

JDBC Datasource Connectivity with GreenPlum

Greenplum Database is actually an array of individual database instances running on different servers or hosts, all working together to present a single database image. The master is the entry point to the Greenplum Database system. It is the database instance where users and client applications connect and execute SQL commands. The master coordinates the work amongst the other database instances in the system; the segments, which is where the data resides. Since Greenplum Database is based on PostgreSQL, end-users interact with Greenplum Database (through the master) using JDBC Drivers for PostgreSQL.

JDBC Driver

Java Database Connectivity (JDBC) is an API for connecting programs written in Java to database management systems (DBMS). The API lets you encode access request statements in SQL that are then passed to the database server. The PostgreSQL driver for JDBC is called *pgjdbc* and can be downloaded from:

- <http://jdbc.postgresql.org/download.html>

Documentation for the JDBC driver is located at:

- <http://jdbc.postgresql.org/documentation/82/index.html>

It is important to choose the correct driver version based on the Java version that your application uses. The following is a quick summary from the postgresql website:

* JDK 1.4, 1.5 - JDBC 3. This contains support for SSL and javax.sql, but does not require J2EE as it has been added to the J2SE release.

* JDK 1.6 - JDBC4. Support for JDBC4 methods is limited. The driver builds, but the majority of new methods are stubbed out.

Deployment of Postgresql Driver in Repertoire Server

Once you have identify the correct version of the Postgresql driver, the system administrator of Repertoire Server would need to deploy the Postgresql driver into the *RepertoireServer/ext* folder.

The Repertoire Server needs to be restarted. (Note that for using Query Builder through Remote Designer, the postgresql driver does NOT need to be copied to the client's JRE environment.

Allowing external client connection to Greenplum Database

By default, connection to the Greenplum database is restricted to only localhost. To connect to Greenplum database, you need to modify some configuration files. Failure to do so would result in the following Java exception

```
Caused by: org.postgresql.util.PSQLException: FATAL: missing or erroneous pg_hba.conf file  
at  
org.postgresql.core.v3.ConnectionFactoryImpl.doAuthentication(ConnectionFactoryImpl.java:276)  
at  
org.postgresql.core.v3.ConnectionFactoryImpl.openConnectionImpl(ConnectionFactoryImpl.java:95)  
at org.postgresql.core.ConnectionFactory.openConnection(ConnectionFactory.java:66)  
at org.postgresql.jdbc2.AbstractJdbc2Connection.<init>(AbstractJdbc2Connection.java:124)  
at org.postgresql.jdbc3.AbstractJdbc3Connection.<init>(AbstractJdbc3Connection.java:30)  
at org.postgresql.jdbc4.AbstractJdbc4Connection.<init>(AbstractJdbc4Connection.java:29)  
at org.postgresql.jdbc4.Jdbc4Connection.<init>(Jdbc4Connection.java:24)  
at org.postgresql.Driver.makeConnection(Driver.java:386)  
at org.postgresql.Driver.connect(Driver.java:260)  
at com.elixirtech.data2.datasource.jdbc.JDBCConector$Driver.getConnection(Unknown Source)  
... 23 more
```

Therefore the following configuration file changes need to be executed.

```
* postgresql.conf - Insert  
  
...  
listen_addresses = '*' // This allow Greenplum Database to accept connection from all IP address.  
...  
  
* pg_hba.conf - Insert  
  
...  
host all all <your ip address> md5 // This allow your ip address to connect to Greenplum Database.  
...
```