Configure Apache HTTPd with Jakarta Tomcat Connector (mod_jk)

Configure Apache HTTPd as a reverse proxy (mod_proxy)
Configuring a remote Apache HTTP server

The communication between the HTTP server and Geronimo can be also done via AJP connectors. By default, both Apache Geronimo distributions (Jetty and Tomcat) have already predefined one AJP13 connector listening on port 8009.

The Jakarta Tomcat Connector **mod_jk** module is provided as a connector from Apache Tomcat source, Jetty (and obviously Tomcat) is fully compatible with this connector. This module is avaiable when you download the Tomcat source, but also is available for download separately, refer to the following URL for the proper version for your system.

http://tomcat.apache.org/download-connectors.cgi

In addition to the mod_jk you will require a **workers.properties** file, also available with the Apache Tomcat source distribution. This properties file tells the mod_jk plugin how to connect to the Geronimo server. For a detailed explanation on all the available options for configuring the Jakarta Tomcat Connector visit the following URL:

http://tomcat.apache.org/connectors-doc/config/workers.html

For practical purposes, the module mod_jk-apache-2.2.3.so for Windows and the workers.properties are included in the **Attachments** section in this article.

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Configure Apache HTTPd

Download the appropriate **mod_jk** for your platform from the Tomcat web site. For this particular example rename it to **mod_jk.so** and copy it into the **<httpd_home>\modules** directory. Download and extract the **workers.properties** from the Apache Tomcat source (alternatively, download it from the **Attachments** section) to the **<httpd_home>\conf** directory.

Edit the **httpd.conf** file located in the <httpd_home>\conf directory to load the Jakarta Tomcat Connector **mod_jk** module. Add the following lines at the end of the httpd.conf file.

Excerpt from httpd.conf

```
LoadModule jk_module modules/mod_jk.so
# Loads the Jakarta Tomcat Connector module

JkWorkersFile <httpd_home>\conf\workers.properties
# Tells the module the location of the workers.properties file

JkLogFile     <httpd_home>\logs\mod_jk.log
# Specifies the location for this module's specific log file

JkLogLevel    info
# Sets the module's log level to info

JkMount /console/* ajp13
# Sets a mount point from a context to a Tomcat worker. In this case will allow access (forward the request) to
the console.
```

JkMount will map anything behind **/console/** to the worker **ajp13**. The name **ajp13** is defined in the workers.properties file which is described next. You will need to add more JkMount directives depending on the applications you want to be accessed via the remote HTTPd.

In this example the **console** has been enabled just for demonstation purposes. In a production environment you will not want to have the **console** accessible from the other network (normally the Internet). Having the **console** accessible represents a big security exposure.

The rule is that everything should have restricted access, normally a firewall would be placed in between the HTTP and the application server (depending on the topology) and you should map just the minumum resources necessary to have your application working from the other side.

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Configure workers.properties

The **workers.properties**, among other things, tells the HTTPd where the Geronimo server is, what version of AJP should use and the port where Geronimo is listening.

Edit the **workers.properties** file located in the **<httpd_home>\conf** directory to match your environment. The following example is an excerpt from the workers.properties file with just the variables you should focus on.

Minimum requirements for the workers.properties

```
worker.ajp13.type=ajp13
# Sets the version of AJP used. The AJP listeners defined in Geronimo are AJP v13.

worker.ajp13.host=localhost
# Specifies the location of the Geronimo server. Use default localhost for single-tier scenarios. Specify the
hostname of the Geronimo server for multi-tier environments.

worker.ajp13.port=8009
# Both Tomcat and Jetty come with a predefined AJP13 listener on port 8009
```

From this example note how the name of the worker is defined, look at the variables definition worker.**ajp13**.* , **ajp13** is the worker name you specified earlier in the httpd.conf.

As a last step, stop and restart the Apache HTTPd to ensure these changes are loaded.

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Testing

For testing this configuration make sure both Geronimo and HTTPd are up and running.

1. Check Geronimo connectivity by accessing http://localhost:8080/console , you should see the Geronimo Administration Console.
2. Check HTTPd connectivity by accessing http://localhost , you should see the Apache HTTPd welcome page.
3. Check the HTTPd - Geronimo request forwarding by accessing http://localhost/console/ , you shoud be redirected to the Geronimo Administration Console. Note at the end of the URL there is a "/", failing to include this / will result in a **Not Found** error triggered by the Jakarta Tomcat Connector module.

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