# Install Guide - Source Install (2.6)

## Sakai Source Distribution Installation Guide

There are two ways to acquire Sakai source code. You can choose to download a packaged *.zip or *.tar.gz file from Sakai's release pa
bversion's (SVN) source control management system.

## 1.0 Verify/Install Java 5.0

Sun Microsystem's Java 2 Platform Standard Edition 5.0 (J2SE 5.0), a.k.a Java 1.5, remains the recommended JVM to build and run Sa
downloading and attempting to use only the runtime environment (JRE 5.0) will not suffice.  Mac OS X includes the full version of Java
the HotSpot virtual machine (VM), so Mac users should not need to install Java.  If you find Sun's version and naming conventions con
practices.

🚫 Oracle's Sun Java J2SE 5.0 (a.k.a Java 1.5) has completed the EOL process and is no longer supported. If are still running Java 1.5
updates 1.5.0_17 and earlier. Sun recommends that you install JDK/JRE 5.0 Update 18+ (the final update is JDK/JRE 5.0 Update 22).

⚠️ Sakai 2.6 can be run using Java Platform, Standard Edition 6 (Java SE 6), a.k.a Java 1.6, although to-date there is little production
JVM. Should you choose to run Sakai in a Java 6 JVM you must (at a minimum) add the following environment setting to your JAVA_O

```
-Dsun.lang.ClassLoader.allowArraySyntax=true
```

To confirm that Java is both installed on your system and is the correct version for Sakai, run `java -version` from the command line:

```
java -version
```

If Java is installed, basic version and build information will be displayed:

```
java version "1.5.0_18"
Java(TM) 2 Runtime Environment, Standard Edition (build 1.5.0_18-b02)
Java HotSpot(TM) Server VM (build 1.5.0_18-b02, mixed mode)
```

If Java is not installed or you are running the wrong version you can download the J2SE 5.0 JDK release from Sun's archive:

| Release | Installation Notes |
|---|---|
| http://java.sun.com/javase/downloads/index_jdk5.jsp | http://java.sun.com/j2se/1.5.0/install.html |

Install the SDK, typically in the `/opt` directory, i.e. `/opt/java`. Install the JRE in a different directory (usually the default directory, es

## 1.1 Set Java environment variables

Several environment variables and related properties must be set for Java. For UNIX operating systems one typically modifies a startu
Mac users typically set and export environment variables in `.bash_profile`. For Windows, go to `Start -> Control Panel -> System`
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

ℹ️ 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 mach
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, se

| Variable | Unix | Mac | Windows |
|---|---|---|---|
| JAVA_HOME | `export JAVA_HOME=/usr/java/java-current` | `export JAVA_HOME=/Library/Java/Home` | `JAVA_HOME=C:\j2sdk1.5.0_18` |
| PATH | `export PATH=$PATH:$JAVA_HOME/bin/` | `export PATH=$PATH:$JAVA_HOME/bin/` | `;C:\jdk1.5.0_18\bin` |

⚠️ 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 m adjusted for optimal performance. At a minimum add the following property settings to your `JAVA_OPTS` environment variable. We rec 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 -XX:+UseParallelGC -Xmx768m -XX:MaxPermSize=128m -Djava.awt.headless=true -Dhttp.agent
STRICT_QUOTE_ESCAPING=false'
```

**Windows:**

```
set JAVA_OPTS=-server -XX:+UseParallelGC -Xmx768m -XX:MaxPermSize=160m -Djava.awt.headless=true -Dhttp.agent=Sak
STRICT_QUOTE_ESCAPING=false}}
```

⚠️ Java 6 users must also add the following setting to their JAVA_OPTS:

```
-Dsun.lang.ClassLoader.allowArraySyntax=true
```

## 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.regio` visit the i18N Work Group space.

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

## 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 a requests, such as the `BasicNewsService` for RSS feeds in the News tool, cannot retrieve data from the target URLs. This can be fixed

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

## Tomcat 5.5.27+

Tomcat 5.5.27+ enforces strict quote escaping a change in *.jsp handling that have yet to be addressed in certain tools such as portfo

🔲 **SAK-15736** - NPE when trying to preview portfolios when running in tomcat 5.5.27 and websphere `CLOSED` .

