

# Java Environment Variables (2.8)

Several environment variables and related properties must be set for Java. For UNIX operating systems one typically modifies a startup file like `~/ .bash_login` to set and export shell variables while Mac users typically set and export environment variables in `.bash_profile`. For Windows, go to Start -> Control Panel -> System -> Advanced -> Environment Variables and set `JAVA_HOME` via the GUI.

Set the `JAVA_HOME` environment variable to point to the base directory of your Java installation and add Java's `/bin` directory to the `PATH` environment variable.

**i** If the variable `JRE_HOME` is already set or if you want to use a particular JRE if you have more than one JRE installed on your machine then you'll want to set the `JRE_HOME` variable as well. `JRE_HOME` is what Apache Tomcat uses when it starts up, but it defaults to use `JAVA_HOME` if `JRE_HOME` is not set. In most cases, setting `JAVA_HOME` should cover both cases sufficiently.

Variable	Unix	Mac	Windows
<code>JAVA_HOME</code>	<code>export JAVA_HOME=/usr/java/java-current</code>	<code>export JAVA_HOME=/Library/Java/Home</code>	<code>JAVA_HOME=C:\jdk1.6.0_24</code>
<code>PATH</code>	<code>export PATH=\$PATH:\$JAVA_HOME/bin/</code>	<code>export PATH=\$PATH:\$JAVA_HOME/bin/</code>	<code>;C:\jdk1.6.0_24\bin</code>

**w** Windows: append the string to the end of the `Path` system variable

## Set `JAVA_OPTS`

The default Java virtual machine (JVM) settings are insufficient for an application of Sakai's size. As a result several JVM parameters must be increased for Sakai to run, while others may need to be adjusted for optimal performance. At a minimum add the following property settings to your `JAVA_OPTS` environment variable.

**g** We recommend that you define these settings in Tomcat's `/bin` directory in a file named `setenv.sh` (Unix/Mac) or `setenv.bat` (Windows). See the [Tomcat](#) section below for more details.

### Unix/Mac:

```
export JAVA_OPTS='-server -Xms512m -Xmx1024m -XX:PermSize=128m -XX:MaxPermSize=512m -XX:NewSize=192m -XX:MaxNewSize=384m -Djava.awt.headless=true -Dhttp.agent=Sakai -Dorg.apache.jasper.compiler.Parser.STRICT_QUOTE_ESCAPING=false -Dsun.lang.ClassLoader.allowArraySyntax=true'
```

### Windows:

```
set JAVA_OPTS=-server -Xms512m -Xmx1024m -XX:PermSize=128m -XX:MaxPermSize=512m -XX:NewSize=192m -XX:MaxNewSize=384m -Djava.awt.headless=true -Dhttp.agent=Sakai -Dorg.apache.jasper.compiler.Parser.STRICT_QUOTE_ESCAPING=false -Dsun.lang.ClassLoader.allowArraySyntax=true
```

## **-** Additional required settings

Certain JSF tools (chat, portfolios, test & quizzes) do not compile properly in Java 1.6. The workaround requires adding the system property `allowArraySyntax` in order to avoid deserialization bottlenecks in arrays (see

**o** [SAK-17578](#) - Compiling with Java 1.6 breaks tools in Sakai **CLOSED** ). Second, Tomcat 5.5.27+ enforces strict quote escaping, a change in `*.jsp` handling that has yet to be addressed in certain tools such as portfolios (see

**o** [SAK-15736](#) - NPE when trying to preview portfolios when running in tomcat 5.5.27 and websphere **CLOSED** ). Finally, specify an HTTP user agent other than "Java/xxxxx" in order to resolve Google and other RSS feeds (see

**o** [SAK-10159](#) - Unable to interpret RSS from Google News **CLOSED** ,

**o** [SAK-13353](#) - Unable to render news from Times Higher Education Supplement (THES) **CLOSED** and

**o** [SAK-18044](#) - Add `-Dhttp.agent=Sakai` to demo startup scripts to resolve Google RSS feed issues **CLOSED** ).

```
-Dsun.lang.ClassLoader.allowArraySyntax=true  
-Dorg.apache.jasper.compiler.Parser.STRICT_QUOTE_ESCAPING=false  
-Dhttp.agent=Sakai
```

## Specify a Language and Locale (optional)

You can define the default language/locale when starting Sakai by setting the system properties `-Duser.language` and `-Duser.region`. For information on supported languages see the release notes or visit the [i18N Work Group](#) space.

```
-Duser.language=pt  
-Duser.region=PT
```

In the case your locale were not fully supported in Java (as it happens with Basque or Mongolian languages) you should read this information:

[Endorsed I18n Project](#)

### Specify an HTTP Proxy (optional)

In environments where local network policy or firewalls require use of an upstream HTTP proxy/cache, Sakai needs to be configured accordingly. Otherwise components or services which use HTTP requests, such as the `BasicNewsService` for RSS feeds in the News tool, cannot retrieve data from the target URLs. This can be fixed with the following `JAVA_OPTS` arguments:

```
-Dhttp.proxyHost=cache.some.domain  
-Dhttp.proxyPort=8080
```