

EMS®Software Development



SQL Manager for MySQL User's Manual

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SQL Manager for MySQL User's Manual

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1 Welcome to SQL Manager for MySQL!

EMS SQL Manager for MySQL is a powerful tool for MySQL® database server administration and development. **SQL Manager for MySQL** works with any MySQL versions from 4.1 to 9 and supports all of the latest MySQL features including views, stored procedures and functions, InnoDB foreign keys, events and so on. It offers plenty of powerful tools for experienced users to satisfy all their needs. **SQL Manager** has a new state-of-the-art graphical user interface with well-described wizard system, so clear in use that even a newbie will not be confused with it.

Visit our web-site for details: <u>https://www.sqlmanager.net/</u>

Key features

- Support of MySQL up to 9, MariaDB from 5.1 and higher
- Full support of Unicode
- Rapid database management and navigation
- Easy management of all MySQL objects
- Advanced data manipulation tools
- Effective security management
- Excellent visual and text tools for query building
- Impressive data export and import capabilities
- Visual Database Designer to handle database structure in a few clicks
- Easy-to-use wizards performing MySQL services
- Powerful tools to make your work with MySQL as easy as it can be
- Report designer with clear in use report construction wizard
- User friendly graphical interface

Product information

Homepagehttps://www.sqlmanager.net/products/mysql/managerSupport Ticket Systemhttps://www.sqlmanager.net/supportRegister onlinehttps://www.sqlmanager.net/products/mysql/manager/buy

1.1 What's new

Version

SQL Manager for MySQL 5.9.3

Release date

March 26, 2025

What's new in SQL Manager for MySQL?

- The 64-bit version of the app released.
- Support for Windows 11 ARM added.
- Scaling for autocompletion list fixed.
- Improved processing of autocompletion list for functions on debugging.
- The size of the Autocompletion code popup window is saved now.
- The error occurred on debugging functions with variables and synonyms with the same name. Fixed now.
- Fixes for Foreign keys in table reports.
- Improvements for work with MySQL 9.
- Other fixes and improvements.

1.2 System requirements

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System requirements for SQL Manager for MySQL

- Microsoft Windows XP, Microsoft Windows Server 2003, Microsoft Windows Server 2008, Microsoft Windows Server 2008 R2, Microsoft Windows Server 2012, Microsoft Windows Server 2012 R2, Microsoft Windows Server 2016, Microsoft Windows Vista, Microsoft Windows 7, Microsoft Windows 8/8.1, Microsoft Windows 10, Microsoft Windows 11, Windows 11 ARM
- 512 MB RAM or more; 1024 MB or more recommended
- 200 MB of available HD space for program installation
- Possibility to connect to any local or remote MySQL server
- Supported MySQL server versions: from 4.1 up to 9, MariaDB from 5.1 and higher
- <u>Microsoft Visual C++ Redistributable 2015-2022</u>

1.3 Feature matrix

The **FREE** Lite version of **SQL Manager for MySQL** does not include all features of the *Full version* and has some limitations concerning the number of the databases that can be registered and the set of data manipulation and server maintenance tools. The detailed feature matrix is given below.

Note that when using the **FREE** *Lite version* of **SQL Manager for MySQL** you can <u>activate</u> a 30-day period of fully-functional usage. After the period expires, you will be able to continue using the **Lite** version.

For more information on activating the **Full** version features see <u>Full Mode activation</u>.

1.4 Installation

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If you are installing SQL Manager for MySQL for the first time on your PC

- download the SQL Manager for MySQL distribution package from the <u>download page</u> available at our site;
- unzip the downloaded file to any local directory, e.g. *C:\unzipped;*
- run *MyManagerFullSetup.exe* (**Full** version) or *MyManagerLiteSetup.exe* (**Lite** version) from the local directory and follow the instructions of the installation wizard;
- after the installation process is complete, find the **SQL Manager** shortcut in the corresponding group of Windows Start menu.

If you want to upgrade an installed copy of SQL Manager for MySQL to the latest version

- download the SQL Manager for MySQL distribution package from the <u>download page</u> available at our site;
- unzip the downloaded file to any local directory, e.g. C:\unzipped;
- close SQL Manager application if it is running;
- run *MyManagerFullSetup.exe* (**Full** version) or *MyManagerLiteSetup.exe* (**Lite** version) from the local directory and follow the instructions of the installation wizard.

See also:

SQL Manager FAQ

1.5 Registration

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All purchases are provided by **PayPro Global** registration service. The **PayPro Global** order process is protected via a secure connection and makes on-line ordering by credit/ debit card quick and safe.

PayPro Global is a global e-commerce provider for software and shareware sales via the Internet. It accepts payments in US Dollars, Euros, Pounds Sterling, Japanese Yen, Australian Dollars, Canadian Dollars or Swiss Franks by Credit Card (Visa, MasterCard/EuroCard, American Express, Diners Club), Bank/Wire Transfer.

If you want to review your order information, or you have questions about ordering or payments please visit our <u>PayPro Global Shopper Support</u>, provided by **PayPro Global**.

Please note that all of our products are delivered via ESD (Electronic Software Delivery) only. After purchase you will be able to immediately download the registration keys. Also you will receive a copy of registration keys by email. Please make sure to enter a valid email address in your order. If you have not received the keys within 2 hours, please, contact us at sales@sqlmanager.net.

Product distribution	PayPro Global
EMS SQL Manager for MySQL (Business license) + 1-Year Maintenance*	
EMS SQL Manager for MySQL (Business license) + 2-Year Maintenance*	
EMS SQL Manager for MySQL (Business license) + 3-Year Maintenance*	Posistor Nowl
EMS SQL Manager for MySQL (Non-commercial license) + 1- Year Maintenance*	<u>Register Now!</u>
EMS SQL Manager for MySQL (Non-commercial license) + 2- Year Maintenance*	
EMS SQL Manager for MySQL (Non-commercial license) + 3- Year Maintenance*	
EMS SQL Manager for MySQL (Trial version)	Download Now!
EMS SQL Manager for MySQL Freeware	Download Now!

*EMS Maintenance Program provides the following benefits:

- Free software bug fixes, enhancements, updates and upgrades during the maintenance period
- Free unlimited communications with technical staff for the purpose of reporting Software failures
- Free reasonable number of communications for the purpose of consultation on operational aspects of the software

After your maintenance expires you will not be able to update your software or get technical support. To protect your investments and have your software up-to-date, you need to renew your maintenance.

You can easily reinitiate/renew your maintenance with our on-line, speed-through Maintenance Reinstatement/Renewal Interface. After reinitiating/renewal you will receive a confirmation e-mail with all the necessary information.

See also:

How to register SQL Manager

SQL Manager for MySQL - User's Manual

1.6 How to register SQL Manager

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If you have not registered your copy of **SQL Manager for MySQL** yet, you can do it by pressing the **Register Now** button and entering your registration information in the **Register SQL Manager for MySQL** dialog.

About SQL Mar	nager for MySQL	\times
	SQL Manager for MySQL 5.7.3 (build 53317) © 1999-2019 EMS Software Development. All rights reserved.	
	Developers: Alexey Butalov, Alexander Zhiltsov, Dmitry Goldobin, Dmitry Schastlivtsev, Alexander Paklin, Michael Kuzevanov	
	Company Home Page: <u>http://www.sqlmanager.net/</u>	
	Product Home Page: <u>http://www.mysqlmanager.com/</u>	
	Registered to : EMS Company (Business license) Software Maintenance Period Valid Till 18.08.2020.	
	Read the License Agreement	
Warning: This p treaties. Unauth and criminal per under the law.	rogram is protected by copyright law and international orized reproduction or distribution may result in severe civil nalties, and will be prosecuted to the maximum extent possible <u>R</u> egister Now	,

To register your newly purchased copy of **EMS SQL Manager for MySQL**, perform the following steps:

- receive the notification letter from Digital River with the registration info;
- enter the Registration Name and the Registration Key from this letter;
- make sure that the registration process has been completed successfully check the registration information in the **About SQL Manager for MySQL** dialog (use the **Help** | **About** menu item to open this dialog).

Register SQL Manager for MySQL	×
Please enter the registration information you received when purchasing SQL Manager for MySQL.	
Registration Name	
EMS Company	
Registration Key	
<u>R</u> egister <u>L</u> ater <u>H</u> elp	

See also: Registration

1.7 EMS SQL Manager FAQ

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

Table of contents

Product questions

- What is EMS SQL Manager for MySQL?
- What is the difference between Full/Lite editions of EMS SQL Manager for MySQL?
- What do I need to start working with EMS SQL Manager for MySQL?
- What is the difference between the Export/Import functions in SQL Manager and the Data Export/Import utilities?
- What is the difference between the Query Builder module in SQL Manager and the SQL Query for MySQL utility?
- What is the difference between the Extract Database function in SQL Manager for MySQL and the DB Extract for MySQL standalone utility?

Common questions

- I can't modify DDL. Why?
- How can I customize data formats in grid?
- I can't backup/restore tables on the remote server. Why?
- When I create a table like `TestTable`, it will get stored as `testtable`. This is wrong!
- I am trying to create a report in Report Designer, but I can't get access to the table data: 'Band data source' list is empty.
- How can I speed up my work with large tables?
- I have a table with appr. 1000 records only, and a large number of columns. Opening this table on the 'Data' tab takes too much time.
- I cannot see procedures and functions in the object tree, but they are seen in the database. How can I fix it?
- I cannot find a way to create a foreign key. How can I create it?
- <u>I cannot connect to the hosting provider database</u>, but when using PHPMyAdmin the connection to the database is established successfully.
- <u>My database uses a "Greek" codepage. In data grid view all information is displayed as</u> <u>"?????". What is wrong?</u>
- <u>Is it possible somehow to restore my database queries/settings/registrations from the</u> <u>old or faulty HDD, where SQL Manager was installed?</u>

Export/Import questions

- I'm trying to export data from a table, but TEXT columns are not exported.
- What is the difference between the "Extract Database" and "Export as SQL Script" functions?
- How can I change the default directory where exported data are saved?

Troubleshooting

- When I try to register a database, I get the following message: Access denied for user: user@host.domain Why does it happen?
- I try to connect to remote MySQL host, but I receive only the "Host not allowed to connect to server" message. What can be a reason?
- I've registered the DB, but on trying to open it the "dynamic library libmysql.dll not found" message appears.
- I get "Bad Handshake" message when I try to connect to MySQL 4.1.x. Does this

product support 4.1.x?

- Every time I try to connect to MySQL on a remote Linux server, I get the 'Lost connection to MySQL server during query' error. What's wrong?
- I tried to create a foreign key for InnoDB table, but received the "Can't create table ... (errno: 150)" error. What's wrong?

Question/answer list

Product questions

- Q: What is EMS SQL Manager for MySQL?
- A: EMS SQL Manager for MySQL is a powerful tool for MySQL database server administration and development. SQL Manager for MySQL works with any MySQL versions from 4.1 to 5.6 and supports all of the latest MySQL features including views, stored procedures and functions, InnoDB foreign keys, events and so on. It offers plenty of powerful tools for experienced users to satisfy all their needs. SQL Manager for MySQL has a new state-of-the-art graphical user interface with well-described wizard system, so clear in use that even a newbie will not be confused with it.
- Q: What is the difference between Full/Lite editions of EMS SQL Manager for MySQL?
- A: These editions of SQL Manager for MySQL differ in price and features. To register SQL Manager for MySQL, see the <u>Purchase page</u>, and to learn about the difference in features please go to our <u>Feature Matrix page</u>.
- Q: What do I need to start working with EMS SQL Manager for MySQL?
- A: First of all you must have a possibility to connect to some local or remote MySQL server to work with **SQL Manager for MySQL**. You can download MySQL server from <u>https://www.mysql.com/downloads/</u> (download is free). Besides, you need your workstation to satisfy the <u>system requirements</u> of **SQL Manager for MySQL**.
- *Q*: What is the difference between the Export/Import functions in SQL Manager and the Data Export/Import utilities?
- A: The Data Export/Import for MySQL utilities include some additional features which are not available in SQL Manager, such as:
 - export/import data from/to several tables simultaneously;
 - export/import data from/to tables selected from different databases on one host;
 - a command-line utility to export/import data using the configuration file with all the export/import options.
- Q: What is the difference between the Query Builder module in SQL Manager and the SQL Query for MySQL utility?
- A: First of all, SQL Query for MySQL works faster as it is a much lighter product. Besides, it provides additional features for query building, e.g.:
 - keeping query history which allows you to rollback to any edited query;
 - various interface improvements for more productive and easier work.
- Q: What is the difference between the Extract Database function in SQL Manager for MySQL and the DB Extract for MySQL standalone utility?
- A: The DB Extract for MySQL utility includes some additional features which are not available in SQL Manager, such as:
 - extracting metadata and/or data from several databases on one host;
 - a console application for performing extract in one-touch;
 - faster extraction speed.

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Common questions

- Q: I can't modify DDL. Why?
- A: The DDL tabs of the **SQL Manager** editors are read-only. To modify an object, you can copy the text to the clipboard and modify it using <u>SQL Editor</u>. For more details refer to <u>Viewing object DDL structure</u>.
- Q: How can I customize data formats in grid?
- A: You can customize all display formats: integer, float, date, time and datetime using the <u>Color & Formats</u> page of the <u>Environment Options</u> dialog.
- Q: I can't backup/restore tables on the remote server. Why?
- A: The Backup/Restore Tables functions do not work with remote MySQL server. This is not a limitation of **SQL Manager for MySQL**. MySQL server tries to backup tables only on the server side, so the <u>Backup Tables</u> function works properly only with local MySQL server. If you want to backup tables from the remote server, you can use the <u>Extract Database</u> feature.
- Q: When I create a table like `TestTable`, it will get stored as `testtable`. This is wrong!
- A: Probably the value of the "lower_case_table_names" variable is currently set to 1. Please visit <u>https://dev.mysql.com/doc/refman/8.0/en/identifier-case-sensitivity.html</u> for additional information about this variable.
- Q: I am trying to create a report in Report Designer, but I can't get access to the table data: 'Band data source' list is empty.
- A: It is recommended to use <u>Create Report wizard</u> which is run by right-clicking the Reports node in <u>DB Explorer</u> and selecting the 'New Report...' context menu item. The wizard will create all necessary data sources.
- If you still want to use <u>Report Designer</u>, to get the data source in a report, you need <u>to</u> <u>add database and query components</u> to the report.
- Q: How can I speed up my work with large tables?
- A: For your convenience and to speed up your work, the <u>Data Grid</u> allows customizing a number of data display parameters. Here are the most important of them (accessible through the <u>Grid | Data Options</u> section of the <u>Environment Options</u> dialog): *Limit options in table and view editors*. The 'Select all records of a table' option will enable you to see all table records without extra references to the server, yet in case of large tables or low speed connection channel the data may be fetched with huge delays and the incoming traffic might grow considerably. This mode is recommended when working with local databases or in a private network. The 'Select only' mode restricts the maximum number of records returned after the query. A man cannot process a massive amount of information at once. Hence, we came up with this mode. This mode speeds up table data viewing considerably, prevents hanging and connection channels and when the traffic volume is of importance. This is the default mode. When in this mode, enabling the 'Use SQL sorting in data view' and 'Use SQL filter in data view' options comes really helpful.

- Default Grid Mode. This option defines whether the requested rows will be loaded in the Grid all at once ('Load all rows'), or in parts ('Load visible rows') as the user scrolls down table data. The first mode increases the query opening time, but speeds up

scrolling. In the second mode the query opens very fast, but there might be delays when navigating the grid.

We recommend that you set the following option values to achieve maximum efficiency when working with large tables:

- Select only - ON

- Load visible rows ON
- Q: I have a table with appr. 1000 records only, and a large number of columns. Opening this table on the 'Data' tab takes too much time.
- A: You need to set the <u>Grid Mode</u> for the table to 'Load Visible Rows'. Please right click within the <u>table grid</u> and select the 'Grid Mode' | 'Load Visible Rows' context menu item.

Q: I cannot see procedures and functions in the object tree, but they are seen in the database. How can I fix it?

A: This situation may occur if you do not have permissions to extract data from the 'mysql.proc' table. Please contact your MySQL server administrator to provide you with the necessary permissions. If it is not allowed to change the privilege settings, and if you are using MySQL 5.5 or higher, try to enable the 'Use INFORMATION_SCHEMA database to refresh metadata' option of the 'Database Registration Info -> Options' dialogue.

Q: I cannot find a way to create a foreign key. How can I create it?

A: Please note that foreign keys are supported not for all table engines of MySQL server. If the engine (set for your table) supports foreign keys (i.e. InnoDB), there should be the 'Foreign keys' tab available in the editor. Switch to this tab and chose the 'Add a new foreign key' option on the navigation bar.

Q: I cannot connect to the hosting provider database, but when using PHPMyAdmin the connection to the database is established successfully.

A: If you want to connect to MySQL server of your hosting provider through the Internet, please note that our program establishes the direct TCP/IP connection to the server port, and most of the hosting providers do not allow such remote connections. When connecting to your database via CPanel, PHPMyAdmin or your backend scripts (PHP, ASP, etc.), the connection to MySQL server is performed by the HTTP Server. In most cases, this is a local connection or connection inside a subnet of the hosting provider. In this case your Internet browser just receives the processed data from the HTTP Server. To establish a connection to your database, you need to find out (with your hosting provider or from the provided by him documentation) whether they support direct connection on port 3306 (MySQL port by default) from the remote client machines. If it is not supported, you need to find out whether they provide SSH port to connect to the remote server. If so, you can use the SSH-tunneling feature in SQL Manager specifying the SSH authentication parameters provided by your hosting provider. To connect in such way, you should perform the following:

1) Upload the 'emsproxy.php' script (which is included in the installation package of SQL Manager) to your site root directory using the available FTP-account. In your browser specify the URL path to the downloaded 'emsproxy.php' script (e.g.: http://mysite.com/ emsproxy.php). The 'emsproxy.php script is installed correctly' message should be displayed. It means that the script works correctly.

2) Launch SQL Manager.

3) At Step 1 of Register Database Wizard specify the connection parameters for your MySQL database, as they are specified in PHPMyAdmin or your scripts (e.g.: specify 'localhost' in the 'Host' field), enable the 'Use tunneling' and 'HTTP tunneling' options. Press 'Next'.

4) Specify the URL path to the uploaded 'emsproxy.php' script as you specified it in the browser (Item 1).

5) Press 'Next'.

6) Specify your database name (the database may not be available, if you have limited permissions on the server) and press 'Finish'.

Q: My database uses a 'Greek' codepage. In data grid view all information is displayed as "?????". What is wrong?

A: Data is often displayed in such way, when the actual data encoding does not match the encoding of the database fields. For example, Greek characters are stored in a Latin1 encoded field. If so, set the 'Windows charset' value in the 'Client charset' field of the 'Database Registration Info' dialogue. If in this case the data is displayed correctly, this mode can be used as a temporary solution. However, you should remember that this is the incorrect database configuration, therefore the server-side comparisons and data sorting will work incorrectly. We recommend you to contact our technical support team in this case.

Q: Is it possible somehow to restore my database queries/settings/registrations from the old or faulty HDD, where SQL Manager was installed?

A: SQL Manager for MySQL stores all your settings in the Windows registry. It means that the only way to transfer your database data is to get access to the Windows registry. You can do it by loading OS from your old HDD (if possible) or by opening the registry file with a special editor program. If you managed it, you can unload the 'HKEY_CURRENT_USER\Software\EMS\MySQL Manager' branch to the *.REG file, transfer this file to a new system and add information to the registry by double-clicking the file.

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Export/Import questions

Q: I'm trying to export data from a table, but LONGTEXT fields are not exported.

- A: Fields of type LONGTEXT are not exported by default. You should select these fields manually at the <u>Selecting fields for export</u> step.
- Q: What is the difference between the "Extract Database" and "Export as SQL Script" functions?
- A: <u>Export as SQL Script</u> is intended for exporting table data that will be inserted into a database system other than MySQL. Use <u>Extract Database Wizard</u> to copy metadata and/or data to a database on MySQL afterwards.
- Q: How can I change the default directory where exported data are saved?
- A: Follow the steps below to change the default directory:
 - Right-click the database alias in <u>DB Explorer</u> and select the 'Database Registration Info...' <u>context menu</u> item (you can also find this item in the 'Database' <u>main menu</u>) to open the <u>Database Registration Info</u> dialog.
 - 2. Proceed to the <u>Directories</u> section within the dialog.
 - 3. Set the 'Default directory for Export Data'.

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Troubleshooting

Q: When I try to register a database, I get the following message:

Access denied for user: user@host.domain Why does it happen?

- A: This error is generated by MySQL server because you do not have privileges to connect to the server from your host. Please contact your database administrator to resolve this problem.
- Q: I try to connect to remote MySQL host, but I receive only the "Host not allowed to connect to server" message. What can be a reason?
- A: This error occurs because you don't have a permission to connect to remote MySQL server from your host. Please contact your database administrator or, if you have access to MySQL server with grant privilege, you can use the GRANT statement to add a new user. For example, the following command will give full access from your host to the user:

GRANT ALL PRIVILEGES ON *.* TO 'user' IDENTIFIED BY 'user_password' WITH GRANT OPTION;

Please read the "GRANT and REVOKE Syntax" chapter of MySQL reference.

- *Q*: I've registered the DB, but on attempt to open it the "dynamic library libmysql.dll not found" message appears.
- A: Please make sure that the libmysql.dll file exists in the **SQL Manager for MySQL** directory. Reinstallation of the application can solve the problem.
- Q: I get "Bad Handshake" message when I try to connect to MySQL 4.1.x. Does this product support 4.1.x?
- A: You seem to use an old version of the client library libmysql.dll. You should use the client library from our installation package. Please try to reinstall the application.
- Q: Every time I try to connect to MySQL on a remote Linux server, I get the 'Lost connection to MySQL server during query' error. What's wrong?
- A: This error can occur if your Linux glibc requires greater than 128K of stack size to resolve a hostname. It happens primarily on RedHat 8.0 system with MySQL version lower than 4.0.10, but also can happen with another configuration. To resolve such issue, add/edit the following line to the [mysqld] section of MySQL configuration file: set-variable = thread_stack=192k # value must be 192K or higher
- Q: I tried to create a foreign key for InnoDB table, but received the "Can't create table ... (errno: 150)" error. What's wrong?
- A: The referenced column should appear as the first column in some index, both in parent and child tables.

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If you still have any questions, contact us at our <u>Support Center</u>.

1.8 Other EMS Products

Quick navigation



MySQL

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SQL Management Studio for MySQL

EMS SQL Management Studio for MySQL is a complete solution for database administration and development. SQL Studio unites the must-have tools in one powerful and easy-to-use environment that will make you more productive than ever before!



<u>SQL Manager for MySQL</u> Simplify and automate your database development process, design, explore and maintain existing databases, build compound SQL query statements, manage database user rights and manipulate data in different ways.



Data Export for MySQL

Export your data to any of 20 most popular data formats, including MS Access, MS Excel, MS Word, PDF, HTML and more.



Data Import for MySQL

Import your data from MS Access, MS Excel and other popular formats to database tables via user-friendly wizard interface.

Data Pump for MySQL

Migrate from most popular databases (MySQL, PostgreSQL, Oracle, DB2, InterBase/Firebird, etc.) to MySQL.



Data Generator for MySQL

Generate test data for database testing purposes in a simple and direct way. Wide range of data generation parameters.



DB Comparer for MySQL

Compare and synchronize the structure of your databases. Move changes on your development database to production with ease.



DB Extract for MySQL

Create database backups in the form of SQL scripts, save your database structure and table data as a whole or partially.



SQL Query for MySQL

Analyze and retrieve your data, build your queries visually, work with query plans, build charts based on retrieved data quickly and more.



Data Comparer for MySQL

Compare and synchronize the contents of your databases. Automate your data migrations from development to production database.

Scroll to top

Microsoft SQL Server

SQL Management Studio for SQL Server

EMS SQL Management Studio for SQL Server is a complete solution for database administration and development. SQL Studio unites the must-have tools in one powerful and easy-to-use environment that will make you more productive than ever before!



EMS SQL Backup for SQL Server

Perform backup and restore, log shipping and many other regular maintenance tasks on the whole set of SQL Servers in your company.



SOL Administrator for SOL Server

Perform administrative tasks in the fastest, easiest and most efficient way. Manage maintenance tasks, monitor their performance schedule, frequency and the last execution result.



SQL Manager for SQL Server

Simplify and automate your database development process, design, explore and maintain existing databases, build compound SQL query statements, manage database user rights and manipulate data in different ways.



Data Export for SQL Server

Export your data to any of 20 most popular data formats, including MS Access, MS Excel, MS Word, PDF, HTML and more



Data Import for SQL Server

Import your data from MS Access, MS Excel and other popular formats to database tables via user-friendly wizard interface.

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Data Pump for SQL Server

Migrate from most popular databases (MySQL, PostgreSQL, Oracle, DB2, InterBase/Firebird, etc.) to Microsoft® SQL Server™.

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Data Generator for SQL Server

Generate test data for database testing purposes in a simple and direct way. Wide range of data generation parameters.



DB Comparer for SQL Server

Compare and synchronize the structure of your databases. Move changes on your development database to production with ease.

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DB Extract for SQL Server

Create database backups in the form of SQL scripts, save your database structure and table data as a whole or partially.

SQL Query for SQL Server

Analyze and retrieve your data, build your queries visually, work with query plans, build charts based on retrieved data quickly and more.



Data Comparer for SQL Server

Compare and synchronize the contents of your databases. Automate your data migrations from development to production database.

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PostgreSQL

SQL Management Studio for PostgreSQL

EMS SQL Management Studio for PostgreSQL is a complete solution for database administration and development. SQL Studio unites the must-have tools in one powerful and easy-to-use environment that will make you more productive than ever before!

5

EMS SQL Backup for PostgreSQL

Creates backups for multiple PostgreSQL servers from a single console. You can use automatic backup tasks with advanced schedules and store them in local or remote folders or cloud storages

SQL Manager for PostgreSQL

Simplify and automate your database development process, design, explore and maintain existing databases, build compound SQL query statements, manage database user rights and manipulate data in different ways.



Data Export for PostgreSQL

Export your data to any of 20 most popular data formats, including MS Access, MS Excel, MS Word, PDF, HTML and more



Data Import for PostgreSQL

Import your data from MS Access, MS Excel and other popular formats to database tables via user-friendly wizard interface.



Data Pump for PostgreSQL

Migrate from most popular databases (MySQL, SQL Server, Oracle, DB2, InterBase/Firebird, etc.) to PostgreSQL.



Data Generator for PostgreSQL

Generate test data for database testing purposes in a simple and direct way. Wide range of data generation parameters.



DB Comparer for PostgreSQL

Compare and synchronize the structure of your databases. Move changes on your development database to production with ease.



DB Extract for PostgreSQL

Create database backups in the form of SQL scripts, save your database structure and table data as a whole or partially.

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SQL Query for PostgreSQL

Analyze and retrieve your data, build your queries visually, work with query plans, build charts based on retrieved data quickly and more.



Data Comparer for PostgreSQL

Compare and synchronize the contents of your databases. Automate your data migrations from development to production database.

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InterBase / Firebird



SQL Management Studio for InterBase/Firebird

EMS SQL Management Studio for InterBase and Firebird is a complete solution for database administration and development. SQL Studio unites the must-have tools in one powerful and easy-to-use environment that will make you more productive than ever before!

SQL Manager for InterBase/Firebird

Simplify and automate your database development process, design, explore and maintain existing databases, build compound SQL query statements, manage database user rights and manipulate data in different ways.



Data Export for InterBase/Firebird

Export your data to any of 20 most popular data formats, including MS Access, MS Excel, MS Word, PDF, HTML and more



Data Import for InterBase/Firebird

Import your data from MS Access, MS Excel and other popular formats to database tables via user-friendly wizard interface.

Data Pump for InterBase/Firebird

Migrate from most popular databases (MySQL, SQL Server, Oracle, DB2, PostgreSQL, etc.) to InterBase/Firebird.

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Data Generator for InterBase/Firebird

Generate test data for database testing purposes in a simple and direct way. Wide range of data generation parameters.



DB Comparer for InterBase/Firebird

Compare and synchronize the structure of your databases. Move changes on your development database to production with ease.



DB Extract for InterBase/Firebird

Create database backups in the form of SQL scripts, save your database structure and table data as a whole or partially.



SQL Query for InterBase/Firebird

Analyze and retrieve your data, build your queries visually, work with query plans, build charts based on retrieved data quickly and more.



Data Comparer for InterBase/Firebird

Compare and synchronize the contents of your databases. Automate your data migrations from development to production database.

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Oracle



SQL Management Studio for Oracle

EMS SQL Management Studio for Oracle is a complete solution for database administration and development. SQL Studio unites the must-have tools in one powerful and easy-to-use environment that will make you more productive than ever before!

SQL Manager for Oracle

Simplify and automate your database development process, design, explore and maintain existing databases, build compound SQL query statements, manage database user rights and manipulate data in different ways.



Data Export for Oracle

Export your data to any of 20 most popular data formats, including MS Access, MS Excel, MS Word, PDF, HTML and more.



Data Import for Oracle

Import your data from MS Access, MS Excel and other popular formats to database tables via
user-friendly wizard interface.

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Data Pump for Oracle

Migrate from most popular databases (MySQL, PostgreSQL, MySQL, DB2, InterBase/Firebird, etc.) to Oracle



Data Generator for Oracle

Generate test data for database testing purposes in a simple and direct way. Wide range of data generation parameters.



DB Comparer for Oracle

Compare and synchronize the structure of your databases. Move changes on your development database to production with ease.



DB Extract for Oracle

Create database backups in the form of SQL scripts, save your database structure and table data as a whole or partially.



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SQL Query for Oracle

Analyze and retrieve your data, build your queries visually, work with query plans, build charts based on retrieved data quickly and more.

Data Comparer for Oracle

Compare and synchronize the contents of your databases. Automate your data migrations from development to production database.

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IBM DB2

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SQL Manager for DB2

Simplify and automate your database development process, design, explore and maintain existing databases, build compound SQL query statements, manage database user rights and manipulate data in different ways.



Data Export for DB2

Export your data to any of 20 most popular data formats, including MS Access, MS Excel, MS Word, PDF, HTML and more.



Data Import for DB2

Import your data from MS Access, MS Excel and other popular formats to database tables via user-friendly wizard interface.

Data Pump for DB2

Migrate from most popular databases (MySQL, PostgreSQL, Oracle, MySQL, InterBase/Firebird, etc.) to DB2

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Data Generator for DB2

Generate test data for database testing purposes in a simple and direct way. Wide range of data generation parameters.



DB Extract for DB2

Create database backups in the form of SQL scripts, save your database structure and table data as a whole or partially.



SQL Query for DB2

Analyze and retrieve your data, build your queries visually, work with query plans, build charts

based on retrieved data quickly and more.

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Tools & components



Advanced Data Export for RAD Studio VCL

Advanced Data Export for RAD Studio VCL allows you to save your data in the most popular office programs formats.



Advanced Data Export .NET

Advanced Data Export .NET is a component for Microsoft Visual Studio .NET that will allow you to save your data in the most popular data formats for the future viewing, modification, printing or web publication. You can export data into MS Access, MS Excel, MS Word (RTF), PDF, TXT, DBF, CSV and more! There will be no need to waste your time on tiresome data conversion - Advanced Data Export will do the task quickly and will give the result in the desired format.



Advanced Data Import for RAD Studio VCL

Advanced Data Import for RAD Studio VCL will allow you to import your data to the database from files in the most popular data formats.

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Advanced PDF Generator for RAD Studio

Advanced PDF Generator for RAD Studio gives you an opportunity to create PDF documents with your applications written on Delphi or C++ Builder.



Advanced Query Builder for RAD Studio VCL

Advanced Query Builder for RAD Studio VCL is a powerful component for Delphi and C++ Builder intended for visual building SQL statements for the SELECT, INSERT, UPDATE and DELETE clauses.



Advanced Excel Report for RAD Studio

Advanced Excel Report for RAD Studio is a powerful band-oriented generator of template-based reports in MS Excel.



Advanced Localizer for RAD Studio VCL

Advanced Localizer for RAD Studio VCL is an indispensable component for Delphi for adding multilingual support to your applications.

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2 Getting Started

SQL Manager for MySQL provides you with an ability to contribute to efficient MySQL administration and development using a variety of available tools easily and quickly.

The succeeding chapters of this document are intended to inform you about the tools implemented in **SQL Manager for MySQL**. Please see the instructions below to learn how to perform various operations in the easiest way.

- <u>Selecting style and language</u>
- How the application looks when you start it for the first time
- <u>Using Desktop Panel</u>
- Database navigation
- <u>Working with database objects</u>
- <u>Using context menus</u>
- Working with child windows

See the <u>How to...</u> chapter to view brief instructions on how to perform some operations on databases, database objects, etc.

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category	release_year [El	NUM 🔶	Fetched: 1000/1000					

Enjoy your work with EMS SQL Manager for MySQL!

See also: Database Explorer Database Management Database Objects Management Query Management Tools Data Management Import/Export Tools Database Tools Server Tools Personalization External Tools How To...

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2.1 Selecting style and language

Before you start **SQL Manager** for the first time, you have to choose the environment style and the interface language. You can change these settings any time using the <u>Environment Options</u> dialog (**Options | Environment Options...**) to configure the environment style and the <u>Select Language</u> dialog (**Options | Select Program Language...**) to change the program language.

Environment style

This switch allows you to define the main window behavior style -
 MDI (like in MS Office applications) or
 Floating windows (like Borland Delphi IDE).

Bar style for child forms

Here you can define the location of action buttons:
 within the *Navigation bar* (on the left) and/or
 on the *Toolbar*.

Program Language

Select the interface language from the list of available languages.

Welcome to SQL Manager for MySQL	
Welcome to SQL Manager for MySQL - a to administer your database! Choose the program's environment, language pre style for child forms.	n excellent tool
Environment style	
MDI environment (like Microsoft Office application)	ations)
Floating windows environment (like Borland D)	elphi IDE)
Bar style for child forms	
Navigation bar	
Toolbar	
O Both	
Program language	
Default - no localization (English)	
English	
German	
Russian	
<u> </u>	Help

See also: First time started Using Desktop Panel Database navigation Working with database objects Using context menus Working with windows

2.2 First time started

This is how **SQL Manager for MySQL** looks when you start it for the first time. Use the <u>Desktop panel</u> to fulfill any of common tasks: <u>Create a new database</u>, <u>Manage existing</u> <u>database(s)</u>, and several tasks that do not require database registration, i.e. <u>Execute SQL</u> <u>script</u>, accessing the **reference system** or using available **Internet resources**.



The <u>main menu</u> allows you to perform various **Database** operations, open <u>To-Do List</u> and activate/deactivate <u>Database Explorer</u>, <u>SQL Assistant</u> and various <u>toolbars</u> within the **View** menu, manage your databases using items of the **Tools** and **Services** menus, <u>customize</u> the application using the **Options** menu, manage **SQL Manager Windows** using <u>Window List</u> and other tools, and access <u>Registration</u> information and product documentation, <u>update</u> the product to the latest version using the corresponding items available within the **Help** menu.

To start working with your MySQL server, you should first register the host using <u>Register</u> <u>Database wizard</u>. After that you need to register one or several databases using <u>Register</u> <u>Database Wizard</u>. By default the corresponding **G** Register Host, **G** Register Database buttons are available on the toolbar and within the Database menu.

When the database connection settings are specified, you can set connection to your database and proceed to <u>Database navigation</u>, <u>Database Objects management</u>, <u>working</u> <u>with SQL queries</u> and other tools of **SQL Manager**.

See also:

Selecting style and language Using Desktop Panel Database navigation Working with database objects Using context menus Working with windows

2.3 Using Desktop Panel

Desktop Panel is the area that is visible when no child windows are open in **SQL Manager for MySQL**. The working area of **Desktop Panel** is divided into four sections: *Getting Started, Database Tools, Help and Support, Internet Resources.*





create a new database object within the current database (this item is available if there is at least one active database connection)

Database Tools section

execute a script using <u>SQL Script Editor</u>

execute a SQL query (this item is available if there is at least one active database connection)

manage MySQL <u>users</u> (this item is available if there is at least one active database connection)

grant permissions on database objects to MySQL <u>users</u> using <u>Grant Manager</u> (this item is available if there is at least one active database connection)

Help and Support section



🔮 use MySQL reference

Internet Resources section

衸 visit **SQL Manager** Home Page

browse SQL Manager on-line documentation

🔄 go to <u>Technical Support Center</u>

look through the <u>Frequently Asked Questions</u> page

See also:

Selecting style and language First time started Database navigation Working with database objects Using context menus Working with windows

2.4 Database navigation

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After you have registered the required database(s), the corresponding alias(es) appear in the <u>DB Explorer</u> tree on the left. If the **Show Hosts** option is checked on the <u>Environment</u> <u>Options</u> | <u>DB Explorer</u> page, the host nodes are also displayed in the tree (alternatively, you can use the **Show Hosts** item of the <u>Database context menu</u>, or the drop-down menu of the **View Mode** <u>Source</u> toolbar button for the same purpose).

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Databases (3)						
aw on merlin:514	9					
🕀 🖯 hr on merlin:51	149(1)					
test_db on merlin	:5149 6					
🗄 🔲 Server Objects						
🖽 🐨 🐨 vadsrv						
Databases						
" windows List						
*						
hr on merlin:5149(1)						
Objects	Count	-				
🛅 Tables	16					
🚹 Views	2	≡				
Procedures 4						
Functions	0					
UDFs 0						
Scheduled Events	2					
Triggers	1	-				

<u>DB Explorer</u> displays all registered databases. Connected/disconnected databases can be easily distinguished in the tree: aliases of disconnected databases are grayed out.



To <u>connect</u> to a database, simply double-click its alias (or select the database alias in <u>DB</u> <u>Explorer</u> and press **Enter**). If the connection is successful, the database node expands into a tree of objects.

Now you can navigate within the database objects. Use <u>SQL Assistant</u> to get extended information about the currently selected object.

See also: <u>Selecting style and language</u> <u>First time started</u> <u>Using Desktop Panel</u> <u>Working with database objects</u> <u>Using context menus</u> <u>Working with windows</u>

2.5 Working with database objects

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The nodes of the <u>DB Explorer</u> tree allow you to access <u>objects of the selected database</u>. If MySQL server you are connected to supports certain types of objects, their nodes will appear in the tree.

Double-click an object group to expand/collapse the corresponding tree node. Double-click an object to open it in the corresponding editor. Right-click an object to display its <u>context menu</u> which allows you to perform various operations over the selected object or database.



If you want to use the <u>DB Explorer</u> tree for working with **table subobjects** (columns, indexes, Foreign keys, etc.), check the **Show table subobjects** option which is available within the **General options** group of the <u>Environment Options</u> | <u>DB Explorer</u> page (you can also use the **Show Table Subobjects** menu item in the drop-down menu of the **View Mode Show Table Subobjects** purpose.)



See also: Selecting style and language First time started Using Desktop Panel Database navigation Using context menus Working with windows

2.6 Using context menus

The **context menus** are aimed at facilitating your work with **SQL Manager for MySQL**: you can perform a variety of operations using context menu items.

Select an object in <u>DB Explorer</u> and right-click its alias to open the context menu.

- Host context menu
- Database context menu
- Object context menu

See also:

Selecting style and language First time started Using Desktop Panel Database navigation Working with database objects Working with windows

2.6.1 Host context menu

The **context menu of a Host** in the <u>DB Explorer</u> tree allows you to:

- disconnect from all databases on the selected host;
- register a new database using Register Database Wizard;
- <u>unregister</u> the selected host;
- configure <u>server properties;</u>
- configure representation of hosts and databases in **Database Explorer**;
- create a new tab for the selected host <u>to access it through this tab quickly</u> and/or manage the existing tab;
- <u>search</u> for an object within the tree.

Databases						
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🗄 📴 Databa	•	Disconnect from all databases or	n this host Shift+Ctrl+D)		
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🗄 🥃 doom_serve	Ģ	Unregister Host				
🗄 🚽 localhost	9	Server properties				
ten variation for the second	Q	Show <u>H</u> osts				
🗄 🥃 userver:330		Sort by Aliases				
		Hide Disconnected Databases				
		Refresh Server Objects of merlin	:5149 on Connection			
	.	New Tab from Here				
		Rename Current Tab				
		Delete Current Tab				
	P	Find Object	Ctrl+F	-		
		Server Tools		•		
		🔫 🛅 🀔				

The following features can be accessed through the **Server tools** submenu:



- Database Registration Manager;
- <u>SQL Script Editor;</u>
- <u>User Manager;</u>
- Grant manager;
- Information concerned server or database Show submenu.

See also: Database context menu Object context menu

2.6.2 Database context menu

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The **context menu of a registered database** in the <u>DB Explorer</u> tree allows you to:

- connect to the selected database (if connection to the database is not active yet);
- <u>disconnect</u> from the selected database (if connection to the database has been already activated);
- view/edit the selected database registration information within the <u>Database</u> <u>Registration Info</u> dialog;
- view/edit the <u>Database properties;</u>
- register a new database using Register Database Wizard;
- <u>unregister</u> the selected database;
- <u>unregister</u> the host where the selected database resides;
- configure server properties;
- configure representation of hosts and databases in Database Explorer;
- refresh the selected database or server objects;
- create a new tab for the selected database to access it through this tab quickly and/ or manage the existing tab;
- <u>search</u> for an object within the tree.

Databases			
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🗄 🚺 Fun	3	Database Registration Info	
🖳 🐱 UDF	<u>_</u>	Database Properties	
🕀 🔟 Sch	e .	Register Database	Shift+Alt+R
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🔂 Favo	G,	Unregister Host	
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🗐 📴 Databases (Hide Disconnected Database	es
Databases			
	8	Refresh Database	F5
		Refresh Server Objects of m	erlin:5149 on Connection
	1	New Tab from Here	
		Rename Current Tab	
		Delete Current Tab	
	P	Find Object	Ctrl+F
		Database Tools	•

Using the **Database tools** submenu you can do the following:



Open <u>SQL Script Editor;</u> Open <u>Visual Query Builder;</u> Use <u>Print Metadata</u> tool; <u>Extract Database;</u> Create <u>HTML Report;</u> Browse <u>Dependency Tree;</u> Open <u>Visual Database Designer;</u> <u>Copy Database;</u> View <u>information concerning database</u> - **Show** submenu.

See also: <u>Host context menu</u> <u>Object context menu</u>

2.6.3 Object context menu

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The **context menu of an object** (e.g. *table* or *view*) in the <u>DB Explorer</u> tree allows you to:

- create a new database object of the same type;
- edit the selected object in its editor;
- <u>rename</u> the selected object;
- <u>drop</u> the selected object from the database;
- <u>duplicate</u> the selected object (create a new object with the same <u>DDL</u> structure and properties as the selected object has);
- view <a>Dependency Tree for the selected object;
- perform <u>data manipulation</u> operations (for <u>tables</u> and <u>views</u>);
- generate the object script and open it in SQL Editor;
- generate the object script and copy its text to Windows clipboard;
- create <u>view/procedure/function</u> from table (for tables);
- view <u>properties</u> (for <u>tables</u>);
- define grants (for tables);
- refresh all objects of the selected object type;
- view/edit the database registration information within the <u>Database Registration Info</u> dialog;
- create a new tab for the selected object <u>to access it through this tab quickly</u> and/or manage the existing tab;
- <u>search</u> for an object within the tree.



See also: Host context menu Database context menu

2.7 Working with windows

The **Windows Toolbar** of **SQL Manager** allows you to switch between child windows easily, like in Windows Task Bar.

To activate the window you need, simply click one of the window buttons. To perform some additional actions with the window, right-click its tab and select the corresponding menu item from the popup menu.



If you have multiple windows opened, you can also switch between them using the *Ctrl+Tab* <u>shortcut</u>.

The **Number of open editors is restricted** option available in the <u>Windows</u> section of the <u>Environment Options</u> options dialog allows you to set the maximum number of editors that may be opened simultaneously. When the number of editors exceeds the specified value, the previously opened editors will be closed automatically.

The **Windows** menu facilitates your work with **SQL Manager** windows.



The **Windows** menu allows you to:

- view the Windows List within the corresponding tab of DB Explorer;
- set all current windows *cascade*:

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- minimize all windows;
- restore all windows;
- tile all current windows horizontally:

Table - [department] - [hr on merlin:5149(1)]				
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🦸 Compile	Storage engine InnoDB			
😓 Print	Row format COMPACT			
SQL Editor - [hr on merlin:5:	149(1)] - • ×			
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Servers *	Status variables System variables Process List Innet			
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• tile all current windows *vertically*:

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- set defaults to all windows;
- reset all toolbars and menus;
- close all windows;
- close all editors of the specified object type (can be selected from the submenu);
- switch to the previous window;
- switch to the next window;
- activate one of currently opened windows.

See also:

Selecting style and language First time started Using Desktop Panel Database navigation Working with database objects Using context menus



3 Database Explorer

Database Explorer (or **DB Explorer**) is the basic window of **SQL Manager for MySQL** for <u>navigation</u> within databases and working with database objects. The tree-like structure of DB Explorer allows you to manage the databases and database objects, and perform other everyday operations quickly and easily.

The following list contains the most frequently used features provided by Database Explorer.

- Managing database registration info
- <u>Connecting to databases</u>
- <u>Performing basic operations upon database objects</u>
- <u>Selecting multiple objects</u>
- <u>Navigating database objects using multiple tabs</u>
- Easy access to recently opened objects
- <u>Managing Favorite objects</u>
- Searching within the tree
- <u>Viewing extended information about database objects</u>
- <u>Configuring Database Explorer</u>
- <u>Managing Favorite queries</u>

All objects are structured by their types and are available within the corresponding nodes of the tree. The number of objects of each type is displayed in brackets after the node name denoting the object type. To expand/collapse a node, you can double-click it or use the +/- icons.



To view/hide the Database Explorer window, use the **View | DB Explorer** <u>main menu</u> item or press the **F11** key.



Use the Ctrl+Shift+C shortcut to collapse the current **DB Explorer** tree branch and switch to the parent node.

Note that you can change database aliases order by dragging them within the **DB Explorer** tree.

See also:

Getting Started Database Management Database Objects Management Query Management Tools Data Management Import/Export Tools Database Tools Server Tools Personalization External Tools How To... 69

3.1 Managing database registration info

After you have created and/or registered your database in **SQL Manager for MySQL**, you can perform a number of operations with the database using the <u>context menu</u>.

If you need to view/edit the registration information of a database, right-click the database alias in DB Explorer and select the **Database Registration Info...** context menu item to open the <u>Database Registration Info</u> dialog.

Databases		
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Databases (2)		
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🗄 🛅 Table 💢	Connect to Database	Shift+Ctrl+C
🕀 🚹 View 🍡	Disconnect from Database	Shift+Ctrl+D
📲 Funct 😈	Database Registration Info	
🔁 UDFs 🌱	Database Properties	
🕀 🔟 Sche 🔒	Register Database	Shift+Alt+R
🗄 🗟 Trigg 🦉	Unregister Database	Shift+Alt+U
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See also: Register Database Database Registration Info Database Registration Manager

3.2 Connecting to databases

When the MySQL host is <u>registered</u>, and the <u>database registration</u> is complete, you can establish connection to your database.



The simplest way to connect to a database is to double-click its alias in the <u>Database</u> <u>Explorer</u> tree. The same operation can be performed by selecting the **Connect to Database** item of the database alias <u>context menu</u>, or by using the **Database | Connect to Database** <u>main menu</u> item.

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test_db or	X	Connect to Database	Shift+Ctrl+C
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vadsrv	8	Database Registration Info	
adan on v	24	Database Properties	
🕀 😑 test on v	e ,	Register Database	Shift+Alt+R
	₿.	Unregister Database	Shift+Alt+U
Ū	Ģ	Unregister Host	
	Q	Server properties	

Alternatively, you can use the Shift+Ctrl+C shortcut or the \aleph Connect to Database toolbar button.



See also: Register Database Database Registration Info

3.3 Operations with database objects

Database Explorer allows you to perform various operations with <u>database objects</u>.

To open an object in its editor, you can double-click the object in the **DB Explorer** tree.

You can also right-click an object within the **DB Explorer** tree and use its <u>context menu</u> to perform a number of operations:

- create a new object (the New <object>... item);
- edit currently selected object (the **Edit <object_name>...** item);
- rename currently selected object (the Rename <object_name>... item);
- drop the selected object from the database (the **Drop <object_name>...** item);
- duplicate the selected object (the **Duplicate <object_name>...** item);
- view <u>Dependency Tree</u> for the selected object.

Note that the context menu contains object-specific items only when the object is currently selected in **DB Explorer**.


Using drag-and-drop operations you can add objects to <u>SQL Editor</u>, <u>Visual Query Builder</u> or <u>SQL Script Editor</u>. For your convenience the **Insert to editor** dialog is implemented. The dialog allows you to specify the **statement** to be inserted into the editor: *Name*, *SELECT*, *INSERT*, *UPDATE*, *DELETE*, *CREATE*, *ALTER*, *DROP*, *Columns list*, *Name and Type*. If necessary, set the **Alias** and **Prefix for variable**.

If more convenient, you can edit the generated statement manually (see <u>Working with</u> <u>SQL Editor area</u>).



See also:

Database/Server Objects Management SQL Editor Selecting multiple objects

3.4 Selecting multiple objects

You can select more than one object in **Database Explorer** by pressing the *Ctrl* or the *Shift* key and selecting multiple objects one by one.

The **context menu** of several selected objects allows you to:

- create a new database object of the same type;
- edit the selected objects;
- drop the selected objects;
- perform other operations with the first of the selected objects (see <u>Operations with</u> <u>database objects</u>).

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🖶 🥃 merlin:5149			
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Tables (19)			
Views (6)			
📥 customer_list			
film_list			
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sales_by_film_catego	4	New View	Ctrl+N
sales_by_store	4	Edit 3 Selected Objects	Ctrl+O
staff_list		Rename View 'nicer_but_slower_film_list'	Ctrl+R
Procedures (6)		Drop 3 Selected Objects	Shift+Del
E Functions (3)			511112-12-01
UDFs	1 0	Duplicate View 'nicer_but_slower_film_list'	
Scheduled Events (1		Dependency Tree	
Triggers (6)		Script to New SQL Editor	•
			, i i i i i i i i i i i i i i i i i i i
Tavorite Queries		Script to Clipboard	•
Favorite Objects (2)	2	Refresh Views	F5
Local Scripts	1	Database Registration Info	
Server Objects	9		
vserver:33056		New Tab from Here	
		Rename Current Tab	
Batabases		Delete Current Tab	
T Windows List	Þ	Find Object	Ctrl+F

Hint: You can move several objects to your <u>Favorite objects</u>: just drag and drop the selected objects to the previously created subfolder within the **Favorite Objects** node of **DB Explorer**.

See also:

<u>Operations with database objects</u> <u>Database/Server Objects Management</u> <u>Managing Favorite objects</u>

3.5 Using tabs for database navigation

To make your work with **Database Explorer** even more convenient, the capability of **working with several tabs** is implemented.

You can use tabs when you wish to work with a particular node of the DB Explorer tree only: with a group of objects, or with a specific database <u>project</u>. Creating such tabs will minimize scrolling within large trees, you only need to switch between them with a single click on the corresponding tab.

Creating tabs

In order to create a new tab:

• right-click the node (e.g. the **Tables** node) for which you wish to create a tab and select the **New Tab from Here...** context menu item.

Note: A tab can be created only on the basis of a tree node. For example, if the **Show Table Subobjects** option is disabled in the <u>View Mode</u> menu, the **New Tab from Here...** item will not be available for tables, since none of them will be a tree node anymore.



The specified tabs can be displayed in either of the two views:

• as *icons* on the lower pane of DB Explorer:



• as *tabs* with captions:



Hint: You can reorder items in the *tabs* view by dragging their captions up and down.

To add/remove items to/from the *tabs* view, you can drag the horizontal splitter up/down:



or click the **Configure buttons** icon available in the bottom right corner of the **DB Explorer** window, and select **Show More Buttons** / **Show Fewer Buttons** / **Add or Remove Buttons** items from the popup menu.



Note: Navigation through the tabs is also possible with the help of the following shortcuts

- *Ctrl+Shift+N* move to the next tab;
- *Ctrl+Shift+P* move to the previous tab.

Renaming tabs

In order to rename a tab:

- switch to the tab by clicking its caption or icon (there can be only one active tab, and it is highlighted with a different color);
- right-click within the DB Explorer area and select the Rename Current Tab... context menu item.

Removing tabs

In order to remove a tab:

- switch to the tab by clicking its caption or icon (there can be only one active tab, and it is highlighted with a different color);
- right-click within the DB Explorer area and select the **Delete Current Tab** context menu item.

See also: <u>Managing Favorite objects</u> <u>Windows List</u> <u>Database/Server Objects Management</u>

3.6 Recently opened objects

Use the **Recent Objects** Solution available on the DB Explorer <u>toolbar</u> to access the list of recently opened database objects (during the current session).

This list is common for all registered databases. Next to the object name the database name and the host/address are displayed. Select an object from this list to open it using its editor.



To change the number of objects that are considered 'recent', select the **Options** | **Environment Options** <u>main menu</u> item, proceed to the **Tools** | **DB Explorer** section within the **Environment Options** dialog, and set the **Recent objects count** option value (see <u>Environment Options</u> for details).

See also: Database/Server Objects Management Environment Options

3.7 Managing Favorite objects

Use the **Favorite objects** node for each database to work with the selected objects of this database only. You can place any object from the database tree here.

You can also create a separate tab for your **Favorite objects** folder. See <u>Using tabs for</u> <u>database navigation</u> section for details.



Creating Favorite objects folders

In order to create a new folder:

- right-click the Favorite objects node and select the New Sub Folder... context menu item;
- enter the folder name within the **New Folder** dialog.

Favorite Queries Favorite Objects (2) Favorite Tables Favorite Views						
Local Scripts		New Sub Folder	Shift+Ctrl+S			
🗄 间 Server Objects		Rename Folder				
Bring userver:33056		Remove Folder 'Favorite Views'	Shift+Ctrl+Del			
E Databases	Batabases Add Object Ins					
T Windows List	8	Database Registration Info				
		Tabs	•			
	ρ	Find Object	Ctrl+F			
	A	Find Next Object	F3			

Adding objects

In order to add a new object to the Favorite objects folder:

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- expand the Favorite objects node in DB Explorer;
- drag an object (or multiple objects) from the database tree to the Favorite objects folder
- or
 - right-click the Favorite objects folder and select the **Add Object...** context menu item, or use the *Ins* key;
 - use the <u>Select Object</u> dialog to specify objects to be added to the Favorite objects folder.

Removing objects from the Favorite objects folder

In order to remove an object from the Favorite objects folder:

- right-click the object and select the Remove <object_name> from Favorite
 objects context menu item, or use the Shift+Ctrl+Del shortcut;
- confirm removing in the dialog window.

Note: This operation does not drop the object from the database, but only removes its alias from the Favorite objects tree.

See also:

<u>Using tabs for database navigation</u> <u>Select Object dialog</u> Database/Server Objects Management

3.8 Searching within the tree

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SQL Manager for MySQL provides an ability to search for items within the **DB Explorer** tree. Searching for items may be useful if you have a lot of database objects, and it may be sometimes hard to find the one you need.

There are two search facilities implemented in **SQL Manager** for your convenience. You can search for items within the **DB Explorer** tree in either of the following ways:

• using the **Find Item** dialog

To call the **Find Item** dialog, right-click the **Database** alias or any of the database objects in the **DB Explorer** tree and select the **Find Object...** <u>context menu</u> item, or use the *Ctrl+F* key <u>shortcut</u>.

Find Object	—
Text to find salary	•
Options <u>C</u> ase sensitive <u>W</u> hole words only <u>Regular expressions</u>	Direction <u>F</u>orward <u>B</u>ackward
Scope © <u>G</u> lobal © <u>S</u> elected text	Origin Origin <u>From cursor</u> <u>Entire scope</u>
OK Show <u>A</u> ll	Cancel <u>H</u> elp

Note that you can specify whether the search will be performed within the entire tree or within the currently selected node only: use the \mathbb{Z} **Search by categories** option available within the <u>Tools | DB Explorer</u> section of the <u>Environment Options</u> dialog.

• using the Search Panel

Type in the first letters in the edit-box, and the corresponding object will be highlighted in the tree, as displayed in the picture below. The \square buttons allow you to define the search direction.



By default, the **Search Panel** is activated in the upper area of DB Explorer. To disable the panel, right-click within the panel and deselect the checkbox at the corresponding popup menu item.



Hint: The Search Panel is dockable, i.e. you can drag it to any location within the DB Explorer form.

See	also:	
Find	Text	dialog

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3.9 SQL Assistant

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SQL Assistant which is located at the bottom of the **Database Explorer** window helps you to work with your <u>database objects</u>. Depending on the current selection in DB Explorer, the SQL Assistant area displays additional information pertaining to the selected object.



If you select a **database** in DB Explorer, SQL Assistant displays the list of the database *object groups* and *the number of objects* in each group.

Selecting an **object group** in DB Explorer displays the list of the *objects* in SQL Assistant. Double-clicking the object name in **SQL Assistant** makes the object available for editing in the appropriate editor. The context menu of the object or group of objects (selected with the *Ctrl* or *Shift* keys pressed) allows you to edit or drop the selected objects.

If you select a **table** in DB Explorer, SQL Assistant displays the list of the table subobjects (e.g. *columns* and their *types*) by default. What is displayed in **SQL Assistant** when a table is selected in DB Explorer depends on the **Table Details** selection. Click the **View Mode Solution** button and select the **Table Details | Show...** drop-down menu item, or use the context menu of SQL Assistant. Possible values are: *Show Columns*, *Show Indexes, Show Foreign Keys, Show DDL, Show Description*.

Selecting other objects in **DB Explorer** displays the definition in **SQL Assistant** by default. Use the **Other Objects' Details | Show...** context menu item within the SQL Assistant area to define the content of SQL Assistant when an object is selected in DB Explorer. Possible values are: *Show DDL, Show Description.*



You can also use **SQL Assistant** to work with your <u>queries</u> quickly. You can drag-anddrop object aliases to the <u>SQL Editor</u>, <u>Visual Query Builder</u> or <u>SQL Script Editor</u> working area, in the same way as <u>this operation</u> is performed in **Database Explorer**.

See also:

Database Objects Management

3.10 Configuring Database Explorer

Configuring DB Explorer toolbar

The <u>toolbar</u> of Database Explorer contains most frequently used tools for working with databases and database objects, and a tool for configuring DB Explorer. The following actions are available in the toolbar by default:

• create a new object;

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- refresh the current tree branch;
- <u>connect</u> to a database;
- <u>disconnect</u> from a database;
- view the selected object properties;
- configure Database Explorer using the View Mode menu;
- view the list of <u>recently opened objects</u>;
- jump to any of registered databases quickly.

Click **More buttons...** on the right side of the toolbar and use the **Add or Remove Buttons** popup menu items to define the set of actions available in the toolbar. To <u>customize</u> the toolbar, select the **Add or Remove Buttons | Customize...** item from the popup menu.

📴 Create 🕶 🔯 🗮 💥 🍡 📑 🧯	• 🔗 •	. 😑 🗸 📮	
Search:	Add or Re	emove Buttons 🔻	
	 Image: Image: Ima	Create	
	🖌 🗟	Refresh	F5
	🖌 🗙	Connect to Database	Shift+Ctrl+C
	🖌 🍡	Disconnect from all databases on this host	Shift+Ctrl+D
	 M 	Object Properties	
	🖌 😥	View Mode	
	 S 	Recent	
	✓ 8	Quick Jump to Database	
		<u>C</u> ustomize	

Configuring the Search Panel

Click **More buttons...** on the right side of the <u>Search Panel</u> and use the **Add or Remove Buttons** popup menu items to define the set of the panel elements. To <u>customize</u> the panel, select the **Add or Remove Buttons | Customize...** item from the popup menu.



Using View Mode menu

Use the **View Mode I** <u>toolbar</u> button to configure **Database Explorer** according to your needs.

The drop-down menu called upon clicking this button allows you to:

- show/hide table subobjects as child nodes of <u>tables</u>;
- show/hide host nodes for registered databases;
- sort the list of databases by their aliases in the DB Explorer tree;
- show/hide <u>disconnected databases</u>;
- configure tables' details for the <u>SQL Assistant</u> area;
- configure other objects' details for the <u>SQL Assistant</u> area.



Use the <u>DB Explorer</u> section of the <u>Environment Options</u> dialog (**Options | Environment Options...**) to see more options to configure **Database Explorer**.

See also:

Customize toolbars and menus

Environment Options

3.11 Managing Favorite queries

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Favorite Queries is a new feature of **SQL Manager**. Now you are provided with an opportunity to save the most frequently used SQL queries as Favorite Queries.

Use the **Favorite Queries** node of DB Explorer to access the list of your Favorite queries quickly. Queries stored in the database and those stored in Windows registry can be easily distinguished by their icons.

Using the context menu you can create a new Favorite query or edit an existing one using <u>Favorites editor</u>, open any of the existing queries in <u>SQL Editor</u> or remove a query if you don't need it any longer.

Reports (1) Eavorite Queries (2)					
New_Query1					
New Favorite Query					
Tavorite	₩.	Edit Favorite Query			
E G Server Objects	-	Remove 'New_Query1' from Favorite Queries	Shift+Ctrl+Del		
		Open in SQL Editor			
Databases	C.	New Sub Folder	Shift+Ctrl+S		
🗂 Windows List		Rename Folder			
Tavorite Objects (sa	8	Database Registration Info			
🚹 Views [sakila on mei	8	Refresh Favorite Queries	F5		
👔 Server Objects [mer		Tabs		۲	
	p	Find Object	Ctrl+F		
	R	Find Next Object	F3		

You can also create a separate tab for your Favorite queries. See <u>Using tabs for database</u> <u>navigation</u> section for details.

See also: Using tabs for database navigation Favorites editor



4 Database Management

SQL Manager for MySQL provides a number of tools you may need to manage your MySQL databases.

Find the list of common database management operations for working in **SQL Manager** below.

Unregistering Hosts

In order to unregister a host in SQL Manager for MySQL:

- select the host to unregister in the <u>DB Explorer</u> tree;
- select the Database | Unregister Host <u>main menu</u> item or use the corresponding Unregister Host <u>toolbar</u> button

or

- right-click the host alias and select the Unregister Host <u>context menu</u> item in the <u>DB</u> <u>Explorer</u> tree;
- confirm unregistering in the corresponding dialog window.

Creating Databases

In order to create a database in SQL Manager for MySQL:

- select the Database | Create Database main menu item or use the corresponding Create Database toolbar button;
- set all the necessary options using <u>Create Database wizard</u> which guides you through the entire process of creating a new database.

Dropping Databases

In order to drop a database in SQL Manager for MySQL:

- select the database to drop in the <u>DB Explorer</u> tree;
- select the Database | Drop Database main menu item;
- confirm dropping in the corresponding dialog window.

Registering Databases

In order to register a single database in SQL Manager for MySQL:

• select the **Database | Register Database...** <u>main menu</u> item or use the

corresponding **Pregister Database** <u>toolbar</u> button or

- right-click any database alias and select the Register Database... <u>context menu</u> item in the <u>DB Explorer</u> tree;
- set all the necessary options using <u>Register Database wizard</u> which guides you through the entire process of database registration.

Unregistering Databases

In order to unregister a database in SQL Manager for MySQL:

- select the database to unregister in the <u>DB Explorer</u> tree;
- select the Database | Unregister Database main menu item or use the corresponding
 Unregister Database toolbar button

or

- right-click the database alias and select the Unregister Database <u>context menu</u> item in the <u>DB Explorer</u> tree;
- confirm unregistering in the corresponding dialog window.

Connecting to Databases

In order to connect to a database in SQL Manager for MySQL:

- select the database to connect to in the <u>DB Explorer</u> tree;
- select the Database | Connect to Database <u>main menu</u> item or use the corresponding Connect to Database toolbar button

or

 right-click the database alias and select the Connect to Database <u>context menu</u> item in the <u>DB Explorer</u> tree.

Disconnecting from Databases

In order to disconnect from a database in SQL Manager for MySQL:

- select the database to disconnect from in the <u>DB Explorer</u> tree;
- select the Database | Disconnect from Database <u>main menu</u> item or use the corresponding a Disconnect from Database <u>toolbar</u> button

or

 right-click the database alias and select the Disconnect from Database <u>context</u> <u>menu</u> item in the <u>DB Explorer</u> tree.

Viewing and Editing Database Registration Info

In order to view/edit database registration info in SQL Manager for MySQL:

- select the database or any of its objects in the <u>DB Explorer</u> tree;
- select the Database | Database Registration Info... main menu item or
- right-click the database alias or any of its objects and select the Database Registration Info... context menu item in the <u>DB Explorer</u> tree.

Viewing and Editing Database Properties

In order to view/edit database properties in SQL Manager for MySQL:

- select the database in the <u>DB Explorer</u> tree;
- right-click the database alias and select the **Database Properties...** <u>context</u> <u>menu</u> item or use the corresponding **Properties** <u>toolbar</u> button.

See also:

<u>Getting Started</u> <u>Database Explorer</u> <u>Database Objects Management</u> <u>Query Management Tools</u> <u>Data Management</u> <u>Import/Export Tools</u> <u>Database Tools</u> Server Tools Personalization External Tools How To...

4.1 Create Database wizard

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Create Database wizard allows you to create a new database on your MySQL host.

To start the wizard, select the **Database | b Create Database...** <u>main menu</u> item, or use the **b Create Database** button on the main <u>toolbar</u>.

- <u>Setting database name</u>
- <u>Setting connection properties</u>
- <u>Viewing result SQL statement</u>

Data	abase	View	<u>T</u> ools	Services	<u>O</u> ptions	<u>W</u> indows	<u>H</u> elp
e .	Regis	ter Data	base	Shift	t+Alt+R		
₽.	Unreg	gister Da	tabase	Shift	t+Alt+U		
8	Datab	ase Reg	gistration	Info			
₽.	Datab	ase Reg	gistration	Manager			
Ģ	Unreg	gister Ho	st				
X	Conn	ect to Da	atabase	Shift+	-Ctrl+C		
2	Disco	nnect fro	om Datab	ase Shift+	-Ctrl+D		
	Disconnect from All Databases						
₿.	Cr <u>e</u> at	e Databa	ase				
•	Drop	Databas	e				
						-	

See also: Register Database wizard Database Registration Info Database Properties

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4.1.1 Setting database name

Use this step of the wizard to enter a **name** for the database being created.

Create	Database Wizard	
Cre	ate Database	
	Specify the name for a ne	ew database
	200	Welcome to the Create Database Wizard! This wizard allows you to create a new database and register it in the Database Explorer.
		This wizard will generate the SQL statement for creating the database and execute it on MySQL server.
	SQL Manager	Database name new_db
	MySQL	<u> R</u> egister after creating
E	lelp	< <u>B</u> ack Cancel

Register after creating

Check this option to <u>register</u> the newly created database in **SQL Manager** (the <u>Database</u> <u>Registration Info</u> dialog will be opened after database creation).

Click the **Next** button to proceed to the <u>Setting connection properties</u> step of the wizard.

4.1.2 Setting connection properties

Use this step of the wizard to set the necessary **connection parameters** for the database being created. Use the corresponding boxes and options: *Host name*, *Port*, *User name* and *Password*.

Create	Database Wizard		×
Cre	ate Database		
:	Set connection properties	s for a new database	
		<u>H</u> ost name	doom_server ∨ Port 33571 ▲
	200	<u>U</u> ser name	root
		Pa <u>s</u> sword	•••••
	4 00	Named pipe	
	SQL Manager	Character set	latin1 (ISO 8859-1 West Europe 🗸
	for	Collation	latin1_swedish_ci ~
	MySQL		Set Server Charset
		Use tunneling	
		Tunneling () <u>S</u> SH tunneling	○ <u>H</u> TTP tunneling
μ	lelp		< <u>B</u> ack <u>N</u> ext > Cancel

Specify the host where the database being created will reside: type in the host name in the **Host name** field or select one in the drop-down list.

