



# EMS MySQL Manager

user's guide



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# Using the EMS MySQL Manager User's Guide

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The **EMS MySQL Manager User's Guide** will help you to master **EMS MySQL Manager** – the best tool for MySQL administration and development. You can read this guide either as a whole, from the beginning to the end, or only the selected chapters.

If you have no experience in working with our product, this guide will thoroughly explain you, how to perform basic MySQL operations in MySQL Manager: creating and registering databases, creating and editing tables and UDFs, building queries and so on. You will learn how to work with such MySQL Manager tools as **SQL Editor**, **Grant Manager**, **User Manager**, **SQL Script** and others; how to export and import data, print and extract metadata and many more. **EMS MySQL Manager User's Guide** also gives explanation of all the MySQL Manager options, which allow you to customize your work with the program.

If you have already worked with the MySQL Manager and you just want to make some questions clear, you can easily find what you want, using the table of contents and the following chapter descriptions.

**Chapter 1 – General Info** contains information about general features of MySQL Manager, and tells you what the MySQL Server is and how to download it. Section *How to purchase and register EMS MySQL Manager* describes the process of registering MySQL Manager. If your interests lie beyond the bounds of MySQL, you should certainly read section *Other EMS HiTech Software* to learn about other useful programs and components, developed by *EMS HiTech*. The *FAQ* section contains answers to most of the questions users usually ask about MySQL Manager.

**Chapter 2 - Database Management** describes how to perform general database operations in MySQL Manager: create database and register database in the program; connect to database and create new database object, etc. You will undoubtedly need this chapter to learn how to work with the *Database Explorer* – the basic MySQL Manager tool for database navigation and management.

**Chapter 3 - Database Objects: Tables and UDFs** fully describes such processes as creating a new table, creating and editing fields and indices for table, managing table data, and many more operations that can be performed within the powerful tool for table management – MySQL Manager *Table Editor*. The last section of the chapter is devoted to the *UDF Editor*, which allows you to declare new User-definable Functions and edit the existing declarations.

MySQL Manager provides very effective tools to make data import and export simple and fast. If you want to import your data from MS Excel, DBF or TXT files, or export them to Excel, HTML, RTF or some other format, you will not do without *Import Data Wizard* and *Export Data Dialog*, and **Chapter 4 - Data Manipulation** will thoroughly explain you how to use them. Also this chapter describes *Export Data as INSERT Dialog*, which allows you to export data to SQL script, and *Load Data Wizard*, which automates executing the MySQL function LOAD DATA INFILE.

**Chapter 5 - Database Tools** is one of the most important chapters of the book, as it guides you through creating and executing database queries, using such powerful tools, as *SQL Editor*, *SQL Monitor* and *SQL Script*. Using MySQL Manager Database Tools you can also monitor SQL code for all database operations, execute SQL scripts, extract and print metadata. This chapter will tell you in detail how to use these tools.

MySQL Server provides a lot of services to keep your table data safe and correct: backup/restore tables, analyze, check tables, and more. In MySQL Manager you can perform these operations visually for all database tables at once, or for the selected tables only, with all options, available in MySQL. Even if you new to MySQL, **Chapter 6 - Database Services** will give you the detailed explanation on each service and option.

MySQL Manager is a very customizable product. You can customize almost everything: how program windows look and behave; various details of what database tools do; data grid formats; SQL text attributes; and many, many more. To grasp the meaning of all these options read **Chapter 7 - MySQL Manager Options**, each section of which corresponds to the proper **Options** menu item.

# CHAPTER 1

## GENERAL INFO

### What is MySQL Manager?

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**EMS MySQL Manager** provides you powerful and effective tools for MySQL Server administration and object management. Its Graphical User Interface (GUI) allows you to create/edit all MySQL database objects in a most easy and simple way, run SQL scripts, manage users and administrate user privileges, extract or print metadata, export/import data and many more services that will make your work with the MySQL server as easy as it can be...

MySQL Manager feature matrix:

Feature	Windows Professional	Windows Lite	Linux Professional	Linux Lite
<b>Easy management of all MySQL objects</b>				
Creating/Dropping databases	✓	✓	✓	✓
Creating/Dropping/Altering tables	✓	✓	✓	✓
Support of all MySQL table types (including transaction-safe-tables)	✓	✓	✓	✓
Support of all field types (including BLOBs)	✓	✓	✓	✓
Viewing/Editing data in tables	✓	✓	✓	✓
Creating/Dropping indices	✓	✓	✓	✓

Creating/Dropping functions (UDFs)	✓	✓	✓	✓
Foreign Key support for InnoDB tables	✓	✓		
<b>Rapid database management and navigation</b>				
Multiple database connections	✓	✓	✓	✓
Registering/Unregistering databases for working with the required databases only	✓	✓	✓	✓
Grouping/Ungrouping registered databases by host name	✓	✓	✓	✓
Project Mode for working with the required database objects only	✓	✓	✓	✓
<b>SQL processing and watching tools</b>				
Visual Query Builder	✓			
Visual Database Designer	✓			
Multiple SQL Editors	✓	✓	✓	✓
Script Executing (SQL Script Editor)	✓	✓	✓	✓
SQL Monitor	✓	✓	✓	✓
Powerful Print Metadata Module for creating customizable metadata reports	✓		✓	
Extracting metadata into text files or SQL Script editor	✓	✓	✓	✓
Powerful User Manager for administering users and privileges	✓	✓	✓	✓
Grant Manager displaying all database object grants in form of a grid	✓	✓	✓	✓
Powerful HTML Report	✓			
Visual Report Designer	✓	✓		
<b>Powerful data manipulation tools</b>				
Powerful BLOB Viewer/Editor with several types of viewing BLOB data	✓			
Export data to 14 popular formats (Excel, Access, Word, HTML, PDF, etc.)	✓		✓	

Import Data from Excel, Access, DBF, TXT and CSV	✓		✓	
Export Data to SQL script as INSERT statement	✓		✓	
<b>Fully customizable program interface</b>				
Program options: windows, fonts, grid colors, etc	✓	✓	✓	✓
Editors: custom colors, fonts etc.	✓	✓	✓	✓
Toolbars for all program windows	✓	✓		
Powerful Visual Options Module	✓	✓		
Possibility of saving all the program settings	✓	✓		
Localizable program interface	✓	✓		
<b>And other useful features</b>				
Third-party plugin support	✓			
Keyboard templates	✓	✓		
To-Do List for each database	✓	✓		
External Tools	✓	✓		

## What do you need to start working with MySQL Manager

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EMS MySQL Manager is developed for working with the MySQL Server, so first of all you must have a possibility to connect to some local or remote MySQL Server to work with MySQL Manager. Besides you need your computer to meet the minimal system requirements. Pentium 166 and 32 MB RAM recommended.

### What is MySQL?

MySQL is the world's most popular Open Source Database, designed for speed, power and precision in mission critical, heavy load use. The MySQL database server embodies an ingenious software architecture that maximizes speed and customizability. Extensive reuse of pieces of code within the software and an ambition to produce minimalistic but functionally rich features has resulted in a database management system unmatched in speed, compactness, stability and ease of deployment. The unique separation of the core server from the table handler makes it possible to run MySQL under strict transaction control or with ultra fast transactionless disk access, whichever is most appropriate for the situation.

Today MySQL is the most popular open source database server in the world with more than 2 million installations powering websites, datawarehouses, business applications, logging systems



and more. Customers such as Yahoo! Finance, MP3.com, Motorola, NASA, Silicon Graphics, and Texas Instruments use the MySQL server in mission-critical applications.

You can download MySQL Server from <http://www.mysql.com/downloads/index.html> (download is free).

## How to purchase and register MySQL Manager

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For your convenience, we have contracted with RegSoft and ShareIt Companies to process orders you wish to make with your Visa, MasterCard, American Express and Discover. After registering you will receive the registered version within 48 hours by e-mail. Please make sure to include a valid e-mail address with your order.

**ShareIt** (<http://www.shareit.com>) accepts payments in US Dollars, Euro, Pound Sterlings, Japanese Yens, Australian Dollars, Canadian Dollars or Swiss Franks by Credit Card (Visa, MasterCard/Eurocard, American Express, Diners Club), Bank/Wire Transfer, Check or Cash.

**RegSoft** (<http://www.regsoft.com>) accepts payments in US Dollars by Credit Card (Visa, MasterCard/Eurocard, American Express, Discover), FAX, Postal Mail, TOLL-Free Phone or Purchase Order.



Product Description	Price	Share It!	RegSoft.com
EMS MySQL Manager for Linux (single license)	\$95	<a href="#">Register Now!</a>	<a href="#">Register Now!</a>
EMS MySQL Manager for Linux (site license)	\$695	<a href="#">Register Now!</a>	<a href="#">Register Now!</a>

## Other EMS HiTech Software

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**EMS IB Manager** (<http://www.ems-hitech.com/ibmanager/>) provides you with effective and powerful tools for InterBase/FireBird administration. It helps you to edit all database objects, search in metadata, extract metadata, print metadata, import data and export it into as many as 12 most popular formats. **IB Manager** also includes Database Designer, SP Debugger, SQL Editor, Visual Query Builder, Grant and User Managers, BLOB Viewer/Editor, SQL Script processor, Third-Party plugins support and many more other features.



**EMS PostgreSQL Manager** (<http://www.ems-hitech.com/pgmanager/>) is a powerful graphical tool for PostgreSQL administration and development. It makes creating and editing PostgreSQL database objects easy and fast, and allows you to run SQL scripts, manage users and their privileges, build SQL queries visually, extract, print and search metadata, export data to 14 available formats and import them from most popular formats, view and edit BLOB fields, and many more...



**EMS MySQL Utils** (<http://www.ems-hitech.com/mysqlutils/>) are powerful data management utilities for MySQL Server, which make your work with the server much easier and faster. Currently MySQL Utils include **MySQL DataPump** - a wizard application for converting ADO-compatible databases to MySQL, **MySQL Export** (Windows and Linux editions) - a powerful tool for MySQL data export, and **MySQL Import** (Windows and Linux editions) - an utility for quick importing data to MySQL tables.



**EMS PostgreSQL Utils** (<http://www.ems-hitech.com/pgsqlutils/>) are powerful data management utilities for PostgreSQL Server, which make your work with the server much easier and faster. Currently PostgreSQL Utils include **PostgreSQL DataPump** - a wizard application for converting ADO-compatible databases to PostgreSQL, **PostgreSQL Export** (Windows and Linux editions) - a powerful tool for PostgreSQL data export, and **PostgreSQL Import** (Windows and Linux editions) - an utility for quick importing data to PostgreSQL tables.



**EMS QuickExport Component Suite** (<http://www.ems-hitech.com/quickexport/>) is a set of native Delphi/C++Builder components for exporting your data to 12 most popular formats (MS Excel, MS Word (RTF), HTML, XML, TXT, CSV, SYLK, DIF, LaTeX, SQL and Windows Clipboard) for the future viewing, modification, printing or web publication. There will be no need to spend your time for a tiresome data conversion - **EMS QuickExport** will do this task quickly and it will give the result in the desired format.



**EMS QueryBuilder** (<http://www.ems-hitech.com/querybuilder/>) is a powerful component intended for visual building SQL statement for the SELECT clause. It enables you to use visual query building or representing the existing statements in your project on Delphi. The component can work with different databases (not only through BDE). It simplifies writing a large and complicated statement and allows making up SQL statement without knowledge of the SQL syntax.



**EMS QuickImport Component Suite** (<http://www.ems-hitech.com/quickimport/>) allows you to import your data to the database from files in the most popular data formats. There will be no need to spend your time for a tiresome data conversion - **EMS QuickImport** will do this task quickly, irrespective of the source data format.



**EMS QuickLocalizer** (<http://www.ems-hitech.com/quicklocal/>) is an indispensable component suite for adding the ability of multilingual support to your Delphi applications. Using powerful component editors of this suite you can easily and quickly localize the properties of your project components within each form, generate the template of language file containing current values of component properties, manage the localization files, specify the components and properties to be localized and choose other localization options.



**EMS ExcelReport** (<http://www.ems-hitech.com/excelreport/>) component is a powerful band-oriented generator of template-based reports in MS Excel. Easy-to-use component property editors allow you to create powerful reports in MS Excel quickly, easily and intuitively understandable. Now you can easily create reports, which can be edited, saved to file and viewed almost on any computer. ExcelReport supports Borland Delphi 5, 6, 7, and MS Office 97 SR-1, 2000, 2002 (XP).

# EMS MySQL Manager FAQ

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Please read this page attentively if you have questions about EMS MySQL Manager.

**Q: What is EMS MySQL Manager?**

**A:** EMS MySQL Manager provides you with powerful and effective tools for MySQL Server administration and objects management. It allows you to create and edit all MySQL database objects easily, run SQL scripts, manage users and administrate users' privileges, visually build SQL queries, extract or print metadata, export/import data, view/edit BLOBs and includes many more services to make your work with MySQL server as easy as you want...

**Q: How can I register EMS MySQL Manager?**

**A:** All the information about purchasing EMS MySQL Manager can be found at <http://www.mysqlmanager.com/purchase.phtml>.

**Q: I am a registered user of EMS MySQL Manager 1.0. How can I upgrade to the new version of MySQL Manager?**

**A:** According to our **Upgrade Policy** you can make upgrade from version 1.XX to version 2.01 for half a price. If you are a registered user of the 1.XX version you have to pay only 50 percent of the announced price to buy the version 2.01.

After you upgrade to version 2.01 you will receive all the MySQL Manager upgrades labeled 2.01 up to 2.99 as they are released for free.

**Q: Where can I download a trial version of EMS MySQL Manager?**

**A:** You can always download the latest version of EMS MySQL Manager at <http://www.mysqlmanager.com/download.phtml>.

**Q: How does the trial version of EMS MySQL Manager differ from the registered version?**

**A:** The trial version of EMS MySQL Manager is fully functional. You can use it for evaluation purposes for a period of 30 days following the initial installation.

**Q: What benefits shall I acquire if I register EMS MySQL Manager?**

**A:** As a registered user you will have a right to obtain a technical support, to receive information about all the product updates and to have free in-line upgrades and full version upgrades for half a price. Also your suggestions will be taken into consideration in developing the new versions of MySQL Manager. And at last we will thank you very much for your help in developing the product.

**Q: What is the difference between Professional/Lite and Windows/Linux editions of MySQL Manager?**

**A:** These editions of MySQL Manager differ in price and features. To learn how to register MySQL Manager see **Purchasing MySQL Manager** and to learn the difference in features see the **Feature Matrix**.

**Q: What is the difference between single and site licenses of MySQL Manager?**

**A:** If you buy a single license of MySQL Manager you will get only one registered copy of the product without a right of giving it to anyone else. If you buy a site license then you will be able to make copies and give them to as many people as you want, but within the only one organization. Buying a site license is reasonable if you need to supply with our software all your company stuff or

some company department stuff. In such case you can buy a site license instead of buying single licenses for each person and save a bunch of money.

**Q: What discounts can I get buying EMS MySQL Manager?**

**A:** You can get significant discounts if you simultaneously purchase several copies of MySQL Manager. Each additional copy will be cheaper than the previous.

If you are a representative of some academic institution and you want to use MySQL Manager for educational purposes then you can buy an Academic License that is much cheaper than the standard license. See our **License page** (<http://www.ems-hitech.com/license-pol.phtml>) for details or send us a written request at [support@mysqlmanager.com](mailto:support@mysqlmanager.com).

**Q: What do I need to start working with EMS MySQL Manager?**

**A:** First of all you must have a possibility to connect to some local or remote MySQL Server to work with MySQL Manager. You can download MySQL Server from <http://www.mysql.com/downloads/index.html> (download is free).

Besides you need your computer to satisfy the system requirements of MySQL Manager. MySQL Manager runs on Windows 95/98/Me/NT4/2000/XP and Pentium 166, 32 Mb RAM is recommended.

**Q: I need to work with several servers, located on different computers, is single license OK?**

**A:** If you work with these servers from one single computer, then a single license is OK. But if you have several clients installed on different computers, you have to buy a license for each client or buy a site license.

