

AccuRev Web Interface

Installation Notes

(June 2008)

The AccuRev Web Interface (Web GUI) is a web application that runs on the Apache Tomcat server. The Web GUI allows users to access data managed by the AccuRev Server via a Web browser.

Ensuring Secure Use of the Web GUI

Before the Web GUI, your users accessed AccuRev data from within the organization's LAN, or from a VPN or similar secure connection. There were two layers of security -- your organization's network security measures and AccuRev's security settings. Using the Web GUI, you can access data on an AccuRev Server directly via the Internet. Before proceeding, please acquaint yourself with common security issues that arise when using a Web interface to access sensitive data.

At a minimum, we recommend the following measures to secure your use of the Web GUI:

- Obtain an SSL certificate and install it on the machine running Tomcat. SSL certificates are used to encrypt Web traffic. See <http://tomcat.apache.org/tomcat-5.5-doc/ssl-howto.html> for information on installing and configuring SSL support on Tomcat.
- Set up password strength checking for the Web GUI, as described in *Setting Login Security*.
- Review your existing AccuRev security measures stringently. Consider the implications of an outsider gaining access to data stored in AccuRev. Set strong passwords for all AccuRev users, and put user and group permissions in place if none exist. Set ACL permissions to restrict user access by depot and stream to further secure the environment.
- Consult with your local system administrator to determine the best way to run the Tomcat server securely within your organization's network.

Installing the AccuRev Web GUI

You will need root (on Linux) or administrator (on Windows) privileges to install this product.

The machine where the Web GUI will be installed must fulfill these requirements:

- Installations of:
 - Java 2 Standard Edition JRE, release version 5.0 or later
 - Apache Tomcat 5.5 or later
 - AccuRev 4.6.1 or later (client installation, server may be on another machine)
- Access to an AccuRev Server, either locally or via network.

Machines used to access the Web GUI should have at least one of the following browsers installed: Internet Explorer (version 6 or later) or Firefox (1.5.0 or later).

Setting Up The Java Environment

Tomcat requires a Java Runtime Environment (JRE) from J2SE version 5.0 or later. These instructions will help you install and set up a JRE on the target machine.

1. Download the Java 2 Standard Edition JRE, release version 5.0, from http://java.sun.com/javase/downloads/index_jdk5.jsp.

Later versions are available from <http://java.sun.com/javase/downloads/index.jsp>.

If you are using J2SE 1.4, see the note at the end of *Installing Apache Tomcat*.

2. Install the JRE on the target machine according to the instructions in the download package.
3. Set an environment variable named JRE_HOME to the directory into which you installed the JRE. The default installation locations are:
 - (Windows) C:\Program Files\Java\<JRE_version>\bin
 - (Linux) <JRE_version>/bin in the directory where the self-extracting binary was run

Note: You may choose to use the full JDK rather than just the JRE. In this case, set the JAVA_HOME (not JRE_HOME) environment variable to the directory into which you installed the JDK.

Installing Apache Tomcat

The AccuRev Web GUI requires Apache Tomcat version 5.5 or later. Choose **one** of the following options to install Tomcat:

- Download the **standalone** bundle from the AccuRev download page, located at <http://www.accurev.com/download.htm>. Note that this file contains both Tomcat and the AccuRev Web GUI. See the instructions in *Installing from the Standalone Bundle* to complete the installation.
- Download an Apache Tomcat 5.5 installer from <http://tomcat.apache.org/download-55.cgi> and follow the instructions in <http://tomcat.apache.org/tomcat-5.5-doc/setup.html> to complete the installation.

To aid in managing Tomcat on Windows machines, select the **Service Startup** box under Tomcat on the **Choose Components** pane when it appears in the installer. This will automatically install and run the Windows service to control Tomcat.

*Important! After installing Tomcat on Windows, ensure that the Tomcat service is not running as the Local System account. Right-click on the Tomcat icon in the System Tray, and choose **Configure** from the menu. On the Log on tab, specify a user name and password to log on as, and click **OK** to save the changes.*

Note: Tomcat can run using J2SE 1.4, but there are extra configuration steps needed. If your existing Java environment uses J2SE 1.4, download the J2SE 1.4 compatibility package from <http://tomcat.apache.org/download-55.cgi>, and unpack the compatibility package into the <CATALINA_HOME> directory after installing Tomcat.