Enter MySQL port to connect through in the **Port** field and provide *authorization* settings: **User name** and **Password**. If needed you can define the **Named pipe** in case of local MySQL. The named pipe value is stored in the MySQL server configuration file and it is 'MySQL' by default. Please note that only name of named pipe can be used, not a full path. The **Named pipe** field can be also used to specify a Unix socket in case of using HTTP-tunneling on *nix platforms. Unix socket value should start with '/' (Unix path delimiter) and its value is '/tmp/mysgl.sock' by default.

You can select the character set from the **Character set** drop-down list, and the collation for string data from the **Collation** drop-down list. These rules define the page encoding and sort order for string data that will be applied to new string fields by default.

Click **Set server charset** button to apply server settings for the database.

Use tunneling

If this option is checked, you should set tunneling parameters at the Specifying tunneling

parameters step of the wizard.

SSH tunneling

Select this option to establish connection to an intermediate SSH server and forward all MySQL commands through the secure tunnel. The next step of the wizard allows you to define the corresponding parameters for SSH tunneling.

HTTP tunneling

Select this option to access MySQL server through the HTTP protocol in case of Internet access through HTTP proxy only, or if the server does not allow direct connections to MySQL, but allows HTTP connections. The next step of the wizard allows you to define the corresponding parameters for HTTP tunneling.

SSH Tunneling parameters

Specify **SSH Host name**, **SSH port**, **SSH user name**, **SSH password**, the path to the **SSH key file** (if necessary) in the corresponding boxes.

See <u>SSH connection properties</u> for details.

Create	Database Wizard		
Cre	ate Database		
,	Advanced database prop	erties	
	SQL Manager for MySQL	SSH <u>h</u> ost name SSH <u>p</u> ort SSH <u>u</u> ser name SSH pa <u>s</u> sword I Use Private Key for SSH <u>k</u> ey file	localhost 22 tester authentication C:\SSHKeys\dsa_key.ppk
Ē	ielp		< <u>B</u> ack <u>N</u> ext > Cancel

HTTP Tunneling parameters

If you have selected **HTTP tunneling**, you need to upload the tunneling *emsproxy.php*

script to the webserver and specify the **URL** in the corresponding box in the following format: http://webserver_address/emsproxy.php

See <u>HTTP connection properties</u> for details.

Create Database Wizard	
Create Database	
Advanced database properties	
URL SQL Manager for MysQL	http://web_server_name/emsproxy.php
Help	< <u>B</u> ack <u>N</u> ext > Cancel

When you are done, click the **Next** button to view the <u>result SQL statement</u>.

4.1.3 Viewing result SQL statement

View the result *CREATE DATABASE* statement issued for the new database creation. You can alter the script manually, if necessary.

Create Database Wizard		×
Create Database		
Result SQL statement. Cli	ck the Run button to create a new database.	
	Result SQL statement:	
	CREATE DATABASE `new_db`;	A
SQL		
Manager		=
for MySQL		
		-
	< III.	•
Help	< <u>B</u> ack Run Cano	zel

If the **Register after creating** option was checked at the <u>Setting database name</u> step of the wizard, the <u>Database Registration Info</u> dialog will appear.

4.2 Register Database wizard

Register Database Wizard allows you to register a single database.

To start the wizard, select the **Database |** Register Database... main menu item, or use the Register Database button on the main toolbar. You can also use the *Shift+Alt+R* shortcut for the same purpose.

<u>D</u> atabase		abase	<u>V</u> iew	<u>T</u> ools	<u>S</u> ervices	<u>O</u> ptions	Windows	<u>H</u> elp
	egister Database			Shift	t+Alt+R			
	🔒 Unregister Database			Shift	t+Alt+U			

- <u>Setting connection parameters</u>
- <u>Specifying tunneling parameters</u>
- <u>Selecting databases</u>
- <u>Setting specific options</u>

See also:

<u>Create Database wizard</u> <u>Database Registration Info</u> <u>Database Properties</u> 102 SQL Manager for MySQL - User's Manual

4.2.1 Setting connection parameters

Use this step of the wizard to set the necessary **connection parameters** for the new database using the corresponding boxes and options: *Host name*, *Port*, *User name* and *Password*.

Register Database Wizard							
Register Database							
	Specify the connection parameters						
	SOL	Welcome to the Register Database Wizard! This wizard allows you to set the connection parameters for the selected databases only once, giving you the possibility to connect them quickly afterwards. This wizard will guide you through the process of setting the connection parameters, selecting databases, and customizing their specific options.					
	Manager	<u>H</u> ost name	doom_server Port 3306				
	for MySQL	<u>U</u> ser name	root				
		Password	*****				
		<u>N</u> amed pipe					
		☑ Register a single database					
		Use tunneling					
		Tunneling (in) <u>S</u> SH tunneling	<u>H</u> TTP tunneling				
Help Cancel Cancel							

Specify the host where the database being registered resides: type in the host name in the **Host name** field or select one in the drop-down list.

Enter MySQL port to connect through in the **Port** field and provide *authorization* settings: **User name** and **Password**. If needed you can define the **Named pipe** to connect to local MySQL. The named pipe value is stored in the MySQL server configuration file and it is 'MySQL' by default. Please note that only name of named pipe can be used, not a full path. The **Named pipe** field can be also used to specify a Unix socket in case of using HTTP-tunneling on *nix platforms. Unix socket value should start with '/' (Unix path delimiter) and its value is '/tmp/mysql.sock' by default.

Register a single database

Check this option if you wish to register only one database at the host.

Use tunneling

If this option is checked, you should set tunneling parameters at the *Specifying tunneling parameters* step of the wizard.

SSH tunneling

Select this option to establish connection to an intermediate SSH server and forward all MySQL commands through the secure tunnel. The next step of the wizard allows you to define the corresponding parameters for SSH tunneling.

HTTP tunneling

Select this option to access MySQL server through the HTTP protocol in case of Internet access through HTTP proxy only, or if the server does not allow direct connections to MySQL, but allows HTTP connections. The next step of the wizard allows you to define the corresponding parameters for HTTP tunneling.

Click the **Next** button to proceed to the <u>Setting specific options</u> step or to the <u>Selecting</u> <u>databases</u> step of the wizard, depending on whether the **Register a single database** option has been selected or not. If SSH or HTTP tunneling is used, you will proceed to the <u>Specifying SSH tunneling parameters</u> step or <u>Specifying HTTP tunneling parameters</u> step first.

4.2.2 Specifying tunneling parameters

This step appears only when \blacksquare **Use tunneling option** is enabled in the <u>first step</u>. Set of options provided by this step depend on the tunneling type specified.

SSH tunneling parameters

Specify **SSH Host name**, **SSH port**, **SSH user name**, **SSH password**, the path to the **SSH key file** (if necessary) in the corresponding boxes.

See <u>SSH connection properties</u> for details.

Register Database Wizard							
Register Database							
Specify the Secure Shell (SSH) tunnel parameters							
SQL Manager for MysQL	SSH <u>h</u> ost name SSH <u>p</u> ort SSH <u>u</u> ser name SSH pa <u>s</u> sword	localhost 22 tester **** r authentication C:\SSHKeys\dsa_key.ppk					
Help		< <u>B</u> ack <u>N</u> ext > Cane	cel				

HTTP tunneling parameters

You need to upload the tunneling *emsproxy.php* script to the webserver and specify the **URL** in the corresponding box in the following format: http://webserver_address/ emsproxy.php

See <u>HTTP connection properties</u> for details.



Click the **Next** button to proceed to the <u>Setting specific options</u> step or to the <u>Selecting</u> <u>databases</u> step of the wizard, depending on whether the \mathbb{Z} **Register a single database** option has been selected or not.

4.2.3 Selecting databases

This step of the wizard allows you to select the database(s) that reside on the host for registration in **SQL Manager**.

To select a database, you need to move it from the **Available databases** list to the **Selected databases** list. Use the **Selected databases** list. Use the **Selected databases** list to another.

Register Database Wizard							
Register Database							
Select databases to register							
SQL Manager for MySQL	Available databases information_schema asdasd cluster copied copied1 empty kozma largedb mysql new_db111 pump sakila2 sakila3 xtralargedb		Selected databases test sakila				
Help		< <u>B</u> ac	ck <u>N</u> ext > Cancel				

If database is created by executing script in <u>SQL Script</u> editor then the **Register Database** dialog appears.

Move required databases to the Selected databases list of the window and click \mathbf{OK} to register databases.

Register Database						
Databases						
Select databases to register						
Available databases		Selected databases				
		test1 on doom_server				
		OK Cancel Help				

Note: This dialog appears only if the **Register newly created databases** option is enabled in the <u>SQL Script</u> section of <u>Environment Options</u>.

Note: In the **Lite version** you can register only five databases.

Click the **Next** button to proceed to the <u>Setting specific options</u> step of the wizard.

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4.2.4 Setting specific options

This step of the wizard allows you to set the **database name**, **database alias**, and **registration options** (using the *General* and *Logs* tabs).

Register Database Wizard				×			
Register Database							
Set some specific options for registered database(s) and click the Finish button							
	Database <u>n</u> ame	sakila		~			
200	Database <u>a</u> lias	sakila on aschel:33571					
	General SSL Logs						
SQL Manager for MySQL	✓ Refresh objects on co Login prompt before o Use compression pro	onnection connection tocol	☐ Interactive mode ✓ Quote identifiers ☐ Autoconnect at <u>s</u> tart	dη			
Help		< <u>B</u> i	ack <u>F</u> inish	Cancel			

General tab

Database name

Type in or use the drop-down list to select the database to be registered.

If several databases have been selected in the <u>Selecting databases</u> step of the wizard, the list of these databases will be displayed in top of the window. Select a database from the list to view/edit its registration information.
Database			Alias	
est 🖯			test on doom_server(1)	
😑 sakila			sakila on doom_server(1)	
_				
Da	itabase	SSL	Logs	

Database alias

Enter the alias to be used to display the database in <u>DB Explorer</u> and **SQL Manager** tools. By default, a database alias generated by the application has the following format: <database_name> on <host_name>[:<port>]

Refresh objects on connection

This option allows you to enable/disable refreshing objects on connection to the database. It is highly recommended to uncheck this option if your database contains many objects or if connection to the database is slow.

Login prompt before connection

Enables **SQL Manager for MySQL** to <u>prompt</u> for user name and password each time you <u>connect</u> to the database.

Use compression protocol

Enables using the compressed data protocol when connecting to the database server.

W Use SSL protocol

Enables interchanging data with remote MySQL server via encrypted channel, not allowing intruders to intercept your data.

Note: Enabling this option indicates that SSL protocol should be used, if server supports SSL connections. If it doesn't, then despite the option is enabled, SSL protocol will not be used and no warnings will appear.

Interactive mode

Enables using the *interactive_timeout* variable value from my.cnf file instead of *wait_timeout* for connection timeout.

Quote identifiers

Enables quoting all the identifiers with the backquote symbol ('`').

To make SQL scripts obtained using the <u>Extract Database Wizard</u> compatible with older versions of MySQL, uncheck this option.

Note: This option works only with servers that support quoting aliases.

Autoconnect at startup

With this option set, <u>connection</u> to the registered database is established automatically at application startup.

Create new tab for this database

If this option is checked, the database will be displayed within a separate \underline{tab} in \underline{DB} $\underline{Explorer}$.

SSL

The **SSL** tab allows you to connect to the server via encrypted channel for increased security. Only **.pem* files must be defined in the fields at this tab.

SSL mode

Select the required SSL mode from the dropdown menu: Disabled, Preferred, Required, Verify CA or Verify Identity.

General	SSL	Logs	
SSL <u>M</u> ode		Re	quired 🗸
Client <u>c</u> e	ertificate	ci	ent-cert.pem 👌
Client key		ci	ent-key.pem 👌
CA certificate		Са	.pem 👌
Revocation list			2
Cipher			

Client certificate

Select the server client public key certificate file.

Client key

Select the path to the client private key file.

CA Certificate

Define the path to the certificate authority file.

Revocation list

Specify the file containing certificate revocation lists, if required.

Cipher

Specify permissible ciphers for SSL connection.

You can use the 🙆 **Open** button to locate files using a standard dialog.

Logs

General SSL Log	gs					
Enable log of metadata changes Is Unicode Write only successfully executed SQL statements to log						
Log <u>fi</u> le	C:\EMS\SQL Manager for MyE					
Enable log of SQL	Editor gueries	Is Unicode				
Log file	C:\EMS\SQL Manager for Myt					

Enable log of metadata changes

Check this option if you wish to log metadata changes of your database in a file.

Write only successfully executed SQL statements to log

If this option is selected, only successfully executed SQL statements will be written to the specified log file.

Log file

This field is enabled if the **Enable log of metadata changes** option is selected. Type in or use the **Save as** \blacksquare button to specify the path to the *.sql file to store the metadata logs.

Enable log of SQL Editor queries

Check this option if you wish to log your <u>SQL Editor</u> queries in a file.

Log file

This field is enabled if the **Enable log of SQL Editor queries** option is selected. Type in or use the **Save as** \blacksquare button to specify the path to the *.*sql* file to store the logs of SQL queries.

Click the **Run** button when done to start working with the newly registered database in **SQL Manager for MySQL**.

4.3 Database Registration Info

Use the **Database Registration Info** dialog to view and edit the registration properties of the database.

To open the dialog, select the database or any of its objects in the <u>DB Explorer</u> tree, then select the **Database | Database Registration Info...** <u>main menu</u> item, or right-click the database alias in <u>DB Explorer</u> and use the **Database Registration Info...** <u>context</u> <u>menu</u> item. You can also use the **Database Registration Info...** button on the main <u>toolbar</u>.



- Editing connection properties
- <u>Setting database options</u>
- Setting display options
- Setting default directories
- <u>Setting log options</u>
- <u>Setting SSH tunneling options</u>
- <u>Setting HTTP tunneling options</u>
- <u>SSL</u>
- <u>Setting data options</u>
- Find Option

See also:

<u>Create Database wizard</u> <u>Register Database wizard</u> <u>Database Properties</u>

4.3.1 Connection

The **Connection** section of the **Database Registration Info** dialog allows you to view and/or edit the connection properties in the corresponding boxes: *Host name*, *Port*, *User name*, *Password*, *Database name*, *Database alias*, *Host alias*.

Database Registration Info		×
Database Registration Info	Connection Host name User name Password Named pipe Database name Database <u>a</u> lias Host alias	× tester1 ✓ Port 3310 test test tester1_02 ✓ TESTDB remote
Test Connection	Load Connection Info	✓ OK <u>C</u> ancel <u>H</u> elp

Host name

Stores the name of the Host where the database resides.

Port

Enter MySQL port to connect through.

User name

If necessary, edit the User name used to access the database.

Password

If necessary, edit the Password used to access the database.

Named pipe

The named pipe value is stored in the MySQL server configuration file and it is 'MySQL' by

default. Please note that only name of named pipe can be used, not a full path. The **Named pipe** field can be also used to specify a Unix socket in case of using HTTP-tunneling on *nix platforms. Unix socket value should start with '/' (Unix path delimiter) and its value is '/tmp/mysql.sock' by default.

Database name

Stores the name of the database.

Database alias

Stores the database alias which is displayed in the <u>DB Explorer</u> tree and **SQL Manager** tools. By default, a database alias generated by the application has the following format: <database_name> on <host_name>[:<port>]

Once you have specified the connection properties, you can check whether it is possible to establish connection to the database: click the **Test Connect** button for this purpose. If connection is successful, you will get the 'Connected!' message; otherwise an error message will be returned.

The **Load connection info** menu allows you to select the alias of a previously registered database and use it for the newly created/configured database.

Host alias

Set the alias for the current host to be displayed in the DB Explorer.

See also: <u>Common options</u> <u>Display options</u> <u>Default directories</u> <u>Logs</u> <u>SSH tunneling options</u> <u>HTTP tunneling options</u> <u>Data options</u> <u>Find Option</u>

4.3.2 Common options

The **Options** section of the **Database Registration Info** dialog allows you to set various options for the database.

Database Registration Info				
Connection	Options			
Options Display Options Directories Display Options Display Options Directories Display Options SSH Tunneling HTTP Tunneling SSL SSL Data Options Find Option	 Login prompt before connection Use compression protocol Interactive mode Quote identifiers Quote user names Autoconnect on startup Refresh objects on connection Automatically reconnect when connection is lost Use Unix line folding (n) for text fields (for Unix-based servers) Don't use this database registration info to get server objects Use INFORMATION_SCHEMA database to refresh metadata 			
Test Connect	Load connection info	,		

Customize common database options according to your needs. The detailed description is given below.

Login prompt before connection

Enables **SQL Manager for MySQL** to <u>prompt</u> for user name and password each time you <u>connect</u> to the database.

Use compression protocol

Enables using the compressed data protocol when connecting to the database server.

Interactive mode

Enables using the *interactive_timeout* variable value from *my.cnf* file instead of *wait_timeout* for connection timeout.

Quote identifiers

Enables quoting all the identifiers with the backquote symbol ('`'). To make SQL scripts obtained using the <u>Extract Database Wizard</u> compatible with older versions of MySQL, uncheck this option.

Note: This option works only with servers that support quoting aliases.

Quote user names

Enables quoting usernames with the backquote symbol ('`').

Autoconnect at startup

Check this option to specify that **SQL Manager for MySQL** automatically establishes connection to the registered database at application startup.

Refresh objects on connection

This option allows you to enable/disable refreshing objects on connection to the database. It is highly recommended to uncheck this option if your database contains many objects or if connection to the database is slow.

Automatically reconnect when connection is lost

If this option is selected, the application attempts to re-establish database connection upon disconnect.

Use Unix line folding (\n) for text fields (for Unix-based servers)

Check this option to use the "\n" to mark the line break when saving data. The default value is "nr".

Don't use this database registration info to get server objects

If this option is enabled, the registration info of this database will not be used to establish server connection and get server objects (when expanding the Server Objects node in DB Explorer).

W Use INFORMATION_SCHEMA database to refresh metadata

If this option is not checked then metadata is refreshed on the basis of the 'mysql' database.

See also:

<u>Connection</u> <u>Display options</u> <u>Default directories</u> <u>Logs</u> <u>SSH tunneling options</u> <u>HTTP tunneling options</u> <u>Data options</u> Find Option

4.3.3 Display options

The **Display Options** section of the **Database Registration Info** dialog allows you to specify objects to display in the <u>Database Explorer</u>.

Use custom color for DB editors

Check this option to use the selected color for the text on editor tabs opened for the current database

Database Registration Info			×
Connection Options Display Options Directories Logs SSH Tunneling SSL SSL Data Options Find Option	Display Options Use custom color for DB editors Objects to display in DB Explorer Tables Views Procedures Functions UDFs Scheduled Events	 ✓ Triggers ✓ Reports ✓ Favorite Queries ✓ Favorite Objects ✓ Local Scripts 	#408080
Test Connection	Load Connection Info 🔻 📿	DK <u>C</u> ancel	<u>H</u> elp

For your convenience the *Select All* and *Deselect All* functions are implemented in the **context menu** of the objects list area.

See also:
<u>Connection</u>
<u>Common options</u>
<u>Default directories</u>
<u>Logs</u>
<u>SSH tunneling options</u>
HTTP tunneling options
<u>Data options</u>
Find Option

4.3.4 Default directories

The **Directories** section of the **Database Registration Info** dialog allows you to set the directories to be used by default for <u>database extract</u>, <u>backup tables</u>, <u>data export</u>, <u>data</u> <u>import</u>, <u>saving HTML reports</u>, <u>creating reports</u>, saving <u>scripts</u> operations.

Database Registration Info		-X
Connection	Directories	
Options Display Options Directories Logs SSH Tunneling SSL SSL Data Options Find Option	Default directory for Extract Metadata C:\EMS\SQL Manager for MySQL\Extract Metadata\ Default directory for Export Data 3QL Manager for MySQL\Data\ Default directory for Import Data SQL Manager for MySQL\Data\ Default directory for <u>H</u> TML Report C:\EMS\SQL Manager for MySQL\Reports\HTML Reports\ Default directory for <u>Reports</u> C:\EMS\SQL Manager for MySQL\Reports\ Default directory for Local <u>S</u> cripts C:\EMS\SQL Manager for MySQL\Scripts\ Default directory for Backups C:\EMS\SQL Manager for MySQL\Backups\	
Test Connect	Load connection info	elp

See also:

Connection Common options Display options Logs SSH tunneling options HTTP tunneling options Data options Find Option

4.3.5 Logs

The **Logs** section of the **Database Registration Info** dialog allows you to specify log file names for metadata changes logging and SQL query logging, if necessary.

Logging can be useful when you are going to move the changes made in the development database to the production database.

Database Registration Info		×
Connection Options Display Options Directories Logs SSH Tunneling SSL SSL Data Options Find Option	Logs Metadata changes Image:	
Test Connect	Load connection info	lp.

Metadata changes

Enable log of metadata changes

Check this option if you wish to log metadata changes of your database in a file.

Write only successfully executed SQL statements to log

If this option is selected, only successfully executed SQL statements will be written to the specified log file.

Metadata log file

This field is enabled if the **Enable log of metadata changes** option is selected. Type in or use the \blacksquare **Save as** button to specify the path to the *.sql file to store the metadata logs.

SQL Editor

Enable log of SQL Editor queries

Check this option if you wish to log your <u>SQL Editor</u> queries in a file.

SQL Editor log file

This field is enabled if the **Enable log of SQL Editor queries** option is selected. Type in or use the **Save as** button to specify the path to the *.*sql* file to store the logs of SQL queries: date/time of query execution, SQL text, execution result or errors (if any).

🗹 In Unicode

Enable this option to save logs in Unicode. If the option is disabled, ANSI will be used.

See also: <u>Connection</u> <u>Common options</u> <u>Display options</u> <u>Default directories</u> <u>SSH tunneling options</u> <u>HTTP tunneling options</u> <u>Data options</u> <u>Find Option</u>

4.3.6 SSH tunneling options

The **SSH Tunneling** section of the **Database Registration Info** dialog allows you to enable/disable SSH tunneling for connection to the database and set all the necessary SSH tunneling parameters.

Connect through the Secure Shell (SSH) tunnel

Select this option to establish connection to an intermediate SSH server and forward all MySQL commands through the secure tunnel.

Specify **SSH Host name**, **SSH port**, **SSH user name**, **SSH password**, the path to the **SSH key file** (if necessary) in the corresponding boxes.

See <u>SSH connection properties</u> for details.

Note: MySQL host name on the <u>Connection</u> page should be set relatively to the SSH server in this case. For example, if both MySQL and SSH servers are located on the same computer, you should specify *localhost* as **Host name** instead of the server's external host name or IP address.

Database Registration Info					
	SSH Tunneling				
Display Options	Connect through th	e Secure SHell (SSH) tunnel			
Directories	SSH <u>h</u> ost name	vadsrv			
SSH Tunneling	SSH port	22			
HTTP Tunneling	SSH <u>u</u> ser name	tester			
Data Options	SSH password	authentication			
Find Option	SSH <u>k</u> ey file	C:\SSHKeys\dsa_key.ppk			
	Note: You cannot conne simultaneously. The HT tunnel. SSL connections are no	ect through the SSH tunnel and the HTTP tunnel TP tunnel will be disabled when you select the SSH of available when SSH tunnel is enabled.			
Test Connect	Load connection info	OK <u>C</u> ancel <u>H</u> elp			

Please note that either *SSH tunneling*, or *HTTP tunneling* can be used for one connection, but not both types simultaneously.

See also: Connection Common options Display options Default directories Logs HTTP tunneling options Data options Find Option

4.3.7 HTTP tunneling options

The **HTTP Tunneling** section of the **Database Registration Info** dialog allows you to enable/disable HTTP tunneling for connection to the database and set the necessary HTTP tunneling parameters.

Connect through the HTTP tunnel

Select this option to access MySQL server through the HTTP protocol in case of Internet access through HTTP proxy only, or if the server does not allow direct connections to MySQL, but allows HTTP connections.

In order to use HTTP tunneling for the connection, you need to upload the tunneling *emsproxy.php* script to the webserver and specify the **URL** in the corresponding box in the following format: http://webserver_address/emsproxy.php

See <u>HTTP connection properties</u> for details.

Note: In case of using this connection method, the response will be slower as compared to the direct connection or SSH Tunneling method, as the data are XML encoded and HTTP is stateless by nature.

Database Registration Info	×
Connection	HTTP Tunneling
Display Options	Connect through the HTTP tunnel
	URL http://webserver_name/emsproxy.php
HTTP Tunneling	Note: You cannot connect through the HTTP tunnel and the SSH tunnel simultaneously. The SSH tunnel is disabled when you select the HTTP tunnel
Data Options	Attention: Transactions are not supported with HTTP tunneling enabled. EMSProxy.php is available in the application installation directory.
Test Connect	Load connection info

Please note that either *SSH tunneling*, or *HTTP tunneling* can be used for one connection, but not both types simultaneously.

See also:

Connection Common options Display options Default directories Logs SSH tunneling options Data options Find Option

4.3.8 SSL

The **SSL** tab allows you to connect to the server via encrypted channel for increased security. Only *.*pem* files must be defined in the fields at this tab.

SSL mode

Select the required SSL mode from the dropdown menu: *Disabled*, *Preferred*, *Required*, *Verify CA or Verify Identity*.

Database Registration Info		×
Connection	SSL	
Options	SSL Mode	Required
Display Options	Client certificate	client-cert.pem
	Client key	client-key pem
- CALE SSH Tunneling	CA certificate	ca nem
SSL SSL	Pevocation list	
Data Options	Cipher	
	Cibilei	
Test Connection	Load Connection In	fo ▼ OK <u>C</u> ancel <u>H</u> elp

Client certificate

Select the server client public key certificate file.

Client key

Select the path to the client private key file.

CA Certificate

Define the path to the certificate authority file.

Revocation list

Specify the file containing certificate revocation lists, if required.

Cipher

Specify permissible ciphers for SSL connection.

You can use the 🖻 **Open** button to locate files using a standard dialog.

4.3.9 Data options

The **Data Options** section of the **Database Registration Info** dialog allows you to define options for <u>data view</u>. These options will be applied only to this database. Default settings for newly registered databases can be defined on the <u>Grid | Data Options</u> page of the <u>Environment Options</u> dialog.

Database Registration Info		×
Connection Options Options Display Options Directories Uogs SSH Tunneling SSL SSL Data Options Find Option	Data Options Default limit options in table and view editors Select all records from a table Select only 1000 records Advanced Use separate connections for each data view within a database Asynchronous query execution Use transactions Perform data sorting on client in data view Default Grid Mode Load visible records Load visible rows mode if records more than 3000 records Note: Changes of these options do not influence the way data are viewed currently opened windows.	d in
Test Connect	Load connection info	p

Default limit options in table and view editors

Define the number of records to be selected on opening the **Data** tab of <u>Table Editor</u> and <u>View Editor</u>:

Select all records from a table

Select only ... records (you should set the number of records using the corresponding spinner control)

Advanced

W Use separate connections for each data view within a database

Select this option to disable creation of a separated connection for each data view. Enabling this option is recommended if maximum allowed number of connections is too low.

Asynchronous query execution

Check this option to allow executing queries in background mode (asynchronously).

Use transactions

Check this option to enable transactions for data in a grid.

Perform data sorting on client in data view

If enabled, the data are sorted by **SQL Manager for MySQL** (on the client side). If this option is disabled, the data are sorted on MySQL server with the help of the *ORDER BY* clause used in SQL query.

Perform data filtration on client in data view

If enabled, the data are filtered by **SQL Manager for MySQL** (on the client side). If disabled, SQL filter is used in <u>data view</u>. In this case filtering is performed on the MySQL server with the help of the *WHERE* clause used in SQL query.

With the **Perform data sorting on client in data view** option enabled, sorting is performed by means of the grid. Otherwise a click on the column header for sorting causes reloading all table data with the selected columns in the *ORDER BY* expression of the *SELECT* statement.

If the table contains a huge amount of records and the **Select only N records** mode (see the **Default limit options in table and view editors** group) is used, this mode is more preferable (e.g. all the records having values starting with "A" will be displayed, and not those which were in originally opened N records).

All above-mentioned is related to the **Perform data filtration on client in data view** option as well. If the filter is applied to a table containing a great number of records, it is strongly recommended to enable this option - in this case the filter will be applied to all table/view records, not only to those which are displayed at the present moment.

Default Grid Mode

Load all records

The grid loads all records from a dataset. This option increases the grid performance by reloading only changed dataset records when updating. In this mode all features (automatic sorting, filtering and summary calculations) are available.

Load visible records

The grid loads only a fixed number of dataset records into memory. This option minimizes dataset loading time. The automatic sorting, filtering, summary calculations are not supported in this mode.

The **Default grid mode** options allow you to define the grid mode which will be used by default.

With the **Load all rows** option enabled, when loading data, all the records are loaded into grid buffers. In this mode opening the tables with many records may take a considerable amount of time. But in this case you can make use of some advantages: in the filter drop-down list the column headers are displayed with the values for quick filtering; it is possible to open several sub-levels at the same time when viewing data in master-detail view, etc.

In case opening and other operations with an object consisting of many records takes sufficient time, the **Load visible rows** mode should be used instead. It can be set individually for each table and saved between sessions (can be set via the context menu

of the <u>grid</u>).

See also:

Connection Common options Display options Default directories Logs SSH tunneling options HTTP tunneling options Find Option

4.3.10 Find Option

The **Find Option** section allows you to search for options available within the **Database Registration Info** dialog easily and quickly.

Option

In this field you can enter the name of the option to search for within the database registration options.

Database Registration Info						×
Database Registration Info	Find Option Option Available Optio SSH user name Use Private Ke Use separate o User name Use compressi Use INFORMA Use Unix line fi Don't use this o	use ons y for auther connections on protocol TION_SCHE olding (\n) fi database re	Option Kind Database Registr Database Registr Database Registr Database Registr Database Registr Database Registr Database Registr Database Registr	Category SSH Tunneling SSH Tunneling Data Options Connection Options Options Options Options	Group	
Test Connect	Quote user na Use SSL protoc	info v	Database Registr Database Registr	Options SSL	Show Optio	

The **Available options** area lists all options of the Database Registration category according to the specified name. The **Option Kind**, **Category** and **Group** columns specify option type and location.

Select the required option in the list and click **Show Option** to open the corresponding section where you can view/edit the value of this option. For your convenience the required option is marked with an animated $\frac{1}{20}$ icon.

See also: <u>Connection</u> <u>Common options</u> <u>Display options</u>

Default directories Logs SSH tunneling options HTTP tunneling options Data options

4.4 Database Properties

The **Database Properties** dialog allows you to view/edit a number of properties which can be changed to optimize database performance.

To open the dialog, right-click the database alias in <u>DB Explorer</u> and select the **M Database Properties...** <u>context menu</u> item, or use the **M Properties** button on the DB Explorer <u>toolbar</u>.

A number of database options that determine the characteristics of the database can be set for each database. These options are unique to each database and do not affect other databases.

- Options
- <u>Objects summary</u>
- <u>DDL</u>

-		
X	Connect to Database	Shift+Ctrl+C
2	Disconnect from Database	Shift+Ctrl+D
8	Database Registration Info	
1	Database Properties	
	Rename Database	Ctrl+R
8	Register Database	Shift+Alt+R
8	Unregister Database	Shift+Alt+U
Ģ	Unregister Host	
Q	Server properties	
0	Show <u>H</u> osts	
	Sort by Aliases	
	Hide Disconnected Databases	
2	Refresh Database	F5
	Refresh Server Objects of doom_se	erver on Connection
	New Tab from Here	
	Rename Current Tab	
	Delete Current Tab	
ρ	Find Object	Ctrl+F
	Database Tools	•

See also: Create Database wizard

Register Database wizard Database Registration Info

4.4.1 Options

The **Options** section of the **Database Properties** dialog allows you to view/edit general database properties: *Database name*, *Server version*, *Character set*, *Collation*.

Database Properties		
Options	Options	
DDL	Database name Server version <u>C</u> haracter set Collation The database chara table character set a statements. They ha	sakila 5.1.9-beta latin1 (ISO 8859-1 West European) latin1_swedish_ci cter set and collation are used as default values if the and collation are not specified in CREATE TABLE twe no other purpose.
		OK Cancel Help

A number of **character sets** can be used to store MySQL data, and the server allows comparisons according to a variety of **collations**. Character sets can be specified at the *server*, *database*, *table* and *column* levels.

Use the respective drop-down lists to specify **character set** and **collation** to be used to store data in the database.

See also: Objects summary DDL

4.4.2 Objects summary

The **Objects summary** section of the **Database Properties** dialog displays summary of the objects contained within the current database (including objects count and their total size in groups).

Database Properties			×	
Options	Objects summary			
Objects summary	Objects	Count	Data size	
	Tables	27	4,28 MB	
	1 Indices	47 2,50 MB		
	Triggers	6		
	Procedures	5		
	Eunctions	3		
	Views	7		
	🐱 UDFs	0		
			Detekses Ciese C 70 MD	
			Database Size: 0,78 MB	
		<u>о</u> к	Cancel Help	

Hint: The pane at the bottom displays the overall database size.

See also:	
<u>Options</u>	
DDL	

4.4.3 DDL

The **DDL** section of the **Database Properties** dialog displays DDL of the selected database with current options set.

Database Properties		×			
Options	DDL				
Objects summary	CREATE DATABASE `sakila`	-			
	2 CHARACTER SET 'latin1' 3 COLLATE 'latin1 swedish ci':				
		=			
		-			
		-			
	<u>O</u> K <u>C</u> ancel <u>H</u> e	lp 📃			

See also: Options Objects summary

4.5 Database Registration Manager

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Database Registration Manager allows you to register new databases and delete the registration of non-existent databases.

To open **Database Registration Manager** use the corresponding item of the <u>host</u> <u>context menu</u>.

🔒 Database Registration Ma	anager					x
doom_server			- 🖻 🗸 🔒 🔒	ß		Ţ
Host	*	Da	tabase	Registered with alias	Register	
		8	empty			
doom_server	•	8	information_schema			
Conoral	•	8	kozma			
General	Ŷ	8	largedb			
Refresh		8	mysql			
Belect all		8	new_db			
Uncheck all		8	new_db111			Ξ
Uncheck deleted DB		8	pump			
		8	sakila	sakila on doom_server		
Legend	*	8	sakila2			
Distant and		8	sakila3			
EXIST ON NOST		8	test	test on doom_server	V	
U Removed non nost		8	xtralargedb			Ŧ
						.::

Table contains all databases located on the selected host. You can change **Host** selection using the appropriate drop-down list in the <u>navigation bar</u>. Check all databases to be registered.

For automatic registration of selected databases click the **Apply changes button**.

See also: Register Database wizard

4.5.1 Using Navigation bar and Toolbar

The **Navigation bar** and **Toolbar** provide quick access to tools implemented in **Database Registration Manager**.

*
•
\$
*

The Navigation bar of Database Registration Manager allows you to:

Host group select a host

General group

Refresh the list of databases

Apply changes - register selected databases

- Belect a database located on the host, but not registered in <PRODUCT_TITLE>
- 🗄 Uncheck all
- 🖶 Uncheck deleted DB

Legend group indicates existing database indicates removed from host database

Items of the **Navigation bar** are also available on the **ToolBar** of **Schema Editor**. To enable the <u>toolbar</u>, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select **(i)** *Toolbar* (if you need the toolbar only) or **(i)** *Both* (if you need both the toolbar and the <u>Navigation bar</u>) in the **Bar style for child forms** group.



5 Database/Server Objects Management

SQL Manager for MySQL provides powerful tools to manage database objects.

To obtain detailed information concerning MySQL database objects, refer to the official MySQL server documentation.

Note: Before working with database objects in **SQL Manager for MySQL** you should <u>connect to the database</u> first.

Creating Database Objects

To create a database object:

- select the Database | New Object... main menu item;
- select the type of object within the <u>New Object</u> dialog;
- follow the steps of the wizard which guides you through the entire process of creating the object, or set the object properties using its editor - depending on the selected object type.

Note that you can also create a database object by selecting the appropriate $\frac{\text{context}}{\text{menu}}$ item of the <u>DB Explorer</u> tree or using the *Ctrl+N* shortcut.

Editing Database Objects

To edit a database object:

- select the database object in the <u>DB Explorer</u> tree;
- right-click the object to call its <u>context menu</u> and select the Edit <object type>
 <object name> context menu item, or double-click the object to open it in its editor.

Renaming Database Objects

To rename a database object:

- select the object to rename in the <u>DB Explorer</u> tree;
- right-click the object and select the Rename <object type> <object name>... item from the <u>context menu;</u>
- edit the object name using the **Rename Object...** dialog.

Note: This operation is possible for all objects except for <u>scheduled events</u>.

Dropping Database Objects

To drop a database object:

- select the database object in the <u>DB Explorer</u> tree;
- right-click the object to call its <u>context menu</u> and select the **Drop <object type>** <object name> context menu item;
- confirm dropping in the dialog window.

When using an object editor, you can benefit from **tabs**. To switch between tab views, click on their respective tabs at the top of the main editor window. You can do it at any time, since the tab views are absolutely independent.

To compile a newly created or edited object, you can use the $\frac{4}{9}$ **Compile** item available within the <u>Navigation bar</u> or <u>Toolbar</u> of the object editor.

Note: If more convenient, you can also use the following <u>shortcuts</u>: *Ctrl+N* to create a new object; *Ctrl+O* to edit the selected object; *Ctrl+R* to rename the object; *Shift+Del* to drop the object from the database.

See also: Getting Started Database Explorer Database Management Query Management Tools Data Management Import/Export Tools Database Tools Server Tools Personalization External Tools How To...

5.1 New Object

The **Create New Object** dialog allows you to select the type of the object to be created and run the appropriate wizard or editor.

To open the dialog, select the **Database |** 🔤 **New Object...** <u>main menu</u> item.



Define which object you need to create:

Oreate database object

Use the drop-down list to select the database where an object should be created. The list contains only database with <u>active connection</u>.

Oreate server object

Use the drop-down list to select the host to create object for.


Pick an object type icon and click **OK** to invoke the corresponding wizard or dialog.



5.2 Duplicate Object Wizard

Use the **Duplicate Object Wizard** to create a new database object of the same type and having the same properties as one of the existing ones.

To run the wizard, select the **Database** | Duplicate Object... <u>main menu</u> item, or right-click an object of the desired type in the <u>DB Explorer</u> tree and use the **Duplicate** <object type> <object name>... <u>context menu</u> item.

Data	abase	<u>V</u> iew	<u>T</u> ools	<u>S</u> ervices	<u>O</u> ptions	<u>W</u> indows	<u>H</u> elp
₽,	Regis	ter Data					
₽.	Unreg	gister Da	tabase	Shift	t+Alt+U		
8	Datab	ase Reg	gistration	Info			
e .	Datab	ase Reg	gistration	Manager			
Ģ	Unreg	gister Ho	st				
X	Conn	ect to Da					
•	Disco						
	Disconnect from All Databases						
₿.	Cr <u>e</u> ate Database						
В.	Drop						
	New	Object					
B	Duplic	cate Obj	ect				

- <u>Selecting the source database</u>
- <u>Selecting object to duplicate</u>
- <u>Selecting destination database</u>
- <u>Specifying object details</u>
- Modifying the new object's definition

See also:

Operations with database objects New Object Database objects Server objects 147 SQL Manager for MySQL - User's Manual

5.2.1 Selecting the source database

This step of the wizard allows you to select the **source database** containing the source object to be duplicated.

👸 Duplicate	Object Wizard			×			
Duplicate	e Object						
Select	the source databa	se or server					
		Welcome to the Duplicat This wizard allows you t properties as one of the	e Object Wizard! o create a new database or server object with the same existing objects has.)			
		This wizard will request the source object, the name of the new object, generate the SQL statement for creating the new object, and execute this statement.					
SC M	QL anager	Duplicate database object					
tor My	SQL	Source database	sakila on doom_server [sakila]	_			
		Duplicate server object	ect				
		Source server	🥊 doom_server	-			
<u>H</u> elp			< Back Next > Canc	el			

Click the **Next** button to proceed to the <u>Selecting object to duplicate</u> step of the wizard.

5.2.2 Selecting object to duplicate

Use the **Objects** drop-down menu to select the type of object you intend to duplicate.

Select a database object to copy its properties to the new object.

Hint: The **context menu** of the objects list area allows you to specify whether objects of the specified type should be displayed as *icons* or as *list*.

🚰 Duplicate Object Wizard						— ×
Duplicate Object						
Select the object to duplic	ate					
	<u>O</u> bjects	Tables		•		
<u>76</u>	Tables					
				- 9	9	Â
SQL	actor	address	category	city	country	
Manager for MySQL			List	P	9	E
	customer	employee	film	film_actor	film_category	
				9	9	
	film_text	inventory	language	mymfavorites	mymreports	
						Ψ.
Help			< <u>B</u> ack	<u>N</u> ext :	Can	cel

Click the **Next** button to proceed to the <u>Selecting destination database</u> step of the wizard.

5.2.3 Selecting destination database

Select the **target database** to create the new object in, set the **name** of the new database object.

📶 Dup	plicate Object Wizard			×
Dup	plicate Object			
	Select the target database	e and the new object name		
		Target database	😑 sakila on doom_server [sakila]	•
	200	New object name	address_new	
		Table options		
	SQL	Copy <u>data</u> Copy autoincrement fields		
	Manager	Rename subobjects		
	MySQL			
Ŀ	<u>1</u> elp		< <u>B</u> ack <u>N</u> ext > Can	cel

Table options

Check the **Copy data** option to copy data from the source table to the new one.

Copy autoincrement columns

This option determines whether autoincrement columns should be copied to the destination table or not (available for certain tables only).

Rename subobjects

This option determines whether subobject names will be changed in accordance with the changes in the name of the object being copied.

Click the **Next** button to proceed to the <u>Specifying object details</u> step of the wizard.

5.2.4 Specifying object details

Specify **object details** (subobjects - <u>Indices</u>, <u>Foreign Keys</u>, <u>Triggers</u>, dependent objects) to be duplicated in the target object.

Note: Availability of this step depends on the type of object being duplicated.

🛅 Duplicate Object Wizard			×
Duplicate Object			
Modify the new object defi	nition and click the F	Run button to create the object	
SQL Manager for MysQL		Indices PRIMARY idx_fk_city_id_new Foreign Keys fk_address_city_new	
Help		< <u>B</u> ack <u>N</u> ext > Can	cel

Click the **Next** button to proceed to the <u>Modifying the new object's definition</u> step of the wizard.

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5.2.5 Modifying the new object's definition

This step of the wizard allows you to browse **the result SQL statement**.

If necessary, you can edit the definition of the new object.

📅 Duplicate Object Wizard	
Duplicate Object	
Modify the new object de	inition and click the Run button to create the object
	New object definition
SQL Manager for MySQL	CREATE TABLE 'address_new' ('address_id' <u>SMALLINT</u> (5) UNSIGNED NOT NULL, 'address' <u>VARCHAR</u> (50) COLLATE utf8_general_c 'address2' <u>VARCHAR</u> (50) COLLATE utf8_general_ 'district' <u>VARCHAR</u> (20) COLLATE utf8_general_ 'city_id' <u>SMALLINT</u> (5) UNSIGNED ZEROFILL NOT : 'postal_code' <u>VARCHAR</u> (10) COLLATE utf8_general_ci : 'phone' <u>VARCHAR</u> (20) COLLATE utf8_general_ci : 'last_update' <u>TIMESTAMP</u> NULL ON UPDATE CURRE) ENGINE=InnoDB AUTO_INCREMENT=606 AVG_ROW_LENGTH=139 CHARACTE COMMENT='InnoDB free: 225280 kB; ('city_id') R ; 4 ALTER TABLE 'address_new' ADD PRIMARY KEY USIN *
Help	< <u>B</u> ack Cancel

Click the **Run** button to create the object.

5.3 Database objects

SQL Manager for MySQL provides user with all necessary tools for working with database objects.

Note: To start working with objects you need to <u>connect to database</u> first.

Tables Views Stored procedures Stored functions User defined functions Scheduled events Triggers

See also:

Operations with database objects New Object Duplicate Object Wizard Server objects

5.3.1 Tables

Relational databases store all their data in **Tables**. A table is a data structure consisting of an unordered set of horizontal rows, each containing the same number of vertical columns. The intersection of an individual row and column is a field that contains a specific piece of information. Much of the power of relational databases comes from defining the relations among the tables.

Creating Tables

To create a new table:

- select the Database | New Object... main menu item;
- select Table in the <u>Create New Object</u> dialog;
- define table properties and fields using the appropriate tabs of <u>Table Editor</u>.

Hint: To create a new table, you can also right-click the **Tables** node or any object within this node in the <u>DB Explorer</u> tree and select the **New Table...** item from the <u>context menu</u>.

To create a new table with the same properties as one of existing tables has:

- select the Database | Duplicate Object... menu item;
- follow the instructions of <u>Duplicate Object Wizard</u>.

Alternatively, you can right-click a table in the <u>DB Explorer</u> tree and select the **Duplicate Table <table_name>...** context menu item.

<u>Duplicate Object Wizard</u> allows you to select the database to create a new table in, and to edit the result SQL statement for creating the table.

Editing Tables

To edit an existing table (manage its <u>fields</u>, <u>indexes</u>, <u>data</u>, etc.):

- select the table for editing in the <u>DB Explorer</u> tree (type the first letters of the table name for quick <u>search</u>);
- right-click the object and select the Edit Table <table_name> context menu item, or simply double-click the table;
- edit table subobjects and data using the appropriate tabs of Table Editor.
- To change the name of a table:
 - select the table to rename in the <u>DB Explorer</u> tree;
 - right-click the table alias and select the Rename Table <table_name>... item from the <u>context menu;</u>
 - edit the table name using the **Rename Object...** dialog.

Dropping Tables

To drop a table:

- select the table to drop in the <u>DB Explorer</u> tree;
- right-click the object and select the Drop Table <table_name>... context menu item;
- confirm dropping in the dialog window.

Note: If more convenient, you can also use the following <u>shortcuts</u>: *Ctrl+N* to create a new table;

Ctrl+O to edit the selected table; *Ctrl+R* to rename the table; *Shift+Del* to drop the object from the database.

5.3.1.1 New Table

Relational databases store all their data in **Tables**. A table is a data structure consisting of an unordered set of horizontal rows, each containing the same number of vertical columns. The intersection of an individual row and column is a field that contains a specific piece of information. Much of the power of relational databases comes from defining the relations among the tables.

Creating Tables

To create a new table:

- select the Database | New Object... main menu item;
- select Table in the Create New Object dialog;
- define table properties using the appropriate tabs of <u>Table Editor</u>.

Hint: To create a new table, you can also right-click the **Tables** node or any object within this node in the <u>DB Explorer</u> tree and select the **New Table** item from the <u>context</u> <u>menu</u>.

Renaming Tables

To rename a table:

- select the Rename Table <table_name> item from the table context menu or
- simply press Ctrl+R

Editing Tables

To edit table:

• double-click the table in <u>DBExplorer</u> to open it in the <u>Table Editor;</u>

or

• right-click the table in <u>DBExplorer</u> and select the **Edit Table <table_name>** item from the <u>context menu</u>.

Dropping Tables

To drop table:

 right-click the table in the <u>DBExplorer</u> and select the **Drop Table <table_name>** item;

or

• select the table and press Ctrl+Del.

Duplicating table

There is a specific <u>wizard</u> for duplicating objects. To copy table use the **Duplicate Table <table_name>** item from the <u>table context menu</u>. Duplicate object wizard in this case will be opened at the <u>Selecting destination database</u>, as the previous ones provide selecting of source database and object to copy.

- Using Navigation bar and Toolbar
- <u>Setting table properties</u>
- <u>Specifying table fields</u>
- <u>Viewing DDL definition</u>

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5.3.1.1.1 Using Navigation bar and Toolbar

The **Navigation bar** and **Toolbar** provide quick access to tools implemented in **Table Editor**.



The Navigation bar of Table Editor (in the New table mode) allows you to:

Database group

号 select a database to create a new table in

General group

- ✓ compile the newly created table
- 🥙 view MySQL reference
- z restore the default size and position of the editor window

Note: Navigation bar items can vary for different tabs of the editor.

Items of the **Navigation bar** are also available on the **ToolBar** of **Table Editor**. To enable the <u>toolbar</u>, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select **(i)** *Toolbar* (if you need the toolbar only) or **(i)** *Both* (if you need both the toolbar and the <u>Navigation bar</u>) in the **Bar style for child forms** group.

5.3.1.1.2 Setting table properties

Use the **Table** tab of **Table Editor** to create a table and specify its properties.

Table name

Enter a name for the new table. Note that table names must comply with the rules for identifiers and must be unique within the database.

	📑 New Table - [my82_testdb на win11:3390]								
	🗄 🛢 Databases 👻 🗲 🕜 🕞								
	Table Columns Partitions DDL								
	Table Properties								
	Table name new_table								
	Storage Options								
	Storage <u>e</u> ngine	InnoDB ~							
	Row <u>f</u> ormat	DEFAULT ~							
	<u>M</u> in. rows	0							
Π	M <u>a</u> x. rows	0							
	Auto increment <u>v</u> alue	0							
	Average row length	0							
>	Size for index key blocks	0							
	Check sum	Delay key write							
	Pack <u>k</u> eys	Temporary							
	Character Sets File Options Clus	ster Options							
	Character set	Default 🗸							
	Collation	Default 🗸							
	Description								
		^							
		~							

Optionally, you can specify <u>Storage Options</u> and <u>view table status</u>.

5.3.1.1.3 Specifying fields

The **Columns** tab is intended for setting up table columns. Double-click a column to open Column<u>Editor</u> for editing the column.

Right-click within the **Table Columns** area to display the context menu allowing you to *insert, edit* or *delete* columns.

Columns management tools are also available through the <u>Navigation bar</u> and <u>toolbar</u> of **Table Editor**.

	III New Table - [my82_testdb на win11:3390]										
	🗄 🛢 Databases 👻 🗲 🛛 😨										
	Table	Col	umns	Partitions	DDL						
	Table (Colu	mns								
	Primary	κ	Colun	nn Name	Data Ty	ре		Size	Precision	n Not Null	Default Value
	7	1	ID		INTEGE	R		0	0	\checkmark	
			Name		VARCH	AR	\sim	20	0	\checkmark	
>					DECIMA DATE DATETI TIMEST TIME YEAR CHAR VARCH				•		

The **Table Columns** list provides the following attributes of each column of the new table:

Primary Key Column Name Data Type Size Precision Not Null Default Value

For details see Columns.

To compile the table, use the $\frac{1}{9}$ **Compile** item available within the <u>Navigation bar</u> or <u>toolbar</u>.

5.3.1.1.4 Partitions

Partitioning states for dividing big tables into logical parts due to the selected criteria. Partitions are available for server version 5.1 and higher. This feature cannot be applied to *federated* tables.

Use the respective tab of Table Editor to define **Partitioning** settings.

New Table - [my82_testdb на win11:3390]									
😑 Databases 👻 🗲 🛛 😨									
Table Columns Partitions	DDL								
Partitions options									
Partition type	Range		~						
Partition expression	Year(da	te)							
Subpartition type	Hash		~						
Subpartition expression name									
> Partition name	Partition valu	le		Comment					
> Partition name	Partition valu	ie		Comment					
Partition name Part1 Sub sPart10 Sub sPart11	Partition valu	ie ₹₽	<u>N</u> ew partition	Comment					
 Partition name Part1 Sub sPart10 Sub sPart11 Part2 	Partition valu	v • • • • • •	<u>N</u> ew partition Edit partition	Comment					
 Partition name Part1 Sub sPart10 Sub sPart11 Part2 Sub sPart20 	Partition valu 10 20	وې دې او	<u>N</u> ew partition Edit partition Drop partition	Comment					
 Partition name Part1 Sub sPart10 Sub sPart11 Part2 Sub sPart20 Sub sPart21 	Partition valu 10 20		New partition Edit partition Drop partition Add subpartition	Comment					
 Partition name Part1 Sub sPart10 Sub sPart11 Part2 Sub sPart20 Sub sPart21 	Partition valu 10 20		New partition Edit partition Drop partition Add subpartition Edit subpartition	Comment					
 Partition name Part1 Sub sPart10 Sub sPart11 Part2 Sub sPart20 Sub sPart21 	Partition valu 10 20		New partition Edit partition Drop partition Add subpartition Edit subpartition Drop subpartition	Comment					

Partition type

Use the drop-down list to define data division method.

• Range

A table that is partitioned by range is partitioned in such a way that each partition contains rows for which the partitioning expression value lies within a given range.

```
Example:
PARTITION BY RANGE (store_id) (
PARTITION p0 VALUES LESS THAN (10),
```

• List

In list partitioning, each partition is defined and selected based on the membership of a column value in one of a set of value lists.

Example: PARTITION BY LIST(store_id) (PARTITION pNorth VALUES IN (3,5,6,9,17),

• Hash

Partitioning by HASH is used primarily to ensure an even distribution of data among a

predetermined number of partitions. You need only specify a column value or expression based on a column value to be hashed and the number of partitions into which the partitioned table is to be divided.

Linear hash

Linear hashing differs from regular hashing in that linear hashing utilizes a linear powersof-two algorithm whereas regular hashing employs the modulus of the hashing function's value.

• Key

Partitioning by key is similar to partitioning by hash, except that where hash partitioning employs a user-defined expression, the hashing function for key partitioning is supplied by the MySQL server.

PARTITION BY KEY(s1) PARTITIONS 10;

Note: Several partitions of different types can't be created. If you change **Partition type** then all partitions and subpartitions created before will disappear.

Partition expression

Column, expression, exact value or list of values which defines data division logic for partitions.

Add new partition	—
Partition name	Part1
Partitioning range	1000
Comment	
<u>о</u> к	Cancel Help

Specify **Partition name** and **Comment** for the created partition.

Partition value is used only in partitions by range. It defines range of values. All records that meet the 'LESS THAN<PARTITION VALUE' are included in partition.

List of values is available when creating partition by list. Press the 🔤 ellipsis button to open dialog allowing you to define the list of values.

Partitioning va	ues list			×
Value				
1				
2				
3				<u>U</u> p
4				Down
5				
Value	1		*	-
Add	Replace	Remove		
	<u>o</u> k <u>c</u>	ancel	<u>H</u> elp	

Specify value and click **Add** to include this value in list.

Select a value in the list and click **Replace** to insert new value instead of the selected one.

You can change position of the selected value using the **Up** and **Down** buttons. When done, click **OK** to apply changes.

Subpartition type

It is the further division of each partition in a partitioned table. If **No partition** is selected no actions for subpartitions are enabled in the context menu. **Hash** and **Linear hash** types for subpartitions follow the same syntax rules as for partitions. The **Key** subpartitioning differs in the way that for subpartitions you need to specify field manually though for partitions it is defined automatically (if not specified).

Note: In MySQL version 5.5 it is possible to create subpartitions for only range or list partitions.

Subpartition expression

Field, expression or exact value which defines data division logic for subpartitions.

Note: Subpartition *type* and *expression* defined in these fields will be applied to all subpartitions of the table.

The context menu allows you to manage partitions and subpartitions. Right-click an element to:

Create new partition;

- dit partition;
- 😼 delete partition;
- **W** add subpartition;
- 🔀 edit subpartition's name;
- 🗱 delete subpartition (subpartition will be deleted from all partitions).

For your convenience all the actions are duplicated on the navigation bar.

Note: Some actions can be unavailable depending on the element type selected.

5.3.1.2 Table Editor

Table Editor is the basic **SQL Manager** tool for working with <u>tables</u>. It opens automatically in the <u>New table</u> mode when you create a new table and is available on editing an existing one (see <u>Create table</u> and <u>Edit table</u> for details).

Table Editor allows you to create, edit and drop table's <u>columns</u>, <u>indexes</u>, <u>foreign keys</u> and other table subobjects, manage table <u>data</u>, <u>properties</u> and much more.

To open a table in **Table Editor**, double-click it in the <u>DB Explorer</u> tree.

- Using Navigation bar and Toolbar
- <u>Setting table properties</u>
- <u>Managing table columns</u>
- Changing columns order
- Managing table indexes
- <u>Managing table foreign keys</u>
- <u>Managing table triggers</u>
- <u>Managing table checks</u>
- <u>Working with table data</u>
- <u>Browsing object dependencies</u>
- <u>Viewing DDL definition</u>

5.3.1.2.1 Using Navigation bar and Toolbar

The **Navigation bar** and **Toolbar** provide quick access to tools implemented in **Table Editor**.

Object 🛠					
🧧 sakila on aschel [sak 🗸					
📑 film 🗸 🗸					
General 🛠					
🔁 Refresh					
🗧 Compile					
🖶 Print					
Show SQL help					
🔱 Table Editor options					
🛃 Restore default size					
Tools 🌣					
🐼 Truncate table					
L Create view					
📬 Create procedure					
Create function					
Columns 🌣					
📑 Add new column					
Edit selected column					
Drop selected column					
Optimize column types					
European A					
release_year [
film_id [SMALL					
title [VARCHAF 🗸					

The **Navigation bar** of **Table Editor** (in the *Edit table* mode) allows you to:

Object group

号 select a database

select a table for editing

General group

- refresh the content of the active tab
- $rac{4}{9}$ compile the table (if it is being modified)
- 💱 define <u>grants</u> on the table
- brint metadata of the table
- 🥙 view MySQL reference
- badjust Table Editor options
- restore the default size and position of the editor window

Tools group We truncate data of the table

Explorer group B browse the table subobjects using the Explorer tree

Depending on the current tab selection, the **Navigation bar** expands to one or more additional panes with tab-specific actions that can be useful for working with the table:

Columns group

- add a new column
- 😼 edit selected column
- drop selected column(s) run Optimize column types wizard

Indices group

- <u>add</u> a new index
- 🐱 edit selected index
- drop selected index(-es)

Foreign keys group

- add a new foreign key
- 🖾 edit selected foreign key
- drop selected foreign key(s)

Triggers group

add a new trigger
 edit selected trigger
 drop selected trigger(s)

Data Management group

- 🚩 commit transaction
- × rollback transaction
- 🕆 <u>export data</u>

export as SQL script
 import data
 load data
 save data to file on server

DDL group save <u>DDL</u> to file open <u>DDL</u> in <u>SQL Editor</u>

Items of the **Navigation bar** are also available on the **ToolBar** of **Table Editor**. To enable the <u>toolbar</u>, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select **(i)** *Toolbar* (if you need the toolbar only) or **(i)** *Both* (if you need both the toolbar and the <u>Navigation bar</u>) in the **Bar style for child forms** group.

5.3.1.2.2 Managing fields

The **Columns** tab is intended for managing table <u>columns</u>.

Hint: This tab is selected by default upon opening **Table Editor** if the *Always open the Columns tab* option is enabled on the <u>Tools | Table Editor</u> page of the <u>Environment</u> <u>Options</u> dialog.

Double-click a column to open <u>Column Editor</u> for editing the column.

Right-click a column to display the context menu allowing you to *create* new, *insert*, *edit*, *drop*, *duplicate* the selected column, or <u>reorder</u> columns of the table. Using the menu you can also copy to clipboard or <u>export</u> the list of the table columns to any of supported <u>formats</u>.

Columns management tools are also available through the <u>Navigation bar</u> and <u>toolbar</u> of **Table Editor**.

	Table - [actor] - [sakila on aschel]									
	🛢 Databases 🔹 🔚 🚭 🕹 🖏 🖏 🗳 👘									
	Properties Columns	Indices Foreig	n <u>K</u> eys	T <u>r</u> iggers	D <u>a</u> ta	Depende	n <u>c</u> ies	DD <u>L</u>		
	Column Name	Column Type	Size	Scale	Not Null	Unsig	Zerofill	AutoInc	Default	Description
	🔎 🔝 actor_id	SMALLINT	5	0	\checkmark	\checkmark		\checkmark		
	first_name	VARCHAR	45	0	\checkmark					
	last_name	VARCHAR	45	0						
	Iast_update	TIMESTAMP	In Now	n Column				<u> </u>	CURRENT_TIMESTAMP	
n			+ New	Column				_		
			Edit	column las	t_update					
			Inse	rt Column						
>			Drop	Column la	st_updat	e				
			Dupl	icate Colur	nn					
		3	Reor	der Colum	ns					
			Com	(List of C	lumo No	man to Cl	inhoord			
			Copy	LISCOLO			ipuoaru			
	Create foreign key for this column									
	Export List									

The **Table Columns** list provides the following attributes of each column of the table:

Column Name Column Type Size Precision Not Null Default Description

For details see <u>Columns</u>.

5.3.1.2.3 Changing fields order

The **Reorder Columns** dialog allows you to change the columns order in the table.

To open this dialog, open the table in **Table Editor**, proceed to the <u>Columns</u> tab there, right-click within the **Columns** list and select the **Reorder Columns** item from the context menu.

The columns are displayed in the **Column name** list in the current order.

To change the columns order, use the O O buttons or drag-and-drop operations within the list. Click the **OK** button to apply changes.

Reorder Columns						
Column Name						
actor_id						
first_name						
last_name						
last_update						
OK Cancel Help						

5.3.1.2.4 Managing indexes

The **Indices** tab is provided for managing table <u>indexes</u>. Double-click an index to open <u>Index Editor</u> for editing the index.

Right-click an index to display the context menu allowing you to *create* new, *edit*, *drop* the selected index. Using the menu you can also <u>export</u> the list of the table indexes to any of supported <u>formats</u>.

Indexes management tools are also available through the <u>Navigation bar</u> and <u>toolbar</u> of **Table Editor**.



The **Indexes** list provides the following attributes of each index of the table:

Index Name On Column(s) Unique Fulltext

For details see Indexes.

5.3.1.2.5 Managing foreign keys

The **Foreign Keys** tab is provided for managing table <u>foreign keys</u>. Double-click a foreign key to open <u>Foreign Key Editor</u> for editing the foreign key.

Right-click a foreign key to display the context menu allowing you to *create* new, *edit*, *drop* a foreign key. Using the menu you can also <u>export</u> the list of the table foreign keys to any of supported <u>formats</u>.

Foreign keys management tools are also available through the <u>Navigation bar</u> and <u>toolbar</u> of **Table Editor**.



The **Foreign Keys** list provides the following attributes of each foreign key of the table: *Key Name Column Names Foreign Database Name Foreign Table Name Foreign Column Names Delete Rule Update Rule*

For details see Foreign Keys.

5.3.1.2.6 Managing triggers

The **Triggers** tab is provided for managing table <u>triggers</u>. Double-click a trigger to open <u>Trigger Editor</u> for editing the trigger.

Right-click the area to display the context menu allowing you to *create* new, *edit*, *drop* the selected trigger. Using the menu you can also <u>export</u> the list of the table triggers to any of supported <u>formats</u>.

Triggers management tools are also available through the <u>Navigation bar</u> and <u>toolbar</u> of **Table Editor**.



The **Triggers** list provides the following attributes of each trigger of the table: *Name*

Type Event

Even

For details see <u>Triggers</u>.

5.3.1.2.7 Working with table data

The **Data** tab displays the table data as a grid by default (see <u>Data View</u> for details). The context menu of this tab allows you to <u>Export Data</u>, <u>Import Data</u>, <u>Export as SQL Script</u>, <u>Save Data</u>, <u>Load Data</u>.

<u>Data management</u> tools are also available through the <u>Navigation bar</u> and <u>toolbar</u> of **Table Editor**.

While working with data, you are provided with a number of <u>filtering</u> and <u>grouping</u> facilities.

If necessary, you can **group the data in grid** by any of the columns. This operation is performed by dragging the column header to the gray **"Group by" box** area at the top. When grouping by a column is applied to the grid, all the rows are displayed as subnodes to the grouping row value. To reverse grouping, just drag the column header back.

📑 Table - [employee] - [sakila on aschel]							
📒 Databases 🔻 📑 employe	e		Z = 2	/ × 📑 📑 류 🖣	5 🗟 🕆 🖓	E	🖻 🛃 🐥
	^	Properties C	olumns <u>I</u> ndices Foreign <u>K</u> eys T <u>rigg</u> ers D <u>a</u> ta	Dependencies DDL			
Object ¥		HI 41 4	🗸 < 1000 🖨 > » 🗸				
General ¥				^			
Tools 🌣		∃ EMP_ID △	POSITION	FIRST_NAME	LAST_NAME	GEND	MAR
-		₽	Production Technician	Gustavo	Achong	М	М
Truncate table			2 Marketing Assistant	Roberto	Nelson	М	S
Create view	2		3 Engineering Manager	Kim	Abercrombie	М	м
Create procedure			4 Senior Tool	Bruce	Young	М	S
Create function			5 Tool Designer	James	Lambert	М	м
			6 Marketing Manager	Frances	Adams	М	S
Data Manipulation		1.1.1.1.1.1.1.1.1	7 Production Supervisor	Margaret	Smith	F	S
			8 Production Technician	Leslie	Johnson	F	м
Export data			9 Design Engineer	Phil	Forest	М	м
Export as SQL script		1	0 Production Technician	Ronald	Adina	М	S
Export as PHP page		1	1 Design Engineer	K.J.	Weston	М	м
The Import data		1	2 Vice President of Engineering	Terri	Lee	М	S
etch beal 🚈		1	3 Production Technician	Robert	Ahlering	М	М
Courd data ta fila an a		1	4 Production Supervisor	Stewart	Hall	М	м 🗸
ave data to me on s		<					>
		Grid View F	or <u>m</u> View Pri <u>n</u> t Data				
Explorer ¥	~	Fetched: 148/1	48	78 ms	LIMIT 0, 100	0	

See also: Working with view data Data View

5.3.1.3 Table Properties

The **Properties** tab of <u>Table Editor</u> allows you to view/edit common properties of the table: *Table name, Storage options, Character sets, File options, Merge table options, Federated table options.*

- <u>Setting storage options</u>
- <u>Viewing table status</u>

Table - [employee] - [s	sakila on aso	thel]												
😑 Databases 🔻 📑 er	mployee				~ S	🗲 🖶	$\langle \rangle$	< 🖻 🖻			S 🗣 🕴	o 🖸 🖻) 🔯 🛃 🕻	1
Object	*	Properties	<u>C</u> olumns	Indices	Foreign <u>K</u> eys	T <u>r</u> iggers	D <u>a</u> ta	Depende	en <u>c</u> ies	DDL				
		Table nam	ie	employ	/ee									
General	*	Storage O	ptions								Tab	le Status	×	
		Storage e	ngine		InnoD	В			\sim	Version			10	3
Tools	*	Row form	nat		COMF	АСТ			~	Rows			(נ
		Min. rows			0		-			Avg Rov	w Length		0 Bytes	3
Explorer	*	<u></u>		-				Data Lei	ngth		16 KE	3		
Columns (14)		i max rows						0	Max Dat	a Length		0 Bytes	3	
Indices (2)		Auto increment <u>v</u> alue Average row length Size for index key blocks Check <u>s</u> um Pack <u>k</u> eys		1				Index Le	ngth		16 KE	3		
PRIMARY [EM	IP_ID]			0					Data Fre	e		0 Bytes	3	
EMP_ID [EMP_	_ID]			0	0		Create T	Time	10.03	.2025 22:27:59	9			
Foreign Keys					Delay key write				Update 7	Time		(none)	
inggers									Check T	ime		(none)	
					<u>remporary</u>				Checksu	ım				
		Character Sets File Options												
		<u>C</u> haracter set Co <u>l</u> lation			latin1	latin1 latin1_swedish_ci			~					
					latin1				~					
Description														
		InnoDB free:	6144 kB											

Hint: These properties are also available within a modal dialog which is called through the **Table Properties...** context menu item of the table alias in <u>DB Explorer</u>.

Table 'employee' properties X							
Table <u>n</u> ame file							
Storage engine	InnoDB ~						
Row <u>f</u> ormat	COMPACT ~						
<u>M</u> in. rows	0						
M <u>a</u> x. rows	0						
Auto increment value	0						
Average row length	182						
Size for index key blocks	0						
Check sum	Delay key write						
Pack <u>k</u> eys	Temporary						
Character Sets File Options							
<u>C</u> haracter set	utf8 ~						
Collation	utf8_general_ci ~						
<u>O</u> K <u>C</u> ancel <u>H</u> elp							

See also: Table Editor

5.3.1.3.1 Setting storage options

The **Storage Options** group allows you to view/edit a number of MySQL table storage options.

