Sockeye How-to: Adding New EnsEMBL Connections
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Date: August 21th, 2003

       Sockeye allows a user to connect to multiple EnsEMBL MySQL servers.
By default, Sockeye connects to ensembldb.ensembl.org and db01.bcgsc.bc.ca.
However, the most powerful way of connecting to data is via your own local EnsEMBL
MySQL mirror. This tutorial contains step-by-step instructions to pointing Sockeye at
different data sources.

1. Locate an EnsEMBL MySQL mirror that you want to point to. This is an EnsEMBL
   formatted database that is visible to your version of Sockeye. If you want to create
   your own EnsEMBL MySQL database, read the EnsEMBL Installation tutorial –
   pages 4, 10, 11 and 12 (http://www.ensembl.org/Docs/EnsemblInstall_16_1.pdf).

2. You have two options in installing the new database. To permanently add the
   connection, you must edit your user_config.xml file located in your Sockeye root
   directory.

3. Find the <connection> tag

```
<connection>
    <name>Ensembl (BCGSC Internal)</name>
    <type>Ensembl</type>
    <host>ensemb01.bcgsc.bc.ca</host>
    <user>mysql</user>
    <pass>mysql</pass>
    <port>3308</port>
</connection>
```
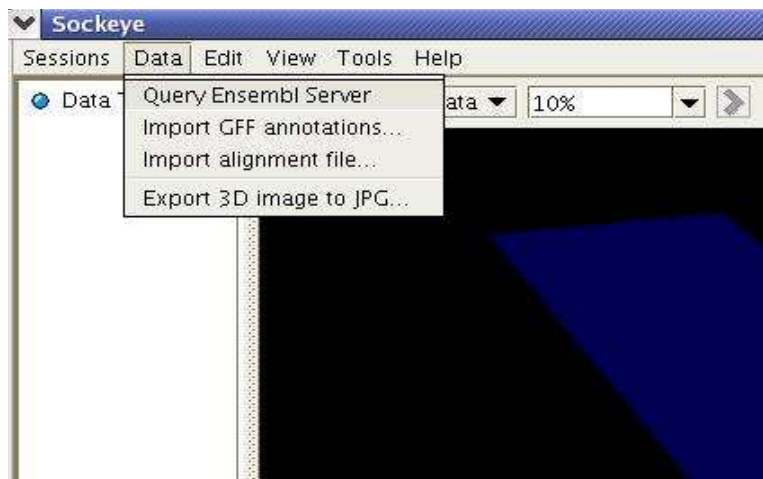
4. Copy this tag and fill in your parameters to add a new connection.
   1. The **<name>** tag specifies the name of the database (this shows up in the