**Q: Is registered copy of EMS MySQL Manager locked to the definite computer?**

**A:** No, we do not lock registered copies of our products to user's hardware ID, so if you change your hardware it will not cause any problems with using your registered copy of MySQL Manager.

**Q: What is the difference between the Export/Import functions in the MySQL Manager tool and the MySQL Export/Import utilities that you sell separately?**

**A:** MySQL Export/Import (see <http://www.mysqlutils.com> for details) include some additional features, which are not available in MySQL Manager such as:

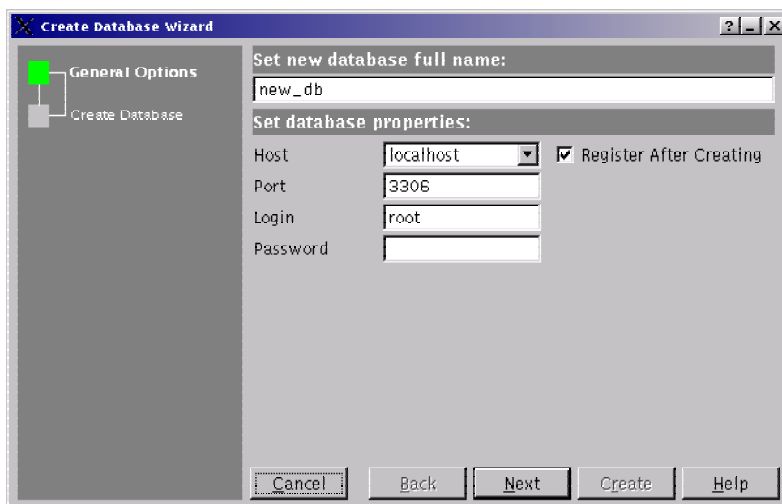
- export/import data from/to several tables at once;
- export/import data from/to tables selected from different databases on one host;
- possibility of working under Linux;
- command line utility to export/import data using the configuration file with all the export/import options.


If you still have any questions, write us to [support@mysqlmanager.com](mailto:support@mysqlmanager.com).

# CHAPTER 2

## DATABASE MANAGEMENT

### Creating Database



If you have no database on local or remote server, you can create a new database right from the MySQL Manager. To do this click button **Create Database**  on the control panel or choose the menu item **Database | Create Database**.

The first step of the **Create Database Wizard** is 'General Options'.

Set the name of the new database, and then set the following database

properties:

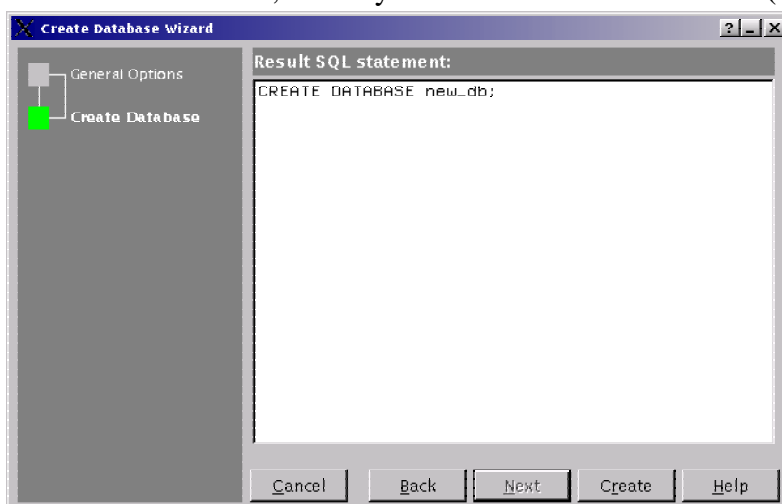
✓ **Host** - the server, where your database will be situated (default 'localhost' means that the server

is situated on your machine);

✓ **Port** – the TCP/IP port for connecting to the server;

✓ **Login** – the name, by which you are registered on server;

✓ **Password** - your password for connecting to the server.



The **Register After Creating** option indicates, that the **Register Database Dialog** for the new database will appear right after creating the database (you need to


register the database to start working with it in MySQL Manager). If you want to register your database later, uncheck this option.

When you are done, click 'Next' to continue.

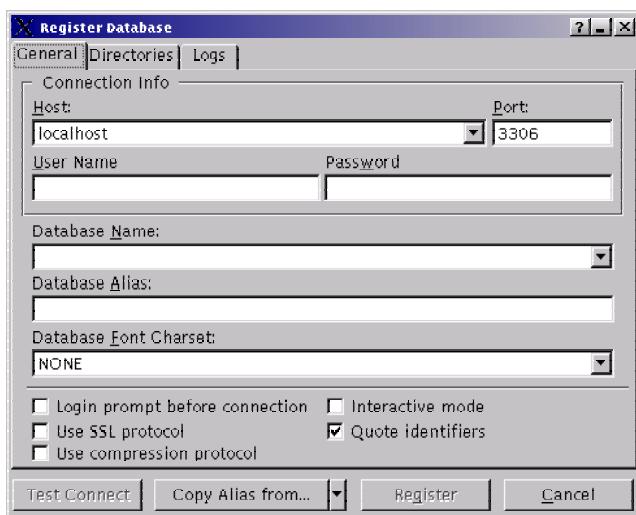
On the last step of the wizard you can view the result SQL statement for creating the database. You can't edit it. To finish the wizard and start creating the database, click 'Create'.

## Registering Database

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To make the database you created or an already existing database available for working in MySQL Manager, you should register it. If you created this database in MySQL Manager, and **Register after creating** was checked, then the **Register Database Dialog** is displayed automatically, otherwise you should click button **Register Database**  on the control panel or choose the menu item **Database | Register Database**.

This is the 'General' tab of the **Register Database** window.



On the 'Connection Info' panel the database server connection parameters are set: host, port, user name and password. These parameters should correspond to those set on creating the database.

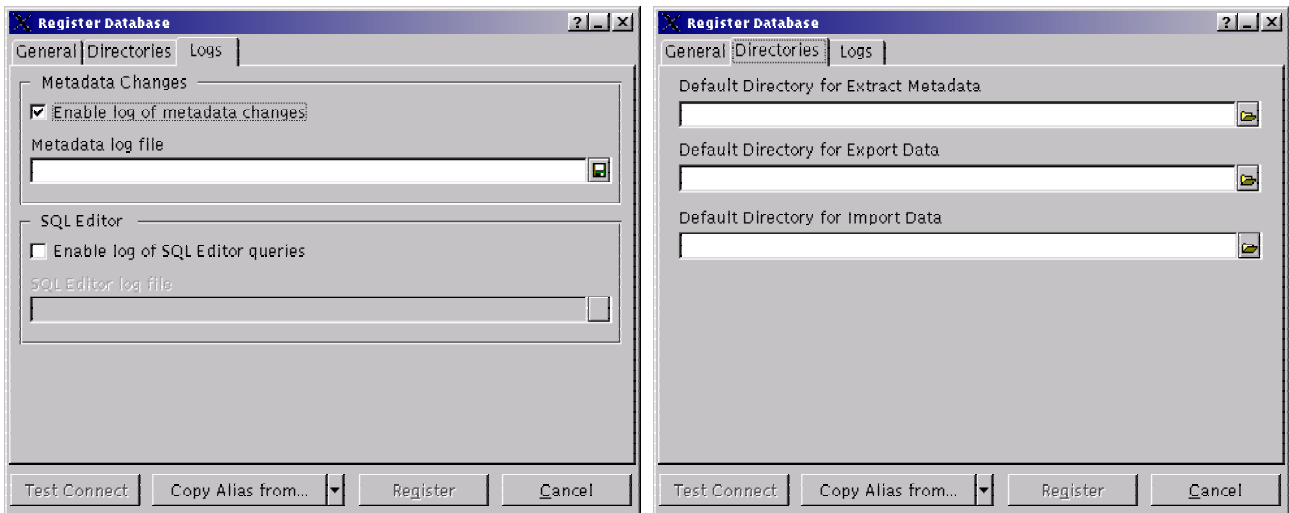
Select the database name from the 'Database Name' drop-down list of all the databases available on the server and set the database alias in the 'Database Alias' edit field (choose any alias that suits you; the default alias is '<database\_name> on <host>'). Set the character set to use in the data grids in the 'Database Font Charset' edit field. If you choose 'NONE' (default), then the default Windows

charset will be used.

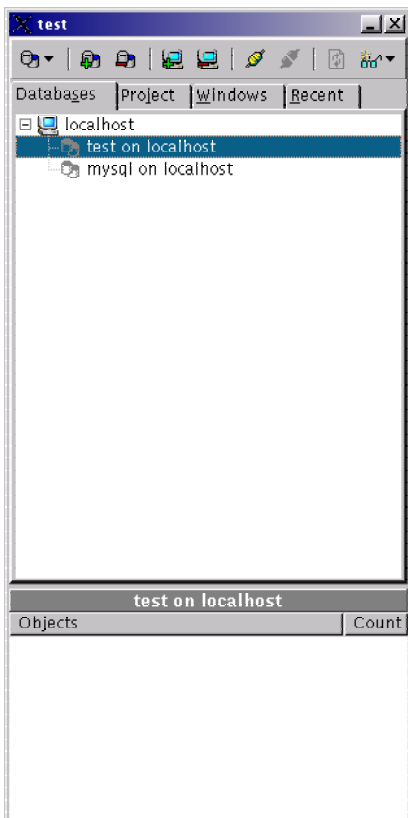
The following options are also available:

- ✓ **Login Prompt Before Connection** - if this option is checked, MySQL Manager will ask you to enter your login and password on each connection to the database.
- ✓ **Quote Identifiers** - if this option is checked, all the identifiers will be quoted by the back quote symbol (`). To make SQL scripts, obtained with the **Extract Metadata Wizard**, compatible with elder versions of MySQL, uncheck this option. Note that this option will work only with those servers that support quoting names.
- ✓ **Use SSL protocol** - check this option to use the encrypted protocol when connecting to the database server. Your version of MySQL Server must support SSL protocols for you could use this option.
- ✓ **Use compression protocol** - check this option to use the compressed data protocol when connecting to the database server.






On the 'Directories' tab you can set the default directories for extracting database metadata, exporting data from the table or query result, and importing Excel, DBF or text files to the table.



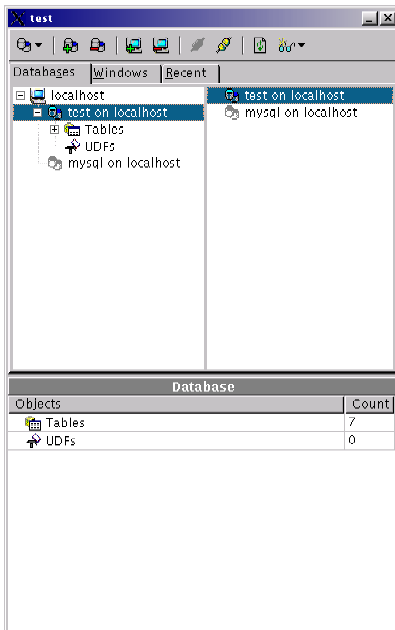
On the 'Logs' tab you can enable logging changes in the database metadata ('Enable log of metadata changes' option) and enable logging queries executed in the **SQL Editor**. After checking these options you should set filenames for storing this information in the 'Metadata log file' and the 'SQL Editor log file' edit fields.


Click button 'Test Connect' to check the connection with the database server. Button 'Copy Alias from' allows you to copy the registration parameters from one of the already registered databases and apply them to the current database.

When you are done, click 'Register'. If everything was correct, your database will be registered, and its icon and alias will appear in the **DB Explorer** window, on the 'Databases' tab.


To unregister database, click button **Unregister Database**  on the control panel or choose the menu item **Database | Unregister Database**.

## Connecting to the Database

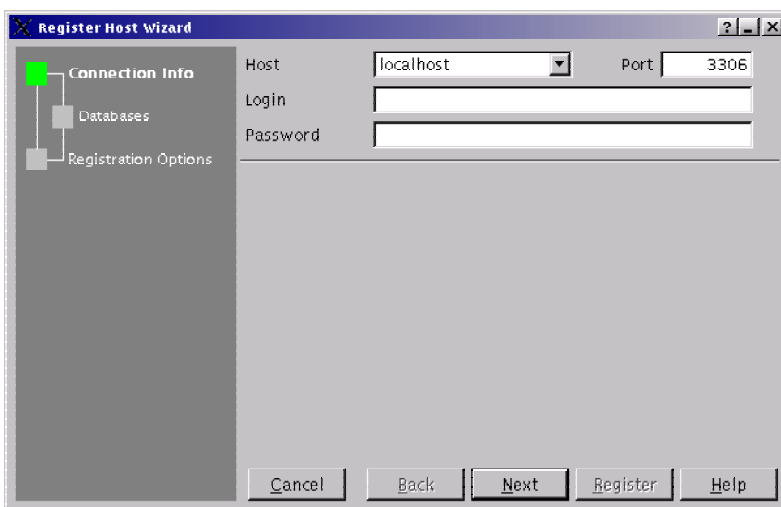


To start working with the registered database, you should connect to it. Just double-click the database alias in the **DB Explorer** or click button **Connect to Database**  on the control panel to start connecting.


If connection is successful, the database alias changes its appearance, and the 'Tables' and 'UDFs' branches become available. These branches contain lists of database tables and UDFs. After connecting to the database you can create new objects or edit the existing through the popup menu of **DB Explorer**.

To disconnect from the database, click button **Disconnect from Database**  on the control panel.

## Register Host Wizard



If you need to register several databases on one server, you can register all them at once, not registering them one by one. To do that you should use the **Register Host Wizard**. This wizard allows you to register “packs” of databases on one server.

To activate the wizard, click button **Register Host**  on the toolbar or choose the menu item **Database | Register Host**.

On the first step the wizard - 'Connection Info' - you should set the server connection properties, which are common for all the databases you register:

- ✓ **Host** - server, where your databases are situated;
- ✓ **Port** – TCP/IP port for connecting to the server;
- ✓ **Login** – name, by which you are registered on server;
- ✓ **Password** - your password for connecting to the server.

On the 'Databases' step select the databases to register from those available on the server by moving them from the 'Available Databases' list to the 'Selected Databases'.

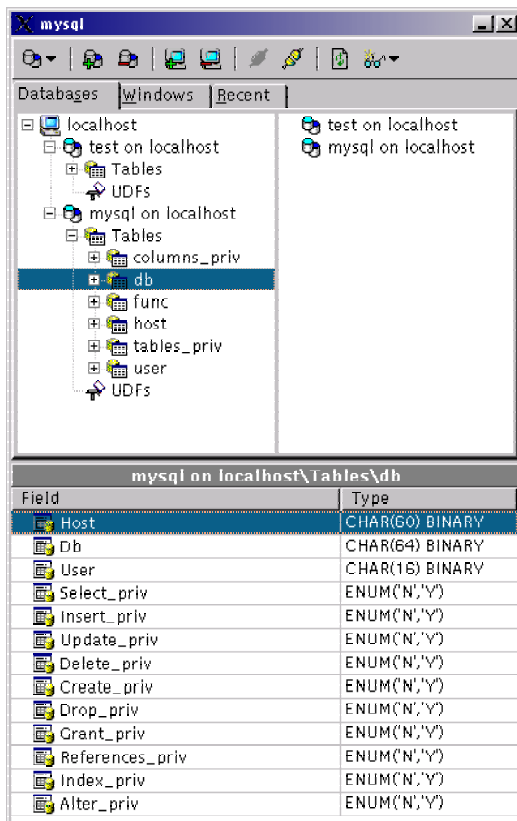


To move all the databases from one list to another use buttons >>, <<; to move the selected databases, use buttons >, < or drag the databases; to move one database, just double-click it. The last step of the wizard is 'Registration Options'. Select databases in the list and set the following registration options for each of them. These properties are the same as in the **Register Database Dialog** (see above).

Click 'Register' when you are done to register all the databases on the host.

To unregister host, click button **Unregister Host**  on the control panel or choose the menu item **Database | Unregister Host**.

# Database Explorer



**DB Explorer** is the basic MySQL Manager navigation tool for working with databases and database objects.

Its control panel and popup menu allow you to perform various metadata and data operations, such as: registering and connecting to the database, creating, editing and dropping tables and UDFs, exporting and importing data and so on.