```
-Dorg.apache.jasper.compiler.Parser.STRICT_QUOTE_ESCAPING=false
```

# 2.0 Install Subversion 1.6.5+

The Sakai Community uses Apache Subversion (SVN) as its source control management (SCM) system. We recommend SVN version 1 systems (Mac, Windows and several flavors of Unix). If you plan on checking out Sakai source from our SVN repository you will need t

http://subversion.apache.org/

If no binaries are available for your platform, get the source and use the configuration options `--with-ssl` and `--with-libs`.

Extract the distribution archive into your installation directory of choice, e.g. `/opt/subversion/`. Confirm that you have installed the command line.

```
svn --version
```

```
svn, version 1.6.9 (r901367)
   compiled Jan 25 2010, 22:25:43
. . . .
```

## 2.1 Set Subversion environment variables

Set the SUBVERSION_HOME environment variable to point to the base directory of your SVN installation and Subversion's /bin directo

| Variable | Unix/Mac | Windows |
|---|---|---|
| SUBVERSION_HOME | export SUBVERSION_HOME=/opt/subversion | set SUBVERSION_HOME=C:\subversion |
| PATH | export PATH=$PATH:$SUBVERSION_HOME/bin | ;C:\subversion\bin |

⚠️ Windows: append the string to the end of the Path system variable

# 3.0 Get Sakai

Packaged releases are available at http://source.sakaiproject.org/release/.

Sakai source code can also be checked out anonymously from our SVN repository. The latest development work is located in /trunk; work is performed in /branches.

Starting with Sakai 2.6, Sakai common services (e.g., authz, content, event, site, tool, user, etc.) have been repackaged and refactore check out the kernel manually as Sakai kernel dependencies are managed by Maven.

## 2.6 release archive

You can download an archive of Sakai source code:

| Archive | URL | checksum |
|---|---|---|
| .tgz | http://source.sakaiproject.org/release/2.6.2/artifacts/sakai-src-2.6.2.tgz | MD5 |
| .zip | http://source.sakaiproject.org/release/2.6.2/artifacts/sakai-src-2.6.2.zip | MD5 |

## 2.6 release tags

To checkout a stable release tag issue the following svn command from the terminal:

```
svn co https://source.sakaiproject.org/svn/sakai/tags/sakai-2.6.0/ sakai-2.6.0
```

## 2-6-x maintenance branch

The latest bug fixes for a particular release can be found in our maintenance branches. Please note that certain maintenance branch fi Wiki 2-6-x branch summary for more information. You can check out the maintenance branch by issuing the following command from

```
svn co https://source.sakaiproject.org/svn/sakai/branches/sakai_2-6-x/ sakai_2-6-x
```

# 4.0 Install Maven 2.0.6+

The Apache Maven project management framework provides Sakai with "a set of build standards, artifact repository model and a softw 22). As part of the installation process you will use Maven as a build tool in order to compile, test and deploy Sakai to a servlet contai

⚠️ Maven 2.2.1 is the recommended version for performing Sakai 2.7 builds; Maven 2.0.6 is the minimum version.
⛔ Maven 3.0 is currently NOT compatible with Sakai 2.6.

You can download Maven at

http://maven.apache.org/download.html

Extract the distribution archive into your installation directory of choice, e.g. /opt/maven/apache-maven-2.0.8. Confirm that you hav vn --version from the terminal. At this point your environment is prepared to build and deploy the Sakai source code.

```
mvn --version
```

```
Maven version: 2.0.8
Java version: 1.5.0_18
OS name: "mac os x" version: "10.4.11" arch: "i386" Family: "unix"
```

## 4.1 Set Maven environment variables

A number of environment variables must be set for optimal Maven performance. For UNIX operating systems one typically modifies a
Mac users typically set and export environment variables in `.bash_profile`. For Windows, go to `Start -> Control Panel -> Syste`
environment variables via the GUI.

Set the `MAVEN_HOME` environment variable to point to the base directory of your Maven installation and add the Maven `/bin` directory t

| Variable | Unix/Mac | Windows |
|---|---|---|
| MAVEN_HOME | `export MAVEN_HOME=/opt/maven/apache-maven-2.0.10` | `set MAVEN_HOME=C:\apache-maven-2.0.10` |
| PATH | `export PATH=$PATH:$MAVEN_HOME/bin` | `;C:\apache-maven-2.0.10\bin` |

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

### MAVEN_OPTS

Maven does not read `JAVA_OPTS` on start up, resulting occasionally in "Out of Memory" errors when building Sakai. To assure sufficient
environment variable as defined below. For UNIX operating systems one typically modifies a startup file like ~/.bash_login to set and
environment variables in `.bash_profile`. For Windows, go to `Start -> Control Panel -> System -> Advanced -> Environment \`