	📑 New Table - [my82_testdb на win11:3390]								
	🗄 🛢 Databases 👻 🌾 😨 🕞								
	Table Columns Partitions DDL								
	Table Properties								
	Table <u>n</u> ame new_table								
	Storage Options								
	Storage <u>e</u> ngine	InnoDB ~							
	Row <u>f</u> ormat	DEFAULT							
	<u>M</u> in. rows	0							
	M <u>a</u> x. rows	0							
	Auto increment value	0							
	Average row length	0							
,	Size for index key blocks	0							
	Check sum	Delay key write							
	Pack <u>k</u> eys	Temporary							
	Character Sets File Options Clust	er Options							
	Character set	Default ~							
	Collation	Default							
	Description								
		^							
		×							

Use the **Storage engine** drop-down list to define a MySQL storage engine to be applied to the table: *MyISAM HEAP MRG_MyISAM InnoDB FEDERATED ARCHIVE CSV*

BLACKHOLE

FALCON

See <u>Table types reference</u> for details.

Use the **Row Format** drop-down list to define the way the rows should be stored in the table: *DEFAULT*, *FIXED*, *DYNAMIC*, *COMPRESSED*, *REDUNDANT*, *COMPACT*.

Min rows

Specifies the minimum number of rows that can be stored in the table.

Max rows

Specifies the maximum number of rows that can be stored in the table.

Auto increment value

Enter a value that will be used to generate a unique identity for new rows.

Average row length

Enter a value that serves as an approximation of the average row length for your table.

Size for index key blocks

This value optionally specifies the size in kilobytes to use for pages for compressed InnoDB tables.

Check sum

Maintains a checksum for all rows (**Hint:** this option slightly slows down the table updates but makes it easier to find corrupted tables).

Delay key write

Delays key table updates until the table is closed.

Pack keys

Decreases the size of table indexes (**Hint:** this option usually makes updates slower and reads faster).

Temporary

Specifies a temporary table declaration.

Using the **Character Sets** tab you can specify the *character set* and *collation* to be applied to the table. Use the corresponding drop-down lists to select the required values. These rules define the charset and sort order for string data that will be applied to the new string columns by default.

Character Sets	File Options	Cluster Optio	ns	
Character set		latin1		-
Collation		latin1_	general_cs	•

If necessary, you can also use the **Comment** area to supply a *description* for the table.

Using the File Options tab you can specify the paths to individual data files.

Character Sets	File Options	Cluste	r Options		
Data directory			C:\MySQI	L\mysql-5.5.8-win32\data\	2
Index directory					2

Define directories to store *data* and *index* files.

Using the **Cluster Options** tab you can select tablespace, where table will be stored.

Character Sets	File Options	Cluster Options		
Tablespace		new_ts1	•]

Note: Tablespaces can be used only for clustered servers.

Set of options for *MyISAM* and *FEDERATED* is different. For detailed info concerned MyISAM and FEDERATED tables options see the topics listed below:

- <u>MyISAM</u>
- FEDERATED

See also:

Viewing table status

5.3.1.3.1.1 MRG_MyISAM

On the screenshot below you can see how table editor looks when you create a table with MRG_MyISAM <u>storage engine</u>.

📙 New Table - [hr on merli	1:5149(1)]							
🖯 Databases 🔻 😼 🕜 💽								
Database *	Table DDL							
hr on merlin:5149	Table Properties							
	Table name new_table1							
General ²	Storage Options							
Gompile	Storage engine	MRG_MyISAM						
Show SQL help	Insert method	NO						
Restore default size	Select first table for union	customer						
	Select other tables for union							
	employees_department							
	Character Sets File Options Clu	ster Options						
	Character set	Default 💌						
	Collation Default							
	Description							
		*						
		-						

Insert method

Select preferable method of inserting data. **First** - inserts will be made in the first table. **Last** - inserts will be made in the last underlying table. **No** - no inserts to the table allowed.

Select first table for union

Select a table from the drop-down list. This selection affects selection of other tables for union.

Select other tables for union

This section contains the list of tables identical to the first table. "Identical" means that all tables have identical column and index information. Mark tables you want to include in union.

For the description of common options refer to the <u>Setting storage options</u> page.

5.3.1.3.1.2 Federated

On the screenshot below you can see how table editor looks when you create a table with FEDERATED <u>storage engine</u>.

📑 New Table - [test_db on kn	nn:33523]	
🕴 🔒 Databases 🕶 😽 🛛 🕑 [2	-
Database *	Table DDL	
📙 test_db on kmn:3: 💌	Table name new table1	
General *	Storage Options	
🞸 Compile	Storage engine	FEDERATED 💌
O Show SQL help	Conection type	
Restore default size	Use connection string	
	Use federated server	
	Connection string	mysql://tester:tester@kmn:33523/tes
	Federated server	▼
	Table name	~
	Description	
		*

Connection type

Choose preferable connection type

Use connection string

Specified connection string will be used for connection to a remote table.

• Use federated server

A table located on <u>federated server</u> will be used.

When using connection string

Connection string
Use the ellipsis button (available to the right of the editable area) to specify the connection parameters using the **Build connection string** dialog.

The **Build connection string** dialog allows you to specify the following parameters to be included into the connection string: remote MySQL *Host name*, the *Port* to connect through, *User name*, *Password*, remote MySQL *Database name*, remote *Table name*.

Build connection stri	ng 💌
<u>H</u> ost name	localhost Port 33558
<u>U</u> ser name	root
Password	
Database name	hr
Table name	country
	Load connection info
	OK <u>C</u> ancel <u>H</u> elp

Use the **Load connection info** menu to get connection string from a registered database. You still need to select table manually in this case.

When using federated server

Federated server

Select an existing Federated server from the drop-down list.

Table name

Select a table on the specified federated server from the drop-down list.

For the description of common options refer to the <u>Setting storage options</u> page.

5.3.1.3.2 View ing table status

The **Table Status** panel allows you to browse the properties and values pertaining to the table: Version, Rows, Avg row length, Data length, Max data length, Index length, Data free, Auto increment, Create time, Update time, Check time, Checksum.

Table Status		
Version	10	
Rows	1254	
Avg row length	104	
Data length	131072	
Max data length	0	
Index length	16384	
Data free	0	
Auto increment	0	
Create time	07.10.2008 9:39:04	
Update time	(none)	
Check time	(none)	
Checksum		

Hint: To enable/disable this panel, you can use the **Show table status panel** option available in the <u>Tools | Table Editor</u> section of the <u>Environment Options</u> dialog.

See also: Setting storage options

5.3.1.4 Columns

Table columns are managed within the **Columns** tab of <u>Table Editor</u>.

Creating Columns

To create a new table column:

- open the table in <u>Table Editor;</u>
- proceed to the **Columns** tab there;
- right-click the tab area and select the New Column context menu item, or press the Ins key;
- define the column properties using the <u>Column Editor</u> dialog.

Editing Columns

To edit an existing table column:

- open the table in Table Editor;
- proceed to the **Columns** tab there;
- right-click the column and select the Edit Column <column_name> context menu item, or simply double-click the column;
- edit the column properties using the <u>Column Editor</u> dialog.
- To change the order of table columns:
 - open the table in <u>Table Editor;</u>
 - proceed to the **Columns** tab there;
 - right-click a column and select the Reorder Columns <column_name> context menu item;
 - edit columns' order using the <u>Reorder Columns</u> dialog.

Dropping Columns

To drop a table column:

- open the table in Table Editor;
- proceed to the **Columns** tab there;
- right-click the column and select the Drop Column <column_name> context menu item;
- confirm dropping in the dialog window.

5.3.1.4.1 Column Editor

Column Editor allows you to specify column definition and set column properties. It opens automatically when you create a new column and is available on editing an existing one (see <u>Create column</u> and <u>Edit column</u> for details).

To open a column in **Column Editor**, double-click it in the <u>DB Explorer</u> tree, or use the **Edit Column...** item of the context menu within the <u>Columns</u> tab of <u>Table Editor</u>.

- <u>Setting column name and type</u>
- Editing ENUM and SET columns

5.3.1.4.1.1 Setting field options

Column name

Enter a name for the new column, or modify the name of the column being edited. Note that the name of a column must be unique among all the column names in the table.

Description

Set the custom comment for the column.

The **Type** drop-down list defines the type of the column data.

Use the **Size** spinner control to define the length of the column value (for *integer*, *float* and *char* data types). Check the \blacksquare **Use size** option to enable this control.

Use the **Scale** spinner control to define the precision of the column value (for *float* data types). The scale indicates the number of significant digits. Check the \mathbb{Z} **Use size** option to enable this control.

Select the **Character set** and **Collation** for character data types.

Note: MySQL supports the use of character sets for the *MyISAM*, *MEMORY*, *NDBCluster* and *InnoDB* <u>storage engines</u>.

The column character set and collation are treated by the server in the following way:

- If both **Character Set** *X* and **Collation** *Y* are specified, then character set *X* and collation *Y* will be applied
- If **Character Set** *X* is specified without **Collation**, then character set *X* and its default collation will be applied
- Otherwise, the table character set and collation are used (see Table properties)

Edit column 'actor	r_id'	\times
Column name	country_id	
Description		^
		~
Туре	SMALLINT V Not null	
Size / precision	5 Use size	
Scale	0 Primary key	
Character set	Default V Unique	
Collation	Default 🗸 🗸 Unsigned	
	Zero fill	
	Autoincrement	
Values		
Default value		
	OK <u>C</u> ancel <u>H</u> elp	

Select the appropriate value in the **Generated Type** combo to setup a generated column. **VIRTUAL** - column values are not stored, but are evaluated when rows are read, immediately after any BEFORE triggers. A virtual column takes no storage; **STORED** - column values are evaluated and stored when rows are inserted or updated. A stored column does require storage space and can be indexed. **NONE** - column values are not generated.

Values of a generated column are computed from an expression that is set in the **Expression** field.

🗹 Not null

Select this option to specify that the values for the column should never contain a null value.

🗹 Use size

Check this option to set the size properties for field types having dimension properties (e. g. *integer*, *float*, or *timestamp* data types). This option activates the **Size** and **Scale** options.

Primary key

Check this option to include the field into the primary key. Note that if you include a field to a primary key, you should also make it *Not Null*.

A table typically has a column or combination of columns that contain values that uniquely identify each row in the table. This column, or columns, is called the primary key (PK) of the table and enforces integrity of the table.

Note: With this option checked, this field becomes the only field within a primary key. If you check this field, you will not be able to set this attribute for any other field in the table. Hence if you want to create a compound primary key, do not check this field, but create a primary key using the **Indexes** tab of <u>Table Editor</u>.

Unique

Includes the field into the unique key (index).

Unsigned

Assigns the UNSIGNED attribute to the field: integer data will be displayed unsigned.

🗹 Zerofill

Assigns the *ZEROFILL* attribute to the field: for columns of the numeric data type, MySQL will automatically add zeros before the first significant digit of the number stored in this column.

Autoincrement

Assigns the *AUTO_INCREMENT* attribute to the field: values of the unique identifier will be automatically generated for new rows.

Values

When creating/editing a field of the **ENUM** or **SET** data type, you need to specify the list of values implied by these data types. The **Values** box allows you to define a set of necessary values. Click the ellipsis button at the right to create/edit the list of field values using the <u>Values List</u> dialog.

Use the **Default value** field to set the default value for the current field.

Insert Mode

When adding a new field, you can also specify the preferable **Insert mode** which defines the position of the field among other table fields:

- Insert first
- Insert last

Insert after field (use the Insert after drop-down list to select the field after which the new field should be inserted).

5.3.1.4.1.2 Editing ENUM and SET fields

Having specified the column <u>name and type</u>, you can proceed to setting *options pertaining to columns of particular types*.

ENUM is defined as a string object with a value chosen from a list of allowed values that are enumerated explicitly in the column specification at table creation time. **SET** is defined as a string object that can have zero or more values, each of which must be chosen from a list of allowed values specified when the table is created.

When creating/editing a column of the **ENUM** or **SET** data type, you need to specify the list of values implied by these data types. The **Values** box allows you to define a set of necessary values. Click the ellipsis is button at the right to create/edit the list of column

values using the **Values List** dialog.

Mahuaa	
values	

The **Values List** dialog allows you to create/edit the list of values for ENUM and SET fields.

Values List	×
Values Open Cannot reproduce As designed Fixed Documented Is duplicate Deferred	<u>Up</u> Down
Value Add Replace Remove	
	lp

To *add* a value to the value list:

- type the value to add in the **Value** box;
- click **Add** to add the value to the end of the list.
- To remove a value from the value list:
 - select the value to remove in the Values list box;
- click **Remove** to remove the value from the list.
- To *replace* a value with another one:
 - select the value to replace in the Values list box;
 - type the new value in the Value box;
 - click **Replace** to replace the selected value in the list with the new one.
- To change the order of the list values:
 - select the value to move in the Values list box;
 - click Up / Down to move the value up or down within the list.

5.3.1.4.2 Optimize Column Types Wizard

Optimize Column Types Wizard is provided for analyzing table columns on possible optimization and changing their types if necessary. This operation may help reduce table sizes.

To launch this wizard proceed to the **Columns** tab of the <u>Table Editor</u> and click the *Optimize column types* item on the <u>Navigation bar</u>.

🚰 Optimize Field Types	
Optimize Field Types	
	Welcome to the Optimize field types wizard!
SQL Manager for MySQL	This wizard allows you to analyze fields on possible optimization and perform change type operation if necessary.
Help Template	s ▼ < <u>B</u> ack <u>N</u> ext > Cancel

See also: Table Editor

5.3.1.4.2.1 Selecting columns for analyzing

This step of the wizard allows you to select columns of the table being edited for analyzing them.

祝 Opt	imize Field Types			
Opti	imize Field Types			
9	Select fields to analyze			
		Max count of distinct values	256	
	-	Available Fields		Included Fields
		🔢 film_id		title
		language_id		description
	-03	🔢 original_language_id		release_year
	SQL			rental_duration
	Manager			rental_rate
	for			length
	MySQL			replacement_cost
				Tating
				special_features
				last_update
H	elp <u>T</u> emplates	•	< <u>B</u> ac	k <u>N</u> ext > Cancel

Max count of distinct values

Use this field to set the maximum number of distinct values per column that will be analyzed. This value is used to check whether the optimal data type should be of type ENUM; if there are more than defined value of distinct values, then ENUM is not a suggested type.

To select a field, you need to move it from the **Available Columns** list to the **Included Columns** list. Use the **Description Description Description**

5.3.1.4.2.2 Selecting columns for type changing

On this step of the wizard you can view the suggested types for selected columns after they were analyzed.

🚰 Optimize Field Types					- • •
Optimize Field Types					
Select fields for change t	ype operation				
SQL Manager for MysQL	Available Fields	Recommended Type		reluded Fields rental_rate replacement_c last_update rental_duration special_feature rating length description title	Recommended △ ENUM('0.99','2.99','4. ENUM('10.99','11.99', ENUM('2006') NOT N ENUM('2006-02-15 0 ENUM('3','4','5','6','7') ENUM('Behind the Sc ENUM('G','NC-17','P(TINYINT(3) UNSIGN VARCHAR(130) NOT VARCHAR(27) NOT
Help Templates	•		< <u>B</u> ack	<u>N</u> ext >	Close

All columns are automatically included in the **Included Columns** list. If you do not want to change a type of a column use the O O O buttons or drag-and-drop operations to move the columns from this list to the **Available Columns** list.

In the **Recommended Type** column you can see the suggested column type for optimizing.

5.3.1.4.2.3 Performing operation

This step of the wizard is intended to inform you that all options have been set, and you can start the optimizing clumn types process.

The log area allows you to view the log of operations and errors (if any).



If necessary, you can save a <u>template</u> for future use.

Click the **Run** button to run the type changing process.

5.3.1.5 Indices

Indices are objects used to find rows with specific column values quickly. If a table has an index for the columns in question, MySQL can quickly determine the position to seek to in the middle of the data file without having to look at all the data.

Table indexes are managed within the **Indices** tab of <u>Table Editor</u>.

Creating Indices

To create a new table index:

- open the table in Table Editor;
- proceed to the **Indices** tab there;
- right-click the tab area and select the New Index context menu item, or press the Ins key;
- define the index properties using the <u>Index Editor</u> dialog.

Editing Indices

To edit an existing table index:

- open the table in <u>Table Editor;</u>
- proceed to the **Indices** tab there;
- right-click the index and select the **Edit Index** context menu item, or simply doubleclick the index;
- edit the index properties using the <u>Index Editor</u> dialog.

Dropping Indices

To drop a table index:

- open the table in <u>Table Editor;</u>
- proceed to the **Indices** tab there;
- right-click the index and select the **Drop Index** context menu item;
- confirm dropping in the dialog window.

5.3.1.5.1 Index Editor

Index Editor allows you to specify index definition and set index properties. It opens automatically when you create a new index and is available on editing an existing one (see <u>Create Index</u> and <u>Edit Index</u> for details).

To open an index in **Index Editor**, double-click it in the <u>DB Explorer</u> tree, or use the **Edit Index...** item of the context menu within the <u>Indices</u> tab of <u>Table Editor</u>.

Use the **Index Editor** dialog to create/edit an index on a specified <u>table</u>, and specify index properties.

Index name

Set the index name (or leave it without changes to assign the default name to the index).

Columns for index

To include column(s) in the index, you need to move it from the **Available** list to the **Selected** list. Use the **Selected** list. Use the **Selected** list to another.

Edit Index PRIMARY			×	Ś	
Index name	PRIMARY]
Columns for index					
Available Columns district postal_code last_update phone 		» > <	Included Columns	Length 0	
Index properties		1			Í
Is primary key					
Index type	UNIQUE			~	
Index <u>u</u> sing	BTREE			~	
	<u>_</u>	<u>0</u> K	<u>C</u> ancel	<u>H</u> elp]

Index properties

Is Primary key

This selection indicates that the primary key index is created.

Index type

- **Fulltext**. Makes the index fulltext. Like regular indexes, full-text indexes can be automatically updated as data are modified in the associated tables.
- **Unique**. Makes the index unique, causes the system to check for duplicate values in the table when the index is created (if data already exist) and each time data are added.
- **Spatial** you can create SPATIAL indexes on spatial data types. Spatial types are only supported by MyISAM tables and indexed columns must be declared as NOT NULL.

Index using

From this drop-down list, select your index data structure. This can be BTREE or HASH.

Size of index block (KEY_BLOCK_SIZE)

Here you can set the size in bytes to use for index key blocks. For InnoDB tables the KEY_BLOCK_SIZE option specifies the page size in kilobytes to use for compressed InnoDB tables. The KEY_BLOCK_SIZE value is treated as a hint; a different size could be used by InnoDB if necessary. Valid KEY_BLOCK_SIZE values include 0, 1, 2, 4, 8, and 16. A value of 0 represents the default compressed page size, which is a half of the InnoDB page size. It is recommended to enable innodb_strict_mode when specifying KEY_BLOCK_SIZE for InnoDB tables.

Fulltext parser (PARSER)

This option can be used only with FULLTEXT indexes. It associates a parser plugin with the index if full-text indexing and searching operations need special handling

At the **Comment** tab you can set an optional comment of up to 1024 characters.

5.3.1.6 Foreign Keys

A **Foreign key** constraint (also called a *referential integrity constraint*) designates a column as the Foreign key and establishes a relationship between that foreign key and a specified *Primary* or *Unique* key called the *referenced key*.

Foreign keys are available for InnoDB <u>storage engine</u> tables only and are supported since MySQL version 3.23.44 (3.23.50 or higher recommended). Editing and dropping foreign keys is available since MySQL version 4.0.13. To view or change the table type, use the <u>Table Properties</u> dialog.

Table Foreign keys are managed within the **Foreign Keys** tab of <u>Table Editor</u>.

Creating Foreign Keys

To create a new Foreign key:

- open the table in Table Editor;
- proceed to the Foreign Keys tab there;
- right-click the tab area and select the New Foreign Key context menu item, or press the Ins key;
- define the Foreign key properties using the <u>Foreign Key Editor</u> dialog.

Editing Foreign Keys

To view/edit an existing Foreign key:

- open the table in Table Editor;
- proceed to the Foreign Keys tab there;
- right-click the Foreign key to edit and select the Edit Foreign Key
 <foreign_key_name> context menu item, or simply double-click the Foreign key;
- edit the Foreign key properties using the <u>Foreign Key Editor</u> dialog.

Dropping Foreign Keys

To drop a Foreign key:

- open the table in <u>Table Editor;</u>
- proceed to the Foreign Keys tab there;
- right-click the Foreign key and select the Drop Foreign Key <foreign_key_name> context menu item;
- confirm dropping in the dialog window.

5.3.1.6.1 Foreign Key Editor

Foreign Key Editor allows you to specify foreign key definition and set foreign key properties. It opens when you create a new foreign key or edit an existing one (see <u>Create Foreign Key</u> and <u>Edit Foreign Key</u> for details).

To open a foreign key in **Foreign Key Editor**, double-click it in the <u>DB Explorer</u> tree, or use the **Edit Foreign Key...** item of the context menu within the <u>Foreign Keys</u> tab of <u>Table Editor</u>.

• Editing foreign key definition

5.3.1.6.1.1 Editing foreign key definition

Use the **Foreign Key Editor** dialog to create/edit a foreign key constraint and specify its properties.

Foreign key name

Enter a name for the new foreign key, or modify the name of the foreign key being edited.

Table name

View the name of the table for which the foreign key is created.

Edit Foreign Key 'fk_address_city' For 'address' X					
Foreign key name	fk_address_city				
Table name	address				
Table columns					
Available columns			Selecte	ed columns	
district			City	/_id	
postal_code					
last_update		<			
phone					
Foreign <u>d</u> atabase	sakila				~
Foreign table name	city				~
Foreign table columns					
Available columns			Selecte	ed columns	
City			City	_id	
last_update		Ĺ			
country_id		<			
On delete rule	RESTRICT				~
On update rule	CASCADE				~
		<u>0</u> K		<u>C</u> ancel	<u>H</u> elp

The **Table Columns** area allows you to select Foreign key column(s).

To select a column, you need to move it from the **Available columns** list to the **Selected columns** list. Use the **Selected columns** list. Use the **Selected columns** list to move the columns from one list to another.

Foreign database / Foreign table

Use the drop-down lists to select the foreign database and table.

The **Foreign table columns** area allows you to select the column(s) of the Foreign table. To select a column, you need to move it from the **Available columns** list to the **Selected columns** list. Use the **Selected columns** list. Use the **Selected columns** list to another.

If the referenced column(s) are changed frequently, it might be reasonable to add an index to the foreign key column so that referential actions associated with the foreign key column were performed more efficiently. See <u>Indexes</u> for details.

On Update rule / On Delete rule

• NO ACTION

Does not change the foreign key; may cause the primary key update/delete to fail due to referential integrity checks.

RESTRICT
 Produce an

Produce an error indicating that the deletion or update would create a foreign key constraint violation.

• CASCADE

Delete any rows referencing the deleted row, or update the value of the referencing column to the new value of the referenced column, respectively.

• SET NULL Set the referencing column(s) to null.

5.3.1.7 Triggers

A **trigger** is a special kind of stored procedure that automatically executes when an event occurs in the database.

Data manipulation language triggers are executed in response to user's attempts to change data with the help of DML. DML events include *INSERT*, *UPDATE* and *DELETE* operations which can be applied to a table.

Table triggers are managed within the **Triggers** tab of <u>Table Editor</u>.

Trigger Editor allows you to specify trigger definition and set trigger properties. It opens automatically when you create a new trigger and is available on editing an existing one.

To open a trigger in **Trigger Editor**, double-click it in the <u>DB Explorer</u> tree, or use the **Edit Trigger...** item of the context menu within the <u>Triggers</u> tab of <u>Table Editor</u>.

- <u>Using Navigation bar and Toolbar</u>
- Editing trigger definition
- <u>Viewing DDL definition</u>

See also: Debugger

5.3.1.7.1 Using Navigation bar and Toolbar

The **Navigation bar** and **Toolbar** provide quick access to tools implemented in **Trigger Editor**.



The Navigation bar of Trigger Editor allows you to:

Object group

- 号 select a database
- 😼 select a trigger for editing

General group

- refresh the content of the active tab
- for a compile the trigger (if it is being created/modified)
- 💣 <u>debug</u> a trigger
- print metadata of the trigger
- 🥙 view MySQL reference
- restore the default size and position of the editor window

Depending on the current tab selection, the **Navigation bar** expands to one or more additional panes with tab-specific actions that can be useful for working with the trigger:

DDL group save <u>DDL</u> to file open <u>DDL</u> in <u>SOL Editor</u>

Items of the **Navigation bar** are also available on the **ToolBar** of **Trigger Editor**. To enable the <u>toolbar</u>, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select **(i)** *Toolbar* (if you need the toolbar only) or **(i)** *Both* (if you need both the toolbar and the <u>Navigation bar</u>) in the **Bar style for child forms** group.

5.3.1.7.2 Editing trigger definition

Use the **Edit** tab of **Trigger Editor** to create/edit a table trigger and specify its properties.

Name

Enter a name for the new trigger, or modify the name of the trigger being edited.

Definer

Specifies the MySQL account to be used when checking access privileges at the trigger fire-time.

Hint: You should either follow the 'user_name'@'host_name' format, or select the CURRENT_USER value to use the current MySQL <u>user</u> as the trigger definer.

Table

Use the drop-down list of <u>tables</u> to select the table on which the trigger will be executed, or view the name of the table if the trigger is being edited.

🛃 Trigger - [jobcandidate_new_before_upd_tr1 on jobcandidate_new] - [hr on merlin:5149(1)] 🛛 👘 💼 💷				
🗄 🖯 Databases 🕶 😽 😂	21	0	=	
Object	*	Edit Dependencies DDL		
🔒 hr on merlin:5149(1) [hr]	•	Name jobcandidate_new_before_upd_t Table jobcandidate_new	-	
jobcandidate_new_before		Definer tester@%		
		Type On event		
General	*	e Before After Insert Update Delete		
Refresh		Definition		
😼 Compile		1	<u> </u>	
🍞 Debug			=	
😓 Print				
Show SQL help			-	
Restore default size		< III	F	
		1: 1 Modified Insert Highlighting	Unicod	

Туре

Select the trigger behaviour type: *Before*Specifies that the trigger is fired before the event. *After*Specifies that the trigger is fired after the event.

On event

Specify the data modification statements that activate the trigger when it is tried against this table: *Insert, Update* or *Delete*. At least one option must be specified.

Definition

This area allows you to set the trigger conditions and actions. Trigger conditions specify

additional criteria that determine whether the tried DML statements cause the trigger actions to be performed.

The trigger actions take effect when the DML operation is performed.

For your convenience the **syntax highlight**, **code completion** and a number of other features for efficient SQL editing are implemented. For details see <u>Working with SQL Editor</u> area and <u>Using the context menu</u>.

5.3.2 Views

Views are available in 5.x and later versions of MySQL server. A **View** is a logical table based on one or more <u>tables</u> or views. A view contains no data itself. The tables upon which a view is based are called *base tables*.

Views are useful for allowing users to access a set of relations (<u>tables</u>) as if it were a single table, and limiting their access to just that. Views can also be used to restrict access to rows (a subset of a particular table).

View Editor allows you to create new views and define their properties (view name and the SELECT statement it implements). It opens automatically when you create a new view and is available on editing an existing one.

To open a view in **View Editor**, double-click it in the <u>DB Explorer</u> tree.

- Using Navigation bar and Toolbar
- <u>Creating/editing view</u>
- Managing columns
- Working with data
- Browsing object dependencies
- <u>Viewing DDL definition</u>

5.3.2.1 Using Navigation bar and Toolbar

The **Navigation bar** and **Toolbar** provide quick access to tools implemented in **View Editor**.



The Navigation bar of View Editor allows you to:

Object group select a database select a view for editing

General group

- refresh the content of the active tab
- kedit the view query using Query Builder
- $\frac{4}{9}$ compile the view (if it is being created/modified)
- print metadata of the view
- 🥙 view MySQL reference
- restore the default size and position of the editor window

Depending on the current tab selection, the **Navigation bar** expands to one or more additional panes with tab-specific actions that can be useful for working with the view:

DDL group save DDL to file open DDL in SQL Editor

Items of the **Navigation bar** are also available on the **ToolBar** of **View Editor**. To enable the <u>toolbar</u>, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select **(if you need the toolbar only)** or **(if you need both the toolbar and the <u>Navigation bar</u>) in the Bar style for child forms** group.

5.3.2.2 Creating/editing view

Use the **Edit** tab of **View Editor** to create/edit a view and specify its definition.

View name

Enter a name for the new view, or modify the name of the view being edited.

👍 View - [film_list] - [sakila on merlin:5]	149]
🕴 🕒 Databases 🔻 👪 film_list	- 2 🔟 🐓 😂 🗸 🗙 🗣 📬 📬 🔮 🖻 📃 📮
Object *	Edit Fields Data Dependencies DDL
e sakila on merlin:5149 [sakila] 💌	View name film_list Algorithm type UNDEFINED Definer tester@%
General ^{\$}	SQL security Definer
 Refresh Edit query using Query Builder Compile Print Show SQL help Restore default size 	Definition Select Select Select Select

Algorithm type

Use the drop-down list to specify the way MySQL will process the view: *MERGE* (the text of a statement that refers to the view and the view definition are merged, so that parts of the view definition replace corresponding parts of the statement);

TEMPTABLE (the results from the view are retrieved into a temporary table which is then used to execute the statement);

UNDEFINED (MySQL chooses which algorithm to use).

Definer

Specifies the MySQL account to be used when checking access privileges for the view when a statement is executed that references the view (if **Definer** is selected in the **SQL security** group).

Hint: You should either follow the 'user_name'@'host_name' format, or select the CURRENT_USER value to use the current MySQL <u>user</u> as the routine definer.

SQL security

Specify whether a statement that references the view will be executed using the

permissions of:

- Definer (the user that creates the routine), or
- Invoker (the user that invokes the routine)

Definition

This area allows you to specify the view definition as SQL statement. When editing the view, you can edit the definition using the editor area to make appropriate changes, and recompile the view.

For your convenience the **syntax highlight**, **code completion** and a number of other features for efficient SQL editing are implemented. For details see <u>Working with SQL Editor</u> area and <u>Using the context menu</u>.

To compile a view, you can use the $\frac{1}{7}$ **Compile** item available within the <u>Navigation bar</u> or <u>toolbar</u>.

5.3.2.3 Managing columns

The **Columns** tab is provided for viewing columns represented in the view.

Right-click a column to display the context menu allowing you to <u>export</u> column name list or copy it to clipboard.

<u>E</u> dit	Columns	Data	Depen	de <u>n</u> cies	DD <u>L</u>								
Column	Name	Colu	mn Type	Size / P	ecision	Scale	Not Null	Unsigned	Zerofill	AutoInc	Default	Generated	Description
	customer_ic	d SMA	LLINT	0		0	\checkmark	\checkmark			0		
	store_id	TINY	INT	0		0	\checkmark	\checkmark					
	first_name	VAR	CHAR	45		0	\checkmark						
	last_name	VAR	CHAR	45		0	\checkmark						
	email	VAR	(CH V D	<u></u>		<u> </u>					Null		
	address_id	SMA		Copy List	of Colun	ns Nan	nes to Clip	oboard					
	active	TINY	TI E	E <u>x</u> port Lis	t						1		
	create_date	DAT	ETIME	0		0	\sim						
	last_update	TIME	STAMP	0		0					CURRENT_TIMESTAMP		

The **Columns** list provides the following attributes of each column of the view: *Column Name Column Type Size Precision Not Null Default Comment*

For details see <u>Columns</u>.

5.3.2.4 Working with data

The **Data** tab displays the view data as a grid by default (see <u>Data View</u> for details). The context menu of this tab and the <u>Navigation bar</u> allow you to <u>Export Data</u>, <u>Import Data</u>, <u>Export as SQL Script</u>, <u>Save Data</u>.

While working with view data, you are provided with a number of <u>filtering</u> and <u>grouping</u> facilities.

If necessary, you can **group the data in grid** by any of the columns. This operation is performed by dragging the column header to the gray **"Group by" box** area at the top. When grouping by a column is applied to the grid, all the rows are displayed as subnodes to the grouping row value. To reverse grouping, just drag the column header back.

<u>Data management</u> tools are also available through the <u>Navigation bar</u> and <u>toolbar</u> of **View Editor**.

E	Edit Res	<u>u</u> lts	Logs	Logs								
:	i H4 44 4 ▶ → → + +											
	Drag a column header here to group by that column											
3	custome	er_	store_id	first_name	last_name	email	address_id	active				
		1	1	MARY	SMITH	MARY.SMITH@sakilacustomer.org	5	1	1			
		2	1	PATRICIA	JOHNSON	PATRICIA.JOHNSON@sakilacustomer.org	6	1	1			
		3	1	LINDA	WILLIAMS	LINDA.WILLIAMS@sakilacustomer.org	7	1	1			
		4	2	BARBARA	JONES	BARBARA.JONES@sakilacustomer.org	8	1	1			
Ð	•	5	1	ELIZABETH	BROWN	ELIZABETH.BROWN@sakilacustomer.org	9	1				
		6	2	JENNIFER	DAVIS	JENNIFER.DAVIS@sakilacustomer.org	10	1	1			
		7	1	MARIA	MILLER	MARIA.MILLER@sakilacustomer.org	11	1	1			
		8	2	SUSAN	WILSON	SUSAN.WILSON@sakilacustomer.org	12	1	1			
		9	2	MARGARET	MOORE	MARGARET.MOORE@sakilacustomer.org	13	1	1			
		10	1	DOROTHY	TAYLOR	DOROTHY.TAYLOR@sakilacustomer.org	14	1	1			
		11	2	LISA	ANDERSON	LISA.ANDERSON@sakilacustomer.org	15	1	1			
		12	1	NANCY	THOMAS	NANCY.THOMAS@sakilacustomer.org	16	1	1			
		13	2	KAREN	JACKSON	KAREN.JACKSON@sakilacustomer.org	17	1	1			
		14	2	BETTY	WHITE	BETTY.WHITE@sakilacustomer.org	18	1	1			
		15	1	HELEN	HARRIS	HELEN.HARRIS@sakilacustomer.org	19	1	1 🗸			
	<											
G	Grid View Form View Print Data											
Fe	Fetched: 599/599 109 ms											

See also: Working with table data Data View

5.3.3 Stored Procedures

Stored procedures are available in 5.x and later versions of MySQL server. A **Stored procedure** is a set of SQL commands that can be stored in the server. Once this is done, clients do not need to keep re-issuing the individual commands but can refer to the stored procedure instead.

Procedure Editor allows you to create new procedure, execute the existing procedure or edit its definition. It opens automatically when you create a new procedure and is available on editing an existing one.

To open a stored procedure in **Procedure Editor**, double-click it in the <u>DB Explorer</u> tree.

- Using Navigation bar and Toolbar
- <u>Creating/editing procedure</u>
- <u>Browsing object dependencies</u>
- Editing procedure description
- <u>Specifying input parameters</u>
- Executing procedure
- <u>Viewing DDL definition</u>

See also:

Debugger Function Editor

5.3.3.1 Using Navigation bar and Toolbar

The **Navigation bar** and **Toolbar** provide quick access to tools implemented in **Procedure Editor**.



The Navigation bar of Procedure Editor allows you to:

Object group

- 号 select a database
- 站 select a procedure for editing

General group

- refresh the content of the active tab
- \$ compile the procedure (if it is being created/modified)
- 🕫 save the procedure <u>description</u> (if it has been modified)
- <u>execute</u> the procedure
- 🕝 debug a procedure
- print metadata of the procedure
- 🥙 view MySQL reference
- restore the default size and position of the editor window

Transaction group

- commit transaction
- X rollback transaction

Data Management group

- 📲 <u>export data</u>
- 📲 <u>export as SQL script</u>

Depending on the current tab selection, the Navigation bar expands to one or more

additional panes with tab-specific actions that can be useful for working with the procedure:

Description group save object <u>description</u> to file copy <u>description</u> to clipboard

DDL group save <u>DDL</u> to file open <u>DDL</u> in <u>SQL Editor</u>

Items of the **Navigation bar** are also available on the **ToolBar** of **Procedure Editor**. To enable the <u>toolbar</u>, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select **(i)** *Toolbar* (if you need the toolbar only) or **(i)** *Both* (if you need both the toolbar and the <u>Navigation bar</u>) in the **Bar style for child forms** group.

5.3.3.2 Creating/editing procedure

Use the **Edit** tab of **Procedure Editor** to create/edit a stored procedure and specify its definition.

Name

Enter a name for the new procedure, or view the name of the procedure being edited.

Procedure - [film_in_stock] - [sakila on doom_server]								
🔋 📴 Databases 🔻 🏨 film_in_stock 🔄 🔹 🛃 🚱 🚱 🔂 🚱								
Object [*]	<u>E</u> dit Dependen <u>c</u> ies	Descriptio	n DD <u>L</u>					
sakila on doom_server im_in_stock	Name	film_in_stock Procedure type SQL security O Deterministic O Definer						
General [*]		Not elements	deterministic	Invoker				
Refresh	SQL Data Access	CONTAINS SQL			•			
Compile	Definer	CURRENT_USER						
Debug	Parameters	Туре	Name	Data Type	_			
😓 Print		IN	p_nim_id p_store_id	INTEGER				
Show SQL help		OUT	p_film_count	INTEGER				
Restore default size	Definition							
	1 BEGIN	FROM						
	SELECT* FROM inventory							
	4 AND store id = p store id							
	5 AND store_id = p_store_id							
	6 AND inventory in stock (inventory_id);							
	<pre>7 SELECT FOUND_ROWS() INTO p_film_count; 7 DWD</pre>							

Procedure type

• Deterministic (indicates that the procedure always produces the same result for the same input parameters)

Not deterministic (indicates that the procedure does not produce the same result for the same input parameters)

SQL security

Specify whether the procedure should be <u>executed</u> using the permissions of:

- Definer (the user that creates the routine), or
- Invoker (the user that invokes the routine)

SQL Data Access

Use the drop-down list to specify the nature of data use by the procedure: *CONTAINS SQL* (i.e. the routine does not contain statements that read or write data) *NO SQL* (i.e. the routine contains no SQL statements)

READS SQL DATA (i.e. the routine contains statements that read data (e.g. *SELECT*), but not statements that modify data)

MODIFIES SQL DATA (i.e. the routine contains statements that may write data, e.g. *INSERT*, *DELETE*)

Definer

Specifies the MySQL account to be used when checking access privileges at the procedure <u>execution</u> time (if **Definer** is selected in the **SQL security** group). **Hint:** You should either follow the 'user_name'@'host_name' format, or select the *CURRENT_USER* value to use the current MySQL <u>user</u> as the routine definer.

The **Parameters** list provides the following attributes of each parameter used in the procedure:

Set the procedure parameters by right-clicking within the list and selecting **+ Add Parameter**. Set all necessary settings for the parameter in the opened dialog window.

Add new parameter								
Name	p_film_id							
Parameter type	IN 💌							
Data type	INTEGER							
Data size	10							
Data precision	0							
Enum values								
✓ Parameter Charse ✓ Use database	t charset							
<u>C</u> haracter set	latin1 💌							
Parameter Flags	Zerofill							
<u>о</u> к	<u>C</u> ancel <u>H</u> elp							

Name

Parameter Type (IN, OUT, INOUT) Data Type - the type of the parameter data. Use the Data size spinner control to define the size of the parameter value. Use the Precision spinner control to define the precision of the parameter value (for float data types). The precision indicates the number of significant digits. Enum values - values of the ENUM datatype.

W Use database charset.

If you need different charset, you can select it from the *Character set* drop down list.

Unsigned

Assigns the UNSIGNED attribute to the column: integer data will be displayed unsigned.

🗹 Zerofill

Assigns the *ZEROFILL* attribute to the column: for columns of the numeric data type, MySQL will automatically add zeros before the first significant digit of the number stored in this column.

To delete the existing parameter, select **— Delete Parameter** from the popup menu. To edit parameter double-click it.

Hint: You can reorder parameters in the list using the **Move Up** and **Move Down** popup menu items.

Definition

This area allows you to set the procedure definition (body).

For your convenience the **syntax highlight**, **code completion** and a number of other features for efficient SQL editing are implemented. For details see <u>Working with SQL Editor</u> area and <u>Using the context menu</u>.

To <u>execute</u> the procedure, you can use the **Execute procedure** item available within the <u>Navigation bar</u>.

5.3.3.3 Specifying input parameters

If the stored procedure has parameters marked as *IN* or *INOUT*, the **Enter parameter values** dialog appears before the procedure execution. It allows you to specify the values for all procedure input parameters.

Controls of this dialog correspond to the procedure parameters:

- the number of columns coincides with the number of parameters;
- the names of parameters are the names of the columns where these parameters should be specified;
- the column data type is defined by the parameter data type.

If the **Null** box next to the parameter name is checked, the parameter value will take *NULL* irrespective of the data entered in the column for editing.

Enter paramete	r values			— ×-
Date	∇	p_store_id	p_f	ilm_id
30.08.2012 15:4	3:43	25	2	
30.08.2012 15:4	1:45	1		
p_store_id	integer			25 🗸
p_film_id	integer		🗌 Nu	2 🛟
				·
	(<u>о</u> к	Cancel	

After changes are done, click the **OK** button to execute the stored procedure, or the **Cancel** button to abort the execution.

Note: Parameters list stores history of parameters that have been used. You can remove a single item from this list or clear entire parameters history using respective context menu items.

See also: Executing procedure/function

5.3.3.4 Executing procedure/function

Procedure Editor / **Function Editor** provide an ability to execute procedures and functions. Click the **Execute** item of the <u>Navigation bar</u> or use the corresponding <u>toolbar</u> button to execute the procedure/function.

If the procedure has input parameters, **SQL Manager** allows you to specify the values for these parameters in the <u>Input Parameters</u> dialog which appears just before execution.

The result of the successfully executed procedure/function, as well as the error message in case of execution failure, appears in the message panel at the bottom of the **Procedure Editor** / **Function Editor** window.

Note: If the procedure is supposed to return a <u>dataset</u>, the dataset will be displayed within the **Results** tab.



Note: If any unsaved changes are applied to the stored procedure/function being currently edited, the execution of the procedure/function is impossible unless changes are saved through the **Compile procedure** / **Compile function** item of the **Navigation bar**.

See also: <u>Specifying input parameters</u> <u>Procedure Editor</u> Function Editor
5.3.4 Stored Functions

Stored functions are routines that are available in 5.x and later versions of MySQL server. A **Stored function** is a set of SQL commands that returns the result and can be stored in the server. Once this is done, clients do not need to keep re-issuing the individual commands but can refer to the stored function instead.

Function Editor allows you to define function properties. It opens automatically when you create a new function and is available on editing an existing one.

To open a function in **Function Editor**, double-click it in the <u>DB Explorer</u> tree.

- Using Navigation bar and Toolbar
- Creating/editing function
- Browsing object dependencies
- Editing function description
- <u>Viewing DDL definition</u>
- Executing function

See also:

Debugger Stored Procedures

5.3.4.1 Using Navigation bar and Toolbar

The **Navigation bar** and **Toolbar** provide quick access to tools implemented in **Function Editor**.



The Navigation bar of Function Editor allows you to:

Object group

- 😑 select a database
- select a function for editing

General group

- a refresh the content of the active tab
- $\mathbf{\mathcal{G}}$ compile the function (if it is being created/modified)
- 🕫 save the function <u>description</u> (if it has been modified)
- execute the function
- debug a function
- print metadata of the function
- 🥙 view MySQL reference
- restore the default size and position of the editor window

Depending on the current tab selection, the **Navigation bar** expands to one or more additional panes with tab-specific actions that can be useful for working with the function:

Description group save object <u>description</u> to file

copy <u>description</u> to clipboard

DDL group save <u>DDL</u> to file open <u>DDL</u> in <u>SQL Editor</u>

Items of the **Navigation bar** are also available on the **ToolBar** of **Function Editor**. To enable the <u>toolbar</u>, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select **(i)** *Toolbar* (if you need the toolbar only) or **(i)** *Both* (if you need both the toolbar and the <u>Navigation bar</u>) in the **Bar style for child forms** group.

5.3.4.2 Creating/editing function

Use the **Edit** tab of **Function Editor** to create/edit a stored function and specify its definition.

Name

Enter a name for the new function, or view the name of the function being edited.

Image: Second							
Edit Denendencies							
Object	Object *		ndengies				
🔒 sakila on merlin:5149 [: 💌		Name		get_customer_balance			
get_customer_balance	n get customer balance			DECIMAL(5,2)			
				Function type		SQL security	
General	*			Oeterministic		Optimized Definer	
Refresh				Not deterministic	;	Invoker	
Gompile		SQL Data Ac	cess	READS SQL DATA			•
Execute Function							
🍞 Debug		Definer		tester@%	tester@%		•
े Print		Parameters		Name	Data Type		+
Show SQL help				p_customer_id			
Restore default size				p_effective_date DATETIME			
		1 BEGIN				A	
		2					
			#OK, #THZ	, WE NEED TO CA	BALANCE	THE CURRENT BAL	ANCE GIVEN A CU =
		5	#	1) RENTAL FEE:	5 FOR AL	L PREVIOUS RENTA	LS
		6	#	2) ONE DOLLAR	FOR EVE	RY DAY THE PREVI	OUS RENTALS ARE
		7	# #	 IF A FILM : SUBTRACT AL 	IS MORE	THAN RENTAL_DURA'	TION * 2 OVERDU
		9		.,			
		10 DEC	10 DECLARE v_rentfees DECIMAL(5,2); #FEES PAID TO RENT THE VIDEC				
11 DECLARE v_overiees <u>INTEGER;</u> #LATE FEES FOR PRIOR RENT 12 DECLARE v_payments DECIMAL(5,2); #SUM OF PAYMENTS MADE PRE						R PRIOR RENTALS	

Returns

Use the drop-down list to select the return type of the function. Note that the function body must contain a *RETURN* statement.

Definer

Specifies the MySQL account to be used when checking access privileges at the function <u>execution</u> time (if **Definer** is selected in the **SQL security** group).

Hint: You should either follow the 'user_name'@'host_name' format, or select the CURRENT_USER value to use the current MySQL <u>user</u> as the routine definer.

Function type

 Deterministic (indicates that the function always produces the same result for the same input parameters)

Not deterministic (indicates that the function does not produce the same result for the same input parameters)

SQL security

Specify whether the function should be <u>executed</u> using the permissions of: *Definer* (the user that creates the routine), or *Invoker* (the user that invokes the routine)

SOL Data Access

Use the drop-down list to specify the nature of data use by the function: *CONTAINS SQL* (i.e. the routine does not contain statements that read or write data) *NO SQL* (i.e. the routine contains no SQL statements)

READS SQL DATA (i.e. the routine contains statements that read data (e.g. *SELECT*), but not statements that modify data)

MODIFIES SQL DATA (i.e. the routine contains statements that may write data, e.g. *INSERT*, *DELETE*)

The **Parameters** list provides the following attributes of each parameter used in the procedure:

Set the procedure parameters by right-clicking within the list and selecting **+** Add **Parameter**. Set all necessary settings for the parameter in the opened dialog window.

Add new parameter	.
Name	p_customer_id
Data type	INTEGER
Data size	10
Data precision	0
Enum values	
Parameter Charse	et charset latin1
Parameter Flags	Zerofi
<u>о</u> к	<u>Cancel</u> <u>H</u> elp

Name

Data Type - the type of the parameter data. Use the Data size spinner control to define the size of the parameter value. Use the Precision spinner control to define the precision of the parameter value (for float data types). The precision indicates the number of significant digits. Enum values - values of the ENUM datatype. 🗹 Use database charset.

If you need different charset, you can select it from the *Character set* drop down list.

Unsigned

Assigns the UNSIGNED attribute to the column: integer data will be displayed unsigned.

🗹 Zerofill

Assigns the *ZEROFILL* attribute to the column: for columns of the numeric data type, MySQL will automatically add zeros before the first significant digit of the number stored in this column.

To delete the existing parameter, select **— Delete Parameter** from the popup menu. To edit parameter double-click it.

Hint: You can reorder parameters in the list using the **Move Up** and **Move Down** popup menu items.

Definition

This area allows you to set the function definition (body).

For your convenience the **syntax highlight**, **code completion** and a number of other features for efficient SQL editing are implemented. For details see <u>Working with SQL Editor</u> <u>area</u> and <u>Using the context menu</u>.

To <u>execute</u> the function, you can use the **Execute function** item available within the <u>Navigation bar</u>.

5.3.5 Debugger

Function Debugger is a tool for correcting errors and optimizing routine text in SQL Manager for MySQL. To open routine text in debugger, open it in the respective editor first and press the **Debug** button.



- Using Navigation bar and Toolbar
- Debugging
- Viewing info

Availability: Full version (for Yes Windows) Lite version (for No Windows)

Note: To compare all features of the **Full** and the **Lite** versions of **SQL Manager**, refer to the <u>Feature Matrix</u> page.

See also:

<u>Function Editor</u> <u>Stored Procedures</u> <u>Triggers</u> <u>Scheduled events</u>

5.3.5.1 Using Navigation bar and Toolbar

The Navigation bar and Toolbar provide quick access to tools implemented in Debugger



The Navigation Bar of Function Debugger allows you to:

General group

restore default size of the window

Debug group

- ✓ commit retaining changes
- start single-stepping/proceed to the next step
- execute routine text
- execute routine text up to cursor position
- set/remove breakpoint
- return to start position

Items of the **Navigation bar** are also available on the **ToolBar** of **Debugger**. To enable the <u>toolbar</u>, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select **(if you need the toolbar only) or (if you need both the toolbar and the <u>Navigation bar</u>) in the Bar style for child forms** group.

5.3.5.2 Debugging

In the main window you can debug routine text. Editing of the routine text is not allowed in debugger.

Current statement is highlighted with blue.

Breakpoint is highlighted with red. You can toggle breakpoints by clicking the diamond mark to the left from the statement. To clear the breakpoint which is not needed anymore click the red circle mark to the left from the statement.

	27		AND <pre>rental.rental_date <= p_effective_date</pre>
	28		<pre>AND rental.customer_id = p_customer_id;</pre>
4		þ	SELECT IFNULL(SUM(payment.amount),0) INTO v_payments
l	₹ 30		FROM payment
	31		WHERE <pre>payment.payment_date <= p_effective_date</pre>
	32	L	<pre>AND payment.customer_id = p_customer_id;</pre>

Shortcuts that can be used when debugging:

- **F8** begin single-stepping;
- Ctrl+F2 break execution;
- Ctrl+F8 add breakpoint to the current statement;
- **F9** execute function (till next breakpoint or till the end).



5.3.5.3 Viewing info

Tabs located in the bottom area of **Debugger** contain various information concerning routine text and its debugging process.

Parameters and **Variables tab** displays all variables and parameters with their *types* and *values* that are used in routine text.

4	Parameters and Va	riables 60 Watch 📄 Last	tatement 🛛 🗧 Breakpoints 🔀 Messages	
Na	me	Value	Туре	
Var	v_overfees	0	INTEGER	
Var	v_payments	0	DECIMAL(5,2)	=
Var	v_rentfees	0	DECIMAL(5,2)	
4	p_customer_id	1	INTEGER	
4	p_effective_date	Null	DATETIME	-

Watches tab displays variables and parameters that have been selected for tracing. Values of the selected variables are changed after each executed statement. Current value can be found in the *Watch Value* column.

2 Parameters and Variables	₩atch 📄 Last Statement ● Breakpoints 🖂 Messages
Watch Name	Watch Value
v_rentfees	82.73
p_effective_date	26.05.2005
v_payments	128.73

Watch Name can store variable names and statements calculated via MySQL means e. g.: CONCAT (str1, ';')

Use the context menu to manage variables and parameters. You can: Add new variable or parameter to trace - **New Watch** Change selected watch - **Edit Watch** Remove variable or parameter from the watch list - **Delete Watch** Remove all items from the list - **Delete All Watches**.

Add Watch	×
v_rentfees	
OK Cancel	

Recent executed statement can be found at the Last Statement tab.



Breakpoints tab contains the complete list of breakpoints for this routine text.

and Variables 🛛 😡 💆 atch 🛛 🖶 Last Statement 🖉 🔍 Breakpoints 🛛 😭	Messages
Statement	Passes
SELECT IFNULL(SUM(IF((TO_DAYS(rental.return_date) - TO_DAYS	(0
	and Variables & Watch Ereakpoints Statement Statement SELECT IFNULL(SUM(IF((TO_DAYS(rental.return_date) - TO_DAYS)

For each breakpoint the following info is provided:

- Line number where the breakpoint is set
- The returned **Statement**
- **Passes** how many times debugger stopped in this point during current session.

Statements returned by MySQL can be found at the **Messages** tab. You can view message *type* and *text* here.

-	Parameters and	/ariables 60 Watch 📄 Last Statement 🔍 Breakpoints 🖄 Messages				
	Туре	Text				
1	1 Error Unknown column 'k' in 'field list'					
Unk	nown column 'k' i	'field list'				

5.3.6 UDFs

A **Function** is a mapping embodied as a program (the function *body*) that can be invoked by using zero or more input values (*arguments*) to a single value (the *result*). A **Userdefined function** (UDF) is a way to extend MySQL with a new function that works like native (built-in) MySQL functions such as *ABS()* and *CONCAT()*. UDFs must be created on the server machine.

UDF Editor allows you to define user-defined function properties. It opens automatically when you create a new user-defined function and is available on editing an existing one.

To open a user-defined function in **UDF Editor**, double-click it in the <u>DB Explorer</u> tree.

- Using Navigation bar and Toolbar
- <u>Creating/editing user-defined function</u>
- <u>Viewing DDL definition</u>

5.3.6.1 Using Navigation bar and Toolbar

The **Navigation bar** and **Toolbar** provide quick access to tools implemented in **UDF Editor**.



The Navigation bar of UDF Editor allows you to:

Object group

select a database
select a user-defined function for editing

General group

- late refresh the content of the active tab
- for the UDF (if it is being created/modified)
- execute the UDF
- 📚 <u>print metadata</u> of the UDF
- view MySQL reference

restore the default size and position of the editor window

Depending on the current tab selection, the **Navigation bar** expands to one or more additional panes with tab-specific actions that can be useful for working with the UDF:

DDL group save DDL to file open DDL in <u>SQL Editor</u>

Items of the **Navigation bar** are also available on the **ToolBar** of **UDF Editor**. To enable the <u>toolbar</u>, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select <a>Toolbar (if you need the toolbar only) or <a>Both (if you need both the toolbar and the <u>Navigation bar</u>) in the **Bar style for child forms** group.

5.3.6.2 Creating/editing UDF

Use the **Edit** tab of **UDF Editor** to add/edit a user-defined function and specify its definition.

Name

Enter a name for the new UDF, or view the name of the UDF being edited.

New UDF - [sakila on doom_server]							
🗄 🖯 Databases 🔻		- 😺 🕑 🖬		-			
Database	*	Edit DDL					
🔒 sakila on doom_serve	er 💌	<u>N</u> ame	udf_arg_count				
General	*	<u>R</u> eturns	INTEGER				
4 Compile		Library name	idf_example.so				
Show SQL help							
Restore default size							

Returns

Use the drop-down list to select the return type of the UDF.

Library name

Set the name of the file containing the function that will be used by the UDF.

Check the **Aggregate** option to make the function an aggregate one.

Note: For the UDF mechanism to work, functions must be written in C or C++ and your operating system must support dynamic loading.

5.3.7 Scheduled events

MySQL **Events** are tasks that run according to a schedule. Therefore, they are often referred to as **Scheduled events**. In fact, an event is a named database object containing one or more SQL statements to be executed at one or more regular intervals, beginning and ending at a specific date and time. Conceptually, this is similar to the idea of the Unix *crontab* (also known as a "cron job") or the Windows Task Scheduler.

Scheduled tasks of this type are also sometimes known as "temporal triggers", implying that these are objects that are triggered by the passage of time. Events should more specifically not be confused with "temporary triggers". Whereas a <u>trigger</u> is a database object whose statements are executed in response to a specific type of event that occurs on a given table, a scheduled event is an object whose statements are executed in response to the passage of a specified time interval.

Scheduled Event Editor allows you to define scheduled event properties. It opens automatically when you create a new scheduled event and is available on editing an existing one.

To open a scheduled event in **Scheduled Event Editor**, double-click it in the <u>DB Explorer</u> tree.

- <u>Using Navigation bar and Toolbar</u>
- <u>Creating/editing scheduled event</u>
- <u>Browsing object dependencies</u>
- Editing event description
- <u>Viewing DDL definition</u>

See also: Debugger

5.3.7.1 Using Navigation bar and Toolbar

The **Navigation bar** and **Toolbar** provide quick access to tools implemented in **Scheduled Event Editor**.



The Navigation bar of Scheduled Event Editor allows you to:

Object group

- 😑 select a database
- select a scheduled event for editing

General group

- a refresh the content of the active tab
- compile the scheduled event (if it is being created/modified)
- 🕫 save the scheduled event <u>description</u> (if it has been modified)
- print metadata of the scheduled event
- *debug* a scheduled event
- 🥙 view MySQL reference
- restore the default size and position of the editor window

Depending on the current tab selection, the **Navigation bar** expands to one or more additional panes with tab-specific actions that can be useful for working with the scheduled event:

Description group save object <u>description</u> to file copy <u>description</u> to clipboard

DDL group save DDL to file open DDL in SQL Editor

Items of the **Navigation bar** are also available on the **ToolBar** of **Scheduled Event Editor**. To enable the <u>toolbar</u>, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select **()** *Toolbar* (if you need the toolbar only) or **()** *Both* (if you need both the toolbar and the <u>Navigation bar</u>) in the **Bar style for child forms** group.

5.3.7.2 Creating/editing scheduled event

Use the **Edit** tab of **Scheduled Event Editor** to add/edit a scheduled event and specify its definition.

Name

Enter a name for the new event, or modify the name of the event being edited.

😰 Scheduled Event - [UPDATE department] - [hr on merlin:5149(1)]								
📙 Databases 🕶 😥 😼 🛃 🥑 😚								
Object *	Edit Dependencies Description DDL							
hr on merlin:5149(1)	Name UPDATE department							
UPDATE department								
General \$	Interval T							
Refresh	Every DAY							
Gompile	V Starts 2011-02-25 18:48:23'							
🖕 Print	Ends							
🍞 Debug	Options							
Show SQL help	Enabled On't preserve on completion							
Restore default size	Definition							
	1 UPDATE department SET mycol = mycol + 1							
	E							
	1: 1 Insert Highlighting U							

Schedule

This group determines when and how often the SQL statement defined for the event is executed (*ON SCHEDULE* clause). Specify the preferable execution type:

At (implies a one-time event)

A one-time event executes one time only at the specified date and time. Set the **Interval** value to indicate a point in the future relative to the current date and time (*+ INTERVAL* clause). The interval value consists of two parts (a *quantity* and a *unit* of time: in *n* years/months/weeks/days/hours/etc.)

Every (recurrent execution)

A recurrent event repeats its action at a regular interval, and the schedule for a recurring event can be assigned a specific start day and time, end day and time, both, or neither.

Set the *recurrence rule* (a *quantity* and a *unit of time*: every *n* **years/months/weeks/ days/hours**/etc.) and the **Starts** / **Ends** threshold values:

Starts

Check the box to specify the start date and time for the recurring event - a timestamp value which indicates when the action should begin repeating.

If the box is unchecked, no start date and time are defined for the event (**Note:** Prior to MySQL 5.1.8, it defaulted to '0000-00-00 00:00:00' in such cases).

V Ends

Check the box to specify the end date and time for the recurring event - a timestamp value which tells MySQL when the event should stop repeating.

If the box is unchecked, the event continues executing indefinitely (**Note:** Prior to MySQL 5.1.8, it defaulted to '0000-00-00 00:00' in such cases).

Options

🗹 Enabled

Enables/disables the event immediately after it is created. A disabled event still exists as an object in the current database, but it does not execute any SQL statements.

Don't preserve on completion

Normally, once an event has expired, it is immediately dropped. To override this behavior, you can disable this option. Enabling the option merely makes the default non-persistent behavior explicit.

Definition

This area allows you to specify the SQL statement to be executed by the event (*DO* clause).

For your convenience the **syntax highlight**, **code completion** and a number of other features for efficient SQL editing are implemented. For details see <u>Working with SQL Editor</u> area and <u>Using the context menu</u>.

Note: In order to use scheduled events, you must set the *event_scheduler* server system variable value to ON.

5.3.8 Local scripts

Local scripts are the scripts that are stored locally and can be easily accessed from the <u>DB Explorer</u>.

To create new local script right-click the appropriate branch in the DB Explorer tree and select the **New Script** item. You will be asked for the script name. When the name is assigned the script appears in the DB Explorer tree.

New Script	×
Enter the script's new name	
new_script	
OK Cancel	

It is also possible to create subfolders in the Local scripts branch. To create a subfolder use the **New Script Folder** item of the context menu of a script or a group of scripts. Folders created there are created physically as subfolders to the folder assigned as default for local scripts in the <u>DB Registration info</u> <u>Directories</u>.

To change directory where local scripts to be stored use the **Select Directory...** item of the **Local Scripts** context menu.

Script opens in the <u>SQL Script</u> where it can be edited or executed.

See also: SQL Script DB Explorer Database registration info

5.4 Server objects

SQL Manager for MySQL provides all necessary tools for working with server objects.

Note: To start working with server objects you need first to connect to server.

Server objects: Log file groups Tablespaces Federated server

See also:

Operations with database objects New Object Duplicate Object Wizard Database objects

5.4.1 Log file groups

Note: Creation of log file groups is possible only when cluster server is installed.

This editor allows you to create or edit log file groups. It opens automatically when you create a new log file group and is available on editing an existing one.

To open a log file group in **Log file group Editor** double-click it in the <u>DB Explorer</u> tree.

- Using Navigation bar and Toolbar
- <u>Creating/Editing log file group</u>
- <u>Viewing object DDL definition</u>

5.4.1.1 Using Navigation bar and Toolbar

The **Navigation bar** and **Toolbar** provide quick access to tools implemented in **Log file** group Editor.



The Navigation Bar of Log file group Editor allows you to:

Object group

- select host;
- 间 select log file group to edit.

General group

- compile the log file group (if it's being changed/modified);
- refresh the content of the active tab;
- print metadata of the log file group;
- restore the default size and position of the editor window.

Items of the **Navigation bar** are also available on the **ToolBar** of **Log file group Editor**. To enable the <u>toolbar</u>, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select **(i)** *Toolbar* (if you need the toolbar only) or **(i)** *Both* (if you need both the toolbar and the <u>Navigation bar</u>) in the **Bar style for child forms** group.

5.4.1.2 Creating/Editing log file group

Use the **Edit** tab of **Log file group Editor** to create/edit a log file group and specify its definition.

🕼 New Log file group - [km	n:33562]			
🚦 🧔 kmn:33562	-			- 5	3 🗟 🔈 🛃 📄
Object	*	<u>E</u> dit I	DDL		
🥃 kmn:33562	•	<u>N</u> ame		new_lg1	
General	*	Undo buf	ndo buffer size DEFAULT		 Image: Image: Ima
Gompile		Undo files			
Restore default size		File			Initial size
		File1			DEFAULT
		8		<u>N</u> ew	
			₩;	<u>E</u> dit	
			E	<u>D</u> rop	
				Export List	

Name

Field displays name of the object. Value can't be modified in edit mode.

Undo buffer size

Undo files

Define the undo files in the bottom area. You can set specific initial size, default - 128mb, or '0' - value will be linked with the **Undo buffer size** one.

Context menu allows you to:

- create New undo file;
- Edit selected undo file;
- **Drop** undo file;
- Export List of objects to an external file.

If you choose the **New...** popup menu item the following dialog for setting undo file options appears.

Add new f	ile		—X —	
File name	File1			
Initial size				
	 Byte calculator]
	Giga <u>b</u> ytes	Meg <u>a</u> bytes	<u>K</u> ilobytes	Bytes
	0	0	0 1	0
	Result:			0 bytes
			<u>о</u> к	Cancel

Here you are to provide file name and file initial size (default value is 128Mb).

5.4.2 Tablespaces

Tablespaces are objects used for providing disk space to store tables. Tablespace can store one or several files.

Note: Tablespace can be created only on a cluster server.

Note: <u>Log file groups</u> and Tablespaces share the same namespace. This means that each object must be uniquely named to avoid name conflict.

This editor allows you to create or edit tablespaces.

To open a tablespace in **Tablespace Editor** double-click it in the <u>DB Explorer</u> tree.

- Using Navigation and Toolbar
- <u>Creating/Editing Tablespace</u>
- <u>Viewing object DDL definition</u>

5.4.2.1 Using Navigation and Toolbar

The **Navigation bar** and **Toolbar** provide quick access to tools implemented in **Tablespace Editor**.



The Navigation Bar of Tablespace Editor allows you to:

Object group
 select host;
 select tablespace to edit.

General group

- refresh the content of the active tab;
- for the stable space (if it's being changed/modified);
- print metadata of tablespace;
- restore the default size and position of the editor window.

Items of the **Navigation bar** are also available on the **ToolBar** of **Tablespace Editor**. To enable the <u>toolbar</u>, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select **(i)** *Toolbar* (if you need the toolbar only) or **(i)** *Both* (if you need both the toolbar and the <u>Navigation bar</u>) in the **Bar style for child forms** group.

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5.4.2.2 Creating/Editing Tablespace

Use the **Edit** tab to view/edit basic parameters of a tablespace.

🔠 New Tablespace - [kmn:	33562]						- • ×
🔋 🥥 kmn:33562	-				- 🐓 🛛	1 🚴 🖻	
Object	*	<u>E</u> di	t DDL				
🥃 kmn:33562	•	<u>N</u> ar	ne	[new_ts1		
General	*	Log	file group	[•
Gompile		Ext	ent size		DEFAULT		
Restore default size		Data	files				
		File	File Initial size				
		a	File50_1		10485760		
		2		F	<u>N</u> ew		
				æ	<u>E</u> dit		
				R.	<u>D</u> rop		
					Export List		

Name

Displays object name. Can be modified until object is created.

Log file group

Use the drop-down list to select an existing log file group.

Extent size

Define size of tablespace files. The default value is 1Mb. Minimum size allowed - 32Kb.

Data files

Use this area to specify tablespace data files.

Context menu allows you to:

- create **New** log file;
- Edit selected log file;
- Drop log file;
- Export List of objects to an external file.

If you choose the **New...** popup menu item the following dialog for setting data file options appears.

Add new f	ile		— × —	
File name	File1			
Initial size				
	 Byte calculator 			
	Giga <u>b</u> ytes	Meg <u>a</u> bytes	<u>K</u> ilobytes	Bytes
	0	0	0	0
	Result:			0 bytes
			<u>о</u> к	Cancel

Here you are to provide file name and file initial size (default value is 128Mb).

5.4.3 Federated servers

Federated server is used for working with FEDERATED <u>storage engine</u>. SUPER privilege is required for creating server of this type. **Note:** This object is available from MySQL server version 5.0.3.

Use this editor to create or edit federated servers.

To open a federated server in editor double-click it in the <u>DB Explorer</u> tree.

- Using Navigation bar and Toolbar
- <u>Creating/editing federated server</u>
- <u>Viewing object DDL definition</u>

5.4.3.1 Using Navigation bar and Toolbar

The **Navigation bar** and **Toolbar** provide quick access to tools implemented in **Federated Server Editor**.



The Navigation Bar of Federated Server Editor allows you to:

General group

- refresh the content of the active tab;
- compile federated server (if it's being changed/modified);
- show native MySQL help;
- restore the default size and position of the editor window.

Items of the **Navigation bar** are also available on the **ToolBar** of **Federated Server Editor**. To enable the <u>toolbar</u>, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select **(e)** *Toolbar* (if you need the toolbar only) or **(e)** *Both* (if you need both the toolbar and the <u>Navigation bar</u>) in the **Bar style for child forms** group.

5.4.3.2 Creating/editing federated server

Use the **Edit** tab to define settings required for connection to federated server.

🥟 Federated server - [kmn] - [kmn:33	562]	
👯 💭 kmn:33562	- 6	🖻 kmn	• 🐓 🖻 😓 🎯 🖻 💦 📜
Object	*	Edit DDL	
🥃 kmn:33562	•	<u>N</u> ame	kmn
🌮 kmn	•	<u>H</u> ost name	localhost Port 3367
General	* 3	<u>U</u> ser name	user
B Comple		Password	******
2 Compile		<u>D</u> atabase name	datacmp 💌
Print			Test connect
Ø Show SQL Help			Load connection info
Restore default size			

Name

Displays object name. Value can be modified until object is created.

