DB Designer 4
Online Documentation

fabFORCE.net

PDF Documentation
Version 1.0.42

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Online Dokumentation
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General Information

DBDesigner 4 is a free available database design system that integrates database design, modelling, creation and maintenance into a single, seamless environment.

It is written for Microsoft© Windows 2k/XP© and Linux KDE/Gnome to support both, the Windows and the Linux platform.

DBDesigner 4 is developed and optimized for the MySQL-Database.

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Version 2, June 1991

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Fundamentals

The key to successfully using DBDesigner 4 is understanding database fundamentals.

Read through the topics summarized below - these are the features, techniques, and workflows that are fundamental for working with DBDesigner 4.

Models and Databases

In DBDesigner 4, you always work within a model. A model is a visualization of the meta-information stored in a database (e.g. Tables and Indices, Relations, ...). Although it is possible to store initial data for each table directly in the model, it only represents the meta-information, not the data itself.

You can create and maintain as many models as needed, containing a unlimited number of objects. An object can be a database table with columns and indices, a relation between two tables, a note, ...

Models can be designed by placing these objects onto the model's canvas or can be retrieved from existing databases using the reverse engineering function.

To create the according database the model can be exported as an SQL Creates Script or be created directly from within DBDesigner 4 using the synchronize function. The synchronize function is also used to alter the database automatically when the model has changed.

When DBDesigner 4 is switched to Query Mode the model can be used to build complex SQL querys and edit the tables' data.

The models are saved to XML-files or can be directly stored within the database enabling distributed access to the model.

The User Interface

The user interface has been based on industry standard layouting software. This makes creating your database models very easy.
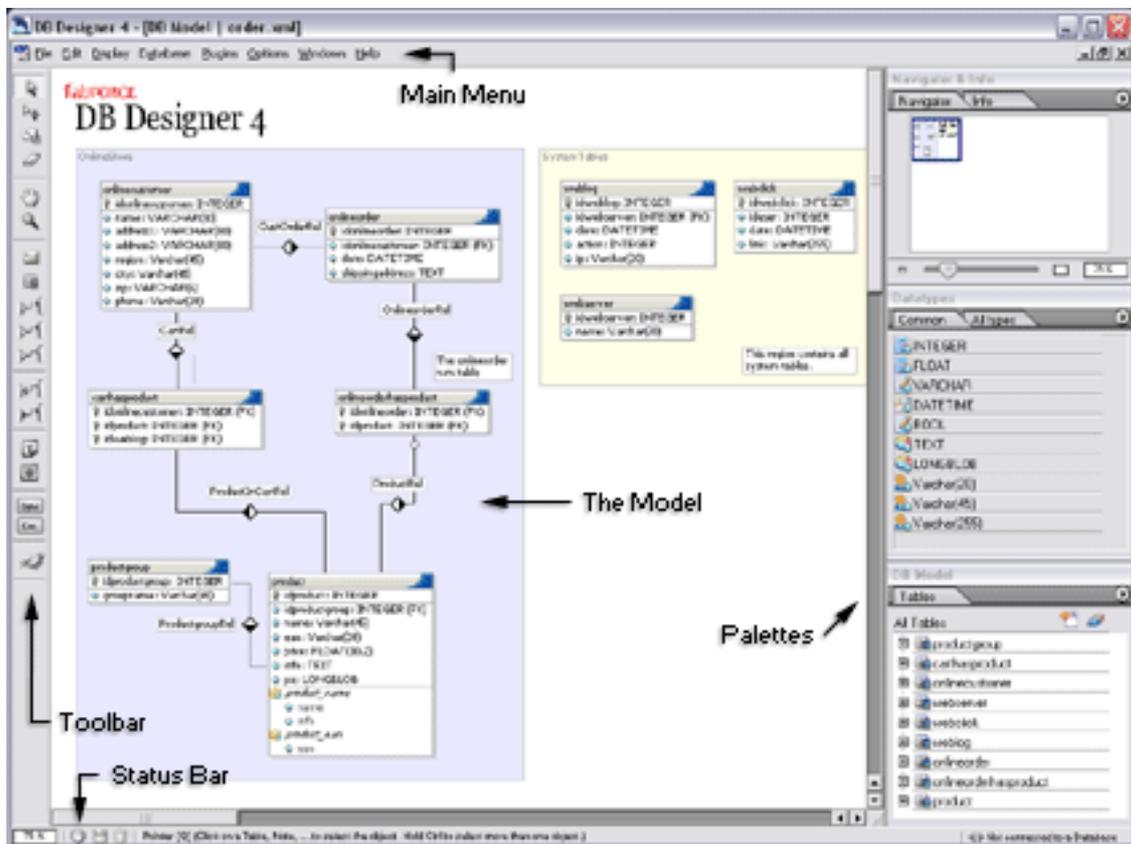
DBDesigner GUI

Beside the familiar window-menus, scrollbars and status-bar DBDesigner 4 provides several palettes (floating windows) which can be used to access frequently used functions more quickly.

DBDesigner 4 makes extensive use of standard windows functions like popup-menus which are accessed by a right mouse click. They provide context sensitive functions for the objects. Drag-n-Drop is used to assigning datatypes to table columns or building table indices.
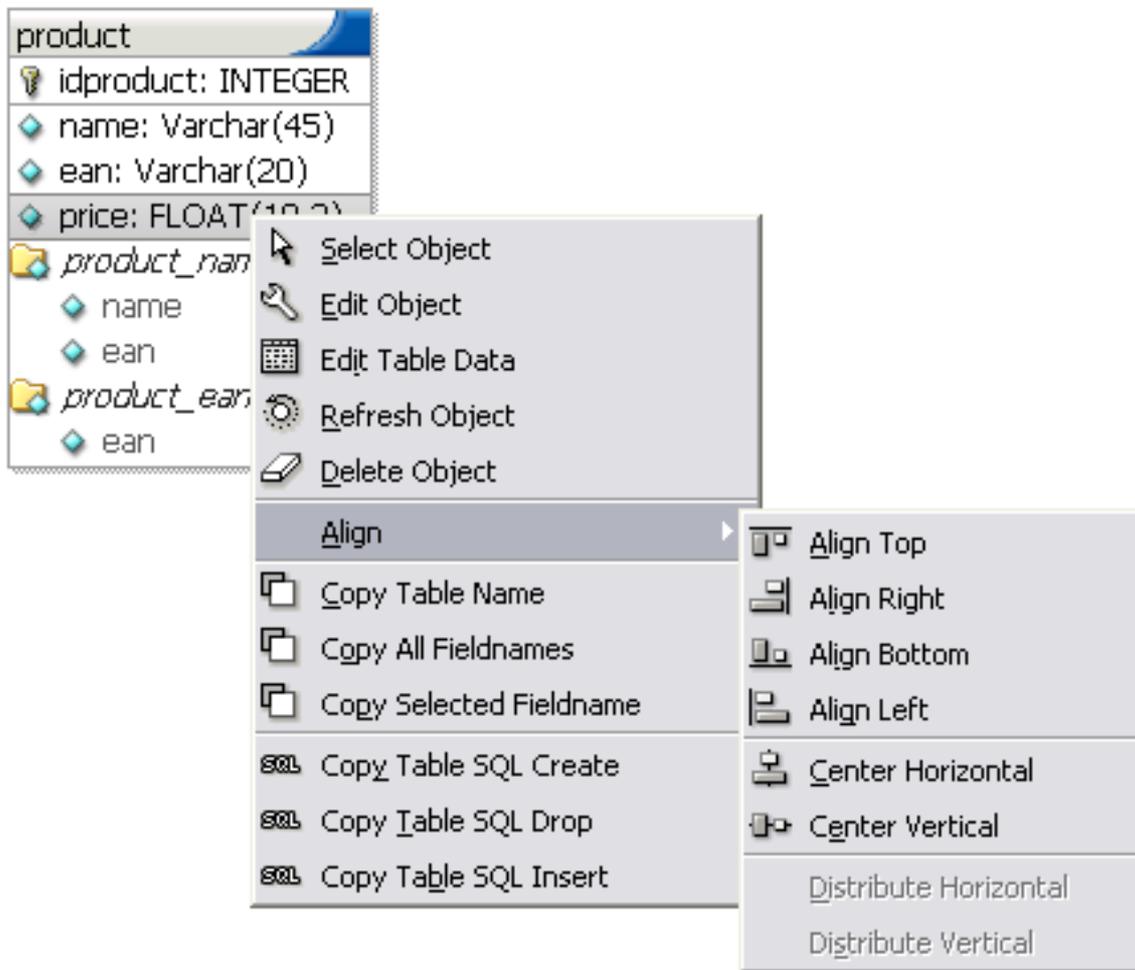
The Table Popup Menu

DBDesigner 4 supports the Multible Document Interface (MDI) which allows you to open an unlimited number of models at the same time. You can switch between the models and use standard copy and paste commands to exchange objects between the models.

Modelling

The database model is created by placing several objects on the canvas, specify their attributes and relations.

To place an object you have to select the appropriate tool from the Tools-Bar. Beside the most important objects like Tables and Relations (1:1, 1:1 generalization, 1:n, 1:n non identifying, n:m) you can use Notes, Images and Regions which help to "understand" the model's structure.

The Objects
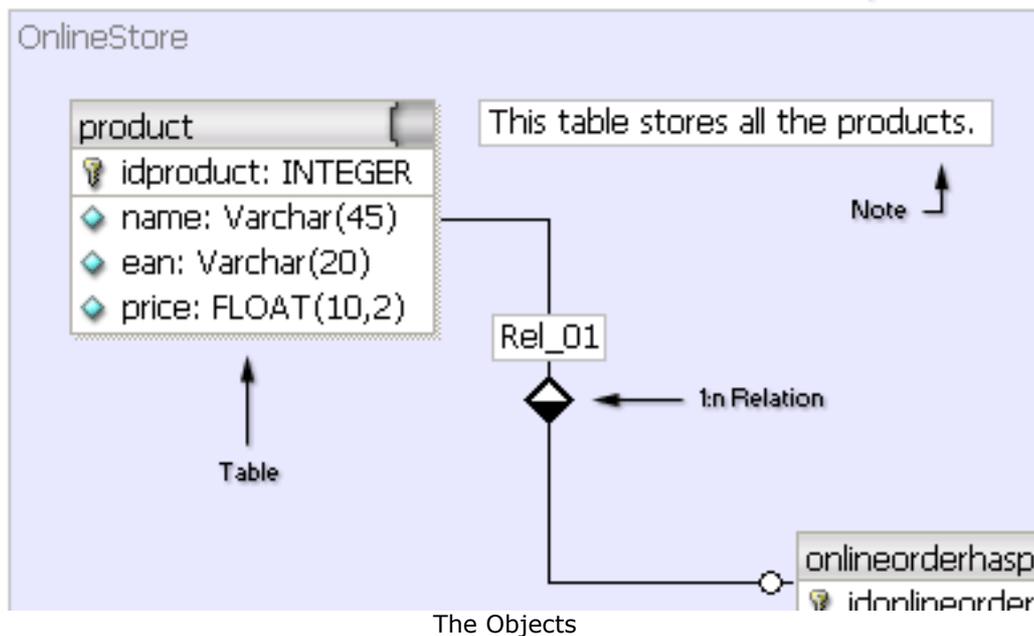
Tables

Tables represent database-tables. The table is displayed in a window-like manner. The Table's name is displayed in the titlebar, the table columns are printed below and are indicated by an icon. A key icon means this column is in the table's primary key.

Primary Key

Usually one or more columns are defined as the table's Primary Key (PK). These columns must not contain two or more data values which are equal. That makes it possible to clearly identify each record in the table by the Primary Key (e.q. productnumber).

Indices

To make the database find a specific record in the database more quickly, it is possible to define an index on one or more columns. Indices are also used to improve speed when two or more tables are joined together.

Relations

Relations can only be placed between two tables. They define the relationship between the tables and can create a Foreign Key reference. Tables can be connected by a one-to-one (e.g. person - address), one-to-many (productgroup - product) or many-to-many (e.g. employee - meeting) relation.

Notes

Notes are simple text boxes containing information about a table or structure. They can be placed anywhere on the model providing information where needed.

Images

Images can be placed on the model to visualize additional information.

Regions

Regions provide space for tables with the same attributes. The attributes are set for the region and apply to all tables placed on the region automatically. Furthermore they can be used by plugins to apply specific functions to a group of tables.

Modelling

Before starting to model the database the Design Mode has to be selected. To change the current Work Mode click the Work Mode icon in the Tools Palette.

Tables and Relations

Tables and relations are the core components of each database model. Tables consist of the tablename, the columns and indices and various table options. Relations connect different tables with each other to form one-to-one or one-to-many relations.

Place a new table

To place a new table onto the model select the Table Tool from the Toolbar or press [T] on the keyboard.
The mouse cursow will change to refect the currently selected tool.

Selecting the Table Tool

To place the table click left on the model. A new table will be created. It will be named [table_XX]. The table's left upper corner will be at the position the mouse was clicked.

After the table was placed the selected tool will change back to the Pointer Tool. The mouse cursor will be changed also.

Edit a table

To edit an existing table make shure the Pointer Tool is selected. Double click on the table with the left mouse button. The Table Editor will be showen.
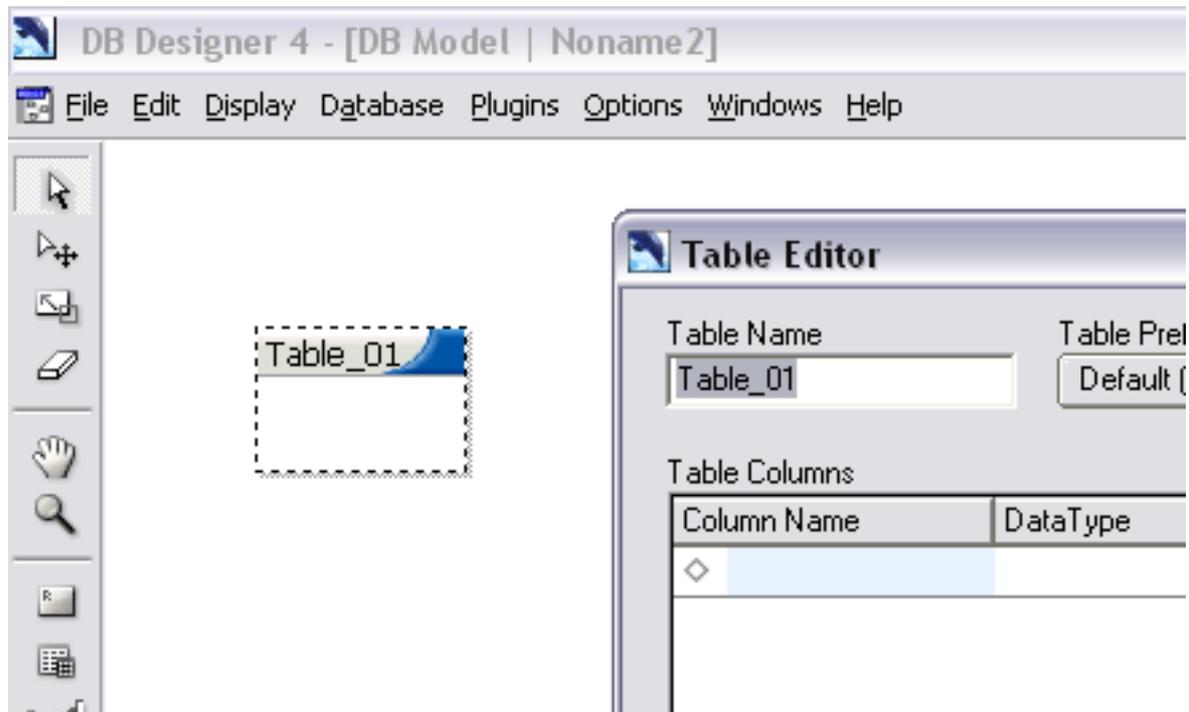
Calling the table editor

Defining the table's name and columns

Enter the table's name (e.g. product) and press the return key. The focus will change to the first column. It will be named id+tablename by default. To accept this name press return or overwrite the column's name first.

Now the focus has changed to the second column. Again enter the columns name and repeat for all the table's columns.

Press the Esc key after the last column was named.

Columns can be reorderd by draq'n'drop. Left click on a column's name, hold the mouse button and drag onto another column. Release the mouse button and the column will be inserted before the column it was dragged on.

