Zaval Database Front-End
Version 1.0

User's Guide

Zaval Creative Engineering Group

http://www.zaval.org

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Introduction to the Zaval Database Front-End

The Zaval Database Front-End solution is the SQL console query tool for relational databases, for which the Java Database Connectivity drivers exist.

The Zaval Database Front-End tool is a light-weight, web-based client, best used by advanced software engineers and database administrators for casual executing the raw SQL code and SQL scripts against the database without having to launch the database-specific administrative clients or tools.

What Can You Do with Zaval Database Front-end

The Zaval Database Front-end provides all facilities that the target database you have connected to allows to perform with the SQL queries. The exact enumeration, however, is database-specific. For all widely used databases, such as PostgreSQL, ODBC databases, DB2, Oracle, MySQL the tool can perform all spectrum of querying and database administration.

The Zaval Database Front-end gives you the same features like a vendor-supplied query and administrative tool. However, it is much lighter and is not bound to exact database.

When To Use The Zaval Database Front-end

The Zaval Database Front-end is best used for casual, irregular access to various databases. If you can write the SQL query yourself, then perhaps you will enjoy that you don't need to install several DBMS clients on your workstation and that you execute your query against the database faster than with vendor-supplied client.

Another great area of use is the remote access to database via HTTP or HTTPS protocols. Since this tool is a Web-based client, developers and administrators may connect to the database via the SSL configured for all major Web servers with JSP 1.2 compliant engine installed (Apache, IIS, WebSphere, WebLogic).

Installing the Zaval Database Front-End

To install the Zaval Database Front-End on your JSP1.2 compliant Web Server, you need to upload the files from the JSP bundle to any configured Web application. We suggest that you create a special Web application for this tool. When the file upload is complete, the Database Front-End is ready to use.

In your Web applications classpath settings, you should indicate the paths to libraries of the JDBC drivers that will be available for this application. At present the tool does not perform the search for available JDBC drivers automatically. Therefore, you should check that the database drivers that you plan to query are available in the classpath.

Connecting to the database

In order to log into the database, you have to provide information about database driver, database URL, and your database credentials. The Front-End tool receives this information from you using a form dialog, given on the Screenshot 1:

Zaval Database Front-end

Driver :   oracle.jdbc.driver.OracleDriver

URL :   jdbc:oracle:oci8:@zavalDB

login :   zavaladm

password :   ********************

[Login]   Help   Homepage

Screenshot 1. Database Login Information

All fields' titles are self-explanatory:

- Driver – specify driver to use when connecting to the database. Note: this driver should be in your Web-application's classpath – see Installing the Zaval Database Front-End.

- URL – JDBC URL (see JDBC specification).

- login & password – usage is obvious.

To make life easier, the list of the most popular DBMS drivers and URL formats is provided below this form. When clicking on a driver and a URL link, the corresponding values will be inserted into the appropriate fields above.

Operating the SQL Console

The SQL console offers a simple and intuitively understandable interface. The console that will be available to you when you have logged in is displayed on the Screenshot 2:

Zaval Database Front-end

disconnect : ☐

Query :

pageEncoding : ISO-8859-1

dbEncoding : ISO-8859-1

outEncoding : ISO-8859-1

Save input : ☑

Show results : ☑

Parse query : ☑

Show columns info : ☐

Show DBMS info : ☐

[Submit]

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Screenshot 2. SQL Console

There are following features available:

- pageEncoding – this drop-box allows you to set encoding for the html-page you see. This feature is very useful when you are operating with non-English and/or UTF-8 data

- dbEncoding – this is the database internal data representation. For example, when creating database in DB2, you can set to store all your data in UTF/cp1252 or any other encoding different from ISO-8859-1

- outEncoding – this is internal java data representation. Usually you do not need to change this parameter.

- Save input – this checkbox allows you to save previously executed query in form (very useful).

- Show columns info – allows you to see data types and some other info about every field in the table when making select queries.

- Show DBMS info – shows you all available database info.

Query Parse feature

Query parse is the most useful feature available: it allows you to execute several queries delimited by the ';' symbol at once, even if database does not support such functionality. Actually, it parses incoming string and submits each query separately, but for user all this looks like all queries are submitted in one step. By default this feature is enabled. Do not turn it off if you are not sure what you are doing. It is safe to leave this option checked.

Disconnecting from the database

In order to disconnect from the database, you need to check the disconnect checkbox (see Screenshot 2) and submit a form. If a query is not empty, it will be executed with results will be displayed (if Show Results checkbox is checked) and the database will be disconnected. Submitting an empty query simply disconnects you from the database.

What you receive using the tool

Sample query result set with Show columns info is given on the Screenshot 3:
Executed query : **select * from urlresource**

URLRESOURCEID	URLRESOURCENAME	URLRESOURCEURL	RESOURCEOWNER
INTeger(11)/not null	VARCHAR(250)/null	VARCHAR(255)/null	VARCHAR(50)/null
1	OS2 Knowledgebase Server	http://os2:4000/	Alexey Yantchuk, p801a
2	PC123 Server	http://pc123/	Alexey Yantchuk, p801a
3	People Search	http://os2:4000/icq/	Alexander Ivanyukovich
4	OS2 Documentation Library	http://os2:4000/docs/	Alexey Yantchuk, p801a

Screenshot 3. Sample query results

The first row of the table indicates the table column names, the second one gives the column information.

Sample results when you use the parse query feature are given on the Screenshot 4:

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Executed query : **select * from quotepool where quoteid > 6 and quoteid < 9**

QUOTEID	THEQUOTE	QUOTEAUTHOR
INTeger(11)/not null	VARCHAR(1000)/null	VARCHAR(300)/null
7	Life is a journey, not a destination	Lyv Tyler
8	Eagles don't catch flies	Roman Proverb

Executed query : **select urlresourceid, date_when from urlresourcehit fetch first 2 row only**

URLRESOURCEID	DATE_WHEN
INTeger(11)/null	TIMESTAMP(26)/null
1	2001-09-18 20:39:56.600001
2	2001-09-18 20:40:50.127000

Screenshot 4. Multiple result sets

Customizing the product

There are several features that can be customized:

- pageEncodings list
- dbEncodings list
- outEncodings list

All these lists are stored as String arrays at the top of the jsp-file. The source code of the tool is well commented to make desired changes easy.

Note: when adding or removing items from array don't forget to change array length on initialization.

Further product plans

Current tool implementation follows the minimalist computing concept. In near future the following features will be added:

- SQL script upload and execution;
- Manual transactions support;
- Embedded JNDI-JDBC support;

- Configurable database driver parameters

- Classpath independent driver loading;

- Driver upload and install.

Support available

All support for software installation and problems should be sent directly to support@zaval.org with "Re: Zaval Database Front-End Support" in subject line and plain text in the message body, describing your request and/or your problem. Since this software is distributed under the General Public License and is maintained by its authors on non-commercial basis, your request will be answered as soon as possible, but no later than 5 business days.

The Zaval Creative Engineering Group does not carry out customization of its software on a regular basis, however, each such request will be considered separately. Inquiries about custom software should be sent to change-request@zaval.org.