Installing AccuRev

The Web GUI requires an AccuRev Client or Full installation on the same machine with Tomcat. Consult the *AccuRev 4.6.1 Installation and Release Notes*, available from the AccuRev download page (<http://www.accurev.com/download.htm>) for information on installing AccuRev.

Installing the Web GUI

The AccuRev Web GUI is available for download from the AccuRev web site at <http://www.accurev.com/download.htm>. Download one of the following installation bundles:

- A **standalone** bundle containing Apache Tomcat 5.5 and the Web GUI. See *Installing from the Standalone Bundle* for further installation instructions.
- A compressed **war** file containing the Web GUI. Download this file if you have already installed Tomcat 5.5. See *Installing from the WAR File* for further installation instructions.

Installing from the Standalone Bundle

Use this installation method if Apache Tomcat 5.5 is not installed on the target machine, or if you have a version of Tomcat prior to 5.5.

1. Unpack the downloaded file into a directory on the target machine. The installation directory (which contains **bin**, **common**, **logs**, and other directories) is referred to as `<CATALINA_HOME>` throughout this document.
2. (*Windows users*) Install and start the Tomcat service:
 - From a command prompt, run the following commands to install the Tomcat service:

```
cd <CATALINA_HOME>\bin
service.bat install
tomcat5w //MS//
```
 - Right-click on the Tomcat icon in the System Tray, and choose **Start service** from the menu.
3. (*Linux users*) Verify that the executables in `<CATALINA_HOME>/bin` have execute permissions set correctly.
4. (*Linux users*) Run `<CATALINA_HOME>/bin/startup.sh` to start Tomcat. You can also configure Tomcat to run as a daemon. See <http://tomcat.apache.org/tomcat-5.5-doc/setup.html> for more information.

Installing from the WAR File

Use this installation method if Apache Tomcat 5.5 has already been installed on the target machine.

1. Shut down Tomcat:
 - *(Windows)* Right-click on the Tomcat icon in the System Tray, and choose **Stop service** from the menu.
 - *(Linux)* Run `<CATALINA_HOME>/bin/shutdown.sh`.
2. Back up any customized configuration files under `<CATALINA_HOME>` by copying them to another location. The XML files mentioned in *Configuring the Web GUI* and *Troubleshooting* may have been customized.
3. If `accurev-gui.war` and an `accurev-gui` directory exist in the `webapps` directory under `<CATALINA_HOME>`, delete them.
4. Unpack the downloaded file into the `webapps` directory.
5. Start up Tomcat:
 - *(Windows)* Right-click on the Tomcat icon in the System Tray, and choose **Start service** from the menu.
 - *(Linux)* Run `<CATALINA_HOME>/bin/startup.sh`.
6. After the service has started, restore the backed up files to their correct locations under `<CATALINA_HOME>`.

Configuring the Web GUI

This section describes several common configuration options for Tomcat, AccuRev, and the Web GUI.

Running Tomcat Automatically

If you want Tomcat to run automatically on startup:

- *(Windows)* Configure the Tomcat service to start automatically using the Services control panel, which can be accessed from the **Start** menu by choosing **Settings > Control Panel > Administrative Tools > Services**.
- *(Linux)* Add the following line to `/etc/rc.d/rc.local`:

```
<CATALINA_HOME>/bin/startup.sh &
```

Changing the Default Session Length

If you want to change the default session length, change the value of the following tag in the `<CATALINA_HOME>\conf\web.xml` file:

```
<session-config>  
  <session-timeout>30</session-timeout>  
</session-config>
```

The session length is shown in minutes, with a default of 30. Restart the Tomcat server after saving changes to the file.

Configuring AccuRev for Web GUI User Access

After AccuRev is installed, use it to perform the tasks listed below, which will grant Web GUI users access to depots on an AccuRev Server. Refer to the topics under **AccuRev Security** in the AccuRev GUI online help for more information.

- Create user identities for any potential Web GUI users. Note that the “traditional” authentication method (the default prior to AccuRev 4.5) is not supported in the Web GUI.
- Set appropriate permissions for the user identities.
- Verify that the AccuRev **bin** directory is appended to the PATH environment variable.
- If your organization has multiple AccuRev Servers, use the instructions in *Setting Access to an AccuRev Server* to define which one the Web GUI will access.