```
export MAVEN_OPTS='-Xms256m -Xmx512m -XX:PermSize=64m -XX:MaxPermSize=128m'
```

## 4.2 Create a local Maven repository

Create a local Maven repository (.m2) in your **home** directory:

### Unix/Mac

```
cd $HOME
mkdir -p .m2/repository
```

### Windows

```
mkdir %HOMEDRIVE%%HOMEPATH%\.M2\repository
```

ℹ️ In Windows the default location of your home directory is `C:\Documents and Settings\yourusername`. Windows also establishes i
location and your "home path" location, i.e. `%HOMEDRIVE%%HOMEPATH%`. (The `%`-sign is how Windows brackets environment variables).

## 4.3 Create a Maven `settings.xml` file

Create a new XML file in your **.m2** directory called **settings.xml.** Add the following lines, specifying the actual location of your Tomcat I

🛑 Do not include trailing / or \ slashes in the directory paths.
⚠️ Sakai does not use the standard `appserver.home` so you must include a `<sakai.appserver.home>` element in your `settings.xml`
`C:\opt\tomcat.`

| Unix/Mac | Windows |
|---|---|
| | |

```
<settings xmlns="http://maven.apache.org/POM/4.0.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
http://maven.apache.org/xsd/settings-1.0.0.xsd">
<profiles>
<profile>
<id>tomcat5x</id>
<activation>
<activeByDefault>true</activeByDefault>
</activation>
<properties>
<appserver.id>tomcat5x</appserver.id>
<appserver.home>/opt/tomcat</appserver.home>
<maven.tomcat.home>/opt/tomcat</maven.tomcat.home>
<sakai.appserver.home>/opt/tomcat</sakai.appserver.home>
<surefire.reportFormat>plain</surefire.reportFormat>
<surefire.useFile>false</surefire.useFile>
</properties>
</profile>
</profiles>
</settings>
```

```
<settings xmlns="http://maven.apache.org/POM/4.0.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance
xsi:schemaLocation="http://maven.apache.org/POM/4.0.
http://maven.apache.org/xsd/settings-1.0.0.xsd">
<profiles>
<profile>
<id>tomcat5x</id>
<activation>
<activeByDefault>true</activeByDefault>
</activation>
<properties>
<appserver.id>tomcat5x</appserver.id>
<appserver.home>c:\opt\tomcat</appserver.home>
<maven.tomcat.home>c:\opt\tomcat</maven.tomcat.home>
<sakai.appserver.home>c:\opt\tomcat</sakai.appserver
<surefire.reportFormat>plain</surefire.reportFormat>
<surefire.useFile>false</surefire.useFile>
</properties>
</profile>
</profiles>
</settings>
```

Optionally, you can specify the Tomcat home to be an environment variable:

```
<maven.tomcat.home>${env.CATALINA_HOME}</maven.tomcat.home>
```

Users who utilize a network proxy need to add a `<proxies>` section to `settings.xml`:

```
<proxies>
<proxy>
<active>true</active>
<protocol>http</protocol>
<host>www.your.proxy.host</host>
<port>80</port>
<username>your_username</username>
<password>your_password</password>
<nonProxyHosts>localhost</nonProxyHosts>
</proxy>
</proxies>
```

ⓘ If you do not use a username or password for your proxy exclude the `<username>` and `<password>` elements. You only need the no
require the proxy to be accessed. Maven 2.0 does not support Microsoft's NTLN authentification scheme. If you connect to a proxy like
net/ to proxy your traffic.

# 5.0 Install Tomcat 5.5.33

ⓘ **Sakai installations should always be accompanied by a fresh install of Tomcat. It provides a clean environment that simplifies troub**

⊖ **Sakai 2.6 out-of-the box (OOTB) will not run inside Tomcat 6.0+.**

The Apache Tomcat servlet container provides an ideal environment for running Sakai as a web application. Tomcat implements both t
be run in standalone mode or in conjunction with a web application server such as the Apache HTTP server or JBoss. Sakai 2.6 works
to avoid certain Tomcat security vulnerabilities present in earlier releases. Note however, that using Tomcat 5.5.27+ requires the addi
compatible with Tomcat 6.0+.

Tomcat can be downloaded as a binary install from http://archive.apache.org/dist/tomcat/tomcat-5/

Choose the **core** distribution. Windows users have the option of downloading either a Windows Service Installer `.exe` or a binary *.zip
because configuration and log viewing are easier. You can later convert the .zip install into a service install by running `/bin/service.`

Unpack the Tomcat archive into your installation directory of choice, e.g. `/opt/`. Unix/Mac users should create a symbolic link (e.g., `ln`
rename the base Tomcat directory to `/tomcat` to simplify the path.

### Tomcat pathnames

Windows users should ensure that the Tomcat path includes no spaces as this causes errors with JavaServer Faces (JSF) tools in Saka

👍 **Good:** C:\opt\tomcat\, C:\sakaistuff\installs\tomcat\ 👎 **Bad:** C:\program files\tomcat\, C:\opt\apache tomcat 5.5.33\

### Tomcat permissions

Unix/Mac users should make sure that they have write permissions to the Tomcat servlet container files and directories before proceed

### Tomcat 5.5.27+ and strict quote escaping

🚫 Tomcat 5.5.27+ enforces strict quote escaping which causes run-time errors in certain Sakai tools that use the JavaServer Faces (J /show_bug.cgi?id=45015 for more details. If you deploy Sakai using Tomcat 5.5.27+ add the following parameter to your JAVA_OPTS

```
-Dorg.apache.jasper.compiler.Parser.STRICT_QUOTE_ESCAPING=false
```

### Tomcat JDK 1.4 Compatibility Package

🚫 Do not download and install the JDK 1.4 Compatibility Package. Sakai 2.6 will not run should you install it.

## 5.1 Set Tomcat environment variables

By convention, the base Tomcat directory (e.g. /usr/local/apache-tomcat-5.5.33) is referred to as $CATALINA_HOME. As a convenie
For UNIX operating systems one typically modifies a startup file like ~/.bash_login to set and export shell variables while Mac users ty
Windows, go to Start -> Control Panel -> System -> Advanced -> Environment Variables and set your Tomcat environment v

Set the CATALINA_HOME environment variable to point to the base directory of your Tomcat installation and add the Tomcat /bin direc

| Variable | Unix/Mac | Windows |
|---|---|---|
| CATALINA_HOME | export CATALINA_HOME=/opt/tomcat | CATALINA_HOME=C:\tomcat |
| PATH | export PATH=$PATH:$CATALINA_HOME/bin | ;C:\tomcat\bin |

⚠️ Windows: append string to the end of the Path system variable.

## 5.2 Configure Tomcat

If you want to run Tomcat on different ports than the defaults, this would also be a good time to make those changes in the server.x
If you plan to run Tomcat as a standalone web server as opposed to running it in conjunction with the Apache HTTP server then you w
confusion later. The ROOT webapp is the one served up when a request is made to Tomcat's root URL. If you want users to be re-direc
.html file into /webapps/ROOT that prompts this re-direction. The index.html file should look something like the following:

```
<html>
<head>
<title>Redirecting to /portal</title>
<meta http-equiv="Refresh" content="0;URL=/portal">
</head>
<body bgcolor="#ffffff" onLoad="javascript:window.location='/portal';">
<div style="margin:18px;width:288px;background-color:#cccc99;padding:18px;border:thin solid #666600;text-align:j
<p style="margin-top:0px">
You are being redirected to the Sakai portal. If you are not automatically redirected, use the link below to con
<a href="/portal">Take me to the Sakai portal</a>
</p>
</body>
</html>
```

⚠️ Neglecting this adjustment will force users to append /portal to the URL entered to access Sakai each time. If you intend to conne
from within Apache, an option that lies outside the scope of this document.

## 5.3 Tomcat memory management

You can better manage Tomcat memory usage by creating a setenv.sh/.bat file defining JAVA_OPTS environment variable settings in th

**Mac/Unix:** create a file called **setenv.sh** and add the following line:

```
export JAVA_OPTS='-server -XX:+UseParallelGC -Xmx768m -XX:MaxPermSize=160m -Djava.awt.headless=true'
```

**Windows:** create a file called **setenv.bat** and add the following line:

```
set JAVA_OPTS=-server -XX:+UseParallelGC -Xmx768m -XX:MaxPermSize=160m -Djava.awt.headless=true
```

## 5.4 Set up Tomcat as a Windows service

You can convert the .zip install into a service install by running `service.bat` from the `/bin` directory:

```
C:\tomcat\bin> service.bat install
```

You can add a service name as a second argument to the above script (the default name is "Tomcat5"). You can uninstall the service

After this you need to set the default startup options:

```
C:\tomcat\bin> tomcat5 //US//Tomcat5 ++JvmOptions "-Xms512m;-Xmx1024m;-XX:PermSize=128m;-XX:MaxPermSize=256m;-Df
STRICT_QUOTE_ESCAPING=false"
```

If you choose to do this in the GUI follow these steps: Open the configuration window, issue the following command:

```
C:\tomcat\bin> tomcat5w //ES//Tomcat5
```

Replace "Tomcat5" with whatever service name you chose for the install. You'll want to set the service to startup automatically ("Start

Windows users that have installed Tomcat as a service can set most Java options through the Tomcat service manager GUI, but not al
environment variable. To achieve the equivalent of the "-server" option, you'll need to change the Java Virtual Machine path from ..\j

🚫 Java 1.6 users will you need add the system property `-Dsun.lang.ClassLoader.allowArraySyntax=true`. This option is not requi
for more details.

Be sure to put the remaining JAVA_OPTS on separate lines in the Java Options field of the GUI, e.g.:

```
-Xms512m
-Xmx1024m
-XX:PermSize=128m
-XX:MaxPermSize=256m
-Dfile.encoding=UTF-8
-Dorg.apache.jasper.compiler.Parser.STRICT_QUOTE_ESCAPING=false
-Dsun.lang.ClassLoader.allowArraySyntax=true
-Dhttp.agent=Sakai
```

⚠️ Samoo has reported that display issues after editing text documents with accented characters using the resources tool. The issue w
(open command window -> type "tomcat5w" -> "Java" ->"Java Options:").

You can add additional system properties if needed, e.g., `-Dsakai.security=C:\tomcat\security`.

Finally, clear out the **Initial Memory Pool** and **Maximum Memory Pool** values, as those might conflict with the options you're putting in
double-check the service manager to verify that the values have changed.

⚠️ Java 1.6 users may encounter the unhelpful system log error "The Apache Tomcat service terminated with service-specific error 0 (
`bin` directory into the server or client directory with the `jvm.dll` file.

To set up remote debugging, please see (Remote Debugging).

# 6.0 Configure Sakai

The `sakai.properties` file is a central configuration file that is typically stored in a `/sakai` subdirectory relative to the Tomcat home
series of key/value pairs that is read using the load method of java.util.properties. Settings in `sakai.properties` govern everything fi
settings in `sakai.properties` are read on startup; any changes you make subsequently will only take effect when you restart web ap
the same directory as sakai.properties. Properties listed in local.properties override sakai.properties.

For a source installation the default `default.sakai.properties` file is located in the `config` module:

```
sakai-src/config/configuration/bundles/src/bundle/org/sakaiproject/config/bundle/default.sakai.properties
```

⚠️ The bin package does not include a `sakai.properties` file. This is a deliberate exclusion; it eliminates the possibility of overwriting existing Sakai installation.

If you need to override the default settings you must create your own `sakai.properties` file either from scratch or from a known wor installation. We recommend that you review the `default.sakai.properties` file included in the source installation or in the appropria

| Version | default |
|---------|---------|
| 11 | default.sakai.properties |
| 10 | default.sakai.properties |
| 2.9 | default.sakai.properties |

The default location for your local `sakai.properties` file is `$CATALINA_HOME/sakai`. This folder is not created by Maven during the bu or via a script. You can also store Sakai's configuration files outside of your web application server's file hierarchy. For example, in a d reinstalling Tomcat and unless you create a build script to automate the Tomcat installation and configuration process avoiding having time has its advantages.

To locate your properties file outside of your web application server environment modify the Java startup command or the `JAVA_OPTS` . Make sure your external location is readable and writable by your web application server.