**DB Explorer** tabs allow you to access all the registered databases and database objects ('Databases' tab), create your own projects to work only with the selected objects ('Projects' tab), access any of the MySQL Manager active windows ('Windows' tab) and recently edited objects ('Recent' tab). For easier navigation between the objects each tab has its own object tree.

The **SQL Assistant** area gives you short information for each database or database objects, e.g. object description or list of its subobjects.

## Control Panel

**Quick Jump To Database** - clicking this button activates the drop-down list of all registered databases. Choose the required database from the list to select it in the tree.

**Register Database** / **Unregister Database** - these two buttons allow you to register new database or to unregister the selected database.

**Register Host** / **Unregister Host** - these buttons allow you to register several databases on the host or to unregister the current host.

**Connect to Database** / **Disconnect from Database** - use this buttons to connect to the selected database or to disconnect from one.

**Refresh** - this button refreshes the object tree.

**View Mode** - using the drop-down menu of this button you can adjust the **DB Explorer** appearance. The following items are available in the menu:

**Show Table Subobjects** - if this button is dropped, then the table fields and indices are available in the database tree of **DB Explorer**.

**Page Mode** - this button enables the **DB Explorer** page mode, i.e. splitting the **DB Explorer** window in two and displaying the 'Projects' tab in the right area. This mode allows you to drag objects from the 'Databases' area to the 'Projects' one.

**Show Hosts** - if this button is dropped, the database hosts are visible in the **DB Explorer** tree.

**Tables' Details** - this submenu allows you to switch the **SQL Assistant** mode for displaying table fields, indices or table status (table properties set on creating).

New Table...	Ctrl+N
Edit Table countries...	Ctrl+O
Rename Table countries...	Ctrl+R
Drop Table countries...	Shift+Del
Duplicate object...	
Add Object To Project	
Data Manipulation	
Table Properties...	
Grants for Table countries...	
Find Item...	Ctrl+F
Refresh	F5
Connect to Database	Ctrl+Shift+C
Disconnect from Database	Ctrl+Shift+D
Register Database...	Alt+Shift+R
Unregister Database	Alt+Shift+U
Database Registration Info...	
Sort by Aliases	
Register Host...	Ctrl+Shift+R
Unregister Host	Ctrl+Shift+U
View Tool Bar	Ctrl+T
<input checked="" type="checkbox"/> View SQL Assistant	Ctrl+A
Hide Disconnected Databases	

## Popup menu

**New Object** – this item allows you to create a new object of the current type (table or UDF).

**Edit Object** – this item allows you to edit the current table or UDF in the proper object editor.

**Drop Object** - this item allows you to drop the current object.

**Rename Object** - this item allows you to edit the alias of the current object.

**Duplicate Object** - this item allows you to create a new object with the same properties as the selected object has. E.g. if you duplicate a table, the new table will have the same fields, indices, data and other properties. They will only differ in names (you'll be asked for a new table name when duplicating).

**Data Manipulation** - this submenu is available only if a table is selected. Its items allow you to export data, export data as INSERT statements, import data and load data to the selected table.

**Object Properties** - this item allows you to edit the object properties, set on its creation.

**Grants for ...** – this item activates the **Grant Manager**, which allows you to set the access grants for the selected object.

**Find Item** - this item allows you to find an object in the object tree by the first symbols of its name.

**Refresh** - this item refreshes the object tree.

**Connect to Database / Disconnect from Database** – these items allow you to connect/disconnect to/from the current database.

**Register Database / Unregister Database** – these items allow you to register new database or to unregister the selected one.

**Database Registration Info** - this item activates the **Database Registration** window, which allows you to view and edit the database registration parameters.

**Sort by Aliases** - this item sorts objects in alphabetical order by their aliases.

**Register Host / Unregister Host** – these items allow you to register several databases on the host or to unregister the current host.

**View Toolbar** - if this option is checked, **DB Explorer** control panel is visible.

**View SQL Assistant** - if this option is checked, **SQL Assistant** area is visible.

**Hide Disconnected Databases** - if this option checked, databases not connected to server, are not displayed in the object tree.

## Projects

This page is provided for working with the selected database objects. You can place objects from the database object tree and queries from **SQL Editor** here.

To move the objects from the tree, switch the **DB Explorer** view mode, using button **Page Mode** of the **View Mode** menu on the toolbar. Now the 'Projects' area is always displayed at the right of the window, and you can drag here objects from the 'Databases' area. To add query from the **SQL Editor**, select the text in the editor window and drag it to the folder, created in advance. To create a folder or a subfolder, right-click the object name and choose New Folder or New Subfolder in accordance.

If you need to find the **Project** tree object in the **Databases** tree, right-click the object and choose item 'Find Object in Database Tree'. **Databases** tab will be displayed, and the object you need will be selected.

# CHAPTER 3

## DATABASE OBJECTS: TABLES AND UDFs

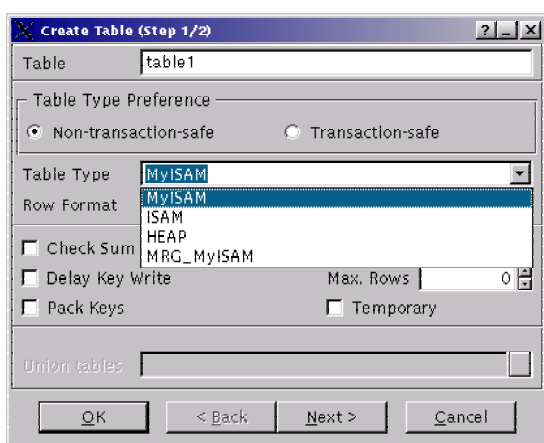
### Creating Table

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To create a table, select the 'Tables' branch in the database tree on the 'Databases' tab of the **DB Explorer**, right-click and choose item 'New object' from the popup menu.

On the first step of the **Create Table Dialog** you should set various table parameters.

Set the table name in the 'Table' edit field. Choose the table type using the 'Table Type Preference' switch and the 'Table Type' drop-down list. The following table types are available:



#### Non-transaction-safe types

- ✓ MyISAM - the new binary portable table handler that is replacing ISAM;
- ✓ ISAM - the original table handler;
- ✓ HEAP - the data for this table is only stored in memory;
- ✓ MRG\_MyISAM - a collection of MyISAM tables used as one table.

#### Transaction-safe types

- ✓ Berkeley\_db - transaction-safe tables with page locking;
- ✓ InnoDB - transaction-safe tables with row locking;

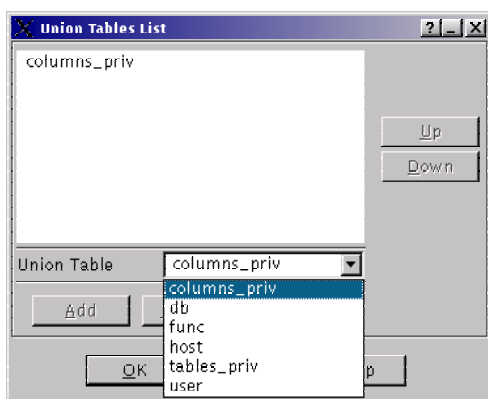
- ✓ GEMINI - table type, developed by NuSphere Company. It is not supported in the last versions of MySQL.

Select the row format in the 'Row Format' edit field: default, fixed, dynamic, or compressed.

Set the following table options:

- ✓ **Check Sum** (MyISAM only) - check this option if you want MySQL Manager to maintain a checksum for all rows (makes table a little slower to update but makes it easier to find the corrupted tables);
- ✓ **Delay Key Write** (MyISAM only) - check this option to delay key table updates until the table is closed;
- ✓ **Pack Keys** (MyISAM, ISAM only) - set this to 1 if you want to have a smaller index. This usually makes updates slower and reads faster;
- ✓ **Min. Rows** - minimum number of rows you plan to store in the table;
- ✓ **Max. Rows** - max number of rows you plan to store in the table;
- ✓ **Temporary** – check this option to create a temporary table.

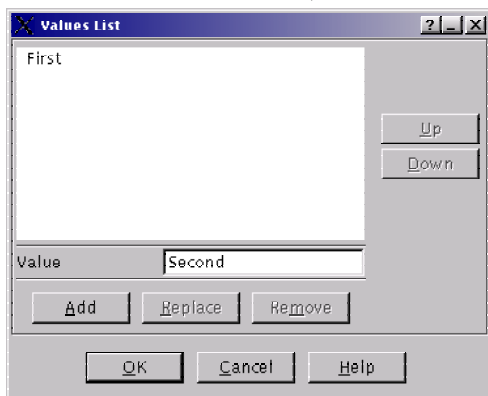
A temporary table will automatically be deleted if a connection dies and the name is per connection. This means that two different connections can both use the same temporary table name without conflicting with each other or with an existing table of the same name. (The existing table is hidden until the temporary table is deleted).



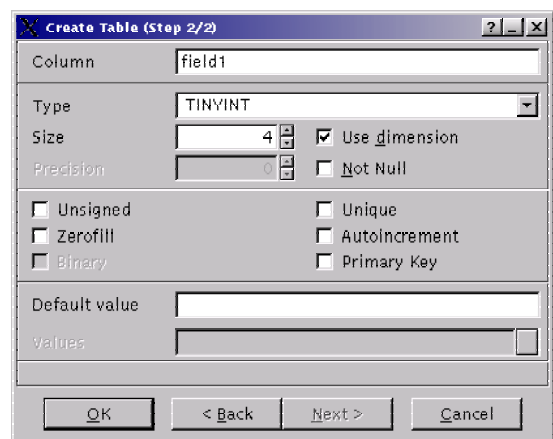
Use **Union Tables** when you want to use a collection of identical tables as one. This only works with MRG\_MyISAM tables. Click the button next to the 'Union Tables' edit field. In the **Union Tables List** window you can add a new table from the current database to the 'Union Tables' list by selecting it from the 'Union Table' drop-down list and clicking 'Add'. You can edit the list by removing the tables ('Remove' button), replacing them with the new ones ('Replace' button), and changing their order ('Up' and 'Down' buttons).

On the second step of the dialog you should set the properties of the first table field. Set the field name in the 'Column' edit field, and select the data type for the field from the 'Type' drop-down list. For some of the types size and precision can also be set. Check 'Not null' to forbid an empty field value. Set the following field properties, if necessary:

- ✓ **Unsigned** – check this option to give the UNSIGNED attribute to the field;
- ✓ **Zerofill** - check this option to give the ZEROFILL attribute to the field;



- ✓ **Binary** – check this option to give the BINARY attribute to the field;
- ✓ **Unique** - check this option to include the field to the unique key (index);
- ✓ **Autoincrement** - check this option to give the AUTO\_INCREMENT attribute to the field;
- ✓ **Primary Key** - check this option to include the field to the primary key.



In the 'Default Value' edit field you can set the default field value.

If you have chosen the SET field type (see above), you can create a list of possible field values, using the 'Values' edit field. Click the button next to the edit field to activate the **Values List** window. Enter the value in the 'Value' edit field and click 'Add' to add new value to the set. You can edit the 'Values' list by removing the values ('Remove' button), replacing them with the new ones ('Replace' button), and changing their order ('Up' and 'Down' buttons).

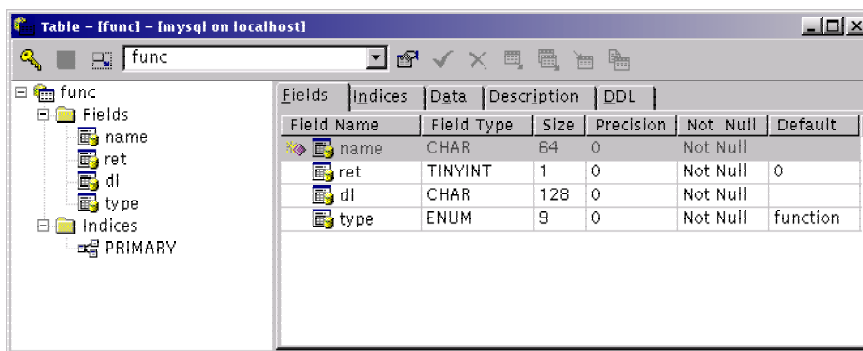
Click 'OK' when you are done to create the new table with the parameters you set.

The created table will be opened in the **Table Editor**, where you can create and edit table fields and indices, manage table data, and so on (see below).

The table will also become available in the database tree of the **DB Explorer**.


Any time you want to edit the table, you can open it in the **Table Editor** by right-clicking the table alias in the database tree of **DB Explorer** and choosing item 'Edit table <table\_name>' in the popup menu. Using this popup menu you can also rename or drop the table.

## Table Editor



**Table Editor** is a powerful tool, allowing you to create, edit and drop table fields and indices, manage table data and set other table properties. From the **Table Editor** you can activate various MySQL Manager tools for working with the database table: **Grant Manager**, **Print**

**Metadata Dialog** and more.

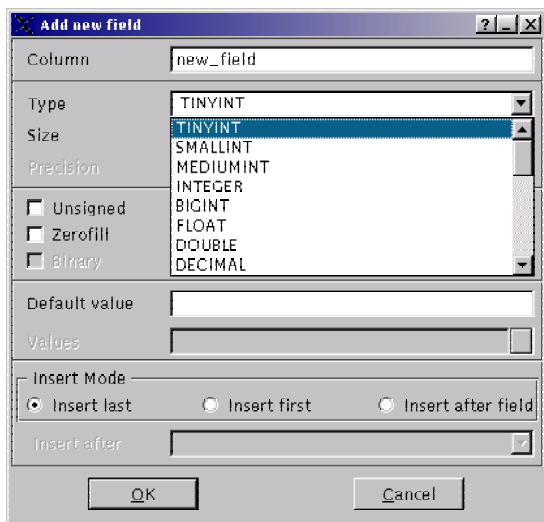
In the left part of the window there is a tree of table's subobjects: fields and indices. It allows you to access the required object quickly. Using the **Databases**  drop-down button on the editor toolbar you can switch between the active databases. The drop-down list of all the database tables on the toolbar allows you to change the edited database.

To manage the table fields use the 'Fields' tab of the **Table Editor**.

This tab displays all the table fields and their basic properties (type, size, precision, etc.). To create a new field right-click and choose item 'New Field' or 'Insert Field' (this item inserts new field after the selected field).

To edit the field, double-click the field in the list, or select the field and choose item 'Edit Field <Field\_Name>' in the popup menu.

To drop the selected field, choose item 'Drop Field <Field\_Name>' in the popup menu.



To create a new field with the same properties as the selected field has, choose item 'Duplicate'. You will be asked for a new field name, and the field will be created. To change the field order, choose item 'Reorder Fields' and set the new field order in the dialog window. Item 'Copy List of Field Names to Clipboard' allows you to copy all the table field names to Windows Clipboard.

The properties of the field are set and edited in the **Field Editor**. The edit fields of the editor correspond to the edit fields of the **Create Table Dialog**, Step 2 (see above). The only difference is that you can choose the insert mode (insert the field last, first or after the field, specified as 'Insert After').

When you are done, click 'OK' to create a new field for the table or to change its properties.





The 'Indices' tab of the **Table Editor** works in the same way as the 'Fields' one. To create a new index for the table, open this tab, right-click in the main area and choose item 'New Index' from the popup menu. The **Index Editor** will appear. Set the index name in the 'Index Name' edit field and select the fields for the index by moving the fields from the 'Available Fields' list to the 'Included Fields'. To move the fields use buttons between the lists, drag the selected fields, or double-click one of the fields. Choose the index order ('Ascending' or 'Not ordered'), set other index properties and click 'OK'.


The 'Description' tab displays a simple edit area, where you can set optional text, describing the current table.

The 'DDL' tab displays the SQL text for creating the current table with all the parameters you set: fields, keys, table type, etc. This text can't be edited, but it can be copied to the clipboard.

The control panel of the **Table Editor** provides the following functions:


**Databases**  - use this drop-down menu to switch between the databases. If you switch to the database, which is not currently active, you'll be offered to connect to it. After you switch to the new database, the first table of this database becomes active in the **Table Editor**. To switch between the tables, use the drop-down list of the current database tables in the middle of the panel.


