



Spin Installation Guide

Beta Release Draft

Spin Installation Guide

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Spin Installation Guide

This document explains the installation and configuration of Spin. For the Spin Beta release, this document focuses on installation and configuration on Windows (2000 and NT) platforms.

Introduction

Spin uses an installer (InstallAnywhere from ZeroG) to make installing Spin as easy as possible. For most users, installing Spin consists of downloading the appropriate installer for your platform from the Spin download page, then executing it. In addition to Spin, the installer also installs the PointBase DBMS (DataBase Management System), for building database-enabled Web applications. On Windows platforms, the installer also installs the appropriate JRE (Java Runtime Environment) and Java compiler.

On all platforms except Windows, Spin requires a JDK (Java Developer's Kit) or SDK (Software Developer's Kit) to run (not just a JRE (Java Runtime Environment) or JVM (Java Virtual Machine)), because it requires a Java compiler to compile scripts. On Windows a JRE will do because Spin installs a separate compiler.

After you install Spin, we strongly encourage you to work through the examples in the Spin Tutorial. This will give you a quick introduction to Spin.

Platform-Specific Information

For the Spin Beta WebGain only officially supports and provides installers for Windows. Note that exactly the same version of Spin runs on all platforms, and installers will be provided for other platforms in future releases.

Applications created using Spin should run on any computer that has a Java Virtual Machine (unless you use any components that have platform dependencies).

Windows 95, 98, NT, and 2000

Spin requires Windows NT version 4.0 or Windows 2000.

The installer will ask you to select a Java Virtual Machine for your application. The default is "Install JRE specifically for this application." This choice installs Sun's 1.3 JRE and IBM's Jikes compiler. We strongly encourage you to run Spin using this version of Java. You should do this even if you already have a different version of Java installed on your computer. Windows can have multiple versions of Java installed at the same time.

The only reason to use a different version of Java is if you are using components in Spin that require a specific version of Java (for example, Java 2). In this case, that Java version must be installed before you install Spin. When you install Spin, the installer will let you select the version of Java that you want to use.

In addition to the Sun 1.3 JRE, Spin is compatible with Sun's JDK 1.1.8, IBM's JDK 1.1.8, and Java 2 SDK (JDK 1.2).

Invoking Spin

The files `lax.jar`, `Spin.exe`, and `Spin.lax` are files used by `LaunchAnywhere` to launch Spin on Windows. On other platforms, the file names may be slightly different (e.g., on Macintosh, `Spin.exe` is just called `Spin`). You do not actually need these files to run Spin, they just make it more convenient. Spin is written entirely in Java, and the same program runs on all supported platforms.

You can invoke Spin directly. For example, on Windows, you can create a `.bat` file containing the following command (this should all be on one line):

```
java -classpath
%classpath%;spinlib.jar;app.jar;load.jar;comp.jar;servletsupt.jar;servletdebug.jar;ejbs
upt.jar;servlet-
2.2.0.jar;tomcat.jsr;swingall.jar;libraries/jrad.jar;HTMLWindow.jar;pointbase/classes
/pbnetwork31RE.jar;pointbase/classes/pbclient31RE.jar;beans/ejb;
com.webgain.spin.editors.Spin
```

Note that `swingall.jar` is not needed if you are using Java 1.2 or Java 1.3 as those versions of Java include Swing.

A similar command could be used on UNIX in a shell script. On the Macintosh, a similar command - created using JBindery - is provided in the file Spin.bin, which you can expand using StuffIt Expander and use instead of the installed application file 'Spin'.

Using Spin with Java 2

The easiest way to use Spin with Java 2 is to use the 1.3 JVM provided with Spin's installer.

You can run the same copy of Spin on multiple versions of Java. To do this do not use the CLASSPATH or PATH system variables at all. Instead create a .bat file (Windows) or shell script (UNIX) to run Spin, as described in the previous section. Then use the -classpath option to completely list the files you want in your classpath, without referencing "%classpath%" (Windows) or "\$CLASSPATH" (UNIX). Also specify the full path to the "java" or "jre" command, so you do not use the PATH variable either. You will need a separate file (.bat or shell script) to invoke Spin, one for each JDK.

