
GDPC: The Genomic Diversity and Phenotype Connection

Installation Guide for 'GDPC Connection w/ Attachments' as a web service. Version 2.0

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Prerequisites

- Java JDK (<http://java.sun.com/javase/downloads/index.jsp>). Latest update of JDK 6 (At time of writing, this would be JDK 6u3. NOTE: can NOT use JRE).
- Jakarta Tomcat version 6.0.x, latest minor release (<http://jakarta.apache.org/tomcat>).
- Apache AXIS2 version 1.2 (http://ws.apache.org/axis2/download/1_2/download.cgi).

Directory Locations

- \$CATALINA_HOME – Jakarta Tomcat home directory (i.e. /usr/local/apache-tomcat-6.0.14)
- \$AXIS_HOME – Apache AXIS home directory (i.e. \$CATALINA_HOME/webapps/axis2)

Installing AXIS2

Place axis2.war into \$CATALINA_HOME/webapps, and start Tomcat which will create the Axis directory mentioned above.

For more information: http://ws.apache.org/axis2/1_2/installationguide.html.

Installing Supporting Java Jar Files

These jars can be obtained from <http://www.maizegenetics.net/gdpc/jars>, and should be placed into \$AXIS_HOME/WEB-INF/lib.

File Name	Comments
commons-dbcp-1.2.1.jar commons-pool-1.3.jar	For database connection pooling: http://jakarta.apache.org/commons
log4j-1.2.13.jar	http://logging.apache.org/log4j/docs
oracle.jar pg74.214.jdbc3.jar mysql-connector-java-5.0.5-bin.jar NOTE: Newer versions of the mysql connector may also work.	Just one of these JDBC Database Drivers will be needed depending on the type of database. GDPDM database implementations usually use the mysql database. Others could be possible. http://www.oracle.com , http://www.postgresql.org/ , http://www.mysql.com/

Tuning Tomcat Web Server

To increase the heap size available to the JVM and to execute the JVM in server mode, add the following line to `$CATALINA_HOME/bin/catalina.sh` (UNIX), `$CATALINA_HOME/bin/catalina.bat` (windows), or some other script that starts the Tomcat web server.

For UNIX, add line to `$CATALINA_HOME/bin/catalina.sh`...

```
JAVA_OPTS="-server -Xms128m -Xmx256m"
```

For Windows, add line to `$CATALINA_HOME/bin/catalina.bat`...

```
set JAVA_OPTS=-server -Xms128m -Xmx256m
```

These parameters set the initial heap size to 128MB and allows a maximum of 256MB. If the machine has the capacity, setting the maximum to 512MB is recommended.

Deploying Web Service into AXIS

- With the Tomcat web server stopped, copy the appropriate Axis2 Archive file into `$AXIS_HOME/WEB-INF/services`. Contact me to get this file. If you have implemented the GDPDM database schema, then I can easily build it for you. If you are using another database schema, then we can discuss options.
- Start Tomcat web server.