**Grants On Table**  - use this button to activate the **Grant Manager** for the current table, where you can set the access grants for the table.


**Save Description**  - this button saves the table description, set on the 'Description' tab.



**Help on SQL**  - this button runs the MySQL Reference Help file 'mysql.chm', which is included into the MySQL Manager installation package.



**Print Table Metadata**  - this button allows you to print the table metadata: fields, indices, description and DDL. The dialog window that appears after clicking this button also allows you to preview the report before printing.

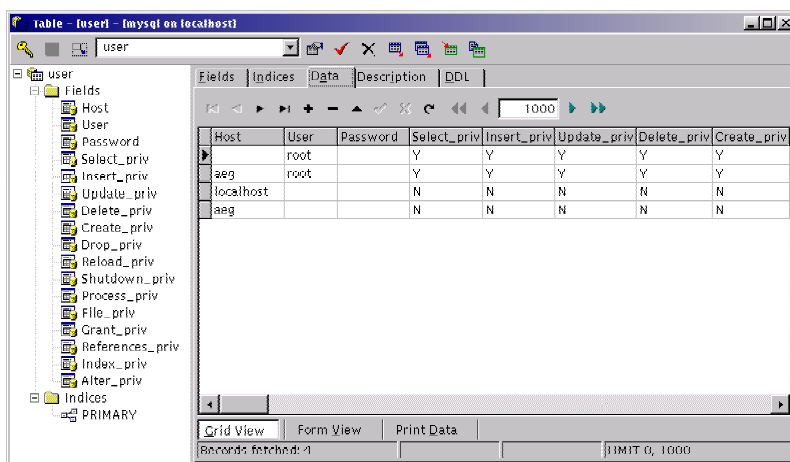
**Default Size**  - this button brings the window to its default size (restricted by the main window and the **DB Explorer**).

**Table Properties**  - this button allows you to edit the table properties, set on its creation: table type, attributes, etc.

**Commit Transaction**  / **Rollback Transaction**  - use these buttons to commit or rollback the current transaction.

## Table Data Management

Table data are managed on the 'Data' tab of the **Table Editor**. Data can be displayed in three modes:





✓ **Grid View** - view data as a grid. The columns correspond to the fields, rows - to the records. To navigate through the table data use navigation buttons at the top of the area. Button + inserts a record at a current position, button - deletes the record. To edit the record, click it in the grid and enter the new value. To confirm the changes you made, click button ✓, to cancel them click ✕. Clicking the field title



allows you to switch the mode of sorting records by this field (ascending or descending). You can multi-select the fields by click the row captions with the buttons *Shift* or *Ctrl* down. It allows you to delete several records at once.

- ✓ **Form View** - view data as a form. On the form a current record is displayed: field name and its value. This view mode also has a control panel, which allows you to switch the records. If these data are available for editing, you can do it on this form. Each field has a Null switch, which allows you to clear the field value quickly; near each number field a calculator button is placed (calculator field automatically fills the current field); near each date field calendar button is placed (date, selected in the calendar, automatically fills the current field).
- ✓ **Print Data** - data are displayed in the way they will be printed, in WYSIWYG mode. You can change the view scope, save a report to file and set page parameters.

To switch these modes use buttons at the bottom of the main area.

Button **Export Data**  on the toolbar allows you to export table data to file (12 formats are supported: MS Excel, HTML, TXT, DBF, RTF and more). Button **Export Data as INSERT Statements**  allows you to export data to the SQL script as SQL statement INSERT.

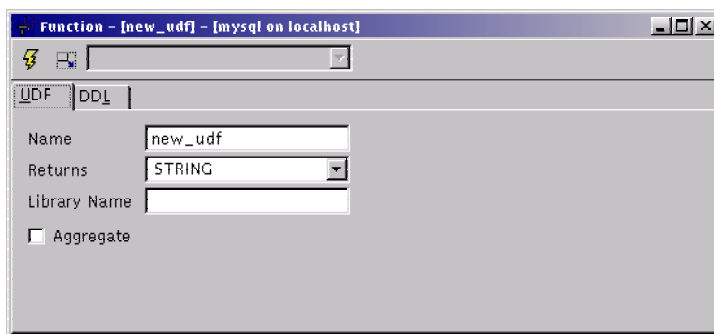


Using button **Import Data**  you can import data from MS Excel, DBF, TXT or CSV file. **Load Data**  reads rows to the table from the text file.

## UDF Editor

---

The **UDF Editor** allows you to declare new UDFs and to edit the existing declarations. To declare new UDF, right-click on the 'UDFs' branch in the database tree of the **DB Explorer** and choose item 'New Object' in the popup menu. To edit the existing UDF, right-click the UDF alias in the database tree of the **DB Explorer** and choose item 'Edit UDF <UDF\_name>' in the popup menu.





Set the name of the new UDF in the 'Name' edit field. Select the type of the returned value (STRING, REAL or INTEGER) from the 'Returns' drop-down list. Set the filename, identifying the library that contains the UDF in the 'Library Name' edit field. Note that in the current MySQL Server version UDF libraries are supported only by UNIX systems.

Check 'Aggregate' to make the UDF aggregate. Aggregate functions work exactly like the native MySQL GROUP functions like SUM or COUNT ().

On the 'DDL' tab you can view the SQL text for creating the UDF with the properties you set. This text can't be edited, but can be copied to the clipboard.

When you are done, click button **Compile**  on the toolbar to compile the UDF.

To call the MySQL Reference, click button **Help on SQL**  on the toolbar.

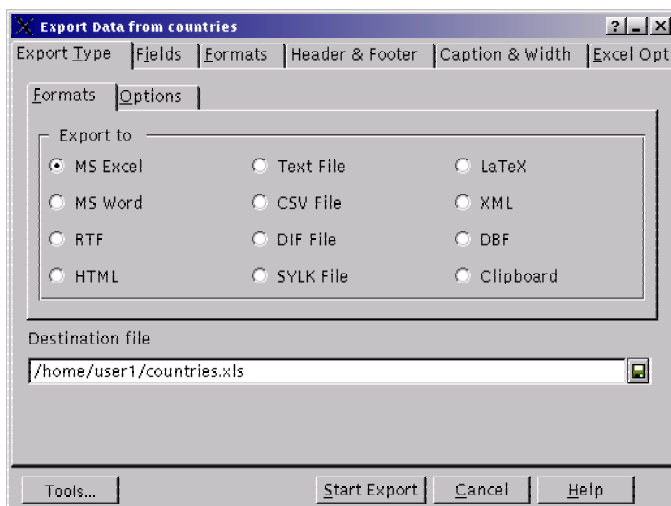
Button **Default Size**  brings the window to the default size (restricted by the main window and the **DB Explorer**).

The drop-down list of the current database UDFs on the toolbar allows you to switch the edited UDF.

# CHAPTER 4

## DATA MANIPULATION

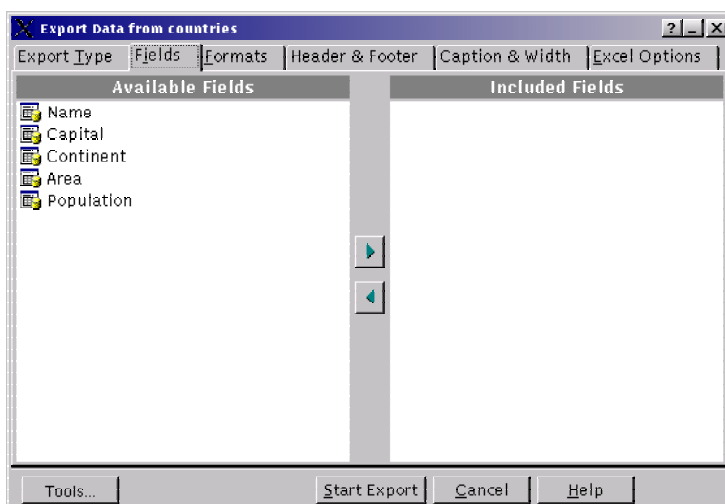
### Export Data Dialog



You can export data from table or query result to any of 12 available formats (MS Excel, MS Word, RTF, HTML, TXT and more). **Export Data Dialog** is a very powerful tool, allowing you to export data easily and quickly, and set various export options. It is based on **EMS QuickExport Component Suite** (check <http://www.ems-hitech.com/quickexport/> for details).

To call the **Export Data Dialog**, select the table in the **DB Explorer**, right-click and choose item 'Export Data' from the 'Data Manipulation' submenu or open the 'Data'

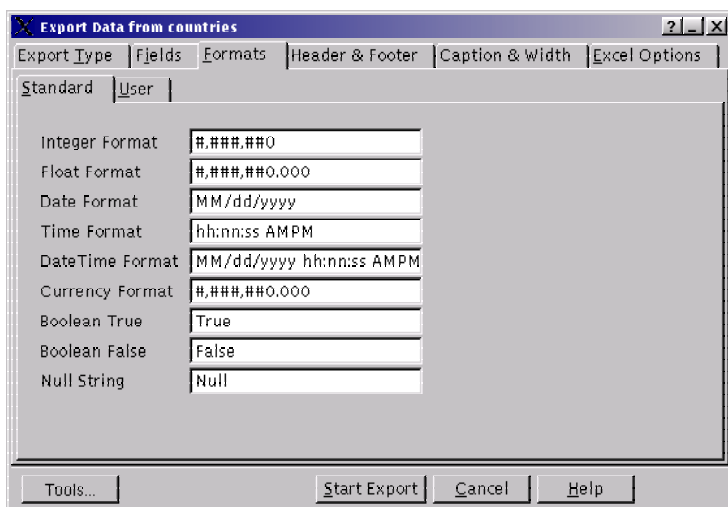
('Results') tab of the **Table Editor (SQL Editor)**, click button 'Export Data' on the toolbar or right-click and choose item 'Export Data'.



On the 'Export Type' tab choose the file type to export data to and set the filename in the 'Destination file' edit field (use button to browse for files). Check 'Open file after export' to open the result file in the appropriate program right after export.

If you don't want all the fields to be exported, select the fields to export on the 'Fields' tab. Note, that if your table contains BLOB fields, they will be not exported default.

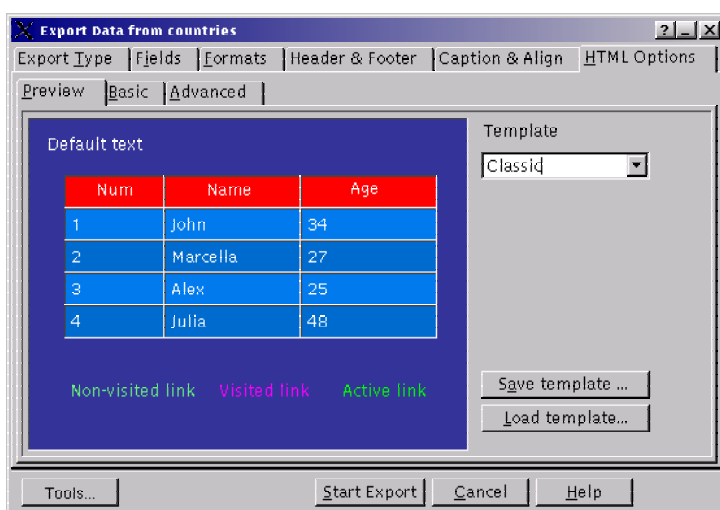
To choose the fields for export, move them from the 'Available Fields' list to the 'Included Fields' one. To move the field from one list to another double-click it or select it (use *Ctrl* or *Shift* to select multiple fields) and click button > or <. To move all the fields click button >> or <<.



On the 'Formats' tab you can change the formats of the exported fields, if necessary. You can also define your own formats for numeric and Date/Time fields, using the 'User' tab. These fields (if there are any in your table) are available in the list. Choose the format of the field from the drop-down list of the 'Formats' column and edit it if necessary. You can see the example of the result value if the 'Sample' column.

The default column captions in the result table correspond to the field names of the source table, but you can edit these captions on the 'Captions' tab of the dialog, if necessary. This tab is unavailable for DBF export type.

The last tab of the dialog contains specific options for the selected export type. The following options are available:



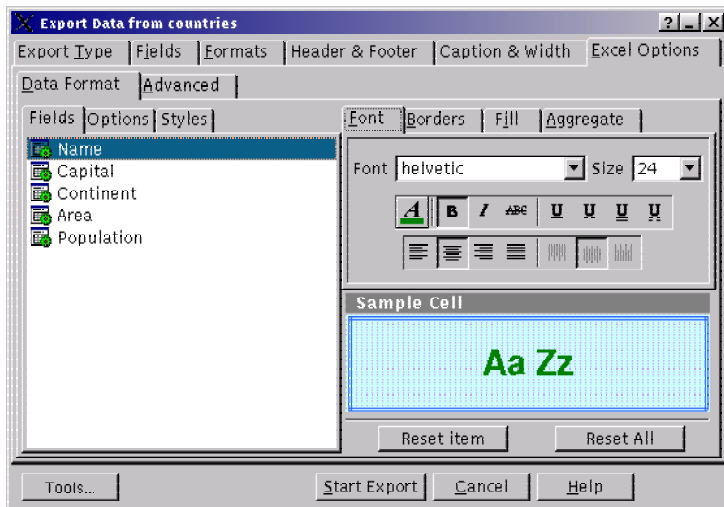
## HTML Options

**Preview.** This tab allows you to define the colors of various elements of the result HTML document, such as: default font color, header font color, table font color, background colors and link colors. To change the color of some element, just click this element and set the color you need. You can also use various HTML templates to make the result document look in the way you need. Select a template from the **Template** drop-down list or click 'Load template' to browse for templates. If you have changed some HTML elements manually and you like

the result, you can save it as a template for future using by clicking 'Save as template' button.

- ✓ **Basic.** This tab allows you to define the title of the result document and set the mode of the CSS (Cascade Style Sheets) using. The default CSS using is internal, but you can set to external and define your own CSS file in the **CSS file name** edit field.
- ✓ **Advanced.** On the **Body options** panel you can set the default font name of the result document and set the document background. In the **Advanced attributes** edit field you can define any attribute values for the HTML tag <BODY>.
  - The **Table options** panel allows you to define such attributed as **Cell padding**, **Cell Spacing** and **Border**. In the **Advanced attributes** edit field you can define any attribute values for the HTML tag <TABLE>.
  - The **Multi-file export** panel allows you to export your data not to a single HTML document, but to a number of documents. Check option **Use multi-file**





**export** to enable this mode and define the maximum number of records in each result file in the appropriate edit field.



### Excel Options

The **Data Format** tab allows you to define a specific format for each data column, header, footer, column captions and aggregate functions. Select the field from the **Fields** list or select an element of the result Excel sheet (captions, footer, etc.) from the **Options** list and set its font, borders and fill. All the changes you make are displayed in the sample cell. For data columns you can also define aggregate functions ('Aggregate' tab): AVG (average value), MAX (maximum value), SUM (sum of the values), and MIN (minimum value). The aggregate

function is added to the cell under the column. Click 'Reset item' to reset all format setting for the current item, click 'Reset all' to reset format settings for all items.

You can also define repeating styles for data columns or rows on the **Styles** tab. Click button  to add a style and set its format. After you define all the styles, set the strip style to 'Col' or 'Row' (on this depends if these styles will be applied to columns or rows). To delete a style, use button . To load and save styles use buttons  and .

The **Advanced** tab allows you to define headers and footers of the result document pages (the default page footer is page number) and the sheet title.

### RTF Options

This tab is available only if the chosen export type is MS Word or RTF. It allows you to define properties of the default document font and row header font.

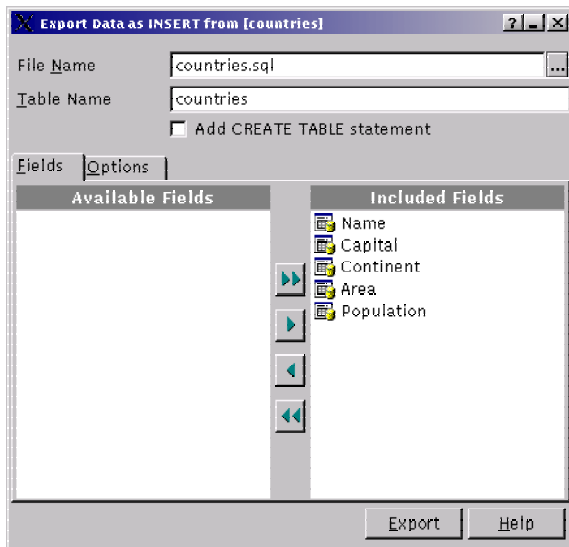
### XML Options


This tab allows you to set the encoding of the result XML document and define if the result document will be standalone by checking/unchecking the 'Standalone' option.