Assigning the columns' datatypes

Press the Esc key after the last column was named.

Assigning datatypes

All columns will be created with the default datatype (use Options > Model Options to change the default datatype).
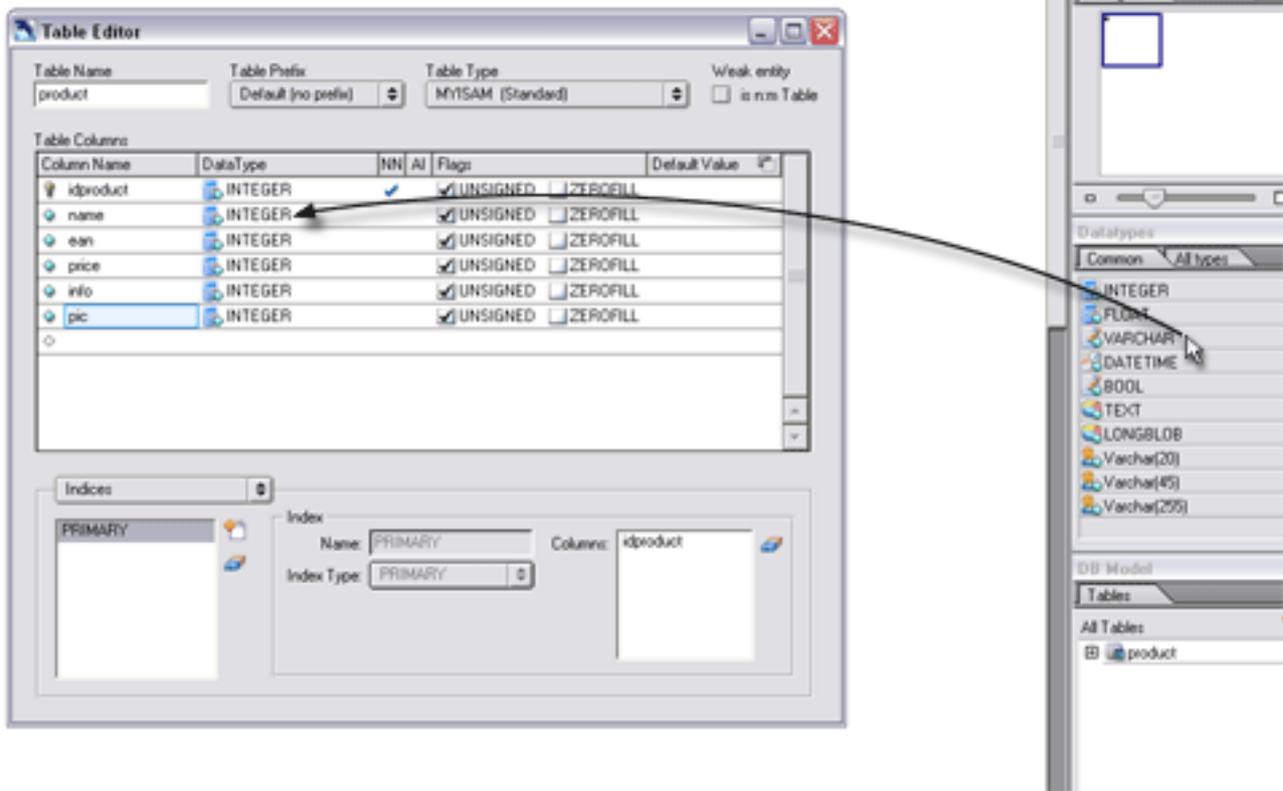
Assigning datatypes

To change the datatype of a column goto the Datatypes Palette and drag the appropriate datatype onto the column in the Table Editor. If the assigned datatype has parametes (e.g. VARCHAR(xxx)) enter the wanted value. Press Return to apply the changes or Esc to discard. Repeat this for all table columns.

To change a datatypes parameters doubleclick on the datatype and enter the new value.
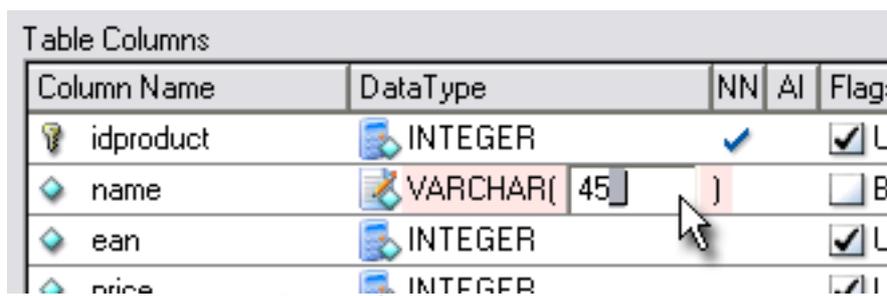
Setting datatype parameters

Primary key, AutoInc and Flags

The first column has automatically been defined as primary key of the table indicated by a Key Icon left to the columns name. To remove a column from the primary key click the Key Icon. To add a column to the primary key click onto the Column Icon.

Setting the AutoIncrement property

To make a column automatically incrementing after each insert click the columns row in the AI column.

Each datatype has specific flags. They can be activated and deactivated by clicking.

Default Values and Comments

To set the default value of a column doubleclick in the Default Value column and enter the value. Press Return to apply the changes.

Setting Default Values

To display the columns' Comments click the icon right to the Default Value column's caption. To edit a comment doubleclick in the Comments column.

Edit the columns' comments

Create Table Indices

Change to the Indices Tab and click the Plus Icon to add a new index. A String Input dialog will appear. Enter the index's name and press return. The new index is displayed. Now choose the type of the index.
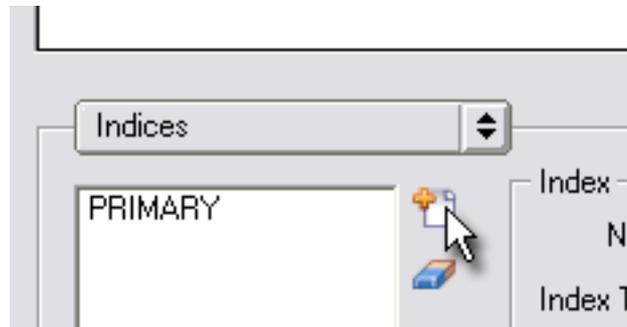

Create a new table index

To add a column to the index start dragging the column down to the Columns Listbox and drop it. You can reorder the columns by dragging a column onto another. To delete a column press the Delete button.
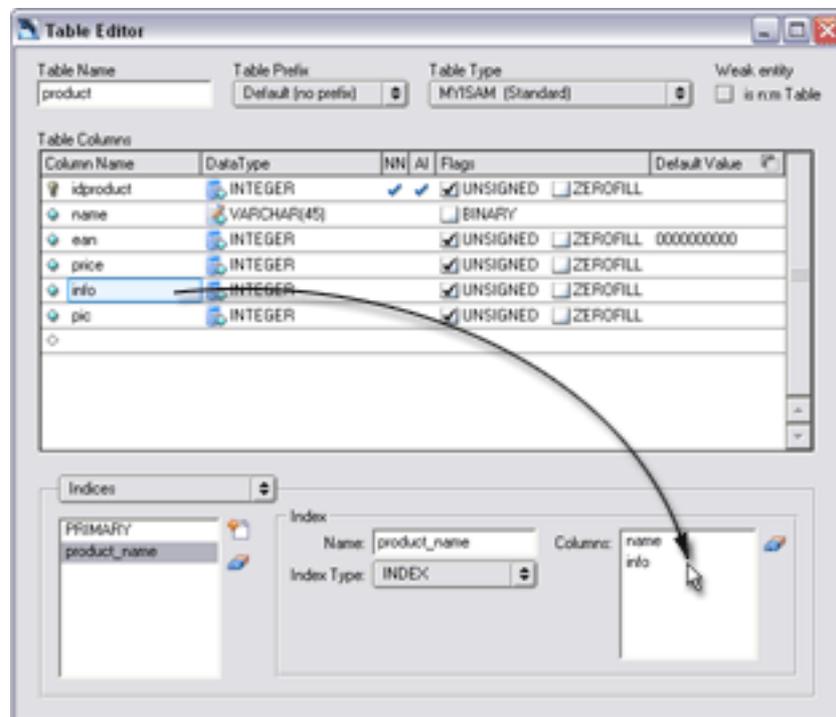
Adding columns to the index

Make a relation

Add another table to the model using the Table Tool (e.g. productgroup) and define the table's columns. Now select the 1:n Relation Tool (Non-Identifying Relation) from the Toolbar.
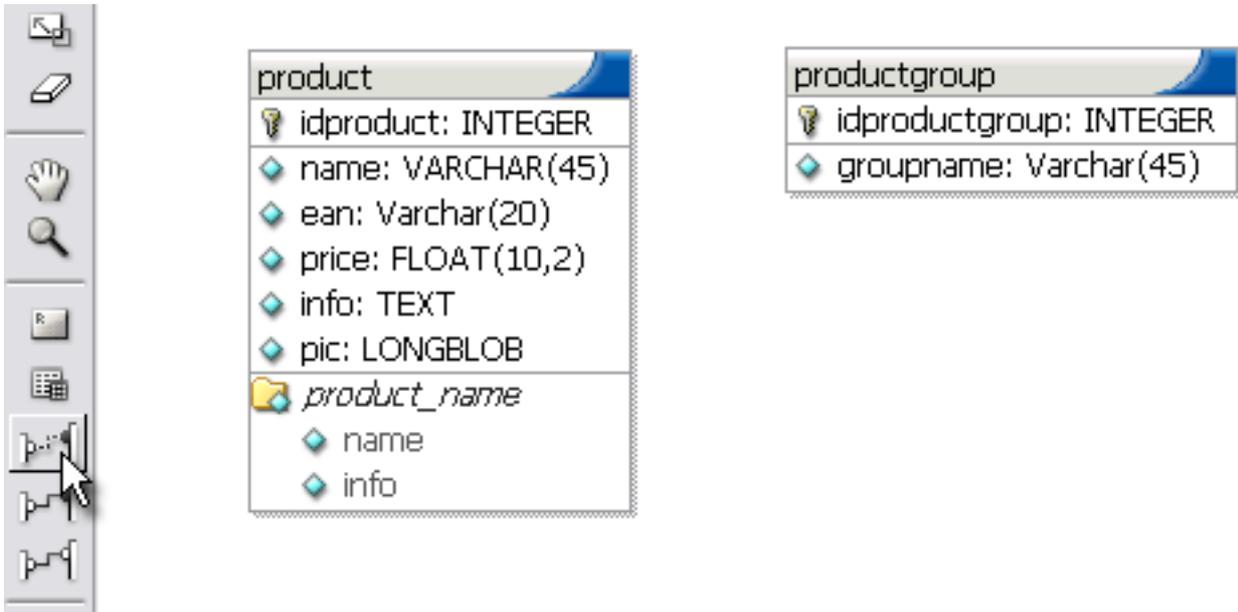
Selecting the 1:n Relation Tool (Non-Identifying Relation)

Click on the first table (productgroup) then on the second table (product) to establish the relation. Note that the second table (product) now has a foreign key column identified by (FK) right to the datatype.
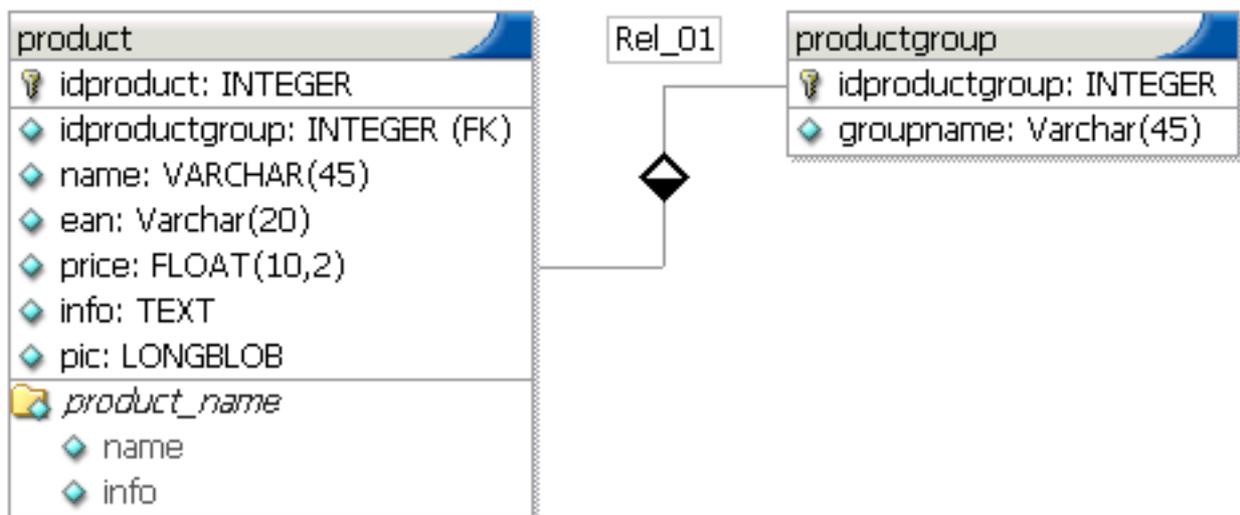
Tables connected by a relation.

Doubleclick on the relation to enter the relation's name. Close the Relation Editor to apply the changes to the model.
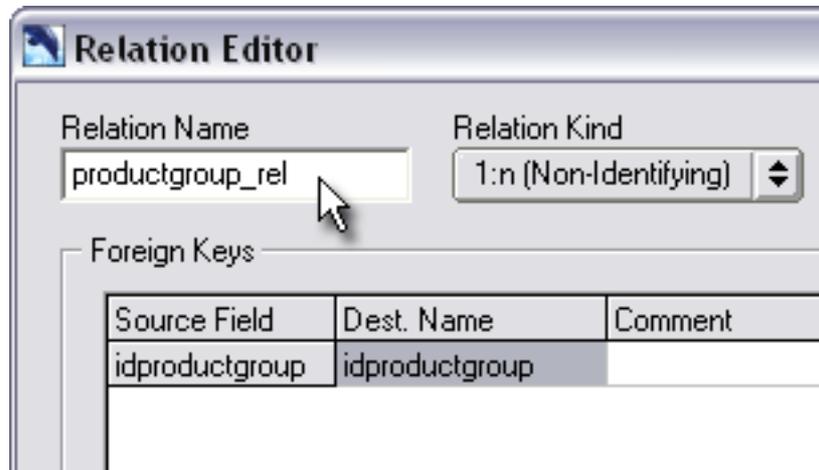
Tables connected by a relation.

Querying

Before starting to query the database the Query Mode has to be selected. To change the current Work Mode click the Work Mode icon in the Toolbar or the Tools Palette or select Query Mode from the Display Main Menu.

Building selects

SQL selects can be easily build by drag'n'drop commands. Make shure the current worktool is set to a Pointer Tool before starting.

Building a simple SQL SELECT

To build a SQL select from one table simply click on a table with the left mousebutton and keep holding the button. Now move the mouse cursor down. The Drag Menu is displayed.

The Drag Menu
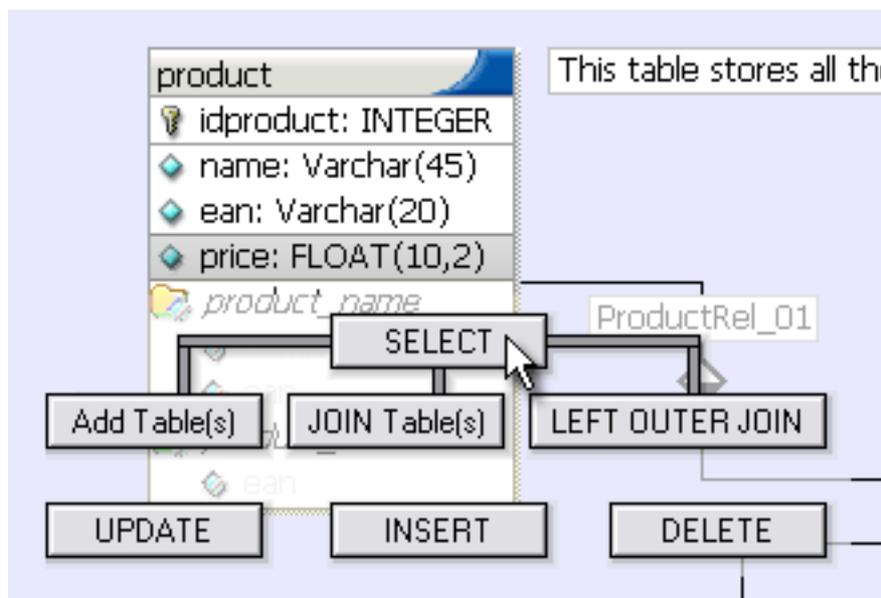
Keep holding the left mouse button and move the mouse cursor to the SELECT button. Release the mouse button. The SELECT statement will be build and displayed in the SQL Command Editor.