      EnsEMBL query panel). Required tag.
   2. The **<type>** tag specifies that we are connecting to an EnsEMBL server (use the
      value of "EnsEMBL" - minus the quotes). Required tag.
   3. The **<host>** tag specifies where the MySQL server exists on the network (it can be
      a machine name or an IP address). Required tag.
   4. The **<user>** tag specifies the MySQL user name you would like to use (this needs
      to have read access to the EnsEMBL databases). Required tag.
   5. The **<pass>** tag specifies the password for the user.
   6. The **<port>** tag specifies the port that MySQL is running on. If not specified, it
      assumes that the port is 3306.
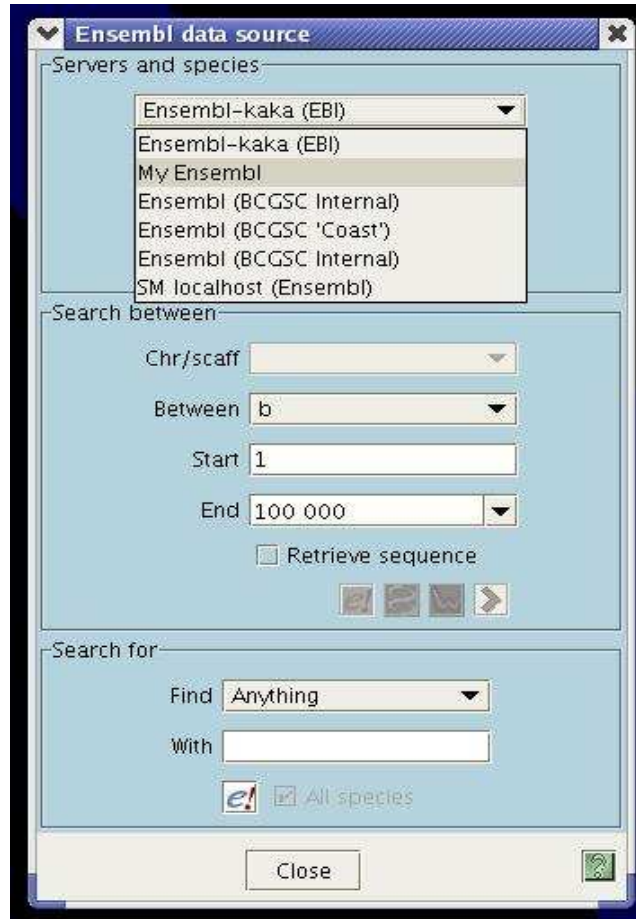
5. You should have a new tag that at a minimum looks like (except with your own values for <name>, <host> and <user>)

```
<connection>
    <name>My Ensembl</name>
    <type>Ensembl</type>
    <host>ensembl.host.ca</host>
    <user>anonymous</user>
</connection>
```
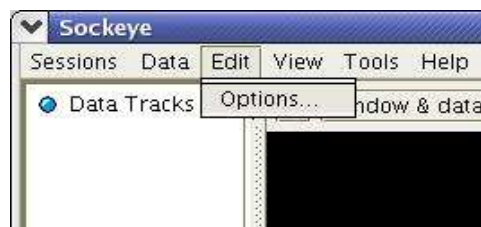
6. When you start Sockeye, this should appear in the EnsEMBL query panel. First select, Query EnsEMBL server from the Data menu
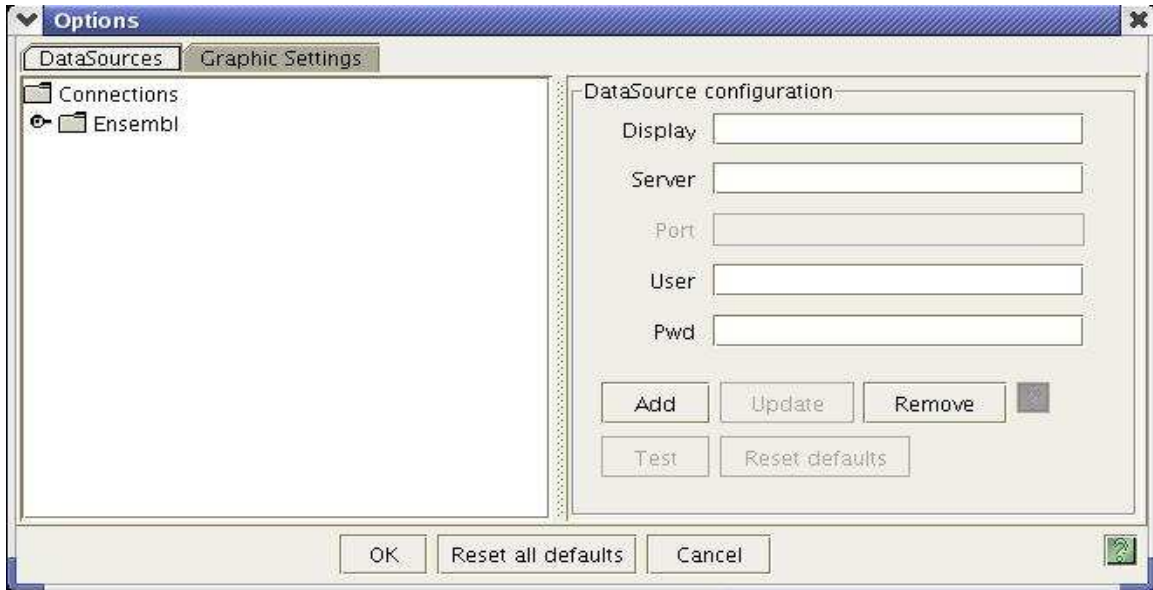
7. Then the Query EnsEMBL panel should appear with your new <connection> tag listed as an EnsEMBL server.
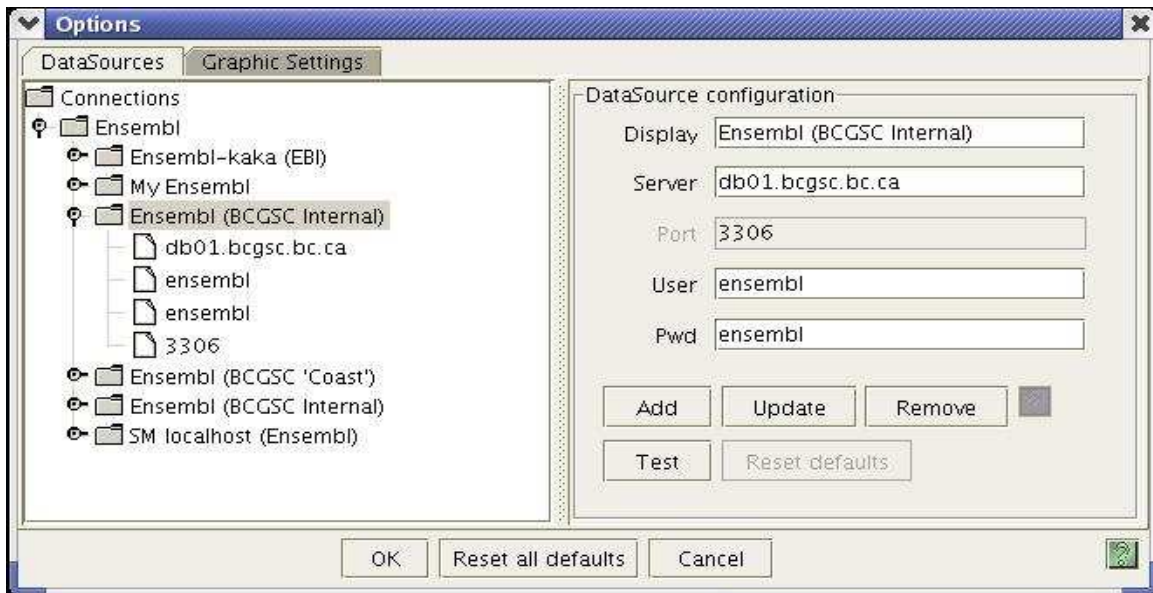