When you are done click 'Start Export' to start export. If 'Open file after export' was checked, the result file will be opened in the appropriate program.

## Export Data as INSERT Dialog

You can export data from table or query result as SQL statement INSERT to the SQL script. After that you'll be able to execute this script and load all the exported data to another table. This can be useful for data transfer, e.g. from one database to another.



To call the **Export Data as INSERT Dialog**, select the table in the **DB Explorer**, right-click and choose item 'Export Data as INSERT' from the 'Data Manipulation' submenu or open the 'Data' ('Results') tab of the **Table Editor (SQL Editor)**, click button 'Export Data as INSERT Statements'  on the toolbar or right-click and choose item 'Export As INSERT'.

First of all you should set the filename for the result script in the 'File Name' edit field (use button  to browse for files). The default file name corresponds to the source table name and has the extension 'sql'.

The field 'Table Name' contains the name of the table to use in the result INSERT statement (e.g. INSERT into 'countries'). This name does not result

the source table, it changes only the result SQL statement.

The 'Add CREATE TABLE statement' option inserts the SQL statement CREATE TABLE <table\_name> to the result script before the INSERT statement. The name of the created name is defined in the 'Table Name' edit field. After checking this option the 'Create Table' tab becomes visible and active, where you can edit the statement.

On the 'Fields' tab the list of fields for export is set. All the table fields are included to the 'Included Fields' list default; if you don't want some fields to be exported, move them back to the 'Available Fields' list. To move the field from one list to another double-click it or select it (use *Ctrl* or *Shift* to select multiple fields) and click button > or <. To move all the fields click button >> or <<.

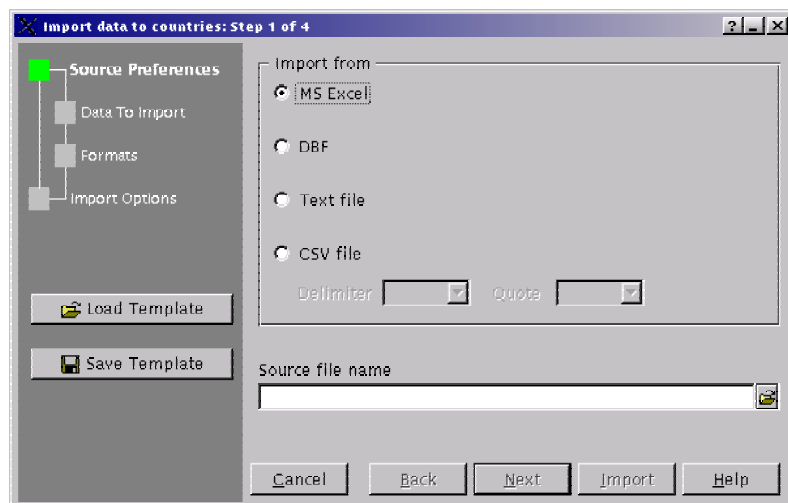
The 'Options' tab allows you to define the following export options:

- ✓ **Replace non-print characters in strings with spaces** - if this option is checked, all the non-print symbols will be replaced with spaces in the created file.
- ✓ **Insert 'COMMIT' after each ... records** - this option allows you to define the number of records, after exporting which the COMMIT statement will be automatically inserted to the created file.
- ✓ **Load script into Script Editor after export** - if this option is checked, the created file will be opened in the **Script Editor** after export.

When you are done, click 'Export' to start export. If 'Load script into Script Editor after export' was checked, the result SQL file will be opened in the **SQL Script Editor**.

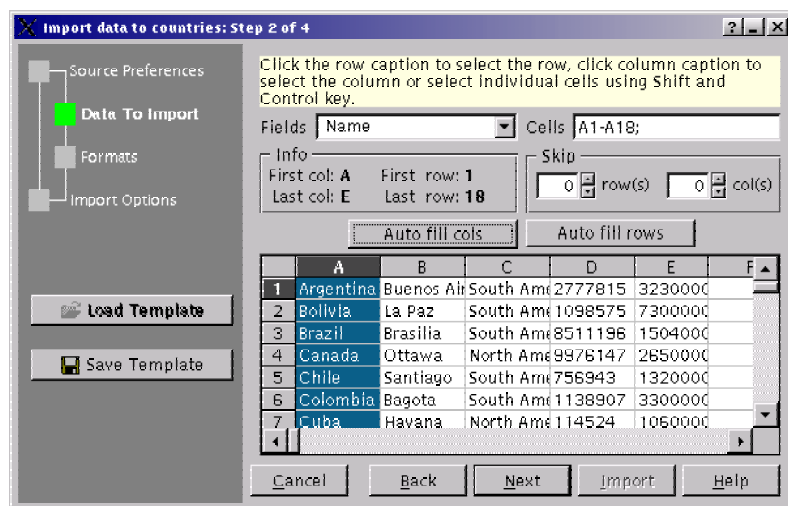
# Import Data Wizard

You can import data to the table from MS Excel, DBF, TXT or CSV file, using the **Import Data Wizard**. This wizard is a very powerful tool, allowing you to import data easily and quickly, and set various import options. It is based on the **EMS QuickImport Component Suite** (check <http://www.ems-hitech.com/quickimport/> for details).




choose 'Import from CSV' then you should also select the character, delimiting columns in the source table. Click 'Next' to proceed to the next step.

Step 2 allows you to set the correspondence between the source table columns and the database table fields. It varies for each import type.



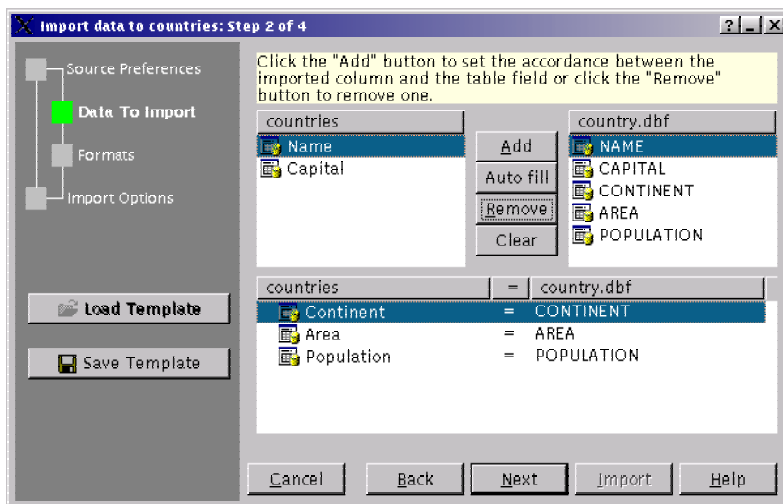
automatically by clicking button 'Auto fill cols' (or 'Auto fill rows'). The first table field will correspond to the first source table column (or row); second field to the second column (row), etc. If the first rows (or columns) of the source table contains data, not intended for import, you can skip them by setting the appropriate value in the 'Skip ... row(s)' (or 'Skip ... col(s)') edit field.

To activate the **Import Data Wizard**, select the table in the **DB Explorer**, right-click and choose item 'Import Data' from the 'Data Manipulation' submenu or open the 'Data' tab of the **Table Editor**, click button **Import Data** on the toolbar or right-click in the grid and choose item 'Import Data' in the popup menu.

On the first step of the wizard you should choose the file type and set the filename of the source file (use button  to browse for files). If you

## Import from Excel

Select the database table field from the 'Fields' drop down-list and select the cells to import to this field in the grid. To select column or row in the grid, just click its caption. You can also set this value manually in the 'Cells' edit field. Then select the next field and set the cells for this field. If the source table columns (or rows) and the database table fields are ordered in the same way, you can set the correspondence

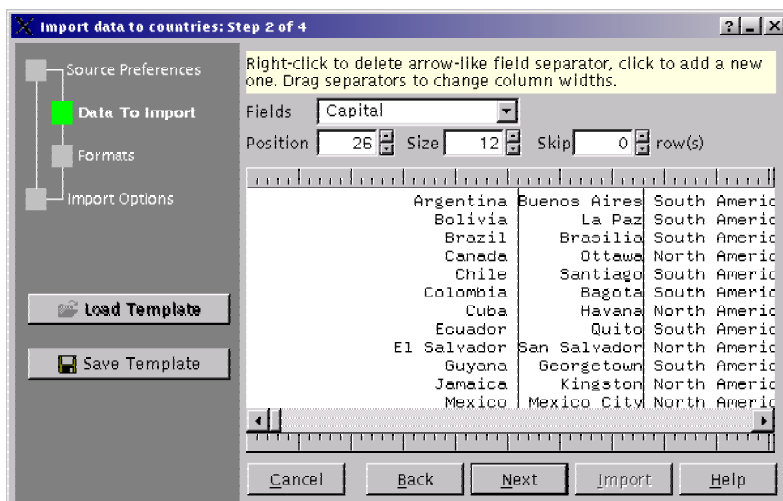


list and click button 'Remove'. If the source table fields and the database table fields are ordered in the same way, you can set the correspondence automatically by clicking button 'Auto fill'. First field of the source table will correspond to the first field of the database table, second field to the second field, etc.

## Import from DBF

First select the database field from the 'Table fields' list. Then select the corresponding field in the '<table\_name>.dbf' list.

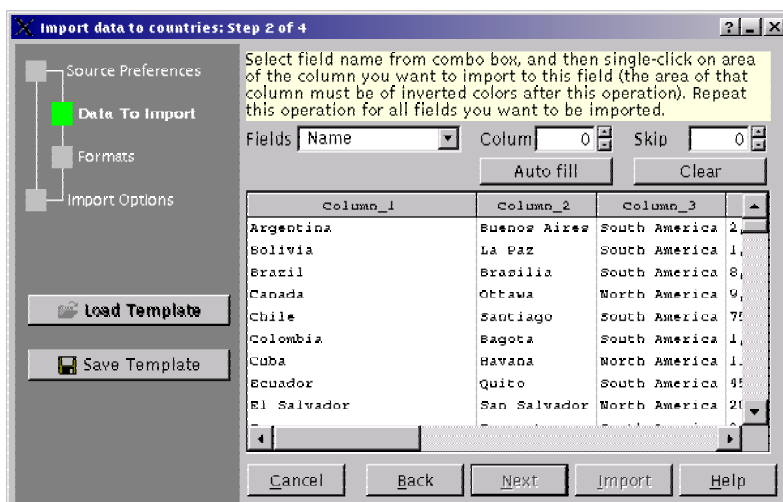
Click button 'Add' to link these fields. These fields will be added to the list at the bottom of the window. Repeat these operations for each database table field. If you want to remove the accordance you set, select the linked fields in the bottom



## Import from TXT

First select the database table field from the 'Fields' drop-down list. Then set two separator lines to delimit the source table column. Click to add a separator, double-click to delete one. Drag separators to change the column width. You can also set the column starting position and the column width manually in the edit fields 'Pos' and 'Size'. When you set the separators correctly, proceed to another field and repeat these operations for each

database table field. If you don't want some first rows of the source table to be imported set the number of such rows in the 'Skip ... first line(s)' edit field.



## Import from CSV

If the delimiter you have defined on the first step was found in the source table, then you will find the table columns already separated and delimited. Select the database table field from the 'Fields' drop-down list. Then click the corresponding source table column or set the 'Col' value manually. Repeat these operations for each database table field. If the source table fields and the database table fields are ordered in the same way, you can set the correspondence



automatically by clicking button 'Auto fill'. First field of the source table will correspond to the first field of the database table, second field to the second field, etc. If you don't want some first rows of the source table to be imported set the number of such rows in the 'Skip ... first line(s)' edit field.

When you are done, click 'Next' to proceed to the next step.

On the step 3 of the wizard you can edit the formats of the imported fields.

On the 'Base Formats' tab the following format options are available:

**Decimal separator** - set a character, which delimits the decimal parts of the imported numbers.

**Thousand separator** - set a character, which separates the digit groups in the imported numbers.

✓ **Short date format, Long date format, Short time format, Long time format** - use these edit fields to set the date and time formats.

✓ **Left quotation** - set a character or a number of characters, which

denote quoting in the imported strings.

- ✓ **Right quotation** - set a character or a number of characters, which denote unquoting in the imported strings.
- ✓ **Quotation action** - you can select 'Add' to add quotation marks to each imported string or 'Remove' to remove all the quotation marks from the imported strings. 'As is' saves the original quotation marks.
- ✓ **Boolean true** - set some variants of TRUE value representation in the imported table, e.g. 'Yes' or '+'. Use new line for each new variant.
- ✓ **Boolean false** - set some variants of FALSE value representation in the imported table, e.g. 'No' or '-'. Use new line for each new variant.

On the 'Data Formats' tab you can customize the format of each imported field in case when additional formatting is required. Select the field in the 'Field Name' list and set its format in the proper edit fields.

### Generator

- ✓ **Value** - use this edit field to set the initial value of the autoincrement field.
- ✓ **Step** - set the step of the autoincrement field. If it is 0 then the value of the generator will be ignored.

### Constant

- ✓ **Value** - use this edit field to set



the constant value of the field.

### Default

- ✓ **Null** - set the value, which will be understood as NULL to set the default value.
- ✓ **Default** - set the default value of the NULL field.

### Quotation

- ✓ **Left quotation** - set a character or a number of characters, which denote quoting in the imported string.
- ✓ **Right quotation** - set a character or a number of characters, which denote unquoting in the imported string.
- ✓ **Quotation action** - you can select 'Add' to add quotation marks to the imported string, 'Remove' to remove all the quotation marks from the imported string or 'As is' to save the original quotation marks.

### String conversion

**Char case** - set the case of the imported string. 'As is' saves the original string case, 'Upper' sets the whole string to upper case, 'Lower' sets the whole string to lower case, 'UpperFirst' sets the first letter of the string to upper case, 'UpperFirstWord' sets the first letter of each word to upper case.

**Char set** - set the char set of the imported string to ANSI or OEM. 'As is' saves the original string char set.

Click 'Next' to proceed to the next step.

On the last step of the wizard the following import options are set:

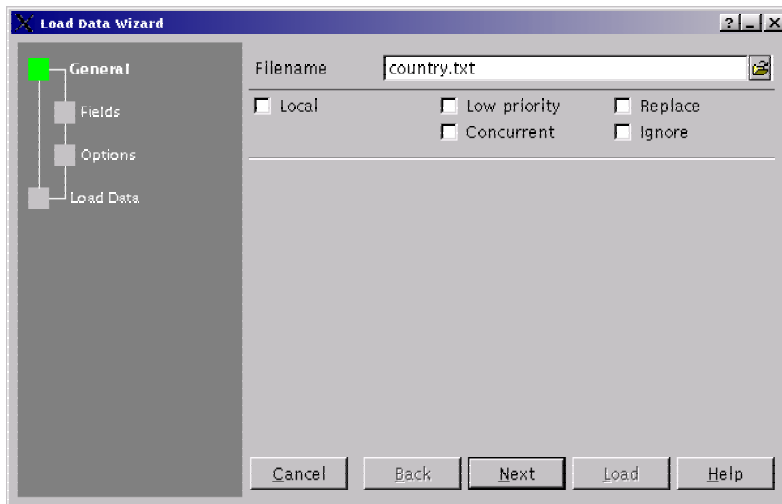
- ✓ **Commit after done** - check this option to commit the transaction after import is finished.
- ✓ **Commit after ... records** - set a number of records, after importing which the transaction shall be committed.
- ✓ **Import all records** - check this option to import all records from the source table.
- ✓ **Import only ... first record(s)** - if you don't want all the records to be imported, set a number of records to import them from the source file. In this case only this number of records (beginning from the first one) will be imported.