On some platforms, including Linux, the Java 2 compiler is not made available to the Java runtime by default. In this case, you will see a message like "Spin cannot find the Java compiler. Spin requires a JDK or SDK to run, and will not work with just a JRE". In this case, you must include the file containing the compiler in your classpath. For example, if Java 2 is installed in /opt/jdk1.2.2, you would specify /opt/jdk1.2.2/lib/tools.jar in your classpath.

Using Spin with EJBs

The easiest way to use Spin with EJBs is to use the 1.3 JVM provided with Spin's installer. If you use the jBoss EJB server that ships with Spin, Spin sets your classpath so that jBoss can be found and executed properly.

If you plan to use an EJB server other than the jBoss that ships with Spin, you must add classpath entries for your EJB application server to the classpath environment variable. Spin will add this classpath to its own classpath and resolve the .jars necessary to support EJBs.

For example, to use Spin with WebLogic 5.1 installed on c:\weblogic add the following to the end of your classpath:

```
;c:\weblogic\classes;c:\weblogic\lib\unpacked_jars\javax_j  
ts.zip;c:\weblogic\lib\unpacked_jars\jsafeWithNative.jar;  
c:\weblogic\lib\weblogicaux.jar
```

Installation Files and Directories

Spin is installed into the directory you specified during the installation. This directory contains the following subdirectories:

- ◆ asset - Contains any images, sounds, animations, and other asset files used by the example programs.
- ◆ beans - Contains all JavaBeans used as actors. To add a new actor JavaBean to Spin, simply drag it into this directory and restart Spin.
- ◆ beans/ejb - EJB .jar's are copied here and expanded when used by Spin. behaviors Where all user-defined behaviors are stored.
- ◆ docs - Contains JavaDoc documentation for JavaBeans. If you add a new JavaBean to the beans directory, you can store its JavaDoc documentation here, and Spin will find it.
- ◆ dtd - Contains dtds used by Spin's XML facilities.
- ◆ examples - Contains client-side example programs. This is a convention only; you can put Spin projects and capsules anywhere.
- ◆ icons - Spin icons
- ◆ jikes - The Jikes Java compiler from IBM. Installed on Windows only.
- ◆ jre - The Java Runtime Environment from IBM. This directory only exists if you used the Windows Spin installer that includes Java.
- ◆ pointbase - The PointBase DBMS (DataBase Management System). Used to develop database applications with Spin.
- ◆ public_html - Where the Spin debug web server expects to find html files. The location of this directory can be changed using a Spin preference.
- ◆ exampleservlets - Contains server-side example programs. This is a convention only; you can put Spin projects and capsules anywhere.
- ◆ sources - Spin uses some Java code whose source is freely available. We include that source code here for you.
- ◆ temp - Spin uses this directory to hold intermediate results when "grinding beans" or processing .jsp's.

- ◆ UninstallerData - Contains files used to remove Spin from your system, including a log of all actions taken during the installation of Spin. This directory only exists on certain platforms.

The main Spin directory contains some .properties files that are used by Spin.

- ◆ The files DebugServer.properties, General.properties, GetInfo.properties, ScriptOptions.properties, and EnterpriseJavaBeans.properties are managed by Spin; you can modify them by choosing "Preferences" under the Edit menu.
- ◆ The file content-types.properties describes the MIME types understood by Spin's internal web application server. You can edit this file if necessary.
- ◆ The file spinsql.properties specifies the databases and database drivers available to the ZatSQL database components. You must edit this file if you want to use Spin with another database. See the Database section of this document for more information.

The main directory contains nine jar files used by Spin.

