspace version 2.0 is not supported on IBM WebSphere.

NOTE: WebSphere 6.1.0.11 or better is required for Rich Text Editor icon support.

1. Deploy the clearspace.war as a new application via the WAS administration console.

2. On the first page of the installation process, set the context root with a forward slash, e.g. /clearspace

3. Show all installation options and proceed through the process, you can leave the defaults as they are or make settings as you normally would, the only catch is: mark the box to pre-compile JSPs. Then, two menus pages later, change the Java compile level from '13' to '15'.

Setting the jiveHome Directory

The jiveHome directory contains configuration files, logs, data (for the evaluation database) and other items that Clearspace needs to run correctly. You need to set up your jiveHome directory in a permanent location. The directory must be readable and writable by your application server, but should not be in the document path of your webserver (such that someone could access the directory from a URL such as http://www.yourserver.com/jiveHome). Windows users might pick a directory such as c:\jiveHome while Unix users might install jiveHome to /opt/jiveHome.

Now that your jiveHome directory is set up, Clearspace will need to know its location. There are several ways to do this. Choosing one of the following options depends largely on how you want to register your value in your environment.

- **Option 1: Use the setup tool (recommended).** Use the Clearspace setup tool to set the value. After you deploy the web application (detailed below) and start the setup tool you'll be prompted for the jiveHome location.

- **Option 2: Use the EditWAR tool.** The EditWAR tool is a small application which will modify the packaged web application (clearspace.war) to point to the jiveHome directory. The clearspace.war file is also in the base directory of this distribution.
To invoke the EditWAR tool, open a command prompt in the base directory of this distribution and execute this command:

```
java -jar EditWAR.jar clearspace.war
```

The tool will then lead you through the process of updating the WAR.

- **Option 3: Set a JNDI value (advanced).** Set the location of the jiveHome directory via JNDI. You can set a JNDI value in your app server of java:comp/env/jiveHome with a String value of the path to your jiveHome directory.

- **Option 4: Set with a system property (advanced).** Set the location of the jiveHome directory manually by passing in a Java system property to your app server. Set a property with the name of "jiveHome". Most app servers allow you to pass in an environment variable in the startup script. That might look like this:

```
java -DjiveHome=/usr/foo/jiveHome -cp .
                         com.myappserver.Server
```

Please consult your server documentation if you are not familiar with setting up web applications. Most servers give you a choice between deploying a web application by copying a WAR file into a certain directory (typically "webapps"), or by using a deploy tool. Use the method that you are most familiar with.