If the table which has to be queried is not visible in the current visible area of the

model, click somewhere on the model to set the focus to the model. Now press the [Space] key and drag the model till the table becomes visible.

Joining tables

To join another table with this table click on the table to join. Start draging like before and release the mouse button over the JOIN Tables(s) Button. The two tables will be joined based on the relations between the tables.

```
SELECT *
FROM product p, onlineorderhasproduct o
WHERE p.idproduct=o.idproduct
```

Two tables joined

Another possibility is to select all tables that have to be joined by holding the Ctrl Key and clicking on the tables. Then start dragging and release the mouse button over the JOIN Tables(s) button. All tables will be joined based on the relations between them.

Add tables without joining

To add one or more tables to a query without performing a join drag the table(s) on the Add Table(s) button. They will be added to the SQL command.

Selecting table columns

When a SQL command is built using the Drag Menu all columns of the table(s) are selected using the SELECT * clause.

To select specific table columns choose the SELECT Clause Tool from the Toolbar or press Ctrl + S. The mouse cursor will change to the SELECT Clause cursor. Now move the mouse over the table and watch the columns be highlighted. Move the mouse cursor to the column you want to select and press the left mouse button.
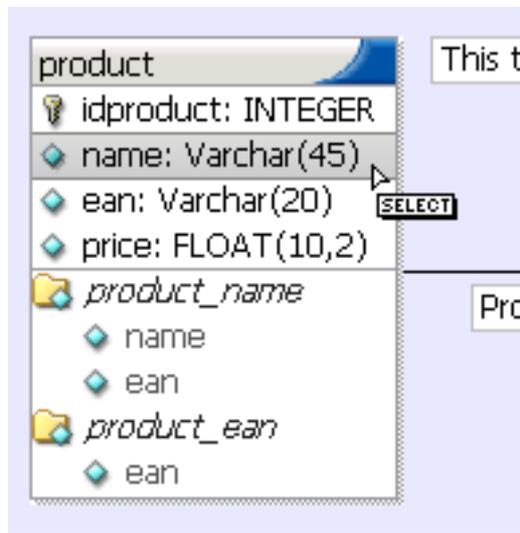
Selecting a table's column

To column will be added to the SELECT Statement.

Add columns to other clauses

Use the different Clause Tools from the Toolbar to add table columns to the SQL command.

Tool	Key	Position
SELECT Clause Tool	Ctrl + S	SELECT [column] FROM ...
FROM Clause Tool	Ctrl + F	SELECT * FROM table_a LEFT OUTER JOIN table_b ON [column] ...
WHERE Clause Tool	Ctrl + W	SELECT * FROM table_a WHERE [column] ...
GROUP Clause Tool	Ctrl + G	SELECT * FROM table_a GROUP BY [column] ...
HAVING Clause Tool	Ctrl + H	SELECT * FROM table_a GROUP BY col1 HAVING [column] ...
ORDER Clause Tool	Ctrl + O	SELECT * FROM table_a ORDER BY [column] ...
SET Clause Tool	Ctrl + E	UPDATE table_a SET [column] ...
Pointer Tool	Ctrl + Q	-

The User Interface

Main Elements

The Main Menu

Through the main menu you gain access to general functions of the program. There are seven main menu items, File, Edit, Display, Database, Options, Windows and Help.

File Menu
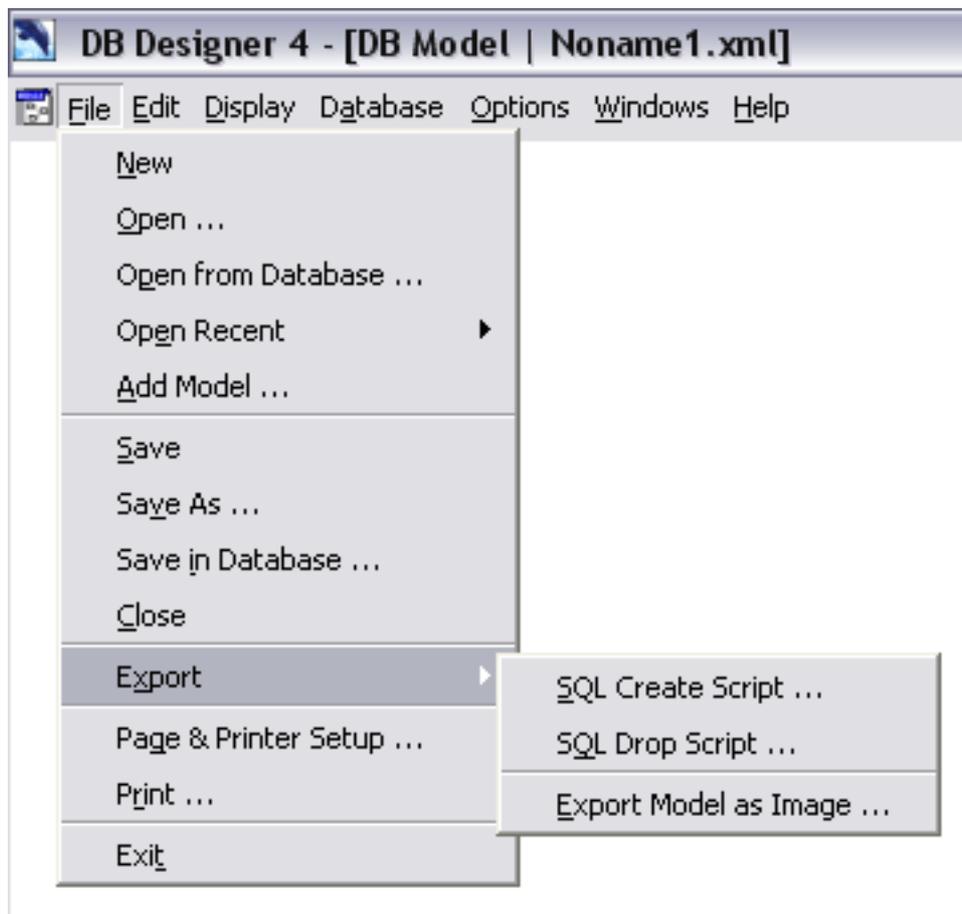
The File Menu

File - New

File - New creates a new empty model. If you have opened another model before you can switch between the new and the other model using the Windows menu.

File - Open ...

File-Open ... opens an existing model from your harddisk or mapped network device. DBDesigner creates a new empty model every time it is started so you can start modelling immediately. If you open a model and no changes have been applied to the empty model it is closed automatically and replaced with the opened model.

File - Open from Database ...

File - Open from Database ... makes it possible to open a model saved in a database. When selected this menu item the DB-Connection Dialog pops up and you have to select the database containing the desired model. There can be stored more than one model in the database so you have to select the appropriate model then.

File - Open recent

File - Open recent displays a list of the last opened models to improve speed opening the most used models. If a new model is opened it is added to the list. If there are more than 10 entries in the list the last entry is deleted automatically.

File - Add Model ...

File - Add Model ... lets you add an existing model to the currently opened model. After the model has been imported all new objects are selected so the can be moved to an appropriate position.

File - Save

Use File-File-Save ... to save your model to the harddisk or a mapped network device. When you save a model for the first time, you are promt to locate the destination folder and enter the name of the model. The model is added to the File-Open Recent list automatically.

File - Save As ...

File - Save As ... can be used to save your current model with a new name. You are promt to locate the destination folder and enter the new name of the model.

File - Save in Database ...

It is possible to store the model directly in the database you work on. A new database table is used to store all models in this database. This new table does not interfere with the database synconisation and reverse engineering functions.

When selected the File-Save in Database ... menu item the DB-Connection Dialog pops up and you have to select the database which will containing the model. You have to enter the desired name of the model and the model will be stored.

File - Close

File - Close closes the current active model.

File - Export-SQL Create Script ...

Use this menu item to export the current active model as a SQL Create script which can be executed against the datbase manually to create the nessesary tables. You can use the database synchronise function instead which will create and update your database automatically.

File - Export-SQL Drop Script ...

Use this menu item to export the current active model as a SQL Drop script which can be executed against the datbase manually to drop the desired tables. You can use the database synchronise function instead which will create and update your database automatically.

File - Export-Export Model as Image ...

Select this function to export the whole model as an image file. The image can be saved in the PNG or BMP file format. The PNG Format is recommended. Please note that using the BMP file format will result in very large images, approximatly 20 MB at default size.

File - Page & Printer Setup ...

Before printing the model you have to select the appropriate printer and set the page size and orientation as well as the scale factor of the model which enables you to print the model distributed on several pages.

File - Print ...

File - Print ... lets you select the pages of the model an the number of copies you want to print.

File - Exit

File - Exit closes the program.

Edit Menu
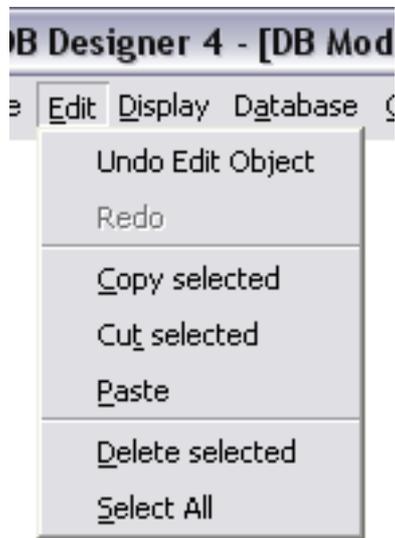
The Edit Menu

Edit - Undo

Use Edit - Undo to take back the last change applied to the model. You can use this command several times to take back all changes you made.

Edit - Redo

Edit - Redo applies the last undone action again. This command can also be repeated several times when you have undone several actions.

Edit - Copy selected

When you have selected on or more objects you can use this command to copy the objects to the clipboard. The objects are stored as text in XML format. You can use any other application to paste the objects.

Edit - Cut selected

This command is similar to Edit-Copy selected but the objects will also be deleted from the model.

Edit - Paste

Edit - Paste is used to insert previous copied objects from the clipboard. Relation are only inserted if both tables have been copied because when the objects are inserted, new object-identifiers are assigned.

Edit - Delete selected

Edit - Delete selected removes all selected objects from the model. When this happens unintended you can use the undo command.

Edit - Select All

Use Edit - Select All to select all objects from the model.

Display Menu
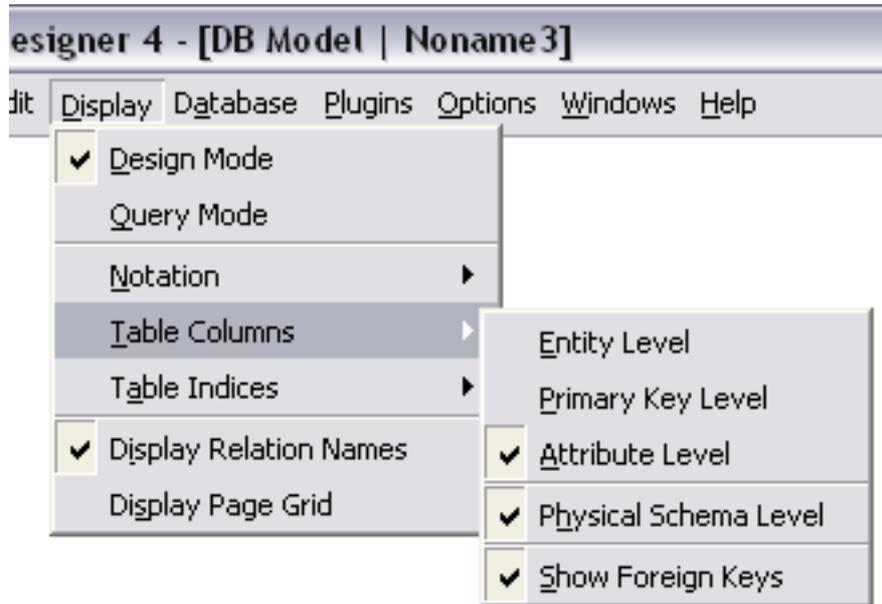
The Display Menu

Display - Design Mode

Select this menu item to change to Design Mode. A checkmark will be drawn left to the menu item when Design Mode is selected.

Display - Query Mode

Select this menu item to change to Query Mode. A checkmark will be drawn left to the menu item when Query Mode is selected.

Display - Notation

Display - Notation specifies the notation used to display the model. When a notation is selected a checkmark will be drawn left to the menu item.

Display - Notation - EER

Display - Notation - EER will set the notation to the common EER notation.

Display - Notation - EER [1,n]

Display - Notation - EER [1,n] will set the notation to another EER notation, displaying intervals.

Display - Notation - Traditional

Display - Notation - Traditional will change to a notation which will be familia to Erwin© users.

Display - Table Columns-Entity Level

Display - Table Columns will specify how tables are displayed on the model. Use Display - Table Columns-Entity Level to hide all column information.

Display - Table Columns-Primary Key Level

When Display - Table Columns-Primary Key Level is selected, only primary key columns are displayed.

Display - Table Columns-Attribute Level

Use Display - Table Columns-Attribute Level to display all columns of the tables.

Display - Table Columns-Physical Schema Level

Select Display - Table Columns-Physical Schema Level to display the datatypes of the columns.

Display - Table Columns-Show Foreign Keys

If Display-Table Columns-Show Foreign Keys is select foreign keys are shown as columns in the appropriate tables.

Display - Table Indices

This menu item is used to display each table's indices on the model.

Display - List Table Indices

A checkmark will be drawn left to the menu item when table indices are displayed.

Display - Display Relation Names

Display - Display Relation Names can be selected to display the names of relations.

Display - Display Page Grid

Select Display - Display Page Grid to show the partitioning of printable pages. You can use the Page & Printer Setup Dialog to change the initial page size.

Database Menu
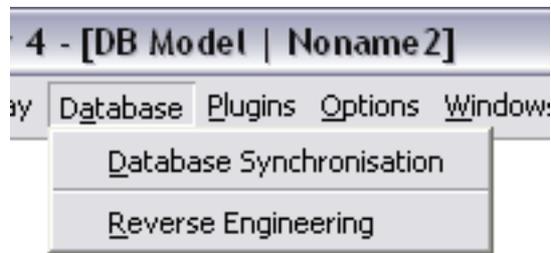
The Database Menu

Database - Database Synchronisation

Use this function to synchronise your model with a database. This function can also be used with a clear database to create all the tables.

Database - Reverse Engineering

Use this function to create a model based on an existing database.

Plugins Menu
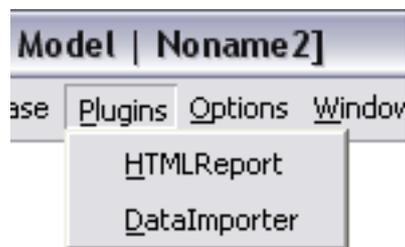
The Plugins Menu

The Plugins Menu lists a number of DBDesigner 4 plugins available in the program's directory.

Options Menu
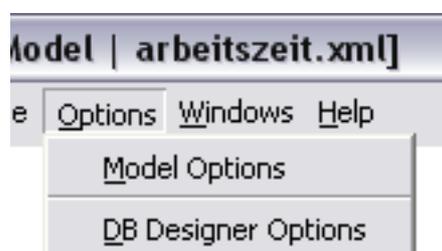
Options - Model Options

Options - Model Options will call the Model Options Dialog where several options can be set for the model like the default datatype or the display font.

Options - DBDesigner Options

Options - Model Options will call the Model DBDesigner Options Dialog where several general options can be set.