```
-Dsakai.home=/path/to/desired/sakai/home/
```

# 6.1 Default database support (HSQLDB)

By default Sakai 2.9 distributions (demo, binary, source) are configured to use an in-memory version of HSQLDB on start up. HSQLDE

Many developers and the vast majority of Sakai installations choose to run either MySQL or Oracle in their local and production enviror configuration settings for both databases. Click the "Configure" tab above for instructions on setting up Sakai to use MySQL or Oracle. mariadb-connector-j/ and copy into the lib directory.

ℹ️ You will **not** need to create Sakai database objects (tables, indices, etc) when setting up your database. Sakai generates its own da the `autoDDL` setting in `sakai.properties`.

# 6.2 Sakai contributed projects (contrib)
Additional capabilities provided by Sakai Community members are available as "contrib" projects. These projects range from prototype Universidade Fernando Pessoa's SiteStats tool or Etudes' Melete Lesson Builder tool.

The contrib repo is located at

https://source.sakaiproject.org/contrib/

🚫 Before installing a "contrib" tool check its release notes to confirm that it's Sakai common services dependencies have been update found in Sakai's Confluence wiki.

Adding a 2.6-compatible contrib tool to your build is usually a straightforward process. For example, to add SiteStats to you Sakai buil

```
cd sakai-2.6.0
svn co https://source.sakaiproject.org/contrib/ufp/sitestats/tags/sitestats_2-0-rc1/ sitestats
```

Edit SiteStats' base pom file `sitestats/pom.xml` updating the <parent> pom's <version> value to the appropriate Sakai version:

```
<!-- Parent: Sakai master pom -->
<parent>
  <artifactId>master</artifactId>
  <groupId>org.sakaiproject</groupId>
  <!-- EDIT ME: Sakai Version -->
  <version>2.6.0</version>-->                    <!-- For 2.6.0 release -->
  <!-- <version>2.6.1-SNAPSHOT</version> -->     <!-- For 2.6.x branch -->
  <!-- <version>2.7.0-SNAPSHOT</version> -->     <!-- For TRUNK -->
</parent>
```

Then install SiteStats artifacts in your local Maven repository followed by deployment to your servlet container (e.g. Tomcat):

```
cd sitestats
mvn clean install sakai:deploy
```

## 7.0 Build, deploy and start Sakai in Tomcat

> Unable to render {include}    The included page could not be found.

### 7.1 Start/Stop Tomcat

Start/stop Tomcat from the terminal by running the appropriate startup/shutdown script located in `$CATALINA_HOME/bin`:

Unix/Mac