Host name

Use this drop-down list to specify host which you want to connect to. This list contains names of the registered servers.

Port

Define port on the remote host to connect through.

Provide authorization information in the **User name** and **Password** fields.

Database name

Select an existing database from the drop-down list.

Press **Test connect** to check whether provided connection settings are valid.

You can select any of the registered servers from the Load connection info list.



6 Query Management Tools

When using **SQL Manager for MySQL**, you are provided with two basic tools you may need to manage your SQL queries: <u>SQL Editor</u> for editing SQL query text directly and <u>Visual Query Builder</u> for building queries visually. Find the list of common SQL query management operations below.

Creating New Queries

In order to create a new query in SQL Editor:

- select the Tools | New SQL Editor main menu item or use the corresponding toolbar button;
- click the Add new query item of the Navigation bar;
- edit the query text within the **Edit** tab of <u>SQL Editor</u>.

In order to create a new query in *Query Builder*:

- select the Tools | New Query Builder main menu item or use the corresponding item or use the correspondence item or use the corresponden
- build the query visually within the **Builder** tab of Visual Query Builder.

Editing Queries

In order to open a query in *SQL Editor*:

- select the Tools | Show SQL Editor <u>main menu</u> item or use the corresponding <u>toolbar</u> button;
- use the numbered tabs at the bottom of the editor window to switch between previously edited queries. The last edited query is displayed automatically on opening the editor;
- edit the query text within the **Edit** tab of <u>SQL Editor</u>.

In order to open a query in *Query Builder*:

- select the Tools | Show Query Builder main menu item or use the corresponding key toolbar button;
- the last edited query is displayed automatically on opening Query Builder;
- to load a previously saved diagram, click the Load diagram item of the Navigation bar
 ;
- to load a query from an *.sql file, open the Edit tab and click the Load SQL button of the Navigation bar;
- edit the query visually within the **Builder** and/or the **Edit** tabs of <u>Visual Query Builder</u>.

In order to load a query from an *.sql file:

- select the Tools | New SQL Editor main menu item or use the corresponding toolbar button;
- click the Load from file item of the Navigation bar;
- browse for the query file using the Open SQL File dialog;
- edit the query text within the **Edit** tab of <u>SQL Editor</u>.

Executing Queries

In order to execute a query:

• create a new query or open an existing one;
- click the Execute item of the Navigation bar or use the F9 hot-key to execute the query;
- view/edit the returned data within the **Results** tab of <u>SQL Editor</u>.

Saving Queries

In order to save a query:

- create a new query or open an existing one;
- click the Save to file <u>Navigation bar</u> item (in SQL Editor) or the Save SQL <u>Navigation bar</u> item (in *Query Builder*), or use the *Ctrl+S* <u>shortcut</u> to save the query using the Save as... dialog;
- click the Save diagram <u>Navigation bar</u> item in <u>Visual Query Builder</u> to save the designed diagram;

or

 use the Save all <u>Navigation bar</u> item in <u>SQL Editor</u> if you need to save all the queries to one file.

See also:

<u>Getting Started</u> <u>Database Explorer</u> <u>Database Management</u> <u>Database Objects Management</u> <u>Data Management</u> <u>Import/Export Tools</u> <u>Database Tools</u> <u>Server Tools</u> <u>Personalization</u> <u>External Tools</u> <u>How To...</u>

6.1 SQL Editor

SQL Editor is the basic tool of **SQL Manager for MySQL** for creating and executing queries. The tool allows you to create and edit the SQL text of a query, prepare and execute queries and view the results of query execution.

To open SQL Editor, select the **Tools | New SQL Editor** / **Tools | Show SQL Editor** main menu items or use the corresponding \mathbb{E} / \mathbb{M} toolbar buttons. You can also use the Shift+F12 / F12 shortcuts for the same purpose.

<u>D</u> atabase	<u>V</u> iew	Tools	s <u>S</u> ervices	<u>O</u> ptions	<u>W</u> indows	<u>H</u> elp	
		ď	Show SQL E	ditor	F12		
		Ē	New SQL Edi	itor	Shift+F12		

- <u>Using Navigation bar and Toolbar</u>
- <u>Working with SQL Editor area</u>
- Using the context menu
- <u>Viewing query plan</u>
- <u>Using object links</u>
- Executing queries and viewing results
- <u>Viewing query logs</u>
- Favorites editor
- Merging queries

See also: Visual Query Builder Query parameters SQL Script Editor Editor Options

6.1.1 Using Navigation bar and Toolbar

The **Navigation bar** and **Toolbar** provide quick access to tools implemented in **SQL Editor**.



The Navigation bar of SQL Editor allows you to:

Database group

🗄 select a database for the query

General group

- execute the current query
- view estimated <u>query execution plan</u>
- k run <u>Visual Query Builder</u> to design the query as a diagram

configure SQL Editor within the <u>Tools | SQL Editor</u> page of the <u>Environment Options</u> dialog

- switch the results representation mode: on Edit tab or on separate tab
- 🥙 view MySQL reference
- restore the default size and position of the editor window
- 🖲 enables/disables syntax highlight, code completion and code folding

Queries group

- d add a new query (note that the current query text will not be lost)
- 🖶 rename the current query
- 😼 remove the query
- 🙀 remove all queries from the editor

sedit the query text using <u>Favorites editor</u> and add the query to the <u>Favorite Queries</u> list

Depending on the current tab selection, the **Navigation bar** expands to one or more additional panes with tab-specific actions that can be useful for working with queries:

Edit group

- P activate the <u>Find Text</u> dialog
- Ioad a query from an *.sql file using the Open SQL File dialog
- save the query to an *.sql file
- by save the query to an *.sql file using the **Save as...** dialog
- save all queries to an *.sql file

Logs group

- activate the <u>Find Text</u> dialog
- 🚽 save the query log to a file
- 📝 clear logs

Data Management group

- ✓ commit transaction
- × rollback transaction
- The returned dataset using Export Data Wizard
- \mathbb{T} export the returned dataset as SQL Script using the <u>Export as SQL Script</u> wizard
- 📲 <u>save data to a file</u>

Items of the **Navigation bar** are also available on the **ToolBar** of **SQL Editor**. To enable the <u>toolbar</u>, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select **(i)** *Toolbar* (if you need the toolbar only) or **(i)** *Both* (if you need both the toolbar and the <u>Navigation bar</u>) in the **Bar style for child forms** group.

See also: <u>Working with SQL Editor area</u> <u>Viewing query plan</u> <u>Executing queries</u> <u>Viewing query logs</u> <u>Favorites editor</u>

6.1.2 Working with SQL Editor area

The **Editor area** of SQL Editor is available within the **Edit** tab and is provided for working with SQL queries in text mode.

For your convenience the **syntax highlight**, **code completion** and a number of other features for efficient SQL editing are implemented:

- using object links allowing you to open the object in the associated editor;
- ability to display line numbers;
- code folding for statements and clauses;
- customizable margins and gutters;

• formatting code for better representation and more.

If necessary, you can enable/disable or customize most of SQL Editor features using the <u>Editor Options</u> dialog.

The example of code completion is illustrated in the picture below. You can set the delay within the <u>Quick code</u> section of the <u>Editor Options</u> dialog or activate the completion list manually by pressing the Ctrl+Space <u>shortcut</u>.



Hint: To use a <u>keyboard template</u>, type the template name and press the *Ctrl+J* <u>shortcut</u>: the text associated with the template will be inserted automatically.

Implementation of the <u>Find Text</u> / <u>Replace Text</u> dialogs and <u>Incremental search</u> bar contributes to more efficient work with the SQL code.

If necessary, you can **print** the SQL text of your query using the corresponding item of the <u>context menu</u>.

See also: <u>Using Navigation bar and Toolbar</u> <u>Using the context menu</u> <u>Editor Options</u> <u>Keyboard Templates</u> <u>Favorites editor</u> <u>Find Text dialog</u> <u>Replace Text dialog</u>

6.1.3 Using the context menu

The **context menu** of SQL Editor area contains execution commands, most of the standard text-processing functions (*Cut, Copy, Paste, Select All*) and functions for working with the query as a whole, e.g. you can *move the cursor to a particular line, change the case* of selected text, view the query *properties* or *print* the text of the query. Each of these operations can be also performed with the corresponding hot keys used.

Find the complete list of **SQL Editor** context menu items below. The context menu allows you to:

- add the selected text to dictionary or correct text (see Spell checking for details);
- execute the query/selected text/text under cursor, and reset execution point (if necessary);
- manage markers: Drop Marker, Collect Marker, Swap Marker;
- toggle bookmarks allowing you to navigate through the query text and jump to a line with a particular number;
- perform editing operations: Undo/Redo, Cut, Copy, Paste, Select all;
- perform <u>search</u> and <u>replace</u> operations;
- save/load a query to/from an external *.sql file;
- perform preview/print operations;
- use the *Quick code* group allowing you to format the selected code using *SQL Formatter* to make the code easier to read, toggle comments for code fragments, change case of the selected text, indent/unindent code lines;
- add the query to the <u>Favorite Queries</u> list;
- open the <u>Editor Options</u> dialog.



See also: Working with SQL Editor area Executing queries

6.1.4 Viewing query plan

Using **SQL Manager for MySQL**, you can view **the plan** for each of the queries created and executed in the application. The query plan is available within the corresponding **Plan** tab.

To view the **Plan** of a query, open the query in **SQL Editor** and use the \blacksquare **Explain query** item of the <u>Navigation bar</u> or <u>toolbar</u>.

The **Plan** tab allows you to view the sequence of actions performed by the database server in the process of the query execution, and the amount of system resources used for the query execution.

	id	select_type	table	type	possible_keys	key	key_len	ref	rows	Extra
Par	1	SIMPLE	employeeaddress	index	PRIMARY	AK_Employ	38	NULL	13	Using index
-	1	SIMPLE	employee	eq_ref	PRIMARY, EmployeeID	PRIMARY	4	hr.employe	1	
sage	1	SIMPLE	department	ALL	NULL	NULL	NULL	NULL	16	Using join buffer
Mes										

The **Plan** panel displays the operations as a list with the following columns: *id*, *select_type*, *table*, *type*, *possible_keys*, *key*, *key_length*, *ref*, *rows*, *Extra*. Click a column caption to **sort** items by values of this column in the ascending or the descending mode.

Right-click within the panel to display the **context menu** allowing you to configure the set of *visible columns* or <u>export</u> the plan to any of supported <u>formats</u>.

If necessary, you can specify that the **Plan** tab appears automatically upon query execution in SQL Editor: select the \mathbb{Z} **Explain query on execution** option available within the <u>Tools | SQL Editor</u> section of the <u>Environment Options</u> dialog.

See also: SQL Editor options Executing queries

6.1.5 Using object links

Objects that exist in the database are highlighted in the text as hyperlinks. You can open an object in the appropriate editor by clicking the object name in the text with the *Ctrl* key pressed.

```
    SELECT ★ FROM <u>`employee`</u>
    where <u>`employee`</u>.`Gender` = 'M'
```

Please note that you can change the way highlighted objects look in the editor: use the <u>Color</u> section of the <u>Editor Options</u> dialog.

See also: Working with SQL Editor area Editor Options

6.1.6 Executing queries

When all the query parameters are set, you can immediately **execute the query** in **SQL Editor**.

To execute a query, click the **Execute** item of the <u>Navigation bar</u>. You can also use the <u>context menu</u> or *F9* hot key for the same purpose.

If the SQL syntax is correct, the query is executed and, in case the query statement is supposed to return data (e.g. as SELECT statement), the returned dataset appears within the **Results** tab. The position of the tab depends on the **Results on Edit tab / Results on separate tab** selection in the <u>Navigation bar</u>.

If SQL syntax of the query contains any errors, the query execution is stopped and the corresponding error message is displayed in the status bar area at the bottom of the editor window.

	Execute F9	Þ	₽	Execute Selected Only Alt+F9
	Reset Execution Point Ctrl+Alt+F2			Execute under Cursor Ctrl+Alt+F9
	Markers	۲	~	Switch to Results Tab
	Toggle Bookmarks	۲		Explain Query on Execution
e	Go to Line Number Alt+G			

By default, data returned by a query are displayed as a grid (see <u>Data View</u> for details). The <u>context menu</u> of the grid allows you to <u>Export Data</u>, <u>Export as SQL Script</u>, <u>Save data</u> to a file.

☑ SQL Editor - [hr on merlin:5149(1)]												
🕴 🖯 Databases 🔹 🤌 📮 📬 🙀 🖓 🚱 🚱 😼 🔚 🕨 🔹 閣 💷 🖻 💉 🗶 🔎 🗣 🗣 🐄 🔛 🎂 🥥 🗃												
Database *	*	Ē	dit R	es <u>u</u> lts <u>L</u> ogs								
Hr on merlin:5149(1) [W .	• • • • • • •	-	✓]×[≈ * * 5	Find:		Ŧ		
General *												ĥ
Execute		3	Departr	mentID 💌	Name			•	Gro	oupName	ModifiedDate	
				1	Engineer	ing			Res	earch and Development	2004-07-31 00:00:00	
				2	Tool Des	ign			Res	earch and Development	2004-07-31 00:00:00	
Run Query Builder				3	Sales				Sale	s and Marketing	2004-07-31 00:00:00	Ξ
SQL Editor options				4	Marketin	g			Sale	s and Marketing	2004-07-31 00:00:00	
표 Results on Edit tab				5	Purchas	ng			Inve	ntory Management	2004-07-31 00:00:00	
Show SQL help	E			6	Researc	h and De	evelopment		Res	earch and Development	2004-07-31 00:00:00	
Restore default size				7	Production	on			Man	ufacturing	2004-07-31 00:00:00	
B Disable all code features				8	Production	on Contro	bl		Man	ufacturing	2004-07-31 00:00:00	
		Þ	•	9	Human F	lesource	s		Exe	cutive General and Administratio	n 2006-08-30 00:00:00	
Queries ^				10	Finance				Exe	cutive General and Administratio	n 2004-07-31 00:00:00	
Add new query				11	Informati	on Servic	es		Exe	cutive General and Administratio	n 2007-09-28 00:00:00	
Rename current query				12	Docume	nt Contro	N. Contraction of the second se		Qua	lity Assurance	2004-07-31 00:00:00	-
Remove current query		ç	<u>-</u> rid View	Form View F	P <u>r</u> int Data							
Remove all queries		R	ecords fe	etched: 16/16						L	IMIT 0, 1000	
Add to Favorite Queries												
		11	6 rows	fetched	(31 ms)						*
Data Management ¥	-	L										*
27: 1	Moo	lified	i	Insert	Highligh	ting	Unicode (US	C-2)				.::

See also: Data View Export Data Export as SQL Script

6.1.7 Viewing query logs

This tab allows you to view the query **log**. The log is available within the **Logs** tab of **SQL Editor**.

Using this tab you can view *log entries* containing the following details:

- date and time of the query execution;
- text of the query;
- number of rows fetched and fetch time, or the text of the error (if any).

Date/time and the execution result information are embedded as code comments conforming with the rules of SQL.

With the help of the **context menu** the log can be *printed*, *saved* to file or *cleared*. You can also use a number of SQL Editor <u>context menu</u> generic functions.



See also:

Executing queries Using the context menu

6.1.8 Favorites editor

For your convenience the **Favorite Queries** list is implemented in **SQL Manager for MySQL**. This list is available within the **Favorite Queries** node of <u>Database Explorer</u> and allows you to store the most frequently used SQL queries in one location.

To add a query to the **Favorite Queries** list, use the **Add to Favorite Queries** <u>Navigation bar</u> item in **SQL Editor**. The corresponding item is also available in the <u>context</u> <u>menu</u> of SQL Editor working area.

You can	edit an	y of your	[.] Favorite	Queries	using	Favorites	editor.
---------	---------	-----------	-----------------------	---------	-------	-----------	---------

Fav	/orite	es Editor			- ×-
Na	ame	films_acrots	Storage	Registry	
	₽S	ELECT			
2		<u>`film_actor`</u> .`film_id`,			
3		'film actor'.'actor_id',			
4		'film actor'.'last_update'	,		
5		`film`.`film_id`,			=
6		<pre>`film`.`title`,</pre>			-
7		<u>`film`</u> .`release_year`,			
8		<pre>`film`.`language_id`,</pre>			
9		<u>`film`</u> .`original_language_	id`,		
10		<u>`film`</u> .`rental_duration`,			
11		<u>`film`</u> .`rental_rate`,			
12		<pre>`film`.`length`,</pre>			
13		<u>`film`</u> .`replacement_cost`,			
14		<pre>`film`.`rating`,</pre>			
15		<pre>`film`.`special_features`,</pre>			
16		<pre>`film`.`description`,</pre>			
17		<u>`film`</u> .`last_update`			
18		FROM			
19		`film`			· · · ·
•					•
			<u>о</u> к	Cancel	<u>H</u> elp

Name

Set the name of the Favorite query.

Storage

Specify where the Favorite query will be stored: in *Windows Registry* or in the *Database*.

Note: If you store Favorite queries in the Windows Registry then they can be lost after the Windows reinstall. To avoid this problem save the registry branch or store Favorite queries in a database.

See also: <u>Managing Favorite queries</u> <u>Working with SQL Editor area</u>

6.2 Visual Query Builder

Visual Query Builder is implemented in **SQL Manager for MySQL** for building queries visually. The tool allows you to create and edit queries without deep knowledge of SQL. You can also prepare and execute queries, and view the results of their execution.

To open Visual Query Builder, select the **Tools | New Query Builder / Tools | Show Query Builder** <u>main menu</u> items or use the corresponding \mathbb{H} / \mathbb{H} <u>toolbar</u> buttons.



- Using Navigation bar and Toolbar
- Working with diagram area
- Joining two database objects by columns
- <u>Setting the selection criteria</u>
- <u>Setting output columns for selection</u>
- <u>Setting the grouping criteria</u>
- <u>Setting parameters of sorting</u>
- <u>Working with editor area</u>
- Executing queries and viewing results

<u>Availability</u>: **Full** version (for Yes Windows) **Lite** version (for No Windows)

Note: To compare all features of the **Full** and the **Lite** versions of **SQL Manager**, refer to the <u>Feature Matrix</u> page.

See also:

<u>SQL Editor</u> <u>Query parameters</u>

6.2.1 Using Navigation bar and Toolbar

The **Navigation bar** and **Toolbar** provide quick access to tools implemented in **Query Builder**.

Database	*
🔋 sakila on doom_server	•
General	*
Execute query	
Gear query	
Create view	
O Show SQL help	
🦺 Query Builder options	
🛃 Restore default size	
💐 Print setup	
Print preview	
Visual Builder	*
🤔 Load diagram	
📕 Save diagram	
Data Management	*
 Commit transaction 	
X Rollback transaction	
Export data	
Export as SQL script	
Reference to a file	
PHP Export as PHP page	
Objects	*
actor	-
actor_info	
address	
E category	
	-

The Navigation bar of Query Builder allows you to:

Database group

🗏 select a database for the query

General group

- execute the current query
- 😼 clear the query
- 4 create a <u>view</u>
- 🥙 view MySQL reference
- by configure Query Builder using the <u>Query Builder Options</u> page of the <u>Environment</u> <u>Options</u> dialog
- restore the default size and position of the builder window
- 💐 set printing options using the **Print Setup** dialog
- 🔎 preview the diagram

Objects group

browse objects of the database; you can also add tables and views to the diagram using drag-and-drop operations

Depending on the current tab selection, the **Navigation bar** expands to one or more additional panes with tab-specific actions that can be useful for working with queries:

Visual Builder group

- 🖻 load a diagram from a *.vqb file using the **Open diagram** dialog
- save the diagram to a *.vqb file using the **Save diagram as...** dialog

Edit group

- load a query from an *.sql file using the **Open SQL File** dialog
- save the query to an *.sql file

Data Management group

- ✓ commit transaction
- 🔀 rollback transaction
- 🕆 export the returned dataset using Export Data Wizard
- export the returned dataset as SQL Script using the Export as SQL Script wizard
- 📲 <u>save data to a file</u>
- 📅 <u>export data as PHP page</u>

Items of the **Navigation bar** are also available on the **ToolBar** of **Query Builder**. To enable the <u>toolbar</u>, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select **(a)** *Toolbar* (if you need the toolbar only) or **(a)** *Both* (if you need both the toolbar and the <u>Navigation bar</u>) in the **Bar style for child forms** group.

See also: Working with diagram area Query execution

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6.2.2 Working with diagram area

The main working area of **Visual Query Builder** is the diagram area available within the **Builder** tab. Here you can create a query by placing the database <u>tables</u> and <u>views</u> onto the area, and edit it by selecting the required data columns and setting links between objects.

To add an object to the query, you can simply drag it from the <u>DB Explorer</u> tree to the diagram area.

To include a column in the query, check the corresponding box located to the left from the column name in the list, or just double-click it. To include all columns of the table/ view, check the box located to the left of the table/view caption. If you do not check any columns, the SQL statement is generated as *SELECT* * *FROM* <*table/view_name>*, i.e. all the columns are included in the query.

To *collapse/expand* the list of table/view columns, click the minimize/maximize button at the object caption.

To exclude a column from the query, uncheck the respective box. In order to remove the entire table/view from the query, close it by clicking the corresponding cross-button at the object caption, or right-click the object and select **Delete** from the context menu. You can also select the object and press the **Del** key.

To edit the alias of a table/view, double-click the object caption and enter the new name, or right-click the object and select **Rename** from the context menu.



Visual Query Builder allows you to create complex queries consisting of two or more queries combined in one with the *UNION* operator, or add nested queries. The panel to the left of the diagram area displays the **tree of subqueries**.

To add a query, right-click within the **tree of subqueries** area and select **Add union** from the context menu. A tab for the new query will appear in the diagram area. To remove a query from the tree, right-click the query and select **Delete union** from the context menu.

To add the UNION ALL operator to the query, right-click the newly added query and select the corresponding context menu item.

Builder	Edit				
Select					•
- Q	uery 1	G	Query 1	Query 2 [union all]	
Q	uery 2 [union all]				
	Add union				
	Delete union				
	✓ Union All				+

Note: Depending on which query type you need to execute, you can select one from the drop-down list above the tree of subqueries: *Select*, *Insert*, *Update*, or *Delete*.

Builder	Edit
Select	•
Select	
Insert	
Update	
Delete	

See also: Joining two objects Working with the editor area Query execution

6.2.3 Joining two objects

The **diagram area** allows you to associate two objects by their columns: this operation is performed by dragging a column from one object list to another. This will set a link between these objects by the selected columns. It is indicated by a bidirectional arrow between the linked columns.



You can *view the link properties* of objects association: set the mouse cursor over the linking arrow, and a hint containing the association condition will popup after a short delay.

To remove a link between objects, right-click the linking arrow and select the **Delete link** popup menu item.

To add a point to the link line, right-click the linking arrow and select the **Insert point** popup menu item. Using the point you can move the link line easily. The point does not cause any changes to the query, it is only used for the diagram representation and makes visual building handy and more comprehensible.



See also: Working with diagram area Setting criteria

6.2.4 Setting criteria

Use the **Criteria** tab to set the selection conditions.

The way the conditions are used is set in the upper string of the area (All, Any, None or Not all of the following are met). Click the green link to change it.



To add a condition, click the ellipsis button on the left, and select the **Add condition** popup menu item.

Edit the condition by clicking the elements of the condition pattern and setting the necessary values. Clicking the numbered button to the left of the condition string activates the popup menu which allows you to *add a new condition* at the same enclosure level, *make composite condition* by adding a new enclosure level, *delete the current condition*, *expand* or *collapse* enclosure levels of the condition (if the condition is composite).

Add condition
Make composite condition
Delete condition
Expand condition

A simple condition pattern contains three elements: an argument, a condition operator and a second argument (if required for the condition).

Clicking each element column allows you to set its value. You can add a column by dragand-dropping it from the working area to Criteria, Selection, Grouping criteria or Sorting tabs. When clicking an argument column, you can edit the argument as a text string: set an object name or a certain value in this column. Right-clicking the column in the edit mode activates the popup menu with the **Insert column** (also called by the *Shift+Enter* <u>shortcut</u>; this item allows you to select a column from the list of all the table columns) and **Insert query** (this item adds a nested query) items.



Clicking the condition operator column activates the popup menu from which you can select the operator you need.

=
<>
!=
<
>
<=
>=
LIKE
NOT LIKE
IN
NOT IN
BETWEEN
NOT BETWEEN
IS NULL
IS NOT NULL

See also:

Setting output fields Setting grouping criteria Setting sorting parameters

6.2.5 Setting output fields

The **Selection** tab displays the output columns of the query as a grid.

The grid allows you to edit the names of the query output columns, specify their display order and set the aggregate functions for each column. To remove a column from the list, right-click the column row and select the **Delete current row** popup menu item.

Delete selected rows
Insert query
Insert CASE

The popup menu also allows you to *insert a nested query* and add a *CASE* clause. To edit the CASE clause, use the **CASE END AS** dialog.

🚮 CAS	E END AS "1"		- • •
Name	film_category.film_i	✓ Alias	1
	When		Then
		OK	Cancel

To change the *input query* column, click it and then type the column name or select it from the drop-down list.

To change the *output query field* name, set the cursor at the corresponding column and type the required field name.

To reorder fields in the list, use the \Box \Box buttons.

С	riteria Selection Grouping crite	ria Sorting			
	Select only unique records		🔄 💽 up	o 🛛 💽 dov	vn
	Source field name	Name of output field	Aggregate	Grouping	
	film_actor.film_id	film_id			
	film_actor.actor_id	actor_id		Yes	=
	film.film_id	film_id			
	film.title	title			
I	film.release_year	release_year	-		
	film.language_id	language_id	AVG	<u> </u>	
	film.original_language_id	original_language_id	BIT_AND BIT OR		
	film.rental_duration	rental_duration	COUNT	E	
	film.rental_rate	rental_rate	GROUP_CONG		-
	-	-	MIN STD	-	-

To set an aggregate function for a field, click the field row within the **Aggregate** column, and then type in the function name or select one from the drop-down list (*SUM*, *MIN*, *MAX*, *AVG*, or *COUNT*).

The **Grouping** column displays the grouping state for each of the output fields.

Select only unique records

If you check this option, the duplicate records (if any) are not included into the query result (i.e. the *DISTINCT* keyword is added to the SQL query text).

See also:

Setting criteria Setting grouping criteria Setting sorting parameters

6.2.6 Setting grouping criteria

The **Grouping criteria** tab allows you to set conditions for grouping query records.

The grouping condition pattern columns are set in the same way as those of the <u>Criteria</u> pattern.



These conditions will be included in the HAVING statement of the generated SQL query.

See also: <u>Setting criteria</u> <u>Setting output columns</u> <u>Setting sorting parameters</u>

6.2.7 Setting sorting parameters

The **Sorting** tab allows you to set sorting parameters for the records returned by the query.

The working area contains the **Output columns** list (at the left) which represents all columns of the objects used in the query, and the **Sorted columns** list (at the right) which contains the columns to sort records by.

To move a column from one list to another, drag the selected column or use the **Add** and **Remove** buttons:

To change the sorting order for a sorted column, select the column in the **Sorted column s** list and move it using the **Up** and **Down** buttons.

To change the sorting direction, select the column in the **Sorted Columns** list and switch the direction (*Ascending*, *Descending*) using the corresponding **A..Z/Z..A** button.

Criteria	Selection	Grouping criteria	Sorting				
					Up Down		A.Z
Output fi	elds				Sorted fields	Sort order	
film.special_features					film.language_id	Ascending	
film.description					film.title	Ascending	
film.release_year				1	film.rating	Ascending	
film.last_update			-				
film_category.category_id							
film_cate		-					

See also: <u>Setting criteria</u> <u>Setting output columns</u> <u>Setting grouping criteria</u>

6.2.8 Working with the editor area

The **Editor area** of **Visual Query Builder** is available within the **Edit** tab and is provided for working directly with the SQL query text which is generated automatically while you build the query visually.

You can edit this text according to the rules of SQL, and all the changes will be displayed within the **Builder** tab respectively.

To learn more about the SQL Editor features available within the **Edit** tab, see <u>Working</u> <u>with SQL Editor area</u>.

Ŀ	🖳 Query Builder - [sakila on doom_server]							
	🔒 D	atabases • 📴 🤌 • 🎧 • 🕨 = 🗛 🖌 🗶 🤯 🖓 🕾 🕆 🐄 🚱 • 🥑 🖻	Ŧ					
Г	Build	er Edit Result						
	E	SELECT						
	2	`film actor`.`film id`,						
	3	`film actor`.`actor_id`,						
	4	`film`.`film_id`,						
	5	<u>`film`</u> .`title`,						
	6	<u>`film`</u> .`release_year`,	=					
	7	<u>`film`</u> .`language_id`,						
	8	<u>`film`</u> .`original_language_id`,						
	9	<u>`film`</u> .`rental_duration`,						
4	10	<u>`film`</u> .`rental_rate`,						
3	11	<u>`film`</u> .`length`,						
1	12	<u>`film`</u> .`replacement_cost`,						
	13	<u>`film`</u> .`rating`,						
8	14	<u>`film`</u> .`special_features`,						
8	15	<u>`film`</u> .`description`,						
1	16	<u>`film text`</u> .`title`,						
	17	<u>`film text`</u> .`description`,						
3	18	<u>`film category`</u> .`category_id`						
2	19	FROM						
	20	<u>`film`</u>						
	21	<pre>INNER JOIN 'film actor' ON ('film'.'film_id' = 'film actor'.'film_id')</pre>						
	22	<pre>INNER JOIN <u>`film text`</u> ON (<u>`film`</u>.`film_id` = <u>`film text`</u>.`film_id`)</pre>						
	23	INNER JOIN <u>`film category`</u> ON (<u>`film`</u> .`film_id` = <u>`film category`</u> .`film_id`)						
	24	WHERE						
	25	<u>`film`</u> .`release_year` BETWEEN 2005 AND 2012 AND						
	26	<u>`film category`</u> .`film_id` = <u>`film`</u> .`film_id` AND						
	27	film text'. film_id' AND						
	28	<u></u>	Ŧ					
	•	4						
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See also: Working with diagram area Query execution SQL Editor

6.2.9 Query execution

When all the query parameters are set, you can immediately **execute the query** in **Visual Query Builder**.

To execute a query, click the \blacktriangleright **Execute query** item of the <u>Navigation bar</u>. You can also use the *F9* hot key for the same purpose.

If the query parameters are specified correctly, the query is executed and, in case the query statement is supposed to return data (e.g. as *SELECT* statement), the returned dataset appears within the **Result** tab.

If SQL syntax of the query contains any errors, the query execution is stopped and the corresponding error message is displayed in the status bar area at the bottom of the Query Builder window.



By default, data returned by a query are displayed as a grid (see <u>Data View</u> for details). The <u>context menu</u> of the grid allows you to <u>Export Data</u>, <u>Export as SQL Script</u>.

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Print setun			4 AFFAIR PREJUDICE	2006	1	117	2,99	26,99
Print Setup			5 AFRICAN EGG	2006	1	130	2,99	22,99
Print preview			6 AGENT TRUMAN	2006	1	169	2,99	17,99
Data Management	*		7 AIRPLANE SIERRA	2006	1	62	4,99	28,99
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X Rollback transaction			10 ALADDIN CALENDAR	2006	1	63	4,99	24,99
Export data			11 ALAMO VIDEOTAPE	2006	1	126	0,99	16,99
Export as SQL script			12 ALASKA PHANTOM	2006	1	136	0,99	22,99
📲 Save data to a file			13 ALI FOREVER	2006	1	150	4,99	21,99
PHP Export as PHP page			14 ALICE FANTASIA	2006	1	94	0,99	23,99
			15 ALIEN CENTER	2006	1	46	2,99	10,99
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See also:

Working with diagram area Working with the editor area Data View

6.3 Query parameters

Both <u>SQL Editor</u> and <u>Visual Query Builder</u> support parameters usage inside the query text. A parameter is a kind of variable for which a value can be specified just before the query execution. In the query text the parameter should appear as an identifier with a colon (':') at the beginning, e.g.

SELECT * FROM MYTABLE WHERE ID = :param1;

Note: The **Allow using of parameters in query text** option should be checked on the <u>Tools</u> page of the <u>Environment Options</u> dialog for this feature to be enabled.

See also: SQL Editor Visual Query Builder 287 SQL Manager for MySQL - User's Manual

6.3.1 Input parameters dialog

The **Input Parameters** dialog is used to specify the query parameters as well as values of the input parameters of the query before execution.

🚮 Inpu	ut Paramete	ers 💌
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Click \mathbf{OK} button to apply the values and execute the query or click \mathbf{Cancel} button to abort execution.


7 Data Management

Table data and query results are displayed on the **Data** or **Results** tab of <u>Table Editor</u>, <u>SQL Editor</u>, <u>Visual Query Builder</u>, etc.

Data can be displayed in one of the following modes: **Grid View**, **Form View**, **Print Data**, **BLOB View**. See <u>Data View</u> to learn more about these modes. You are also provided with a number of <u>filtering tools</u> when working with your data.

- <u>Data View</u>
- <u>Custom Filter</u>
- Filter Builder dialog

See also:

Getting Started Database Explorer Database Management Database Objects Management Query Management Tools Import/Export Tools Database Tools Server Tools Personalization External Tools How To...

7.1 Data View

SQL Manager for MySQL provides you with powerful tools for **viewing, editing and printing data** from tables and queries:

- table / view data are available within the Data tab of <u>Table Editor</u> / <u>View Editor</u> correspondingly;
- upon a query execution the returned dataset appears within the Result(s) tab of <u>SQL</u>
 <u>Editor</u> / <u>Query Builder</u> (in SQL Editor the position of the tab depends on the Results on Edit tab / Results on separate tab selection in the <u>Navigation bar</u>).

The data can be displayed in one of four available **modes**: *Grid View, Form View, Print Data* and *BLOB View*. The **status bar** at the bottom displays the number of records in the current dataset, the time the records were fetched by the application and the status of the records (whether the data are read-only or editable).

Please see the succeeding chapters to learn how to work with your data in the simplest and most efficient way.

- Using Navigation bar and Toolbars
- Grid View
- Form View
- <u>Print Data</u>
- BLOB View
- Applying changes

See also:

<u>Custom Filter</u> <u>Filter Builder dialog</u> <u>Table Editor</u> <u>View Editor</u>

7.1.1 Using Navigation bar and Toolbars

When the **Data** tab (in <u>Table Editor</u>, <u>View Editor</u>) or the **Result(s)** tab (in <u>SQL Editor</u>, <u>Query Builder</u>) is selected, the <u>Navigation bars</u> of these tools contain the **Data Management** group which allows you to:

- ✓ commit transaction
- X rollback transaction
- 📑 <u>export data</u>
- export data as SQL script
- import data (in Table Editor, View Editor only)
- here a start (in *Table Editor* only)
- save data to a file on the server

Data Management	\$
Commit transaction	
X Rollback transaction	
Export data	
Export as SQL script	
Reve data to a file	
Export as PHP page	

Items of the **Navigation bar** are also available on the **ToolBar**. To enable the <u>toolbar</u>, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select *Toolbar* (if you need the toolbar only) or *Navigation bar*) in the **Bar style for child forms** group.

The Navigation pane contains toolbars allowing you to:

- go to the first record of the dataset;
- go to the previous page;
- go to the previous record;
- go to the next record;
- go to the next page;
- go to the last record of the dataset;
- insert a new record (in Table Editor only);
- delete the selected record (in Table Editor only);
- edit the selected record (in *Table Editor* only);
- post edit (in Table Editor only);
- cancel edit (in Table Editor only);
- refresh data;
- set bookmark;
- go to saved bookmark;
- call the Filter Builder dialog;
- search for a string in the currently selected column data;
- specify the maximum number of records (record limit) for displaying data (in *Table Editor*, *View Editor* only);
- navigate within the dataset using the specified record limit (in Table Editor, View

Editor only).



The **Toolbar** of the <u>Print Data</u> mode allows you to:

- customize the report using <u>Report Formatter</u> and the <u>Report Options</u> dialog;
- load a report from an external *.rps file;
- save the current report to an external *.rps file;
- print the report using the default printer;
- set printing options using the standard <u>Print</u> dialog;
- call the <u>Page Setup</u> dialog;
- show/hide report thumbnails;
- customize the <u>Report Title</u>;
- add Date and Time, Page Numbering, show/hide empty pages;
- shrink the report to the page;
- specify background color;
- zoom in/out, setup zoom, zoom page width, whole page, two/four/multiple pages;
- select the active page of the report;
- go to first/previous/next/last page of the report.

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The **Toolbar** of the <u>BLOB View</u> mode allows you to:

- select a BLOB column;
- select encoding (ANSI, UTF-8, UNICODE-16);
- load BLOB content from an external file;
- save the BLOB column content to an external file;
- cut/copy/paste selected text to/from clipboard (enabled for the Text and Rich Text tabs only);
- undo changes;
- print the text (enabled for the *Text*, *Rich Text* and *HTML* tabs only);
- select font to be applied to the selected text (enabled for the *Rich Text* tab only);
- select font size to be applied to the selected text (enabled for the Rich Text tab only);
- make the selected text bold/italic/underlined (enabled for the Rich Text tab only);
- align left/center/right (enabled for the *Rich Text* tab only);
- add/remove list bullets (enabled for the *Rich Text* tab only).

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See also: Grid View Form View Print Data BLOB View Applying changes Customize toolbars and menus

7.1.2 Grid View

By default, data returned by a query are displayed as a grid. It is indicated by the **Grid View** tab selected on the View mode panel at the bottom of the **Results** area of the window.

When in the **Grid View** mode, the columns correspond to the columns and the rows correspond to the records.

If more convenient, you can <u>change the order</u> of the columns by dragging their headers horizontally. Clicking the column caption sorts data by the values of this column in the ascending or the descending mode. The <u>navigation pane</u> at the top of the grid allows you to browse the data quickly, to insert, update and delete records, and to set a <u>filter</u> for the records using the <u>Filter Builder</u> dialog and other tools.

The <u>Navigation bar</u> of the parent window, <u>toolbars</u> and the <u>context menu</u> of the grid provide you with a number of data management functions: <u>Export Data</u>, <u>Import Data</u>, <u>Export as SQL Script</u> and more.

- <u>Customizing columns</u>
- Grouping data within the grid
- Filtering records
- Using the context menu
- <u>Working in multi-level mode</u>
- Browsing data in card view
- <u>Column Summary</u>
- <u>Copying records</u>

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2	N	ABX	10000002	Airborne Express	Second Day Air				
3	N	DHL	20000001	DHL Express	Express Worldwide				
4	N	DHL	20000002	DHL Express	Economy Select				
5	N	EWW	966637132	Emery Worldwide	Gold Priority AM				
6	N	EWW	966637132	Emery Worldwide	0930 Services				
7	Y	EWW	966637132	Emery Worldwide	Gold Priority Second Day				
8	Y	EWW	966637132	Emery Worldwide	Gold Priority Deferred				
9	N	FDX	1044186586	FedEx Express	1Day Freight				
10	N	FDX	1044186586	FedEx Express	2Day Freight				
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Hint: To increase the speed of opening tables and views with extremely large number of

records, you can use options of the **Limit options in table and view editors** group available in the <u>Grid | Data Options</u> section of the <u>Environment Options</u> dialog.

See also: <u>Using Navigation bar and Toolbars</u> Form View Print Data <u>BLOB View</u> <u>Applying changes</u>

7.1.2.1 Customizing columns

Selecting visible columns

When working in the **Grid View** mode, you can specify which columns of the current dataset will be visible. Click the ^{II} button available in the top left corner of the data grid and select/deselect columns in the drop-down list to specify their visibility/invisibility.

3
EMPLOYEE_ID
FIRST_NAME
LAST_NAME
EMAIL
PHONE_NUMBER
HIRE_DATE
JOB_ID
SALARY
COMMISSION_PCT
MANAGER_ID
DEPARTMENT_ID

Changing columns order

For your convenience the possibility to *change the order* of the columns in the data grid is available. To reorder columns, drag a column header horizontally to a place in between two other column headers indicated with green arrows.

	FIRST_NAME LAST_NAME		
		•	
See also:			
Grouping data			
Filtering records			
Working in multi-level mode			
Working in card view mode			
<u>Column Summary</u>			

7.1.2.2 Grouping and sorting data

In order to **sort data**, do the following:

open data at the **Data** or **Results** tab, choose the column by which you need to sort data and click the column title.

If the column was not sorted, the first click will sort it in the ascending order and the second one - in the descending order.

Clear Sorting

To cancel the sorting, open the context menu by right-clicking the necessary column and choose the **Clear Sorting** item, or press the *Ctrl* button and click the column title.

If necessary, you can group the data in grid by any of the columns.

This operation is performed by dragging the column header to the gray "**Group by**" **box** area at the top. In order to display this area, select the \mathbb{Z} **Show** "**Group by**" **box** option available in the <u>Grid</u> section of the <u>Environment Options</u> dialog.

When grouping by a column is applied to the grid, all the records are displayed as subnodes to the grouping row value as displayed in the screenshot below. The grouping row can contain the column summary information specified in the **Group header** group of the <u>Column Summary</u> dialog.

To reverse grouping, just drag the column header back.

Hint: While dragging the column header back, you can also <u>change the column position</u>.

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		13	1044186586	6	FedEx Exp	ress		Express Saver		N	3DA	
		9	1044186586	;	FedEx Exp	ress		1Day Freight		N	1DF	
		10	1044186586	3	FedEx Exp	ress		2Day Freight		N	2DF	
		11	1044186586	6	FedEx Exp	ress		3Day Freight		N	3DF	
		14	1044186599)	FedEx Exp	ress		International Pr	iority	Y	INT	
		31	1044186610)	FedEx Exp	ress		Overnight Exp	ess	Y	OVN	
		32	1044186620)	FedEx Exp	ress		Economy Freig	ht	Y	ECO	
		15	1044186600)	FedEx Exp	ress		Ground Deliver	у	Y	GND	
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If necessary, you can group data by two or more columns. In this case column headers are displayed hierarchically, and data are grouped by these columns in the order the column headers appear in the **"Group by"** area.

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Image: Ship_carrier_co	ship_carrier_code : ABX									
ship_carrier_co	de : DHL									
ship_carrier_co	de : EWW									
ship_publish	: N			1						
5	966637132	Emery Worldwide	Gold Priority AM	EWWAM						
29	966637133	Emery Worldwide	Standard Shipping	EWWSTD						
6	966637132	Emery Worldwide	0930 Services	EWW930						
ship_publish	:Y									
7	966637132	Emery Worldwide	Gold Priority Second Day	EWW2D						
8	966637132	Emery Worldwide	Gold Priority Deferred	EWWDef						
30	966637134	Emery Worldwide	Express Shipping	EWWEX						
☐ ship_carrier_co	de : FDX									
ship_publish	: N									
12	1044186586	FedEx Express	Standard Overnight	1ST						
13	1044186586	FedEx Express	Express Saver	3DA						
9	1044186586	FedEx Express	1Day Freight	1DF						
10	1044186586	FedEx Express	2Day Freight	2DF						
11	1044186586	FedEx Express	3Day Freight	3DF						
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ship_carrier_co	de : UPS									
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Grid View Form Vie	ew Print Data									
Fetched: 34/34		78	3 ms	LIMIT 0, 1000						

See also: <u>Customizing columns</u> <u>Filtering records</u> <u>Working in multi-level mode</u> <u>Working in card view mode</u> <u>Column Summary</u>

|--|

7.1.2.3 Filtering records

A number of **filtering** facilities are implemented in the grid for your convenience. You can filter records in the grid in either of the following ways:

• right-click a row and select the **Quick Filter** context menu item to filter records by the current value of the selected column;

roperties <u>C</u> ol	lumns <u>I</u> ndices	For	eign <u>K</u> eys	T <u>r</u> iggers	D <u>a</u> ta	Depend	en <u>c</u>	ies D	DL				
Drag a column header here to group by that column													
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11	1044186586		Disable Fi	iller				Ň	value			N	3
12	1044186586		Clear Sort	ting				< V	alue		iight	N	1
13	1044186586		Set Value			+		> V	alue			N	3
14	1044186599		Edit BLOB	2	Ctr	d.B		<= \	Value		ority	Y	1
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 click the Arrow-Down button next to the column caption to display the drop-down list and select any of the column values to filter records by this value of the selected column;

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Drag a column header here to group by that column					^
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Tool Design		(Custom) 2004-01-01 10:23:	00	Research and Development	
Sales		2004-01-12 05:23:	00	Sales and Marketing	_
Marketing		2004-02-11 09:40:	00	Sales and Marketing	
Purchasing		2004-02-14 14:53:	00	Inventory Managment	
Research and Development		2004-03-04 07:39:	00	Research and Development	
Production		2004-03-04 08:54:	00	Manufacturing	
Production Control		2004-03-04 11:43: 2004-04-02 04:32:	00	Manufacturing	
Human Recources		2004-04-02 09:49:	00	Executive General and Administration	
Finance		2004-04-04 11:42:	00	Executive General and Administration	
Information Services		2004-04-07 08:42:	00	Executive General and Administration	
Document Control		2004-04-09 07:33:	00	Quality Assurance	
Quality Assurance	;	2004-04-09 12:45:	00 🗸	Quality Assurance	
Null	14	2004-03-04 11:43	:00	Executive General and Administration	
Shipping and Receiving	15	2004-04-09 12:45	:00	Inventory Managment	
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Grid View Form View Print Data					
Fetched: 16/16				LIMIT 0, 1000	

or

- click the Arrow-Down button next to the column caption to display the drop-down list, then select the **Custom** item and build a simple filter using the <u>Custom Filter</u> dialog;
- use the **Set filter □** button on the <u>navigation pane</u> to invoke the <u>Filter Builder</u> dialog and create a composite filter using the dialog.

After the filter is set, the gray **filtering panel** becomes visible at the bottom of the grid. This panel allows you to see the active filtering condition and easily enable or disable it using the checkbox on the left. The Arrow-down button opens the drop-down menu which allows you to browse the filter history for this dataset.

If necessary, you can click the **Customize...** button on the right to customize your filter and add more complicated filtering conditions within the <u>Filter Builder</u> dialog.

X	(FIRST_NAME LIKE E%) and (SALARY > 10000)	Customize

To remove the current filter, click the **Close** 🗾 button.

See also: Customizing columns Grouping data <u>Custom Filter</u> <u>Filter Builder dialog</u>

7.1.2.4 Using the context menu

The **context menu** of the grid is aimed at facilitating your work with data: you can perform a variety of operations using the context menu items:

- copy the selected cell value to Windows clipboard;
- paste the clipboard content to the currently selected cell;
- copy/paste multiple records;
- data manipulation: <u>Export Data</u> from the table, <u>Import Data</u> to the table, <u>Export Data</u> as <u>SQL Script</u>, <u>Save Data</u> to a file, <u>Load Data</u>, <u>Export as PHP page</u>;
- set/disable <u>Quick Filter;</u>
- clear sorting;
- set a value for the selected cell: NULL, Empty string (for string fields), Now (for TIME fields), "Zero" (for DATE fields), Set to Unix time defines date value for a cell using unix_timestamp function (Value can be defined manually or picked up from calendar dialog).
- edit the BLOB value or save the BLOB to file using BLOB viewer/editor;
- expand/collapse grid levels and navigate within the tabs;
- manage grid levels: <u>add a new grid level</u>, delete the current grid level (this item is enabled only when the detail level exists and is currently focused);
- switch to the Card View mode;
- view <u>Column Summary;</u>
- select visible/invisible columns of the dataset;
- fit column width for better representation;
- specify the grid mode: Load All Rows, Load Visible Rows, Default;
- view/edit grid properties.

Ē.	Copy Cell	Ctrl+Ins	
8	Paste Cell	Shift+Ins	
	Copy All Records	Shift+Ctrl+C	
	Copy Selected Reco	ords	
	Paste Records	Shift+Ctrl+V	
	Data Manipulation	,	
	Quick <u>F</u> ilter	,	
	Disable Filter		
	Clear Sorting		
	Set <u>V</u> alue)	Set To NULL Shift+Ctrl+0
	Edit BLOB	Ctrl+B	Set To Empty String
	Save BLOB to File		Set To No <u>w</u>
	Expand All		Set to "Zero" ('0000-00-00')
	Collapse All		Set to Unix time
-	Next Tab	Ctrl+Alt+N	
4	Previous Tab	Ctrl+Alt+P	
	Grid Levels	,	
	Column S <u>u</u> mmary		
	Visible <u>C</u> olumns	•	
	Fit Columns Widths	Ctrl+Alt+W	
	Grid Mode	,	
4	Properties		

Note: If the **Show editor immediately** and **Always show editor** options on the <u>Environment options | Grid</u> tab are checked then the context menu of a grid can be evoked by selecting the necessary cell and right-clicking the table header. Otherwise, right-clicking the cell evokes the cell editing menu.

7.1.2.5 Working in multi-level mode

One of unique features of **SQL Manager for MySQL** is the ability to work with data in multi-level mode to view and modify data in several related tables simultaneously.

To manage grid levels, right-click the grid and select the **Grid Levels** <u>context menu</u> group. Items of this group allow you to:

- add a new grid level using Create Grid Level Wizard;
- delete the current grid level;
- switch between the ordinary *Table View* and the <u>Card View</u> modes.

Prop	ert	ies	<u>C</u> olumns	Indices	Foreign <u>K</u> e	ys T <u>r</u> iggers	D <u>a</u> ta	Dependen <u>c</u> ies	DD <u>L</u>					
: 	-	•	► ₩ ₩	+ -	• < X a	* 🐂 🔽 🛛 Fi	nd:		, !!	« < <mark>1000</mark>	🔹 🔊 🔊	-		
Dr	Drag a column header here to group by that column													
≣ :	hi	o_ca	arrier_id	ship_	method	ship_carrier_c	ode s	ship_carrier_name	ship_meth	od_name	ship_publish	ship_method	code	
6	F			1 1000	00001	ABX Airborne Express Overnight Delivery N					N	ABX1		
6				2 1000	00002	ABX	ļ	Airborne Express	Second D	ay Air	N	ABX2		
	order_processing													
		or	der_proc	ess_id	employee_f	rst_name				employee_last	t_name			
		•		63	Michael					Thompson				
5				33	Matthew					Young				
				34	Jessica					Nelson				
				3	Michael	Williams								
				4	Emily	Brown								
				64	Charlotte		Martinez							
	-	¢ 🗌											>	
6	E			3 2000	00001	DHL	0	OHL Express	Express V	Vorldwide				
G	-			4 2000	0002	DHL	0	OHL Express	Economy Select N			DHL2		
	ſ	orde	er_process	ing										
	1	or	der_proc	ess_id	employee_f	rst_name			employee_last_name					
				7	James					Martinez				
				8	Patricia					Hernandez				
		T		68	Mia					Martinez				
				37	Ryan					Roberts				
	E									- · ·			`	
-	Ľ	<u> </u>											<u> </u>	
			Form Min	Deine	t Data								-	
Gri	3 V E	iew	Pormi Vie	w Pri <u>n</u>	i Data									
Fetc	heo	1: 34	/34			J					L	MII 0, 1000		

See also:

Using the context menu Create Grid Level wizard 7.1.2.5.1 Create Grid Level wizard

Create Grid Level Wizard allows you to add a new detail level to the grid in order to get master-detail representation of your data.

To start the wizard, right-click the grid, select the **Grid Levels** <u>context menu</u> group and proceed to the **Add Grid Level...** item within this group.

- <u>Specifying master level</u>
- <u>Selecting source table</u>
- Binding master and detail levels
- Query parameterization
- <u>Setting additional parameters</u>

	Expand All				
⇒	Collapse All Next Tab	Ctrl+Alt+N			
-	Previous Tab	Ctrl+Alt+P			
	Grid Levels		•		Add Grid Level
	Column S <u>u</u> mmary				Delete Grid Level
	Column S <u>u</u> mmary Visible <u>C</u> olumns		•	~	Delete Grid Level
	Column S <u>u</u> mmary Visible <u>C</u> olumns Fit Columns <u>W</u> idths	Ctrl+Alt+W	•	~	Delete Grid Level
	Column S <u>u</u> mmary Visible <u>C</u> olumns Fit Columns <u>W</u> idths Grid <u>M</u> ode	Ctrl+Alt+W	•	~	<u>D</u> elete Grid Level Table View Card View

7.1.2.5.1.1 Specifying master level

Use the drop-down list to select the table of the **master level** to which a new level will be added.

Source of new level data

Select the source type of the new level data:

Table or
Query.

Create Grid Level Wizard									
Create Grid Level Wizar	d								
Specify master level and the data source of new level									
ControlSQL Manager for MySQL	Welcome to Create Grid Leve This wizard allows you to add representation of your data. This wizard will guide you thro to which a new level will be ad the created level to the existin Select master level to which a department Source of new level data Table 	I Wizard! a new detail level to a grid in order to get master-detail ugh the process of choosing destination (master) level ded, specifying source of the new level data and binding g ones. new level will be added							
Help		< <u>B</u> ack <u>Next</u> Cancel							

Click the **Next** button to proceed to the <u>Defining source for detail level</u> step to select a table for the detail level or input a query, depending on whether the **O Table** or the **Query** option has been selected.

7.1.2.5.1.2 Defining source for detail level

If the **(a)** Table option has been selected at the <u>previous step</u>, you should now specify a table for the detail view using the **Table name** drop-down list. Set the **(C)** Show tables related by foreign keys only option to narrow the list of tables by including only tables linked by Foreign keys.



If the **Query** option has been selected at the <u>previous step</u>, you should now enter a query that will be used as the source of the new grid level. If necessary, you can use <u>Query Builder</u> to build the SQL query visually.

Create Grid Level Wizard	
Create Grid Level Wizar	d
Input query text	
	Input SQL query that will be a data source of new grid level. NOTE that the query should be ordered by columns that will be bound to columns of the master level plus any other columns.
SQL Manager for MySQL	<pre>2 employeedepartmenthistory . EmployeeID , 3 4 <u>`employeedepartmenthistory`</u>.`DepartmentID`, 4 <u>`employeedepartmenthistory`</u>.`ShiftID`, 5 <u>`employeedepartmenthistory`</u>.`StartDate`, 6 <u>`employeedepartmenthistory`</u>.`EndDate`, 7 <u>`employeedepartmenthistory`</u>.`ModifiedDate` 8 FROM</pre>
	9 10 NNER JOIN 'department' ON ('employeedepart 10 10 10 10 10 10 10 10 10 10 10 10 10
Help	< <u>B</u> ack <u>N</u> ext > Cancel

Click the **Next** button to proceed to the <u>Binding master and detail levels</u> step of the wizard.

7.1.2.5.1.3 Binding master and detail levels

Define pairs of columns to link the Master Level and the Detail Level data sources:

- select a column in the Master Level Key Fields list;
- select a corresponding field in the **Detail Level Key Fields** list;
- click **Add** to set correspondence between the selected fields.

The newly created correspondences are listed in the **Links Between Master and Detail Levels** area. If necessary, you can delete any correspondence using the **Remove** button.

The **From Foreign Key...** menu is available if the \square **Show tables related by foreign keys only** option has been selected at the <u>previous step</u>. This menu allows you to select the <u>foreign key</u> to be used for identifying master-detail levels (if the table has more than one foreign key relation).

Create Grid Level Wizard			×
Create Grid Level Wizard			
Bind master and detail leve	els		
Final Solution of the second s	Master Level Key Columns DepartmentID Name ModifiedDate GroupName Add Links Between Mas DepartmentID	Detail Level Key Columns EmployeeID DepartmentID ShiftID EndDate Remove ster and Detail Levels = DepartmentID	
Help	<	Back Next > Cancel	

Click the **Next** button to proceed to the <u>Setting additional parameters</u> step or to the <u>Query parameterization</u> step of the wizard if **Query** was selected at the <u>Specifying</u> <u>master level</u> step of the wizard.

7.1.2.5.1.4 Query parameterization

If **Query** was selected at the <u>Specifying master level</u> step of the wizard, you should now transform the query to a parameterized form that will be used in the 'Load visible rows' Grid Mode (see the <u>Grid | Data Options</u> section of the <u>Environment Options</u> dialog to get more information about grid modes offered by **SQL Manager**).

Create Grid Level Wizard									
Create Grid Level Wiza	rd								
Make parameterized form of the query									
	At this step you need to transform your query to a parameterized form. It will be used when Grid Mode is 'Load Visible Rows'. NOTE that you need to add conditions to WHERE parts of the query that bind the query columns to the columns of the master level. The master column names should be written as query parameters (started with '.' symbol). Please correct the WHERE part that is added to the end of the query. Also you can edit or remove ORDER BY clause.								
Manager for MySQL	<pre>SELECT 'employeedepartmenthistory'.'EmployeeID', 'employeedepartmenthistory'.'DepartmentID', 'employeedepartmenthistory'.'ShiftID', 'employeedepartmenthistory'.'StartDate', 'employeedepartmenthistory'.'EndDate', 'employeedepartmenthistory'.'ModifiedDate' FROM 'employeedepartmenthistory'.'WodifiedDate' 'employeedepartmenthistory'.'</pre>								
Help	< <u>B</u> ack Cancel								

Click the **Next** button to proceed to the <u>Setting additional parameters</u> step of the wizard.

7.1.2.5.1.5 Setting additional parameters

Level caption

Set the caption to be used for the new level in the grid.

Level type

Select the type of view you wish to be applied to the grid level:

Table view or
Card view.

Create Grid Level Wizard								
Create Grid Level Wizar	d							
Enter level caption and set its type								
SQL Manager for MySQL	You have completed the steps required to create a grid level. Now set caption of the level that will be displayed at the top of the level data if the corresponding option is on. Also select a type of the level: table or card view. Level caption employeedepartmenthistory Level type Table view O Card view Card view							
Help	< <u>B</u> ack Cancel							

When you are done, click the ${\bf Run}$ button to complete the operation.

7.1.2.6 Working in card view mode

Depending on your preferences, you can represent data in the **Table View** or in the **Card View** modes.

To switch to the **Card View** mode of data representation, right-click the grid, expand the **Grid Levels** <u>context menu</u> group and select the **Card View** item within this group.

image: ship_carrier_id: 1 ship_carrier_id: 1 ship_publish: N ship_carrier_code: ABX ship_method: 100000001 ship_carrier_name: Airborne Express ship_carrier_name: Airborne Express	ship ship ship ship ship ship ship
ship_carrier_id: 1 ship_carrier_id: 4 ship_carrier_id: 7 ship_publish: N ship_publish: N ship_publish: Y ship_carrier_code: ABX ship_carrier_code: DHL ship_carrier_code: EWW ship_method: 100000001 ship_method: 200000002 ship_method: 966637132 ship_carrier_name: Airborne Express ship_carrier_name: DHL Express ship_carrier_name: Emery Worldwide	ship ship ship ship ship ship
ship_carrier_id: 1 ship_carrier_id: 4 ship_carrier_id: 7 ship_publish: N ship_publish: N ship_publish: Y ship_carrier_code: ABX ship_carrier_code: DHL ship_carrier_code: EWW ship_method: 10000001 ship_method: 20000002 ship_method: 966637132 ship_carrier_name: Airborne Express ship_carrier_name: DHL Express ship_carrier_name: Emery Worldwide	ship ship ship ship ship ship ship
ship_publish: N ship_publish: N ship_publish: Y ship_carrier_code: ABX ship_carrier_code: DHL ship_carrier_code: EWW ship_method: 100000001 ship_method: 200000002 ship_method: 966637132 ship_carrier_name: Airborne Express ship_carrier_name: DHL Express ship_and: Airborne Ship_carrier_name: DHL Express Ship_carrier_name:	ship ship ship ship ship ship
ship_carrier_code: ABX ship_carrier_code: DHL ship_carrier_code: EWW ship_method: 100000001 ship_method: 200000002 ship_method: 966637132 ship_carrier_name: Airborne Express ship_carrier_name: DHL Express ship_carrier_name:	ship ship ship ship ship
ship_method: 100000001 ship_method: 20000002 ship_method: 966637132 ship_carrier_name: Airborne Express ship_carrier_name: DHL Express ship_carrier_name: Emery Worldwide	ship ship ship ship
ship_carrier_name: Airborne Express ship_carrier_name: DHL Express ship_carrier_name: Emery Worldwide	shir shir shir
	ship ship
ship_method_name: Overnight Delivery ship_method_name: Economy Select ship_method_name: Gold Priority Secon	ship
ship_method_code: ABX1 ship_method_code: DHL2 ship_method_code: EWW2D	
ship_carrier_id: 2 ship_carrier_id: 5 ship_carrier_id: 8	ship
ship_publish: N ship_publish: N ship_publish: Y	ship
ship_carrier_code: ABX ship_carrier_code: EWW ship_carrier_code: EWW	ship
ship_method: 100000002 ship_method: 966637132 ship_method: 966637132	ship
ship_carrier_name: Airborne Express ship_carrier_name: Emery Worldwide ship_carrier_name: Emery Worldwide	ship
ship_method_name: Second Day Air ship_method_name: Gold Priority AM ship_method_name: Gold Priority Defer	ship
ship_method_code: ABX2 ship_method_code: EWWAM ship_method_code: EWWDef	ship
ship_carrier_id: 3 ship_carrier_id: 6 ship_carrier_id: 9	ship
ship_publish: N ship_publish: N ship_publish: N	ship
ship_carrier_code: DHL ship_carrier_code: EWW ship_carrier_code: FDX	ship
ship_method: 200000001 ship_method: 966637132 ship_method: 1044186586	ship
ship_carrier_name: DHL Express ship_carrier_name: Emery Worldwide ship_carrier_name: FedEx Express	ship
ship_method_name: Express Worldwid ship_method_name: 0930 Services ship_method_name: 1Day Freight	ship
ship_method_code: DHL1 ship_method_code: EWW930 ship_method_code: 1DF	ship
<	>
Grid View Form View Print Data	
Fetched: 34/34 Read Or LIMIT 0, 1000	

See also: Using the context menu

7.1.2.7 Column Summary

If necessary, you can select the **Column Summary...** <u>context menu</u> item to open the **Column Summary** dialog which allows you to set the summary for each particular column that will be displayed in the grid *footer*, *group header* and *group footer* areas.

Column Summary			×		
Column	Summary				
DepartmentID	Group header	Group footer	Footer summary		
Name	None	None	None		
GroupName	🔘 Sum	Sum	Sum		
ModifiedDate	Minimum	Minimum	Minimum		
	Maximum	Maximum	Maximum		
	Count	Count	Count		
	Average	Average	Average		
	Number format	Number format	Number format		
		<u>о</u> к <u>с</u> а	ancel <u>H</u> elp		

The **Column** list displays all columns of the dataset. Select a column and specify which information should be displayed in the grid as summary for this column:

- 💿 None
- Sum (for numeric types only)
- Minimum (for numeric and date/time types only)
- Maximum (for numeric and date/time types only)
- 🖲 Count
- Average (for numeric types only)

Use the **Number format** edit boxes in each group to specify the preferable <u>format</u> for summary info representation.

See also: Using the context menu

7.1.2.8 Copying records

When you copy several records to clipboard and paste them into the grid, you are offered to set correspondence between columns of the clipboard and columns of the target MySQL table using the **Associate Columns** dialog.

Associate Columns	X
Clipboard Columns	Grid Columns
country_id	country_id
country	country
last_update	last_update
Add All	Remove All
Links between Clipbo	ard and Grid Columns
country_id	= country_id
country	= country
last_update	= last_update
First row is a header	
	OK <u>C</u> ancel <u>H</u> elp

The **Clipboard Columns** and **Grid Columns** lists display the source and target dataset columns respectively. Set correspondence between the source clipboard columns and the table columns:

- select a source clipboard column in the Clipboard Columns list;
- select the corresponding column the target table in the Grid Columns list;
- click the **Add** button to set correspondence between the selected columns;
- the pair of columns appears in the Links between... list below;
- repeat the operation for all the columns you need copy.

Use the **Add All** button to add all columns to the **Links between...** list on the basis of their order.

To remove a correspondence, select the pair of columns in the **Links between...** list and press the **Remove** button.

To remove all correspondences, press the **Remove All** button.

First row is a header

This option specifies that the first row of the associated columns will be taken as the column header.

7.1.3 Form View

The **Form View** tab allows you to view data as a form. To activate this type of data view, select the **Form View** tab on the View mode panel at the bottom of the window.

The form displays the current record: column names on the left and the corresponding values on the right. If the columns are available for editing, you can edit the record directly on this form. The <u>navigation pane</u> at the top of the form allows you to browse the data quickly, to insert, update and delete records, and to set a filter for the records using the <u>Filter Builder</u> dialog.

Properties Columns Indices Foreign Key	s T <u>r</u> iggers	Data Dependencies DDL
HI HI + → ₩ HI + - → ¥ X	A ★ ★ 5	7 Find:
staff_id TINYINT(3)		2 🔺
first_name VARCHAR(45)	Null	Jon
last_name VARCHAR(45)	Null	Stephens
address_id SMALLINT(4)	Null	4
picture BLOB	V Null	a`
email VARCHAR(50)	Null	Jon.Stephens@sakilastaff.com
store_id TINYINT(3)	Null	2 🛋
active TINYINT(1)	Null	
username VARCHAR(16)	Null	lou
password VARCHAR(40)	Null	8cb2237d0679ca88db6464eac60da96345513964
last_update TIMESTAMP	Null	15.02.2006 05:57:16 🗸
<		>
<u>Grid View</u> Form View Print Data Blob V	/iew	
Fetched: 10/10	Modified	LIMIT 0, 1000

Each column has a \blacksquare Null checkbox which allows you to clear the column value and set it to NULL (if the column is nullable).

See also: <u>Using Navigation bar and Toolbars</u> <u>Grid View</u> <u>Print Data</u> <u>BLOB View</u> <u>Applying changes</u>

7.1.4 Print Data

Using the **Print Data** tab you can view data in the way they are printed, in WYSIWYG mode.

When in **Print Data** mode, you are provided with a powerful *context menu* and <u>toolbar</u> allowing you to design a report, change the view scope, save reports and load previously saved ones, set <u>report options</u>, and specify a number of <u>printing</u> parameters using <u>Report</u> <u>Formatter</u> and the <u>Page Setup</u> dialog.

Colu <u>m</u>	ns Propertie	es Foreign <u>K</u> eys	<u>C</u> h	necks	Ind	lices T <u>r</u> iggers	R	ules l	Policies D	ependen	cies D <u>a</u> t	a	D <u>e</u> so	cripti	on DD <u>L</u>	<u>P</u>	$\langle \rangle$
业	• 📔 🔒	🖶 🦪 🗋 🔸	::::		P	(🔊 🗉 🔹	Ð		8 🗐 100	% -	≪ ←	1		÷	+ +> .		
Marg	gins Lef	it: 12,7 mm	То	op:	12	2,7 mm Rigl	nt: 🗌	12,	7 mm E	Bottom:	12,7 m	ım	Неа	der:	6,4	mm	Fc
			••••										^				^
	public.Order	3											-		x		
	Order ID	Order Date	Or Qu	der Jantity		Sales		Ship M	ode	Profit		Unit	-				
	3	13.10.2010			6	26	1,54	Regula	r Air		-213,25						
	6	20.02.2012			2		6,93	Regula	r Air		-4,64						
	31	15.07.2011			26	2 80	3, 0 8	Regula	r Air		1 054,82						
	32	15.07.2011			24	1 70	61,4	Deliver	y Truck		-1 748,56						
	33	15.07.2011			23	160,2	335	Regula	r Air		-85,129			,			
	34	15.07.2011			15	14	1.56	Denula	r Air		-128,38						
	35	22.10.2011		\$	De	sign Report (trl+	Đ	r Air		60,72						
	36	22.10.2011			Pag	ige Setup			r Air		48,987						
	37	02.11.2011		R	Shr	rink To Page			r Air		657,477						
	65	17.03.2011			-				r Air		1 470,3						
	38	15.07.2008				Zoom			r Air								
	39	15.07.2008			Firs	st Page Ctrl+	Hor	ne	y Truck						K		
	40	15.07.2008]	Pre	vious Page O	trl+l	Jp	r Air				~				\sim
<				-	Ne	xt Page Ctrl+	Dov	vn				>		<		>	
Pa	ge: 1	Of 90	Pa	→>	Las	st Page Cti	1+Ei	nd) mm x 297	mm	Status: R	eady	1				
<u>G</u> rid	View Form	View Print Data		_	_		_										
Fetche	ed: 2000/3951								00:26:20)		L	.імпт	2000	OFFSET	0	

<u>Availability</u>:

Full version (forYesWindows)Lite version (forNoWindows)NoNo

Note: To compare all features of the **Full** and the **Lite** versions of **SQL Manager**, refer to the <u>Feature Matrix</u> page.