Note, that on each step of the wizard you can use buttons 'Load Template' and 'Save Template' on the left panel, which allow you to save/restore all the import settings (file type and name, field correspondence, format options, etc.) to/from the template file. This is very useful, if you often use the same import configuration: you don't have to choose fields or edit field formats on each import session – you can simply load a previously saved template and skip all the unneeded steps.


When you are done, click 'Finish' to start import.

# Load Data Wizard

Load Data is a native MySQL function, which allows you to read rows from a text file to the table at a very high speed. The **Load Data Wizard** guides you through the process of loading data from file.



To call the **Load Data Wizard**, select the table in the **DB Explorer**, right-click and choose item 'Load Data' from the 'Data Manipulation' submenu or open the 'Data' tab of the **Table Editor**, click button 'Load Data'  on the toolbar or right-click and choose item 'Load Data'.

On the first step of the wizard you should set the name of the loaded text file in the 'Filename' edit field (use button  to browse for files).

Set the function attributes by checking the following options:

- ✓ **Local** - if this option is checked, the file is read from the client host. Otherwise, the file must be located on the server.
- ✓ **Low priority** - if this option is checked, loading data is delayed until no other clients are reading from the table.
- ✓ **Concurrent** - if this option is checked, other threads can retrieve data from the table while loading data is executed.
- ✓ **Replace** - if this option is checked, new rows replace existing rows that have the same unique key value.
- ✓ **Ignore** - if this option is checked, input rows that duplicate an existing row on a unique key value are skipped. If you don't specify either option, an error occurs when a duplicate key value is found, and the rest of the text file is ignored.

Step 2 allows you to define fields to load data to by moving them from the 'Available Fields' list to the 'Included Fields'. To move the field from one list to another double-click it or select it (use *Ctrl* or *Shift* to select multiple fields) and click button > or <. To move all the fields click button >> or <<.

On the step 3 you can specify the characters, used in the data file for delimiting fields and lines. Option 'Ignore Lines Count' allows you to specify the number of the first file lines, which will be not loaded into the table.

When you are done, click 'Load' to start loading. The 'Load Data' step is automatically activated, where you can view the operation log of the process.

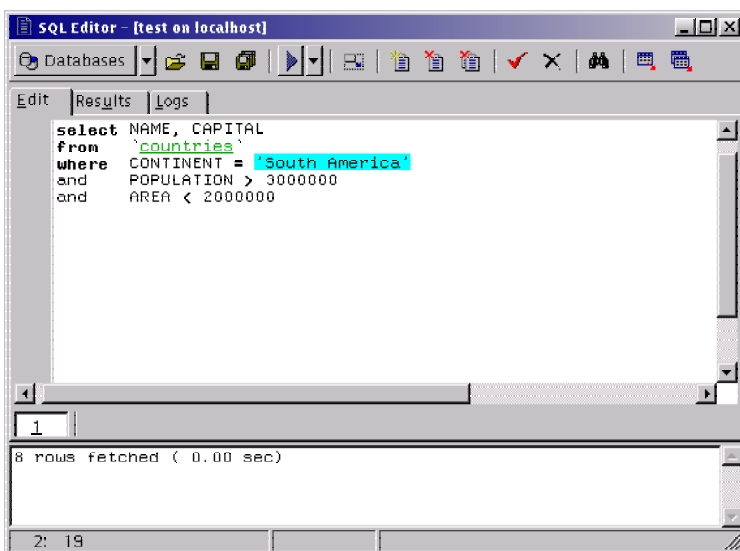
# CHAPTER 5

## DATABASE TOOLS

### SQL Editor

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**SQL Editor** is the basic MySQL Manager tool for creating and executing database queries. It allows you to create and edit SQL text for the query, prepare and execute queries and view the results of execution. **SQL Editor** supports Quick Code and Syntax Highlight systems, which make your work much easier.



The main area of the editor is situated on the 'Edit' tab. This area is provided for working with the text of the query. For your convenience the Quick Code system is enabled, i.e. when you type first word symbols in the SQL text editor you are offered some variants for the word completion in a popup list (analogue of the **Code Insight** in **Delphi IDE**).

You can activate these popup lists yourself by pressing the following key combinations:

Ctrl+Space - All SQL keywords and database objects;

Ctrl+Alt+S - SQL glossary;

Ctrl+Alt+T - Table list;


Ctrl+Alt+U - UDF list;

Ctrl+Alt+F - Field list.

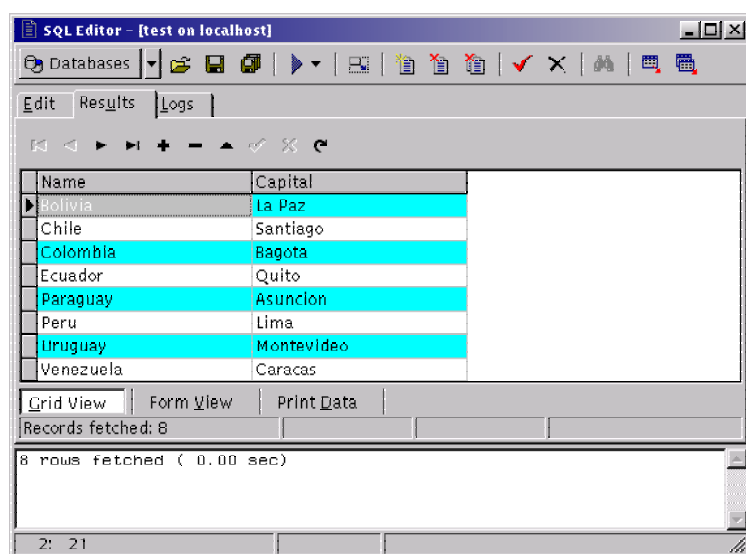
You can change the sorting mode of the Code Completion list items by right-clicking in the popup list and switching to the sorting mode you need: sort alphabetically by item names or sort by the scope categories (SQL keywords, tables, UDFs).

Database objects are highlighted in the text. You can open the proper object editor by clicking the object name in the text, holding button *Ctrl* pressed on the keyboard.

The popup menu of the edit area contains standard functions for working with text (Cut, Copy, Paste, Find, Replace, Toggle Bookmarks, etc) and also functions for processing the whole query, which allow you to execute/prepare query, save/load query to/from file, and preview/print query.



When the query text is ready, click button **Execute**  on the toolbar or press F9 to check the query text for errors. If there are any errors in the query text, these errors will be displayed in the bottom area of the editor window, and the text line, containing the first error, will be indicated with a purple line.

If the text is correct the query is executed and the 'Results' area becomes active.




This area displays the result data returned by the query. They can be viewed in three modes (chosen by clicking the according button at the bottom of the window):




- ✓ **Grid View** - view data as a grid;
- ✓ **Form View** - view data as a form: there is only one record displayed at the time, to view another record use the navigation buttons.
- ✓ **Print Data** - view data in WYSIWYG mode, ready for printing. The acquired query can be saved to file and/or printed.


These data can't be edited, but can be exported ('Export Data' item in the popup menu or button  on the toolbar) or exported as INSERT statement to the SQL Script ('Export as Insert' item in the popup menu or button  on the toolbar).

The status bar displays the number of records, acquired while executing the query. The comment bar also displays time of execution.



On the 'Logs' page information of all the executed statements, including queries and carried out transactions, is displayed.

To select the database for the query, click button **Databases**  on the toolbar and select the required database from the drop-down list of the available databases. The alias of the selected database will be displayed in the window caption.

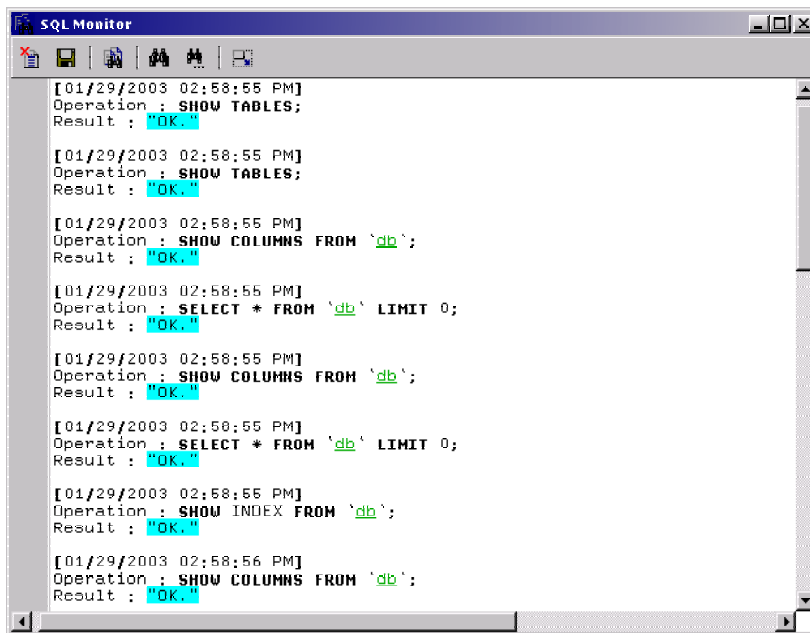
You can load a query from file by clicking button **Load**  on the toolbar. To save the query to file, click button **Save** ; to save all the opened queries to one file, click **Save All Queries To File** .

To create new query, click button **New Query**  on the toolbar. The clear query will be available on the 'Edit' page (note, that the old query will not be deleted; you can activate it using button with the query number at the bottom of the edit area).

To delete the current query, click button **Delete Current Query**  on the toolbar; to delete all the queries, click button **Clear All History** .


To commit or rollback the current transaction, click button **Commit Transaction**  or **Rollback Transaction**  in accordance.


## SQL Monitor



**SQL Monitor** allows you to view the SQL code of all the operations executed over databases and database objects in MySQL Manager.

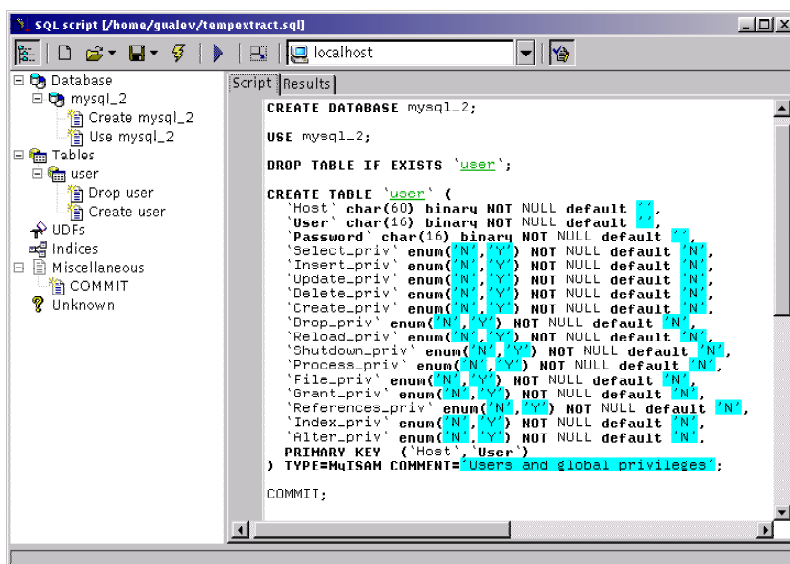
The content of the window can't be edited, but can be copied to the clipboard, saved to the text file or printed.

To save the content, click button **Save**  on the toolbar.

To clear the content, click button **Clear Content**  on the toolbar.

The popup menu of **SQL Monitor** provides standard functions for searching text in the window, copying it to the clipboard and printing the content of the window.

## SQL Script Editor



Using this editor, you can view, edit and execute SQL scripts.




In the **Script** area you can view and edit the SQL script text. You can use quick code to fasten this process: when you type the first word symbols in the edit area, you are offered some variants for the word completion in a popup list (analogue of the **Code Insight** in Delphi IDE).




The popup menu of the edit area contains standard functions for

working with text (Cut, Copy, Paste, Find, Replace, Toggle Bookmarks, etc) and also functions for processing the script, which allow you to save/load script to/from file, and preview/print script.

The **Object Explorer** at the left of the window displays the tree of objects, used in the current script and allows you to get to the needed script fragment quickly by clicking the object in the tree.

To change the database for the script, use the drop-down menu on the toolbar.

To load the script from the \*.sql file, click button **Open Script File**  on the toolbar; to save script, click **Save Script** . To create the new script, click button  on the toolbar.

To execute the script, click button **Execute** . You can also execute script right from the file without opening it by clicking button **Execute Script from File** . To stop executing script, click button **Stop Script** .

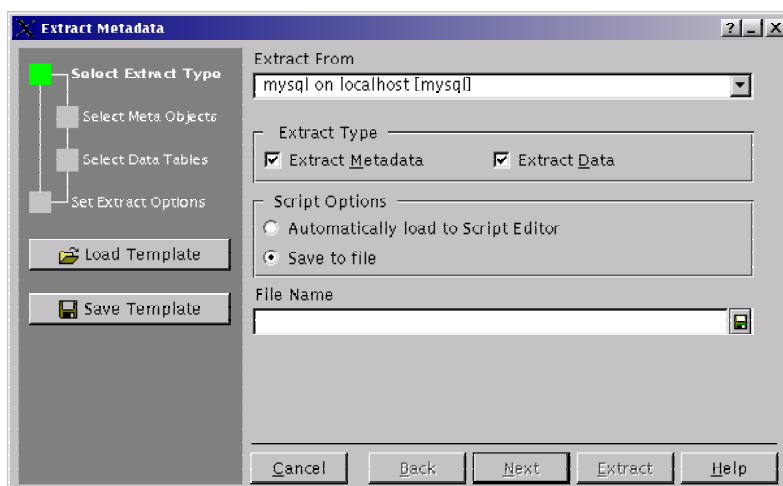
The results of executing the script are displayed on the **Results** page. This text can't be edited, but can be copied to the clipboard.

The errors in executing the script are displayed in the bottom area of the window. The popup menu of this area allows you to copy the selected error message or to copy all the error messages.

If you want the script to be aborted on errors, check option 'Abort Script on Error' in the **Environment Options** window on **Tools: SQL Script** page. In the case of successful executing the script you will receive message, informing you about the execution time.

## Extract Metadata Expert

Using the **Extract Metadata Expert** you can extract the database metadata and table data to SQL script.



**Select Extract Type.** On this step you choose the database, from which data will be extracted, and the extracted data type (metadata or table data). Also you have to choose, if the extract results should be loaded into the **Script Editor** automatically or they should be saved into the file (in this case you should set the file name).



**Select Meta Objects.** This page will be available only if you choose **Extract Metadata**. Here you should

choose metadata to be extracted. To choose the objects you need select the database object type from the drop-down list and move objects from one list to another, using buttons, by double-clicking or dragging them. The **Extract All** option allows you to extract all the metadata from the database.

**Select Data Objects.** This page will be available only if you choose **Extract Data**. Here you should choose the tables, which data should be extracted. To choose a table move it from one list to another, using buttons, by double-clicking or dragging it.

**Set Extract Options.** On this step you can set the following extract options:

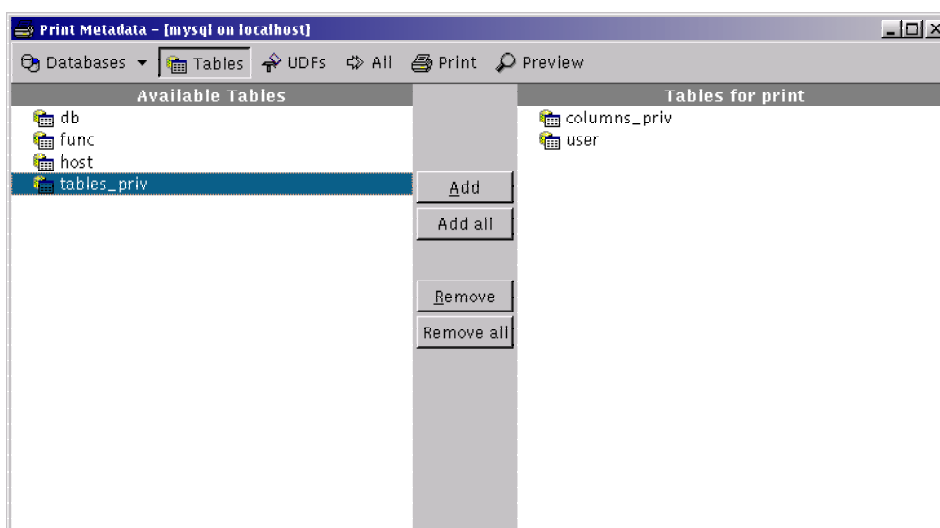
- ✓ **Generate 'create database' statement** - if this option is checked, the statement 'create database' will be added to the generated SQL script.
- ✓ **Generate Drop statements** - if this option is checked, the 'Drop' statements will be added to the generated SQL script.
- ✓ **Data Options** – use option 'Commit after each block' and counter 'Records in a block' to define number of records, after extracting which the COMMIT statement should be inserted in the result script.
- ✓ **Load script into Script Editor** - if this option is checked, the created SQL script will be opened in the **Script Editor** after extract.