```
sh startup.sh
sh shutdown.sh
```

Windows

```
startup.bat
shutdown.bat
```

# 8.0 Explore Sakai

You should at this point have a working Sakai installation. Now it's time to get started with adding users, creating work sites, and othe user's guide here, but we can offer some pointers to get you oriented and on your way, and link you to more exhaustive sources of inf

## The Gateway Page

Once Tomcat has started successfully, you should be able to direct your browser to its gateway page at [http://localhost:8080/portal](http://localhost:8080/portal) (installed). From the gateway page you can create new accounts or browse for public site content. You could start by creating a new ac functions are needed to allow this account the right permissions, it's just as well to start by logging in as the admin user. Sakai's out-c also 'admin'), so use those credentials to log in.

## My Workspace

Every user on the system - including the admin - has a private site called My Workspace. It's the landing point upon logging in, and it' the left-hand side of the screen are links to the various different tool pages within a given site, and the admin's My Workspace has a d account can be configured to have a different set of tools in its My Workspace by altering a template - see below).

## Other Sites

Each new (accessible) site becomes visible as a tab along the top, to the right of My Workspace. For most users, they initially only hav little different, in that it has access to two. The second admin site (which you can enter by clicking on its tab) is entitled Administration the admin My Workspace. It is.

Why the redundancy? Because you'll likely want to make these admin tools available to a particular user who doesn't have access to th Workspace on the system). To allow anyone access to the admin tools, you need only add them to the list of users of the Administration role.

## Admin Tools

### Creating Users

The first thing you may want to do is to change the admin password to something secure, and to start creating a few sample users on tool on the left. To change the admin user's password, simply click on the 'admin' username in the list of users, and edit the fields on link at the top of the tool page.

### Creating Sites

If you're itching to create your first worksite, you may be tempted to dive directly into the Sites tool. That would probably be a mistak the ground up, with fine-grained control over its every page, tool, and configuration detail. But this flexible power comes with a price, Sites tool is therefore best used as a way to tweak an existing site after the fact, once the standard pieces have been more expedientl

The best way to start creating sites, therefore, is to use the Worksite Setup tool. Click on the New link at the top of the tool page, and allow you to avoid issues of academic term, etc., that are provoked by a "course" site - issues which are probably unnecessary if you j serve, however: both types of sites have all the tools available to them.

Step through the remaining site creation pages, making your preferred selections. Be sure to click the Create Site button at the end of a new tab along the top of the screen.

## Adding Users to Sites

Since you set this site up as an admin, the admin is technically the owner of this site, and its only member at first. If you want to add through the Site Info tool of the site itself.

Click on the tab of your new site (which should now be visible) to enter it, and then click on the Site Info link along the left hand side. action links across the top, and Add Participants is the one that will allow you to connect other users to the site. These users will of co

As long as we're here in Site Info, it's worth pointing out that the Edit Tools link at the top will allow you to remove and add tools from

## Experimenting with Tools

You may have noticed an extra tool appear in your site - one which you didn't explicitly choose - labeled Help. This tool provides onlin system. This should be your companion as you learn more about the software's functionality.

This Help tool is also reached in a context-sensitive way by clicking on the question mark icons at the upper right of any particular too content of the tool you happen to be in at the time.

At some later point, when you become comfortable with the standard tools, you may wish to see other, more experimental tools that tools that are still maturing, but can already serve needs in innovative ways that the standard ones do not. These extra tools require across them inadvertently if that's not desired, but you are encouraged to evaluate them for your own deployment.

## Where to Learn More

### About the Project

The sakaiproject.org site offers the best background and orientation to the project and its goals, but chances are you've already seen certain tools or other initiatives, see the relevant Confluence spaces.

### Community Participation

The Sakai Community provide email forums on a variety of topics. The lists are open, however, they do reject all non-member email, still access its archives.

The four main Sakai community lists are:

Announcements (announcements@apereo.org) - items of community-wide interest in Apereo, including Sakai (receive newsletters; le upcoming releases; participate in calls for community input). A low-volume, read-only list, which everyone should join.

Building Sakai (sakai-dev@collab.sakaiproject.org) - designing, developing, testing, and documenting Sakai (learn about the technical design and development of tools and services; locate technical specifications; learn about plans for future releases). For designers, pro

Pedagogy (pedagogy@collab.sakaiproject.org) - teaching and learning, collaboration, and other uses of Sakai (learn about best practi interests, K-12, Higher-Ed, Portfolios). For teachers, staff, students, researchers, instructional designers, instructional technologists a

Deploying Sakai (production@collab.sakaiproject.org) - implementing, installing, configuring, and supporting Sakai (find release docur hardware and software configurations; share examples of training, tutorial and support materials). For sysadmins, DBAs, and technica

There are also a variety of smaller, topic-specific working groups that use email lists, which you may also find of interest as you get m

To join a Sakai mailing list point your browser to:

http://collab.sakaiproject.org/mailman/listinfo/

and join the lists that interest you. You will be asked to fill out a short form (username, password) and you can select whether or not digest. Once you have submitted your request you will be sent a confirmation email with a short set of instructions for confirming your

### About Technical Matters

Reference materials for various technical issues are best found in Sakai's subversion repository (where these installation documents a subversion can be found in the reference module, e.g. https://source.sakaiproject.org/svn/reference. See in particular the docs/archit collection of technical white papers.

The Confluence wiki is a more informal source of information, but also valuable and broader in scope. New developers in particular sho account there and participate.

But often the most incisive information comes from direct interaction with your peers. As mentioned above, the Collab Server is the pl
active) such group is DG: Development, also commonly referred to by its alias, "sakai-dev."