Windows Menu
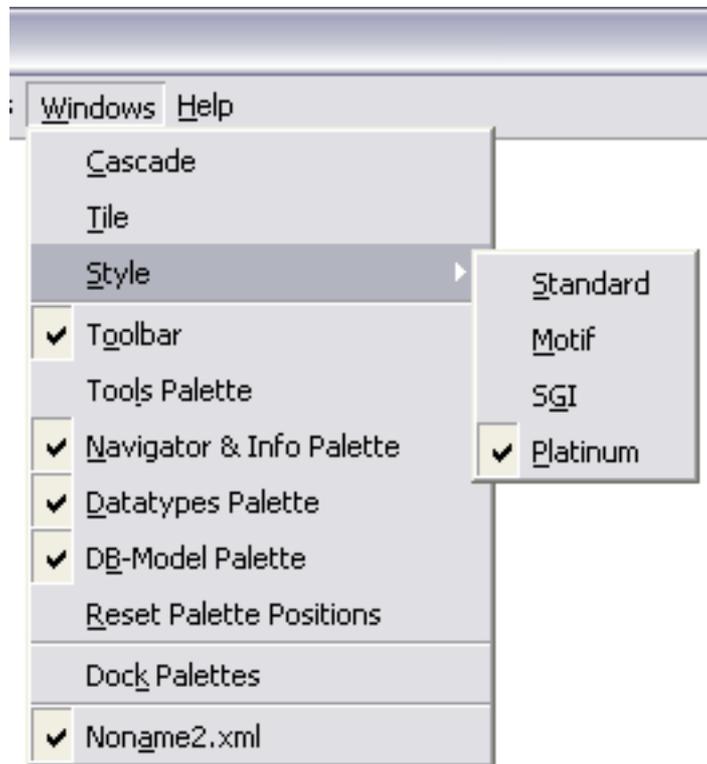
The Windows Menu

Windows - Cascade

Use this command if you have opened several models and want to arrange the windows in a overlapping style.

Windows - Tile

Use this command if you have opened several models and want to arrange the windows beside each other.

Windows - Style - Standard

The Windows-Style menu items can be used to change the overall appearance of the program.

Select Windows - Style - Standard to set the style to Windows default.

Windows - Style - Motif

Select Windows - Style - Motif to set the style to the Motif style.

Windows - Style - SGI

Select Windows - Style - Motif to set the style to the SGI style.

Windows - Style - Platinum

Select Windows - Style - Platinum to set the style to the Platinum style. This is the default window style.

Windows - Toolbar

Checked this menu item to display the Toolbar which is docked to the left of the main window.

Windows - Tools (MS Windows only)

If this menu item is checked the Tool-Palette becomes visible. It can be used instead of the Toolbar.

Windows - Navigator & Info Palette

If this menu item is checked the Navigator & Info-Palette becomes visible. If it is unchecked the Navigator & Info-Palette is hidden.

Windows - Datatypes Palette

If this menu item is checked the Datatypes-Palette becomes visible. If it is unchecked the Datatypes - Palette is hidden.

Windows - DB-Model Palette

If this menu item is checked the DB-Model-Palette becomes visible. If it is unchecked the DB-Model-Palette is hidden.

Windows - Reset Palette Positions

Call this command to reset the palette positions to their initial locations.

Windows - Dock Palettes

Use this menu item to dock or undock the palettes to the right of the main window.

Below this menu item a list of all opened models is displayed. Select a menu item to bring the appropriate menu to the front.

Help Menu
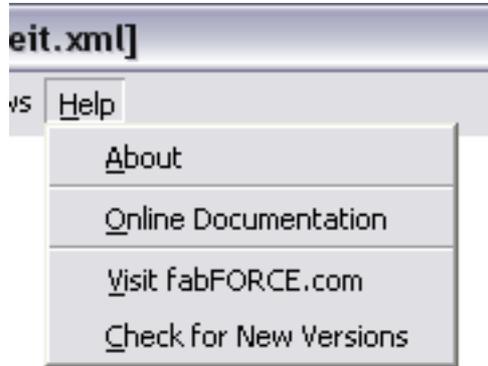
The Help Menu

Help - About

Displays the splash screen.

Help - Online Documentation

Lauches an explorer with this documents.

Help - Visit fabFORCE.net

Lauches an explorer and navigates to http://www.fabFORCE.net.

### *Help - Check for New Versions*

Lauches an explorer, navigates to http://www.fabFORCE.net/downloads.

Palettes

Palettes are floating windows which always stay on top and provide fast access to important functions.

The Toolbar / Tools Palette

The Toolbar (and the Tools Palette) provides quick access to the most important work tools. (On a Linux system the Tools Palette is disable because of a limitation in the

window system.)

DB Designer 4 - [DB Model | Noname 2]

File Edit Display Database Plugins Options Windows Help

Selection Tool (Q)

Move Tool (W)

Scale Tool (E)

Delete Tool

Pan Tool (Space)

Zoom Tool (Ctrl+Space / Ctrl+Alt+Space)

Create new Region Tool

Create New Table Tool (T)

New 1:n Non Identifying Rel. Tool (Shift+R)

Create New 1:n Relation Tool (R)

New 1:1 Relation Tool (Ctrl+R)

New 1:1 GeneralisationTool

Create New n:m Relation Tool

Create New Note Tool

Place New Image Tool

DB-Syncronisation Function

Output SQL Creates

Switch to Query Mode

When switched to Query Mode:

SELECT — Add Field to SELECT Clause (Strg+S)

FROM — Add Field to FROM Clause (Strg+F)

WHERE — Add Field to WHERE Clause (Strg+W)

GROUP — Add Field to GROUP Clause (Strg+G)

HAVING — Add Field to HAVING Clause (Strg+H)

ORDER — Add Field to ORDER Clause (Strg+O)

SET — Add Field to SET Clause (Strg+E)

Switch to Design Mode

The Toolbar

To view the Tools Palette select select [Windows]->[Tools] from the main menu. Deselect [Windows]->[Tools docked] to hide the docked palette. By default the Tools Palette can be found on the upper left corner of the screen.
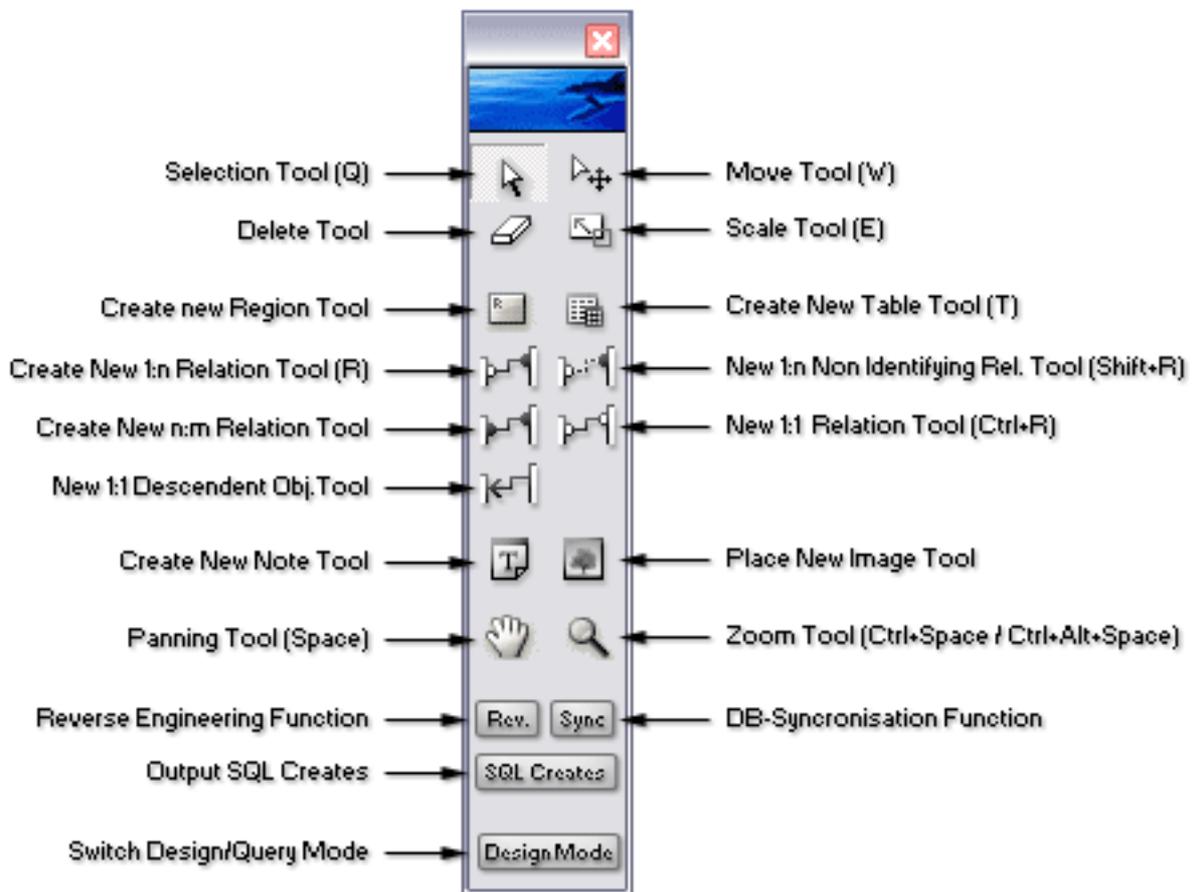
The Tools Palette

Click on the icon to activate the appropriate tool. The mouse cursor will change. Take a look at the Modelling Section to see how to use the single tools.

Clicking on the buttons will call the assigned functions. Use the mode button to switch between the Design- and Query-Mode. In Design-Mode tables can be moved with the selection tool, too. In Query-Mode you have to use the Move-Tool.

The Navigator Palette

The Navigator Palette (top right) shows the current visible region of the model and can be used to navigate on the model.
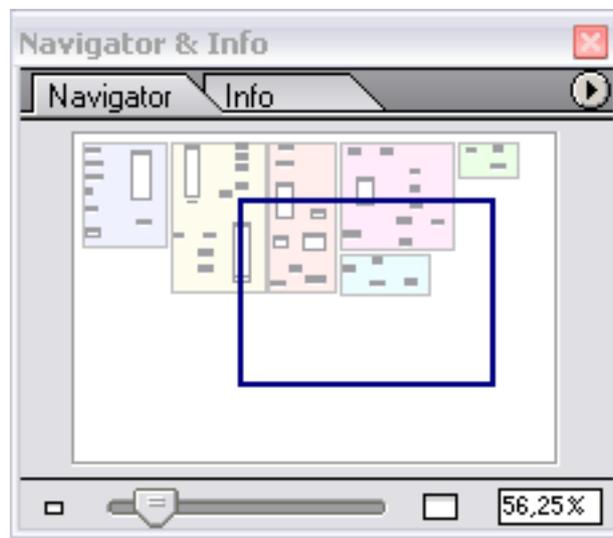
The Navigator Palette

Navigator Page

The current visible region is marked by a blue rectangle. When the model is scrolled or moved with the panning tool the marker is moved to the new position automatically. Click on the white area to move the marker and scroll the model to the appropriate position. Depending on the speed of your machine and the size of the model you can also drag the marker.

To change to Zoom-Factor you can use the trackbar or click on the small and large table symbol left and right to the trackbar. To enter the zoom factor manually click on the zoom edit, type in the desired value (without percent charater) and press enter.

Click on the upper right icon to display the palette's popup menu. Select a menu item to set the zoom factor to the displayed value.

Info Page

Click on the Info-Tab to switch to the info page. On this page you can change the name and position of the selected object. When two or more objects are selected it is not possible to a value. When an image is selected the size can also be changed.

The Datatypes Palette

The Datatypes-Palette (middle right) shows the existing datatypes which can be used to build the database-tables.
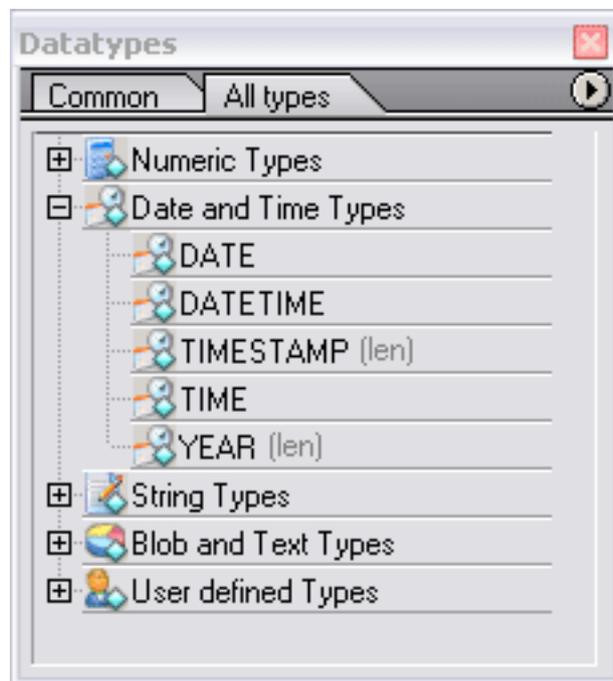
The Datatypes Palette

Common Datatypes Page

On the Common-Tab the most used Datatypes are visible and are ready to be dragged onto table columns. To add a new User Defined Datatype click the upper right icon to display the palette's popup menu. Select Create New Datatype and the Datatype-Dialog will be displayed showing the new created datatype. To remove a Datatype from the Common-Tab select Del from Common Datatypes from the palette's popup menu.

All Datatypes-Page

Click on the All types-Tab to display all available datatypes. The datatypes are split into five categries. Numeric Types, Date and Time Types, String Types, Blob and Text Types and User defined Types. Doubleclick on a category to show all assigned datatypes. New created datatypes will always be assigned to the User defined Types. Doubleclick on a datatype to call the Datatype Editor. Select and right click on a datatype and select Add to Common Datatypes to add a Datatype to the Common-Tab.

Replace Datatypes in Tables

If you want to replace a datatype or change a parameter in several tables then you can use the Replace Datatypes in Tables function from the palette's popup menu. It works just like the Search and Replace function in Word©.
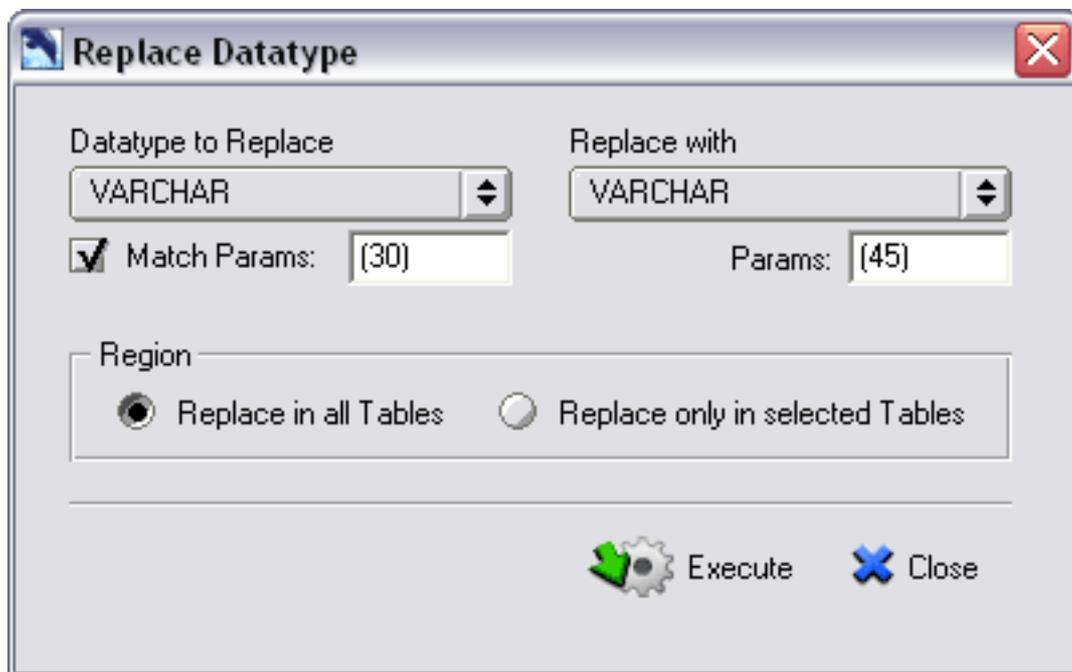
The Replace Datatype Dialog

Select the datatype you want to replace. Then select the datatype which should be inserted. To change only the parametes of a datatype select the same datatype in both dropdowns and check the Mach Params flag and enter the parameter you want to replace and the parameter which should be inserted.

Select the Region of the function and press Execute to replace the datatype.

