

UDBS Analyzer – Desktop Version

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The document describes the using of desktop version of UDBS Analyzer application (ver. 0.1). The application runs on the Microsoft Windows operating systems (Windows 7 and newer) on the Microsoft .NET Framework 4.5 platform; it connects to an instance of Microsoft SQL Server DBMS (version 2005 and newer).

1 Input Archive

The input of the UDBS Analyzer is a ZIP archive containing the following files:

- **Skript_Schema.sql** – An SQL script to create the database.
- **Skript_Data.sql** – An SQL script to insert data into the new tables.
- **Skript_Dotazy.sql** – Set of SQL queries described in the document *Instructions for a Project Creation* (see `dbedu.cs.vsb.cz`).

An example of the archive can be found on `dbedu.cs.vsb.cz`.

2 Structure of Skript_Dotazy.sql

In order to detect particular queries in the file `Skript_Dotazy.sql`, the queries have to be labeled with a special comment enclosed in `/* ... */`. The header contains four pieces of information: (1) group number, (2) query number, (3) expected result size, (4) and description of the query. These four fields are separated by semicolon. If the comment is not in the correct format, then the query cannot be identified and, therefore, it will not be evaluated. Two examples can be seen in Figure 1.

3 Installation of the Application

The application can be downloaded here: http://homel.vsb.cz/~luk194/files/UDBS_Analyzer.rar. The application itself does not need any installation (only the EXE file `UDBSAnalyzer.Desktop.exe` needs to be started), but it requires two extra components:

```
/*1;1;25;All rows from the table of customers*/  
SELECT CustomerId, Title, FirstName, LastName FROM Customer
```

```
/*1;1;25;  
All rows from the table of customers*/  
SELECT CustomerId, Title, FirstName, LastName  
FROM Customer
```

Figure 1: Examples of a query with a comment

- Microsoft .NET Framework 4.5 – can be downloaded here: <https://www.microsoft.com/cs-cz/download/details.aspx?id=30653>. It is usually already installed in newer versions of MS Windows.
- Feature Pack for Microsoft SQL Server – can be downloaded here: <https://www.microsoft.com/en-us/download/details.aspx?id=43339>. It is necessary to download and install `SharedManagementObjects.msi` and `SQLSysClrTypes.msi`.

4 Using of the Application

The application (see the screen-shot in Figure 2) is very simple to use.

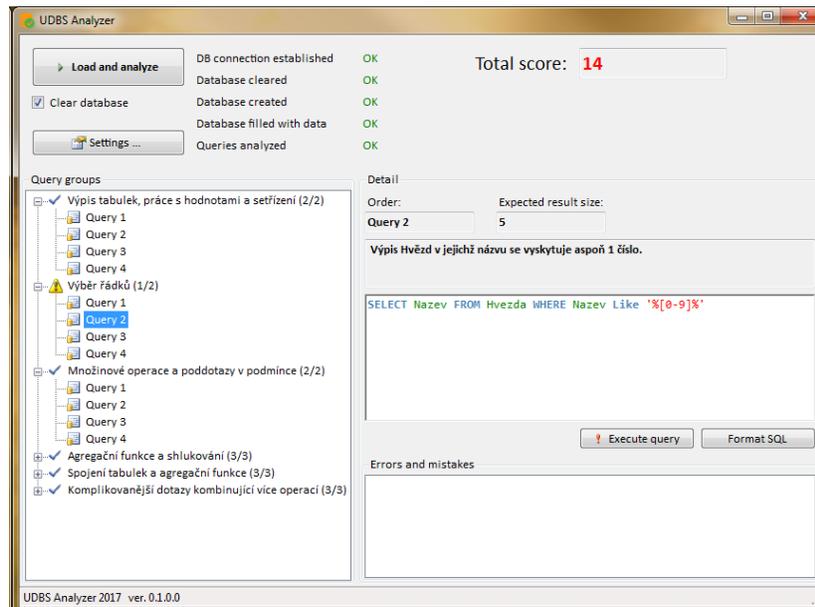


Figure 2: Screen-shot of the application

4.1 Connection to a database

First, you have to set the connection to the database. This can be done using the button *Settings...* This button opens a dialog, where the connection string field has to be specified. The connection string defines all properties of the connection to a database running on an SQL Server DMBS. You can either connect to the school SQL Server (`dbsys.cs.vsb.cz\STUDENT`), or you can use you own local instance. The connection string is in the following format:

```
data source = [instance]; initial catalog = [database]; user id = [user];  
password = [password]
```

where *[instance]* is an instance of SQL Server, *[database]* is the database name, *[user]* is a user name and *[password]* is the user password. An typical example of a connection string is as follows:

```
data source = dbsys.cs.vsb.cz\STUDENT; initial catalog = luk194; user  
id = luk194; password = password123
```

4.2 Running the Analysis

The analysis is started by the button *Load and analyze*. After selecting the ZIP archive, the analysis is automatically started and the score (total points) can be seen in the field *Total score*. The analysis can be also started such that you drag&drop the ZIP archive to the form of the application.

In the group box on the left (*Query groups*), you can see your queries structured in 5 groups according the the instructions to create the project. These groups contain individual queries. By clicking the group or the query, the corresponding *Detail* is opened on the right side. Errors or mistakes can be immediately seen.

4.2.1 Clearing the Database

It is not possible to run the script to create the database, if there are already tables of the same name. There are several options, how to solve this problem:

1. You manually drop the tables from the database using e.g., SQL Server Management Studio application.
2. The script to create the database begins with commands to drop the tables, if they exist.
3. You check the *Clear database* option, which automatically drops all the tables in the database, when the analysis is performed. This option can be useful, but **make sure, you do not have any important data stored in the database**. All these data will be deleted. This is usually not a problem in the school database.