See also:

Using Navigation bar and Toolbars

Grid View Form View BLOB View Applying changes

7.1.4.1 Page Setup

The **Page Setup** dialog allows you to specify a number of settings pertaining to the report page.

To open the dialog, use the **Page Setup** button available on the <u>toolbar</u>.

Use the following tabs of the **Page Setup** dialog:

- Page
- Margins
- Header/Footer
- <u>Scaling</u>

When you are done, you can click the **Print...** button at the bottom to call the <u>Print</u> dialog.

See also:

<u>Report Formatter</u> <u>Setting report options</u> Print dialog

7.1.4.1.1 Page

The **Page** tab of the **Page Setup** dialog allows you to specify the *paper*, page *orientation*, *print order* and *shading* settings.

📭 Page Setup	X
Page Margins Header Footer Scaling	
Paper Type Type Letter Legal Executive A5 B5 A4 B4	Orientation
Dimension <u>Wi</u> dth: 215,90 mm Height: 279,40 mm	Print Order Down, then over Over, then down
Paper source	Shading Print using gray shading

Paper

Select one of the standard paper types in the **Type** list, or specify custom *width* and *height* using the **Dimension** group (in inches or millimeters, depending on the *unit of measure* specified in the <u>Options</u> dialog).

Use the **Paper source** drop-down list to select the paper feed type.

Orientation

Select the preferable page orientation (your selection is illustrated in the chart on the left):

```
Portrait
```

Landscape

Print Order

Select the preferable order for printing report pages (your selection is illustrated in the chart on the left):

- Down, then over
- Over, then down

Shading

Print using gray shading

If this option is selected, gray shading (along with black and white) will be used for printing the report.

7.1.4.1.2 Margins

The **Margins** tab of the **Page Setup** dialog allows you to specify the size of the *margins* and *running titles*.

📭 Page Setup		
Page Margins	Header \Footer Scaling	
		Preview
<u>T</u> op:	12,70 mm 🚔	
Bottom:	12,70 mm	
Left:	12,70 mm	
Right:	12,70 mm	
H <u>e</u> ader:	6,35 mm	
Footer:	6,35 mm	
Eix	Restore <u>O</u> riginal	
Center on page		
Horizontally	Vertically	
Print]	OK Cancel

Use the spinner controls to specify the size of **top** / **bottom** / **left** / **right** margins and **header** / **footer** (in inches or millimeters, depending on the *unit of measure* specified in the <u>Options</u> dialog). The **Preview** area on the right illustrates the changes you have made.

If you have specified an improper value, you can click the **Fix** button to correct it. To restore the default size values, click the **Restore Original** button.

Center on page

This group allows you to specify whether the text should be centered **horizontally** and/ or **vertically** on the page.

7.1.4.1.3 Header/Footer

The **Header/Footer** tab of the **Page Setup** dialog allows you to specify properties of the *header* and *footer* running titles.

📭 Page Setup		— ×-		
Page Margins Header Fo	oter <u>S</u> caling			
Header				
Eont 8 pt. Tahoma		Background [No Fill]		
Header text	*	A A		
	*	т		
Footer				
Font 8 pt. Tahoma		Background [No Fill]		
[Machine name] [User name]	 [Date printed] [Time printed] 	[Page # of Pages #] A		
	*	v v		
Vertical Alignment Predefined Functions				
▼ ‡ ±				
Reverse on even pages				
Print		OK Cancel		

Header / Footer

Click the **Font...** button to specify font properties using the standard **Font** dialog. The font name and size are displayed in the gray area next to the **Font...** button. Use the **Background** drop-down list to select the background color that will be applied to the page header/footer, or to customize the color using the **Color** and **Fill Effects** dialogs.

For each of the running titles you are provided with three separate text editing columns. You can use any, all or none of the columns to enter the header and footer text.

The **Vertical Alignment** group allows you to specify vertical alignment for the header/ footer text according to any of the three available patterns.

Predefined Functions

This group allows you to add the following standard functions to the header and footer: [Machine Name] [User Name] [Time Printed]
[Date Printed] [Date & Time Printed] [Page # of Pages #] [Total Pages] [Page #]

Reverse on even pages

If this option is selected, the header and footer text will be reversed on even pages of the printing report.

7.1.4.1.4 Scaling

The **Scaling** tab of the **Page Setup** dialog allows you to specify the page *scaling* options.

D Page Setup	×
Page Margins Header\Footer Scaling	
 ▲djust To: 100 ▲ % normal size ● Fit To: 1 ▲ page(s) wide by 	1 <u>t</u> all
Print	OK Cancel

Select the preferable scaling mode:

Adjust to ... % normal size

Use the spinner control to set the percentage of the regular page size to which the page size will be adjusted.

Fit to ... page(s) wide by ... tall

Use the spinner controls to set the maximum number of pages (by width and by height) on one page to fit its size.

7.1.4.2 Report Formatter

Report Formatter allows you to specify a number of settings pertaining to the printing form of the report.

To open the tool, click the **Design Report** 4 button available on the <u>toolbar</u>, or use the *Ctrl+D* <u>shortcut</u>.

Use the following tabs of the **Format Report** dialog:

- <u>View</u>
- Behaviors
- Formatting
- Styles
- Preview
- <u>Cards</u>
- Charts

The **Title Properties...** button allows you to customize the report title using the <u>Report</u> <u>Title</u> dialog.

See also:

Page Setup Setting report options Print dialog

7.1.4.2.1 View

The **View** tab of the **Format Report** dialog allows you to specify report elements to be shown in the report.

🔅 Form	at Repor	t								×			
View	Behavio	rs Formatting	Styles	Preview	Cards	Char	ts						
Show						F	Preview						
*==		Caption					Cars						
		<u>√</u> <u>B</u> ands					M	lanufacturer Data	Car Dat:	a			
		✓ Headers					Name	Logo	Model	SUV			
		Footers					BMW		X5 4.8is				
		Group Foot	ers										
		🔽 Expand But	tons				Germany						
On Eve	ry Page	Eilter Bar				_	Ford	Time	Excursion				
		Caption					United	States					
		✓ Bands					Audi	0000	S8 Quattro				
		Meaders					Germany						
		✓ Footers ✓ Filter Bar					Land Rover	LAND- ROVER	G4 Challenge				
							United	Kingdom					
							Count = 4						
							<filter e<="" is="" td=""><td>?mpty></td><td></td><td></td></filter>	?mpty>					
Title Pr	roperties.							ОК	Cancel	Apply			

Tick off the elements to **show** in the report (*caption*, *bands*, *headers*, *footers*, *group footers*, *expand buttons*, *filter bar*) and **on every page** of the report (*caption*, *bands*, *headers*, *footers*, *filter bar*).

The **Preview** area on the right illustrates the changes you have made.

7.1.4.2.2 Behaviors

The **Behaviors** tab of the **Format Report** dialog allows you to specify the way (behavior) the report elements will appear on the printing form.

Ø Format Report					×			
View Behaviors Formatting Styles Preview Cards Charts	Preview							
Selection	Cars							
	Manufac	cturer Data		Car Dat	a			
	Name	Logo	Model	SUV	Speed Count			
Process Exact Selection	BMW	٢	X5 4.8is	☑	5			
Expanding	Germany							
Groups	Ford	Time	Excursion	✓	6			
	United States							
Size	Audi		S8 Quattro		5			
Auto Width	Germany							
	Land Rover	-LAND- -ROVER	G4 Challenge	☑	5			
	United Kingdon	m						
	Count = 4 <filter empty="" is=""></filter>]						
Title Properties Footnote Properties			ОК Са	ancel	<u>A</u> pply			

Selection

✓ Process selection / ✓ Process exact selection

Specify whether the text selection should or should not be processed (precisely) for the printing form.

Expanding

Tick off the elements to expand in the report: groups, details, cards.

Size

🗹 Auto Width

If this option is selected, the table will be resized automatically to fit the page by width.

The **Preview** area on the right illustrates the changes you have made.

7.1.4.2.3 Formatting

The **Formatting** tab of the **Format Report** dialog allows you to specify *Look and Feel*, *Refinements* and *Pagination* options.

View Behavio	ors Formatting	Styles	Preview	Cards	Char	ts					
Look and Feel					F	Preview					
	UltraFlat			•	•	Ma	anufacturer Data	Car Dat:	1		
Refinements -					_	Name	Logo	Model	SUV		
	Transparen	t Graphic	s			BMW	õ	X5 4.8is			
	📃 Display Grap	phic As Te	ext			Germany	у				
	V Flat Check	larks				Ford	Fired	Excursion			
	Suppress Ba	ackaroun	d Textures			United States					
	Consume Se	election S	tyle			Audi	COOD	S8 Quattro			
Pagination —					-	Germany	y				
≣ ≠ 🗊	By TopLeve	l Groups				Land Rover	LAND- ROVER	G4 Challenge			
		criage				United K	Kingdom				
						Count = 4					
						<filter er<="" is="" td=""><td>mpty></td><td></td><td></td></filter>	mpty>				

Look and Feel

This setting determines the manner in which the cells are painted. Use the drop-down list to select the painting style that will be applied to the cells on the printing form: Flat

Standard UltraFlat

Refinements

Options of this group allow you to reduce the report size.

Transparent graphics

If this option is selected, the images will be drawn transparent in the report.

Display graphic as text

If this option is selected, text will be displayed instead of the images.

Flat CheckMarks

If this option is selected, the checkboxes will be drawn flat.

Pagination

Specify the way pagination will be performed for the report: **By TopLevel groups** or **One group per page**.

The **Preview** area on the right illustrates the changes you have made.

7.1.4.2.4 Styles

The **Styles** tab of the **Format Report** dialog allows you to specify styles to be applied to the report elements.

View	Behaviors	Formatting	Styles	Preview	Cards	Cha	rts			
🔽 Us	e Native Stvl	es					Preview			
							Cars			
Capti	Header		8 pt. T		Fo <u>n</u> t		Manu	ufacturer Data	Car Data	
Card	Caption Row		8 pt. T	im	Color		Name	Logo	Model	SUV
Card Conte	Row Caption ent		8 pt. T	im im	Texture		BMW		X5 4.8is	
Conte	ent Even Rov	vs	8 pt. T	im ≡	Clear		Germany			
Filter	Bar		8 pt. T	im			Ford	(Ford)	Excursion	
Group	er D		8 pt. T 8 pt. T	im im			United Stat	tes		
Head	er >w		8 pt. T	im			Audi	COD	S8 Quattro	
1				······································			Germany			
Res	store Default	s Si	ave <u>A</u> s				Land Rover	LAND- -ROVER	G4 Challenge	
Style S	Sheets						United Kin	ngdom		
						•	Count = 4			
Ne	ew	<u>С</u> ору	<u>D</u> elete	R	ename		<filter emp<="" is="" td=""><td>oty></td><td></td><td></td></filter>	oty>		

Use native styles

This option determines whether the native Windows style will be applied to the report elements.

Note: The **Native style** option is currently supported for the Windows® XP operating system only.

The elements list displays the names of all report elements, with background color and font properties specified by default. You can **Use native styles** for them or customize them according to your preferences.

To edit an element, select it in the list and use the buttons to the right to edit the style for it.

Click the **Font...** button to specify font properties using the standard **Font** dialog. Click the **Color...** button to customize the background color using the standard **Color** dialog.

Click the **Texture...** button to load an image that will be used as the texture for the element.

To rollback the changes, click the **Clear** button.

To restore the default stylesheet properties, click the **Restore Defaults** button. If you need to save the current style sheet, you can click the **Save as...** button.

These items are also available through the **context menu** of the elements list.

Style Sheets

Use the drop-down menu to select the style sheet you need. To manage the style sheets, use the corresponding buttons below: **New...**, **Copy...**, **Delete...**, **Rename...**

The **Preview** area on the right illustrates the changes you have made.

7.1.4.2.5 Preview

The **Preview** tab of the **Format Report** dialog allows you to specify report preview options.

View	Behaviors	Formatting	Styles	Preview	Cards	Char	ts			
Option	s ———					_ !	Preview			
		<u>V</u> isible					Cars			
		🛚 A <u>u</u> to Height	:				Ma	nufacturer Data	Car Data	a
	M	ax Line Couni	t:	0	*		Name	Logo	Model	SUV
						, 	BMW	Ö	X5 4.8is	
							Germany	,		·
							Ford	Find	Excursion	
							United St	tates		·
							Audi	0000	S8 Quattro	
							Germany	,		
							Land Rover	LAND- -ROVER	G4 Challenge	
							United K	ingdom		
							Count = 4			
							<filter en<="" is="" td=""><td>npty></td><td></td><td></td></filter>	npty>		

Visible

This option specifies visibility of the grouping rows.

Auto height

If this option is selected, the table will be resized automatically to fit the page by height.

Max line count

Use the spinner control to specify the maximum possible number of lines.

The **Preview** area on the right illustrates the changes you have made.

7.1.4.2.6 Cards

The **Cards** tab of the **Format Report** dialog allows you to specify properties for the card view.

View Beha	viors Formatting Styles	Preview	Cards	Charts	S			
Sizes				Pr	review			
	Auto <u>W</u> idth			ſ	Cars			
□□□	✓ Keep Same Width				Name:	BMW	Name:	Ford
	🔽 Keep Same <u>H</u> eight				Logo:		Logo:	Time
Spacing —					Country	Germany	Country	United States
	H <u>o</u> rizontal:	4			Model:	X5 4.8is	Model:	Excursion
	V <u>e</u> rtical:	4			SUV:	✓	SUV:	✓
Framing —				-				
	✓ Border				Name:	Audi	Name:	Land Rover
	Horizontal Lines				Logo.	aw	Logo.	-ROVER
	Vertical Lines				Country:	Germany	Country	: United Kingdom
Shadow —				_	Model:	S8 Quattro	Model:	G4 Challenge
	Color:	Custom		•	30 4.		30 1.	<u> </u>
	Depth: 4							
					<filter is="" l<="" td=""><td>Empty></td><td></td><td></td></filter>	Empty>		

Sizes

🗹 Auto Width

If this option is selected, the cards will be resized automatically to fit the page by width.

Keep same width

Select this option to keep the card width fixed.

Keep same height

Select this option to keep the card height fixed.

Spacing

This group allows you to specify **horizontal** and **vertical** spacing between cards.

Framing

Border

This option specifies visibility of the card borders.

Horizontal lines

This option specifies visibility of the horizontal lines (row delimiters) within cards.

Vertical lines

This option specifies visibility of the vertical lines (column delimiters) within cards.

Shadow

Use the **Color** drop-down list to select the color that will be applied to the card shadows. If necessary, specify the color **depth** using the corresponding spinner control.

The **Preview** area on the right illustrates the changes you have made.

7.1.4.2.7 Charts

The **Charts** tab of the **Format Report** dialog allows you to specify options for the charts used in the report.

View	Behaviors	Formatting	Styles	Preview	Cards	Char	ts			
Options	s ———					<u>F</u>	Preview			
		<u>T</u> ransparen	t				Cars			
							Manu	afacturer Data	Car Data	1
							Name	Logo	Model	SUV
							BMW	3	X5 4.8is	
							Germany			·
							Ford	Fired	Excursion	
							United Stat	tes		·
							Audi	COOD	SS Quattro	
							Germany			
							Land Rover	LAND- -ROVER	G4 Challenge	
							United Kin	gdom		
							Count = 4			
							<filter emp<="" is="" td=""><td>ty></td><td></td><td></td></filter>	ty>		

Transparent

If this option is selected, the charts will be drawn transparent in the report.

The **Preview** area on the right illustrates the changes you have made.

7.1.4.3 Setting report options

Options dialog

The **Options** dialog allows you to specify a number of settings pertaining to the printing report.

To open the dialog, open the **Design Report** is menu available on the <u>toolbar</u> and select the **Preferences** item.

Options	
General	
Show	Zoom <u>P</u> arameters
✓ Margins	Zoom on roll with IntelliMouse
Margins <u>H</u> ints	Zoom Step: 10 %
Margins Hints While <u>D</u> ragging	
Measurement <u>U</u> nits:	Margins <u>C</u> olor:
Default	🗖 Auto 👻
	OK Cancel

Show

Tick off the elements to **show** in the printing report (*margins*, *margins* hints, *margins* hints while dragging).

Use the **Measurement Units** drop-down list to select the unit of measure that will be used in report settings: *default*, *inches*, or *millimeters*.

Zoom Parameters

Zoom on roll with IntelliMouse

If this option is selected, you can zoom in/out by scrolling up/down (with a Microsoft \mathbb{R} mouse or a compatible mouse used).

Zoom Step

Use the spinner control to specify the percentage of the original page size to be considered as one zoom step.

Use the **Margins Color** drop-down list to select the color that will be applied to the report margins.

Report Title dialog

The **Report Title** dialog allows you to specify the report title text and properties.

Report Title
Mode: On Every Top Page
Text Properties
✓ <u>T</u> ransparent
Color: Auto 👻
Ξη-
Font 14 pt. Times New Roman [Bold]
<u>A</u> djust on Scale
Alignment
Horizontally: \equiv Center \checkmark <u>V</u> ertically: $\stackrel{+}{\rightarrow}$ Center \checkmark
<u>R</u> estore Defaults
OK Cancel

To open the dialog, use the **Title...** \blacksquare button available on the <u>toolbar</u>.

Mode

Use the drop-down list to select where the report title should be displayed on the first page, on every top page, or not displayed at all.

Text

Use the edit box to enter the text of the report title.

Properties

Transparent

If this option is selected, the report title will be drawn transparent.

Use the **Color** drop-down list to select the color that will be applied to the report title (enabled if the \square **Transparent** option is not selected).

Click the **Font...** button to specify title font properties using the standard **Font** dialog. The font name and size are displayed in the gray area next to the **Font...** button.

Adjust on scale

If this option is selected, the title can be adjusted on scale.

Alignment

Use the **Horizontally** drop-down list to select the type of horizontal alignment to be applied to the report title: *Left, Center,* or *Right*.

Use the **Vertically** drop-down list to select the type of vertical alignment to be applied to the report title: *Top*, *Center*, or *Bottom*.

To restore the default title properties, click the **Restore Defaults** button.

Date and Time dialog

The **Date and Time** dialog allows you to specify the date/time formats to be used in the report.

To open the dialog, open the **Title... •** menu available on the <u>toolbar</u> and select the **Date and Time...** item.

Date and Time	— ×-
Available Date Formats:	
7/26/2012	
Thursday, July 26, 2012 July 26, 2012 7/26/12 2012-07-26 26-Jul-12 7.26.2012 July , 2012 26 July 2012 July 12 July 12 Jul-12	
Available Time Formats:	
9:46 AM	
9:46:52 AM	
9:46	
9:46:52	
Update Automatically	Default
	OK Cancel

Select the preferable values from the **Available Date Formats** and the **Available Time Formats** lists. If necessary, you can specify that the date/time will be *updated automatically*.

To apply the default date/time format, click the **Default...** button.

Page Number Format dialog

The **Page Number Format** dialog allows you to specify the formats for page numbers to be used in the report.

To open the dialog, open the **Title... menu** available on the <u>toolbar</u> and select the **Page Numbering...** item.

Page Number Forn	nat	—				
Number <u>F</u> ormat:	1, 2,	3, 4, 5, 🔻				
Page Numbering —						
<u>C</u> ontinue from Previous Section						
Start <u>A</u> t:	1					
		Default				
	OK	Cancel				

Select the preferable number format from the **Number Format** drop-down list.

Use the **Page Numbering** section to specify whether page numbering should *continue from the previous section* (if any) or *start at the specified number*.

To set the default numbering values, click the **Default...** button.

Zoom dialog

The **Zoom** dialog allows you to zoom the report page more better representation.

To open the dialog, open the **Zoom I** menu available on the <u>toolbar</u> and select the **Setup zoom...** item.



Select the preferable percentage of zoom value (500%, 200%, 150%, 100%, 75%, 50%, 25%, 10%) or specify one of frequently used values:

- Page Width
- Whole Page
- Two Pages
- Four Pages
- Many Pages (click the chart below and select the item you need)

If necessary, you can set a custom percent value using the **Percent** spinner control below.

The **Preview** area on the right illustrates the changes you have made.

See also: <u>Page Setup</u> <u>Report Formatter</u> <u>Print dialog</u>

7.1.4.4 Print dialog

The standard **Print** dialog allows you to specify printing settings for the report in groups: *printer, page range, copies.*

To open the dialog, click the **Print dialog** $\stackrel{3}{=}$ button available on the <u>toolbar</u>, or use the *Ctrl+P* <u>shortcut</u>.

🖨 Print		×
Printer		
<u>N</u> ame:	Microsoft XPS Document Write	r ▼ P <u>r</u> operties
Status:	Status	Network
Type:	Туре	
Where:	Where	
Comment:	Comment	
🔲 Print to	File	▼ <u>B</u> rowse
Page range	e	Copies
© <u>A</u> ll		Number of Pages:
Ourrent	Page	Number of <u>C</u> opies: 1
© <u>P</u> ages:	1-2	Colla <u>t</u> e Copies
Enter page separated b	number and/or page ranges oy commas. For example: 1,3,5-12.	
Page Set	up	Print Close

When you are done, click the **Print** button to start printing.

If you need to change any page settings before printing, you can click the **Page Setup...** button at the bottom to call the <u>Page Setup</u> dialog.

See also: <u>Page Setup</u> <u>Report Formatter</u> <u>Setting report options</u>

7.1.5 BLOB View

SQL Manager for MySQL provides BLOB Viewer/Editor to view and edit BLOB (Binary Large Object) columns content. The BLOB Viewer/Editor can be invoked from the data grid within <u>Table Editor</u>, <u>SQL Editor</u>, <u>Visual Query Builder</u>, etc.

- <u>Navigation within the BLOB Viewer/Editor</u>
- <u>Viewing/Editing BLOB column as Hexadecimal dump</u>
- <u>Viewing/Editing BLOB column as plain Text</u>
- Viewing/Editing BLOB column as Rich Text (RTF)
- <u>Viewing/Editing BLOB column as Image</u>
- <u>Viewing/Editing BLOB column as HTML</u>
- <u>Viewing/Editing BLOB column as XML</u>
- <u>Viewing/Editing BLOB column as JSON</u>

Properties Columns Indices Foreign Ke	ys T <u>riggers</u> D <u>ata</u> Dependen <u>c</u> ies DDL	
HI HI + → → HI + - → V X	🗠 🗮 🐂 🔽 Find:	1000 💠 🖸 💿 💂
title 🔹 📑 🔒 🛛	x &	
Hexadecimal Text Rich text Image	HTML XML JSON	
	EMS	^
	Figure 1 and the second sec	
		_
	SQL Manager.net" ttd"ontdess Management biokhers	
<		>
Type: PngImage Size: 138 K		
Grid View Form View Print Data Blob	View	
Fetched: 1/1	Modifie	LIMIT 0, 1000

<u>Availability</u>: **Full** version (for Yes Windows)
Lite version (for No
Windows)
Note: To compare all features of the Full and the Lite versions of SQL Manager, refer
to the Feature Matrix page.

See also:

<u>Using Navigation bar and Toolbars</u> <u>Grid View</u> <u>Form View</u> <u>Print Data</u> <u>Applying changes</u>

7.1.5.1 Navigation within BLOB Editor

The **BLOB Viewer/Editor** provides an ability to navigate within the records using **DB Navigation** buttons on the <u>navigation pane</u> at the top of the viewer window.

Using items of the <u>navigation pane</u> and the drop-down menu you can browse the data quickly, insert, update and delete records, set a filter for the records using the <u>Filter</u> <u>Builder</u> dialog, load new BLOB content and save the current content to files.

The <u>toolbar</u> allows you to switch the column and perform a number of editing operations. The set of toolbar items depends on the current selection and view mode.



See also: Editing as Hexadecimal Editing as Text Editing as Rich Text Editing as Image Editing as HTML Editing as XML Editing as JSON

7.1.5.2 Editing as Hexadecimal

The **Hexadecimal** tab allows you to view/edit the BLOB data as hexadecimal.

The <u>toolbar</u> provides additional functionality for BLOB Viewer/Editor: use the **Save to file** and the **Load from file** $\stackrel{>}{\Rightarrow}$ toolbar buttons to save the hexadecimal data to a file, or load data from a file.

Use the Ins key to switch between the Insert and Overwrite modes.

Properties	<u>C</u> olum	ns <u>I</u> r	ndices	For	reign (<u>K</u> eys	T <u>r</u> ig	gers	D <u>a</u> t	a	Depen	den <u>c</u> i	es	DD <u>L</u>			
• •• ••		••••	+ -	-	•	× a	*	*	PF	ind:							1000 ≑ 🚬 🚬 💂
title				• 菺		X	Ē	6	6		÷						
Hexadecir	mal 1	Text (Rich	text	Imag	e H	TML	XM	LJ	ISON							
0x000:	: 3C	70	ЗE	OD	0A	3C	73	74	72	6F	6E	67	ЗE	45	4D	53	EMS 🔺
0x010:	20	53	51	4C	20	4D	61	6E	61	67	65	72	20	66	6F	72	SQL Manager for
0x020:	20	4D	79	53	51	4C	3C	2F	73	74	72	6F	6E	67	ЗE	20	MySQL
0x030:	69	73	20	61	20	70	6F	77	65	72	66	75	6C	20	74	6F	is a powerful to
0x040:	6F	6C	20	66	6F	72	20	4D	79	53	51	4C	AE	20	64	61	ol for MySQL® da
0x050:	74	61	62	61	73	65	OD	0A	73	65	72	76	65	72	20	61	tabaseserver a
0x060:	64	6D	69	6E	69	73	74	72	61	74	69	6F	6E	20	61	6E	dministration an
0x070:	64	20	64	65	76	65	6C	6F	70	6D	65	6E	74	2E	20	49	d development. I
0x080	74	20	73	75	70	70	6F	72	74	73	20	61	6C	6C	20	6F	t supports all o
0x090:	66	20	74	68	65	20	6C	61	74	65	73	74	20	4D	79	53	f the latest MyS
Ox0A0:	51	4C	20	0D	0A	66	65	61	74	75	72	65	73	20	69	6E	QLfeatures in
OxOBO:	63	6C	75	64	69	6E	67	20	76	69	65	77	73	2C	20	73	cluding views, s
OxOCO:	74	6F	72	65	64	20	70	72	6F	63	65	64	75	72	65	73	tored procedures
OxODO:	: 20	61	6E	64	20	66	75	6E	63	74	69	6F	6E	73	2C	20	and functions, 🔻
12: 15					C)verw	rite										
Grid View	For <u>m</u>	View	Prin	t Data	Blo	b Vie	w										
Fetched: 1/1	1					N	lodifi	ed									LIMIT 0, 1000

See also: Navigation within BLOB Editor Editing as Text Editing as Rich Text Editing as Image Editing as HTML Editing as XML Editing as JSON

7.1.5.3 Editing as Text

The **Text** tab allows you to view/edit the BLOB data as plain text.

The <u>toolbar</u> provides additional functionality for BLOB Viewer/Editor: use the **Save to file** and the **Load from file** toolbar buttons to save the text to a *.txt file, or load text from a file. Additionally, you can use the *Cut*, *Copy*, *Paste*, *Select All*, *Undo*, *Word Wrap* context menu items for editing the text efficiently, and the **Print** context menu item to print the content of the **Text** tab.



See also:

Navigation within BLOB Editor Editing as Hexadecimal Editing as Rich Text Editing as Image Editing as HTML Editing as XML Editing as JSON

7.1.5.4 Editing as Rich Text

The **Rich Text** tab allows you to view/edit the BLOB data in Rich Text format (RTF).

The <u>toolbar</u> provides additional functionality for BLOB Viewer/Editor: use the **Save to file** and the **b Load from file** toolbar buttons to save the Rich Text to a *.*rtf* file, or load text from a file. Additionally, you can use the *Cut*, *Copy*, *Paste*, *Select All*, *Undo* context menu items for editing the text efficiently, and the **Print** context menu item to print the content of the **Rich Text** tab.



See also:

Navigation within BLOB Editor Editing as Hexadecimal Editing as Text Editing as Image Editing as HTML Editing as XML Editing as JSON

7.1.5.5 Editing as Image

The **Image** tab allows you to view the BLOB data as image.

The <u>toolbar</u> provides additional functionality for BLOB Viewer/Editor: use the **Save to file** and the **Load from file** toolbar buttons to save the image to a *.png, *.wmf, *.ico or *.jpg file, or load an image from a file.



See also:

Navigation within BLOB Editor Editing as Hexadecimal Editing as Text Editing as Rich Text Editing as HTML Editing as XML Editing as JSON

7.1.5.6 Editing as HTML

The **HTML** tab allows you to view the BLOB data as HTML (Hyper-Text Markup Language format) - in the way this data would be displayed by your Internet browser.

The <u>toolbar</u> provides additional functionality for BLOB Viewer/Editor: use the **Save to file** and the **back toolbar file** toolbar buttons to save the content as a *.html, or *.htm file, or load content from a file.

Properties Columns Indices Foreign Keys Triggers Data Dependencies DDL	
i ₩ 4 4 > >> > + Find:	
i title 🔹 📑 🚍 🐰 🖻 🖻 🦠 🖶	
Hexadecimal Text Rich text Image HTML XML JSON	
EMS SQL Manager for MySQL is a powerful tool for MySQL® database server a and development. It supports all of the latest MySQL features including views, store and functions, InnoDB foreign keys, events and so on. It offers plenty of powerful to experienced users to satisfy all their needs. SQL Manager has a new state-of-the-art g interface with well-described wizard system, so clear in use that even a newbie will r confused with it. Grid View Form View Print Data Blob View	dministration d procedures ols for graphical user not be
Fetched: 1/1 Modifie LIMIT 0,	1000

See also: Navigation within BLOB Editor Editing as Hexadecimal Editing as Text Editing as Rich Text Editing as Image Editing as XML Editing as JSON

7.1.5.7 Editing as XML

The XML tab allows you to view/edit BLOB data as XML (Extensible Markup Language).

For navigation between records use the standard <u>navigation pane</u> of the viewer. This pane also allows saving changes, cancelling changes, adding and removing records.

Buttons for working with BLOB data can be found on the <u>navigation pane of the BLOB</u> <u>View tab</u>.



See also:

Navigation within BLOB Editor Editing as Hexadecimal Editing as Text Editing as Rich Text Editing as Image Editing as HTML Editing as JSON

7.1.5.8 Editing as JSON

The JSON tab allows you to view/edit JSON data. Click on the Load Data button, it will open the dialog box, click on Upload File, which will open the file explorer of the operating system. Select the JSON file and click open/select.

The <u>toolbar</u> provides additional functionality for BLOB Viewer/Editor: use the **Save to file** and the **buttons to** save the content as a file, or load content from a file.

Properties <u>C</u> olumns Indices Foreign Keys Triggers Data Dependencies DDL
HI II I I I I I I I I I I I I I I I I I
CustomerCards 🔹 🚰 🔚 🐰 🖻 💼 🕤 🖶 📑 ANSI 🔹 💂
Hexadecimal Text Rich text Image HTML XML JSON
<pre>{ "firstName":"Joe", "lastName":"Jackson", "gender": "male", "age":28, "address": { "streetAddress":"101", "city":"San Diego", "state":"CA" } .</pre>
"phoneNumbers": [{
< >>
8: 22 Modified Insert
Grid View Form View Print Data Blob View
etched: 1/1 Modii LIMIT 0, 1000

See also: Navigation within BLOB Editor Editing as Hexadecimal Editing as Text Editing as Rich Text Editing as Image Editing as HTML Editing as XML

7.1.6 Applying changes

After changes are done, click the **Post Edit** button on the <u>navigation pane</u> to apply the changes or the **Cancel Edit** button to discard the changes.



See also: <u>Using Navigation bar and Toolbars</u> <u>Grid View</u> <u>Form View</u> <u>Print Data</u> <u>BLOB View</u>

7.2 Custom Filter

The **Custom Filter** dialog is one of the <u>filtering</u> facilities implemented in <u>Data View</u> for your convenience.

To open the dialog, click the Arrow-Down button next to the column caption, and select the **Custom** item from the drop-down list.

Select a logical operator for checking the column values (*like*, *is less than*, *is greater than*, etc.) and set a value to be checked by this operator in the corresponding box on the right.

Dr	rag a colum	n header	here to gro	oup by t	that colum	١				 						
1	film_id ∆	title			realease_	уe	special_t	features		I	🛛 rent	tal_rate		rental_durat	length	
·	:	2 ACE GO	LDFINGER		200	06	Trailers,D	eleted Sce	nes				4,99	3		48
Γ	:	3 ADAPTA	ATION HOL	ES	200	06	Trailers,D	eleted Sce	nes				2,99	7		50
Γ	1	7 AIRPLA	NE SIERRA	100			T " D						100	6		62
Γ	ł	3 AIRPOR	T POLLOC	🚻 C	ustom Fil	ter							×	6		54
	ę	ALABA	MA DEVIL	Show	rows wh	ere	e:							3		114
	1(ALADDI	N CALENE	speci	al features	s -								6		63
	14	4 ALICE F	ANTASIA	- CPUC	a_roatarot			_						6		94
	15	5 ALIEN C	ENTER	like				•	tr%					5		46
	10	ALLEY I	EVOLUTIO	• A	ND C) 0	R							6		180
	17	7 ALONE	TRIP					-]					3		82
	18	ALTER	VICTORY	lise 9	6 to repres	en	t anv serie	es of chara	acters					6		57
	23	3 ANACO	NDA CON	Use /	to repres		any sinck	oberecte	-					3		92
	24	4 ANALY	ZE HOOSI	use_	to represe	GIIL	any singi	e characte	1					6		181
	25	5 ANGELS	S LIFE							ОК		Cano	el	3		74
x	🗹 (spe		res LIKE tr	%)											Cu	stomize

If necessary, you can set the second condition and specify the relation between the two conditions: whether both of them should be satisfied (*AND*) or just any of them (*OR*). Use the '_' character to represent any single symbol, and use the '%' character to represent any series of symbols in the condition string.

See also: Data View Filter Builder dialog

7.3 Filter Builder dialog

The **Filter Builder** dialog is a powerful <u>filtering</u> tool implemented in <u>Data View</u> for your convenience.

The dialog is aimed at facilitating the procedure of creating and applying complex filter criteria for data. In addition, the tool allows you to save filter criteria to an external *.flt file for future use.

To open the **Filter Builder** dialog, use the **Set filter** \square button on the navigation pane available within the <u>Data</u> tab of <u>Table Editor</u> and the **Result(s)** tabs of <u>SQL Editor</u> and <u>Query Builder</u>.

- Invoking the Filter Builder dialog
- Adding a new condition to the filter
- <u>Setting filter criteria</u>
- <u>Setting filter operator</u>
- <u>Setting filter criteria values</u>
- Adding a new group
- <u>Setting group operator</u>
- <u>Applying filter conditions</u>

See also: Data View Custom Filter

7.3.1 Invoking the Filter Builder dialog

The Filter Builder dialog can be invoked in either of the following ways:

• if a <u>simple filter</u> or the <u>Custom Filter</u> is being used, click the **Customize...** button on the gray **filtering panel**;

ship carrier i A	ship_method	ship_carrier_code	ship_carrier_name	ship_method_name	ship_publish	ship_method_code
	1044186586	FDX	FedEx Express	1Day Freight	N	1DF
10	1044186586	FDX	FedEx Express	2Day Freight	N	2DF
11	1044186586	FDX	FedEx Express	3Day Freight	N	3DF
12	1044186586	FDX	FedEx Express	Standard Overnight	N	1ST
13	1044186586	FDX	FedEx Express	Express Saver	N	3DA
14	1044186599	FDX	FedEx Express	International Priority	Y	INT
15	1044186600	FDX	FedEx Express	Ground Delivery	Y	GND
31	1044186610	FDX	FedEx Express	Overnight Express	Y	OVN
32	1044186620	FDX	FedEx Express	Economy Freight	Y	ECO
× ✓ (ship_carrier	_code = FDX)					Customize

• use the **Set filter □** button on the <u>navigation pane</u> and create a composite filter using the dialog.

H + Find: _ 🛛 🖉 1000 🔹 돈 ⊵ ~ × № * 😽 🕁

The succeeding pages of this chapter are intended to illustrate usage of the **Filter Builder** dialog. Please see the instructions below to learn how to perform various operations in the easiest way.

See also:	
Adding a new condition	
<u>Setting filter criteria</u>	
Setting filter operator	
<u>Setting filter criteria values</u>	
Adding a new group	
Setting group operator	
Applying filter conditions	

7.3.2 Adding a new condition

Suppose we need to select data from the sample table Employee to view the list of male engineers belonging to the *Engineering* and *Tool Design* departments that were hired after 10/1/2007. These criteria are applied to the *Gender*, *HireDate*, *Position* and the *DepID* columns.

Click **press the button to add a new condition** - this will add a new condition to the criteria. Alternatively, you can click the **Filter** button and select the **Add Condition** popup menu item.

Filter builder - [untitled.flt]	x
Filter AND <root></root>	
press the button to add a new condition	
Open OK Cancel Apply	

See also:

Invoking the Filter Builder dialog Setting filter criteria Setting filter operator Setting filter criteria values Adding a new group Setting group operator Applying filter conditions

7.3.3 Setting filter criteria

As we need to apply the filter criteria to the *HireDate* column, we click the column box (next to the ellipsis \square button) to open the drop-down list displaying the available column names and select the *HireDate* item.

Filter builder - [untitled.flt]	3
Filter AND <root> EMP_ID equals <empty> Pres POSITION FIRST_NAME LAST_NAME GENDER MARITAL_STATUS BIRTH_DATE HIRE_DATE IS_ACTIVE SALARY DEPT_ID MANAGER_ID</empty></root>	
Open Save As OK Cancel Apply	

See also:

Invoking the Filter Builder dialog Adding a new condition Setting filter operator Setting filter criteria values Adding a new group Setting group operator Applying filter conditions
7.3.4 Setting filter operator

Since we need the list of employees hired after 10/1/2007, we need to select the *IS* GREATER THAN operator from the corresponding drop-down list.

🛛 Filter builder - [untit	tled.fit]	×
Filter AND <root></root>	is greater than <empty> equals does not equal is less than is less than or equal to is greater than is greater than or equal to is blank is not blank between not between in not in</empty>	
Open	Save As OK Cancel Apply	

See also:

Invoking the Filter Builder dialog Adding a new condition Setting filter criteria Setting filter criteria values Adding a new group Setting group operator Applying filter conditions

7.3.5 Setting filter criteria values

Next, we need to specify value '10/1/2007' for the IS GREATER THAN operator.

Similarly, if, for example, we need to get the list of employees hired during the 9/1/2007 - 10/1/2007 term, we set the *BETWEEN* filter operator (this will add two empty value boxes to specify the inclusive range for the *BETWEEN* condition) and specify the range for the operator, i.e. the '9/1/2007' and the '10/1/2007' values in the corresponding value boxes.

It is possible to set the date value **manually** by typing it in, or using the **date editor** which is activated when you click the value box.

Filter builder - [untitled.flt]
Filter AND <root></root>
HIRE DATE is greater than
press the button to add a new cond
M T W T F S S 25 26 27 28 29 30 31
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21 22 23 24 25 26 27 28
29 30 31 1 2 3 4
Today Clear
Open Save As OK Cancel Apply

Editors used in value boxes are determined by the **data type** assigned to the corresponding columns.

See also: Invoking the Filter Builder dialog Adding a new condition Setting filter criteria Setting filter operator Adding a new group Setting group operator Applying filter conditions

7.3.6 Adding a new group

Since we also need to get the list of male specialists-engineers (i.e. those registered in the *Engineering* and *Tool Design* departments and having an engineering-oriented position), we can add a complex filter condition combining simple conditions with the *AND* operator. (However, in this particular case we can just add them at the same root level as for the existing condition).

If you need to add a group of conditions, click the ellipsis button for the *HIRE_DATE* condition and select the **Add Group** popup menu item.

🛛 Filter builde	er - [untitled.flt]
Filter AND	<root></root>
	E DATE is greater than 01/01/2007
Ad	ld Condition Idition
Ad	ld Group
Re	move Row
Open	. <u>Save As</u> OK Cancel <u>Apply</u>

See also:

Invoking the Filter Builder dialog Adding a new condition Setting filter criteria Setting filter operator Setting filter criteria values Setting group operator Applying filter conditions

7.3.7 Setting group operator

Conditions of complex criteria can be combined with any of the four logical operators used: *AND*, *OR*, *NOT AND*, *NOT OR*.

In our case it is enough to click the **group operator** box and select the *AND* item from the drop-down menu.

Filter builder - [untitled.flt]	×
Filter AND <root></root>	
HIRE DATE is greater than 01/01/2007	
AND applies to the following conditions	
AND OR PER equals M	
NOT AND button to add a new condition	
Open Save As OK Cancel Apply	

See also:

Invoking the Filter Builder dialog Adding a new condition Setting filter criteria Setting filter operator Setting filter criteria values Adding a new group Applying filter conditions

7.3.8 Applying filter conditions

Suppose we have created a condition within the new group. If we need, we can <u>add more</u> <u>conditions</u> at the same level and specify the required values using the value boxes. When the operation is completed, the **Filter Builder** dialog will look like in the screenshot below.

Click the **Apply** button to see the result of the filtering you have made, and click **OK** or **Cancel** to close the dialog with or without saving your filter conditions respectively.

Filter builder - [untitled.flt]	x
Filter AND <root></root>	
HIRE DATE is greater than 01/01/2007	
AND applies to the following conditions	
GENDER equals M	
POSITION like %Engineer%	
press the button to add a new condition	
Open Save As OK Cancel Apply	

The **Filter Builder** dialog allows you to save filter criteria to and load them from external files. Clicking the **Save As...** or the **Open...** buttons activates the corresponding dialogs. Filter settings are stored in *.*flt* files.

Please be informed that a column in the file is referenced by its position within a view, hence filter settings cannot be correctly restored if columns have been deleted from the view after saving the filter to a file.

See also: Invoking the Filter Builder dialog Adding a new condition Setting filter criteria Setting filter operator Setting filter criteria values Adding a new group Setting group operator

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8 Import/Export Tools

Using **SQL Manager for MySQL** you are provided with powerful tools to import and export data to/from your MySQL database.

Export Data Wizard

Exports data to various supported formats including MS Excel, MS Access, RTF, HTML, PDF, CSV, XML, MS Excel 2007 and more.

Import Data Wizard

Imports data from any of supported formats: *MS Excel, MS Access, DBF, TXT, CSV, XML, MS Excel 2007, MS Word 2007* and more.

Export Data as SQL Script

Exports data to an SQL script as a number of INSERT statements.

Save Data Wizard

Saves data to an external file with the SELECT ... INTO OUTFILE statement used.

Load Data Wizard

Loads data from an external file with the LOAD DATA INFILE statement used.

Export as PHP

Creates PHP script allowing connecting to a database, displaying data of the selected table, and providing forms and procedures for adding/editing/dropping data.

Using templates

Facilitates using import/export/save/load wizards.

See also: <u>Getting Started</u> <u>Database Explorer</u> <u>Database Management</u> <u>Database Objects Management</u> <u>Query Management Tools</u> <u>Data Management</u> <u>Database Tools</u> <u>Server Tools</u> <u>Personalization</u> <u>External Tools</u> How To...

8.1 Export Data Wizard

Export Data Wizard allows you to export data from a <u>table</u> / <u>view</u> or from a query result to any of supported formats (*MS Excel, MS Access, MS Word, RTF, HTML, PDF, TXT, CSV, XML, DBF, MS Excel 2007, MS Word 2007,* etc.). You can save your settings as a <u>template</u> any time for future use.

To start the wizard, right-click the object in <u>DB Explorer</u> and select the **Data Manipulation** | **Export Data...** context menu item.

Alternatively, you can open the **Data** tab of <u>Table Editor</u> / <u>View Editor</u> or the **Result(s)** tab of <u>SQL Editor</u> / <u>Query Builder</u>, right-click the <u>grid</u> there and select the **Data Manipulation** | **Export Data of <object_name>...** <u>context menu</u> item.



- <u>Setting name and format for the destination file</u>
- Selecting columns for export
- <u>Adjusting formats applied to exported data</u>
- Setting header and footer text for the destination file
- <u>Setting format-specific options</u>
- <u>Setting common export options</u>
- Exporting data

Availability: Full version (for Yes Windows) Lite version (for No Windows) **Note:** To compare all features of the **Full** and the **Lite** versions of **SQL Manager**, refer to the <u>Feature Matrix</u> page.

See also: Import Data Wizard Export as SQL Script Save Data Wizard Load Data Wizard Using templates

8.1.1 Setting destination file name and format

This step of the wizard allows you to select the destination file format you need to export data into.

Destination file name

Type in or use the I button to specify the path to the file using the **Save as...** dialog. The file name extension changes automatically according to the selected **Destination** format.

Note: If the target file already exists, the application will show a <u>warning</u> dialog where you can choose the action you need.

Data Wizard - Export Data

Specify destination file name and format for exporting your data

		Welcome to the Export Da This wizard allows you to Excel, MS Access, HTML, Destination format	ta Wizard! export table data to most ; XML, PDF and much more.	popular data formats, such as MS
		MS Excel	O Text file	O MS Excel 97-2003
	501	O MS Word	O CSV file	O MS Word 97-2003
	Manager	O MS Access	○ RTF	O MS Access 97-2003
	for	ODF Spreadsheets	○ HTML	O DIF file
	MySQL	ODF Text		○ SYLK file
		ODBF	◯ XML	◯ LaTeX
		Destination file name D:\CurrentTest\Data Import	t\Query_Result.xlsx	
	Help <u>T</u> emplates	 ▼ 	ack <u>N</u> ext >	Run Cancel

Destination format

Specify the format of the destination file. For details refer to Supported file formats.

Click the **Next** button to proceed to the <u>Selecting columns for export</u> step of the wizard.

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8.1.2 Selecting columns for export

This step of the wizard allows you to select the table column(s) to be exported. To select a column, you need to move it from the **Available Columns** list to the **Selected columns** list. Use the Selected columns from one list to another.

Export Data Wizard - [sak	ila on my_9.0]		- 🗆	×
Data Wizard - Export Data				
Select columns for export	ting. If none of columns are selected, all	of then	n except BLOBs will be exported	
	<u>C</u> olumns for exporting			
	Available columns]	Selected columns	^
	last_update		film_id	
			title	
SOL		»	release_year	
Manager			language_id	
for			original language id	
MySQL			rental duration	
		~	rental_rate	
			length	
			replacement_cost	
			III rating	~
Allow captions				
Help Templates	▼ < <u>B</u> ack	<u>N</u> ext:	> <u>R</u> un Can	cel

If you leave all the columns in the **Available columns** list, all columns of the table (except BLOBs) will be exported.

Allow captions

Check this option if you need to export the column captions as well.

Click the **Next** button to proceed to the <u>Adjusting data formats</u> step of the wizard.

8.1.3 Adjusting data formats

This step allows you to customize formats applied to exported data.

Data formats

Edit the format masks to adjust the result format in the way you need: Integer, Float, Date, Time, DateTime, Currency, Boolean True, Boolean False, NULL string, Decimal separator, Thousand separator, Date separator, Time separator.

Export Data Wizard - [sakila on doom_server]			
Data Wizard - Export Da	ta		
Adjust formats for exported	d data if necessary		
SQL Manager for MysQL	Data formats Integer format Float format Date format Time format DateTime format Currency format Boolean True Boolean False Null string Decimal Separator Date Separator	# ### ##0 dd.MM.yyyy h:mm dd.MM.yyyy h:mm true faise null Thousand Separator Time Separator	
<u>H</u> elp <u>T</u> emplates ▼ < <u>B</u> ack <u>N</u> ext > <u>R</u> un Cancel			

Hint: The formats used by default are specified in the <u>Data Export</u> section of the <u>Environment Options</u> dialog.

For more details refer to Format specifiers.

Click the **Next** button to proceed to the <u>Setting header and footer</u> step of the wizard.

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8.1.4 Setting header and footer

Set **Header text** and **Footer text** for the result file. This text will appear at the beginning and at the end of the result file respectively.

📲 Export Data Wizard - [sakila	a on doom_server]	- • •
Data Wizard - Export Da	ta	
Define headers and foote	rs for the result files	
	Header text	
	Export from 'film'	*
SQL Manager for MySQL	Footer text	•
	SQL Manager for MySQL	*
	• • • • • • • • • • • • • • • • • • •	4
Help <u>T</u> emplates	▼ < <u>B</u> ack <u>N</u> ext > <u>R</u> un	Cancel

If you are exporting the result of a <u>query</u>, it is possible to add the text of the query to the header and/or to the footer of the output file. Use the corresponding **Add to Header** / **Add to Footer** buttons to add the *query text* or the *query template* to the header/ footer of the output file.

📑 Export Data Wizard - [sakila on doom_server]					
Data Wizard - Export Da	Data Wizard - Export Data				
Define headers and foote	ers for the result files				
	Header text	Add to Header			
	Export from query:	Query Text			
en en	{query_text}	Query Template			
SQL Manager	٩	-			
MySQL	Footer text	Add to Footer			
	<pre>SELECT `film`.`film_id`, `film`.`title`, `film`.`release_year`, `film`.`language_id`</pre>	*			
	<pre>`film`.`original_language_id`, <</pre>				
<u>H</u> elp <u>T</u> emplates ▼ < <u>B</u> ack <u>N</u> ext > <u>R</u> un Cancel					

Click the **Next** button to proceed to <u>Setting format-specific options</u>.

8.1.5 Setting format-specific options

This step of the wizard allows you to customize Format-specific options:

- Excel 97-2003 options
- Access options
- Word 97-2003 / RTF options
- HTML options
- PDF options
- <u>TXT options</u>
- <u>CSV options</u>
- <u>XML options</u>
- <u>MS Excel / ODS options</u>
- MS Word / ODT options

To get more information about the file formats, see the <u>Supported file formats</u> page.

8.1.5.1 Excel 97-2003 options

This step allows you to set options for the target **MS Excel** (*.*xls*) file.

You can customize **Data format**, **Extensions** and set **Advanced** options available within the corresponding tabs:

- Data format
- Extensions
- <u>Advanced</u>

Export Data Wizard - [sak	ila on my_9.0]	- 🗆 X
Data Wizard - Export Data		
Customize MS Excel 97-2	003 export options.	
	Data format Extensions Advanced	
	Columns Options Styles	Font Borders Fill Aggregate
	film_id ^	Font The Arial V
	title	Size 10 V
SQL	language_id	A B I S U U V V
Manager	description	
MySQL	rental_language_id	
	rental_rate	
	length	
	rating	Aa Zz
	special_features	Reset Item Reset All
	last undata	
Help Templates	▼ < <u>B</u> ack	Next > Run Cancel

When you are done, click the **Next** button to proceed to <u>Setting common export options</u>.

8.1.5.1.1 Data format

The **Data Format** tab contains general options which allow you to adjust the format for each kind of Excel cells. This means that you can specify such parameters as *font*, *borders*, *filling color* and *method*, etc. for each entity (such as *data field*, *header*, *footer*, *caption*, *data*, *hyperlink* and so on) separately. Also it is possible to create *styles* to make the target Excel file striped by columns or rows.

- Fields
- Options
- <u>Styles</u>

For your convenience the previews illustrating the changes are displayed in the **Sample Group** area on each page of **Data Format** tab.

8.1.5.1.1.1 Fields

Using the **Columns** tab you can set *font* options, *border* and *fill* options and *aggregate functions* for all the **columns** you want to export.

The **Font** tab allows you to specify properties of the font that will be used in the output Excel file cells.

Use the **Font** and **Size** drop-down lists to select the *font* and *size* to be applied to the output text.

Use the buttons below to set *font color*, make text *bold*, *italicized*, *strikethrough* text, set *underline* effects, specify text *horizontal* and *vertical align*.

<u>D</u> ata forma	t Extens	sions	Advanced						
Columns	Options	Style	S	<u>F</u> ont	Borde	ers	F <u>i</u> ll	Aggregate	•
custon first_n last_na compa passw legacy	ner_numb ame ame ny vord _passwo	ord	^	Font Size A	B 1	Tr / 10	Arial		V V
email title double	_encoder	stration		Aa Z	z				
double	optinemai	ilsentda irmdate	ite v		Reset It	em		Reset	All

The **Borders** tab allows you to specify properties of the borders of the output Excel file cells.

Press the 🔳 🗵 🔠 buttons on the left to show/hide the borders they indicate.

Use the drop-down list for each border to select the *line type* and the \searrow button on the right to select the *line color* for each border.

Font Borders Fill Aggregate]
Aa Zz	
Reset Item Reset	t All

The **Fill** tab allows you to specify the fill pattern for the output Excel file cells.

Use the drop-down list to select the preferable fill pattern type.

Press the button on the left to set the background color for the fill pattern. Press the button on the right to set the foreground color for the fill pattern.

<u>F</u> ont	Borders	Fill	Aggregate	
۵			_	1
,				
l I IAa Zz				
R	eset Item		Reset Al	

The Aggregate tab allows you to specify an aggregate function for the column in the

output Excel file.

Select a **function** that will be applied to the column:

- None
 AVG
 MAX
- MAX
 SUM
- MIN

<u>F</u> ont	<u>B</u> orders	Fill	Aggregate	
Fund	tion			
© N	one () AVG	© MA	x
0 S	UM	🔘 MIN		
Aa Zz				j
R	eset Item		Reset	All

You can reset the changes any time using the **Reset Item** and the **Reset All** buttons.

8.1.5.1.1.2 Options

Using the **Options** tab you can set *font* options, *border* and *fill* options for all **elements** of the Excel sheet (*header*, *caption*, *footer*, *aggregates* and *hyperlinks*).

Data format Extensions Advance	d
Columns Options Styles	<u>Font</u> Borders Fill
HEADER CAPTION AGGREGATE FOOTER HYPERLINK	Font The Arial Size 10 A B I S U U U U
	Reset Item Reset All

The **font**, **borders** and **fill** options are specified in the same way as for output **Columns**. For details refer to the <u>Columns</u> page.

You can reset the changes any time using the **Reset Item** and the **Reset All** buttons.

8.1.5.1.1.3 Styles

Using the **Styles** tab you can make a style template: set *font* options, *border* and *fill* options and save them.

To add a style template, click the **Plus** + button. To delete a style template, select it and click the **Minus** - button. To reorder style templates in the list, use the • • • buttons. To load a style template, click the

 button.

To save the current style template, click the

 button.

If you have created or loaded more than one style template, they can be ignored, or used *column-by-column* or *row-by-row* (it depends on the **Strip type** selection).

Data format Extensions Advanced	
Columns Options Styles	Font Borders Fill
+ - ⓓ ⓓ 📁 🛱	Font The Arial Size 10 A B I S U U U U U U
Strip style None O Col O Row	Aa Zz Reset Item Reset All

The **font**, **borders** and **fill** options are specified in the same way as for output **Columns**. For details refer to the <u>Columns</u> page.

You can reset the changes any time using the **Reset Item** and the **Reset All** buttons.

8.1.5.1.2 Extensions

The **Extensions** tab provides an ability to add <u>hyperlinks</u> and <u>notes</u> and to any cell of the target file, to specify a value of a cell, to create a <u>chart</u> and to <u>merge cells</u>.

Click the **Plus** + button to add an element; click the **Minus** - button to delete an element.

- Hyperlinks
- <u>Notes</u>
- Charts
- <u>Cells</u>
- <u>Merged Cells</u>

8.1.5.1.2.1 Hyperlinks

If you need to create a **hyperlink**:

- set the cell coordinates (Col and Row);
- specify whether this is a *local* link or URL;
- enter the *title* of the hyperlink;
- specify the *target* file location or address.

Data format Extensions	Advanced
Hyperlink_1	Col O URL Row O O Local file Title Hyperlink_1 Target http://www.sqlmanager.net

Use the **Col** and **Row** spinner controls to specify the column and row for the hyperlink in the output file.

The **Style** group allows you to select the preferable hyperlink style:

Iccal file (i.e. the file is located on your local machine or on a machine in the LAN)

Use the **Title** box to specify the hyperlink name.

The **Target** box lets you enter the path to the target file or URL. Use the 🙆 button to

check whether the specified location is available.

8.1.5.1.2.2 Notes

If you need to create a **note**:

- set the cell coordinates (Col and Row);
- enter *text* of a note for the cell;
- set the *font* and *fill* properties using the corresponding tabs.

The **Base** tab allows you to specify basic properties of the note to be added to the output Excel file.

Use the ${\bf Col}$ and ${\bf Row}$ spinner controls to specify the column and row for the note in the file.

Use the edit-box below to enter the text of the note.

Data format Extensions Adva	nced
+ -	Base Font Fill
Werlinks Werlink_1 Werlink_2	Col 0 Row 0 Row
P Rotes	Text
Note_1	Text of a note
Note_2	
Charts	
Cells	
Merged Cells	

The **Font** tab allows you to specify properties of the font that will be used for the note.

Use the **Font** and **Size** drop-down lists to select the *font* and *size* to be applied to the output text.

Use the buttons below to set *font color*, make text *bold*, *italicized*, *strikethrough* text, set *underline* effects, specify text *horizontal* and *vertical align*.

The **Orientation** group allows you to select the note text orientation:

- No rotation
- Top to bottom
- Counterclockwise
- Clockwise



The **Fill** tab allows you to specify the fill type and transparency for the note.

The **Fill Type** group allows you to select whether the fill color will be **solid** or **gradient**: Interpretation

- Vertical
- Diagonal up
- Diagonal down
- From corner
- From center

Press the 🅍 button to set the background color for the fill pattern.

Press the 🎽 button to set the foreground color for the fill pattern.

The **Transparency** control allows you to set the transparency degree for the note. Move the slider between the **0%** and **100%** threshold values to select the required transparency value within this scope.



8.1.5.1.2.3 Charts

If you need to create a **chart**:

- enter the chart *title*;
- select the chart style;
- set the legend position;
- specify if you want to show the legend;
- specify if you want to set the chart color automatically;
- define the chart *position* and *category labels* using the corresponding tabs.

The **Base** tab allows you to specify basic properties of the chart to be added to the output Excel file.

Use the **Title** box to specify the chart name.

Use the **Style** drop-down list to select the preferable chart style (*Column, Column 3D, Bar, Bar 3D, Line, Line Mark, Line 3D*, etc.).

The **Legend position** group allows you to specify position of the chart legend:

- Bottom
- 🖲 Тор
- 🧿 Left
- Orner
- Right

Show legend

This options specifies whether the chart legend will be visible or not.

Auto color

If this option is selected, each series will be automatically differentiated with different colors on the chart, otherwise one color will be applied for all series.



The **Position** tab allows you to specify properties pertaining to the chart position on the output file sheet.

🧕 Auto

Specifies automatic position of the chart.

The **Placement** group allows you to specify the chart position relative to the data:

- Bottom
- 🧕 Right

Use the **Left** and **Top** spinner controls to specify the spacing between the chart and data at the left and at the top respectively.

Use the **Height** and **Width** spinner controls to specify the chart *height* and *width* respectively.

🖲 Custom

Specifies absolute position of the chart (irrelative to the data). Use the spinner controls to set the coordinates you need.



The **Category Labels** tab allows you to specify in which rows and columns the chart will be built.

🖲 Colum n

Use the drop-down list to select the column that will be used to take values for x-axis.

💿 Custom

Specify the range of cells from which x-axis values will be taken. Use the spinner controls to set the range you need.



To build a chart, you also need to create series that will be used to take values for y-

axis. To add **series** for the chart:

- add one or more series using the + button;
- enter the *titles*;
- set data ranges (select a column from the drop-down list or set the custom range);
- define colors for all the graphs.

Use the **Title** box to specify the series name.

Data range

```
Column
```

Use the drop-down list to select the column that will be used to take values for the series.

Oustom

Specify the range of cells from which the series will be formed. Use the spinner controls to set the range you need.

Press the 🕍 button to set the color for the series.

Data format Extensions Adva	nced
+ -	Title Series_1
Hyperlinks	Data range
🖶 🖂 Notes	Olumn
🖻 🋄 Charts	DEPT_ID 💌
🖻 🛄 Chart_1	Custom
🖻 🖾 Series	Col 1 0 🔶 Col 2 0 🔶
Series_1	Row 1 0 🚔 Row 2 0 🚔
merged Cells	<u>ab/</u>

8.1.5.1.2.4 Cells

If you need to add a value in a specific cell:

- set the cell coordinates (Col and Row);
- select the cell type;
- enter a value;
- if you are adding a numeric or a date/time value, you can set the cell format;
- set the *font*, *borders* and *fill* properties using the corresponding tabs.

Data format Extensions Advan	nced		
+ -	Base <u>F</u> ont	Borders Fill	
🗄 🕅 Hyperlinks	Col	1 - Row 1 -	
Notes	Cell type	Numeric	
Charts	Value	47	
Cell(Col: 1 Row: 1)	Formats		
	Date time	dd.MM.yyyyy h:mm:ss	
Merged Cells	Numeric	###,###,#0.00	
		,	
	Aa Zz		

The **Base** tab allows you to specify basic properties of the cell.

Use the **Col** and **Row** spinner controls to specify the column and row denoting the cell. Use the **Cell type** drop-down list to select the data type for the cell (*Boolean*, *DateTime*, *Numeric* or *String*).

Set the required value in the $\ensuremath{\textbf{Value}}$ edit box.

The **Formats** group allows you to specify data format for numeric or a date/time types.

The **font**, **borders** and **fill** options are specified in the same way as for output **Columns**. For details refer to the <u>Columns</u> page.

8.1.5.1.2.5 Merged Cells

If you want to merge two or more cells, set the range of cell coordinates: *First col, Last col, First row, Last row*. Use the spinner controls to set the range you need.

Data format Extensions Adva	nced	
+ -		
🗄 🕲 Hyperlinks	First col	0
⊕	Last col	0
🗄 🛄 Charts		
	First row	0
Merged Cells 1	Last row	0
Merged Cells 2		

8.1.5.1.3 Advanced

The **Advanced** tab allows you to set a number of advanced options to be applied to the result MS Excel file.

Page header

If necessary, enter some text for the page header.

Page footer

If necessary, enter some text for the page footer.

Hint: It is also possible to set macros in the **Page header** and **Page footer** fields: *&N* stands for the quantity of pages; *&P* - the number of the current page.

Sheet title

Specify the sheet title for the target file.

Page background

If necessary, use the **Ellipsis** button to browse for a graphical file to be applied as the page background.

Data format Extensions A	dvanced				
Page header	Export data				
Page footer	Page &P of &N				
Sheet title	Sheet 1				
Page background					
Calculate column width automatically					

Calculate column width automatically

This option allows the wizard to determine column width in the target file automatically according to column size.

8.1.5.2 Access options

This step allows you to set options for the target **MS Access** (*.*mdb*, *accdb) file.

Set the name for the target table and specify whether the wizard should **create a new table** in the MS Access database if it does not exist yet, or use the existing table to export data into.

📑 Export Data Wizard - [sakila on doom_server]				
Data Wizard - Export Data				
Customize MS Access export options.				
SQL Manager for MysQL	Table options Table name EXPORT_TABLE Create new table if it does not exist			
<u>H</u> elp <u>T</u> emplates ▼ < <u>B</u> ack <u>N</u> ext > <u>R</u> un Close				

When you are done, click the **Next** button to proceed to <u>Setting common export options</u>.

8.1.5.3 Word 97-2003 / RTF options

This step allows you to set options for the target **MS Word** (*.*doc*) and **Rich Text Format** (*.*rtf*) files.

- Base styles
- Strip styles

For your convenience the previews illustrating the changes are displayed in the **Sample Group** area within the *Base Styles* and the *Strip Styles* tabs.

📲 Export Data Wizard - [sakila on doom_server]				
Data Wizard - Export Data				
Customize MS Word (RTF) export options.				
SQL Manager for MySQL	Base Styles Strip Styles HEADER CAPTION DATA FOOTER	Font The Arial Size 10 Image: Size Image: S		
	Page orientation Portrait O Landscape	Aa Zz Reset Item Reset All		
<u>H</u> elp <u>T</u> emplates	▼ < <u>B</u> ack	Next > Run Close		

When you are done, click the **Next** button to proceed to <u>Setting common export options</u>.

8.1.5.3.1 Base styles

The **Base Styles** tab contains the list of target file entities: *HEADER, CAPTION, DATA, FOOTER.* You can customize style options, such as *font* and *size, background* and *foreground colors, text alignment,* etc. for each of them by clicking the corresponding item in the list and setting the options in the right-side panel. You can also switch **page orientation** for the target Word/RTF file using this tab.

Base Styles Strip Styles	Font The Arial Size 10 A B B S U E E E V Highlight V Background
Page orientation	Aa Zz
Portrait	Reset Item Reset All

Use the **Font** and **Size** drop-down lists to select the *font* and *size* to be applied to the text.

Use the buttons below to set font color, make text bold, italicized, underlined, strikethrough text, specify horizontal align.

Highlight

Enables/disables text highlight.

Background

Enables/disables background for text.

Press the 🆄 button to set the background color for the text.

Press the 🕍 button to set the highlight color for the text.

You can reset the changes any time using the **Reset Item** and the **Reset All** buttons.

8.1.5.3.2 Strip styles

Using the **Strip Styles** tab you can create a style template: set *font*, *size*, *background* and *foreground colors*, *text alignment*, *highlight* and save them.

To add a style template, click the **Plus** + button.

To delete a style template, select it and click the **Minus** – button.

To reorder style templates in the list, use the 0 0 buttons.

To load a style template, click the 🏓 button.

To save the current style template, click the 😾 button.

If you have created or loaded more than one style template, they can be ignored, or used *column-by-column* or *row-by-row* (it depends on the **Strip type** selection).

Base Styles Strip Styles	Font The Arial Size 10 A B B S U E E I V Highlight V Background
Strip type	Aa Zz
None Col Row	Reset Item Reset All

You can reset the changes any time using the **Reset Item** and the **Reset All** buttons.
8.1.5.4 HTML options

This step allows you to set options for the target **HTML** (*.*html*) file.

- <u>Preview</u>
- Basic
- <u>Multi-file</u>
- Advanced

📲 Export Data Wizard - [sakila on doom_server]				- • -
Data Wizard - Export Da	ta			
Customize HTML export o	ptions.			
	Preview Basic	Multi-file Advance	ced	
200	Default text			Template
	Num	Name	Age	MS_Money
-09	1	John	34	Sava tamalata
SQL	2	Marcella	27	<u>Save template</u>
for	3	Alex	25	Load template
MySQL	4	Julia	48	
	Non-visited	link Visited lin	k Active link	
Help Templates		< <u>B</u> ack	<u>N</u> ext >	Run Close

8.1.5.4.1 Preview

The **Preview** tab allows you to customize the style that will be applied to the target HTML file using a number of built-in templates provided in the **Templates** drop-down list.

Preview	Basic	Multi-file	Advanc	ed		
Defau	lt text					Template
Nu	m	Nam	е		Age	Olive 💌
1		John		34		
2		Marcella		27		Save template
3		Alex		25		Load template
4		Julia		48		
Non-v	risited l	ink Vis	sited lin	k	Active link	
1						

You can select any of the pre-defined templates and customize it by clicking objects in the preview panel, and save the settings as a custom template using the **Save template...** button. Use the **Load template...** button to load a previously saved custom template from your hard disk.

Click on an element of the table to select the color that will be applied for this element (background, font, header row, odd row, even row, non-visited link, visited link, active link). 8.1.5.4.2 Basic

The **Basic** tab allows you to specify the basic parameters of target HTML file:

- specify the title of the result file;
- select whether the cascade style sheet (CSS) should be internal or external (the Ellipsis button to browse for a *.css file);
 determine whether boolean columns of the table should be exported as HTML check
- boxes.