- ◆ The files app.jar, zatload.jar, and servletdebug.jar contain Spin itself. You may not make copies of these files in any form (except for backup purposes).
- ◆ The files spinlib.jar, servletsupt.jar, comp.jar, and tomcat.jar contain files that are used by projects built with Spin. You must deploy these files with any application, applet, servlet, or component that you build using Spin. comp.jar and tomcat.jar are only required if you use JSPs within your Spin application. Additionally, servletsupt.jar is not required if all you are creating is a client application.
- ◆ The file servletsupt.jar must be deployed with any servlet built with Spin. You only need to deploy it with applications, applets, or components if they contain servlet capsules. The file servlet-2.2.0.jar is Sun's Java Servlet SDK. This file should be deployed with any servlets you build, unless your servlet environment already includes this file (and most of them do include it).
- ◆ The file swingall.jar contains the Java Swing GUI widgets.
- ◆ The file lax.jar contains LaunchAnywhere, which makes it possible to run Spin by double clicking on it.

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Documentation

There are two kinds of documentation that come with Spin. One is the Spin manuals, like this one. The other is the JavaBean documentation generated by JavaDoc, used by the Spin GetObjectInfo command to display information about JavaBeans used in Spin.

Spin Manuals

You can access the manuals online, in one of several ways:

- ◆ From the Spin "View" menu, using the "Spin Documentation" command.
- ◆ From any browser, by accessing the URL <http://www.zat.com/documentation.html>.
- ◆ The Spin installation also generates an icon that will take you directly to this Web page in your default browser.

GetObjectInfo Documentation

Spin can display documentation for any JavaBean component used as an actor in Spin. This documentation is generated by JavaDoc from the source for each component.

In general, Spin components come from three places:

- ◆ Components that come with Spin, including the HTML beans, visual beans like Text and Rect, and non-visual beans like Clock and SqlSelect.
- ◆ Components that come with Java, including AWT components like Button and Scrollbar.

- ◆ Components you add later, or that you write yourself.

JavaBean documentation is displayed using the Spin Get Object Info command. This command is found in both the View menu and the Actor menu. There is also a keyboard shortcut, Control-I (Command-I on the Macintosh), or you can use the right mouse button menu (Command-click on the Macintosh).

To display online documentation for a JavaBean, the Get Object Info command must be able to find the documentation:

- ◆ For the JavaBeans that come with Spin, Spin automatically installs documentation `docs` subdirectory of the Spin installation directory.
- ◆ For JDK documentation, Spin accesses this documentation from Sun's website.
- ◆ You can add JavaBeans to Spin by placing them in the `beans` subdirectory of the Spin installation directory. When you do this, you should also add any corresponding JavaDoc documentation to the `docs` subdirectory of the Spin installation directory. JavaBeans you acquire should come with JavaDoc documentation.

JavaDoc documentation is always in HTML format, but there are two ways that this documentation can be named: using dot notation or using directory notation. For example, the Time JavaBean in the `com.webgain.misc` package can be named `com.webgain.misc.Time.html`, or it can be named `com/webgain/misc/Time.html`. Use backslashes (\) instead of forward slashes with Windows, and use colons on a Macintosh). Spin can use either format. The Spin JavaDoc documentation uses directory-based filenames because the dot notation results in file names that exceed the maximum allowable file name length on some platforms.

Offline Documentation

The Spin manuals are normally accessed from the Webgain website, and the JDK JavaBean documentation is normally accessed from Sun's website. Accessing the documentation online ensures that you are always viewing the latest version of the documentation. If you need to use Spin without an Internet connection, you can download and install a local copy of both kinds of documentation, if desired.

You can download a complete set of Spin manuals from the download Web page referenced above.

To install the JDK JavaBean documentation, you need to download it, install it, then set a preference so that Spin can find it.

First, you need to download the JDK documentation from Sun. This can be downloaded from <http://java.sun.com/products/jdk/1.1/docs.html>. Like all

JavaDoc documentation it is in HTML format, and is identical for all platforms. If you are using Spin with another version of Java, such as Java 2 (JDK 1.2), you need to download its documentation instead.

Unpack this documentation into an appropriate directory, such as the docs subdirectory of the Spin directory, or (if you are using some other version of Java) the docs subdirectory of your JDK directory. The JavaDoc documentation we are interested in is in the "api" subdirectory of the unpacked docs directory.

Finally, you need to change a preference so that Spin can find this documentation. From inside Spin, go to the Edit menu and choose Preferences. Set the Spin preference JDKDocsDirectory (in the General tab) to the api subdirectory of the JDK docs directory.