Reinitialise Datatypes

To reset the datatypes to their initial state select Reinitialise Datatypes from the palette's popup menu. The inital settings will be loaded from the ini-files. Manually created datatypes will be replaced by the standard datatype of the model.

The DB-Model-Palette

The DB-Model-Palette displays all existing tables in the model and their columns and relations.
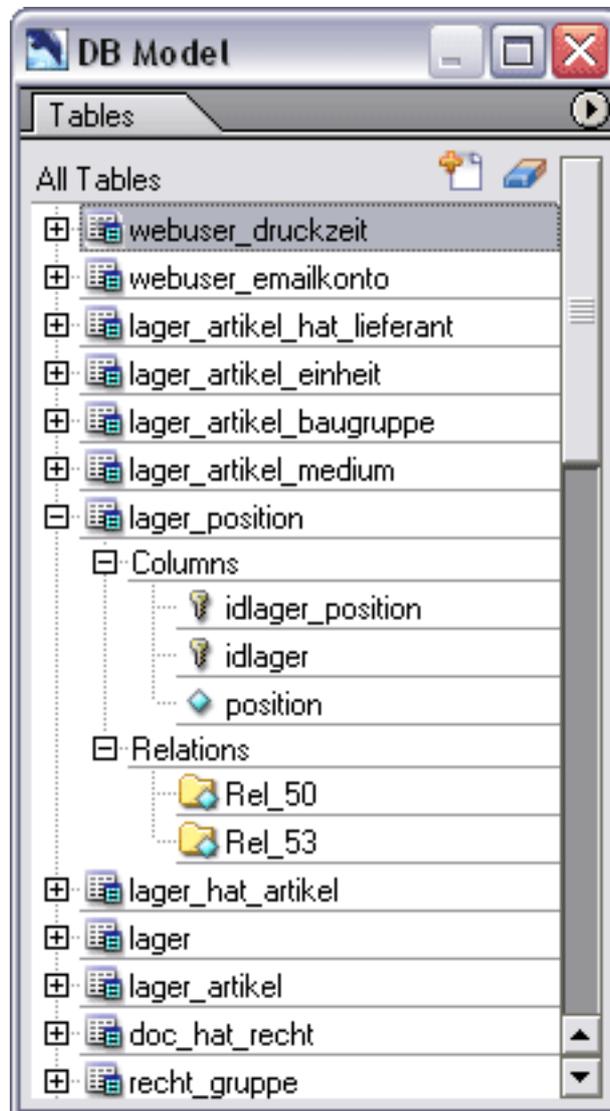
The Model Palette

Click on the plus symbols to display the columns and relations of a table. Doubleclick on a table to call the Table Editor or select Edit Object from the table's popup menu.

The Staturbar

The Statusbar displays information about the currently selected Tool an can be used to read and set the zoom factor to a predefined value, fast.
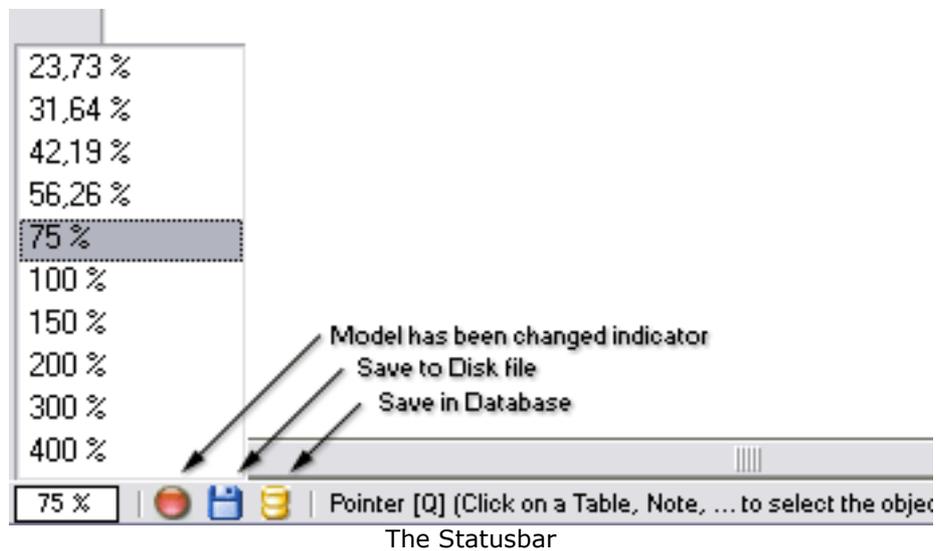
The Statusbar

Click on the Zoom Factor Edit left on the Statusbar. A list of zoom factors pops up.
Select the desired zoom factor or press ESC to close the list.

If the database model is modified the indicator left to the Zoom Factor Edit is painted
red. Click on the Disc Icon to save to model to disk. Click on the Database Icon to save
the model in a Database.

Editors

Editors are used to specify and modify parameters of objects, datatypes, ...

An object's editor is usually called by doubleclicking on the object.

Table Editor

Call the Table Editor by doubleclicking on a table or selecting [Edit Object] from the table's popup menu. You can also doubleclick the tables name in the DB-Model Palette or use the right mousebutton to call the popup menu there.

How to use the Table Editor

To use the Table Editor the most efficient way use the following procedure.

I.) Create a new table in the model. Doubleclick on the table to call the Table Editor. The Table Name is focused so enter the table name. Press [Return].

II.) The focus will be set to the first line of the Table Columns. The first column will be named `id+tablename` automatically. If the first column has to have a different name enter the column's name. Then press [Return].

III.) Enter the next column name and press [Return]. Repeat this for all columns. Ignore the datatypes of the columns at this time, all columns' datatypes are set to the default datatype initially.

IV.) After the last column has been entered, press [Esc] to abort the column edit mode.

V.) To assign the datatypes to the columns start by dragging the first column's datatype from the Datatype palette onto the first column. Enter the datatype's parameters if the Parameter Editor pops up, e.g. VARCHAR(____)
Repeat this for all column types.

VI.) To define the primary key click on the columns' icon (left to the column name) to add or remove the column from the primary key.

VII.) Optionally define additional indices, the table options, the standard inserts and the table comments.
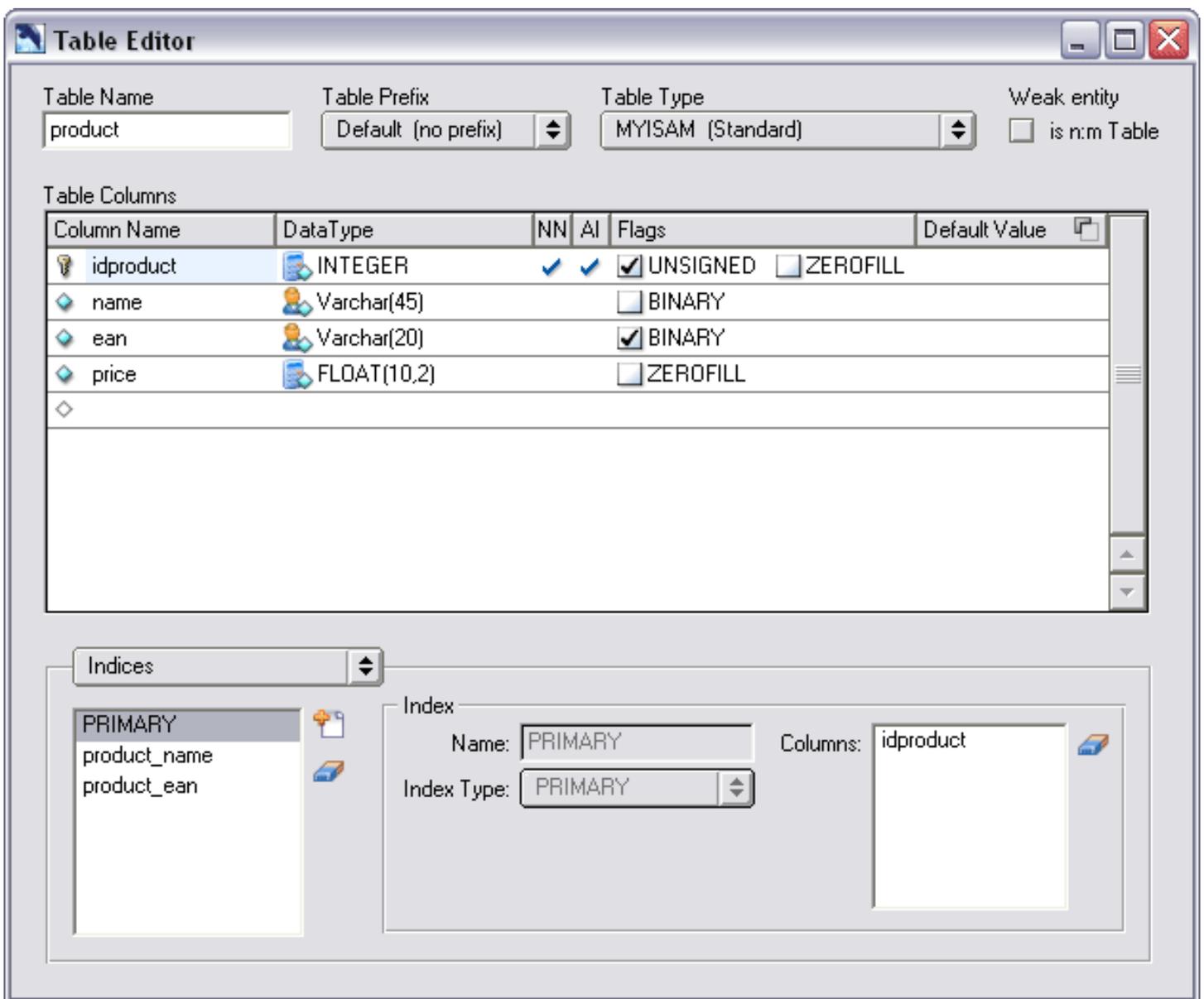
The Table Editor

Table Settings

Table Name

Table Name displays the current name of the table. By pressing Return or leafing the edit field the Table Name is checked against the reserved word list. If the Table Name equals a reserved word it is changed automatically.

Table Prefix

In MySQL the Table Prefix can specify the database (`db_name.tbl_name`). Use this function if you want to administrate several databases in only one model. The Table Prefixes are defined in the Model Options.

Table Type

MySQL supports several different Table Types. The most common types are MyISAM which is the default type and InnoDB which supports transaction-safe tables with row locking.

Weak entity

Check the [is n:m Table] checkbox if this table is a n:m Table.

Table Columns

The cursor keys can be used to move the Cursor between the Column Name, Datatype and the Default value and the table columns. Press enter to change the focused value.

Use the mouse to dray an new datatype from the Datatype Palette onto the column. Doubleclick the datatype to change the datatype's parameters.

Click on the Table Column's row to change the NOT NULL Flag, the Column Options and the Autoincrement Flag.

The Table Columns
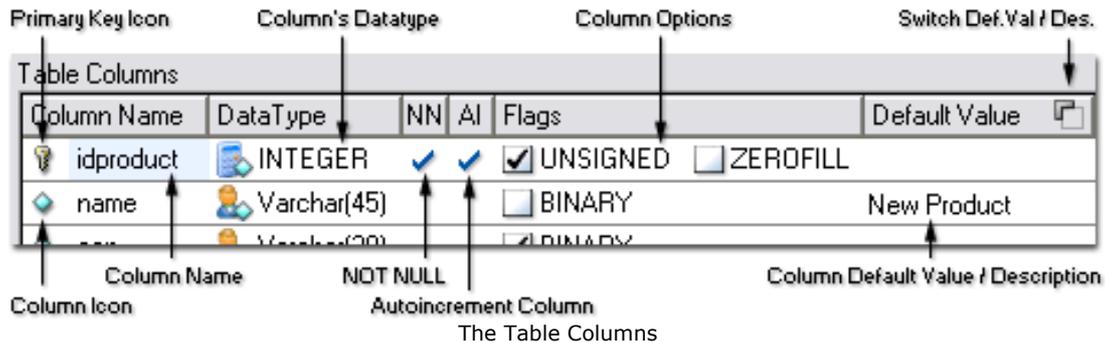
To enter a new column click on any column name an press the Page Down Key. The Cursor is placed below the last column. Add the new column by entering the column name.

If you want to enter several new columns press return. The Curor is moved to the next row and the next column name can be entered.

Drag the appropriate datatype from the Datatype Palette onto the new column. Enter the datatype's parameters if needed.

Set the Column's NOT NULL Flag, the Column Options and the Autoincrement Flag if nessesary.

Table Indices

An unlimited number of indices can be defined for each table. The PRIMARY index is defined automatically and cannot be deleted.

The Indices List
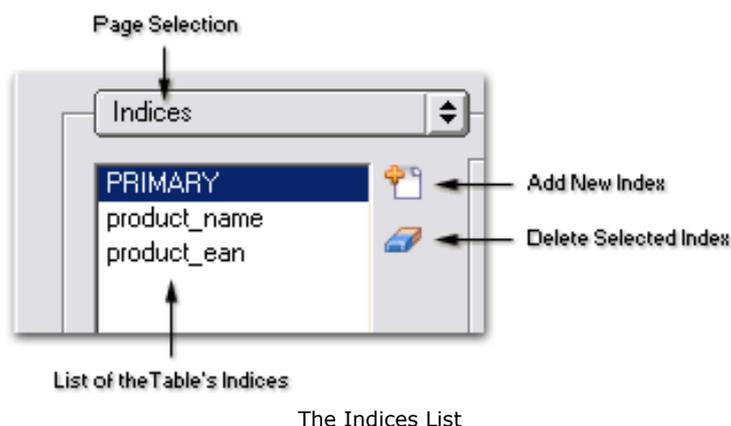
To add a new index click the plus button and enter the index name. Select the Index Type. You cannot select the primary type manually because there can only be one primary index.

To delete an index select it in the index list and click the rubber button.
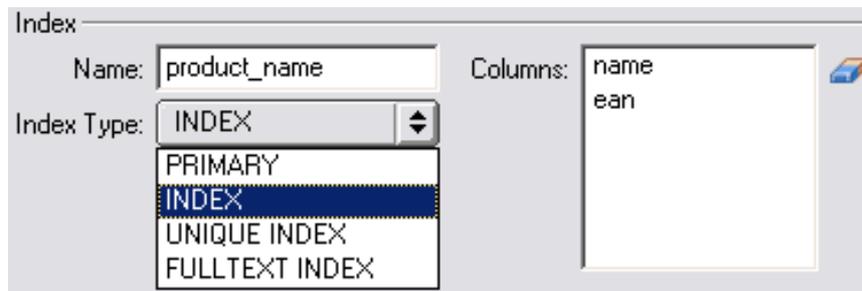
An Index

To add columns to the index drag the appropriate Table Columns down to the Index Columns listbox. You can reorder the index's columns by drag'n'drop in the Index Columns listbox.

To delete a column from the index select the column in the Index Columns listbox and click the rubber button to the right.

Standard Inserts

Every table can have it's Standard Inserts. They provide initial data for the tables.

When the SQL Creates are exported or the database is created by the syncronise function the Standard Inserts can be exported or executed as well.
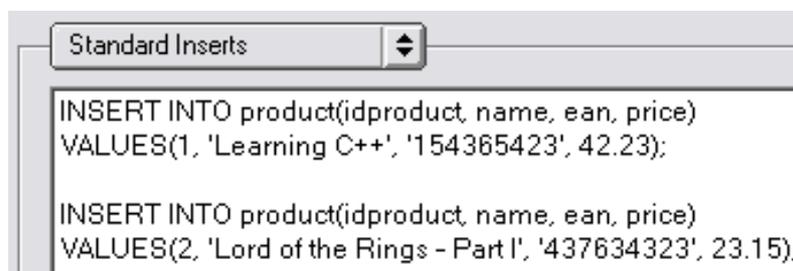
The Standard Inserts

To add a SQL INSERT command click the right mouse button and select Paste SQL Insert from the Standard Inserts memo's popup menu.

To clear the Standard Inserts click on the rubber button right to the Standard Inserts memo.

Table Options

The Table Options provide access to the MySQL specific table options. Please refere to the MySQL documentation to understand the functionality of the several Table Options.

The Table Options

Advanced Table Options

Like the Table Options the Advanced Table Options provide access to the MySQL specific table options. Please refere to the MySQL documentation to understand the functionality of the several Table Options.

The Advanced Table Options

Comments

To store additional information about the table select the Comments and enter the information.