Preview	<u>B</u> asic	Multi-file	Advanced
Title Casca O Inte	Film de style mal	sheet opti	ons
CS	S file nar	ne	Export.css
 Е хро	rt boolea	ın fields as	HTML check boxes

8.1.5.4.3 Multi-file

The **Multi-file** tab provides you with an ability to split the target HTML file into several separate files. This tab allows you to specify the *record count* for a single file, set an option *to generate an index HTML file*, and add an ability to navigate between the exported files.

Preview Basic	Multi-file Advanced		
Record(s) in	a single file ndex	Prefix	1000 💌 Page_
Navigation On top	🔽 On bottom	Prior link	Prior
Index link First link	Index First	Next link Last link	Next Last

Multi-file export

Use multi-file export

Enables/disables the multi-file export feature.

Record(s) in a single file

Use the spinner controls to specify the number of records to be exported into each of the files.

Generate index

Specifies that an index file containing links to all the data files will be generated. Use the edit-box next to the checkbox to set a name for the index file.

Navigation

This group allows you to specify properties for navigation elements, i.e. the elements that provide quick access to pages of the multi-file document. Navigation is implemented as a set of hyperlinks.

On top

Specifies that the hyperlinks will be placed at the top of the page.

On bottom

Specifies that the hyperlinks will be placed at the bottom of the page.

Use the Index link, First link, Prior link, Next link and Last link boxes to specify

captions for the corresponding navigation elements.

8.1.5.4.4 Advanced

The **Advanced** tab allows you to set a number of advanced options to be applied to the result HTML file.

Default font	Thr Arial
Background	D:\EMS_logo.bmp
Advanced attributes	
Table Options	
Cell padding	4
Cell spacing	1 💌
Border	1
Background	D:\Export_to_HTML_background.jpg
Advanced attributes	

Body options

Default font

Use the drop-down list to select the font that will be used in the result file by default.

Background

If necessary, use the **Ellipsis** button to browse for a graphical file to be applied as the page background.

Table options

Use the spinner controls to specify common table options: **cell padding**, **cell spacing**, **border**.

Background

If necessary, use the **Ellipsis** button to browse for a graphical file to be applied as the table background.

It is also possible to define **advanced attributes** for both the HTML body and table.

8.1.5.5 PDF options

This step allows you to set options for the target **PDF** (*.pdf) file.

Fonts

This group of options allows you to customize fonts for the *header*, *caption*, *data*, *footer* of the result file.

Use the **Base font name** and **Font encoding** drop-down lists to select the preferable font (*Helvetica, Courier, Times Roman*, etc.) and encoding (*Standard, WinANSI, MacRoman, PDFDoc*) respectively, and the **Font size** spinner control to specify the font size.

Click the **Font color...** button to select the color to be applied to the font.

For your convenience the preview illustrating the changes is displayed in the **Sample** area.

📑 Export Data Wizard - [sakila	a on doom_server]			
Data Wizard - Export Da	ta			
Customize PDF export opt	ions.			
	Header Font Caption Font Data Font Footer Font		Base font name Font encoding Font size	Helvetica WinAnsiEncoding 10 Sample
SQL Manager for MySQL	Page options Page size Width Height Units Orientation	A4 Inches Portra		Margins eft 0 tight 0 op 0 ottom 0
	Grid options Col spacing	3 🚔 Rov	v spacing 1 👘 l	Line width
Help <u>T</u> emplates	·	< <u>B</u> ack	<u>N</u> ext >	Run Close

Page options

Use the **Page size** drop-down list to select one of the standard page formats (*Letter*, *Legal*, *A3*, *A4*, etc.).

Use the **Width** and **Height** spinner controls to specify the page *width* and *height* respectively.

Use the **Units** drop-down list to select the unit of measure that will be used in report settings: *inches, millimeters,* or *dots*.

Use the **Orientation** drop-down list to select the preferable page orientation: *portrait* or *landscape*.

Margins

Use the **Left**, **Right**, **Top**, **Bottom** spinner controls to specify the corresponding page margins for the output PDF file.

Grid options

Use the **Col spacing**, **Row spacing**, **Line width** spinner controls to specify spacing for grid columns, rows, and grid line width respectively.

8.1.5.6 TXT options

This step allows you to set options for the target **text** (*.*txt*) file.

Set the **Calculate column width** option on if you want each column of the target file to be adjusted to the maximum number of characters in it. The **Spacing** option specifies the number of spaces between columns in the target file.

Export Data Wizard - [sakila	📲 Export Data Wizard - [sakila on doom_server]				
Data Wizard - Export Dat	Data Wizard - Export Data				
Customize TXT export optic	ins.				
SQL Manager for MySQL	TXT options Calculate column width	Spacing 1			
Help Templates	▼ < <u>B</u> ack <u>N</u> ext >	Run Close			

8.1.5.7 CSV options

This step allows you to set options for the target **CSV** (*.*csv*) file.

Quote strings

Check this option to apply quoting for string values in the target file.

Quote captions

Use the option to enable quoting for captions in the target file.

Specify the column separator using the **Comma** drop-down list and the preferable quote character using the **Quote** drop-down list.

📑 Export Data Wizard - [sakila	on doom_server]	
Data Wizard - Export Da	a	
Customize CSV export opti	ons.	
SQL Manager for MySQL	CSV options Quote strings Quote Delimiter ;	
<u>H</u> elp <u>T</u> emplates	▼ < <u>B</u> ack <u>N</u> ext > <u>R</u> un	Close

8.1.5.8 XML options

This step allows you to set options for the target **XML** (*.*xml*) file.

Specify XML document encoding in the **Encoding** edit box and set the **Standalone** option on if you intend to create a standalone XML document (*standalone="yes"*).

XML type

Select the type of the result XML document: *Datapacket 2.0* or *Access*. Conversion between generic XML documents and documents of the *XML-Datapacket* (*CDS*) format can be performed with the help of XML Mapper by Borland®.

📑 Export Data Wizard - [sakila	on doom_serve	er] 🗖 🗖 🔀
Data Wizard - Export Da	ta	
Customize XML export opt	tions.	
	 XML options Encoding 	iso-8859-1 V Standalone
	XML type	Datapacket 2.0 Export XSD Schema
SQL Manager for MySQL		
<u>H</u> elp <u>T</u> emplates	V	< <u>B</u> ack <u>N</u> ext > <u>R</u> un Close

8.1.5.9 MS Excel / ODS options

This step allows you to set options for the target **MS Excel 2007** (*.*xlsx*) or **ODF Spreadsheets** (*.*ods*) file.

Using the **Base Styles** tab you can set *font* and *border* options for all **elements** of the Excel 2007 / ODS sheet (*HEADER, CAPTION, DATA, FOOTER*). You can customize style options, such as *font* and *size, background* and *foreground colors, text alignment,* etc. for each of them by clicking the corresponding item in the list and setting the options in the right-side panel.

If necessary, you can also specify the **sheet name** for the target Excel 2007 / ODS file.

Use the **Font** and **Size** drop-down lists to select the *font* and *size* to be applied to the text.

Use the buttons below to set font color, make text bold, italicized, underlined, specify horizontal and vertical align.

Background

Enables/disables background for text.

Press the button to set the background color for the text. Press the **Wrap Text** button to enable/disable the text wrapping feature.

For your convenience the previews illustrating the changes are displayed in the **Sample Group** area within the *Base Styles* and the *Strip Styles* tabs.

Base Styles Strip Styles	Font Tr Calibri ~
HEADER CAPTION	Size 11 V
FOOTER	
	Background 🖏 Wrap Text
	🗹 Use Border
	Border Style Thin ~
Sheet Name	Aa Zz
sheet1	Reset Item Reset All

Using the Strip Styles tab you can create a style template: set font, size, background

color, text alignment, wrap text options and save them.

To add a style template, click the **Plus** + button.

To delete a style template, select it and click the **Minus** – button.

To reorder style templates in the list, use the $\bigcirc \bigcirc$ buttons.

To load a style template, click the 🖻 button.

To save the current style template, click the 🖬 button.

If you have created or loaded more than one style template, they can be ignored, or used *column-by-column* or *row-by-row* (it depends on the **Strip type** selection).

Base Styles Strip Styles + - Image: Organization of the style of the styl	Font The Calibri ~ Size 11 ~ A B I U
	Background Wrap Text Use Border Border Style Thin
Strip type None Col Row	Aa Zz Reset Item Reset All

You can reset the changes any time using the **Reset Item** and the **Reset All** buttons.

V Use border

Enables/disables borders in the output file.

Press the button to set the color to be applied to the borders. Use the **Border Style** drop-down list to select the preferable style that will be used for borders (*thin*, *dashed*, *dashdot*, *dotted*, etc.).

8.1.5.10 MS Word / ODT options

This step allows you to set options for the target **MS Word 2007** (*.*docx*) or **ODF text** (*.*odt*) file.

Using the **Base Styles** tab you can set *font* options for all **elements** of the Word 2007 / ODT document (*HEADER, CAPTION, DATA, FOOTER*). You can customize style options, such as *font* and *size, background* and *foreground colors, text alignment,* text *highlight,* etc. for each of them by clicking the corresponding item in the list and setting the options in the right-side panel.

Use the **Font** and **Size** drop-down lists to select the *font* and *size* to be applied to the text.

Use the buttons below to set font color, make text bold, italicized, underlined, strikethrough text, specify horizontal align.

Background

Enables/disables background for text.

Press the 🅍 button to set the background color for the text.

Highlight

Enables/disables text highlight.

If this option is enabled, you should select the preferable highlight color from the dropdown list.

For your convenience the previews illustrating the changes are displayed in the **Sample Group** area within the *Base Styles* and the *Strip Styles* tabs.

Base Styles Strip Styles	Font The Calibri Size 11 Image: Size 12 Image: Size
Page orientation	Aa Zz
Portrait	Reset Item Reset All

Using the **Strip Styles** tab you can create a style template: set font, size, background color, text alignment, highlight options and save them.

To add a style template, click the **Plus** + button.

To delete a style template, select it and click the **Minus** – button.

To reorder style templates in the list, use the 📀 🔮 buttons.

To load a style template, click the 🏓 button.

To save the current style template, click the \square button.

If you have created or loaded more than one style template, they can be ignored, or used *column-by-column* or *row-by-row* (it depends on the **Strip type** selection).

Strip Styles Border	Font The Calibri Size 11 Image: Size 11 Image: Size Image: Size Image: Size Image: Si
_ Strip type	Aa Zz
None Col Row	Depart Ham Depart All
	Reset film Reset All

You can reset the changes any time using the **Reset Item** and the **Reset All** buttons.

Using the ${\bf Border}$ tab you can enable borders in the result Word 2007 / ODT document and customize them.

🗹 Use border

Enables/disables borders in the output file.

Press the button to set the color to be applied to the borders. Use the **Border Style** drop-down list to select the preferable style that will be used for borders (*single, thick, double, hairline,* etc.).

Strip Styles	Border	4 >
Use Bord	ler	
Border C	olor 🦉	<u>></u>
Border St	tyle	
DashLar	geGap	-

8.1.6 Setting common export options

Use this step of the wizard to set common export options. The detailed description of these options is given below.

📑 Export Data Wizard - [saki	la on doom_server]							
Data Wizard - Export Da	Data Wizard - Export Data							
Specify common export of	pptions							
	Constraints							
SQL Manager	Skip 0 v record(s) Image: Skip of the second secon							
for MySQL	Open files after export Print files after export							
<u>H</u> elp <u>T</u> emplates	▼ < <u>B</u> ack <u>N</u> ext >	Run Close						

Constraints

Export empty tables

If checked, you can export the table even if it does not contain any data.

Skip ... record(s)

Specifies the number of records to be skipped before export starts.

Export all records

Specifies that all records of the table will be exported.

Export only ... record(s)

Specifies the number of records to be exported.

Open files after export

If this option is checked, the result file will be opened with the currently associated program after the export operation is completed.

Print files after export

If this option is checked, the result file will be sent to the default printer after the export operation is completed.

When you are done, click the **Next** button to proceed to the <u>last step</u> of the wizard.

8.1.7 Exporting data

This step of the wizard is intended to inform you that all export options have been set, and you can start the export process.

The log area allows you to view the log of operations and errors (if any).

📑 Export Data Wizard - [sak	ila on doom_server]	- • •
Data Wizard - Export D	Data	
Click "Run" to start exp	ort process	
	Export finished successfully!	
PRA	Exported	1000
	Time	0:00:04
-00	Speed	232 rows/sec
SQL Manager for MySQL	Preparing to export the data Exporting data Export finished successfully! Skipped records: 0 Exported records: 1000	
Help Templates	s ▼ < <u>B</u> ack <u>N</u> ext > <u>R</u> un	Close

Close the Wizard after successful completion

If this option is selected, the wizard is closed automatically when the export process is completed.

If necessary, you can save a <u>template</u> for future use.

Click the **Run** button to run the export process.

After the operation is completed, you can view the number of *exported* records, elapsed *time*, estimated export *speed*, and the *log* of operations and errors (if any).

8.2 Import Data Wizard

Import Data Wizard allows you to import data to a <u>table</u> / <u>view</u> from any of supported formats (*MS Excel, MS Access, DBF, XML, TXT, CSV, HTML, MS Excel 2007, MS Word 2007*, *ODF*). You can save your settings as a <u>template</u> any time for future use.

To start the wizard, right-click the table/view in DB Explorer, select the Data

Manipulation | Timport Data... <u>context menu</u> item.

Alternatively, you can open the **Data** tab of <u>Table Editor</u> / <u>View Editor</u>, right-click the <u>grid</u> there, then select the **Data Manipulation** | **Theorem Data to <object_name>...** <u>context menu</u> item.



- <u>Setting source file name and format</u>
- <u>Selecting the source to import data from</u>
- Setting correspondence between the source and target columns
- <u>Adjusting common data formats</u>
- Setting advanced column formats
- <u>Setting import mode and data write type</u>
- <u>Customizing common import options</u>
- Importing data

Availability: Full version (for Yes Windows) Lite version (for No Windows) **Note:** To compare all features of the **Full** and the **Lite** versions of **SQL Manager**, refer to the <u>Feature Matrix</u> page.

See also: Export Data Wizard Export as SQL Script Save Data Wizard Load Data Wizard Using templates

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8.2.1 Selecting source file name and format

This step of the wizard allows you to select the source file format you need to import data from.

Source file name

Type in or use the 2 button to specify the path to the file using the **Open file...** dialog. The file name extension changes automatically according to the selected **Import Type**.

Import Data

Specify import format and source file name

<u>er</u>	Welcome to the Data Import Wizard! This wizard allows you to import data into table from most popular data formats, such as MS Excel, MS Access, DBF, XML and more. The wizard will guide you through the process of importing data into the table. Import Type					
	SOL	MS Excel	⊖txt	O MS Excel 97-2003		
Manager	MS Word	⊖ csv	O MS Access 97-2003			
	for MySQL	○ MS Access	○ HTML	OBF		
		 ODF Spreadsheets 	XML Generic			
		ODF Text	○ XML Datapacket			
		Source file name				
		D:\nb\Desktop\EMS_Import\i	test_import_files\mydoc.xlsx	ک		
		- CSV format parameters -				
		Delimiter ;	✓ Quote	" V		
Ŀ	<u>i</u> elp <u>T</u> emplates	•	< <u>B</u> ack	Next > Cancel		

Import Type

Specify the format of the source file. For details refer to Supported file formats.

CSV format parameters

For <u>CSV</u> import you should define **Delimiter** and **Quote** settings using the corresponding drop-down lists.

Click the **Next** button to proceed to the <u>Setting columns correspondence</u> step or to the <u>Selecting data source</u> step of the wizard if you have selected **MS Access** as the source file format.

8.2.2 Selecting data source

This step of the wizard is only available when you are importing data from *MS Access*. Select a **table** from the table list or input a **query** in the corresponding text boxes to specify the data source.

If you choose a query as the data source, you also can load a SQL query from a *.sql file or save the current query text to a file using the **Load from File...** and the **Save to File...** buttons correspondingly.

📑 Import Data Wizard	
Import Data	
Select MS Access ta	able or create SQL query for import
	I would like to import data from a table
	Film
e a constante a	
SQL	
for	I would like to import data from a SQL query
MySQL	
	Load From File
Help Templa	tes ▼ Cancel

Click the **Next** button to proceed to the <u>Setting fields correspondence</u> step of the wizard.

8.2.3 Setting fields correspondence

This step of the wizard allows you **to set correspondence** between columns of the source file and columns of the target MySQL table.

- <u>MS Excel</u>
- <u>MS Access</u>
- <u>DBF</u>
- XML Datapacket
- <u>TXT</u>
- <u>CSV</u>
- <u>HTML</u>
- XML Generic
- MS Excel/Word 2007, ODF

To get more information about the file formats, see the <u>Supported file formats</u> page.

8.2.3.1 Excel

Specify ranges in the grid for the target and source columns:

- select a column of the target MySQL table in the **Columns** list;
- proceed to the **Sheet** grid: click a column caption to select the whole column or click the row number to select the whole row;
- the selected column/row of the source file gets green highlight, and a new range indicating the source and target columns correspondence appears in the **Ranges** list;
- repeat the operation for all the columns you need to be included in the import process.

If the source Excel file and the destination MySQL table have the same order of columns or rows, you can use the **Auto Fill Cols** or the **Auto Fill Rows** buttons to set correspondence between them automatically.

If necessary, you can choose to **skip** a defined number of the source file columns and/or rows using the **Col(s)** and **Row(s)** spinner controls of the **Skip** group (e.g. if you need to exclude column headers from the imported data range).

🖹 Import Data Wizard						_		×
Import Data								
Set the correspondence b	etween source and target	t tab	le co	lumns				
Ē	Columns ^ film_id title release_year		I A She	Auto Fill Cols Auto Fill Rows et 1	X Clear R	r All Ro	p ((s) 0 w(s) 0	 <
SQL Manager for MySQL	Ranges	, + <	1 2 3 4 5 6 7 8 ≪	A film_id 1 2 3 4 5 6 7	B title ACADEMY ACE ADAPTATIO AFFAIR AFRICAN AGENT AIRPLANE	C release_ye 2006 2006 2006 2006 2006 2006 2006	D language_ 1 1 1 1 1 1 1 1 1 1	×
<u>H</u> elp <u>T</u> emplates	•			< <u>B</u> a	ck	<u>N</u> ext >	Cancel	

To clear ranges for a column, select the column in the **Columns** list and press the \times **Clear Ranges** button.

To clear all ranges specified for the target table columns, press the 🎇 Clear All button.

Right-click a range in the **Ranges** list to call its popup menu. Using the popup menu you

can add or edit ranges manually, remove them or change their order.



The **Range** dialog allows you to edit the data range for import manually.

Range Type

Use the drop-down list to select whether a *column*, a *row*, or a *cell* of the source Excel file will be mapped to the target table column.

Depending on the selected range type you should specify the column (e.g. B), the row (e. g. 2) or the cell (e.g. A2).

Start / Finish

These groups allow you to set the precise data range for import: select **Where data started** / **finished** or use the spinner control to specify the **start/finish row** (or **start/finish column**).

Direction

Use this group to select the direction for importing data of the specified range: *Down* or *Up*.

Sheet

Use this group to define whether the specified range will be taken from the **default** Excel sheet or from a **custom** sheet (select **sheet number** or **sheet name** using the corresponding drop-down lists).

Range	×
Range Type	
Col	▼ Col A ▼
Start	Finish
Where data started	Where data finished
Start Row 0 ▲	Finish Row 10
Direction	
Own	© Up
Sheet	
Default Sheet	
Custom Sheet	
Sheet Number	*
Sheet Name	Sheet 1
	OK Cancel

8.2.3.2 Access, DBF, XML

Set correspondence between the source MS Access columns and the target MySQL table columns:

- select a column of the target MySQL table in the **Destination Columns** list;
- select the corresponding column of the source MS Access table in the Source Columns list;
- click the + Add button to set correspondence between the selected columns;
- the pair of columns appears in the list below;
- repeat the operation for all the columns you need to be included in the import process.

Use the **Auto Fill** button to set correspondence between the source and target columns automatically on the basis of their order.

📑 Import Data Wizard		- 🗆 >	×
Import Data			
Set the correspondence	between source and target table	columns	
SQL Manager	Destination Columns	+ Add Source Columns Image: Source Columns Image: Ima	*
MySQL	Source Columns	Destination Columns	^
	title	= film_id = title	
	release_year	= release_year	
	language_id	= language_id	
	description original_language_id	 description original_language_id 	~
<u>H</u> elp <u>T</u> emplates	•	< <u>B</u> ack <u>N</u> ext > Cancel	

To remove a correspondence, select the pair of columns in the list below and press the **Remove** button.

To remove all correspondences, press the **X Clear** button.

8.2.3.3 TXT

Set correspondence between the source text file columns and the target MySQL table columns:

- select a column of the target MySQL table in the Columns list;
- double-click in the text viewer area to add vertical separators delimiting the source column bounds;
- click the area between the separators to assign the column to the selected target table column the selected source column gets black highlight;
- repeat the operation for all the columns you need to be included in the import process.

If necessary, you can choose to **skip** a defined number of the source file lines using the **Skip Lines** spinner control (e.g. if you need to exclude column headers from the imported data range).

📑 Import Data Wizard		- 🗆 ×
Import Data		
Set the correspondence b	between source and target table columns	
SQL Manager for MySQL	Columns P S S film_id 0 7 title 7 28 release_ye 35 13 language_i 48 12 description 60 128 original_lat 188 24 rental_dur: 212 16 rental_rate 228 12 length 240 7 replaceme 247 17 rating 264 7 Select the target column in the list, and then double-click in th separators, delimiting the source column bounds. Click between the section of the section	Skip Lines 0
Help Templates	 ▼< <u>B</u>ack 	Next > Cancel

To clear all correspondences, press the **X Clear** button.

Note: if you cannot see the content of the source text file properly, you should select the appropriate **Charset** to be used for processing data.

8.2.3.4 CSV

Set correspondence between the target table columns and the source CSV file columns:

- select a column of the target MySQL table in the Columns list;
- proceed to the source grid viewer area: click a caption to assign the column to the selected target table column;
- the selected column of the source file gets gray highlight;
- repeat the operation for all the columns you need to be included in the import process.

If the source CSV file and the destination MySQL table have the same order of columns, you can use the **Auto Fill** button to set correspondence between them automatically.

Note that the CSV delimiter is specified at the <u>Selecting source file name and format</u> step of the wizard.

The **Col(s)** control indicates the currently selected source file column. You can also use this spinner control for quick column selection.

If necessary, you can choose to **skip** a defined number of the source file rows using the **Row(s)** spinner control of the **Skip** group (e.g. if you need to exclude column headers from the imported data range).

📑 Im	🖺 Import Data Wizard — 🗆 🗙								
Imp	Import Data								
:	Set the correspondence b	etween source and target t	able columns						
		Columns	Auto Fi		ar All				
	200	film_id	Column	1	Skip Ro	w(s) (
		release_year	Column_1	Column_2	Column_3	Column_4	Colui 🔨		
	09	language_id	film_id	title	release_yea	language_id	desc		
	SQL	description	1	ACADEMY [2,006	1	A Ep		
	Manager	🔲 original_language_i	2	ACE GOLDF	2,006	1	A As		
	for	rental_duration	< 3	ADAPTATIO	2,006	1	A As		
	MySQL	rental_rate	4	AFFAIR PRE	2,006	1	A Fa		
		🔲 length	5	AFRICAN EG	2,006	1	A Fa		
		replacement_cost	6	AGENT TRU	2,006	1	A Int		
		rating	7	AIRPLANE S	2,006	1	A To 🧹		
		special_features	<				>		
		last_update	Charset	Unicode (U	FF-8)		~		
H	elp <u>T</u> emplates	•		< <u>B</u> ack	<u>N</u> ext >	Can	cel		

To remove a correspondence, select the field in the **Fields** list and press the **X Clear**

button.

Note: if you cannot see the content of the source text file properly, you should select the appropriate **Charset** to be used for processing data.

8.2.3.5 HTML

Set correspondence between the target table columns and the source HTML file columns:

- select a column of the target MySQL table in the Columns list;
- proceed to the source grid viewer area: select the Table from which you intend to import data and click a column to assign the column to the selected target table column;
- the selected column of the source file gets green highlight;
- repeat the operation for all the fields you need to be included in the import process.

If the source HTML file and the destination MySQL table have the same order of columns, you can use the **I** Auto Fill button to set correspondence between them automatically.

The **Col** control indicates the currently selected source file column. You can also use this spinner control for quick column selection.

If necessary, you can choose to **skip** a defined number of the source file rows using the **Row** spinner control of the **Skip** group (e.g. if you need to exclude column headers from the imported data range).

📑 İm	port Data Wizard				_	-	×
Imp	ort Data						
	Set the correspondence t	between source and target t	able columns				
		Columns	Auto Fi		ear 🍾	Clear All	
		ilm_id					•
		title	Table 1	~ Co	1 📼	Row	•
		release_year	film_id	title	release_yea	language_id	desc 🔺
	-03	language_id	1	ACADEMY [2,006	1	A Ep
	SQL	description	2	ACE GOLDF	2,006	1	A As
	Manager	original_language_i	3	ADAPTATIO	2,006	1	A As
	for	rental_duration	< <u>4</u>	AFFAIR PRE	2,006	1	A Fa
	MySQL	rental_rate	5	AFRICAN EG	2,006	1	A Fa
		length	6	AGENT TRU	2,006	1	A Int
		replacement_cost	7	AIRPLANE S	2,006	1	A To
		rating	8	AIRPORT PC	2,006	1	A Ep
		special_features	9	ALABAMA [2,006	1	A Th
		last_update	10	ALADDIN C/	2.006	1	A AC Y
							/
H	elp <u>T</u> emplates	•		< <u>B</u> ack	<u>N</u> ext >	Can	cel

To remove a correspondence, select the field in the **Fields** list and press the \times Clear button.

To remove all correspondences, press the **X** Clear All button.

8.2.3.6 XML Generic

In order to set mapping of a Generic XML document, you should enter the relative **XPath** (the path must be specified in the XPath format). Press the **Fill Grid** button to get the grid filled with text and attribute values of the selected node.

Note: if the source XML document contains huge amount of data, building the tree may take a long time.

Set correspondence between the source XML file columns and the target MySQL table columns:

- select a column of the target MySQL table in the Columns list;
- proceed to the source grid viewer area: click a column to assign the column to the selected target table column;
- the selected column of the source file gets gray highlight;
- repeat the operation for all the columns you need to be included in the import process.

You can use the **Auto Fill** button to set correspondence between the source and target columns automatically according to their order (mapping is started from the first attribute value in this case).

The **Col(s)** control indicates the currently selected source file column. You can also use this spinner control for quick column selection.

If necessary, you can choose to **skip** a defined number of the source file lines using the **Row(s)** spinner control of the **Skip** group (e.g. if you need to exclude node headers from the imported data range).

📑 Import Data Wizard						_		×
Import Data								
Set the correspondence between source and target table columns								
SQL Manager for MySQL	Columns film_id film_id release_year language_id description original_language_id rental_duration rental_rate		Skip XPatl filr 1 2 3	uto <u>F</u> ill	Col(s) 3 ACKET/ROWI title ACADEMY D ACE GOLDF ADAPTATIO	Clear Rown DATA/ROW release_yea 2 006 2 006	All (s) 0 Fill language 1 1	Grid
	 length replacement_cost rating special_features last_update 		4 5 6 7 8 <		AFFAIR PRE AFRICAN EG AGENT TRUI AIRPLANE S AIRPORT PC	2 006 2 006 2 006 2 006 2 006	1 1 1 1 1	· · · · · · · · · · · · · · · · · · ·
Help Templates	•			< <u>E</u>	Back	<u>N</u> ext >	Cano	:el

To remove a correspondence, select the field in the **Fields** list and press the \ref{select} Clear button.

To remove all correspondences, press the **X Clear All** button.

8.2.3.7 MS Excel/Word 2007, ODF

Specify ranges in the grid for the target and source columns:

- select a column of the target MySQL table in the **Columns** list;
- proceed to the **Sheet** grid: click a column to assign the column to the selected target table column;
- the selected column of the source file gets green highlight;
- repeat the operation for all the columns you need to be included in the import process.

If the source file and the destination MySQL table have the same order of columns, you can use the **Auto Fill** button to set correspondence between them automatically.

The **Col** control indicates the currently selected source file column. You can also use this control for quick column selection.

If necessary, you can choose to **skip** a defined number of the source file rows using the **Skip** spinner control (e.g. if you need to exclude column headers from the imported data range).

🖹 Import Data Wizard		– 🗆 X							
Import Data									
Set the correspondence between source and target table columns									
SQL Manager for MysQL	Columns film_id title release_year language_id description original_language_i rental_duration rental_rate length replacement_cost rating special_features last_update	Auto Fill Clear Clear All Col A Skip 0 sheet1 film_id title release_yea language_id det film_id title release_yea language_id det ^ 1 ACADEMY [2006 1 A E 2 ACE GOLDF 2006 1 A / 3 ADAPTATIO 2006 1 A / 4 AFFAIR PRE 2006 1 A / 5 AFRICAN EC 2006 1 A F 6 AGENT TRU 2006 1 A I 7 AIRPLANE S 2006 1 A E 4 AIRPORT PC 2006 1 A E							
Help Templates ▼ Cancel									

To remove a correspondence, select the column in the **Columns** list and press the \times **Clear** button.

To remove all correspondences, press the **X** Clear All button.
8.2.4 Adjusting data formats

This step of the wizard provides a number of options for setting common formats for all imported data:

Date & Time formats: Short date, Long date, Short time, Long time;
Separators: Decimal, Thousand, Date, Time;
Boolean True (specify the text that will be displayed for the boolean TRUE values);
Boolean False (specify the text that will be displayed for the boolean FALSE values);
NULL values (specify the text that will be displayed for the NULL values).

📑 Import Data Wizard						
Import Data						
Adjust common data forn	nats for import					
	Date & Time form Short date	dd.MM			Separators Decimal	,
e a company	Long date	d MMN	1М уууу 'г.'		Thousand	#160
	Short time	h:mm		_	Date	Ŀ
SQL	Long time	h:mm:s	S		Time	
Manager	Boolean True		Boolean False	Null	Values	
for MySQL	True		False	Nul	1	
Help <u>T</u> emplates			< <u>B</u> ack	<u>N</u> ext	> Ca	ancel

For more information refer to the Format specifiers page.

Click the **Next** button to proceed to the <u>Setting advanced column formats</u> step of the wizard.

8.2.5 Setting advanced field formats

This step of the wizard allows you to set **formats** each column separately.

Select a column in the list and adjust **format options** that will be applied to this column only.

📑 Import Data Wizard		– 🗆 X
Import Data Set format for import colu	mns	
SQL Manager for MySQL	Column Name film_id title release_year language_id description original_language_ rental_duration rental_rate length	Formats Generator value 0 • Constant value 0 • Null value Default value Left quotation Right quotation Quotation action As Is Character case As Is Replacements Image: Constant step
Help Templates	rating special_features last_update	Text to find Replace with Ignore case + Image: Second seco

Specify **Generator value** and **Generator step** for incremental data generation into the specified column, or enter a **Constant value** which will be set for all records in the column.

Specify the **NULL value** which will be used for the records where the value is NULL.

If necessary, specify the **default value**.

Use the **Left** / **Right quotation** edit boxes to specify left/right quotation marks. Use the **Quotation action** drop-down list to select whether the quotation marks should be *added*, *removed*, or left '*As is*'.

Use the **Character case** drop-down list to select the case that will be used for string values of the column: *Upper, Lower, UpperFirst, UpperFirstWord,* or 'As is'.

Use the **Character set** drop-down list to select which charset will be used for string data in the column: *ANSI*, *OEM*, or *As is*.

The **Replacements** area allows you to set the text you need to be replaced during data import into the selected column. Press the **Plus** + button to specify a new replacement options using the **Add Replacement** dialog.

Add Replaceme	nt 💽
Text to find	1-866-SQL-4-YOU
Replace with	1-866-775-4968
Ignore case	

To edit a replacement, click the **Edit** button. To remove a replacement, click the **Minus** – button.

When you are done, click the **Next** button to proceed to the <u>Setting import mode</u> step of the wizard.

8.2.6 Setting import mode

This step of the wizard allows you to define the records processing mode as *Insert All*, *Insert New*, *Update*, *Update or Insert*, *Delete*, *Delete or Insert* mode:

- **Insert all**: all records from the source file are inserted into the tables irrespective of whether any records exist in the destination table or not
- **Insert new**: already existing records are skipped, and new records are inserted into the destination table
- Update: all existing records are updated from the source file
- **Update or insert**: already existing records are updated and new records are inserted into the destination table
- **Delete**: already existing records are deleted
- **Delete or insert**: existing records are deleted and new records are inserted into the destination table

📑 Import Data Wizard			
Import Data			
Select key columns for pr	ocessing records (except the	"Insert all" mode)	
SQL Manager for MysQL	Import mode Insert all Insert new Import type Single commands Key columns Key columns ititle release_year language_id original_language_id rental_duration 	Update Update or insert Universal mode Selecte Film Film Film	 Delete Delete or insert Batch insert
Help Templates		< <u>B</u> ack	Next > Cancel

Here is an **example** of some import modes offered by Import Data Wizard:

All import modes (except for the **Insert All** mode) are based on key values information. In order to perform import operations with these modes used, you need to have matches between the source file key column(s) and the destination table key column(s). For example, your source file contains three rows with the key values 1, 2, 3, and your destination table contains three rows with the key values 1, 2, 4.

Destination table

Source file data

:	ID 💌	DATA 👻
۶		а
	2	b
	4	f

	А	В
1	1	с
2	2	d
3	3	e

If you use the **Insert new** import mode, in this case only the row with key value 3 will be inserted into the destination table.

If you use the **Update** import mode, then the rows with key values 1, 2 will be updated. If you use the **Update or insert** import mode, then rows 1, 2 will be updated and the row with key value 3 will be inserted.

It is applied to all other import modes, except for the **Insert all** mode. For all these modes (except for the **Insert all** mode) it is obligatory to select the primary key columns. This column (or columns) is used as key column to identify specific data in the target database.

]	Inse	rt ne	ew.	Up	date			U in	pdate o Isert	or		De	elete			Dele	te or insert
	≣ ID	-	DATA 💌	≣∎	D 💌	DATA	•	:≣	ID 💌	DATA	-	:	ID 🔽	DATA	-	∃ ID	V DATA V
	₽	1	а	₽	1	с		۶	1	с		€		4 f		₽	3 e
		2	b		2	d			2	d							4 f
		3	е		4	f			3	e							
		4	f						4	f							

The key columns for these operations are defined in the **Key columns** area.

Single commands / Universal mode / Batch insert type

The *Single commands* import mode is performed with the Single Commands method used and serves to generate and execute single SQL commands on the server, whereas the *Batch insert* mode uses native MySQL commands to import a data set as a batch. With the help of the *Single commands* import mode your data can be imported considerably faster as compared to the *Universal* mode which is used for backward compatibility.

Use **Import mode** to select whether to insert all records, or to update/delete existing ones. Note that for updating/deleting existing records in the target table you should move its key columns from the **Available columns** list to the **Selected columns** list.

The **Key columns** area allows you to select the columns of the table to be used as the key columns for the import process.

To select a column, you need to move it from the **Available columns** list to the **Selected columns** list. Use the **Selected columns** list. Use the **Selected columns** list to another.

When you are done, click the **Next** button to proceed to the <u>Customizing common options</u> step of the wizard.

8.2.7 Customizing common options

Use this step of the wizard to set common import options. The detailed description of these options is given below.

📑 Import Data Wizard	
Import Data	
Customize common impor	t options
SQL Manager for MySQL	Commit Commit when done Commit after each block Commit changes manually Block size 100 Record count Import all records Import only C Trecord(s)
Help Templates	▼ < <u>B</u> ack <u>N</u> ext > Cancel

Commit

Commit when done

Commits the transaction when all records are imported.

Commit after each block

Inserts the *COMMIT* statement after a defined number of records.

Commit changes manually

Select this option if you intend to commit the transaction manually.

Block size

Use the spinner control to define the number of records in each committed block.

Record count

Import all records

Specifies that all records of the source file will be imported.

Import only ... record(s)
Specifies the number of records to be imported.

When you are done, click the **Next** button to proceed to the <u>last step</u> of the wizard.

8.2.8 Importing data

This step of the wizard is intended to inform you that all import options have been set, and you can start the import process.

The log area allows you to view the log of operations and errors (if any).

📑 Imp	oort Data Wizard				- • •
Imp	ort Data				
	Click the Run button to st	art Import process			
			Click Run to star	rt import process	
	-	Processed:			0
		Inserted	0	Updated	0
		Deleted	0	Errors	0
	SQL	Commited	0	Time	0
	Manager		0	%	
	MySQL				
				-l-F	
		Close the wizard after	er successtul com	pieuon	
E	telp <u>T</u> emplates	•	< <u>B</u>	ack <u>R</u> ur	Cancel

Close the Wizard after successful completion

If this option is selected, the wizard is closed automatically when the import process is completed.

If necessary, you can save a <u>template</u> for future use.

Click the **Run** button to run the import process.

After the operation is completed, you can view the total number of *processed* records, the number of *inserted/updated/deleted* records, the number of *committed* records, the number of *errors*, elapsed *time*, and the *log* of operations and errors (if any).

8.3 Export as SQL Script

Export as SQL Script Wizard allows you to export data from a <u>table</u> / <u>view</u> or from a query result to SQL script as a number of INSERT statements. You can save your settings as a <u>template</u> any time for future use.

To start the wizard, right-click the object in <u>DB Explorer</u>, select the **Data Manipulation** | **Export Data as SQL Script...**cont<u>ext menu</u> item.

Alternatively, you can open the **Data** tab of <u>Table Editor</u> / <u>View Editor</u> or the **Result(s)** tab of <u>SQL Editor</u> / <u>Query Builder</u>, right-click the <u>grid</u> there, then select the **Data Manipulation** | **Export <object_name> as SQL Script...** <u>context menu</u> item.



- <u>Selecting destination DBMS</u>
- Setting destination file name
- <u>Setting BLOB options</u>
- <u>Selecting columns to export</u>
- <u>Setting export options</u>
- Editing result SQL script
- Exporting as SQL Script

Availability: Full version (for Yes Windows) Lite version (for No Windows) Note: To compare all features of the Full and the Lite versions of SQL Manager, refer to the Feature Matrix page.

See also: Export Data Wizard Import Data Wizard Save Data Wizard Load Data Wizard Using templates

8.3.1 Selecting destination DBMS

This step of the wizard allows you to define the **destination server** you need to export data for. The result script will be generated in compliance with the specifications of the selected DBMS:

DB2

- InterBase/Firebird
- Microsoft® SQL Server
- MySQL
- 🖲 Oracle
- PostgreSQL

📑 Export as SQL Script Wizar	d - [sakila on doom_server]
Export as SQL Script	
Choose type of destinatio	n server
SQL Manager	Welcome to the Export as SQL Script! This wizard allows you to get a complete data dump of the table or query result in a file as a set of "INSERT" statements. The wizard will guide you through the process of creating the result SQL script file. Destination server DB2
for MySQL	 InterBase/Firebird MS SQL MySQL Oracle PostgreSQL
Help <u>T</u> emplates	▼ < <u>Back</u> <u>Next</u> > Cancel

Add CREATE TABLE statement

Check this option to add the CREATE TABLE statement to the result script.

Click the **Next** button to proceed to the <u>Setting destination file name</u> step of the wizard.

8.3.2 Setting destination file name

Specify whether the result script will be loaded to <u>SQL Script Editor</u> or saved to a file.

File name

Type in or use the \blacksquare button to specify the path to the file and the file name.

If necessary, select the **File charset** using the corresponding drop-down list.

Enter the **Table name** and the **Schema name** to be included in the result SQL script. Schema name should only be specified for the DBMS in which this object is implemented.

Export as SQL Script Wizard	l - [sakila on doom_	server]	
Export as SQL Script			
Specify the script destinat	ion and the table nam	e	
SQL Manager	Script destination Automatically I Save to file File name File charset	oad to <u>S</u> cript Editor C:\EMS\SQL Manager for MySQL\Data\fi Database default	ilm.sql
for MySQL Help Templates	Table name (as it w film	ill be represented in the SQL script file)	Cancel

Click the **Next** button to proceed to the <u>Setting BLOB options</u> step of the wizard.

8.3.3 Setting BLOB options

BLOB options

In this group of options you can determine whether BLOB columns are *not to be extracted*, *extracted as strings*, or *extracted into a separate file* (available for *DB2*, *InterBase/Firebird*, *MS SQL*, *Oracle* <u>destination servers</u>). If the latter is selected, you also need to specify the **File name** (the *.*blo* file where the BLOB data will be stored) and the location of the file on your local machine using the

📲 Export as SQL Script Wizard	- [sakila on doom_server]
Export as SQL Script	
Select BLOB fields extracti	on method
Contraction of the second seco	BLOB and arrays options Don't extract BLOB fields Extract BLOB fields as strings (not recommended) Extract BLOB fields into file File name C:\Users\tio\Documents\SQL Manager for MySQL\Export. Compress file Compression None
Help Templates	▼ < <u>B</u> ack <u>N</u> ext > Cancel

Note: If you choose to save BLOB columns in a file then afterwards this data can be restored only by using the SQL Manager for MySQL <u>SQL Script</u> tool.

Compress file

Check this option if you wish to compress the file containing BLOB data.

Compression

Define the desired compression level to be applied for the file: *None*, *Fastest*, *Default*, *Best*.

Click the **Next** button to proceed to the <u>Selecting columns to export</u> step of the wizard.

8.3.4 Selecting columns to export

This step of the wizard allows you to select the table column(s) to be exported to SQL script.

To select a column, you need to move it from the **Available Columns** list to the **Selected Columns** list. Use the **Selected Columns** list. Use the **Selected Columns** list to another.

Export as SQL Script Wiz	ard - [sakila on my_9.0]		– 🗆 X
Export as SQL Script Select columns to expor	t		
SQL Manager for MySQL	Available columns I last_update	» > <	Selected columns if film_id if title irelease_year ilanguage_id idescription ioriginal_language_id irental_duration irental_rate ilength ireplacement_cost irating ispecial_features
<u>H</u> elp <u>T</u> emplates	•	< <u>B</u> ac	k <u>N</u> ext > Cancel

Click the **Next** button to proceed to the <u>Setting export options</u> step of the wizard.

8.3.5 Setting export options

Specify common export options according to your needs.

If necessary, you can choose to **replace non-print characters in strings with spaces**.

Quote identifiers

Check this option to apply quoting for identifiers in the destination file.

Records in block

Use the spinner control to define the number of records in each committed block.

Insert COMMIT after each block

Check this option to add the *COMMIT* statement after a defined number of records.

Export as SQL Script Wizard	I - [sakila on doom_server]
Export as SQL Script	
Set export options	
SQL Manager for MySQL	 Replace non-print characters in strings with spaces Quote identifiers Data options Records in a block 500 - Insert COMMIT after each block
<u>H</u> elp <u>T</u> emplates	▼ < <u>Back</u> <u>N</u> ext > Cancel

Click the **Next** button to proceed to <u>Exporting as SQL Script</u>.

If the **Add CREATE TABLE statement** option is enabled in the <u>first step</u> you will be taken to the <u>Editing result SQL script</u>.

8.3.6 Editing result SQL script

At this step you can view/edit result script in <u>SQL Editor</u>. This step is available only when the **Add CREATE TABLE statement** option is enabled in the <u>first step</u>.

📲 Export as SQL Script Wizard - [sakila on doom_server]			
Export as SQL Script			
Edit the table definition			
SQL Manager for MysqL	<pre>CREATE TABLE [film] ([film_id] <u>INT</u>, [title] NVARCHAR(100), [release_year] <u>INT</u>, [language_id] <u>INT</u>, [original_language_id] <u>INT</u>, [rental_duration] <u>INT</u>, [rental_rate] <u>FLOAT</u>, [length] <u>INT</u>, [replacement_cost] <u>FLOAT</u>, [rating] NVARCHAR(5), [special_features] NVARCHAR(63), [description] NTEXT) GO </pre>		
Help Templates	▼ < <u>B</u> ack <u>N</u> ext >	Cancel	

Press the **Next** button to proceed to the <u>final step</u>.

8.3.7 Exporting as SQL Script

This step of the wizard is intended to inform you that all export options have been set, and you can start the export as SQL script process.

The **Operations** tab allows you to view the log of operations and errors (if any).

Export as SQL Script Wizard - [sakila on doom_server]			
Export as SQL Script			
Click the Run button			
	Process completed successfully!		
	100 %		
SQL Manager for MySQL	======================================		
	Load generated script into Script Editor Close the Wizard after successful completion		
Help Templates Close			

IDENTIFY and Seript Editor

Check this option to load the result script to <u>SQL Script Editor</u>.

Close the Wizard after successful completion

If this option is selected, the wizard is closed automatically when the export process is completed.

If necessary, you can save a <u>template</u> for future use.

Click the **Run** button to run the export as SQL script process.

8.4 Save Data Wizard

Save Data Wizard allows you to use the *SELECT* ... *INTO OUTFILE* MySQL statement to get a dump of a <u>table</u> at a very high speed. The file must be accessible to the server and the name must be specified from the viewpoint of the server. You can save your settings as a <u>template</u> any time for future use.

To start the wizard, right-click the table in <u>DB Explorer</u>, select the **Data Manipulation** | **Save Data to File on Server...** context menu item.

Alternatively, you can open the **Data** tab of <u>Table Editor</u> / <u>View Editor</u> or the **Result(s)** tab of <u>SQL Editor</u> / <u>Query Builder</u>, right-click the <u>grid</u> there, then select the **Data Manipulation** | **Save Data to File on Server...** <u>context menu</u> item.



- Setting destination file name
- <u>Selecting columns for saving data</u>
- <u>Specifying data format parameters</u>
- <u>Saving data</u>

Availability: Full version (for Yes Windows) Lite version (for No Windows) Note: To compare all feature

Note: To compare all features of the **Full** and the **Lite** versions of **SQL Manager**, refer to the <u>Feature Matrix</u> page.

See also:

Export Data Wizard Import Data Wizard Export as SQL Script Load Data Wizard Using templates

8.4.1 Setting destination file name

This step of the wizard allows you to specify the destination data file name to which data will be saved. Define file name and path to it on server.

📲 Save Data Wizard - [sakila on doom_server]			
Save Data			
Select data file name			
SQL Manager for MySQL	Welcome to the Save Data Wizard! This wizard allows you to save data to a file on the server host. This wizard will save data using the MySQL "SELECT INTO OUTFILE" command, which will let you get a dump of a table on the server machine quickly. Save Data Wizard complements Load Data Wizard which uses the MySQL "LOAD DATA INFILE" command. The wizard will guide you through the process of specifying all needed parameters for the MySQL "SELECT INTO OUTFILE" command		
	Data file name film Note: Any file created by INTO OUTFILE is writable by all users on the server host. The reason for this is that the MySQL server can't create a file that is owned by anyone other than the user it's running as (you should never run mysqld as root).		
Help Templates	▼ < <u>Back</u> <u>Next</u> > Cancel		

Data file name

Specify the destination file on the server host to save data. If necessary, use the dropdown list to select a previously specified value.

Click the **Next** button to proceed to the <u>Selecting columns for saving</u> step of the wizard.

8.4.2 Selecting columns for saving

This step of the wizard allows you to select the table column(s) from which the data should be saved.

To select a column, you need to move it from the **Available Columns** list to the **Selected Columns** list. Use the **Selected Columns** list. Use the **Selected Columns** from one list to another.

📑 Save Data Wizard - [sakila	on doom_server]	
Save Data Select columns to save		
SQL Manager for MySQL	Available Fields	Included Fields film_id ittle release_year language_id original_language_id rental_duration rental_rate length replacement_cost rating special_features description
Help Templates		< <u>B</u> ack <u>N</u> ext > Cancel

Click the **Next** button to proceed to the <u>Specifying data format parameters</u> step of the wizard.

8.4.3 Specifying data format parameters

Define parameters for writing data to the destination file according to the description below.

Save Data Wizard - [sakila on doom_server]		- • •		
Save Data				
Select processing param	neters			
SQL Manager for MysQL	Fields terminated by Fields enclosed by Optionally Fields escaped by Lines starting by Lines terminated by	\t \\ \n		
Help Templates	•	< <u>B</u> ack <u>N</u> ext >	Cancel	

Fields terminated by

Defines the character used for delimiting the field values in the destination file.

Fields enclosed by

Defines the character that will be used for quoting the field values in the destination file.

Optionally

If this option is selected, the *Fields enclosed by* character is used only to enclose values from columns that have a string data type (such as *CHAR*, *BINARY*, *TEXT*, or *ENUM*).

Fields escaped by

Controls how to write special characters. If the character is not empty, it is used as a prefix that precedes *Fields enclosed by*, *Fields terminated by*, *Lines terminated by* characters on output.

Lines starting by

Defines the characters that will be used for inserting before every string in the destination file.

Lines terminated by

Defines the characters that will be used for delimiting strings in the destination file.

Click the **Next** button to proceed to <u>Saving data</u>.

8.4.4 Saving data

This step of the wizard is intended to inform you that all Save Data options have been set, and you can start the saving data process itself.

The **Operations** tab allows you to view the log of operations and errors (if any).

Save Data Wizard - [sakila on doom_server]				
Save Data				
Click "Run" to start data s	aving			
	End of operation!			
200	100 %			
SQL Manager for MySQL	======================================			
	Close the Wizard after successful completion			
Help Templates V Close Close				

Close the Wizard after successful completion

If this option is selected, the wizard is closed automatically when the saving data process is completed.

If necessary, you can save a <u>template</u> for future use.

Click the **Run** button to run the saving data process.

8.5 Load Data Wizard

Load Data Wizard allows you to use the *LOAD DATA INFILE* native MySQL statement to read rows from a text file to a <u>table</u> at a very high speed. This command copies data from a file to a table, appending the data to whatever is in the table already. The file must be accessible to the server and the name must be specified from the viewpoint of the server. You can save your settings as a <u>template</u> any time for future use.

To start the wizard, right-click the table in <u>DB Explorer</u>, select the **Data Manipulation** | **Load Data...** context menu item.

Alternatively, you can open the **Data** tab of <u>Table Editor</u> / <u>View Editor</u>, right-click the <u>grid</u> there, then select the **Data Manipulation** | **Load Data...** <u>context menu</u> item.



- Setting source file name
- <u>Selecting processing parameters</u>
- Selecting columns for loading data
- <u>Specifying data format parameters</u>
- Loading data

Availability: Full version (for Yes Windows) Lite version (for No Windows) Note: To compare all features of the Full and the Lite versions of SQL Manager, refer to the Feature Matrix page.

See also:

Export Data Wizard Import Data Wizard Export as SQL Script Save Data Wizard Using templates

8.5.1 Setting source file name

This step of the wizard allows you to specify the source data file from which data will be loaded. Define file name and location.

🖹 Load Data Wizard. Table name - [film]			- • •		
Load Data					
Select data file name and	location				
SQL Manager for MysQL	Welcome to the Load Data V This wizard allows you to load This wizard will load data us INFILE" command, which is statements. Load Data Wizard complement INTO OUTFILE" command. specifying all needed.	Vizard! ad data into existing table from text i ing MySQL "LOAD DATA INFILE" (approximately 20 times faster than ents Save Data Wizard which uses The wizard will guide you through t	file or XML. or "LOAD XML using a lot of INSERT MySQL "SELECT he process of		
	Data file name Data file location On server On client	C:\EMS\SQL Manager for MySQ	L\Data\film.txt 🔊		
Help Templates	V	< <u>B</u> ack <u>N</u> ext	> Cancel		

Data file name

Type in or use the \bigcirc button to specify the path to the source *.txt or *.xml file.

Data file location

Specify where the source file is located:
On the server
On the client

Click the **Next** button to proceed to the <u>Selecting processing parameters</u> step of the wizard.

8.5.2 Selecting processing parameters

Define options for the LOAD DATA command. The description of these options is given below.

🖹 Load Data Wizard. Table name - [film]		
Load Data		
Select processing parame	ters	
3	Loading priority Not specified Low priority Concurrent	
SQL Manager for MySQL	Duplicate key values Default processing Replace Ignore 	
<u>H</u> elp <u>T</u> emplates	•	< Back Next > Cancel

Loading priority

Low priority

Delays loading data until no other clients are reading from the table.

Concurrent

Allows other threads to retrieve the data from the table while loading data is executed.

Duplicate key values

Replace

Replaces the existing rows with the new rows that have the same unique key value. Ignore

Skips the input rows that duplicate an existing row on a unique key value.

Note: If you specify neither **Replace** nor **Ignore** option, an error occurs when a duplicate key value is found, and the rest of the text file is ignored.

Click the **Next** button to proceed to the <u>Selecting columns for loading</u> step of the wizard.

8.5.3 Selecting columns for loading

This step of the wizard allows you to select the table column(s) to be loaded into the table.

To select a column, you need to move it from the **Available Columns** list to the **Selected Columns** list. Use the **Selected Columns** list. Use the **Selected Columns** from one list to another.

🗟 Load Data Wizard. Table name - [film]	
Load Data	
Select columns to load	
Available Fields I last_update Available Fields Available Field	Included Fields film_id title release_year language_id original_language_id rental_duration rental_rate length replacement_cost rating special_features description
<u>H</u> elp <u>T</u> emplates	< Back Next > Cancel

Click the **Next** button to proceed to the <u>Specifying data format parameters</u> step of the wizard.

8.5.4 Specifying data format parameters

Define parameters for reading data from the source file according to the description below.

😤 Load Data Wizard. Table n	ame - [film] 📃 🔲 💌	3
Load Data		
Specify data format paran	neters	
	General Options Set Expression	
SQL Manager for MysQL	Ignore lines count 0 Character set Image: Character set Fields terminated by Image: Character set Fields enclosed by Image: Character set Image: Comparison of the set of	3
<u>H</u> elp <u>T</u> emplates	 < <u>B</u>ack <u>N</u>ext > Cancel 	

Fields terminated by

Defines the character used for delimiting the field values in the source file.

Fields enclosed by

Defines the character used for quoting the field values in the source file.

Optionally

If this option is selected, the *Fields enclosed by* character is used only to enclose values from columns that have a string data type (such as *CHAR*, *BINARY*, *TEXT*, or *ENUM*).

Fields escaped by

Controls how to read special characters. If the character is not empty, it is used as a prefix that precedes *Fields enclosed by*, *Fields terminated by*, *Lines terminated by* characters on output.

Lines terminated by

Defines the character used for delimiting strings in the source file.

Ignore lines count

Specifies the number of first lines in the source file that are not loaded.

Click the **Next** button to proceed to <u>Loading data</u>.

8.5.5 Loading data

This step of the wizard is intended to inform you that all Load Data options have been set, and you can start the loading data process itself.

The **Operations** tab allows you to view the log of operations and errors (if any).

📑 Load Data Wizard. Table name - [film]		- • •
Load Data		
Click "Run" to start data loading		
	Click "Run" to load data.	
200	0 %	
SQL Manager for MySQL		
Help Templates	Close the Wizard after successful completion < Back	Cancel

Close the Wizard after successful completion

If this option is selected, the wizard is closed automatically when the loading data process is completed.

If necessary, you can save a <u>template</u> for future use.

Click the **Run** button to run the loading data process.

8.6 Export as PHP wizard

Export as PHP Wizard creates PHP script allowing to connect to database, to display data of a table, and provides forms and procedures for editing and deleting data.

Export is allowed in editors with **Data** or **Results** tab. These are: <u>Table Editor</u>, <u>View Editor</u>, <u>SQL Editor</u> and <u>Visual Query Builder</u>.

This tool can be accessed with **Export as PHP page** item of the **Data Manipulation** group of navigation bar of data view tabs. The wizard can also be launched from table and view context menus in the <u>DB Explorer</u> tree.



- Specifying destination file
- <u>Selecting columns to export</u>
- <u>Adjusting formats for exported columns</u>
- Defining headers and footers of the result file
- <u>Performing operation</u>

Availability: Full version (for Yes Windows) Lite version (for No Windows) Note: To compare all features of the Full and the Lite versions of SQL Manager, refer to the Feature Matrix page.

See also:

Specifying destination file Selecting columns to export Adjusting formats for exported fields Defining headers and footers of the result file Performing operation Using templates

8.6.1 Specifying destination file

Use this step to define **Destination file name** in the respective field.



Press the **Next** button to proceed to the <u>Selecting fields to export</u> step.
8.6.2 Selecting columns to export

At this step you need to select table/view columns to export.

The **Available Columns** list contains complete list of the selected table/view columns. Use the navigation buttons to move the required columns to the **Included Columns** list. If no columns are selected, all columns will be exported by default.

Export as PHP Page Wizar	Export as PHP Page Wizard - X					
Export as PHP Page						
Select columns for export	ing.					
	<u>C</u> olumns for exporting Available Columns]	Included Columns			
SQL Manager for MySQL	Iast_update	» > <	film_id title release_year language_id description original_language rental_duration rental_rate length replacement_cost rating special_features	_id		
Help Templates	•	< <u>B</u> ack	k <u>N</u> ext >	Can	cel	

Press the **Next** button to proceed to the <u>Adjusting formats for exported columns</u> step.

8.6.3 Adjusting formats for exported columns

Use this step to define parameters of the result PHP file.

PHP Options tab

Records per page

Specify maximum number of records displayed at one page.

Page range

Pagination parameter. Defines the number of pages for which direct hyperlinks will be available in navigation area.

Show page navigation

Define the location of the navigation elements:

On top and bottom,
On top only,
On bottom only,
Never.

🖳 Export as PHP Page Wizard	d	- • -		
Export as PHP Page				
Adjust formats for exporte	ed fields if necessary			
SQL Manager for MysQL	PHP Options Security Preview Localization Records per page 200 - T Page range 10 - I Show page navigation I I Image On top and bottom Image On top only Image On bottom only Image On bottom only Image On bottom only Image On bottom only	able functions Viewing records Adding records Editing records Deleting records		
Help Templates ✓ Cancel				

Table functions

Section contains the number of options. Check required options to implement respective function to generated form.

Security tab

At this tab you need to specify authorization parameters to connect to database via PHP script.

PHP Options	Security	Preview	Localization		
Security options No security Use MySQL server authorization Use PHP Page authorization					
Connection	to Databas	e			
Login	re	oot			
Password	**	•••••			
PHP Page	Authorizatio	n			
Login					
Password					
Confirm pa	ssword				

Security options

No security - MySQL authorization parameters (Login and Password), specified in the Connection to database section, are stored in the script.

• Use MySQL server authorization - MySQL authorization dialog is prompted on script execution.

• Use PHP Page authorization - To access the generating PHP page it is also necessary to specify the authorization parameters such as *Login* and *Password* in the *PHP Page Authorization* section. MySQL authorization parameters (*Login* and *Password*), specified in the *Connection to database* section, are stored in the script.

Preview tab

This tab allows you to manage visual settings of the page that will be generated by script.

Template

You can apply an existing template from the drop-down list. Table on the left will change according to the template settings applied.

PHP Options	Security	Preview	Loc	alization	
Default text Template					Template
Num	N	ame		Age	Plain 💌
1	John		34		
2	Marce	lla	27		Save template
3	Alex		25		Load template
4	Julia		48		
Non-visite	ed link	Visited li	nk	Active link	

You can customize visual scheme manually. Simply click an element on the table and pick the needed color from palette.

Optionally you can save your own settings to a template for future use.

To save/load template use the respective buttons on the right.

Localization tab

PHP Options Security	Preview Localization		
Name	Value		
Add record	Add record		
Delete record hint	Delete record		
Delete record	Delete record		
Delete row question	Do you really want to delete row?		
Edit record hint	Edit record		
Edit record	Edit record		
Index page	Index Page		
Login/Password Invalid	Sorry, the login/password combination you've entered is		
Logout	[Logout]		
Next record	Next Record		
Next	Next		
Post	Post		
Prev	Prev		
Prior record	Prior Record		
View record hint	View record		

Use this tab to edit names of the elements on the generated page.

Click the **Next** button to proceed to the <u>Defining headers and footers of the result file</u> step.

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8.6.4 Defining headers and footers of the result file

Use this step to define *Header* and *Footer* for the generated page.



Press the **Next** button to proceed to the <u>final step</u>.

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8.6.5 **Performing operation**

This step of the wizard is intended to inform you that all options have been set, and you can start exporting table to PHP.

The **Operations** tab allows you to view the log of operations and errors (if any).

🕂 Export as PHP Page Wizard	
Export as PHP Page	
Click "Run" to start expor	t process
	Process completed successfully!
SQL Manager for MySQL	IUU % ====== START OF LOG ====== Preparing Completed Exporting data Completed ======= END OF LOG ======
Help Templates	▼ < <u>Back</u> <u>R</u> un Close

Close the Wizard after successful completion

If this option is selected, the wizard is closed automatically when the loading data process is completed.

Click the **Run** button to run export process.



9 Database Tools

SQL Manager for MySQL provides a number of powerful tools that allow you to perform various operations over your databases.

- <u>Common DB Tools</u>
- Specific DB Tools

See also:

Getting Started Database Explorer Database Management Database Objects Management Query Management Tools Data Management Import/Export Tools Server Tools Personalization External Tools How To...

9.1 Common DB Tools

The following *common database tools* are available in **SQL Manager for MySQL**:

Dependency Tree

Allows you to view all the object dependencies in one diagram.

<u>Visual Database Designer</u>

Allows you to lay out your database schema visually.

SQL Script Editor

Executes SQL scripts in the database.

Extract Database Wizard

Extracts the table metadata and/or data to an SQL script which can be executed later on another machine to restore the database structure and/or data.

Print Metadata

Creates powerful metadata reports in the WYSIWYG mode ready for printing.

HTML Report

Creates powerful metadata reports in the HTML format.

<u>Reports management</u>

Tools for efficient management of reports: creating, editing, viewing, printing.

SQL Monitor

Displays all the SQL statements executed while working in SQL Manager for MySQL.

<u>Search in Metadata</u>

Helps you to search eithin database metadata.

Using templates

Facilitates using **SQL Manager** wizards.

See also:

Specific database tools

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9.1.1 Dependency Tree

The **Dependency Tree** tool allows you to view all the object dependencies in one diagram.

To call the **Dependency Tree** window, select the **Tools | Dependency Tree** <u>main</u> <u>menu</u> item, or use the **Dependency Tree** button on the main <u>toolbar</u>.

<u>D</u> atabase	<u>V</u> iew	<u>T</u> ools	Services Opti	ions <u>W</u> indows	Help
		1	Show SQL Editor	F12	
		E I	New SQL Editor	Shift+F12	
		K :	Show Query Builde	r	
		M I	New Query Builder		
			SQL Monitor	Shift+Ctrl+M	
		9	SQL Script	Shift+Ctrl+S	
		E I	New SQL Script	Shift+F9	►
		R	Extract Database		
		eje 🕐	Compare Database	S	
		ا 😸	Print Metadata		
		P3 (TML Report		
			Report Designer		
			Dependency Tree		
			Search in Metadata	Ctrl+Alt+F	

- Using Navigation bar and Toolbar
- <u>Viewing dependency tree</u>

Availability: Full version (for Yes Windows) Lite version (for No Windows) Note: To compare all Features of the Full and the Lite versions of SQL Manager, refer to the Feature Matrix page.

See also: Database Objects Management

9.1.1.1 Using Navigation bar and Toolbar

The **Navigation bar** and **Toolbar** provide quick access to tools implemented in **Dependency Tree**.

Database	*
😑 sakila on merlin:5149 [sakila]	•
General	\$
Refresh	
🖕 Print	
🖉 Print setup	
📷 Save as picture	
Show SQL help	
Restore default size	
Object	\$
in Select object	
Previous object	

The Navigation bar of the Dependency Tree window allows you to:

Database group

less select a database for browsing object dependencies

General group

- lacktriangleright stress is a set of the set
- 📚 print the diagram
- Just and the set of th
- 🖬 save the current diagram as a picture
- 🥙 view MySQL reference
- restore the default size and position of the window

Object group

- navigate by switching to the previous object
- navigate by switching to the next object
- 🖾 show/hide subobjects
- 🖆 <u>select</u> a root object

Items of the **Navigation bar** are also available on the **ToolBar** of the **Dependency Tree** window. To enable the <u>toolbar</u>, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select **(i)** *Toolbar* (if you need the toolbar only) or **(ii)** *Both* (if

you need both the toolbar and the $\underline{Navigation\ bar})$ in the $Bar\ style\ for\ child\ forms$ group.

Hint: Items of the **Object** pane of the **Navigation bar** are also available in the *context menu* of the **Dependency Tree** area.

9.1.1.2 Viewing dependency tree

To view dependencies of an object, click the **Select object** <u>Navigation bar</u> item. Then select the required object in the **Select Object** dialog window. The dependency tree will appear in the main area of the window.



While the tree of dependencies is being built, the <u>progress bar</u> is displayed in the status area at the bottom of the window.



The *root* object is marked out with a blue frame.

The objects that *the root object depends on* are located to the left of the root object. The objects that *depend on the root object* are located to the right of the root object.

Object dependencies are denoted as regular arrows from the left to the right (->). A *cyclic dependency* (i.e. when the object already has some other depending object(s)) is denoted as a line ending with a cross (-x).

You can switch between objects by selecting them in the diagram. The selected object becomes the root object. To make an object root, you can also right-click it in the diagram area and select **Set as Root** from the **context menu**. The context menu of an object also allows you to *edit* it using the corresponding editor.

The history of selected root objects is also available: you can move back and forward through this history using the **Previous object** and the **Next object** links on the <u>Navigation bar</u> or <u>toolbar</u>.

Hint: To show/hide subobjects (e.g. table <u>triggers</u>, <u>foreign keys</u>), click the **Show subobjects** / **Hide subobjects** item on the <u>Navigation bar</u>.

See also: Select Object dialog

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9.1.2 SQL Monitor

SQL Monitor allows you to view the log of all operations performed over databases and database objects in **SQL Manager for MySQL**. The content of the window is read-only.

To open the **SQL Monitor** window, select the **Tools** | \bigcirc **SQL Monitor** <u>main menu</u> item, or use the *Shift+Ctrl+M* <u>shortcut</u>.



- Using Navigation bar and Toolbar
- <u>Working with SQL Monitor</u>

See also: SQL Monitor options

9.1.2.1 Using Navigation bar and Toolbar

The **Navigation bar** and **Toolbar** provide quick access to tools implemented in **SQL Monitor**.



The Navigation bar of SQL Monitor allows you to:

General group

- clear the content of the window
- isave the content to a **.txt* file using the **Save as...** dialog
- P search for a string using the <u>Find Text</u> dialog
- ᄰ search again
- I configure SQL Monitor using the <u>SQL Monitor</u> section of the <u>Environment Options</u> dialog
- restore the default size and position of the window
- c specify that the window is displayed on top of other child windows

Items of the **Navigation bar** are also available on the **ToolBar** of **SQL Monitor**. To enable the <u>toolbar</u>, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select **()** *Toolbar* (if you need the toolbar only) or **()** *Both* (if you need both the toolbar and the <u>Navigation bar</u>) in the **Bar style for child forms** group.

9.1.2.2 Working with SQL Monitor

The working area of **SQL Monitor** lists the log of database operations and SQL queries as items, each consisting of 3 parts: *Executed* (the date and time of the operation), *Operation* (SQL statement sent to the server), *Result* (the result of the operation).

Items of the **context menu** of SQL Monitor area provide access to various functions for working with the window content. The context menu contains standard text-processing functions (*Copy*, *Select All*), <u>spell checking</u> and functions for working with the content as a whole, e.g. you can set *markers*, *move the cursor to a particular line*, *save* the content to a file or as a <u>favorite query</u>, configure the editor using the <u>properties</u> item or *preview*/*print* the content. Most of these operations can be also performed with the corresponding <u>hot keys</u> used.

Implementation of the <u>Find Text</u> dialog and <u>Incremental search</u> bar contributes to more efficient work with the content of SQL Monitor.



9.1.3 SQL Script Editor

Using SQL Script Editor you can view, edit and execute SQL scripts.

To open SQL Script Editor, select the **Tools | New SQL Script / Tools | SQL Script** main menu items or use the corresponding H / S toolbar buttons. You can also use the Shift+Ctrl+S shortcut for the same purpose.