Installing Components

Installing new components in Spin is easy. For simple components, you only need to copy the components into the beans subdirectory of your Spin installation directory and restart Spin. If the components come with JavaDoc documentation, that documentation should be copied into the docs subdirectory of the Spin installation directory.

If the beans use any assets, they can be placed into the asset subdirectory of the Spin installation directory (but this is only a convention, and is not required).

If the components have any libraries, these will need to be installed onto your system using the instructions provided with these libraries. You will also probably need to set your system CLASSPATH to allow Java to access these libraries.

Upgrading Components

Sometimes new versions of specific components can prevent you from opening an existing capsule you have built with Spin. While the JavaBeans component architecture provides facilities so that JavaBeans can automatically upgrade themselves to new versions, sadly, most JavaBeans authors do not implement this feature. For most JavaBeans, the only way around this problem is to open the capsule using the old version of the component, and manually remove all instances of that component. Then replace the old component with the new component in the beans subdirectory, and restart Spin. Finally, open your capsule and insert instances of the new component in all the proper places.

Installing a Media Library

If you want to use Spin to build client-side rich media applications, you will need to install a media library and components to access that media library. We have used Spin with the Quicktime libraries from Apple and with the Java Media Framework but we do not support these libraries.

Installing QuickTime is not especially difficult, there are just lots of steps. First, you must install the latest version of Quicktime on your system. For playback you don't need the Pro version, the free version is fine. Note that there are versions of QuickTime only for Mac and PC, so if you are on some other platform, you're out of luck. For other platforms, you can try the Java Media Framework instead.

When you install QuickTime, be sure to install the QuickTime for Java libraries. You can also download and install QuickTime for Java separately. This is a set of Java classes that give access to QuickTime from Java. These classes must be added to your CLASSPATH so that Spin can find them.

At this point, you can access QuickTime calls from within Spin scripts, but what you really want is QuickTime-enabled JavaBean components. There are two sources for QuickTime components: from Elegant Chaos and from Tiger Island. These two sources have different capabilities. Finally, you need to install these components into the beans subdirectory of the Spin installation directory.

Reinstalling and Upgrading Spin

You can install a new version of Spin over an existing version. We highly recommend that you back up your existing Spin installation before installing a new version over it.

Database

Spin includes a copy of the PointBase DBMS (DataBase Management System). This copy is for development purposes only, and must be licensed from PointBase if you wish to deploy it in a commercial application. Also, the free development copy is restricted to 5 MB total database size.

Spin installs several shortcuts for PointBase (in a directory, the start menu, or on the desktop, depending on what you chose when you installed Spin and what platform you are running on). These are:

- ◆ PointBase Server - Starts the PointBase DBMS. You can also have PointBase start automatically when Spin starts by selecting the PointBaseServerLoadsAtStart preference in the General tab of Spin Preferences (in the Edit menu).
- ◆ PointBase Console - Used to manage your database, including setting up database schema. See the PointBase documentation for more information.
- ◆ PointBase Documentation - In PDF format, so you will need the Adobe Acrobat Reader.

Spin comes preconfigured for the PointBase DBMS. To use Spin with other databases, you must configure them in the spinsql.properties file. Spin should work with any database that has JDBC drivers. See the Spin Database documentation for more information.

Dreamweaver Extensions

Spin now ships with extensions for Macromedia Dreamweaver. If you use Dreamweaver and would like to use these extensions, do the following to install them.

- 1 If you have not already done so, download the Dreamweaver Extensions Manager from:
`http://dynamic.macromedia.com/bin/MM/exchange/dreamweaver/main.jsp`
- 2 Make sure that Dreamweaver is not open, then install the Extensions Manager that you downloaded.
- 3 Select Manage Extensions from the Dreamweaver Commands menu.
- 4 Select Install Extension from the Extension Manager File menu.
- 5 Select the file Spin\Dreamweaver Extensions\WebGainSpinTags.mxp
- 6 Accept the Macromedia Extensions Disclaimer.
- 7 Exit Dreamweaver.