Setting Access to an AccuRev Server

If your organization has multiple AccuRev Servers, you can use the **wui_config.xml** configuration file to set which AccuRev Server can be accessed from the Web GUI. To do so:

- Start the Tomcat server.
- Make a copy of `<CATALINA_HOME>\webapps\accurev-gui\wui_config.xml`.
- Edit the `<serverMap>` element in the original file.

```
<serverMap>
  <serverMapEntry host = "localhost:8080" accurevServer = "accu3:5050"/>
</serverMap>
```

- Save the edited file to the **.accurev** subdirectory under the home directory of the user running Tomcat, located in:
 - *(Windows)* `C:\Program Files\Documents and Settings\<user name>`
 - *(Linux)* the user’s login directory
- Restart the Tomcat server.

Setting Login Security

You can configure the AccuRev Web GUI to constrain usernames and passwords to conform to your site’s security requirements using the **wui_config.xml** file. To do so:

- Start the Tomcat server.
- Make a copy of `<CATALINA_HOME>\webapps\accurev-gui\wui_config.xml`.

- Edit the `<security>` element in the original file to conform to your site's security requirements.

```
<security>
  <userName minLength = "0" minDigitCount = "0" minLetterCount = "0"/>
  <password minLength = "0" minDigitCount = "0" minLetterCount = "0"/>
</security>
```

- Save the edited file to the `.accurev` subdirectory under the home directory of the user running Tomcat, located in:
 - (Windows) `C:\Program Files\Documents and Settings\<user name>`
 - (Linux) the user's login directory
- Restart the Tomcat server.

When the Web GUI is accessed, it checks that the user names and passwords used to log in meet the requirements specified in `wui_config.xml`. The Web GUI cancels any login attempt that does not meet the specified criteria.

Troubleshooting

The following issues may arise during the Web GUI installation and testing process:

- *Another web server (or other process) uses port 8080.* By default, Tomcat attempts to bind to port 8080 at startup. To change this value, open `<CATALINA_HOME>\conf\server.xml`, and search for **8080**. Change that number to a port (higher than 1024) that isn't in use. Save your changes and restart Tomcat.
- *The Tomcat server fails to start due to port conflicts or because another Tomcat instance is already running.* When the Tomcat server starts, it binds two ports (HTTP and Server Shutdown), which are configurable in `<CATALINA_HOME>\conf\server.xml`. These bindings prevent more than one instance of the Tomcat server from starting unless each instance is configured to run on separate ports. The details of configuring multiple Tomcat server instances are beyond the scope of this document. If other applications are already running on Tomcat, we recommend using the **war** file install (described in *Installing from the WAR File*) to add the Web GUI application to your existing environment.
- *The Tomcat application tries to start using the wrong JRE/JDK.* For Linux installations, check that the `JRE_HOME` or `JAVA_HOME` environment variable indicates the version specified in *Setting Up The Java Environment*. For Windows installations, use the instructions below:
 - Right-click the Tomcat icon in the System Tray, and choose **Configure** from the menu.
 - Navigate to the Java tab on the Configuration dialog, and select the **Use default** checkbox.
 - Click **OK** to save the change.

- *The Login dialog does not respond after I enter a user name and password.* This will happen if the AccuRev Server is not responding.
- *No server appears in the Login dialog.* This will happen if the AccuRev **bin** directory has not been appended to the PATH environment variable.

Testing the Installation

To test that the AccuRev Web GUI installation is functioning correctly:

1. Obtain a user name and password for the AccuRev Server that the Web GUI will be accessing.
2. Test browser access to the AccuRev Web GUI from the Tomcat install machine, from another machine in your organization's internal network, and from an Internet-connected machine outside your organization's internal network. To do so, open a browser and navigate to the URL (**http://<server>:<port>/accurev-gui/WebGui.html**) used to access the Web GUI. You should see a dialog prompting you to log in to the AccuRev Server.

Informing Web GUI Users

When the AccuRev Web GUI has been installed, configured, and tested, distribute the correct URL to your users. Remember to use the new port assignment if you changed it from the default of **8080** as described in *Troubleshooting*.

Web GUI end users should already have:

- Access to a Web browser: Internet Explorer (version 6 or later) or Firefox (1.5.0 or later)
- An AccuRev user name and password
- A basic understanding of AccuRev functionality