In the script area you can view and edit the SQL script text. For your convenience syntax highlight and code completion features are implemented.

- Using Navigation bar and Toolbar
- Working with SQL Script editor area
- <u>Using Script Explorer</u>
- <u>Script execution</u>

Note: SQL Script Editor does not show results returned upon SELECT queries execution. Please use <u>SQL Editor</u> for that purpose instead.

See also: SQL Editor SQL Script options Editor Options

9.1.3.1 Using Navigation bar and Toolbar

The **Navigation bar** and **Toolbar** provide quick access to tools implemented in **SQL Script Editor**.



The Navigation bar of SQL Script Editor allows you to:

Destination group

- Select a host
- 号 select a database for the script

General group

- <u>execute</u> the current script
- \$ execute a script from file
- create a new script
- Ioad a script from an *.sql file using the Open SQL Script dialog
- 📕 save the current script
- dialog save the script to an *.*sql* file using the **Save as...** dialog

🗄 show/hide <u>Script Explorer</u>

- 🖹 enable/disable result log
- configure SQL Script Editor within the <u>Script Options</u> section of the <u>Environment</u> <u>Options</u> dialog

restore the default size and position of the editor window

B enables/disables syntax highlight, code completion and code folding

Explorer group

browse the tree objects used in the script using the <u>Script Explorer</u> pane

Items of the **Navigation bar** are also available on the **ToolBar** of **SQL Script Editor**. To enable the <u>toolbar</u>, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select **(i)** *Toolbar* (if you need the toolbar only) or **(i)** *Both* (if you need both the toolbar and the <u>Navigation bar</u>) in the **Bar style for child forms** group.

See also:

Working with SQL Script editor area Using Script Explorer Script execution

9.1.3.2 Working with SQL Script editor area

The **Editor area** of SQL Script is provided for efficient working with SQL scripts in text mode.

For your convenience the **syntax highlight**, **code completion** and a number of other features for efficient SQL editing are implemented:

- using object links allowing you to open the object in the associated editor;
- ability to display line numbers;
- code folding for statements and clauses;
- customizable margins and gutters;

• formatting code for better representation and more.

The **context menu** of SQL Script Editor area contains <u>execution</u> commands, most of the standard text-processing functions (*Cut, Copy, Paste, Select All*), <u>spelling checking</u> and functions for working with the script as a whole, e.g. you can enable/disable *parsing*, toggle *bookmarks* and *comments*, *move the cursor to a particular line*, *change the case* of selected text, *load/save* the content from/to a file or save as a <u>favorite query</u>, <u>configure</u> the editor using the **Properties** item or *preview/print* the text of the script. Most of these operations can be also performed with the corresponding <u>hot keys</u> used.

Implementation of the <u>Find Text</u> / <u>Replace Text</u> dialogs and <u>Incremental search</u> bar contributes to more efficient work with the SQL code.

😵 SQL Script [Untitled]					
🗄 🗋 🏓 - 📙 - 🛛 🌮 - 🔒	akila on doom_server 🔹 👔 🖃 🎂 🕫	2			
Destination *	Script				
doom septer	CREATE TABLE `film` (
	2 'film_id' <u>smallint(5</u>	INCREMENT,			
📑 sakila on doom_server [:	3 `title` <u>varchar(100)</u> Markers	•			
	4 'release_year' year (•			
General *	5 Tanguage 1d tinyin roggio bookinarko				
	6 Original_language_1 Go to Line Number Alt+G	FAULT NULL,			
Execute script	7 rental_duration_ti	L DEFAULT 'S			
Execute script from file) length' smallint(5)				
New script	10 replacement cost d Redo Shift+Ctrl+Z				
New Script	11 rating enum(IGLIP) Out (th)	REALLT IC			
Open script	12 'special features' s	es! 'Deleted			
Save script	13 description text.	; co , beretea			
Save script as	🔁 `last update` timest 🖺 Paste Ctrl+V	ENT TIMESTAM			
Disable parsing	15 PRIMARY KEY (`film_i Select All Ctrl+A	- -			
Enable result log	16 KEY `idx_title` (`ti				
	17 KEY `idx_fk_language 🔑 Find Ctrl+F	:			
SQL Script options	18 KEY `idx_fk_original Replace Ctrl+R	{ language_id`			
🛃 Restore default size	CONSTRAINT fk_film_	anguage_id`)			
B Disable all code features	20 CONSTRAINT `fk_film_ A Search Next F3	N KEY (`orig:			
	21) ENGINE=InnoDB DEFAUL 🔢 Incremental Search Ctrl+	NGTH=192 PAC			
Explorer \$	22	_			
	CREATE DEFINER = 'root 🗶 Save as Favonte Query	s_film`AFTE			
	24 FOR EACH ROW				
	25 BEGIN	nintion)			
	INSERT INTO IIIM t a Print	ription)			
🖽 🔁 del_film (1)	20 RND . Quick Code	<pre>> cription;;</pre>			
🕀 🔛 ins_film (1)	29				
🗄 🔛 upd_film (1)	30 CREATE DEFINER = 'root Properties	d film' AFTE			
	31 FOR EACH ROW				
	32 BEGIN				
	33IF (old title != new title) or (old description != new (
		4			
22: 1 N	barried Insert Highlighting Unicode (USC-2)	Parsed! :			

See also:

Using Navigation bar and Toolbar Using Script Explorer Script execution Managing Favorite queries SQL Script options

9.1.3.3 Using Script Explorer

The **Explorer** group on the <u>Navigation bar</u> displays the tree of objects, used in the current script and allows you to get to the required script fragment quickly by clicking the object in the tree.



Hint: When you click a node in the **Script Explorer** tree, the corresponding SQL statement is highlighted in the editor area. If you double-click a node, the corresponding SQL statement is highlighted, and the current focus is switched to the editor area (the cursor appears after the highlighted statement).

See also:

Using Navigation bar and Toolbar Working with SQL Script editor area Database Objects Management

9.1.3.4 Script execution

When all the script parameters are set, you can immediately **execute the script** in **SQL Script Editor**.

To execute a script, click the \blacktriangleright **Execute script** item of the <u>Navigation bar</u> or <u>toolbar</u>. You can also use the <u>context menu</u> or *F9* hot key for the same purpose.



Note: If the **Execute selected text separately** option (see the <u>Tools | SQL Script</u> section of the <u>Environment Options</u> dialog) is enabled (by default) and a text fragment is currently selected, only this fragment is executed when you click *Execute script* on the <u>Navigation bar</u> or press *F9*. If this option is disabled, the whole script is executed, but you can still execute the selected fragment using the corresponding *Execute Selected Only* item of the <u>context menu</u> or by pressing *Ctrl+F9*.

If there are no active <u>database connections</u>, the application prompts you to specify host <u>connection parameters</u> in the <u>Login Host</u> dialog for script execution.

If the SQL syntax is correct, the script is executed and the 'Done' information message appears.



If the syntax contains errors or script cannot be executed, the corresponding error message is displayed in the status bar area at the bottom of the editor window.

Hint: When you select an item from the error list (in the status bar area), the corresponding SQL statement is highlighted in the editor area. If you double-click an item, the corresponding SQL statement is highlighted, and the current focus is switched to the editor area (the cursor appears after the highlighted statement).

Note: SQL Script Editor does not show results returned upon SELECT queries execution. Please <u>execute</u> such queries in <u>SQL Editor</u> to see the result dataset.

See also: Using Navigation bar and Toolbar Working with SQL Script editor area Using Script Explorer

9.1.4 Extract Database Wizard

Extract Database Wizard allows you to extract database objects and/or data to an SQL script, e.g. for backup purposes.

To start the wizard, select the **Tools |** 🔮 **Extract Database...** <u>main menu</u> item.



- Selecting a database for extraction
- <u>Specifying destination file name</u>
- <u>Setting extraction mode</u>
- <u>Selecting objects for metadata extraction</u>
- Selecting objects for data extraction
- <u>Customizing script options</u>
- <u>Start of extraction process</u>
- <u>Using templates</u>

See also:

<u>SQL Script Editor</u> <u>Database Objects Management</u> <u>Using templates</u>

9.1.4.1 Selecting source database

This step of the wizard allows you to select the **source database** from which metadata and/or data are to be extracted.

If necessary, check the \mathbb{M} **Extract all metadata and data of the database** option to simplify the wizard.

🛃 Extra	act Database Wizard		- • •
Extr	ract Database		
	Select the source databa	se	
	()	Welcome to the Extract Database Wizard! This wizard allows you to extract the database structure and table da script.	ata into an SQL
	SQL Manager for MySQL	Source database In on merlin:5149(1) [hr]	.
<u> </u>	telp <u>T</u> emplates	▲ < <u>B</u> ack <u>N</u> ext >	Cancel

Click the **Next** button to proceed to the <u>Specifying destination file name</u> step of the wizard.

9.1.4.2 Specifying destination file name

Script destination

Automatically load to Script Editor

Use this mode if there's no need to save script to file. Generated script will be automatically opened in <u>SQL Script Editor</u>.

Save to file

This mode allows you to save complete script to a single file.

File name

Set a name for the result *.*sql* file and type in or use the **Save as...** \blacksquare button to specify the path to this file on your local machine or on a machine in the LAN.

Separate file for each object

Use this mode to extract each object of the database into a separate file. In this case you need to specify **Directory name** where created files will be stored.

🔣 Extract Database Wizard -	😪 Extract Database Wizard - [hr on merlin:5149(1)]				
Extract Database					
Select the destination file	name				
-	You can select a file	to save the script, or load the script into Script Editor.			
SQL	 Automatically I Save to file 	oad to <u>S</u> cript Editor			
Manager	File name	C:\Program Files\EMS\SQL Manager for MySQL\hr.sq			
MySQL	Separate file for a sep	or each object			
	Directory name	C:\Program Files\EMS\SQL Manager for MySQL\Extra			
	File <u>c</u> harset	Database default			
Help Templates		< <u>B</u> ack <u>N</u> ext > Cancel			

Note: If the specified folder exists, make sure it doesn't contain any useful data, as you will be suggested to recreate the folder.

File charset

If necessary, use the drop-down list to select the character set for the exported data.

Depending on whether you have checked the **Extract all metadata and data of the database** option at the <u>Selecting source database</u> step, upon pressing the **Next** button you will either proceed to the <u>Setting extraction mode</u>, or you will be immediately forwarded to the <u>Customizing script options</u> step of the wizard.

9.1.4.3 Setting extraction mode

This step allows you to specify the **extraction mode**: choose whether *structure only*, *data only* or *both* are to be extracted.

Note that this step is only available if the **Extract all metadata and data of the database** option was unchecked when <u>selecting the source database</u>.

😪 Extract Database Wizard - [hr on merlin:5149(1)]					
Extract Database					
Select database components to extract					
	You can choose to extract either database structure, or table data only, or bo	oth.			
	Which components would you like to extract?				
SOL	Extract database objects Extract server objects				
Manager	V Extract data				
for MySQL					
<u>H</u> elp <u>T</u> emplates	 ✓ < <u>Back</u> <u>Next</u> > Call 	ancel			

Click the **Next** button to proceed to <u>Selecting objects for structure extraction</u>.

9.1.4.4 Selecting database objects for structure extraction

This step of the wizard allows you to **select database objects for metadata extraction**

Note that this step is only available if the **Extract all metadata and data of the database** option was unchecked when <u>selecting the source database</u>.

Extract all database objects

Includes all <u>database objects</u> into structure extraction process.

Objects to extract

Use the drop-down list to select the type of objects to extract.

To select an object, you need to move it from the **Available** list to the **Selected** list. Use the **Delta Content** is buttons or drag-and-drop to move the objects from one list to another.

😤 Extract Database Wizard - [hr on doom_server]						
Extract Database						
Select database objects to extract their structure						
	Extract all database objects					
	Objects to extract Tables	•				
	Available	Selected				
	address	tion country				
SQL	addresstype	department				
Manager	employeeaddress	employee				
for	employeedepartmenthistory					
MySQL	📑 employeepayhistory					
	🖽 name					
<u>H</u> elp <u>Templates</u> <u>Cancel</u>						

Click the **Next** button to proceed to <u>Selecting objects for data extraction</u>.

9.1.4.5 Selecting server objects to extract

This step of the wizard allows you to **select server objects for metadata extraction**.

Note: This step is available only if the **Extract server objects** option was checked in the <u>Selecting source database</u> step.

Extract all server objects

Adds all <u>server objects</u> to the structure extraction process.

Objects to extract

Use the drop-down list to select the type of objects to extract.

To select an object, you need to move it from the **Available** list to the **Selected** list. Use the **Selected** list or drag-and-drop to move the objects from one list to another.

Extract Database Wizard - [for_testers on kmn:33562]					
Extract Database					
Select server objects to extract					
	Extract all server	objects			
	Objects to extract	Federated servers	•		
	Available	S	elected		
-09	r kmnop	<u> </u>	⁸ kmn		
SQL Manager for MySQL					
Help Templates		< <u>B</u> ack	<u>N</u> ext >	Cancel	

Click the **Next** button to proceed to the <u>Selecting objects for data extraction</u> step.

9.1.4.6 Selecting objects for data extraction

This step of the wizard allows you to **select tables for data extraction**.

Note that this step is only available if the **Extract all metadata and data of the database** option was unchecked when <u>selecting the source database</u>.

Extract data of the selected tables

Adds only selected tables to data extraction process.

To select a table, you need to move it from the **Available** list to the **Selected** list. Use the **Selected** list or drag-and-drop operations to move the tables from one list to another.

Extract data of all tables

Adds all tables of the database to the data extraction process.

Extract data of tables selected on the previous step

Adds only the tables selected for metadata extraction.

🛃 Extract Database Wizard - [hr on merlin:5149(1)]						
Extract Database						
Select database objects to extract their data						
SQL Manager for MysQL	 Extract data of the selected tables Extract data of all tables Extract data of tables selected on p Available countries country customer department employees_department import jobcandidate jobcandidate_new mymreports shift 	Selected employee employeedepartmenthistory employeedepartmenthistory employeepayhistory				
<u>H</u> elp <u>T</u> emplates		< Back Next > Cancel				

Click the **Next** button to proceed to the <u>Customizing script options</u> step of the wizard.
9.1.4.7 Customizing script options

Start of extraction process

This step allows you to customize common **script options** and **data options** for the extraction process.

Script options

Generate "CREATE DATABASE" statement

Check this option to add the CREATE DATABASE statement to the result script.

Generate "DROP DATABASE IF EXISTS" statement

Check the option to add the DROP DATABASE IF EXISTS statement for the database in the result script.

Generate "USE db_name" statement

Check the option to add the USE db_name statement to the result script.

Generate "DROP IF EXISTS" statements

Check the option to add the DROP IF EXISTS statements for the extracted objects in the result script.

Disable foreign key checks

If this option is selected, <u>foreign key</u> constraints are not considered in the extraction process (*SET FOREIGN_KEY_CHECKS=0*).

📸 Extract Database Wizard - [testdb] — 🗌 🔿					
Extract Database					
Select additional options	for destination script				
	Script Options Data Options				
SQL Manager for MySQL	Generate "CREATE DATABASE" sta Generate "DROP DATABASE IF E Generate "USE db_name" statemen Generate "DROP IF EXISTS" statemen Disable foreign key checks Generate "SET NAMES" statement Extract dependent objects Add SQL_MODE variable Insert comments	tement EXISTS" statement t ents for objects			
	Extract structure for version	Current server vers	sion		~
	Trim tables and columns comments				
	Max comment length	30			*
	✓ Abort extraction on error				
Help Templates	<	<u>B</u> ack <u>N</u> ext	>	Can	cel

Generate "SET NAMES" statement

Check this option to add the *SET NAMES 'character_set'* statement to the result script. Character set issues affect not only data storage, but also communication between client programs and the MySQL server. The *SET NAMES 'character_set'* statement allows you to indicate which character set (different from the default) should be used by the server while communicating with the client program.

Extract dependent objects

This option determines objects' <u>dependencies</u> usage in the extraction process. Check the option to extract all objects that the selected objects depend on.

Add SQL_MODE variable

This option specifies that the *SET sql_mode='modes'* statement will be added to the result script.

SQL modes define what SQL syntax MySQL should support and what kind of data validation checks it should perform. This facilitates using MySQL in different environments and together with other database servers.

Insert comments

This option determines whether comments will be added to the result script.

Extract structure for version

This drop-down list allows you to define the version of MySQL server you need to extract metadata for. The result script will be generated in compliance with the specifications of the selected server version: *Current server version*, *3.23*, *4.0*, *4.1*, *5.0*, or *5.1*.

Trim tables and column comments

Set limit for table and columns comments length. Maximum length of exported comment is defined in the **Max comment length** field.

Data options

.

Records in a block / Insert "COMMIT" statement after each block

These controls allow you to define whether the *COMMIT* statement is added to the script or not, and to specify the number of records in each block to be supplemented with this statement.

Extract table data just after its definition

This option allows you to define the order for table data and metadata. With this option enabled, the result script is generated in the following way: *table definition, data* for the table as a set of *INSERT INTO* statements, then *definition for other objects*. Otherwise the following order is applied: *table definition, definition for other objects*, then *table data*.

Extract data from Merge tables

Use this option if you wish to extract data from tables of the MRG_MyISAM storage engine

Script Options Data Options
Records in a block 500
✓ Insert " <u>C</u> OMMIT" statement after each block
Extract table data just after its definition
Extract data from Merge tables

Abort extraction on error

This option determines whether the extraction process should be stopped or forced to continue if an error occurs.

Click the **Next** button to proceed to the <u>last</u> step of the wizard.

9.1.4.8 Start of extraction process

This step of the wizard is intended to inform you that all extraction options have been set, and you can start the extraction process.

The **Operations** tab allows you to view the log of operations and errors (if any).

民 Extract Database Wizard -	[hr on merlin:5149(1)]	- • •
Extract Database		
Click the 'Run' button to :	start extraction process	
	Process completed successfully!	
SQL Manager for MySQL	Extracting definition for employeeaddress Completed Extracting definition for employeedepartmenthistory Completed Extracting definition for employeepayhistory Completed Extracting data for employee Completed Extracting data for employeeaddress Completed Extracting data for employeedepartmenthistory Completed Extracting data for employeedepartmenthistory Completed Extracting data for employeepayhistory Completed Extracting data for employeepayhistory Completed Extracting data for employeepayhistory Completed Process completed successfully! ====================================	
Help Templates	▼ < <u>B</u> ack <u>R</u> un	Close

Load script to Script Editor

Check this option to load the result script to <u>SQL Script Editor</u>.

Close the wizard after successful completion

If this option is selected, the wizard is closed automatically when the extraction process is completed.

If necessary, you can save a <u>template</u> for future use.

Click the **Run** button to run the extraction process.

9.1.5 Print Metadata

Print Metadata allows you to generate and print metadata reports of any database object(s).

To open the window, select the **Tools |** \Rightarrow **Print Metadata** <u>main menu</u> item, or use the **Print Metadata** button on the main <u>toolbar</u>.

<u>D</u> atabase	View	Tool	ls <u>S</u> ervices <u>O</u> ptions <u>W</u> indows <u>H</u> elp
		Ø	Show SQL Editor F12
		Ē	New SQL Editor Shift+F12
			Show Query Builder
		≥ €	New Query Builder
		6	SQL Monitor Shift+Ctrl+M
		9	SQL Script Shift+Ctrl+S
		æ	New SQL Script Shift+F9
		R	Extract Database
		đ	Compare Databases
		à	Print Metadata

- Using Navigation bar and Toolbar
- Printing options
- <u>Print Preview</u>

Availability: Full version (for Yes Windows) Lite version (for No Windows) Note: To compare all features of the Full and the Lite versions of SQL Manager, refer to the Feature Matrix page.

See also: Database Objects Management Print Metadata options

9.1.5.1 Using Navigation bar and Toolbar

The **Navigation bar** and **Toolbar** provide quick access to tools implemented in **Print Metadata**.



The Navigation bar of the Print Metadata window allows you to:

Database group

号 select a database for the printing report

General group

- print metadata of the selected object(s)
- preview the printing report
- restore the default size and position of the window

Show group

filter database objects by type

Items of the **Navigation bar** are also available on the **ToolBar** of the **Print Metadata** window. To enable the <u>toolbar</u>, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select **(if you need the toolbar only)** or **(if you need both the toolbar and the <u>Navigation bar</u>) in the Bar style for child forms** group.

9.1.5.2 Printing options

The **Print Metadata** window allows you to select the database objects for printing metadata.

To select an object, you need to move it from the **Available objects** list to the **Objects** for printing list. Use the Description of the Description of the Description of the objects from one list to another.

After you select one or several objects, the **Printing Options** pane appears at the bottom.

Printing Options

Select an object in the **Objects for printing** list and specify items to be included into the printing report: *DDL*, *Description* (for all database objects), *Fields/Params*, *Indexes* (for tables).

🖶 Print Metadata - [aschel:33580]							
🚦 🖵 aschel:33580 🔹 📘 🤤 sakila o	n as	sche	el:33580 💌 🖡	🖥 🗖 🔳 🗧 s	show *	🖵 Show 🕶 🛛 🛃	-
Servers	8	Av	ailable Objects			Objects for Printin	ng
aschel:33580	,	Na	me	Description		Name	Description
			actor	InnoDB free: 2258		II 🔁 film	InnoDB free 10240
sakila on aschel:33580	^		address			film_actor	InnoDB free: 7168 k
General	\$		category			film_category	InnoDB free: 7168 k
Print			city		»	actor_into	
O Preview			customer			film in stock	
Restore default size			employee				
			film_text				
Database	۲ (language		<		
💼 All objects			payment		<i>u</i>		
Tables			rental				
Views			store				
Recedures		Ľ	customer_list				
Functions		Ľ	sales				
E Scheduled events	L						
The mygers							
Server	\$						
All objects							
Log file groups							
Tablespaces						Printing Options	
Federated servers						Columns/Paran	
						✓ Indices	Description

See also: Using Navigation bar and Toolbar

Print Preview

9.1.5.3 Print Preview

You can make a preview of the printing report and **print metadata** for objects of the selected type using the corresponding items of the <u>Navigation bar</u> (or <u>toolbar</u>).

Database: sakila	3	Use Tab	er: ble:	0	oot order_p	processing	
Table: order_ Columns	processing		-			-	_
Name	Туре	Not Null	Unique	P/K	A/I	Binary	Default
order_process_id	int(11)	Yes		Yes			
employee_first_name	varchar(100)						
employee_last_name	varchar(100)						
order_id	int(11)						
ship_carrier_name	varchar(100)						
ship_method_name	varchar(100)						
processing_time	timestamp	Yes					CURRENT_TIMESTAMP
Indices Name	On Column					Uni	que Full Text Sorting
PRIMARY	order_process_id	l				Y	es
Description innoDB free: 5120 kB							
Description innoDB free: 5120 kB							

The **toolbar** of the **Preview** window allows you to:

- start printing the report;
- open a previously saved printing report;
- save the current report to an external *.fp3 file;
- export the preview content to any of the available formats: HTML file, Excel file, Text file, RTF file, CSV file, HTML file, BMP image, Excel table (OLE), JPEG image, TIFF image (use the for this purpose);
- search for text within the printing report;
- adjust zoom options;
- enable/disable printing report outline;
- enable/disable printing report thumbnails;
- specify page settings;
- edit the page using **<u>Report Designer</u>**;
- navigate within the printing report pages;
- close the **Preview** window.

See also: Using Navigation bar and Toolbar Printing options

9.1.6 HTML Report Wizard

HTML Report wizard allows you to generate a detailed HTML report of the selected database objects.

To start **HTML Report Wizard**, select the **Tools | * HTML Report** <u>main menu</u> item, or use the *** HTML Report** button on the main <u>toolbar</u>.

<u>D</u> atabase <u>V</u> iew	Tools	s <u>S</u> ervices <u>Options</u> <u>W</u> indows <u>H</u> elp
	1	Show SQL Editor F12
	€	New SQL Editor Shift+F12
		Show Query Builder
	₽	New Query Builder
	6	SQL Monitor Shift+Ctrl+M
	3	SQL Script Shift+Ctrl+S
	æ	New SQL Script Shift+F9
	B	Extract Database
	đ	Compare Databases
	۵	Print Metadata
	-	HTML Report

- Selecting database and directory
- <u>Selecting object types</u>
- <u>Selecting server object types</u>
- Specifying CSS for HTML report
- <u>Setting additional report options</u>
- Creating HTML report
- <u>Using templates</u>

See also: Database Objects Management Using templates

9.1.6.1 Selecting database and directory

At this step of the wizard you should select the **source database** and **output directory** for the HTML report.

Source host

Select the host on which source database is located.

Source database

Use the drop-down list of <u>registered</u> and <u>connected</u> databases to select the source database for the report.

Output directory

Type in or use the 🚵 button to specify the path to the output directory for the result HTML files using the **Browse for Folder** dialog.

HTML Report Wizard - [sa	📲 HTML Report Wizard - [sakila on win11:3390] - 🗆 🗙						
HTML Report							
Select the source databa	ise and the destination folder						
	Welcome to the HTML Report Wizard! This wizard allows you to create a detailed HTML report about your database. Source <u>h</u> ost						
SQL Manager	win11:3390	\sim					
for	Source database						
MySQL	Sakila on Win11:3390 [sakila]	~					
	D:\WorkDocuments\SQL Manager for MySQL\HTMLReports\sakila on win11_33	91 👌					
Help Templates	✓ < <u>Back</u> <u>Next</u> > Cance	el					

Click the **Next** button to proceed to the <u>Selecting database object types</u> step of the wizard.

9.1.6.2 Selecting database object types

Use this step of the wizard to select *the types of objects* to be included in the result HTML report.

📲 HTML Report Wizard - [sakila on win11:3390] — 🗌 🗙							
HTML Report							
Select database objects	to include in report						
SOL Manager for MySQL	Reported objects Tables Triggers Views Procedures Functions UDFs Scheduled Events						
<u>H</u> elp <u>T</u> emplates	▼	< <u>B</u> ack	<u>N</u> ext >	Can	cel		

Click the **Next** button to proceed to the <u>Selecting server object types</u> step of the wizard.

9.1.6.3 Selecting server object types

Use this step to define which server objects should be included to report.

🐴 HTML Report Wizard - [hr o	📲 HTML Report Wizard - [hr on merlin:5149(1)]						
HTML Report							
Select additional report op	ons						
SQL Manager for MySQL	Reported server objects Log file group Tablespace Federated server						
Help Templates	•	< <u>B</u> ack <u>N</u> ext	> Cancel				

Check the respective options to include objects to report.

Click the **Next** button to proceed to the <u>Specifying CSS</u> step of the wizard.

9.1.6.4 Specifying CSS

This step of the wizard allows you *to edit the CSS (Cascading Style Sheet) file* that will be used by the result HTML report. You can preview applied changes, as well as applying template schemes.

Use the **CSS Preview** tab to select template scheme, or to view changes made on **CSS Text** tab.

HTML Report	🕌 HTML Report Wizard - [sakila on aschel:33571] — 🗌 🗙						
HTML Report							
Select addi	tional report optic	ons					
	c	SS Previev	W CSS Text				
-		FIEW			Template	Black&White	~
		cu		nouny and a			~
SQL	0001	Colum	ns				
for MySC	ayer L	РК	Name	Data type	Size	Precision	Vi
		*	id	INTEGER	11	0	
			repalias	VARCHAR	100	0	
			repname	VARCHAR	100	0	
			source	LONGBLOB	0	0	~
		<				2	>
Help	Templates	•		< <u>B</u> ack	N	ext > Can	cel

Customize scheme on the **CSS Text** tab.



Click the **Next** button to proceed to the <u>Setting additional report options</u> step of the wizard.

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9.1.6.5 Setting additional report options

Use this step of the wizard to set additional HTML report options.

🕌 HTML Report Wizard - [sakila on win11:3390] — 🗌 🗙					
HTML Report					
Click the "Run" button for	r creating report				
	Report header				
SQL	win11/sakila - sakila on win11:3390				
Manager	Report footer				
for MySQL	This file was generated with SQL Manager for MySQL (<A HREF="https://www.</th>				
	DDL font size small large (size display also depends on browser settings)				
Help Templates	▼ < <u>Back</u> <u>Next</u> > Cancel				

Optionally, you can define text for **Report header** and **Report footer** of the result HTML report. For your convenience the default header and footer text is already available.

You can manage size of DDL text in the result report with the respective slider.

Note: Size display also depends on browser settings.

Click the **Next** button to proceed to <u>Creating HTML report</u>.

9.1.6.6 Creating HTML report

This step of the wizard is intended to inform you that all necessary options have been set, and you can start the process.

The **Operations** tab allows you to view the log of operations and errors (if any).

HTML Report Wizard - [s	akila on aschel:33571] —		×
HTML Report			
Click the "Run" button for	creating report		
	Generating report for 'film_in_stock'		
200	89 %		
SQL Manager for MySQL	Generating report for 'del_film' Generating report for 'payment_date' Generating report for 'rental_date' Generating report for 'actor_info' Generating report for 'customer_list' Generating report for 'film_list' Generating report for 'new_view1' Generating report for 'nicer_but_slower_film_list' Generating report for 'sales_by_film_category' Generating report for 'sales_by_store' Generating report for 'staff_list' Generating report for 'film_in_stock' Generating report for 'film_not_in_stock' Generating report for 'film_not_in_stock'		<
	Show report after generating		
	Close the Wizard after successful completion		
<u>H</u> elp <u>T</u> emplates	✓ < <u>B</u> ack Stop	Can	cel

Show report after generating

This option opens the result report in your default browser after generating.

Close the wizard after successful completion

If this option is selected, the wizard is closed automatically when the creating HTML report process is completed.

If necessary, you can save a <u>template</u> for future use.

Click the **Run** button to run the process.

9.1.7 Reports management

SQL Manager for MySQL provides several tools for efficient *reports management*: <u>Create Report Wizard</u>

This tool is used to simplify the process of creating reports.

Report Designer

It is a basic tool for creating powerful reports.

Report Viewer

Allows you to view created reports.

Reports can be stored either in the database (table *mymreports* will be created to store them) or in a directory on your hard drive specified on the <u>Directories</u> page of the <u>Database Registration Info</u> dialog.

9.1.7.1 Create Report Wizard

Using **Create Report Wizard** you can create a report containing required datasets, bands and columns on them, with a definite report style applied.

To start the wizard, select the **Database | New Object...** <u>main menu</u> item, then select **Report** in the <u>Create New Object</u> dialog. Alternatively, you can right-click the **Reports** node of the <u>DB Explorer</u> tree and select the **New Report...** item from the <u>context menu</u>.



- Specifying report name and options
- <u>Selecting report bands</u>
- <u>Selecting report style</u>
- <u>Specifying paper settings</u>
- <u>Specifying margins</u>
- <u>Specifying other page settings</u>

Availability: Full version (for Yes Windows) Lite version (for No Windows) Note: To compare all features of the Full and the Lite versions of SQL Manager, refer to the Feature Matrix page.

See also:

Report Designer Report Viewer 9.1.7.1.1 Specifying database name and report options

Select the source **database** for adding a report and choose the action you need to perform: either *create a new report* or *import an existing report from file*.

Set the **name** for the new report and specify the save options for it:

Save to database

The report will be created on the server inside the database.

Save to file

If this option is selected, the report will be saved as a *.fr3 file to the directory specified on the <u>Directories</u> page of the <u>Database Registration Info</u> dialog.

Create Report Wizard	
Create Report Wizard	
Choose your report option	15
	Welcome to the Create Report Wizard! This wizard will take you through the steps of creating a "data-aware" report. The finished report will be saved to your database and can be edited later.
SQL Manager for MySQL	Database Image: hr on merlin:5149(1) [hr] Report creation method Image: hr on file Save options Report name emp_report Save to database Save to file (*.fr3)
Help	< <u>B</u> ack Cancel

Click the **Next** button to proceed to the <u>Selecting report bands</u> step of the wizard.

9.1.7.1.2 Selecting report bands

Use the **Edit** white the create datasets for 'data' bands using <u>Query Builder</u>.

Create Report Wizard			×
Create Report Wizard			
Select the bands which yo	u need for your report		
Final Solution of the second s	Available Bands Page header Page footer Master header Master footer Detail data Subdetail data Group header Group footer		Report Bands Report_title Master_data Report_summary
Help		< <u>B</u> ack	Next > Cancel

Brief information about bands functionality is listed below. See **FastReport Help** for more information.

Name	Functionality
Report title	Prints once at the beginning of report
Report summary	Prints once at the end of report
Page header	Prints at the top of each page
Page footer	Prints at the bottom of each page
Master header	Prints at the beginning of master list
Master data	Data rows of master list
Master footer	Prints at the end of master list
Detail header	Prints at the beginning of detail list
Detail data	Data rows of detail list

Detail footer	Prints at the end of detail list
Subdetail header	Prints at the beginning of subdetail list
Subdetail data	Data rows of subdetail list
Subdetail footer	Prints at the end of subdetail list
Group header	Prints at the beginning of each group
Group footer	Prints at the end of each group

Click the **Next** button to proceed to the <u>Selecting report style</u> step of the wizard.

9.1.7.1.3 Selecting report style

Select the report style by clicking one of the images illustrating the styles available for the report.

Create Report Wizard		×
Create Report Wizard		
Select the report style		
SQL Manager for MysQL		
Help	< <u>B</u> ack	Next > Cancel

Click the **Next** button to proceed to the <u>Specifying paper settings</u> step of the wizard.

9.1.7.1.4 Specifying page settings

9.1.7.1.4.1 Specifying paper settings

Specify report options: paper size and orientation, page margins, other settings.

Create Report Wizard		×
Create Report Wizard		
Choose your page setting	gs and click the Run button.	
SOL	Paper Margins Other Size Orientation A4 210 x 297 mm Width, mm	
Manager for MySQL	Height, mm	
	Open the report after the wizard has finished Click "Run" to create report	
Help	< <u>B</u> ack Cancel	

Use the Margins tab to specify margins for the result report.

Open the report after the wizard has finished

If this option is checked, the report will be opened in <u>Report Designer</u> after generating.

When you are done, click the **Run** button to run the report generation process.

9.1.7.1.4.2 Specifying margins

Stretch to print area

If this option is checked, the size of report is adjusted to the print area. If this option is unchecked, you can specify the *left*, *right*, *top* and *bottom* margins (in millimeters).

Paper Margins	Other		
Page margins	s print area		
Left, mm	5	Right, mm	5
Top, mm	5	Bottom, mm	5

Use the **Other** tab to <u>specify other page settings</u> for the result report.

Open the report after the wizard has finished

If this option is checked, the report will be opened in <u>Report Designer</u> after generating.

When you are done, click the **Run** button to run the report generation process.

9.1.7.1.4.3 Specifying other page settings

Options

Print to previous page

This option allows to use white space on a previous page. This option can be used in case when a report template consists of several pages or when printing batch (composite) reports.

Two-pass report

If this option is selected, report's formation will be performed in two steps. During the first pass, a report is formed, and is divided into pages, but the result is not saved anywhere. During the second pass a standard report formation with saving a result in the stream is performed.

Page numbering

This option allows to print a page numbers.

Columns

Number

This parameter specifies the number of columns for multi-column reports' printing.

Gap, mm

This parameter specifies the width of the gap between columns.

Paper Margins Other		
Options	Columns	
Print to previous page	Number	0
Two-pass report Page numbering	Gap, mm	0

Open the report after the wizard has finished

If this option is checked, the report will be opened in <u>Report Designer</u> after generating.

When you are done, click the **Run** button to run the report generation process.

9.1.7.2 Report Designer

Report Designer allows you to create and edit reports. This tool can be opened after completion of <u>Create Report Wizard</u> to design a new report.

To edit an already existing project, use the appropriate <u>Navigation bar</u> item of <u>Report</u> <u>Viewer</u>.

This module is provided by Fast Reports, Inc. (<u>http://www.fast-report.com</u>) and has its own help system. Press **F1** key in the **Report Designer** to call the **FastReport** help.



Please find the instructions on how to create a simple report in the **Report Designer** below:

- <u>Adding dialog form</u>
- Adding database and query components
- Adding report data
- Viewing the report
- Saving the report

Note: The **Object Inspector** which allows you to edit report object properties, can be shown/hidden by pressing the **F11** key.

Availability: Full version (for Yes Windows) Lite version (for No Windows) Note: To compare all features of the Full and the Lite versions of SQL Manager, refer to the Feature Matrix page. See also: Create Report Wizard Report Viewer

9.1.7.2.1 Adding dialog form

To add a dialog form, select the File | New Dialog main menu item in Report Designer.

The new dialog appears within the *DialogPage1* tab of the designer. Use the available RAD tools to add necessary interface elements to the dialog.



To call the dialog, proceed to the **Code** tab and supply the corresponding statement (*PascalScript*), e.g. *begin*

DialogPage1.ShowModal; end.

Using the **Language** drop-down list you can select the script language to be used for the event handler: *PascalScript* (by default), *C++Script*, *BasicScript*, *Jscript*.

For instance, the following C++Script code can be used as the handler for the OnClick event of the 'Show' button to open <u>ZeosMyQuery</u>:

{ ZeosMyQuery1.Active = true; }

See also:

Adding database and query components Adding report data Viewing the report Saving the report 9.1.7.2.2 Adding database and query components

Adding database component

In order to add the Database component:

- proceed to the Data tab of Report Designer;
- pick the Zeos MySQL Database I component on the toolbar (on the left);
- click within the working area the corresponding ZeosMyDatabase1 icon appears in the area;
- set the database connection and authorization parameters using the **Properties Inspector**.



Adding query component

In order to add the Query component:

- proceed to the Data tab of Report Designer;
- pick the Zeos MySQL Query ^{Up} component on the toolbar (on the left);
- click within the working area the corresponding ZeosMyQuery1 icon appears in the area;
- set the database name and authorization parameters within the Properties Inspector
 ;
- double-click the ZeosMyQuery1 icon to open the SQL window;
- input the SQL query that returns the required dataset and click the \checkmark button;

• repeat the operation if you wish to add other query components to the report.



Note: The **Properties Inspector** panel which allows you to edit report object properties can be shown/hidden by pressing the **F11** key.

Using the above given steps you can create as many queries as you need. In order to select a dataset returned by a query, select the **Report | Data...** main menu item of **Report Designer** to call the **Select Report Datasets** dialog. Pick the required query within the dialog and press **OK**.



See also:

Adding dialog form Adding report data Viewing the report Saving the report

9.1.7.2.3 Adding report data

Adding bands

In order to add a band to the report:

- proceed to the Page1 tab of Report Designer;
- pick the Insert Band ➡^E component on the toolbar (on the left);
- select the band to be added to the report;
- click within the working area the corresponding element appears in the area;
- set element properties within the **Properties Inspector**.



Adding report data

In order to add data to the report:

- proceed to the **Data** tab within the panel on the right side of the window;
- pick a column within the **I** Data tree and drag it to the working area;
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 add all necessary elements one by one using drag-and-drop operation for each of them.



Note: The **Properties Inspector** panel which allows you to edit report object properties can be shown/hidden by pressing the **F11** key.

See also:

Adding dialog form Adding database and query components Viewing the report Saving the report 9.1.7.2.4 Viewing the report

Viewing the report

To preview the newly created report, select the **File | Preview** main menu item or use the corresponding **Preview** \square toolbar button. You can also use the *Ctrl+P* shortcut for the same purpose. This mode allows you to view, edit and print the result report.

To print the report, use the **Print** rightarrow toolbar button or the corresponding context menu item.

hum	Report Viewer	- [C:\EMS\SQL Manage	er for MySQL\Reports\actor	s.fr3]										
I	EMS SQL Manager for MySQL: Demo Report													
I	Actor ID	First name	Last name	Last update										
	1	PENELOPE	GUINESS	15.02.2006										
	2	NICK	WAHLBERG	15.02.2006										
	3	ED	CHASE	15.02.2006										
	4	JENNIFER	DAVIS	15.02.2006										
	5	JOHNNY	LOLLOBRIGIDA	15.02.2006										
	6	BETTE	NICHOLSON	15.02.2006										
	7	GRACE	MOSTEL	15.02.2006										
	8	MATTHEW	JOHANSSON	15.02.2006										
Ľ	9	JOE	SWANK	15.02.2006	-									
P	age 1 of 5		III		4									
	2				se <u>H</u> elp									

It is also possible to preview/print the report using Report Viewer.

See also:

Adding dialog form Adding database and query components Adding report data Saving the report

9.1.7.2.5 Saving the report

When all report parameters are set, you can save the report to an external *.fr3 file on your local machine or on a machine in the LAN.

To save the report, select the **File | Save** main menu item or use the corresponding \mathbf{F} **Save Report** toolbar button. You can also use the *Ctrl+S* <u>shortcut</u> for the same purpose.

If necessary, you can add the report to the database using <u>Create Report Wizard</u> and perform preview/print operations using <u>Report Viewer</u>.

See also: Adding dialog form Adding database and query components Adding report data Viewing the report

9.1.7.3 Report Viewer

Using **Report Viewer** you can view, edit, save and print reports.

Possible report operations are described on the <u>Using Navigation bar and Toolbar</u> page.

🖫 Report - [report3] - [sakila on do	om_server]			
🗄 🖯 Databases 👻 🔚 report3	- 2 🛃 🖓	l 🛛 😓 🗖		
Object *	E	MS SQL Manager f	or MySQL: Demo Rep	ort 🔒
sakila on doom_server 💌	Actor ID First n 1 PENE 2 NICK	ame Last nam LOPE GUINESS WAHLBE	e Last update S 15.02.2006 5:34: RG 15.02.2006 5:34:	:33 :33
General *	3 ED 4 JENNI 5 JOHN	CHASE FER DAVIS NY LOLLOB	15.02.2006 5:34: 15.02.2006 5:34: RIGIDA 15.02.2006 5:34:	33 33 33
Save report	6 BETTI 7 GRAC 8 MATT	E NICHOLS E MOSTEL HEW JOHANS	SON 15.02.2006 5:34: 15.02.2006 5:34: SON 15.02.2006 5:34:	33 33 33
i Print	9 JOE 10 CHRIS 11 ZERO	STIAN GABLE CAGE	15.02.2006 5:34: 15.02.2006 5:34: 15.02.2006 5:34:	33 33 33
	12 KARL 13 UMA 14 VIVIEI 15 CUBA	WOOD N BERGEN OLIVIER	15.02.2006 5:34: 15.02.2006 5:34: 15.02.2006 5:34: 15.02.2006 5:34: 15.02.2006 5:34:	33 33 33 -33
	16 FRED 17 HELE 18 DAN	COSTNE N VOIGHT TORN	R 15.02.2006 5:34: 15.02.2006 5:34: 15.02.2006 5:34: 15.02.2006 5:34:	.33 :33 :33 -
	•	III		E 4

Availability: Full version (for Yes Windows) Lite version (for No Windows) Note: To compare all features of the Full and the Lite versions of SQL Manager, refer to the Feature Matrix page.

See also:

Create Report Wizard Report Designer

9.1.7.3.1 Using Navigation bar and Toolbar

The **Navigation bar** and **Toolbar** provide quick access to tools implemented in **Report Viewer**.



The Navigation bar of Report Viewer allows you to:

Object

- 😑 select a database
- 🌃 select a report for viewing

General

- refresh the content of the window
- 🛿 edit report using <u>Report Designer</u>
- save the current report
- kalon a save the report to a *.fr3 file using the **Save as...** dialog
- 📚 print the report
- restore the default size and position of the viewer window

Items of the **Navigation bar** are also available on the **ToolBar** of the **Report Viewer** window. To enable the <u>toolbar</u>, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select **(e)** *Toolbar* (if you need the toolbar only) or **(e)** *Both* (if you need both the toolbar and the <u>Navigation bar</u>) in the **Bar style for child forms** group.

9.1.8 Search in Metadata

The **Search in Metadata** tool is implemented for quick search within the scope of database metadata. The tools allow you to set various search conditions and view the results.

To launch the **Search in Metadata** tool, select the **Tools** | Search in Metadata main menu item, or use the Ctrl+Alt+F shortcut.

- <u>Using Navigation bar and Toolbar</u>
- <u>Setting search conditions</u>
- Viewing search results



See also: Database Objects Management

9.1.8.1 Using Navigation bar and Toolbar

The **Navigation bar** and **Toolbar** provide quick access to tools implemented in **Search in Metadata**.

Database	*
🔒 sakila on doom_serve	er 💌
General	*
🚱 Search	
Restore default size	
Explorer	*
🖃 🔒 sakila on doom_	serv
H Tables (5)	
🗄 👗 Views (4)	
🗄 🚺 Procedures (4)
🕀 🚺 Functions (1)	
🐱 UDFs	
Scheduled Eve	nts

The Navigation bar of the Search in Metadata tool allows you to:

Database group

🖯 select a database for searching

General group

set search conditions
restore the default size and position of the window

Explorer group B browse the tree of found database objects

Items of the **Navigation bar** are also available on the **ToolBar** of the **Search in Metadata** tool. To enable the <u>toolbar</u>, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select **(i)** *Toolbar* (if you need the toolbar only) or **(i)** *Both* (if you need both the toolbar and the <u>Navigation bar</u>) in the **Bar style for child forms** group.

9.1.8.2 Setting search conditions

The **Find in metadata** dialog allows you to set search conditions. It opens each time the **Search in Metadata** tool is launched.

Find in metada	ta	×				
Text to find	film	•				
Database	🔒 sakila on doo	om_server [sakila]				
Options		Direction				
Case sens	itive	<u>F</u> orward				
<u>Whole wo</u>	rds only	Reduerd				
	xpi essions	Dackward				
	ОК	Cancel <u>H</u> elp				

Text to find

Enter a search string in this box. The Arrow-Down button which can be found next to the input box allows you to select any of the previously entered search strings.

Database

Use the drop-down list to select a database for the search operation.

Options

Available search options are similar to those provided by the **Find Text** dialog. For detailed description of the search options refer to the <u>Find Text dialog</u> page.

When all the options are set, click OK. The **Search in Metadata [search string]** report window will display the search progress and <u>results</u>.

See also: Find Text dialog

9.1.8.3 Viewing search results

The **Search in Metadata** window allows you to view the search progress and results fetched from the database.



After the search is complete, the **Explorer** group on the <u>Navigation bar</u> displays the tree of database objects in which the search string is found, and allows you to view metadata of the required object or its fragment quickly by clicking enclosed object branches in the tree.

The **Object <object_name>** area is provided for viewing metadata of the objects, with the search string highlighted.

For your convenience the **syntax highlight**, **code completion** and a number of other features for efficient SQL editing are implemented. For details see <u>Working with SQL Editor</u> area and <u>Using the context menu</u>.

9.1.9 Visual Database Designer

Visual Database Designer is provided for visual presentation of databases, database objects and relations between objects. It also allows you to create, edit and drop tables and table columns, set relations between tables and perform other operations you may need to achieve your purpose.

To open the designer, select the **Tools** | $\mathbb{H}^{\mathbb{H}}_{\mathbb{H}}$ **Visual Database Designer** <u>main menu</u> item, or use the $\mathbb{H}^{\mathbb{H}}_{\mathbb{H}}$ **VDBD** button on the main <u>toolbar</u>.

<u>D</u> atabase	<u>V</u> iew	<u>T</u> ool	ols Services Options Windows Help	
		Ø	Show SQL Editor F12	
		Ē	New SQL Editor Shift+F12	
		M	Show Query Builder	
		b€	New Query Builder	
		6	SQL Monitor Shift+Ctrl+M	
		8	SQL Script Shift+Ctrl+S	
		æ	New SQL Script Shift+F9	
		6	Extract Database	
		đ	Compare Databases	
		۵	Print Metadata	
		-3	HTML Report	
			Report Designer	
			Dependency Tree	
		Ø	Search in Metadata Ctrl+Alt+F	
		8	Copy Database	
		8	User Manager	
		۵	Grant Manager	
		₽ł <mark>0</mark>	Visual Database Designer	

- <u>Using Navigation bar and Toolbars</u>
- Using Diagram Navigator and DB Objects pane
- Using context menus
- <u>Adding/removing objects to/from diagram</u>
- Incremental search
- Creating new objects
- Creating relations
- <u>Working with diagram pages</u>
- <u>Reverse engineering</u>
- Printing diagram
- <u>Saving/loading diagram</u>
- <u>Setting diagram options</u>

Availability: Full version (for Yes Windows) Lite version (for No Windows) Note: To compare all features of the Full and the Lite versions of SQL Manager, refer to the Feature Matrix page.

See also:

Database Objects Management Visual Database Designer options

9.1.9.1 Using Navigation bar and Toolbars

The **Navigation bar** and **Toolbars** provide quick access to tools implemented in **Visual Database Designer**.

Database *
🔋 sakila on doom_server 💌
File \$
New diagram
Open diagram
Save diagram
Ter Save diagram as
Navigator [*]
-
General \$
General A
General *
General * Ceneral * Cenera
General * General * Refresh Print setup Print Print preview
 ✓ Ⅲ → General * ➢ Refresh ➢ Print setup ➢ Print ➢ Print preview ④ Page options
General ★ General ★ Refresh Print setup Print preview Page options
General ★ General ★ Refresh Print setup Print preview Print preview Pages ★ New page
General General Refresh Print setup Print Print preview Page options Pages New page Delete page
General General Refresh Print setup Print preview Print preview Page options Pages New page Delete page Delete all pages
General General Refresh Print setup Print preview Pages Pages New page Delete page Delete all pages
General General Refresh Print setup Print preview Print preview Pages Pages New page Delete page Delete all pages
General General Refresh Print setup Print preview Page options Pages New page Delete page Delete all pages Database Objects actor actor actor actor
General General Refresh Print setup Print preview Pages Pages New page Delete page Delete all pages Database Objects actor actor_info address category

The Navigation bar of Visual Database Designer allows you to:

Database group

号 select a database for building the diagram

General group

b edit diagram options

- restore the default size and position of the window
- set printing options using the **Print Setup** dialog
- 🔄 preview the diagram
- 📚 print the diagram
- la refresh objects in the diagram

Navigator group

✓ use <u>Diagram Navigator</u>

Database Objects group

- 🔑 <u>search</u> for objects in the diagram using the <u>Database Objects</u> pane
- + add objects to the diagram using the <u>Database Objects</u> pane

The **Toolbars** of **Visual Database Designer** provide quick access to most tools for working with diagrams.

To enable the <u>toolbars</u>, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select **(i)** *Toolbar* (if you need the toolbars only) or **(i)** *Both* (if you need both the toolbars and the <u>Navigation bar</u>) in the **Bar style for child forms** group.

The **main toolbar** (by default, the toolbar is located at the top of the diagram area) contains a number of tools (including items of the **Navigation bar**, <u>context menu</u>, tools for <u>printing diagram</u>, etc.) allowing you to:



- select the database for building the diagram;
- undo/redo;
- create a new diagram;
- open an existing diagram;
- <u>save</u> the current diagram to a *.myd file;
- <u>save</u> the current diagram as an image;
- activate the Incremental search panel;
- adjust diagram zoom for optimal representation: zoom in, zoom out, fit model;
- switch cursor mode: select / select rectangle to fit;
- open the <u>Print Setup</u> dialog;
- print the diagram;
- show <u>Print Preview;</u>
- arrange objects in the diagram;
- extract metadata of all objects in the diagram and load the script to <u>SQL Script Editor;</u>
- perform <u>Reverse Engineering;</u>
- refresh objects in the diagram;
- view/edit <u>diagram options;</u>
- specify a predefined zoom value;
- restore the default size and position of the window.

The **Pages** toolbar (by default, the toolbar is located at the top of the diagram area) contains tools for working with <u>diagram pages</u> allowing you to:



- add a new page;
- delete the current page;
- delete all pages.

The **Object Customization** toolbar (by default, the toolbar is located at the top-left of the diagram area) contains tools for customizing text elements on the diagram allowing you to:

🔋 🕒 Databases 🔹 🖄 🕅 🥰 🚺 📄 🥬 🌄 📲 📰 🔎 🔎 🔎 🖉 👹 🌺 🔎 🔓 🔂 🖗 😥 🎂 100% 🔹

- change text font;
- define font size;
- set text style: bold, italic or underline;
- specify text color;
- specify frame color;
- specify background color.

Diagram toolbar located on the left allows you to:

switch to object selection mode;

switch to create table mode (enables creating <u>tables</u> on clicking);

switch to create relation mode;

- 1 switch to create virtual relation mode;
- switch to create comment mode;
- align left edges;
- 🚽 align right edges;
- align tops;
- align bottom;
- 葺 align horizontal centers;
- align vertical centers;
- i space equally, horizontal;
- ⁺ space equally, vertical.

See also:

<u>Using Diagram Navigator and DB Objects pane</u> <u>Using context menus</u> <u>Adding/removing objects to/from diagram</u> <u>Incremental search</u> Creating new objects Creating relations Working with diagram pages Reverse engineering Printing diagram Saving/loading diagram Setting diagram options

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9.1.9.2 Using Diagram Navigator and DB Objects pane

To navigate within the large diagram, use the **Navigator** tool available on the <u>Navigation</u> <u>bar</u>. It allows you to see the whole diagram in a reduced scale and to perform a number of operations over the diagram objects.



A mouse click in the **Navigator** area sets the center of the visible diagram area. The area currently visible in the main diagram area is outlined in a red bounding rectangle.

Using the **Navigator** you can work with the diagram objects in the same way as in the main diagram area: <u>add/remove</u>, <u>create</u> new objects, move objects within the diagram and perform other operations.

The **Database Objects** pane available on the <u>Navigation bar</u> allows you to browse the list of available <u>database objects</u> that can be added to the diagram.



Select and drag an object to the diagram area or double-click it to \underline{add} the object to the diagram.

Right-click an item within the list to call the **context menu** allowing you to:

 \swarrow find the selected object in the diagram (if the object is found, it will be highlighted in the diagram area);

- add new objects to the diagram by <u>Reverse engineering</u>;
- specify whether tables are to be displayed;
- specify whether views are to be displayed;
- specify whether procedures are to be displayed;
- specify whether functions are to be displayed;
- ✓ toggle objects representation mode: as a tree / as a list;
- ✓ select the sorting mode applied to the objects in the list: by name / by type, name;
- 🗟 refresh the list.

See also:

<u>Using Navigation bar and Toolbars</u> <u>Adding/removing objects to/from diagram</u> <u>Creating new objects</u> <u>Creating relations</u> Working with diagram pages

9.1.9.3 Using context menus

The **context menu** of the diagram area contains a number of items available in the <u>Navigation bar</u> and <u>toolbars</u> and allows you to:

- select all objects in the diagram area;
- adjust diagram zoom for optimal representation: zoom in, zoom out, select rectangle to fit, fit model, specify a predefined zoom value;
- set the cursor mode to Select or create a new table, view, procedure, function, relation, virtual relation, or comment;
- configure the <u>grid</u>: draw grid, snap to grid;
- adjust the diagram <u>style</u>: draw primary key columns separately, draw entities icons, draw attributes icons, draw only names of entities, draw foreign key names;
- perform <u>Reverse Engineering;</u>
- extract metadata of the diagram objects to <u>SQL Script Editor;</u>
- view/edit diagram options.



The **context menu** of an entity contains items for working with the object and allows you to:

- <u>edit</u> the object using its editor (<u>Table Editor</u>, <u>View Editor</u>, <u>Procedure Editor</u>, <u>Function</u> <u>Editor</u>);
- <u>create</u> a new object using its editor (<u>New table</u>, <u>View Editor</u>, <u>Procedure Editor</u>, <u>Function Editor</u>);
- drop the object from the database;
- show/hide object subitems (for *tables*) or the entire object (for *procedures*, *functions*);
- <u>remove</u> the object from the diagram (for *tables*, *views*).



The **context menu** of a column contains items for working with the object and its columns and allows you to:

- edit the selected column using its editor (Column Editor);
- create a new column;
- drop the selected column;
- <u>edit</u> the object using its editor (<u>Table Editor</u>);
- <u>create</u> a new object using its editor (<u>New table</u>);
- <u>drop</u> the object from the database;
- show/hide object subitems;
- <u>remove</u> the object from the diagram.



See also:

<u>Using Navigation bar and Toolbars</u> <u>Adding/removing objects to/from diagram</u> <u>Incremental search</u> <u>Creating new objects</u> <u>Creating relations</u>

9.1.9.4 Working with diagram objects

- 9.1.9.4.1 Adding/removing objects to/from diagram
 - To *add* an object to the diagram:
 - drag it from the Database Explorer tree to the diagram area
 - or
 - drag it from the <u>Database Objects</u> pane (available on the <u>Navigation bar</u>) to the diagram area or simply double-click this object in the list.

To add objects by <u>Reverse engineering</u>, you can right-click within the **Database Objects** list and select the **+ Add new objects...** context menu item.

To remove an object from the diagram, select it in the diagram area, then right-click its title and choose the **Remove <object_name>** item from the <u>context menu</u>, or just press the **Del** key.



See also:

Using Navigation bar and Toolbars Using Diagram Navigator and DB Objects pane Using context menus Creating new objects Creating relations Reverse engineering Database Objects Management 9.1.9.4.2 Incremental search

- To **search** for an object within the diagram:
 - right-click the required object in the <u>Database Objects</u> pane and select the *P* Find Object in Diagram item from the context menu
- or
 - click the Incremental Search button on the main toolbar or use the Ctrl+I shortcut to activate the Incremental Search panel in the status bar area of the designer window.

Incremental Search: film

Type a string in the edit-box, and the object having the name with the closest match will be highlighted in the diagram area.

See also:

Using Diagram Navigator and DB Objects pane

9.1.9.4.3 Creating objects

- To <u>create</u> a new object using Visual Database Designer:
 - press the Create table button on the New object toolbar;
 - click the desired point on the diagram to place the new object at;
 - specify object properties using its editor (<u>New table</u>, <u>View Editor</u>, <u>Procedure Editor</u>, <u>Function Editor</u>).



Hint: To create a new object, you can also select the corresponding item from the <u>context menu</u>. The context menus also allow you to <u>edit</u> and <u>drop</u> database objects.

Note: Before you press the **Gompile** button the object is created on the diagram area only but not in the database.

See also:

<u>Using Diagram Navigator and DB Objects pane</u> <u>Adding/removing objects to/from diagram</u> <u>Incremental search</u> <u>Creating relations</u>

9.1.9.4.4 Creating relations

Creating material relations

To establish a new *material relation* (which is the <u>foreign key</u> in terms of database management):

- press the Create Relation button on the New object toolbar;
- click the entity where the referential constraint should be created;
- click the referred entity;
- specify the new foreign key properties using Foreign key Editor.



Creating virtual relations

Due to the fact that only tables of InnoDB <u>storage engine</u> support <u>Foreign Keys</u>, **SQL Manager for MySQL** provides an ability to build **virtual relations** between tables of other (non-referential) <u>storage engines</u> (e.g. MyISAM).

Virtual relations do not exist physically, they are only stored in the diagram. They are designed for building database structure visually regardless of the <u>storage engines</u> used. A virtual relation can be materialized further into a <u>Foreign Key</u> when you change the table <u>storage engine</u> to InnoDB.

To establish a new virtual relation (which is implemented as a virtual foreign key):

- press the Create Virtual Relation button on the New object toolbar;
- click the entity where the virtual referential constraint should be created;
- click the referred entity;
- specify the new virtual foreign key properties using Foreign key Editor.

Hint: To create a relation, you can also use the corresponding item of the <u>context menu</u>.

Once the relation is created, it is displayed as a line between two entities in the diagram area. The style the line is drawn is determined by the diagram *notation*. The **context menu** of this line allows you to <u>edit</u> the foreign key using <u>Foreign key Editor</u>, <u>drop</u> the foreign key from the database, or *materialize* the relation (if it is *virtual*).

film_category	,
<pre> film_id: SMAL for statement of the second sec</pre>	LINT(5) TINYINT(3) MESTAMP(0)
· · · · · · · · · · · • • • • • • • • •	· · · · · · · · · · · · · · · · · · ·
🖷	Edit Foreign Key "fk_film_category_category"
· · · · · · · · · · · · · · · · · · ·	Drop Foreign Key "fk_film_category_category"
	Reset Style of Selected Objects
	category
	category_id: TINYINT(3)
• • • • • • • • • • • • • • • • • • •	> name: VARCHAR(25)
	· · · · · · · · · · · · · · · · · · ·

See also:

Using Diagram Navigator and DB Objects pane Adding/removing objects to/from diagram Incremental search Creating new objects

9.1.9.5 Working with diagram pages

You can create several **pages** in one diagram to split the model into several subject groups, e.g. for better comprehension.

To manage diagram pages, right-click on the tabs at the bottom of the diagram area and select the required popup menu items for *adding*, *deleting* and *renaming* pages.



Hint: Page management items are also available on the <u>Pages toolbar</u> of Visual Database Designer.

See also:

<u>Using Diagram Navigator and DB Objects pane</u> Adding/removing objects to/from diagram

9.1.9.6 Reverse engineering

The **reverse engineering** operation builds relationship diagram on the basis of the current database's structure. The objects are arranged automatically within the diagram model.

To start the reverse engineering process, press the **Reverse Engineer** \bowtie button on the <u>main toolbar</u>, or use the corresponding item of the <u>context menu</u>.

-		0	Ş	2	Į	ð		1	ē	3	8	k	5	8	R	ł	Ĺ	9	(Þ	8	5%	•	•	2		Ŧ	
Ĵ	Ĵ	Ĵ	i	i	i	;	;	ì	÷	i	i	ì	Ĵ	ì	ì	Ņ	۵.	Re	ve	ers	e E	Engin	eer] :	÷	1		

The **Select objects** dialog allows you to specify the object types to be placed on the diagram upon reverse engineering: <u>tables</u>, <u>views</u>, <u>procedures</u>, <u>functions</u>.

Select objects	×
Object types Tables	
Procedures	
ОК	Cancel

See also:

<u>Using Navigation bar and Toolbars</u> <u>Using Diagram Navigator and DB Objects pane</u> Adding/removing objects to/from diagram

9.1.9.7 Printing diagram

Visual Database Designer allows you to print and preview the diagram.

To preview the diagram:

- press the A print Preview button on the toolbar;
- preview the diagram using the <u>Print Preview</u> window.

To setup print options:

- press the string Print Setup button on the toolbar, or use the corresponding link on the Navigation bar;
- set printing options using the <u>Print Setup</u> dialog and press **OK**.

To print the diagram:

- press the A Print button on the toolbar;
- set printing options using the <u>Print Setup</u> dialog and press the **Print** button.

9.1.9.7.1 Print Preview

The **Print Preview** dialog allows you to see the diagram layout in WYSIWYG mode before it will be printed.

Use the navigation buttons or the spinner control to navigate within the preview pages. Click the **Print options...** button to call the <u>Print Setup</u> dialog.

If necessary, specify the **preview zoom** according to your preferences. Click the **Print all** button to start printing.

Image Image Print all Print options Preview zoom 100 Image Image Image Image Image Image Image Image Image Image Image Image Image Image <t< th=""></t<>
<pre> film film_d: SMALLINT(5)</pre>
<pre> rental_current (13) rental_rate: DECIMAL(4,2) length: SMALLINT(5) replacement_cost: DECIMAL(5,2) rating: ENUM special_features: SET description: TEXT last_update: TIMESTAMP(0) film_category film_id: SMALLINT(5) category_id: TINYINT(3) category_id: TINYINT(3) </pre>
<pre> last_update: TIMESTAMP(0) category category category.</pre>

See also: Print Setup dialog

9.1.9.7.2 Print Setup dialog

The **Print Setup** dialog of **Visual Database Designer** provides two tabs for setting printing options: **Printer** and **Page options**.

The **Printer** tab of the **Print Setup** dialog allows you to:

- specify the printer (use the Choose printer button to select a printer which is not set by default on your system; the name, driver, port fields display the selected printer details);
- specify print layout: print using a defined *scale factor* or arrange diagram at a defined number of pages horizontally and vertically;
- set other print options.

Print setup
Printer Page options
Printer
Name: \\automation1c\Canon MF3200 Series Choose printer
Driver:
Port:
Print layout
Arrange diagram at 1 pages horizontally and 1 pages vertically
Print options
Skip empty pages V Print page borders
Print only selected objects
All pages
Pages from 0
OK Cancel

The Page options tab of the Print Setup dialog allows you to:

- specify page margins (in millimeters): Top margin, Bottom margin, Left margin, Right margin;
- specify **Page header** and **Page footer**: enter the header/footer running titles *text*, set left/center/right *align*.

Print setup			×
Printer Page options			
Left margin (mr Page header	Top margin (m 10	n) 10 💌 Right margin (mm) nm)	
🔘 Left align	Center align	Right align	
Page footer			
	Page #PAGE of	# PCOUNT	
Left align	Center align	Right align	
		ОК Салс	el

Hint: It is also possible to set macros in the Page header and Page footer fields:
#PCOUNT stands for the quantity of pages;
#PAGE - the number of the current page;
#DATE denotes the current date;
#TIME denotes the current time.

See also:

Print Preview

9.1.9.8 Saving/loading diagram

Use the \blacksquare Save Diagram and the B Open Diagram buttons on the main toolbar to save the diagram as a *.myd file for future use or to load the previously saved diagram.

😑 😑 Databases 🔻 🔟 🕋 🎦 🤔 Save Diagram (Ctrl+S

If necessary, you can save the diagram as an image: click the **Save as Picture** is button on the on the main toolbar.

See also: <u>Using Navigation bar and Toolbars</u> <u>Using Diagram Navigator and DB Objects pane</u> <u>Using context menus</u> Adding/removing objects to/from diagram

9.1.9.9 Setting diagram options

Using the **Diagram Options** dialog you can setup the behavior and look of each diagram page.

To open this dialog, use the **Diagram options** item of the <u>Navigation bar</u> or on the <u>main toolbar</u>, or select the corresponding item from the <u>context menu</u>.

See detailed description of each option on the <u>Visual Database Designer</u> page of the <u>Environment Options</u> dialog.

See also:

<u>Using Diagram Navigator and DB Objects pane</u> <u>Visual Database Designer options</u>

9.2 Specific DB Tools

SQL Manager for MySQL provides graphical interface for a number of database maintenance operations. The following *specific database tools* are available in **SQL Manager**:

Compare Databases Wizard

Creates an SQL Script providing databases synchronization.

Copy Database Wizard

Allows you to copy database objects and/or data from one database to another

Using templates

Facilitates using SQL Manager wizards

To obtain detailed information concerning specific MySQL database maintenance services, refer to the official MySQL server documentation.

See also: Common database tools

9.2.1 Compare Databases Wizard

Compare Databases Wizard creates an SQL script that provides database structure synchronization. To launch the wizard use the **Tools | i Compare Databases...** item of the <u>main menu</u>.



- <u>Selecting source database</u>
- <u>Selecting target database</u>
- <u>Selecting type of the synchronization script</u>
- Defining options for the destination script
- <u>Performing operation</u>

 Availability:

 Full version (for
 Yes

 Windows)
 Vindows)

 Lite version (for
 No

 Windows)
 Note: To compare all features of the Full and the Lite versions of SQL Manager, refer to the Feature Matrix page.

See also: Copy database wizard Show information
9.2.1.1 Selecting source database

Use this step to define source database for comparing.

👸 Database Comparer Wizar	d - [sakila on doom_server] - [adan on vadsrv]
Database Comparer	
Select the source databa	se
VisitSQL Manager for MysQL	Welcome to the Database Comparer Wizard! This wizard allows you to compare databases and create a script to deploy changes from one database into another one. This wizard will guide you through the process of specifying the source/target databases, and selecting the type of synchronization script. Source host
Help Templates	▼ < <u>Back</u> Cancel

Source host

Define host where source database is located.

Source database

Select source database from the drop-down list.

Click the **Next** button to proceed to the <u>Selecting target database</u> step.

9.2.1.2 Specifying target database

Use this step to define target database for comparing.

👸 Database Comparer Wizar	🖧 Database Comparer Wizard - [sakila on doom_server] - [test on doom_server]				
Database Comparer					
Specify the target databa	ise				
	At this step you are choosing target database				
	Target host Image: doom_server Target database Image: test on doom_server [test]				
SQL Manager for MySQL					
Help Templates	▼ < <u>Back</u> <u>N</u> ext > Cancel				

Target host

Define host where target database is located.

Target database

Select target database from the drop-down list.

Click the **Next** button to proceed to the <u>Selecting type of the synchronization script</u> step.

