

DB Project 2017

General explanation:

When launched, the user will see the main window, where there he can choose to open different windows like information window, DML window, DDL window, script window and simple-query window.

When user click one of the buttons in the main window, a new window will show up.

Information window contains few sentences about us and this project,

DML/DDDL windows will let the user enter DML/DDDL query and submit it to the server,

script window will let the user enter a file path and by clicking submit, the program will read the file (if exists) and send its queries to the DB server,

simple-query window will let the user choose from a combo-box a table, when clicked on one, the user will see all of the columns in the chosen table as check-boxes and then he can choose the desired columns by clicking the check-boxes; there is also a WHERE section where the user can enter part of the query (without the writing 'WHERE'), the WHERE section is not a must and user can leave it empty.

For each window that let the user performing queries there is a NOTE section.

If the user entered a bad query (logical or syntax), the error message will appear there.

In the script window, if the user entered a file that the program can not access (the file does not exist or the program does not have permission) so the error message will appear there.

If the user entered queries which has no result-table, and the query succeeded so a success-message will appear there.

In case of a query that has a result-table, the window where the user entered the query will show the result-table.

Class explanation:

The program uses JavaFX for the windows presentation.

Main window has its own controller, which attach to every button a function when clicked.

For DML, DDL and script window, the program uses the same fxml-file ('queryGui.fxml'), that's because all of them has the same functionality – entering a string to text-area, submit button to apply the operation associated with the window and notes-section to write messages for the user. For all of them, the program uses the same controller as well – QueryController, which at launch connect to the DB and attach the submit-button a function when clicked.

This function will apply the operation associated with the window (send DML/DDL query or run a script file), if there is a need to show a result-table, the controller will change the scene and show the result table, it is done by saving in the controller a static variable of Stage-object which will be set at the launch of the window at the main-controller.

Simple-query fxml-file has its own controller – SimpleQueryController, that's because it has a different functionality, at launch, the controller will execute a 'SHOW TABLES' query to get the existed tables and put them in the combo-box.

Controller also set that when one of the tables was clicked at the combo-box, it creates dynamically a check-boxes which are the names of the columns in the desired table, it is done by sending a query to the server to get that table and then extract the names of the columns.

Controller set the submit-button click event to generate a string which is the query that the user chose by picking a table, desired columns and if entered, a WHERE section.

Query represented as a class in our program.

Every query has a different functionality, as DML and DDL, so we used the command-pattern.

Every query object can execute a query according to a given string and a connection, and after that, if needed, it builds a TableView object which contains the result from the query..

All the connection with the DB is done by the DbManager class.

It holds the connection object and a query-executor object.

The query-controllers use it to connect to the DB and when needed execute a query.