You can save the extract configuration (extract type, meta and data objects, extract options) for future use as a template. Just click button **Save Template**  on the left panel and set the template name. Next time you will be able to configure your extract quickly by clicking the button **Load Template**  and choosing the appropriate previously saved template.

When you are done, click 'Extract'.

## Print Metadata

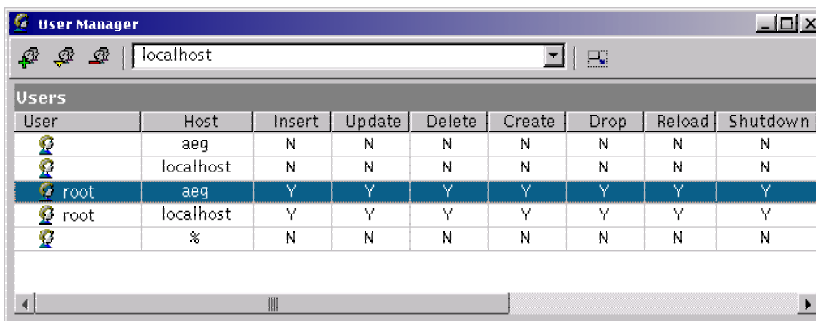
The powerful module **Print Metadata** allows you to print all the database metadata: table fields, indices, description and various UDF properties. The created report can be previewed before printing and saved to file.



Select tables or UDFs for printing, using buttons on the toolbar. Move the objects from the list **Available...** to the list **...for Print**, using buttons 'Add', 'Add all', 'Remove' and 'Remove all', by double-clicking or dragging them (multiple objects can be selected using buttons *Ctrl* and *Shift*). Button **Print**  on the control panel prints the

selected metadata; button **Preview**  enables the metadata preview mode.

## User Manager

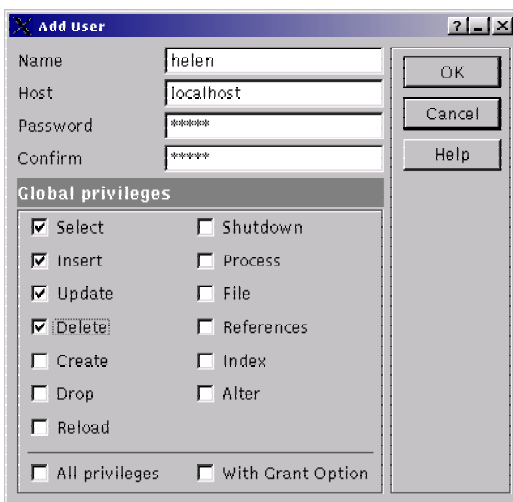


**User Manager** is provided for administering users and their global privileges.


To open the **User Manager** select the **Tools | User Manager** menu item.


Selects the server for administering users on in **Servers**


list.



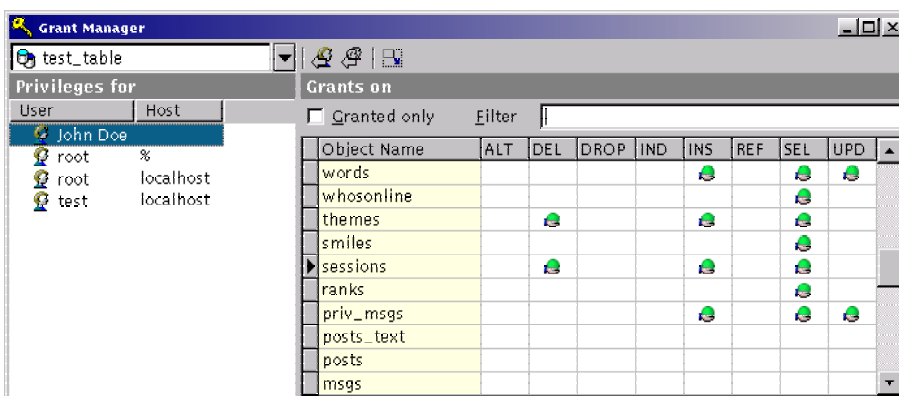
**Users** list box displays all the users on server with their privileges. Right-click on the list allows you to add a new user, edit the selected user's privileges in the **User Editor**, delete the selected user and show/hide the list box columns.

To add new user, click **Add**  button. Set user privileges in **User Editor** window and click 'Ok'.

To edit an existing user in **User Editor**, click **Edit**  button.

To delete an existing user, click **Delete**  button.

## Grant Manager



The **Grant Manager** allows you to set the access grants for users, roles and database objects.

Select a database from the drop-down list at the top of the window to set the access grants on its objects.

To modify the user's access

grants select the user from the list **Privileges for** and select the object type to set grants on (tables or columns) from the drop-down list **Grants on**.

If option 'Granted only' is checked, only granted objects are displayed in the grid.



You can also use **Filter** in the upper right corner of the window to display only the objects you need. E.g. to display objects, which names begin from 'c' letter type 'c' in the filter edit field.

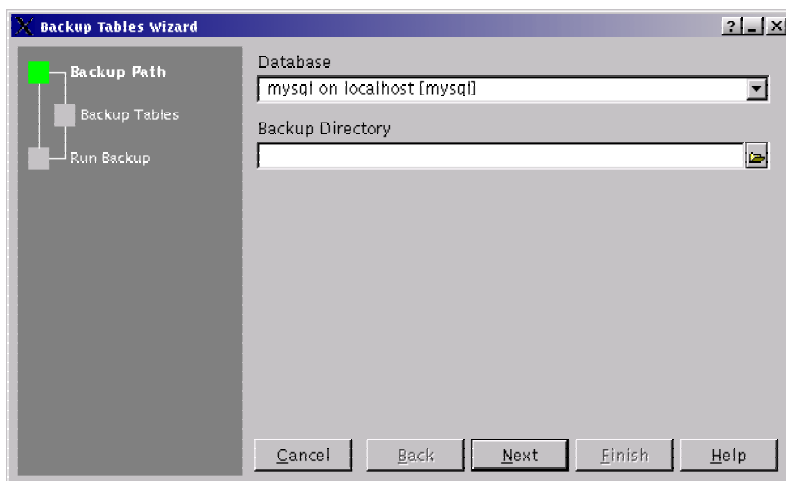
After you choose the user and the required objects, right-click in grid to change the access grants for statements Alter, Delete, Drop, Index, Insert, Reference, Select and Update.

# CHAPTER 6

## DATABASE SERVICES

### Backup Tables

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The **Backup Tables Wizard** allows you to make a copy of all the table files to the backup directory. Currently MySQL supports backup only for MyISAM tables and transaction-safe type tables. **Backup Tables** copies .frm (definition) and .MYD (data) files. The index file can be rebuilt from those two.

Note, that you can't backup tables on remote server; backup only works on local host. To backup tables from the remote server, use

**Extract Metadata**, and then restore them using **Script Editor**.

To activate the **Backup Tables Wizard** use the menu item **Services | Backup Tables**.

#### Step 1 - Backup Path

**Database** - select the database from the drop-down list to backup its tables.

**Backup Directory** - set a path to the directory, where the database tables should be saved.

#### Step 2 - Backup Tables

**Available Tables** - a list of tables, available for backup. It is the list of all the tables, included into the database you set on the 'Backup Path' step.

**Selected Tables** - a list of tables to backup.

To move the table from one list to another, double-click it or select it (use *Ctrl* or *Shift* to select multiple tables) and click button > or <. To move all the tables click button >> or <<.

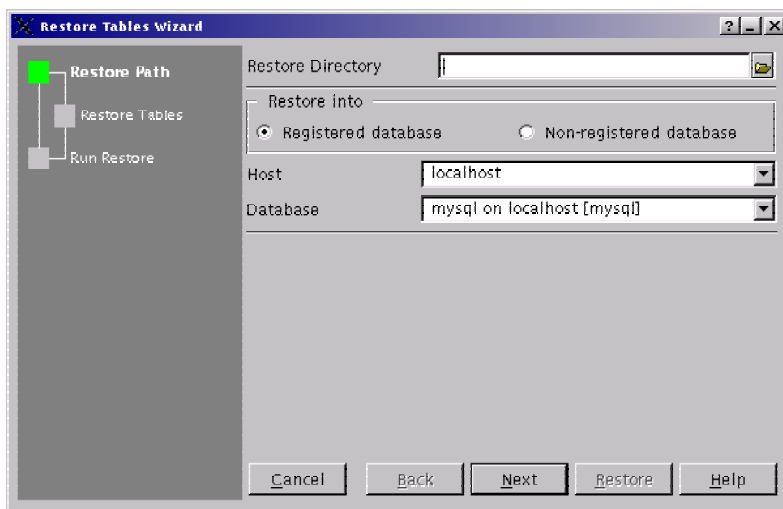
### Step 3 - Run Backup

This page is activated automatically on clicking button 'Backup'. It displays the backup process (**Operation log**) and its results (**Results**).

## Restore Tables

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The **Restore Tables Wizard** allows you to restore database tables, saved in advance with **Backup Tables**.



To activate the **Restore Tables Wizard** use the menu item **Services | Restore Tables**.

### Step 1 - Restore Path

**Restore Directory** - type the directory name, where the database tables are stored, or select it from the drop-down list.

**Registered database** – check this option to restore the tables into the database, registered in MySQL Manager. Select the host and the

database name from the proper drop-down lists.

**Unregistered database** – check this option to restore the tables into the database, not registered in MySQL Manager. Type the host and the database name or select them from the drop-down lists. Set the Port (default 3306), login and password.

### Step 2 - Restore Tables

**Available Tables** - a list of tables, available for restoring. It is the list of all the tables, stored in the directory you set on the 'Restore Path' step.

**Selected Tables** - a list of tables to restore.

To move the table from one list to another, double-click it or select it (use *Ctrl* or *Shift* to select multiple tables) and click button > or <. To move all the tables click button >> or <<.

### Step 3 - Run Restore

This page is activated automatically on clicking button 'Restore'. It displays the restoration process (**Operation log**) and its results (**Results**).

## Flush

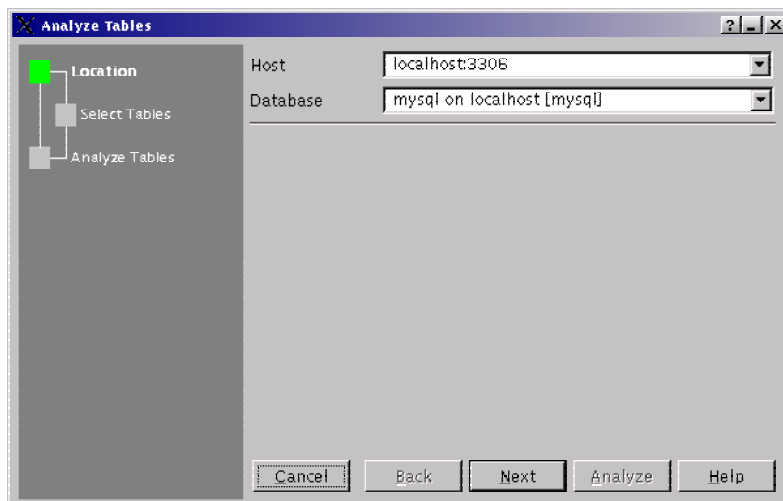
Use the **Services | Flush** menu if you want to clear some of the internal caches MySQL uses. To execute FLUSH, you must have the RELOAD privilege.

The following table illustrates the use of FLUSH:

HOSTS	Empties the host cache tables. You should flush the host tables if some of your hosts change IP number or if you get the error message Host ... is blocked. When more than max_connect_errors errors occur in a row for a given host while connection to the MySQL server, MySQL assumes something is wrong and blocks the host from further connection requests. Flushing the host tables allows the host to attempt to connect again.
LOGS	Closes and reopens all log files. If you have specified the update log file or a binary log file without an extension, the extension number of the log file will be incremented by one relative to the previous file. If you have used an extension in the file name, MySQL will close and reopen the update log file.
PRIVILEGES	Reloads the privileges from the grant tables in the MySQL database.
TABLES	Closes all open tables and force all tables in use to be closed.
TABLES WITH READ LOCK	Closes all open tables and locks all tables for all databases with a read until one executes UNLOCK TABLES. This is very convenient way to get backups if you have a file system, like Veritas, that can take snapshots in time.
STATUS	Resets most status variables to zero. This is something one should only use when debugging a query.

## Analyze Tables

The **Analyze Tables Wizard** allows you to analyze and store the key distribution for the table. During the analysis the table is locked with a read lock. Currently MySQL supports analyzing only for MyISAM tables and transaction-safe type tables. MySQL uses the stored key distribution to decide in which order tables should be joined when one does a join on something else than a constant.



To activate the **Analyze Tables Wizard** use the menu item **Services | Analyze Tables**.

### Step 1 - Location

**Host** - select the host, where the database to analyze its tables is situated, from the drop-down list.

**Database** - select the database from the drop-down list to analyze its tables.

## Step 2 - Select Tables

**Available Tables** - a list of tables, available for analysis. It is the list of all the tables, included into the database you set on the 'Location' step.

**Selected Tables** - a list of tables to analyze.

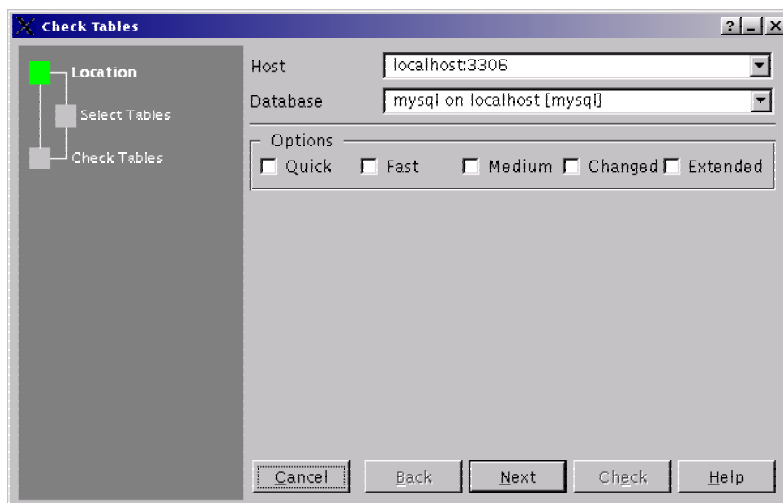
To move the table from one list to another, double-click it or select it (use *Ctrl* or *Shift* to select multiple tables) and click button > or <. To move all the tables click button >> or <<.

## Step 3 - Analyze Tables

This page is activated automatically on clicking button 'Analyze'. It displays the analysis process (**Operation log**) and its results (**Results**).

# Check Tables

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The **Check Tables Wizard** allows you to check the database tables on errors. Currently works only for MyISAM and transaction-safe type tables.

To activate the **Check Tables Wizard** use the menu item **Services | Check Tables**.

## Step 1 - Location

**Host** - select the host, where the database to check its tables is situated, from the drop-down list.

**Database** - select the database from the drop-down list to check its tables.

### Check Options

- ✓ **Quick** - don't scan the rows to check for wrong links.
- ✓ **Fast** - only check tables which haven't been closed properly.
- ✓ **Changed** - only check tables which have been changed since last check or haven't been closed properly.
- ✓ **Medium** - scan rows to verify that deleted links are ok. This also calculates a key checksum for the rows and verifies this with a calculated checksum for the keys.
- ✓ **Extended** - do a full key lookup for all keys for each row. This ensures that the table is 100 % consistent, but will take a long time!