Table Comments

Relation Editor

The Relation Editor allows you to change the Kind of the relation, the Foreign Keys fields mapping and the Relation Reference Definition.
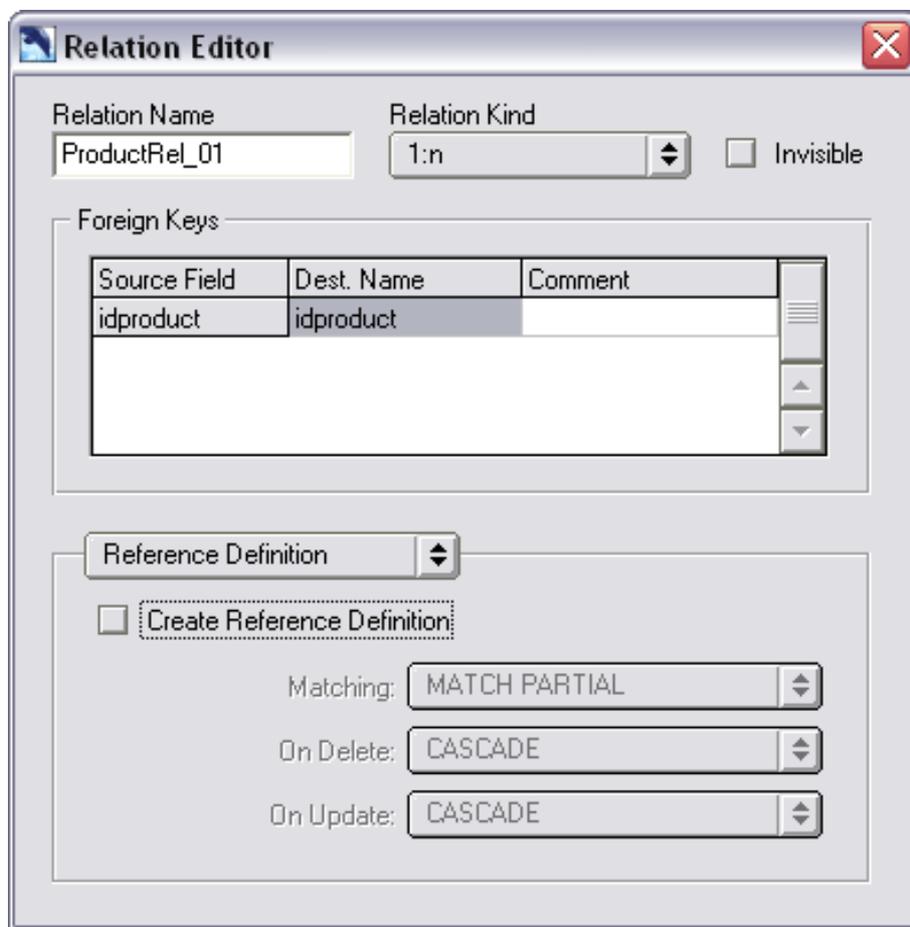
The Relation Editor

Relation Name

Change this value to rename the relation.

Relation Kind

A relation can be one of the following kinds.

Kind	Caption	Explanation	Example
1:1	one - to - one relation	One row in the source table matches one row in the destination table.	A relation between a [customer] table and an [address] table. One customer has one address.
1:n	one - to - many relation	One row in the source table matches many rows in the destination table.	A relation between an [order] table and a [orderproduct] table. One order can have many products and a product in the [orderproduct] table is only part of one order.
1:n (Non Identifying)	one - to - many relation, FK not in PK	One row in the source table matches many rows in the destination table but the Foreign Key in the destination table is not in the Primary Key Index.	A relation between a [payment] table and an [order] table. Each row in the [order] table as a [payment] assigned to. Only [idorder] is the Primary Key field in the [order] table.
n:m	many - to - many relation	A n:m relation is always broken down into two 1:n relations.	
1:1 (Generalisation)	one - to - one relation	This relation is treated like a normal 1:1 relation within DBDesigner 4. Some plugins make use of this type of relation.	

Invisible

Use this option to hide the relation. To make the relation visible again select the source table or the destination table in the Model Palette, expand the relations and doubleclick the invisible relation. In the Relation Editor disable this option.

Foreign Keys

Use the Foreign Key table to change the fieldnames of Foreign Keys in the destination table and to add additional comments to the fields.

Doubleclick a value to change it.

Reference Definitions

Select the Create Reference Definition checkbox to activate the Reference Definitions. Use the comboboxes to select the appropriate actions for delete and update events.

Please note that native MySQL tables do not support Foreign Key Reference Definitions. Use InnoDB if Foreign Key Reference Definitions are needed.

Optional Relation

To make the relation optional on one side check the appropriate option.

Comments

Use the Comments Memo to enter additional information about the relation.

Region Editor

Call the Region Editor from the region's popup menu. The Region Editor allows you to define default table settings for all tables positioned on the region.

To activate set default settings selected the wanted options and enable the checkbox next to that option.
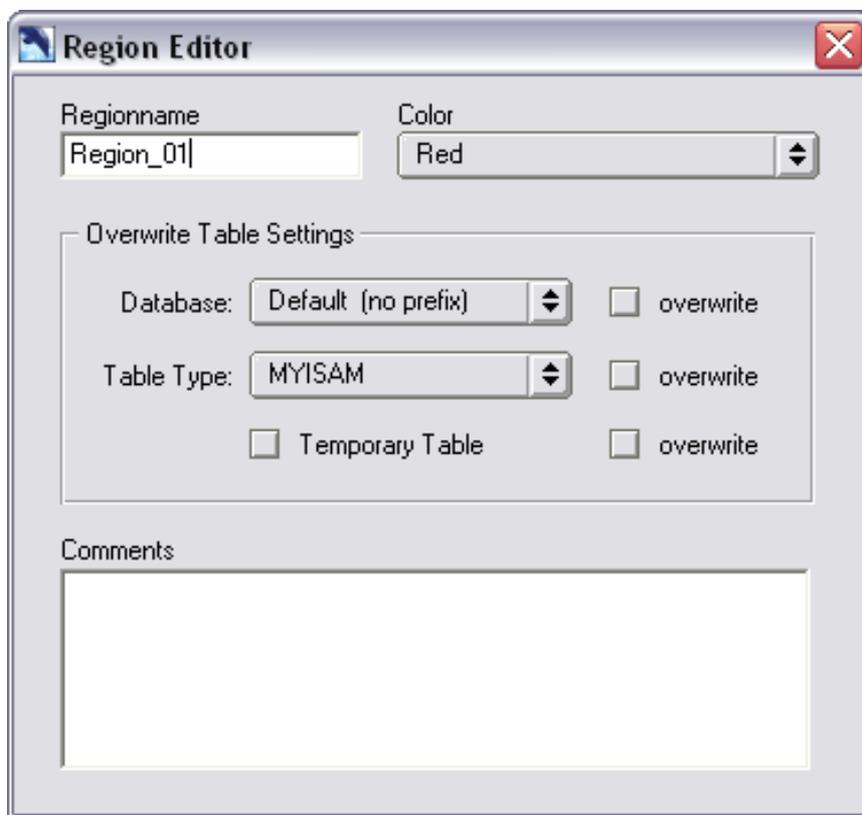
The Region Editor

Regionname

Change this value to rename the region.

Color

Each region is painted in an individual color. Choose from the list to specify the region's color.

Overwrite Table Settings

Select the appropriate settings and check the overwrite checkbox to activate them.

Comments

The comments memo can be used to store informations about the region.

Note Editor

Doubleclick on a new created note to enter call the Note Editor and enter the note's text.
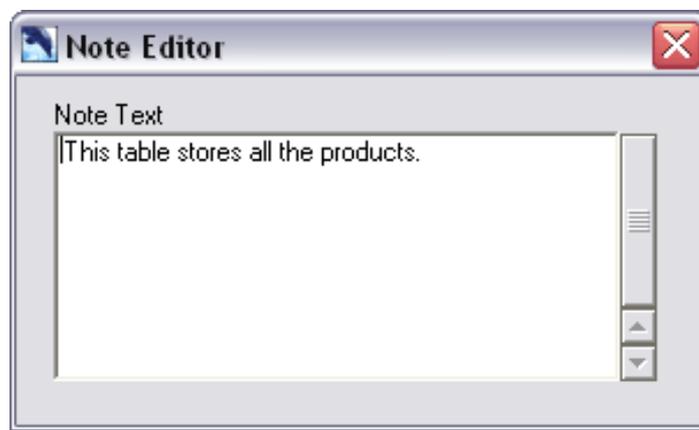
The Note Editor

Image Editor

Doubleclick on a image to call the Image Editor.
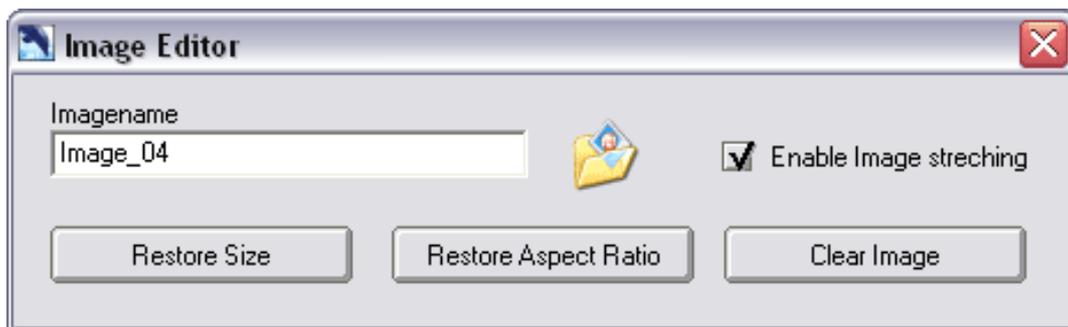
The Image Editor

Load New Image

To replace this image with an updated version of the image or a different image click the Image Folder button. A file browser is shown and you can select the image.

Currently only the PNG and BMP image formats are supported.

Strech Image

When the Strech Image option is selected you are able to resize the image.

Restore Size

To restore the original size of the image after it has be rescaled press the Restore Size button.

Restore Aspect Ratio

When the image has been resized and the aspect ratio was changed press the Restore Aspect Ration button to change the height of the image according to the aspect ration.

Clear Image

Press the Clear Image button to remove the bitmap.

Datatype Editor

Doubleclick on a datatype in the Datatype Palette to call the Datatype Editor.

Query Editor

To call the Query Editor from Design Mode right-click on the table and select Edit Table Data from the popup menu.

When DBDesigner 4 is Query Mode a docked Query Editor is shown at the bottom of the main window. To open another editor double-click on the appropriate table.

If there is no active database connection the Database Connection Dialog will be shown. Create a new or select an existing database connection and click connect.
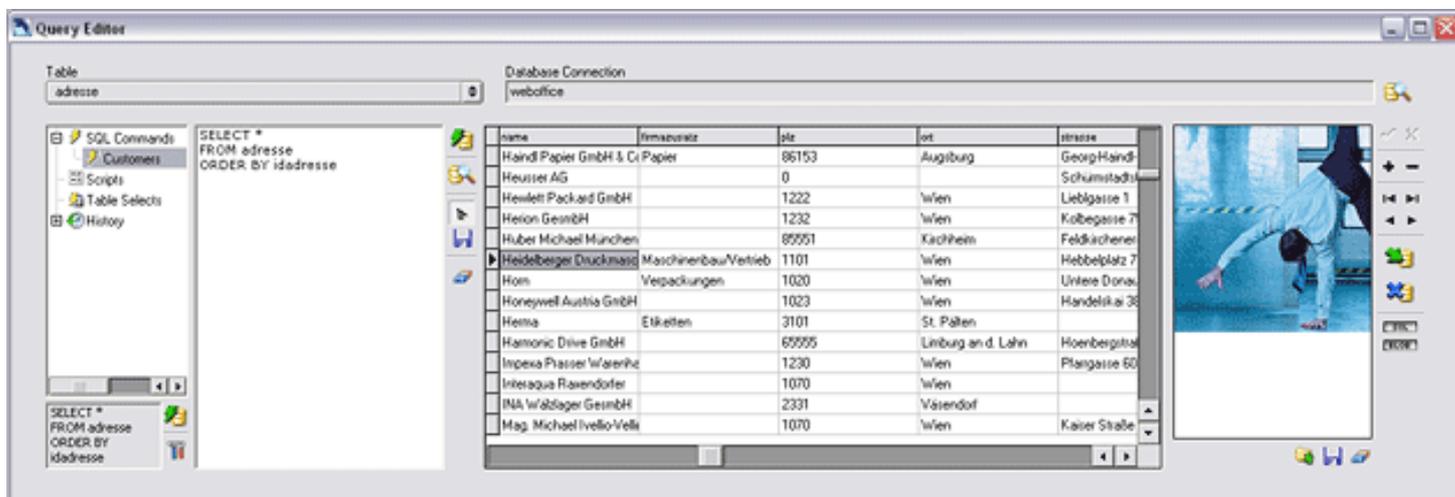
The Query Editor

Main areas

The Query Editor can be divided into two main areas, the SQL Command Editor and the Data Grid.

The SQL Command Editor is used to specify a SQL Command. The Data Grid will display the result returned from the Database.

The SQL Command Editor is extended by the SQL Command Storage Tree. The SQL Command Storage Tree is used to store SQL commands permanently with the model and to keep a command history.

The Data Grid is extended by the BLOB Editor. BLOB Editor is used to modify, load and save data from or to BLOB fields.

Viewing and hiding the areas.

When the Query Editor is opened from Design Mode or by double-clicking a table in Query Mode, only the Data Grid is visible. To display the SQL Command Editor click the SQL button at the right.

To display the SQL Command Storage Tree click on the tree icon right to the SQL Command Editor.

To edit the content of a BLOB Field click on the BLOB button at the right.

Database Creation and Maintenance

Traditional SQL Export

Like any other database modelling tool DBDesigner 4 can export the model as a SQL script file which can be executed by any database maintenance tool, like the MySql command line tool.

All SQL CREATE TABLE statements and the Standard Inserts can be written to the SQL script file depending on user settings.

It is also possible to output all SQL DROP TABLE statements.

What is Database Synchronisation?

With DBDesigner 4 you can simplify the task of creating and maintaining your database. DBDesigner 4 offers the ability to connect to a MySQL server and to create and synchronize a database with the designed model.

Synchronisation means that DBDesigner 4 scans all tables in the existing database and checkes for differences. If a table is present in the model but not in the database, the according SQL CREATE TABLE statement is executed.
If the table is not present in the model but in the database it can be deleted depending on user settings.
If the table exists in the model and the database as well, all fields are compared and if there is a difference, the appropriate SQL ALTER TABLE statements are executed.

What is Reverse Engineering?

To reverse engineer a database means to connect to a database server, take an existing database and automatically build a database model based on the meta information in the database.

Within DBDesigner 4 all table information is extracted from the meta information and relation between the tables are rendered based on table and field names. The tables are placed on the model in alphabetical order following a grid scheme defined by the user.
The process of reverse engineering is possible with MySQL, Oracle and any database which is accessable by ODBC.

The extraction of all table information is only possible using a MySQL database. All other databases are limited to the bottleneck of ODBC.

Export SQL Creates

To export a SQL create script based on you current database model select File-Export-SQL Create Script ... The Export SQL script dialog appears.
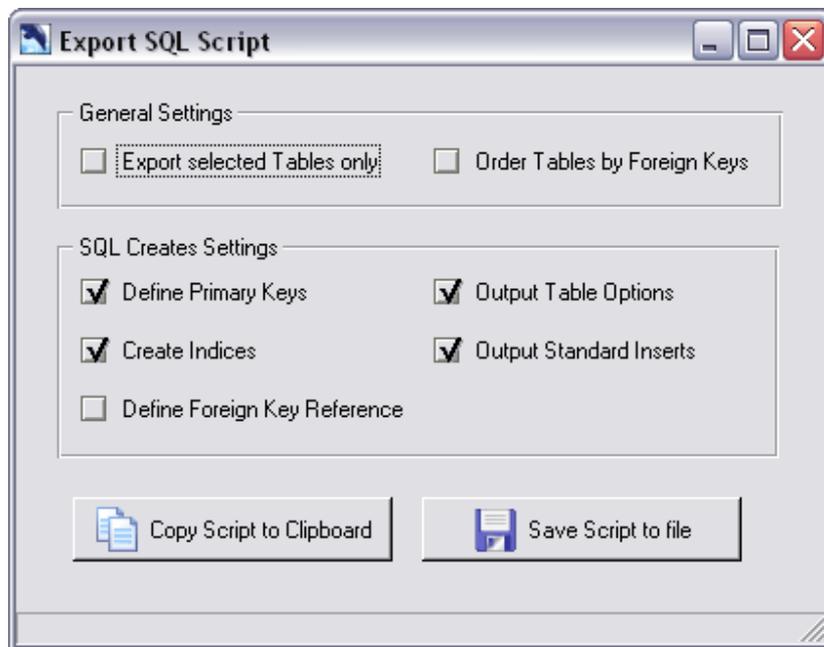
Export SQL Creates dialog

To export the SQL Creates to a file, press the [Save script to file] button. You will be promted for the file's name and destination. Press [Save] to write the script to disk.