8. Alternately, you can set-up connections in EnsEMBL or edit current configurations on a per-session basis from the Edit->Options menu.

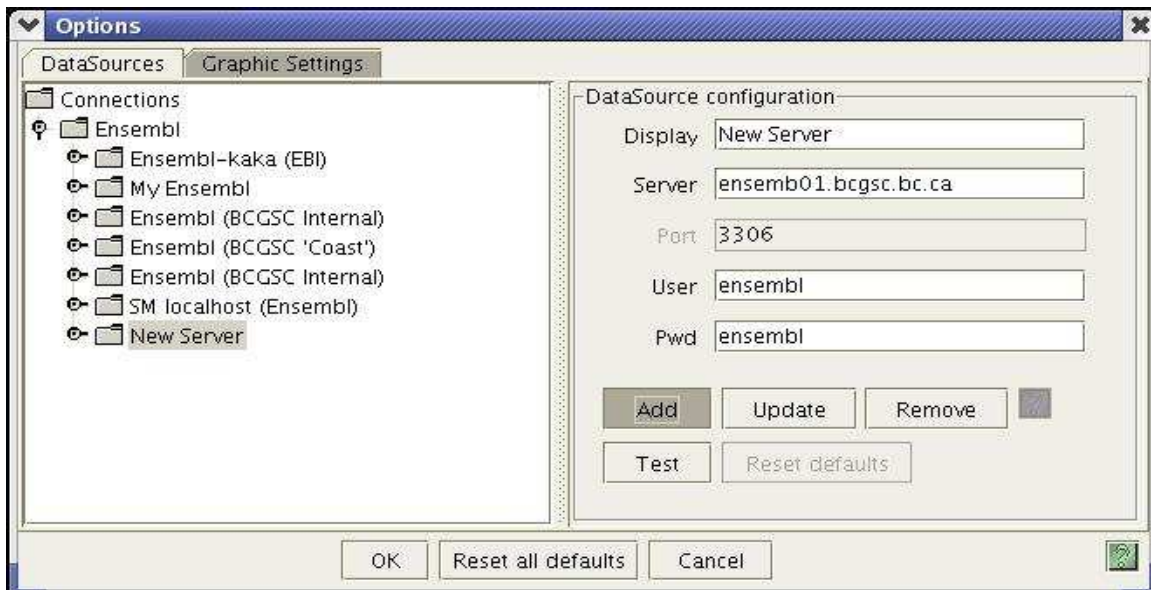9. When clicked, the options menu should appear. Select the DataSources tab.

10. From here, you can alter the properties of individual connections and test whether or not they are valid (using th Test button)

11. If you click the Test button, this message will appear if your connection is valid.

12. To add a connection from the dialog. Simply edit an existing connection and click add.

13. The new server should appear in the Query Ensembl Server dialog. Congratulations!