## Step 2 - Select Tables

**Available Tables** - a list of tables, available for checking. It is the list of all the tables, included into the database you set on the 'Location' step.

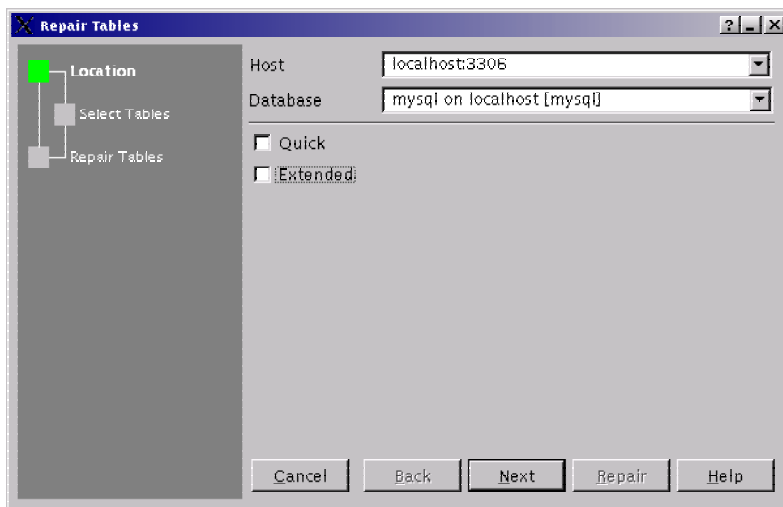
**Selected Tables** - a list of tables to check.

To move the table from one list to another, double-click it or select it (use *Ctrl* or *Shift* to select multiple tables) and click button > or <. To move all the tables click button >> or <<.

### Step 3 - Check Tables

This page is activated automatically on clicking button 'Check'. It displays the checking process (**Operation log**) and its results (**Results**).

## Repair Tables



The **Repair Tables Wizard** allows you to repair the database tables that may be corrupted. Currently works only for MyISAM and transaction-safe type tables.

To activate the **Repair Tables Wizard** use the menu item **Services | Repair Tables**.

### Step 1 - Location

**Host** - select the host, where the database to repair its tables is

situated, from the drop-down list.

**Database** - select the database from the drop-down list to repair its tables.

### Repair Options

- ✓ **Quick** - do a repair of only the index tree.
- ✓ **Extended** - create the index row by row instead of creating one index at a time with sorting. This may be better than sorting on fixed-length keys if you have long char() keys that compress very good.

### Step 2 - Select Tables

**Available Tables** - a list of tables, available for repair. It is the list of all the tables, included into the database you set on the 'Location' step.

**Selected Tables** - a list of tables to repair.

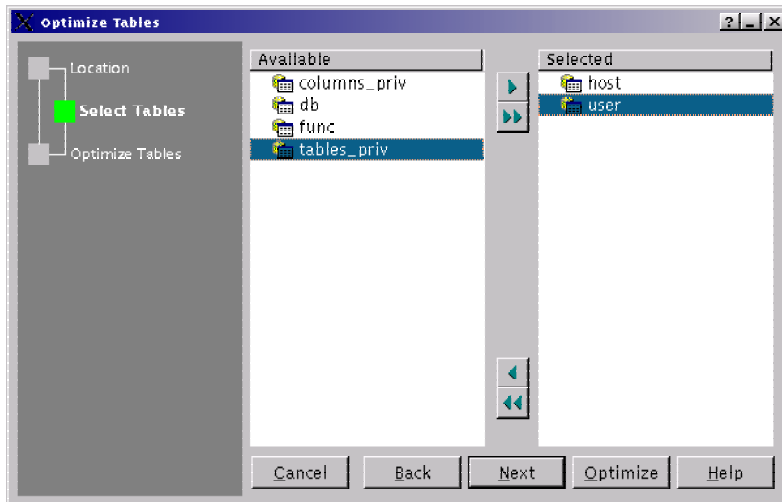
To move the table from one list to another, double-click it or select it (use *Ctrl* or *Shift* to select multiple tables) and click button > or <. To move all the tables click button >> or <<.

### Step 3 - Repair Tables

This page is activated automatically on clicking button 'Repair'. It displays the repair process (**Operation log**) and its results (**Results**).

# Optimize Tables

The **Optimize Table Wizard** should be used if you have deleted a large part of a table or if you have made many changes to a table with variable-length rows (tables that have VARCHAR, BLOB, or TEXT columns). Deleted records are maintained in a linked list and subsequent INSERT operations reuse old record positions. You can use optimization to reclaim the unused space and to defragment the data file.



OPTIMIZE TABLE works the following way:

- ✓ if the table has deleted or split rows, repair the table;
- ✓ if the index pages are not sorted, sort them;
- ✓ if the statistics are not up to date (and the repair couldn't be done by sorting the index), update them.

Currently MySQL Server supports optimizing only for MyISAM tables and transaction-safe type tables.

To activate the **Optimize Tables Wizard** use the menu item **Services | Optimize Tables**.

## Step 1 - Location

**Host** - select the host, where the database to optimize its tables is situated, from the drop-down list.

**Database** - select the database from the drop-down list to optimize its tables.

## Step 2 - Select Tables

**Available Tables** - a list of tables, available for optimization. It is the list of all the tables, included into the database you set on the 'Location' step.

**Selected Tables** - a list of tables to optimize.

To move the table from one list to another double-click it or select it (use *Ctrl* or *Shift* to select multiple tables) and click button > or <. To move all the tables click button >> or <<.

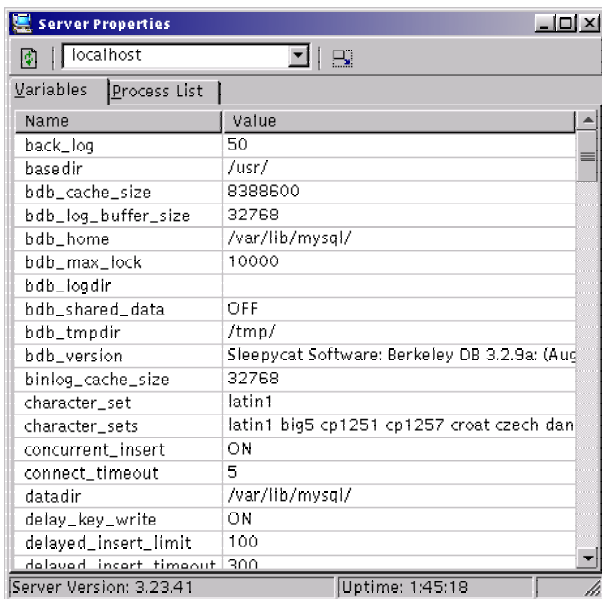
## Step 3 - Optimize Tables

This page is activated automatically on clicking button 'Optimize'. It displays the optimization process (**Operation log**) and its results (**Results**).



## Server Properties


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Use **Server Properties** to view the properties of the selected server. This window is activated via **Services | Server Properties** menu item.

Use drop-down list on the toolbar to select the server.

On the 'Variables' tab you can view a list of all server variables and their values. These values can't be edited. The 'Process List' tab displays a list of all the processes, executed on the server, and additional process information: ID, User, Host, etc.

Button **Refresh**  on the toolbar or in the popup menu refreshes these lists. In the 'Process List' area item 'Kill process' is also available in the popup menu.

## Ping Server / Shutdown Server

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Use the menu item **Services | Ping Server** to check the connection with the server. If the connection is correct, a message 'Success! Connection is alive' will appear, otherwise - an error message.

Use **Services | Shutdown Server** to shutdown the MySQL server. You must have the proper rights to execute this operation.

# CHAPTER 7

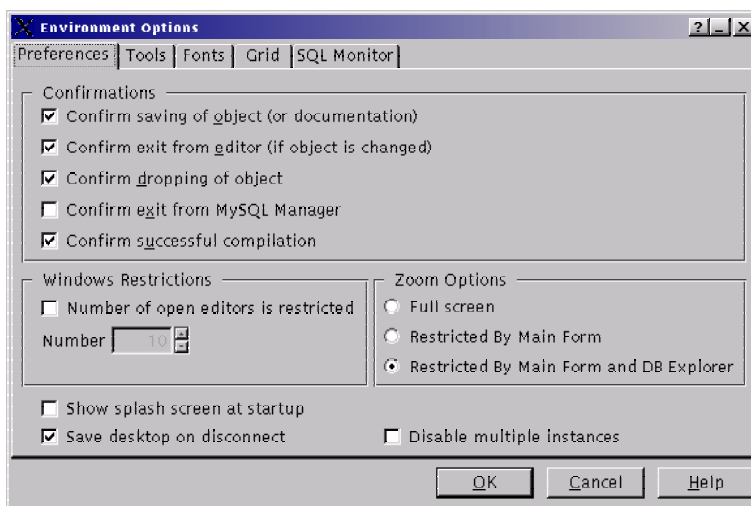
## MYSQL MANAGER

### OPTIONS

## Environment Options

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The **Environment Options** window allows you to set the general MySQL Manager options.



### Preferences

- ✓ **Show splash screen on startup** – if this option is checked, the splash screen is shown on each MySQL Manager startup.
- ✓ **Save desktop on disconnect** – if this option is checked, all object editors, active on disconnecting from the database, will be opened on next connection.
- ✓ **Disable multiple instances** – this option prohibits running multiple instances of MySQL Manager.
- ✓ **Confirm saving of object** - if this option is checked, the program requires confirmation each time you want to save changes in database object.
- ✓ **Confirm exit from editor** - if this option is checked, the program asks you to confirm exit from the editor, if you have made any changes.
- ✓ **Confirm dropping object** - if this option is checked, the program requires confirmation for dropping database object.
- ✓ **Confirm exit from MySQL Manager** - if this option is checked, the program requires confirmation when you want to exit MySQL Manager.
- ✓ **Confirm successful compilation** - if this option is checked, the program requires confirmation of the successful compilation.

- ✓ **Windows Restrictions** - this option allows you to set the number of table and UDF editors that can be opened at a time.
- ✓ **Zoom options** - this option allows you to set the window maximization size: full screen, restricted by main form, restricted by main form and **DB Explorer**.

## Tools

- ✓ **Control Toolbar Buttons Action** - this option allows you to choose the reaction on clicking buttons on the control panel. If you choose 'Create New Object', then the new database objects will be created on clicking these buttons, if you choose 'Show Last Object', then the last viewed database objects will be opened for editing.
- ✓ **Disable Transaction Confirmation** - if this option is checked, no transaction confirmation will be required on closing **SQL Editor**. Specify the default action ('Commit' or 'Rollback') and this action will be performed automatically each time when you exit **SQL Editor**.
- ✓ **Show hosts in Database Explorer** – if this option is checked, database hosts are visible in the **DB Explorer** database tree.
- ✓ **Show table subobjects** – if this option is checked, table subobjects (fields and indices) are visible in the **DB Explorer** database tree.
- ✓ **Recent Object Count** – this option defines number of database objects on the 'Recent' tab of the **DB Explorer**.
- ✓ **Tables' Details in SQL Assistant** – this panel allows you to switch the **SQL Assistant** mode for displaying table fields, indices or table status (table properties set on creating).
- ✓ **Fetch All** - if this option is checked, all the records according to the query will be extracted from the table, if unchecked - only those displayed on **Results** tab in the **SQL Editor** window.
- ✓ **Explain Query** - if this option is checked, query plan is displayed at the bottom of the **SQL-Editor** window.
- ✓ **Show result for each query** – if this option is checked, the 'Results' tab is activated after executing each query.
- ✓ **Abort Script on Error** - if this option is checked, script execution aborts when an error occurs.
- ✓ **Rollback on Abort** - this option is available only if **Abort Script on Error** is checked. This option evokes automatic rollback on script execution abort.

## SQL Monitor

- ✓ **Operations** - Select the operations displayed in the **SQL Monitor** window.
- ✓ **SQL Log** - You can enable logging all the SQL Monitor events to a log file. Check option **Log SQL Monitor events to file** and set the name of the log file. To clear the log file after it reaches some definite size check option **Clear log file when it is greater than** and set the maximum file size in kilobytes.
- ✓ **Show time of operation** – this option enables showing operation time in **SQL Monitor**.

## Fonts

On this tab you can set the font parameters, used by MySQL Manager.

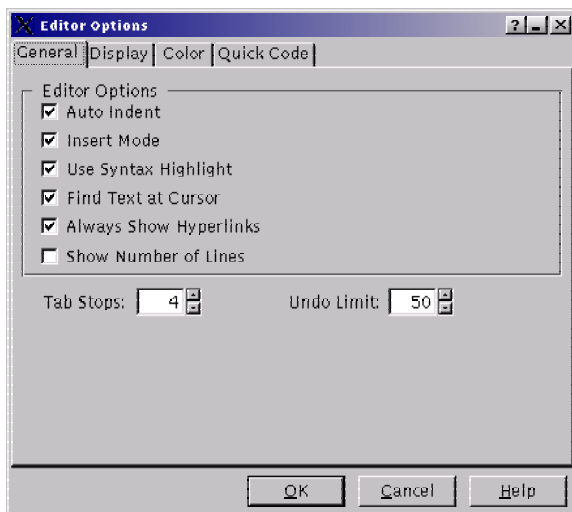
## Grid

Here you can set the table data display properties: cell colors, data display format, string length, Null value representation, font color and others.

## Editor Options

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This window allows you to set the parameters of database object editors.



### General

- ✓ **Auto Indent** - if this option is checked, each new indentation will be the same as previous when editing SQL text.
- ✓ **Insert Mode** - if this option is checked, insert symbols mode is default on.
- ✓ **Use Syntax Highlight** - this option enables syntax highlight in the object editor window.
- ✓ **Find Text at Cursor** - if this option is checked, **Text to Find** field in the **Find Text Dialog** window is automatically filled with the text, cursor set on.
- ✓ **Always Show Hyperlinks** - if this option is checked, hyperlinks are displayed in the editor

window. To open link click with button Ctrl pressed.

- ✓ **Show number of lines** – check this option to enable displaying number of lines in editor window
  - ✓ **Tab Stops** - this option allows you to define the tab length, used when editing text.
- Undo Limit** - this option defines maximum number of changes, you will be able to undo.

### Display

- ✓ **Visible Right Margin** - this option makes the right text margin visible.
- ✓ **Visible Gutter** - this option makes the gutter visible in the editor window.
- ✓ **Right Margin** - this option defines the position of the right text margin in the editor window.
- ✓ **Gutter Width** - this option defines the gutter width in the editor window.

### Color

On this tab you can set font and background colors and attributes of the text, editor uses to mark out different text fragments: default, comments, strings, SQL keywords, numbers, links, wrong symbols, identifiers, symbols, and selected text.

### Quick Code

- ✓ **Code Completion** - if this option is checked, then when you type first word symbols in the SQL text editor you are offered some variants for the word completion in a popup list (analogue of the **Code Insight** in **Delphi IDE**). The popup list will appear at a time, defined by the 'Delay' option. You can activate popup lists yourself by pressing the following key combinations:

- Ctrl+Space - all SQL keywords and database objects;
  - Ctrl+Alt+S - SQL glossary;
  - Ctrl+Alt+T - table list;
  - Ctrl+Alt+U - UDF list;
  - Ctrl+Alt+F - field list;
  - Ctrl+Enter - open link.
- ✓ **Code Parameters** - if this option is checked, MySQL Manager automatically offers you procedure parameter list after the procedure name and left bracket.
  - ✓ **Delay** - using this option you can change the time, at which the popup list will appear.
  - ✓ **Code Case** - this option allows you to change the case of the automatically inserted words.
  - ✓ **Use Keyboard Templates** - this option allows you to use keyboard templates for faster typing regularly met expressions.
  - ✓ **Emulate Typewriting** - this option defines the delay of the symbols displaying.
  - ✓ **Color Scope Categories** - if this option is checked, the scope categories (SQL keywords, tables, functions) are colored in the Code Completion list.
  - ✓ **Sort By Scope / Sort By Name** - this switch allows you to change the sorting mode of the Code Completion list items: alphabetically by name, or by the scope categories.