When a sql shell is open, it can be useful to copy the script to the clipboard and execute it directly from the sql shell. To copy the SQL script to the clipboard press the [Copy Script to Clipboard] button.

SQL Create Options

The output can be customised using the following General Settings and the SQL Creates Settings.

Export selected tables only

Check this flag to export the selected tables only. All other tables will not be created by the script file.

Order Tables by Foreign Keys

Use this flag to change the creation order. By default the tables are created in alphabetical order. When you are using foreign keys it is necessary to change the order the tables are created.

Tables with no relations pointing to them have to be created first. Every other table can only be created when all source tables already exist.
If there is a collection of cyclic relations, the tables cannot be created. An error message is displayed. Note that you still can export the tables in alphabetical order.

Define Primary Keys

Check this flag if you want to enable the creation of primary keys.

Create Indices

Check this flag if you want to enable the creation of indices. This does not include the primary keys. Check the Define Primary Keys flag to create primary keys.

Define Foreign Key Reference

Use this option to enable the foreign key reference in the SQL CREATE TABLE statements. Note that you have to enable the Order Tables by Foreign Keys option to make the SQL script work.

Output Table Options

Use this option to enable the table options in the SQL CREATE TABLE statements. This is only necessary if you have specified Table Options for a table in the model.

Output Standard Inserts

Use this option to export the Standard Inserts within the SQL create script. This is only necessary if you have specified Standard Inserts for a table in the model.

Export SQL Drops

To export a SQL drop script based on you current database model select File-Export-SQL Drop Script ... The Export SQL script dialog appears.
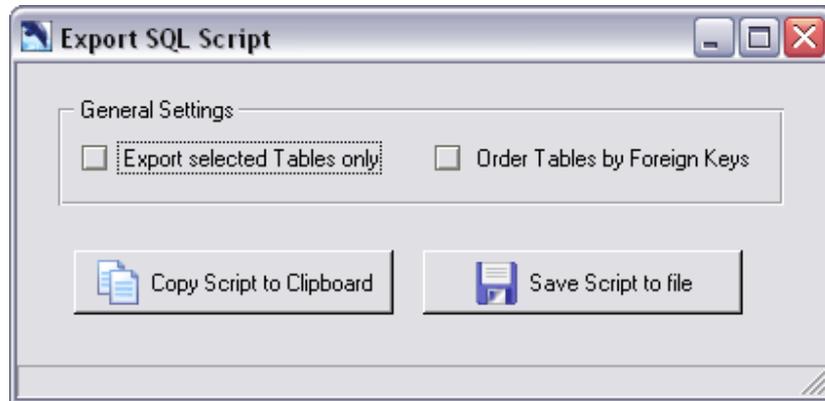
Export SQL Drops dialog

To export the SQL Drops to a file, press the [Save script to file] button. You will be promted for the file's name and destination. Press [Save] to write the script to disk.

When a sql shell is open, it can be useful to copy the script to the clipboard and execute it directly from the sql shell. To copy the SQL script to the clipboard press the [Copy Script to Clipboard] button.

SQL Drop Options

The output can be customised using the following General Settings and the SQL Creates Settings.

Export selected tables only

Check this flag to export the selected tables only. All other tables will not be dropped by the script file.

Order Tables by Foreign Keys

Use this flag to change the creation order. By default the tables are dropped in alphabetical order. When you are using foreign keys it is necessary to change the order the tables are dropped.

The tables will be dropped the reversed order they have been created.
If there is a collection of cyclic relations, the tables cannot be created. An error message is displayed. Note that you still can export the tables in alphabetical order.

Database Connections

Several functions in DBDesigner 4 use Database Connections. They are used to establish a connection to a database by selecting the appropriate server and database.

Create a new Database Connection

A new Database Connection is created in the Database Connection Dialog.

To create a new Database Connection, click the New Database Connection button. The Connection Parameter Dialog is shown. Specify all needed information an click OK to add the connection to the connection list.

Connect to a database

Like creating a new Database Connection, the Database Connection Dialog is used to connect to a database.

Select the appropriate connection from the connection list. Enter a username and the password and press the Connect button to establish the connection.

Please notice

To make changes to meta information in a database it is necessary to connect as an user with the required rights. Within MySQL the database administrator is called root. He has got all rights and is allowed to create a new database or make changes to any database. Every other user is allowed to access and modify only the tables he has got the appropriate rights for.

To avoid problems while synchronizing or quering a database make sure the user which is used to build the connection to the database has the required rights.

The Database Connection Dialog
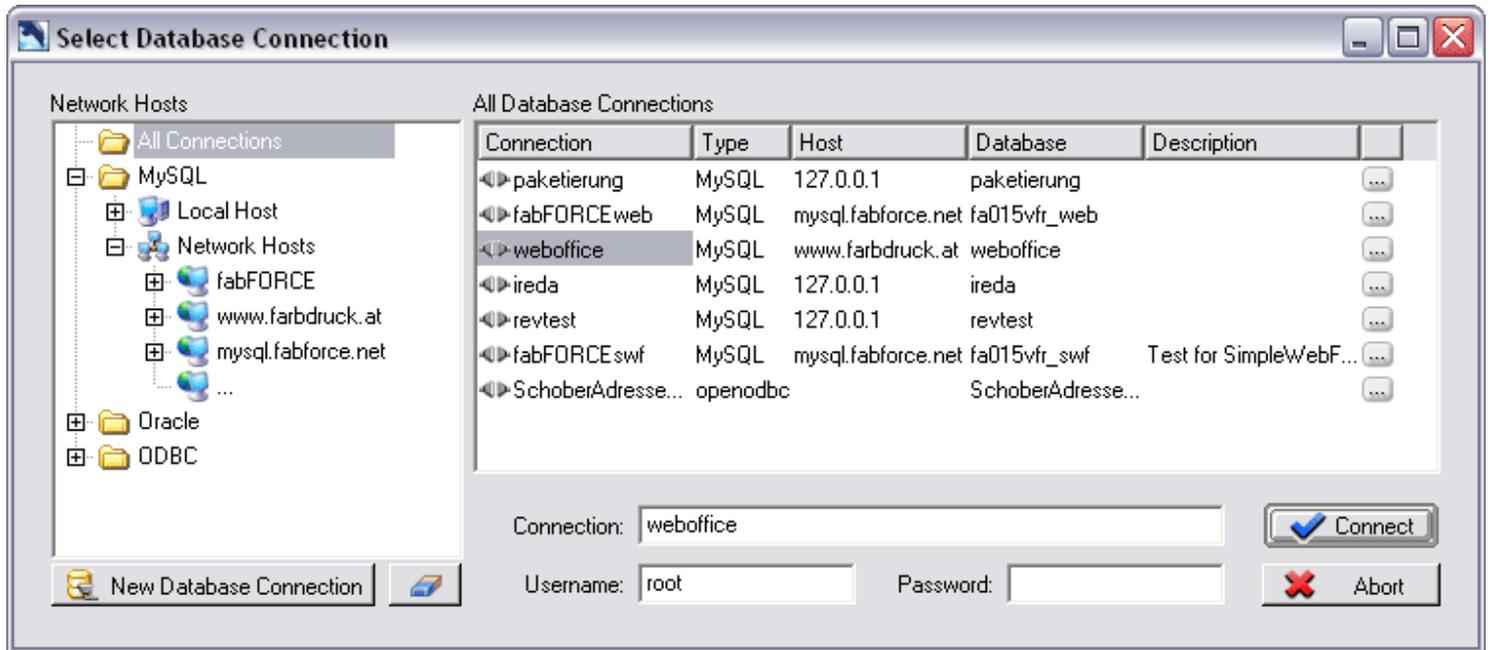
Database Connection Dialog

The Database Connection Dialog is seperated into three areas, the Network Hosts Tree, the Connection List and the User/Password Section.

Network Hosts Tree

The Network Hosts Tree displays all entered hosts and their databases. It is used to filter the displayed connections and to create new connections to a host's databases.

When the first node named [All Connecions] is selected, all entered connections are displayed in the Connection List.

To display all connections to the local MySQL host select [MySQL]-[Local Host].

To display all connections to MySQL host located on the network select [MySQL]-[Network Hosts].

To display all connections to a specific MySQL network host select the hosts name beneath the [MySQL]-[Network Hosts] node.

Connections to Oracle or ODBC databases can be filtered like the MySQL connections.

Display a Host's databases

To display the databases of a entered Host click on the [+] icon left to the Host's name. DBDesigner 4 prompts for the user's name and password which will be used to log in. Note that the specified user has to have the appropriated rights to execute a SQL SHOW DATABASES command.

Enter a new Host

After the installation of DBDesigner 4 it is possible only to connect to the local MySQL host. To add a new network host obey the following.

To enter a new Host, click onto the [...] node listed beneath the [Network Hosts] node beneath of the wanted database type. The Add new Host Dialog will apear.
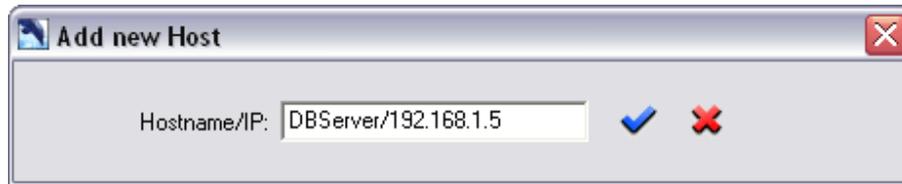
Add new Host Dialog

Enter the node's name followed by a slash and it's IP address. In place of the IP address the host's network name can be specified also, e.g. webserver or www.theserver.com.

Press return to create the append the new Host to the Network Hosts Tree.

Change Host parameters

To change a Hosts name or IP address right click on a Host. The Host's popup menu will be displayed.
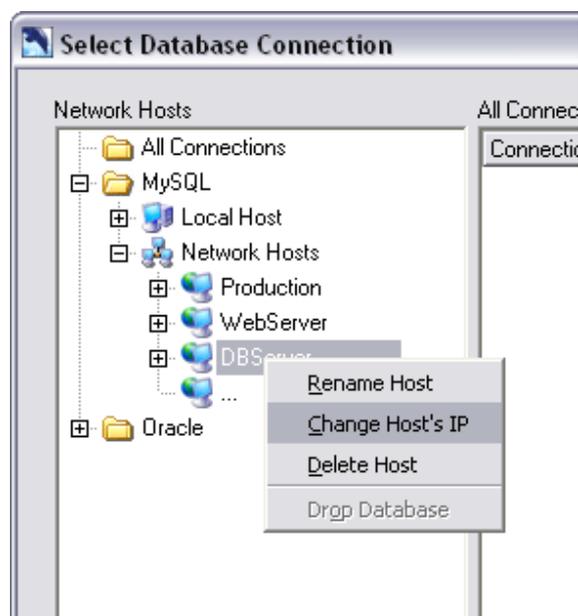
Host popup menu

Select the desired function from the menu.

Remove a Host

To delete a Host select [Delete Host] from the popup menu.

Create a new database

It is possible to create a new database from within the Database Connection Dialog. To create a new database display the Host's databases like descibed above. Click the last node below the Host's node which is labeled [...]. The New Database Dialog will apear. Enter the database name and press return. The database will be created.

Drop a database

It is possible to drop a database from within the Database Connection Dialog. To drop a database show the Host's databases like descibed above. Click the database's node with the right mouse button to display the popup menu. Select [Drop Database].

Be aware that once a database is dropped it cannot be restored. A database backup has to be restored instead.

Connection List

The Connection List displays the connections selected in the Network Hosts Tree. Click on the wanted connection to set the connection in the User Section.

Creating a new connection

To create a new connection select the Host to connect to in the Network Hosts Tree. Display the Host's databases. Now drag the database to connect to onto the Connection List. A new connection is created.

Instead of dragging the database you can select the database with the left mouse button and press the [New Connecion to selected Database] button.

The list's columns

The list has got six columns. The connecion name displays the name of the connection. Double click on the name to change it.

The type displays the type of database the connection is refering to. Doubleclick the type to change it.

Click on the [...] button to display the connection parameters.

The User Section

When a database connection is selected in the Connection List the connection's name is displayed in the User Section and DBDesigner 4 prompts for the user's password. The password is never stored with the database connection because of security issues.

Press enter or click the [Connect] button to establish the database connection. If the connection was successfully build the connection dialog is closed. If an error occured, e.g. the password was wrong, a the error message is displayed.

Connection Parameter Dialog

The Connection Parameter Dialog is used to change.
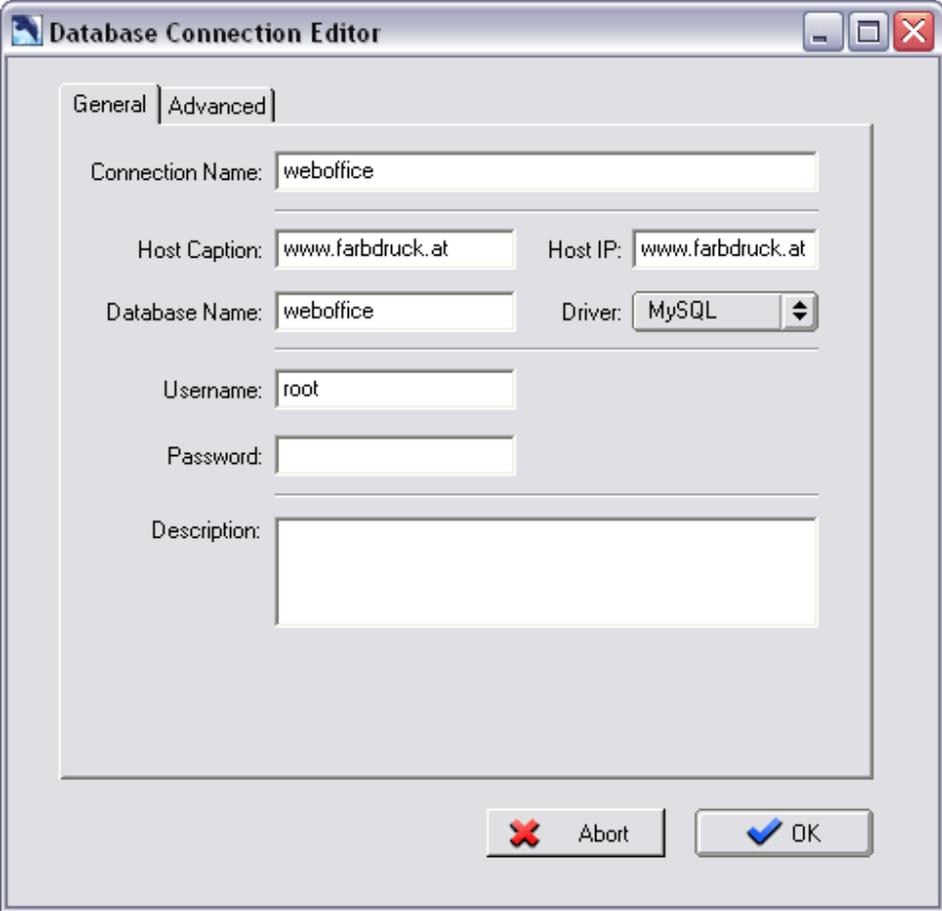
Connection Parameter Dialog

Connection Name

Each Database Connection is identified by a unique name.

Host Caption

Enter a caption for the database server. Only needed for MySQL connections.

Host IP

Enter the database server's IP address or network name. Only needed for MySQL connections.

Database name

Enter the name of the database. When using the MySQL Driver this is the name which was used in the CREATE DATABASE SQL statement.

When the ODBC Driver is selected enter the ODBC Data Source Name (DNS).

When using the Oracle Driver enter the connection name.

