

Apache Harmony

{scrollbar}

top

Running Geronimo on Harmony

This article describes the ways and known issues to run [Geronimo v2.0.2](#) using [Apache Harmony](#) as a JVM.

This article has the following structure:

- [#General note](#)
- [#Unresolved issues](#)
- [#Geronimo configuration](#)
 - [#Configure the server to use Harmony RMI Registry provider for JNDI](#)
 - [#Use TLS instead of SSL](#)
 - [#Change default keystore type](#)
 - [#Customize the server startup](#)
 - [#Use HTTPS web interface](#)
 - [#Configure Deployer to use Harmony RMI Registry provider for JNDI](#)
- [#Harmony configuration](#)
 - [#Use DRLVM](#)
- [#Other issues](#)

General note

This article was written using the following environment:

[Geronimo v2.0.2 Jetty](#) full J2EE version (geronimo-jetty6-jee5-2.0.2-bin.zip)
[Harmony](#) snapshot r610339, (Jan 9 2008), Windows/ia32/msvc 1310, debug build
[Microsoft Windows XP Professional Service Pack 2](#), 32-bit, English

With other versions and in a different environment, the behavior may differ.

Unresolved issues

Here's the brief summary of all the unresolved issues that require attention:

- [HARMONY-5191](#) – [Harmony](#) doesn't have [SSL](#) implementation (investigated, [workarounded](#)).
- [GERONIMO-3757](#) – [Geronimo](#) uses JKS keystore that [Harmony](#) doesn't support (investigated, [workarounded](#)).
- [HARMONY-5462](#) – [Harmony](#) doesn't support `-javaagent` VM option (investigated, [workarounded](#)).
- Web interface and console don't work through HTTP (uninvestigated, [workarounded](#)).
- [HARMONY-4014](#) – [Geronimo](#) takes up all the CPU resources available.
- Application takes up all the memory specified in `-Xms` option (uninvestigated).
- Application fails to terminate properly – pressing `Ctrl-C` starts shutdown process that is never finished (uninvestigated).

Geronimo configuration

Configure the server to use Harmony RMI Registry provider for JNDI

[Harmony](#) places [JNDI providers](#) in `org.apache.harmony.jndi` package tree, not in `com.sun.jndi` like [Sun Java](#) does, so you have to point [Geronimo](#) into the right direction to locate and properly access the [RMI](#) Registry provider.

For that, edit `var/config/config.xml` file, adjust **NamingProperties** GBean configuration as follows:

```
xmlsolid <gbean name="NamingProperties"> <attribute name="namingFactoryUrlPkgs">org.apache.harmony.jndi.provider</attribute> <attribute name="namingProviderUrl">rmi:/${ServerHostname}:${NamingPort + PortOffset}</attribute> </gbean>
```

Use TLS instead of SSL

[Harmony](#) doesn't have [SSL](#) implementation (see [HARMONY-5191](#)), so the following statements have to be added to `var/config/config.xml` file to instruct [Geronimo](#) to use [TLS](#) instead of [SSL](#):

```
xmlsolid <module name="org.apache.geronimo.configs/j2ee-corba-yoko/2.0.2/car"> <gbean name="CORBASSLConfig"> <attribute name="protocol">TLS</attribute> </gbean> </module>
```

Change default keystore type

[Geronimo](#) uses JKS keystore that [Harmony](#) doesn't support. For now, there's no way to work around this problem except by patching the [Geronimo](#) source code and replacing the keystore manually. See [GERONIMO-3757](#) for details.

Customize the server startup

You may either edit the [Geronimo](#) startup scripts or run the server from the command line, but in either case you should consider the following adjustments:

1. [Harmony](#) doesn't accept the `-javaagent` option ([HARMONY-5462](#)), so you have to omit it. Or, you may remove `bin/jpa.jar` file from [Geronimo](#) distribution – this way the `-javaagent` option would be omitted by the [Geronimo](#) startup script.
2. [Geronimo v2.0.2](#) needs access to Internet for applications like [SPECjAppServer2004](#) to be deployed – it tries to fetch XML schemas from <http://java.sun.com> site. So if you're going to deploy applications like that, and you're behind a firewall, you should add the appropriate `-Dhttp.proxyHost=` and `-Dhttp.proxyPort=` options to the [Geronimo](#) command line. This problem is caused by [OPENEJB-700](#) bug and should disappear after that bug is fixed and the fix is propagated to a new version of [Geronimo](#).
3. [SPECjAppServer2004](#) and other applications may require additional specification of [JNDI](#) naming conventions for EJB, like this: `-Dopenejb.jndiname.failoncollision=true -Dopenejb.jndiname.format={ejbName}`
4. [Harmony](#) generally needs more memory. So make sure to add the corresponding `-Xms` and `-Xmx` options.

Your final startup line may look like this:

```
solid
java -Xms256M -Xmx512M -Djava.endorsed.dirs=lib/endorsed -Dopenejb.jndiname.failoncollision=true -Dopenejb.jndiname.format={ejbName} -Dhttp.proxyHost=your.proxy -Dhttp.proxyPort=8080 -jar bin/server.jar
```

Use HTTPS web interface

Web interface and console only work through HTTPS port (<https://localhost:8443/>). When working through HTTP port (<http://localhost:8080/>) large portions of interface are not drawn correctly. This is still to be investigated.

Configure Deployer to use Harmony RMI Registry provider for JNDI

The [Geronimo](#) Deployer doesn't use the `var/config/config.xml` file (see [above](#)), so the [JNDI](#) configuration needs to be supplied through the system properties, like this:

```
solid
java -Djava.naming.factory.url.pkgs=org.apache.harmony.jndi.provider -jar bin/deployer.jar ...
```

Harmony configuration

Use DRLVM

You should use [DRLVM](#) ([Harmony](#) VM) to run [Geronimo](#).

[Harmony](#) also supports [IBM J9](#) VM, but [Geronimo](#) doesn't work with it, as [Geronimo](#) relies on `java.util.concurrent` package that requires a proper implementation of `sun.misc.Unsafe` class that is missing in [IBM J9](#) VM.