Configuring secure JMX server

Geronimo has a secure JMX server embedded. However, the JMX server is not started by default. To start the secure JMX server, start the `org.apache.geronimo.framework/jmx-security//car` module using the Admin Console or the deployer tool. For example:

`<geronimo_home>/bin/deploy -u system -p manager start jmx-security`

The secure JMX server will be running on port 9998.

The deployer tool, the GShell deployer commands, and other command line tools can be configured to use the secure JMX server. Please see Tools and commands for more information.

Disable insecure JMX server

The insecure JMX server can be turned off by modifying the `<geronimo_home>/var/config/config.xml` configuration file. Edit the `<geronimo_home>/var/config/config.xml` configuration file and add **load="false"** attribute to the following entry:

- `<gbean name="JMXService">`

> ⚠ Clustering support requires the insecure JMX server to be running. If you need the clustering support, the insecure JMX server cannot be disabled.

Connect the Geronimo with JConsole

JConsole is a Java Management eXtension (JMX) compliant GUI tool that can be used to connect to a running Geronimo server instance. In JConsole, you will be able to monitor the JVM memory usage, threads stack trace, loaded classes and VM information as well as Geronimo MBeans. To securely connect to the JMX server on local Geronimo, do as followed:

1. Startup the server with updated config.xml file;
2. export GERONIMO_HOME with actual value;
3. Start JConsole with following command line:

```
jconsole -J-Djavax.net.ssl.keyStore=$GERONIMO_HOME/var/security/keystores/geronimo-default
-J-Djavax.net.ssl.keyStorePassword=secret
-J-Djavax.net.ssl.trustStore=$GERONIMO_HOME/var/security/keystores/geronimo-default
-J-Djavax.net.ssl.trustStorePassword=secret
```

4. In the **New Connection** dialog, enter the **JMX URL** as `service:jmx:rmi:///jndi/rmi://localhost:1099/JMXSecureConnector`, **Username** as `system` and **Password** as `manager`. Click **Connect**.