Driver

Select a database driver from the dropdown list. When a new database driver is selected all values are set to their initial state.

Username

Specify the username used to connect to the database.

Password

Specify the password used to connect to the database.

Description

Enter a description with a short information about the database connection.

Advanced Tab

Beware. Only modify the advanced connection parameters if you know what you are doing. The [Reset to Defaults] can be used to reset the connection parameters to their defaults. To add or delete a parameter use the according buttons.

The default parameters can be modified by editing the file DBDesigner4_DBDefaultSettings.ini located in the DBDesigner 4 data directory.

The host column displayes the entered IP or network name of the host. Double click on the host's IP/network name to change it.

The database column displays the database the connection is build to. It can be changed using a double click.

The description column displays additional information about the connection. It can be changed using a double click.

Database Synchronisation

To synchronise the model with a database select [Database]->[Database Syncronsiation] from the main menu. The synchronisation can also be called by pressing the [Sync] button in the Tools palette. Note that an empty model cannot be synchronised.

The Database Connection Dialog will be shown. Select the connection to the database which should be synchronised. Enter the user's password and press [Connect] to establish the connection.

Synchronise with a new database

The synchronise function can be run against an empty database. All tables will be created and the Standard Inserts will be inserted into the tables.

To synchronise the model with a new database call the Database Synchronisation. The Database Connection Dialog is displayed. To create a new database display the Host's databases and click the node labeled [...] like explained above. Name the database an create a new connection by dragging the database's node onto the Connection List. Connect to the new database.
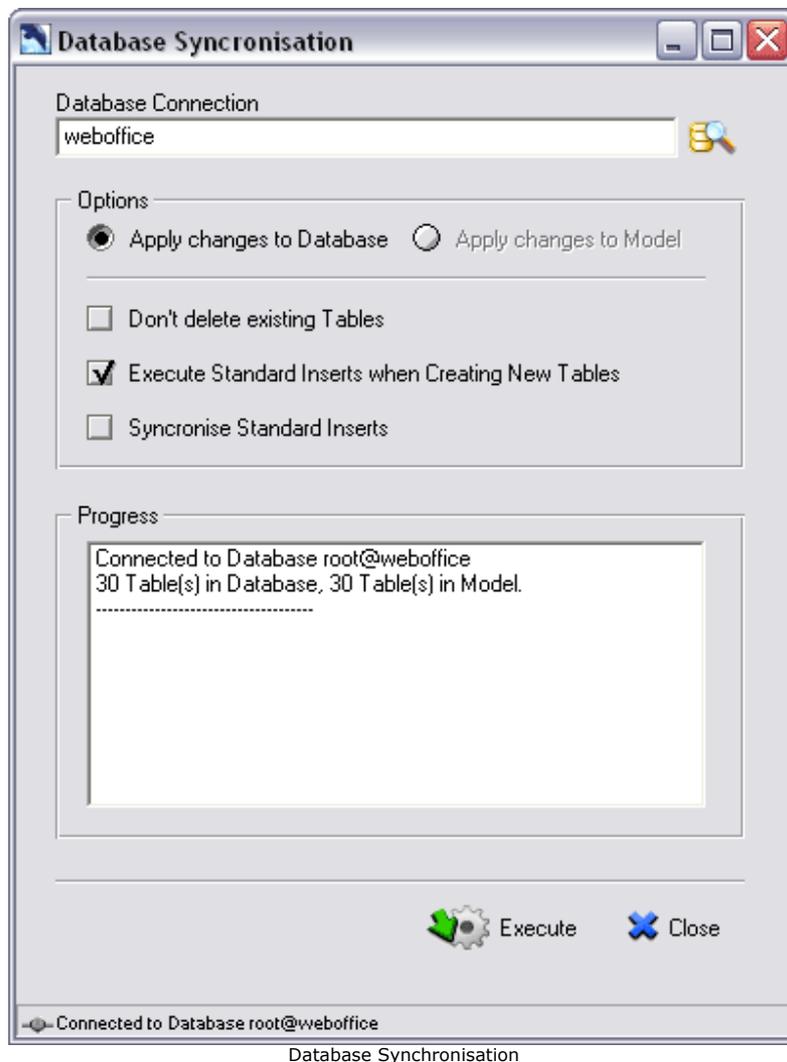
Database Synchronisation

Synchronisation options

When the connection to the database is established successfully the Database Synchronisation Dialog is displayed.

Database Connection

The name of the database connection is displayed at the top. To connect to a different database click the button right to the connection's name. The Database Connection Dialog is displayed again and a different connection can be selected.

Apply changes to Database

This option is seleted by default. The database will be modified to reflect the changes made to the model. The model will be unchanged when the synchronising function is executed.

Apply changes to Model

To modify the model instead of the database select this option. The database will be unchanged when the synchronising function is executed.

This function will be enabled in upcoming versions of DBDesigner 4. At the moment use the Reverse Engineering functions instead.

Don't delete exisiting Tables

Check this option to keep tables in the database which are not present in the model. If this option is not checked these tables will be dropped.

Execute Standard Inserts when Creating New Tables

If this option is activated the Standard Inserts will be inserted into the new created table. This option is selected by default.

Synchronise Standard Inserts

Activate this option when changes to the Standard Inserts of a table have been made. The rows will be compared using the

primary key fields. If a row in the database matches with a row in the Standard Inserts all the values entered in the Standard Inserts will be compared. Values not present in the Standard Inserts will be ignored. Appropriate changes are made to the database table rows.

Database table rows with a primary key value which is not matched by and primary key value in the Standard Inserts are kept unchanged. Because of that manually entered rows will stay in the table even when this option is used. If a Standard Insert is deleted in the model the it has to be removed from the according row in the database table has to be deleted manually.

Executing the synchronisation

The synchronisation cannot be undone. Before executing check all selected options. Check the Progress List which will display the connection info and the number of tables in the database and the model. The connection info will be printed like this [user@database], e.g. [root@webshop].

To execute the synchronisation press the [Execute] button at the bottom of the dialog.

The execution can be monitored through the Progress List. All checks and changes are listed.

Reverse Engineering

To call the Reverse Engineering function select [Database]->[Reverse Engineering] from the main menu. The function can also be called by clicking the [Rev.] button in the Tools Palette.

Normally the Reverse Engineering function is called with an empty model. It is also possible to add the tables to an existing model. If the database tables should be created within a new model select [File]->[New] from the main menu before calling the function.

The Database Connection Dialog will be show. Select or create a new connection to the database which should be reverse engineered and establish the connection.
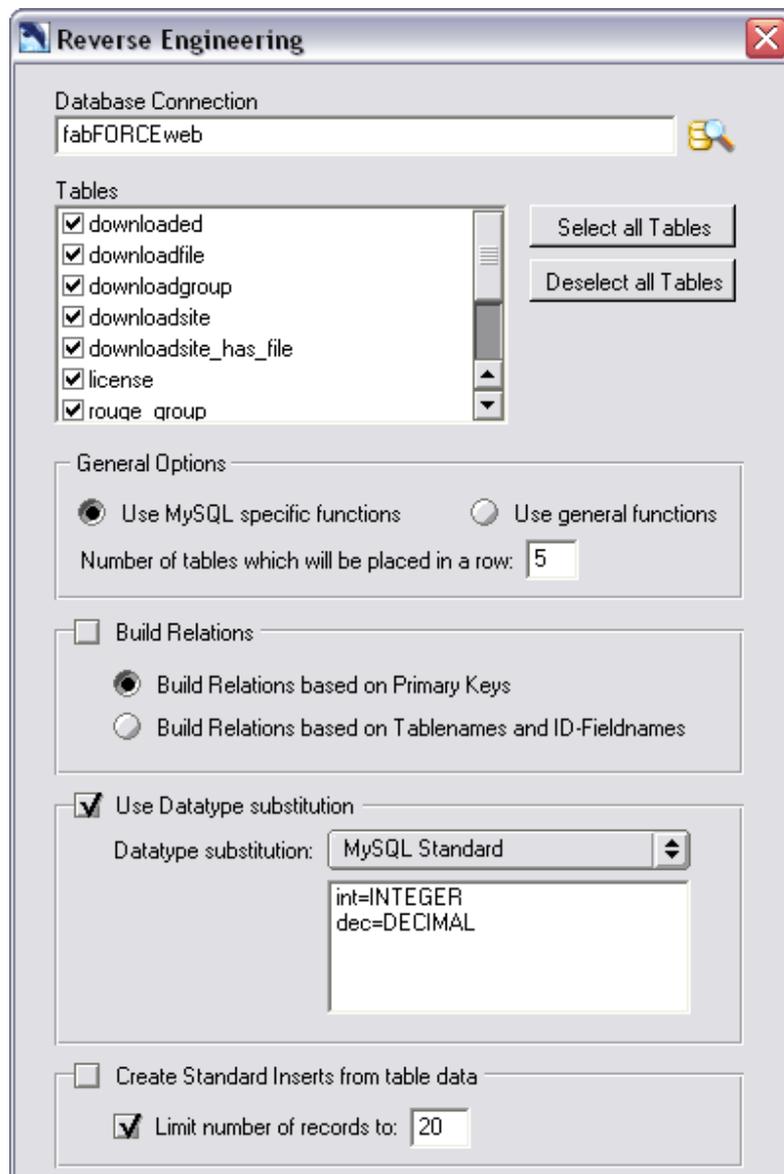
Reverse Engineering Dialog

When the connection to the database is established successfully the Reverse Engineering Dialog is displayed.

Database Connection

The name of the database connection is displayed at the top. To connect to a different database click the button right to the connection's name. The Database Connection Dialog is displayed again and a different connection can be selected.

Tables

Select all database tables which should be created in the model. All tables are selected by default. To select all tables when some of them have been deselected press the [Select all Tables] button. To deselect all tables press the [Deselect all Tables] button.

When an MS Access Database is selected the MS Access' system tables are deselected automatically.

General Options

Use MySQL specific functions

Check this option when a MySQL database is reverse engineered. MySQL specific functions like DESCRIBE TABLE will be used to generate the most accurate copy of the table's structure. Do not use this option with any other database.

Use general functions

Use this option when any other than a MySQL database is reverse engineered.

Number of tabels in a row

When the database is reverse engineered all the selected database tabels are placed in a grid on the models canvas. This option specifies the number of tables in a row.

Build Relations

Use these options to let DBDesigner 4 create the relations between the tables automatically. Please note that this may lead to incorrect results. So always check the relations after the database has been reverse engineered.

Build Relations based on Primary Keys

Check this option to build relations between the tables in the model automatically. The relation will be build upon the table primary key fields. When the PK fields of a table are present in another table a 1:n relation is created.

Build Relations based on Tablenames

Check this option to build relations between the tables in the model automatically. The relation will be build upon the table's and primary key field's names. The following naming principle is assumed. The primary key of a table is named ID + Tablename. If the primary key name is present in a different table a one-to-many between the two tables is created.

Use Datatype substitution

Check this option if you want to change some datatypes' names. This option can be used to map different datatypes between different databases.

By default the Datatype Substitution [MySQL Standard] is selected. This substitution will replace MySQL's abbreviations [int] and [dec] with the [INTEGER] and [DECIMAL] datatypes.

To change a datatype's name enable this option, change the Datatype Substitution to [User defined] and add a line to the Datatype Substitution List. Use the following format. [OldDataypeName=NewDatatypeName], e.g. [int=INTEGER] will

replace all [int] datatypes with [INTEGER] datatypes.

Executing the function

To execute the function press the [Execute] button at the bottom of the dialog.

Create Standard Inserts from table data

This option can be used to automatically create Standard Inserts for the created tables. The Standard Inserts will be built from the table's data stored in the database.

Limit number of records to...

The number of created Standard Inserts can be limited to a maximum number by using this option. This can be useful if there are many rows stored in the table but only a few records are needed for testing purposes.

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Keyboard Shortcuts

Navigation

Key	Function	Info
F1	Help	Calls the context sensitive Help.
Space	Panning	Holding down the Space-Key activates the panning function till the key is released.
Ctrl + Space	Zoom in	Holding down the Space-Key and the Ctrl-Key activates zoom-in function till the key is released.
Alt + Space	Zoom out	Holding down the Space-Key and the Alt-Key activates zoom-out function till the key is released. You can press Space + Ctrl + Alt, too.
Ctrl + Tab	Switch Workmode	Changes the Workmode from Design to Query and vice versa.
Ctrl + Shift + Tab	Switch Palettes	Press once to hide all palettes and again to show the palettes again.
Ctrl + Shift + 1..0	Store Position Markers	Press Ctrl + Shift + 1,2, .. 0 to store a Position Marker.
Ctrl + 1..0	Recall Position Markers	To recall a Position Marker press Ctrl + 1,2, .. 0. The position and zoom factor of the stored marker will be restored.

Design Mode

Key	Function	Info
Ctrl + Q	Select Object(s)	Activates the Pointer cursor. In Design-Mode objects can also be moved with this cursor.
Ctrl + W	Move Object(s)	Activates the Move cursor. Needed to move objects in Query-Mode.

Ctrl + E	Scale Object	Activates the Scale cursor. Only used for Regions and Image objects.
Ctrl + T	New Table	Switches the mouse cursor to New Table Mode.
Ctrl + Shift + R	New 1:n Relation	Switches the mouse cursor to New 1:n Relation Mode.
Ctrl + R	New 1:n Relation (non identifying)	Switches the mouse cursor to New 1:n non-identifying Relation Mode.
Ctrl + Shift + Alt R	New 1:1 Relation	Switches the mouse cursor to New 1:1 Relation Mode.
Ctrl + A	Select All	Selects all objects
Ctrl + Del	Delete Selected	Deletes all selected objects.
Ctrl + Shift + C	Copy Highlighted Name	Copies the Highlighted Name to the Clipboard.
Ctrl + Z	Undo last Action	Undos the last Action
Ctrl + Shift + Z	Redo last Undo Action	Redoes the last Undo Action
Ctrl + O	Open model	Opens an existing model.
Ctrl + S	Save model	Saves the current model. The model can also be saved by clicking on the disk icon in the status bar.

Query Mode

Key	Function	Info
F9	Execute SQL statement	Executes the current SQL statement.
Ctrl + Q	Select Object(s)	Activates the Pointer cursor. In Design-Mode objects can also be moved with this cursor.
Ctrl + S	Add Column to SELECT	Mouse Cursor to add Columns to the SELECT part of a SQL Command.
Ctrl + F	Add Column to FROM	Mouse Cursor to add Columns to the FROM part of a SQL Command.
Ctrl + W	Add Column to WHERE	Mouse Cursor to add Columns to the WHERE part of a SQL Command.

Ctrl + G	Add Column to GROUP BY	Mouse Cursor to add Columns to the GROUP BY part of a SQL Command.
Ctrl + H	Add Column to HAVING	Mouse Cursor to add Columns to the HAVING part of a SQL Command.
Ctrl + O	Add Column to ORDER BY	Mouse Cursor to add Columns to the ORDER BY part of a SQL Command.
Ctrl + E	Add Column to SET	Mouse Cursor to add Columns to the SET part of a SQL Command.
Ctrl + Shift + A	Copy SQL to Clipboard	Copies the current SQL Command to the Clipboard, formated for ASP.
Ctrl + Shift + D	Copy SQL to Clipboard	Copies the current SQL Command to the Clipboard, formated for Delphi/Kylix.
Ctrl + Shift + P	Copy SQL to Clipboard	Copies the current SQL Command to the Clipboard, formated for PHP.

DBDesigner 4 - Version History

Source Releases

Version	Changes
4.0.2.88	• Bugfix: Plugin - Data was not loaded. Fixed. • New: Whan using the Database Synchronisation function tables are now renamed if the name was changed in the model. Previously they had beed dropped and recreated. • New: Index Columns now support the additional lenght parameter for BLOB fields.
4.0.2.87	• Bugfix: Version number was not automatically increased when model was stored in database and option was selected. Fixed. • New: The model's version can now be edited in model option dialog.
4.0.2.86	• First puplic release. Version history will start from this version.

Documentation Releases

Version	Changes
1.0.42	•Renamed syncrosation to synchrosation. • Added Plugins Menu
1.0.41	• New Modelling and Quering Section.
1.0.40	• Updated Screenshots and listing of new functions.
1.0.39	• Improved Fundamentals section. Included GNU GPL with the Online and PDF documentation.
1.0.38	• First puplic release. Version history will start from this version.