

New features and enhancements

There have been a number of improvements, enhancements and bug fixes in this release. Items listed in the later section are the most significant ones.

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Feature enhancements and additions

Java SE 6 support

Geronimo v2.2 can be built on Java SE 6 and provide support to JAXB/JAX-WS version2 implementation, and its assemblies also supports Java 5 and 6 run-time environments.

Usability improvements

By embedding Web Containers like Tomcat/Jetty and JMS Server Active MQ, users can have a better experience when working with them. For example, user can use `/var/activemq/conf/activemq.xml` to configure ActiveMQ and `var/catalina/server.xml` to configure Tomcat directly. Other than the new consuming approach of those embedded modules, Geronimo also provides backwards compatibility, which means you can configure GBeans like you did in previous versions.

Console improvements

Plugin management

1. By improving plugin converting method, user don't have to export a plugin for server assembly. In v2.2, a Geronimo configuration can be converted into a plugin directly. See [Converting applications into plugins using the Administration Console](#) for more details.

Save plan from Console directly

1. By default, the resource adapters created via console wizards will be regarded as geronimo configuration, which means the module type of these resource adapters will be `car`.
2. By improving console wizards, the deployment plan was saved into repository together with deployed application.

Artifact management via Console

1. Other than editing artifact aliases in a text editor, user can now update such information via Console. See [substituting one module with another](#) for the details.
2. By adding a **Remove** button on the **Repository** portlet, user can now remove an already installed .jar file from repository.

Others

1. JMS portlet improvements
2. EJB portlet improvements
3. Console accessibility improvements to comply with [Section 508 Standards](#)
4. Custom server assembly user interface improvements

GShell improvements

In v2.2, new GShell commands are supported for remote GShell server management and server instance creation. See [Geronimo GShell Commands](#) for more details.

Reduce server footprint and start-up time

In Geronimo v2.2, we used Dojo 1.1.1 mini release instead of 0.4.3 legacy to reduce server footprint. And following console portlets are published as optional ones, user can enable them by installing plugins respectively.

1. Debug View portlets as optional plugins
2. Monitoring plugins as optional
3. Plan Creator as optional plugins

Plugin profiles

Plugins are grouped by their function(category) in v2.2 and you can assemble a customized server more easily and quickly. A plugins group can be managed just as an individual plugin and you can also create your personal plugin profiles. see [customizing server assemblies](#) and [Plugins Group](#) for the details.

New GEP features and enhancements

The latest Geronimo Eclipse Plugin (GEP) provides compatibility support to previous versions of Geronimo server environment. The following new features and enhancements have been implemented in the latest GEP v2.2:

- GEP support for creating custom server assemblies. See [Assembling a server using GEP](#) for more details.
- GEP support for building plugins. See [Converting applications into Geronimo plugins using GEP](#) for more details.
- New datasource pool wizard for EAR application. See [Using datasource pool wizard in GEP](#) for more details.
- New security realm wizard for various applications. See [Using security realm wizard in GEP](#) for more details.
- Implementation of refactoring support in Eclipse. When performing a refactoring operation, you can preview all the changes to be carried out for the application, such as artifact ID and <context-root> element of a Web application.
- Profiling mode to start a Geronimo server in Eclipse. You can start a Geronimo server in profiling mode if [Test and Performance Tools Platform Project](#) is installed.

New server management features

Server farm/cluster management with dynamic members and improved deployment for off-line/new member scenarios, see [Plugin based Farming](#) for the details.