9.2.1.3 Selecting type of synchronization script

Specify the direction of the selected databases comparing.

👸 Database Comparer Wizar	d - [sakila on doom_server] - [test on doom_server]
Database Comparer	
Select the type of synchr	onization script
Image: Constraint of the second se	You can modify the target database, i.e. perform source-to-target synchronization, or vice versa. Generate script that transforms Target database into source database Source database into target database Source database: sakila on doom_server Target database: test on doom_server Script is executed on database: test on doom_server
Help Templates	▼ < <u>Back</u> <u>Next</u> > Cancel

Target database into source database

Enables reverse comparing: the synchronization script will contain statements which make the <u>target</u> database identical to the <u>source</u> one.

Source database into target database.

Enables direct comparing: the synchronization script will contain statements which make the <u>source</u> database identical to the <u>target</u> one.

Click the **Next** button to proceed to the <u>Defining options concerned destination script</u> step.

9.2.1.4 Defining options for destination script

Use this step to define additional option for destination script.

💼 Database Comparer Wizard - [sakila on doom_server] - [test on doom_server]				
Database Comparer				
Select additional options f	or destination script			
SQL Manager for MySQL	You can select file to a Script destination Automatically loa Save to file File name File charset	save script, or load script into Script Editor. Id to <u>S</u> cript Editor Database default		
<u>H</u> elp <u>T</u> emplates		< <u>B</u> ack <u>N</u> ext >	Cancel	

Automatically load to Script Editor

With this option is enabled, the synchronization script will not be saved. It will be loaded to <u>Script Editor</u>.

Save to file

Use this option if you need to save the synchronization script to a file.

File name

Defines the name of the file to save the synchronization script to. Click the \blacksquare Save button to locate file using the standard dialog or type the file name and it's location manually.

File charset

Specified character set will be used when saving the script to file.

Click the **Next** button to proceed to the <u>Performing operation</u> step.

9.2.1.5 Performing operation

This step of the wizard is intended to inform you that all necessary options have been set, and you can start comparing databases.

The log area allows you to view the log of operations and errors (if any).

👘 Database Comparer Wizard	d - [sakila on doom_server] - [test on doom_server] 📃 😑 💌				
Database Comparer					
Click "Run" to compare d	atabases				
	Process completed successfully!				
	100 %				
SQL Manager for MySQL	======================================				
	Close the Wizard after successful completion				
Help Templates Close Close					

Close the Wizard after successful completion

If this option is selected, the wizard is closed automatically when the process is completed. If the option is disabled then you can repeat the operation with the same or redefined parameters.

Click the **Run** button to run the backup database operation.

Use the <u>templates</u> button to save current settings to template or to restore settings from an existing template.

9.2.2 Copy Database Wizard

Copy Database Wizard allows you to transfer the entire database with its objects and data from one location to another.

To run the wizard, select the **Tools |** 号 **Copy Database...** <u>main menu</u> item.



- <u>Selecting source database</u>
- Specifying destination database
- <u>Selecting components to copy</u>
- <u>Selecting objects to copy their structure</u>
- Selecting objects to copy their data
- <u>Setting additional options</u>
- <u>Copying database</u>
- <u>Using templates</u>

Availability: Full version (for Yes Windows) Lite version (for No Windows) Note: To compare all features of the Full and the Lite versions of SQL Manager, refer to the Feature Matrix page.

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9.2.2.1 Selecting source database

This step of the wizard allows you to select the **source database** to copy and specify **destination database** registration status.

📴 Copy Database Wizard	
Copy Database	
Select the source databa	se and the destination database type
SQL Manager for MySQL	Welcome to the Copy Database Wizard! This wizard allows you to copy the selected database wholly or partially to a new database or to one of the existing databases. This wizard will guide you through the process of specifying the target database properties, selecting database structure elements for copying and setting other copying options. Source database Pestination database Registered database Non-registered database
Help	< <u>B</u> ack Cancel Cancel

Source Database

Use the drop-down list of registered and currently connected databases to select the database to copy.

Destination database

Select <a>
 Registered database if you want to copy the specified database to a registered database, or select <a>
 Non-registered database to copy the specified database to a new (non-registered) database. Optionally, you can select the
 Into new database mode. In this mode a new database will be created.

Click the **Next** button to proceed to the <u>Specifying destination database</u> step of the wizard.

9.2.2.2 Specifying destination database

Use this step of the wizard to set the **destination database** for copying objects to. If the database is already registered (i.e. **•** *Registered database* was selected at the <u>previous step</u>), then you just need to select a host and a database that resides on this host. Otherwise you should set all the connection properties using the corresponding boxes and options: *Host name, Port, User name, Password, Database* name.

🔒 Copy Database Wizard		
Copy Database		
Specify the destination d	atabase for copying obje	cts to
	<u>H</u> ost name <u>U</u> ser name Pa <u>s</u> sword	doom_server ▶ Port 3306 ▲ root
SQL Manager for MySQL	<u>D</u> atabase	copy_hr Load connection info
	Create profile for	destination database
Help		< Back Next > Cancel

Specify the host where the destination database resides: type in the host name in the **Host name** field or select one in the drop-down list.

Enter MySQL port to connect through in the **Port** field and provide *authorization* settings: **User name** and **Password**.

Optionally you can use **Named pipe** to connect to database. Define **Named pipe** in the respective field. Named pipe value is stored in the MySQL server configuration file.

Database

Type in the name of the database to copy objects into.

If necessary, check the **Create profile for destination database** option to register database in SQL Manager for MySQL.

The **Load connection info** menu allows you to select the alias of a previously registered database and use it's registration info for the newly created/configured database.

Click the **Next** button to proceed to the <u>Selecting components to copy</u> step of the wizard.

9.2.2.3 Selecting components to copy

This step allows you to specify the **components to copy**: choose whether *structure only*, *data only* or *both structure and data* should be copied.

🔁 Copy Database Wizard	
Copy Database	
Select database compon	ents to copy
	You can copy the database structure only, the data only, or both.
SQL Manager for MySQL	Which components would you like to copy? Copy both structure and data Copy structure only Copy data only
Help	< <u>B</u> ack <u>N</u> ext > Cancel

Click the **Next** button to proceed to the <u>Selecting objects to copy their structure</u> step of the wizard, or to the <u>Selecting objects to copy their data</u> step if you have specified to *copy data only*.

9.2.2.4 Selecting objects to copy their structure

This step of the wizard allows you to **select database objects for copying metadata**.

Note that this step is only available if the
 Copy both structure and data or
 Copy structure only mode was specified when <u>Selecting components to copy</u>.

Copy all database objects

Adds all objects of the source database to the copy database process.

Objects to copy

Use the drop-down list to select the type of objects to be copied.

To select an object, you need to move it from the **Available** list to the **Selected** list. Use the **Selected** list or drag-and-drop operations to move the objects from one list to another.

🔒 Copy Database Wizard			- • 💌
Copy Database			
Select database objects	to copy their structure		
	Copy <u>a</u> ll database obj	jects	
SQL Manager for MySQL	Available Available countries country customer customer employees_department import jobcandidate jobcandidate_new mymfavorites mymreports	Tables Tables Tables Views Procedures Functions UDFs Scheduled Events Triggers	ddress epartmenthistory ayhistory
Help		< <u>B</u> ack	Next > Cancel

Click the **Next** button to proceed to the <u>Selecting objects to copy their data</u> step of the wizard, or to the <u>Setting additional options</u> step if you specified to *copy structure only* when <u>Selecting components to copy</u>.

9.2.2.5 Selecting server objects to copy

This step of the wizard allows you to **select server objects for copying metadata**.

This step is available only when you copying database structure.

🕄 Copy Database Wizard		
Copy Database		
Select server objects to c	ору	
	Copy <u>a</u> ll server obj	ects
SQL Manager for MySQL	Objects to copy Available Provide the server1	Image: Servers Image: Servers
Help		< <u>B</u> ack <u>N</u> ext > Cancel

Copy all server objects

Use the option if you want all server objects to be copied.

To select objects manually, select object type from the Objects to copy drop-down list. Then move all needed objects of the selected type from **Available** list to **Selected**.

Click the **Next** button to proceed to the <u>Selecting objects to copy their data</u> step.

9.2.2.6 Selecting objects to copy their data

This step of the wizard allows you to **select tables for copying data**.

Note that this step is only available if the
 Copy both structure and data or
 Copy data only mode was specified when <u>Selecting components to copy</u>.

Copy data of the selected tables

Adds only selected tables to the Copy Database process.

Copy data of all tables

Adds all tables of the source database to the Copy Database process.

Copy data of tables selected on the previous step

Adds only the tables selected for copying their structure.

To select a table, you need to move it from the **Available** list to the **Selected** list. Use the **Selected** list or drag-and-drop operations to move the tables from one list to another.

🔒 Copy Database Wizard			
Copy Database			
Select database objects t	o copy their data		
SQL Manager for MySQL	 Copy data of the selected tables Copy data of all tables Copy data of tables selected on Available countries country customer employees_department employees_department1 import jobcandidate jobcandidate_new mymfavorites mymreports 		Selected employee employeedddress employeedepartmenthistory employeepayhistory department
Help	[< <u>B</u>	ack <u>N</u> ext > Cancel

Click the **Next** button to proceed to the <u>Setting additional options</u> step of the wizard.

9.2.2.7 Setting additional options

This step allows you to customize common **copying options** and **data options** for the Copy Database process.

Connection options

Use compression protocol

Enables using the compressed data protocol when connecting to the destination database.

Structure Options

Drop object if exists

Check the option to add the DROP IF EXISTS statements for the objects specified for copying.

Disable foreign key checks

If this option is selected, <u>foreign key</u> constraints are not considered in the copying process (*SET FOREIGN_KEY_CHECKS=0*).

Copy dependent objects

This option determines objects' dependencies usage in the copying process. Check the option to copy all objects that the selected objects depend on.

Copy privileges

Check the option to copy privileges associated with objects.

🔒 c	opy Database Wizard		-	-		\times
Co	py Database					
	Set additional options for c	copy process				
		Connection options				
		Structure options Drop object if exists				
		Disable foreign key checks				
	SOL	Copy dependent objects				
	Manager	Copy privileges				
	for	Extract structure for version	Current server versio	n		\sim
	MySQL	Trim tables and columns comments				
		Max comment length	30			× v
		Data options				
		Record count per each data block			50	00 ≑
		O Max allowed data block				
		Commit each data block				
		Extract table data just after its defin	nition			
		Delete old records before copying				
	<u>H</u> elp	<	: <u>B</u> ack <u>N</u> ext >		Can	icel

Data options

Record count per each data block

In this mode you can define number of records in each committed block manually. Use the spinner control for this purpose.

Max allowed data block

Select this option to set maximum size for data block.

Commit each data block

Check this option to add the *COMMIT* statement after the defined number of records.

Extract table data just after its definition

Check the option to extract table metadata before extracting data.

Delete old records before copying

Check the option to truncate target table (if it exists) before inserting data from a source table.

When you are done, click the **Next** button to proceed to the <u>Copying database</u> step of the wizard.

9.2.2.8 Copying database

This step of the wizard is intended to inform you that all necessary options have been set, and you can start the Copy Database process.

The **Operations** tab allows you to view the log of operations and errors (if any).

🔒 Copy Database Wizard		- • •
Copy Database		
Click the "Run" button for	start the copy process	
	Click "Run" to copy the database.	
200	0 %	
SQL Manager for MySQL		
Help	Abort copying on error Close the Wizard after successful completion < <u>Back</u> <u>Run</u>	Cancel

Abort copying on error

This option determines whether the copying process should be stopped or forced to continue if an error occurs.

Close the Wizard after successful completion

If this option is selected, the wizard is closed automatically when the process is completed.

If necessary, you can save a <u>template</u> for future use.

Click the **Run** button to complete the operation.

9.2.3 Show information

Show information has many forms that provide information about databases, tables, columns, or status information about the server. To access this tool open the main menu **Tools | Show** submenu and select the needed item. Alternatively you can use the **Database Tools | Show** in the database <u>context menu</u>.

6	Extract Database		
đ	Compare Databases	E	Show binary logs
	Print Metadata		Show binlog events
-3	HTML Report	ab	Show character set
	Report Designer	a	Show collation
	Dependency Tree	8	Show databases
6	Search in Metadata Ctrl+Alt+F	*	Show engines
6	Copy Database	В.	Show errors
8	User Manager	2	Show privileges
۵	Grant Manager	2	Show processlist
₽₽	Visual Database Designer	Δ	Show warnings
	External Tools	e .	Show create database
G	Chaur		Show open tables
	Show	<u>.</u>	Show procedure status
		.	Show table status
			Show tables
			Show triggers

You can find more detailed info at: http://dev.mysql.com/doc/refman/5.0/en/show.html

Availability: Full version (for Yes Windows) Lite version (for No Windows) Note: To compare all features of the Full and the Lite versions of SQL Manager, refer to the Feature Matrix page.

See also: Compare Databases Wizard Copy Database Wizard

9.2.3.1 Using Navigation bar and Toolbar

The **Navigation bar** and **Toolbars** provide quick access to tools implemented in **Show Information**.

Host or Database	*
Hr on merlin:5149(1)	•
General	*
Refresh	
Host	*
E Show binary logs	
Show binlog events	
ab cd Show character set	
az Show collation	
🔒 Show databases	
🙀 Show engines	
🔒 Show errors	
🐎 Show privileges	
now processlist 🌮	
A Show warnings	
Database	*
e Show create database	
Show open tables	
Show procedure status	
Show table status	
Show tables	
🛃 Show triggers	

The Navigation bar of Show Information allows you to:

General group elect a database

Host group Show binary logs Show binlogs events Show character set Show collation Show databases
 Show engines
 Show errors
 Show privileges
 Show processlist
 Show warnings

Database group
Show create database
Show open tables
Show procedure status
Show table status
Show tables

🛃 <u>Show triggers</u>

The **Toolbars** of **Visual Database Designer** provide quick access to most tools of **Show Information** feature.

To enable the <u>toolbars</u>, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select **(i)** *Toolbar* (if you need the toolbars only) or **(i)** *Both* (if you need both the toolbars and the <u>Navigation bar</u>) in the **Bar style for child forms** group.

9.2.3.2 Show host information

Show binary logs

Lists the binary log files on the server.

Command: 'S	how binary logs'	
	i: 🚽	
Drag a column header here to group by that column		.
Elog_name	File_size	
▶ mysql-bin.000001	6 222	
mysql-bin.000002	157	
mysql-bin.000003	16 278 138	
mysql-bin.000004	23 160 763	
mysql-bin.000005	24 724	-

Table displays log name and file size in respective columns.

Show binlogs events

Shows the events in the binary log. Binary log consists of files that store events describing changes in database.

		Comm	and: 'Show bi	inlog events'		
• • • • •	₩ ₩	۲] * (* ۲	Find:	Ŧ		
Drag a column heade	r here to g	roup by that colum	n			Ê
🗄 Log_name 🛛 👻	Pos 💌	Event_type 💌	Server_id 💌	End_log_pos 👻	Info 💌	
mysql-bin.000001	4	Format_desc	1	114	Server ver: 5.6.2-m5-log, Binlog ver:	
mysql-bin.000001	114	Query	1	178	BEGIN	
mysql-bin.000001	178	Query	1	297	DELETE FROM mysql.columns_priv	
mysql-bin.000001	297	Query	1	362	COMMIT	
mysql-bin.000001	362	Query	1	426	BEGIN	-

Table displays log name, start log position, event type, server ID, end log position and additional info.

Show character set

Shows all available character sets.

	Command: 'Show ch	aracter set'		
	▶ ₩ 🖙 🛞 😽 🔽 Find:	-		
Drag a column header	here to group by that column			•
🗄 Charset 💌	Description	Default collation	Maxlen 👻	
▶ big5	Big5 Traditional Chinese	big5_chinese_ci	2	
dec8	DEC West European	dec8_swedish_ci	1	
cp850	DOS West European	cp850_general_ci	1	
hp8	HP West European	hp8_english_ci	1	
koi8r	KOI8-R Relcom Russian	koi8r_general_ci	1	-

Table displays *character set*, its *description*, *default collation* (set of rules for data comparing, that is used by default for corresponding character set; these rules define table of codes and used for collation of current character set with Unicode and other formats) and *max length* (in bytes).

Show collation

Lists collations supported by the server.

	Command: 'Show	collation'				
	Find:	-				
Drag a column header here to group by that c	olumn					•
E Collation	Charset 💌	ld 💌	Default 💌	Compiled 💌	Sortlen 💌	
▶ big5_chinese_ci	big5	1	Yes	Yes	1	
big5_bin	big5	84		Yes	1	
dec8_swedish_ci	dec8	3	Yes	Yes	1	
dec8_bin	dec8	69		Yes	1	
cp850_general_ci	cp850	4	Yes	Yes	1	-

Table displays *collation* name, corresponding *character set*, *collation ID*, whether collation is *default* for its character set, is collation *compiled* on server and *sorting length* (memory size required for sorting string data).

Show databases

Lists the databases on the MySQL host.

Command: 'Show databases'		
. HH H I ▶ ▶ ₩ C * * 🕸 Find:		
Drag a column header here to group by that column		*
E Database	-	
my_db		
mysql		
new_db		
new_dba_rep		
performance_schema		-

Show engines

Displays status information about the server's storage engines.

			Command: 'Show engines'				
[M M M M) * * [여 🗰 🐄 🔽 Find: 🥫				
(Drag a column hea	der here to gr	oup by that column				
:	Engine 💌	Support 👻	Comment 🗨	Transactio 👻	XA 👻	Savepoints 👻	
►	FEDERATED	NO	Federated MySQL storage engine	Null	Null	Null	
	MRG_MYISAM	YES	Collection of identical MyISAM tables	NO	NO	NO	
	MyISAM	YES	MyISAM storage engine	NO	NO	NO	
	BLACKHOLE	YES	/dev/null storage engine (anything you write to it di	NO	NO	NO	
	CSV	YES	CSV storage engine	NO	NO	NO	Ŧ

Table displays *engine* name, whether engine is *supported* by server, brief *comments*, whether *transactions*, *XA* transactions and *savepoints* are supported by this engine.

Show errors

Shows the error messages that resulted from the last statement that generated messages in the current session.

Command: 'Show errors'
. HM HA → → → → CA ★ → ▼ Find:
Drag a column header here to group by that column
E Level Code Message

Table displays error *level*, error *code* and *text* of error message.

Show privileges

Shows the list of system privileges that the MySQL server supports. The list can vary depending on the current server version.

		Comma	nd: 'Show privileges'	
:[M M M M P	▶ ₩ ♀ * * ₹	Find:	
	Drag a column heade	r here to group by that column		-
:	Privilege 💌	Context 💌	Comment 💌	
Þ	Alter	Tables	To alter the table	
	Alter routine	Functions, Procedures	To alter or drop stored functions/procedures	
	Create	Databases, Tables, Indexes	To create new databases and tables	
	Create routine	Databases	To use CREATE FUNCTION/PROCEDURE	
	Create temporary ta	Databases	To use CREATE TEMPORARY TABLE	Ŧ

Table displays *privilege* name, *context* (objects, which this privilege can be applied to) and brief *comments*.

Show processlist

Lists threads which are currently running.

					Command: 'Show processlist'	
.[M [H]	•	•	ဂြ	🔺 🗮 🐨 Find:	
	Drag a coli	umn	header here to d	iroi	in by that column	
	orag a con					
:=	ld [•	User	•	Host	db
:	ld [▼ 6	User root	•	Host ka.office.ems.chel.su:53152	db dep
1	ld [▼ 6 8	User root root	•	Host ka.office.ems.chel.su:53152 ka.office.ems.chel.su:53154	db dep dep

Table displays the connection *ID*, *user* who issued the statement, client *host*, default *database* (NULL if not selected), type of *command* the thread is executing, *time* in seconds that the thread has been is current state, *state* that indicates what the thread is doing, *info* - the statement the thread is executing (NULL if it is not executing any statement).

Show warnings

Shows the error, warning, and note messages that resulted from the last statement that generated messages in the current session.



Table displays warning *level*, its *code* and *message*.

9.2.3.3 Show database information

Show create database

Shows the CREATE DATABASE statement that creates the given database.

Command: 'Show create database `test`'							
H H H I H H H	Find:						
Drag a column header here to	Drag a column header here to group by that column						
Database	Create Database						
▶ test CREATE DATABASE `test` /*!40100 DEFAULT CHARACTER SET							

Table displays *database* name and respective *CREATE DATABASE* statement.

Show open tables

Lists the non-TEMPORARY tables that are currently open in the table cache.

	Command: 'Show open tables'							
	HH HI I ▶ ▶ ₩ CI * 1* 🐨 Find:							
Drag a column he	ader her	e to group by that column			* []]			
I Database	-	Table	In_use 💌	Name_locked				
▶ mysql		proxies_priv	0	0				
nerformance so		avanta waita aummany alabal by avant nama		0				
periormanee_a	mema	events_waits_summary_global_by_event_name	0	0				
performance_so	chema	setup_timers	0	0				

Table displays *database* name, where the table is contained, the *table* name, the number of table locks or lock requests for the table (In_use), and whether the table *name is locked*.

Show procedure status

Shows status of all procedures on the host.

	Command: 'Show procedure status'										
:[
	Drag a column header here to group by that column										
1	Db 👻	Name 👻	Туре 💌	Definer 💌	Modified	-	Created 👻	Security_! -	character_set_client	 collation_connect 	ik .
1	Db 💌 dep	Name 💌	Type 💌 PROCEDU	Definer 💌 nb@::ffff:192	Modified 2011-07-15 12:03:1	• (Created 💌 2011-07-15	Security_1	character_set_client [latin1	 collation_connect latin1_swedish_ci 	ik i
	Db 💌 dep dep	Name v curdemo curdemo1	Type 💌 PROCEDU PROCEDU	Definer v nb@::ffff:192 nb@::ffff:192	Modified 2011-07-15 12:03:1 2011-07-15 12:03:1	10 2	Created 💌 2011-07-15 2011-07-15	Security_1 - DEFINER DEFINER	character_set_client [latin1 latin1	 collation_connecting latin1_swedish_cing latin1_swedish_cing 	i i

Table contains name of *database* where procedure is stored, procedure *name*, procedure *type*, procedure *definer*, date when the procedure was last *modified*, date when the procedure was *created*, *security type* (whether procedure executed using the invoker or definer privileges), brief *comments*, client *character set* name, *collation* of the connection character set, *database collation*.

Show table status

Lists non-temporary tables in the specified database and provides vary information about each table.

	Command: 'Show table status'											
][[₩ . ◀ . ► . ► . ►											
	Drag a colum	n header here f	to group by	that column								^
3	Name 👻	Engine 💌	Versio 💌	Row_fon -	Rows 💌	Avg_row 👻	Data_len 👻	Max_dat 👻	Index_ler 👻	Data_fre 👻	Auto_inc 👻	
	table2	MyISAM	10	Fixed	0	0	0	11 540 474 (1 024	0	Null	
	table3	InnoDB	10	Compact	0	0	16 384	0	0	4 194 304	1	(=)
	table3_new	InnoDB	10	Compact	0	0	16 384	0	0	4 194 304	1	-

Table contains *name* of the table, storage *engine* for the table, *version* number of the table's .frm file, *row-storage* format (Fixed, Dynamic, Compressed, Redundant, Compact), number of *rows*, *average row length*, *length of the data file*, *maximum length of the data file*, *length of the index file*, *Data_free* - number of allocated but unused bytes, next AUTO_INCREMENT value, *Create_time* - time when the table was created, *Update_time* - time when the data file was last updated, *Check_time* - time when the table was last checked, the table's character set and *collation*, the live *checksum* value (if any), *Create_options* - extra options used with CREATE TABLE statement, the comment used when creating the table.

Show tables

Lists all tables of the selected database.

Command: 'Show tables'	
. HH H I → → → H C * * ▼ Find:	
Drag a column header here to group by that column	*
I ables_in_dep	[
mymfavorites	=
mymreports	
new_table1	
new_table2	-

Table displays names of tables stored in the database.

Show triggers

Lists the triggers currently defined for tables in a database.

Command: 'Show triggers'							
H							
Drag a column header here to	Drag a column header here to group by that column						
🗄 Trigger 💌	Event 💌	Table 💌	Statemer 💌	Timing 💌	Createc 💌	sql_mode	
1_refresh_before_upd_tr1	DELETE	1_refresh	BEGIN	AFTER	Null		
1_refresh_before_upd_tr11	UPDATE	1_refresh1	BEGIN	BEFORE	Null		

Table displays *trigger* name, *event* that causes trigger activation (INSERT, UPDATE or DELETE), *table* for which trigger is defined, *statement* to be executed when trigger is activated, trigger *timing* (BEFORE or AFTER), *Created* (currently the value of this column is always NULL), *SQL mode* in effect when the trigger executes (starting from MySQL ver. 5.0.11), definer - account under which the trigger was created, client *character set* name, *collation* of the connection character set, *database collation*.



10 Server Tools

SQL Manager for MySQL provides a number of powerful tools for working with your database server:

Dump Database Backup Tables Restore Tables Flush Analyze Tables Check Tables Optimize Tables Optimize Tables Truncate Tables Change Tables Engine Server Properties Instance Manager Run mysql.exe Ping Server Shutdown Server

To obtain detailed information concerning MySQL security system and services, refer to the official MySQL server documentation.

See also: <u>Getting Started</u> <u>Database Explorer</u> <u>Database Management</u> <u>Database Objects Management</u> <u>Query Management Tools</u> <u>Data Management</u> <u>Import/Export Tools</u> <u>Database Tools</u> <u>Server security management</u> <u>Personalization</u> <u>External Tools</u> <u>How To...</u>

10.1 Dump Database

Dump Database Wizard allows you to backup a MySQL database into an SQL script using *mysqldump.exe* client. It can be used to dump a database or a set of databases for backup or transfer to another SQL server (not necessarily a MySQL server).

To run this wizard select the **Services | 🖗 Dump Database** <u>main menu</u> item.



- <u>Specifying source host</u>
- <u>Selecting databases to dump</u>
- <u>Selecting objects to dump</u>
- <u>Specifying destination file name</u>
- <u>Setting dump options</u>
- <u>Setting structure options</u>
- <u>Setting data options</u>
- <u>Performing operation</u>

See also: Backup Tables Restore Database Using templates

10.1.1 Specifying source host

Use this step to define a host where the databases are located and connection parameters.

🖗 Dump Database Wizard		
Dump Database		
Select host to dump		
SQL Manager for MySQL	Welcome to the Dump D This wizard allows you mysqldump.exe. Select host on which yo HTTP connection can't <u>H</u> ost User Password	Natabase Wizard! to backup a MySQL database into an SQL script using nu want to backup objects. be used! doom_server root *********
Help Templates	•	< Back Next > Cancel

Use the respective drop-down list to select a registered **Host** where the databases are located.

Also, you need to provide *authorization* settings: **User** and **Password** to connect to the server.

By default, these fields are filled up with authorization parameters provided in the <u>Database Registration Info</u> dialog. You can specify another settings for working with *mysqldump.exe*, for example administrator account, in case a user with restricted access rights is used for managing database.

Click the **Next** button to proceed to the <u>Selecting databases to dump</u> step of the wizard.

10.1.2 Selecting databases to dump

This step of the wizard allows you to select the database(s) that reside on the selected host for dumping.

To select a database, you need to move it from the **Available** list to the **Selected** list. Use the **Selected** list is another in the selected list of the selected list.

Select all databases

This option is equivalent to the '--all-databases' option of the mysqldump. If this option is checked then all tables and views of all databases on the selected host will be dumped.

Click the **Next** button to proceed to the <u>Selecting objects to dump</u> step of the wizard.

10.1.3 Selecting objects to dump

This step of the wizard allows you to **select database(s) objects for dumping**.

Note that this step is only skipped if the \square Select all databases option was selected on the <u>Selecting databases to dump</u> step.

🐖 Dump Database Wizard			- • •
Dump Database Select objects to dump			
SQL Manager for MysQL	Select all tables and v Database Object type Available country customer film_actor film_category film_text inventory language	iews sakila Tables Selected actor address category city	
Help Templates	•	< <u>B</u> ack <u>N</u> ext	> Cancel

Select all tables and views

Adds all objects of the source databases to the dump database process.

Database

Use the drop-down list to select one of the databases specified on the <u>Selecting</u> <u>databases to dump</u> step.

Object type

Use the drop-down list to select the type of objects to be dumped.

To select an object, you need to move it from the **Available** list to the **Selected** list. Use the **Selected** list or drag-and-drop operations to move the objects from one list to another.

Click the **Next** button to proceed to the <u>Specifying destination file name</u> step of the wizard.

10.1.4 Specifying destination file name

Use this step to specify the dump file(s) output options.

Dump Database Wizard								
Dump Database								
Specify the output format	and output file name							
SQL Manager for MysQL	 Dump to file (all selected datable File path Dump to folder (each table will be Folder path Charset XML format 	ase objects will be exported into a single file) C:\EMS\SQL Manager for MySQL\Dump20130823.sql exported into a separate file) C:\Users\tio\Documents\SQL Manager for MySQL\Bac						
<u>H</u> elp <u>T</u> emplates	·	< <u>B</u> ack <u>N</u> ext > Cancel						

Dump to file

Select this option to export all dumped objects of the selected databases into a single file.

File path

Provide the path to the file for saving the dump script to. Click the 🗎 **Save** button to locate file using the standard dialog or type the file name and it's location manually.

Dump to folder

This option indicates that the dump script should be splitted into different files. Each table will be exported into a separate file. All views, procedures and functions are exported to the 'routines.sql file.

Folder path

Provide the path to the folder where dump script files will be stored. Click the Browse button to locate the folder using the standard dialog or type the folder path manually.

Charset

If necessary, use the drop-down list to select the character set for the file with exported data.

XML format

If this option is checked then the result dump file will be saved in the *.xml file.

Click the **Next** button to proceed to the <u>Setting dump options</u> step of the wizard.
10.1.5 Setting dump options

This step allows you to specify the **dump options**: choose whether *structure only*, *data only* or *both* are to be dumped.

🐖 Dump Database Wizard		• •
Dump Database		
Set dump options		
SQL Manager for MySQL	You can select to dump database structure, object data, or both. Dump both structure and data Dump structure only Dump data only 	
<u>H</u> elp <u>T</u> emplates	< <u>B</u> ack <u>N</u> ext > □	Cancel

Click the **Next** button to proceed to the <u>Setting structure options</u> step of the wizard.

10.1.6 Setting structure options

Use this step of the wizard to set structure options of the result file. Note that this step is skipped if the <a>Oump data only option was selected on the <a>Setting dump options step.

🔤 Dump Database Wizard	- 🗆 X
Dump Database	
Set structure options	
SQL Manager for MySQL	 Dump events Dump triggers Dump stored routines (procedures and functions) Add "DROP DATABASE" statement Add "CREATE TABLE" statement Add "DROP TABLE" statement Include all MySQL-specific table options in the "CREATE TABLE" statements
Help Templates	▼ < <u>B</u> ack <u>N</u> ext > Cancel

Dump events

This option is equivalent to the '--*events*' option of the *mysqldump*. Include Event Scheduler events for the dumped databases in the output.

Dump triggers

This option is equivalent to the '--triggers' option of the *mysqldump*. Include triggers for each dumped table in the output.

W Dump stored routines (procedures and functions)

This option is equivalent to the '--routines' option of the *mysqldump*. Include stored routines (procedures and functions) for the dumped databases in the output. The output generated contains CREATE PROCEDURE and CREATE FUNCTION statements to re-create the routines.

Add "DROP DATABASE" statement

This option is equivalent to the '--add-drop-database' option of the mysqldump. Check the option to add the DROP DATABASE statement for the database in the result script.

Add "CREATE TABLE" statement

This option regulates the '--no-create-info' parameter of the *mysqldump* command. Check this option to add the *CREATE TABLE* statement to the result script that re-creates each dumped table.

Add "DROP TABLE" statement

This option is equivalent to the '--add-drop-table' option of the mysqldump. Check this option to add a DROP TABLE statement before each CREATE TABLE statement.

Include all MySQL-specific table options in the "CREATE TABLE" statements

This option is equivalent to the '--create-options' option of the mysqldump.

Click the **Next** button to proceed to the <u>Setting data options</u> step of the wizard.

10.1.7 Setting data options

Use this step of the wizard to set data options of the result file. Note that this step is skipped if the

Dump structure only option was selected on the Setting dump options
step.

뒏 Dump Database Wizard		- • -
Dump Database Set data options		
SQL Manager for MysQL	 Add locks around INSERT statements Disable keys before dump data Dump binary strings (BINARY, VARBINARY, BLOB) in hex Use "INSERT IGNORE" statement Use multiple-row INSERT 	:
<u>H</u> elp <u>T</u> emplates	▼ < <u>B</u> ack <u>N</u> ext >	Cancel

Add locks around INSERT statements

This option is equivalent to the '--*add-locks*' option of the *mysqldump*. If this option is checked then each table dump is surrounded with LOCK TABLES and UNLOCK TABLES statements.

Disable keys before dump database

This option is equivalent to the '--disable-keys' option of the mysqldump. Check this option to surround the INSERT statements with /*!40000 ALTER TABLE tbl_name DISABLE KEYS */; and /*!40000 ALTER TABLE tbl_name ENABLE KEYS */; statements for each table.

Dump binary strings (BINARY, VARBINARY, BLOB) in hex

This option is equivalent to the '--*hex-blob*' option of the *mysqldump*. If this option is checked then binary columns are dumped using hexadecimal notation.

Use "INSERT IGNORE" statement

This option is equivalent to the '--insert-ignore' option of the mysqldump.

INSERT IGNORE statements are written instead of INSERT statements in a script.

Use multiple-row INSERT

This option is equivalent to the '--*extended-insert*' option of the *mysqldump*. Check this option to use multiple-row INSERT syntax that include several VALUES lists. This results in a smaller dump file and speeds up inserts when the file is reloaded.

Click the **Next** button to proceed to the <u>Performing operation</u> step of the wizard.

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10.1.8 Performing operation

This step of the wizard is intended to inform you that all dump options have been set, and you can start the dump process.

The log area allows you to view the log of operations and errors (if any).

嫴 Dump Database Wizard		
Dump Database Click "Run" to dump		
SQL Manager for MysQL	Connecting to merlin Retrieving table structure for table actor Sending SELECT query Retrieving rows Retrieving table structure for table address Sending SELECT query Retrieving rows Retrieving table structure for table category Retrieving table structure for table category Retrieving rows Retrieving rows Retrieving table structure for table city Retrieving selfect query Retrieving rows Retrieving table structure for table city Retrieving selfect query Retrieving rows Retrieving rows	
Help <u>T</u> emplates	▼ < <u>Back</u> <u>Run</u> Close	J

Close the Wizard after successful completion

If this option is selected, the wizard is closed automatically when the dump process is completed.

If necessary, you can save a <u>template</u> for future use.

Click the **Run** button to run the extraction process.

10.2 Restore Database

Restore Database Wizard allows you to restore a MySQL database from an SQL script using *mysql.exe* client. It can be used for restoring a database or a set of databases.

Note: For running the restoring process the *mysql.exe* file must be situated in the *C*: *Program Files* (*x*86)*EMS**SQL Manager for MySQL**Dump* directory.

To run this wizard select the **Services** | **Provide Restore Database** <u>main menu</u> item.



- <u>Specifying host</u>
- <u>Selecting file for restoring</u>
- <u>Selecting databases</u>
- <u>Selecting objects</u>
- <u>Performing operation</u>

See also:

<u>Restore Tables</u> <u>Dump Database</u> Using templates

10.2.1 Specifying host

Use this step to define a host where the databases should be restored and connection parameters.

🝺 Restore Database Wi	izard	
Restore Database		
Select host to rest	ore database on	
	Welcome to the F This wizard allow mysql.exe.	Restore Database Wizard! is you to restore a MySQL database from an SQL script using
	nich you want to restore objects. n can't be used!	
SQL Manage	r Host	merlin:5149
MySQL	User	tester
	Password	*****
Help Tem	plates 🗸	< <u>B</u> ack <u>N</u> ext > Cancel

Use the respective drop-down list to select a registered **Host** where the databases are located.

Also, you need to provide *authorization* settings: **User** and **Password** to connect to the server.

By default, these fields are filled up with authorization parameters provided in the <u>Database Registration Info</u> dialog. You can specify another settings for working with *mysql.exe*, for example administrator account, in case a user with restricted access rights is used for managing database.

Click the **Next** button to proceed to the <u>Selecting file for restoring</u> step of the wizard.

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10.2.2 Selecting file for restoring

On this step you need to specify a dump file or a folder with dump files that should be restored.

穿 Restore Database Wizard				- • •
Restore Database				
Select file for restoring				
	Restore from file (the whole file will be	e imported)		
	File path	C:\shared\dumps\Dump2	0141201.sql	2
	Default target databa	ise	🔒 hr	-
SQL Manager	NOTE: target databa is ignored.	ase is only used if the file d	oesn't contain so	chema, otherwise it
for	Restore from folder			
MySQL	(you can do a selec	tive restore)		
	Folder path	C:\Users\tester\Documer	nts\SQL Manage	r for MySQL\B
	Charset	utf8 (UTF-8 Unicode)		•
Help Templates	ŀ	< <u>B</u> ack	<u>N</u> ext >	Cancel

Restore from file

Select this option to restore a database or a set of databases from the single dump file.

File path

Provide the path to the file for loading the dump script. You can specify file name and location manually or locate it using standard **Open** dialog.

Default target database

Use the drop-down list of the databases located on the host to select the database that should be restored. This value is used if the dump file does not contain *CREATE DATABASE* or USE statements, otherwise it is ignored and all databases included in the dump file are restored.

Restore from folder

Select this option to restore a database or a set of databases from a set of files located in one folder.

Folder path

Provide the path to the folder for loading the dump files. You can specify the folder

location manually or locate it using standard 🙆 **Open** dialog.

Charset

If necessary, use the drop-down list to select the character set of the script.

Click the **Next** button to proceed to the <u>Selecting databases</u> step of the wizard.

10.2.3 Selecting databases

This step appears if on the <u>previous step</u> the **O Restore from folder** option was selected. On this step you can select databases that should be restored.

🝃 Restore Database Wizard			- • •
Restore Database			
Select databases for restori	ng		
SQL Manager for MysQL	Available pump test	Selected sakila_copy	
Help Templates		< <u>B</u> ack <u>N</u> ext >	Cancel

The **Available** list contains all databases found in the specified folder.

To select a database, you need to move it from the **Available** list to the **Selected** list. Use the a a b b b b buttons or drag-and-drop operations to move the databases from one list to another.

Click the **Next** button to proceed to the <u>Selecting objects</u> step of the wizard.

10.2.4 Selecting objects

On this step you can select tables that should be restored.

🝺 Restore Database Wizard			- • ×
Restore Database			
Select objects for restorin	g		
SQL Manager for MySQL	Select all tables Database Available employee new_table1 routines staff	sakila_copy Selected Selected film_actor film_category	
Help <u>T</u> emplates		< <u>B</u> ack <u>N</u> ext >	Cancel

Use the **Database** drop-down list to select the database where the tables will be restored.

The **Available** list contains all tables which DDLs are found in the selected database dump.

To select a table, you need to move it from the **Available** list to the **Selected** list. Use the a a b buttons or drag-and-drop operations to move the databases from one list to another.

Note: For restoring views, procedures and triggers you need to select the 'routines' table.

To restore all available tables in all selected databases check the \blacksquare Select all tables option.

Click the **Next** button to proceed to the <u>Performing operation</u> step of the wizard.

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10.2.5 Performing operation

This step of the wizard is intended to inform you that all restore options have been set, and you can start the restore process.

The log area allows you to view the log of operations and errors (if any).

穿 Restore Database Wizard	
Restore Database	
Click "Run" to restore dat	abase
SQL Manager for MySQL	Starting restore mysql.exedefaults-extra-file="c:\users\tester\appdata\ocal\temp\tmpd5db. tmp"host=merlinport=5149user=testerdefault-character-set=utf8 commentsdatabase=sakila_emp < "C:\shared\dumps\Dump20141202sakila. sql" Restore finished ======= END OF LOG ===================================
Help Templates	▼ < <u>B</u> ack <u>R</u> un Close

Close the Wizard after successful completion

If this option is selected, the wizard is closed automatically when the restoring process is completed.

If necessary, you can save a <u>template</u> for future use.

Click the **Run** button to run the extraction process.

10.3 Backup Tables

Backup Tables Wizard allows you to make a copy of all the table files to a local backup directory.

Currently MySQL supports backup only for <u>tables</u> of MyISAM <u>storage engine</u>. The service copies *.*frm* (definition) and *.*myd* (data) files. The index file can be rebuilt from those two. The copied table is locked with a read lock during the backup process.

Note: This tool is not accessible for MySQL 5.5 and higher.

Note: You cannot backup tables on a remote server; backup works only for local databases. To backup tables from a remote server, you can use <u>Extract Database</u>, and then restore them using <u>SQL Script Editor</u>.

To run the wizard, select the **Services |** 🐺 **Backup Tables...** <u>main menu</u> item.



- <u>Selecting database for backup</u>
- <u>Selecting tables for backup</u>
- <u>Viewing routine results</u>

 Availability:

 Full version (for
 Yes

 Windows)
 Vindows)

 Note: To compare all features of the Full and the Lite versions of SQL Manager, refer to the Feature Matrix page.

See also: <u>Restore Tables</u> <u>Using templates</u>

10.3.1 Selecting database

This step of the wizard allows you to specify the **database** where tables for backup are stored and the **backup directory**.

遲 Backup Tables Wizard		
Backup Tables		
Specify the source datab	base name and directory whe	re backup table files will be copied to
SQL Manager for MySQL	Welcome to the Backup T This wizard allows you to directory. This wizard will copy *.fm specified as backup direct limitation, this function will <u>D</u> atabase <u>B</u> ackup directory	ables Wizard! backup tables from your local MySQL database to a local n and *.myd files from the database directory to another one, ctory. IMPORTANT: Because of the MySQL server work *only* with *local* databases.
<u>H</u> elp <u>T</u> emplates		< Back Next > Cancel

Database

Use the drop-down list of <u>registered</u> databases to select the database where tables for backup are stored.

Backup directory

Type in or use the ellipsis \Box button to specify the full path to the directory where the backup files will be stored.

Click the **Next** button to proceed to the <u>Selecting tables for backup</u> step of the wizard.

10.3.2 Selecting tables for backup

Use this step of the wizard to **select the tables** to be backed up using MySQL routines.

To select a table, you need to move it from the **Available tables** list to the **Selected tables** list. Use the **Selected buttons or drag-and-drop operations to move the tables** from one list to another.

To backup all available tables, check the corresponding **Backup all** option.

👼 Backup Tables Wizard - [D	atabase: sakila on merlin:5149]		- • •
Backup Tables			
Select tables for backup			
SQL Manager for MysQL	Backup all Available tables address category city country country film film_actor film_text inventory inventory payment	Selected table actor store staff rental	5
Help Templates		< <u>B</u> ack <u>N</u> ext	> Cancel

Click the **Next** button to proceed to the <u>last step</u> of the wizard.

10.3.3 Viewing routine results

The last step of the wizard is intended to inform you that all necessary options have been set at the previous steps, and now you can start the specified process.

The green progress bar indicates the total progress of the routine.

The **Operations** tab allows you to view the log of operations.

Process completed successfully!	
100 %	
Operations Result	
Succeeded	
Flushing tables	
Succeeded	
Repairing in progress	
Succeeded	
Flushing tables	
Succeeded	=
Unlocking tables	
Succeeded	
Repairing finished	
END OF LOG	Ŧ
Close the Wizard after successful completion	

The **Result** tab displays the routine results (detailed information on routine objects, operation status, routine result messages) for each of the specified tables, and errors (if any).

		100 %	
Operations Resu	It		
Table name	Operation	Message type	Message text
new_db.country	repair	status	ок
new_db.currency	repair	status	ок
new_db.customers	repair	status	ок
•	111		

Close the Wizard after successful completion

If this option is selected, the wizard is closed automatically when the process is

completed.

If necessary, you can save a <u>template</u> for future use.

Click the ${\bf Run}$ button to complete the operation.

10.4 Restore Tables

Restore Tables Wizard allows you to restore database tables saved previously with <u>Backup Tables Wizard</u>.

Existing <u>tables</u> cannot be overwritten: en error will be displayed on attempt to restore the table over the existing one. The restore process takes more time than creating a backup, because the tool needs to rebuild indices. The more keys there are in tables, the more time the reconstruction will take. At present it is possible to restore (as well as to <u>backup</u>) only tables of MyISAM <u>storage engine</u>.

To run the wizard, select the **Services | PRESTORE Tables...** <u>main menu</u> item.



- <u>Setting the source directory</u>
- <u>Selecting target database</u>
- <u>Selecting tables for restoring</u>
- <u>Viewing routine results</u>

 Availability:

 Full version (for
 Yes

 Windows)
 Vindows)

 Note:
 To compare all features of the Full and the Lite versions of SQL Manager, refer

 to the Feature Matrix page.

See also: Backup Tables Using templates

10.4.1 Setting the source directory

This step of the wizard allows you to specify the **source directory** to be used to restore tables and to select the status of the destination database.

큫 Restore Tables Wizard	
Restore Tables	
Select the source databa	se and the destination database type
SQL Manager for MysQL	Welcome to the Restore Tables Wizard! This wizard allows you to restore tables from a local directory to your MySQL database. This wizard will copy *.frm and *.myd files from a local directory to the database directory. IMPORTANT: Because of the MySQL server limitation, this function will work *only* with *local* databases. Source directory d:\\Shared\\Backup\\ Destination database @ Registered database profile
<u>H</u> elp <u>T</u> emplates	▼ < <u>Back</u> <u>Next</u> > Cancel

Source directory

Type in or use the ellipsis button to specify the full path to the directory where the backup files are currently stored.

Destination database

Select whether the tables should be restored to a *registered database* or to a database which is not registered in **SQL Manager** yet (*non-registered database*).

Click the **Next** button to proceed to the <u>Selecting target database</u> step of the wizard.

10.4.2 Selecting target database

Use this step to define the database to restore tables into.

In case you are restoring the tables to a *registered database*:

Use the **Host** and **Database** drop-down lists to select the host and the database where the tables will be restored.

큫 Restore Tables Wizard			
Restore Tables			
Specify the database for	copying table files		
SQL Manager for MySQL	<u>H</u> ost <u>D</u> atabase	kmn:33417 new_db on kmn:33417 [new_db]	
<u>H</u> elp <u>T</u> emplates	•	< <u>B</u> ack <u>N</u> ext >	Cancel

In case you are restoring the tables to a *non-registered database*:

Set the connection parameters to register the database where the tables will be restored.

큫 Restore Tables Wizard		
Restore Tables		
Specify the database for	copying table files	
SQL Manager for MySQL	<u>H</u> ost name <u>U</u> ser name Pa <u>s</u> sword <u>D</u> atabase name	KMN Port 33417 tester hr Create new database
<u>H</u> elp <u>T</u> emplates	•	< <u>B</u> ack <u>N</u> ext > Cancel

Select a registered **Host** from the drop-down list and specify the connection **port**.

Provide authorization information: User name and Password.

Select a **Database name** from the respective drop-down list.

Note: If there is no required database on the host, you can create a new one. Use the **Create new database** option for this purpose.

Click the **Next** button to proceed to the <u>Selecting tables for restoring</u> step of the wizard.

10.4.3 Selecting tables for restoring

Use this step of the wizard to **select the tables** to be restored using MySQL routines.

If you are restoring tables on a local host then this step looks the following way:

큫 Restore Tables Wizard			- • •
Restore Tables			
Select tables to restore			
SQL Manager for MysQL	Available tables	Selected tables Country Currency Customers	
Help Templates		< <u>B</u> ack <u>N</u> ext >	Cancel

To select a table, you need to move it from the **Available tables** list to the **Selected tables** list. Use the **Selected ist**. Use the **Selected ist** is buttons or drag-and-drop operations to move the tables from one list to another.

If you are restoring tables on a remote host then this step looks the following way:

큫 Restore Tables Wizard - [D	atabase: new_db on kmn:33417]		- • •
Restore Tables			
Select tables to restore			
SQL Manager for MysQL	Add new table name		
<u>H</u> elp <u>T</u> emplates	•	< <u>B</u> ack <u>N</u> ext	> Cancel

Note: You can manually input the names of tables that do not exist in the database to restore (e.g. when restoring tables on a remote host).

To *add* a table name, type it in and click the + button to add it to the **Tables to restore** list.

To *remove* a table name, select it in the **Tables to restore** list and click the \times button. To *fill* table names from the specified <u>target database</u>, click the **\overline{** $}$ button to call the **Select tables...** dialog.



To *load* table names list from a text file, click the B button. To *save* the **Tables to restore** list as a *.*txt* file, click the E button.

Click the **Next** button to proceed to the <u>last step</u> of the wizard.

10.4.4 Viewing routine results

The last step of the wizard is intended to inform you that all necessary options have been set at the previous steps, and now you can start the specified process.

The green progress bar indicates the total progress of the routine.

The **Operations** tab allows you to view the log of operations.

Process completed successfully!	
100 %	
Operations Result	
Succeeded	
Flushing tables	
Succeeded	
Repairing in progress	
Succeeded	
Flushing tables	
Succeeded	=
Unlocking tables	
Succeeded	
Repairing finished	
END OF LOG	-
Close the Wizard after successful completion	

The **Result** tab displays the routine results (detailed information on routine objects, operation status, routine result messages) for each of the specified tables, and errors (if any).

		100 %	
Operations Resu	It		
Table name	Operation	Message type	Message text
new_db.country	repair	status	ок
new_db.currency	repair	status	ок
new_db.customers	repair	status	ок
•	111		

Close the Wizard after successful completion

If this option is selected, the wizard is closed automatically when the process is

completed.

If necessary, you can save a <u>template</u> for future use.

Click the ${\bf Run}$ button to complete the operation.

10.5 Flush

The **Services | Flush** menu allows you to perform native MySQL *FLUSH* operations that clear some of the internal caches used by the server.

Note: To execute the *FLUSH* command, the user must have the corresponding *Reload* global privilege granted.

<u>D</u> atabase	<u>V</u> iew	<u>T</u> ools	Sen	/ices	<u>O</u> ptions	<u>W</u> indows	<u>H</u> e	lp	
			e	Dump Database					
			P	Restore Database					
			-	Backup Tables					
			-	Rest	ore Tables				
				Flush •		·		Hosts	
			7	Analyze Tables				Logs	
			-	Chec	Check Tables				Privileges
			₩	Repa	air Tables				Tables
			₽	Optin	nize Tables.				Tables With Read Lock
			—	Trun	cate Tables				Status
			₩.	Char	nge Tables B	Engine			

• Flush usage

Availability: Full version (for Yes Windows) Lite version (for No Windows) Note: To compare all features of the Full and the Lite versions of SQL Manager, refer to the Feature Matrix page.

10.5.1 Flush usage

The following list 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 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.

• QUERY CACHE

Defragments the query cache to better utilize its memory. This command will not remove any queries from the cache, unlike *RESET QUERY CACHE*.

• TABLES

Closes all open tables and forces 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.

• USER_RESOURCES

Resets all user resources to zero. This will enable blocked users to login again.

10.6 Analyze Tables

Analyze Tables Wizard allows you to analyze and store the key distribution for tables.

During the analysis the table is locked with a read lock (for <u>MyISAM</u> and <u>BDB</u> tables) or with a write lock (for <u>InnoDB</u> tables). MySQL uses the stored key distribution to decide in what order tables should be joined when one does a join on something different than a constant. In addition, key distributions can be used when deciding which <u>indexes</u> to use for a specific table within a <u>query</u>.

To run the wizard, select the **Services |** 🔁 Analyze Tables... main menu item.



- Selecting database
- Selecting tables for analysis
- Viewing routine results

Availability: Full version (for Yes Windows) Lite version (for No Windows)

Note: To compare all features of the **Full** and the **Lite** versions of **SQL Manager**, refer to the <u>Feature Matrix</u> page.

See also: <u>Tables</u> <u>Using templates</u>

10.6.1 Selecting database

This step of the wizard allows you to specify the **host** and the **database** where tables for analysis are stored.

📶 Analyze Tables Wizard		
Analyze Tables		
Specify the host and dat	abase to analyze	
SQL	Welcome to the Analyze This wizard allows you The wizard will analyze the tables.	Tables Wizard! to analyze tables in the specified database. tables using MySQL routines and show the current status of
Manager for MySQL	<u>H</u> ost <u>D</u> atabase	merlin:5149 sakila on merlin:5149 [sakila]
Help Templates	•	< Back Next > Cancel

Host

Use the drop-down list of <u>registered</u> hosts to select the host where the database resides.

Database

Use the drop-down list of <u>registered</u> databases to select the database where tables for analysis are stored.

Click the **Next** button to proceed to the <u>Selecting tables for analyzing</u> step of the wizard.

10.6.2 Selecting tables for analyzing

Use this step of the wizard to **select the tables** to be analyzed using MySQL routines.

To select a table, you need to move it from the **Available tables** list to the **Selected tables** list. Use the **Selected** buttons or drag-and-drop operations to move the tables from one list to another.

📲 Analyze Tables Wizard - [D	atabase: sakila on merlin:5149]		- • •
Analyze Tables			
Select tables to analyze			
SQL Manager for MysQL	Available country customer film customer film_actor film_category film_text film_text inventory language payment rental staff store	Selected actor address category C C C C C C C C C C C C C	
Help <u>T</u> emplates		< Back Nex	t > Cancel

Click the **Next** button to proceed to the <u>last step</u> of the wizard.

10.6.3 Viewing routine results

The last step of the wizard is intended to inform you that all necessary options have been set at the previous steps, and now you can start the specified process.

The green progress bar indicates the total progress of the routine.

The **Operations** tab allows you to view the log of operations.

Process completed successfully!	
100 %	
Operations Result	
Succeeded	
Flushing tables	
Succeeded	
Repairing in progress	
Succeeded	
Flushing tables	
Succeeded	=
Unlocking tables	
Succeeded	
Repairing finished	
END OF LOG	Ŧ
Close the Wizard after successful completion	

The **Result** tab displays the routine results (detailed information on routine objects, operation status, routine result messages) for each of the specified tables, and errors (if any).

100 % Operations Result Table name Operation Message type Message text new_db.country repair status OK new_db.currency repair status OK	Process completed successfully!					
Operations Result Table name Operation Message type Message text new_db.country repair status OK new_db.currency repair status OK	100 %					
Table name Operation Message type Message text new_db.country repair status OK new_db.currency repair status OK	Operations Resu	It				
new_db.country repair status OK new_db.currency repair status OK	Table name	Operation	Message type	Message text		
new_db.currency repair status OK	new_db.country	repair	status	ок		
where the second s	new_db.currency	repair	status	ок		
iew_db.customers repair status OK	new_db.customers	repair	status	ок		
	•					

Close the Wizard after successful completion

If this option is selected, the wizard is closed automatically when the process is

completed.

If necessary, you can save a <u>template</u> for future use.

Click the ${\bf Run}$ button to complete the operation.

10.7 Check Tables

Check Tables Wizard allows you to check database tables for errors.

In MySQL 6.x.x the service works for tables of *MyISAM*, *InnoDB*, *ARCHIVE*, and *CSV* storage engines. For *MyISAM* tables, the key statistics are updated as well.

To run the wizard, select the **Services |** 🗟 **Check Tables...** <u>main menu</u> item.



- <u>Selecting database</u>
- <u>Selecting tables for checking</u>
- Viewing routine results

Availability: Full version (for Yes Windows) Lite version (for No Windows) Note: To compare all features of the Full and the Lite versions of SQL Manager, refer to the Feature Matrix page.

See also:

Tables Using templates

10.7.1 Selecting database

This step of the wizard allows you to specify the **host** and the **database** where tables for checking are stored.

Check Tables Wizard - [Database: test on doom_server]					
Check Tables					
Specify the host and database to check					
	Welcome to the Ch This wizard allows The wizard will che	Welcome to the Check Tables Wizard! This wizard allows you to check tables in the specified database. The wizard will check tables using MySQL routines and show you current tables			
SQL Manage	er Host	doom server			
MySQL	Database	est on doom_server [test]			
Help Tel	mplates 💌	< <u>B</u> ack <u>N</u> ext > Cancel			

Host

Use the drop-down list of <u>registered</u> hosts to select the host where the database resides.

Database

Use the drop-down list of <u>registered</u> databases to select the database where tables for checking are stored.

Click the **Next** button to proceed to the <u>Selecting tables for checking</u> step of the wizard.
10.7.2 Selecting tables for checking

Use this step of the wizard to define **check options** and **select the tables** to be checked using MySQL routines.

Options

Quick

Do not scan the rows to check for wrong links.

🗹 Fast

Check only tables that have not been closed properly.

Changed

Check only tables that have been changed since last check or have not 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

Perform a full key lookup for all keys for each row. This ensures that the table is 100% consistent, but it might take a long time.

To select a table, you need to move it from the **Available tables** list to the **Selected tables** list. Use the **Selected** buttons or drag-and-drop operations to move the tables from one list to another.

Check Tables Wizard - [Da	tabase: test on doom_server]		- • •
Check Tables			
Select options and tables	to check		
	Options Quick East Medium	Changed	
SQL Manager for MySQL	Available ems_favorites_storage function image image_product_xref inventory isshipping language module imgmfavorites	 Selected Currency Customers employee 	
<u>H</u> elp <u>T</u> emplates		< <u>B</u> ack <u>N</u> ext >	Cancel

Click the **Next** button to proceed to the <u>last step</u> of the wizard.

10.7.3 Viewing routine results

The last step of the wizard is intended to inform you that all necessary options have been set at the previous steps, and now you can start the specified process.

The green progress bar indicates the total progress of the routine.

The **Operations** tab allows you to view the log of operations.

Process completed successfully!	
100 %	
Operations Result	
Succeeded	
Flushing tables	
Succeeded	
Repairing in progress	
Succeeded	
Flushing tables	
Succeeded	=
Unlocking tables	
Succeeded	
Repairing finished	
END OF LOG	-
Close the Wizard after successful completion	

The **Result** tab displays the routine results (detailed information on routine objects, operation status, routine result messages) for each of the specified tables, and errors (if any).

100 % Operations Result Table name Operation Message type Message text new_db.country repair status OK new_db.currency repair status OK	Process completed successfully!				
Operations Result Table name Operation Message type Message text new_db.country repair status OK new_db.currency repair status OK		100 %			
Table name Operation Message type Message text new_db.country repair status OK new_db.currency repair status OK	Operations Resu	It			
new_db.country repair status OK new_db.currency repair status OK	Table name	Operation	Message type	Message text	
new_db.currency repair status OK	new_db.country	repair	status	ок	
where the second s	new_db.currency	repair	status	ок	
iew_db.customers repair status OK	new_db.customers	repair	status	ок	
	•				

Close the Wizard after successful completion

If this option is selected, the wizard is closed automatically when the process is

completed.

If necessary, you can save a <u>template</u> for future use.

Click the ${\bf Run}$ button to complete the operation.

10.8 Repair Tables

Repair Tables Wizard allows you to repair database tables that are possibly corrupted.

In MySQL 6.x.x the service works for tables of *MyISAM*, *ARCHIVE*, and *CSV* storage engines.

To run the wizard, select the **Services |** 🖷 **Repair Tables...** <u>main menu</u> item.



- Selecting database
- Selecting tables for repairing
- Viewing routine results

Availability: Full version (for Yes Windows) Lite version (for No Windows)

Note: To compare all features of the **Full** and the **Lite** versions of **SQL Manager**, refer to the <u>Feature Matrix</u> page.

See also: <u>Tables</u> <u>Using templates</u>

10.8.1 Selecting database

This step of the wizard allows you to specify the **host** and the **database** where tables for repairing are stored.

🕂 Repair Tables Wizard		
Repair Tables		
Specify the host and dat	abase to repair	
<u>a</u>	Welcome to the Repair This wizard allows you The wizard will repair co	Tables Wizard! to repair tables in the specified database. prrupted tables using MySQL routines and show you current
SQL Manager	tables status.	
for MySQL	<u>H</u> ost	
	Database	sakila on menin.5149 [sakila]
Help <u>T</u> emplates	•	< <u>B</u> ack <u>N</u> ext > Cancel

Host

Use the drop-down list of <u>registered</u> hosts to select the host where the database resides.

Database

Use the drop-down list of <u>registered</u> databases to select the database where tables for repairing are stored.

Click the **Next** button to proceed to the <u>Selecting tables for repairing</u> step of the wizard.

10.8.2 Selecting tables for repairing

Use this step of the wizard to define **repair options** and **select the tables** to be repaired using MySQL routines.

Options

🗹 Quick

Perform a repair of the index tree only.

Extended

Create the <u>index</u> row by row instead of creating one index at a time with sorting.

🗹 Use .FRM

Use this mode if the *.myi file is missing or if its header is corrupted. In this mode MySQL will recreate the table using information from the *.frm file.

To select a table, you need to move it from the **Available tables** list to the **Selected tables** list. Use the **Selected** buttons or drag-and-drop operations to move the tables from one list to another.

🖷 Repair Tables Wizard - [Da	tabase: sakila on merlin:5149]		
Repair Tables			
Select options and tables	to repair		
SQL Manager for MysQL	Options Quick Extended Available city country customer film film_actor film_category film_text inventory language payment	Use .FRM Selected actor address category v	
Help Templates	·	< <u>B</u> ack <u>N</u> ext >	Cancel

Click the **Next** button to proceed to the <u>last step</u> of the wizard.

10.8.3 Viewing routine results

The last step of the wizard is intended to inform you that all necessary options have been set at the previous steps, and now you can start the specified process.

The green progress bar indicates the total progress of the routine.

The **Operations** tab allows you to view the log of operations.

Process completed successfully!	
100 %	
Operations Result	
Succeeded	
Flushing tables	
Succeeded	
Repairing in progress	
Succeeded	
Flushing tables	
Succeeded	=
Unlocking tables	
Succeeded	
Repairing finished	
END OF LOG	Ŧ
Close the Wizard after successful completion	

The **Result** tab displays the routine results (detailed information on routine objects, operation status, routine result messages) for each of the specified tables, and errors (if any).

100 % Operations Result Table name Operation Message type Message text new_db.country repair status OK new_db.currency repair status OK	Process completed successfully!				
Operations Result Table name Operation Message type Message text new_db.country repair status OK new_db.currency repair status OK		100 %			
Table name Operation Message type Message text new_db.country repair status OK new_db.currency repair status OK	Operations Resu	It			
new_db.country repair status OK new_db.currency repair status OK	Table name	Operation	Message type	Message text	
new_db.currency repair status OK	new_db.country	repair	status	ок	
where the second s	new_db.currency	repair	status	ок	
iew_db.customers repair status OK	new_db.customers	repair	status	ок	
	•				

Close the Wizard after successful completion

If this option is selected, the wizard is closed automatically when the process is

completed.

If necessary, you can save a <u>template</u> for future use.

Click the ${\bf Run}$ button to complete the operation.

10.9 Optimize Tables

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, VARBINARY, 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 as follows:

- if the table has deleted or split rows, repairs the table;
- if the index pages are not sorted, sorts them;
- if the statistics are not up to date (and the repair could not be done by sorting the index), updates them.

In MySQL 6.x.x the service works only for tables of *MyISAM*, *InnoDB*, and *ARCHIVE* <u>storage</u> <u>engines</u>.

To run the wizard, select the **Services | P Optimize Tables...** <u>main menu</u> item.

<u>D</u> atabase	<u>V</u> iew	<u>T</u> ools	Sen	vices	<u>O</u> ptions	<u>W</u> indows	<u>H</u> elp
			e	Dum	o Database		
			@	Rest	ore Databa	se	
			-	Back	up Tables		
			-	Rest	ore Tables.		
				Flush	ı	•	
			7	Analy	ze Tables.		
			₽	Chec	k Tables		
			₽ °	Repa	ir Tables		
			₽	Optin	nize Tables		
			₩	Trun	cate Tables	i	

- <u>Selecting database</u>
- Selecting tables for optimizing
- Viewing routine results

Availability: Full version (for Yes Windows) Lite version (for No Windows) Note: To compare all features of the Full and the Lite versions of SQL Manager, refer to the Feature Matrix page.

See also: Tables Using templates

10.9.1 Selecting database

This step of the wizard allows you to specify the **host** and the **database** where tables for optimization are stored.

🦻 Optimize Tables Wizard		
Optimize Tables		
Specify the host and dat	abase to optimize	
SQL	Welcome to the Optimiz This wizard allows you The wizard will optimize status.	e Tables Wizard! to optimize tables in the specified database. tables using MySQL routines and show you current tables
Manager for MySQL	<u>H</u> ost <u>D</u> atabase	doom_server itest on doom_server [test]
Help Templates	•	< Back Next > Cancel

Host

Use the drop-down list of <u>registered</u> hosts to select the host where the database resides.

Database

Use the drop-down list of <u>registered</u> databases to select the database where tables for optimizing are stored.

Click the **Next** button to proceed to the <u>Selecting tables for optimizing</u> step of the wizard.

10.9.2 Selecting tables for optimizing

Use this step of the wizard to **select the tables** to be optimized using MySQL routines.

To select a table, you need to move it from the **Available tables** list to the **Selected tables** list. Use the **Selected** buttons or drag-and-drop operations to move the tables from one list to another.

😺 Optimize Table Wizard - [D	atabase: test on doom_server]		- • •
Optimize Tables			
Select tables to optimize			
SQL Manager for MySQL Help Iemplates	Available a account auth_user_md5 auth_user_wendor blob_table category category_xref country ems_favorites_storage function image image_product_xref inventory issbinning	 ▲ Selected ➡ currency ➡ customers ➡ employee 	t> Cancel

Click the **Next** button to proceed to the <u>last step</u> of the wizard.

10.9.3 Viewing routine results

The last step of the wizard is intended to inform you that all necessary options have been set at the previous steps, and now you can start the specified process.

The green progress bar indicates the total progress of the routine.

The **Operations** tab allows you to view the log of operations.

Process completed successfully!	
100 %	
Operations Result	
Succeeded	
Flushing tables	
Succeeded	
Repairing in progress	
Succeeded	
Flushing tables	
Succeeded	=
Unlocking tables	
Succeeded	
Repairing finished	
END OF LOG	-
Close the Wizard after successful completion	

The **Result** tab displays the routine results (detailed information on routine objects, operation status, routine result messages) for each of the specified tables, and errors (if any).

100 % Operations Result Table name Operation Message type Message text new_db.country repair status OK new_db.currency repair status OK	Process completed successfully!				
Operations Result Table name Operation Message type Message text new_db.country repair status OK new_db.currency repair status OK		100 %			
Table name Operation Message type Message text new_db.country repair status OK new_db.currency repair status OK	Operations Resu	It			
new_db.country repair status OK new_db.currency repair status OK	Table name	Operation	Message type	Message text	
new_db.currency repair status OK	new_db.country	repair	status	ок	
and the support of the second se	new_db.currency	repair	status	ок	
iew_db.customers repair status OK	new_db.customers	repair	status	ок	
	•				

Close the Wizard after successful completion

If this option is selected, the wizard is closed automatically when the process is

completed.

If necessary, you can save a <u>template</u> for future use.

Click the ${\bf Run}$ button to complete the operation.

10.10 Truncate Tables

Truncate Table Wizard empties table(s) completely.

Logically, this is equivalent to a *DELETE* statement that deletes all rows, but there are practical differences under some circumstances.

In MySQL 3.23, *TRUNCATE TABLE* is mapped to *COMMIT*; DELETE FROM tbl_name, so it behaves like *DELETE*.

For InnoDB (before MySQL version 5.0.3), *TRUNCATE TABLE* is mapped to *DELETE*, so there is no difference. Starting with MySQL 5.0.3, fast *TRUNCATE TABLE* is available. The operation is still mapped to *DELETE* if there are foreign key constraints that reference the table.

For other <u>storage engines</u>, *TRUNCATE TABLE* differs from *DELETE FROM* in the following ways (since MySQL 4.0 and later):

- truncate operations drop and recreate the table which is much faster than deleting rows one by one;
- truncate operations are not transaction-safe; you get an error if you have an active transaction or an active table lock;
- the number of deleted rows is not returned;
- as long as the table definition file tbl_name.frm is valid, the table can be recreated as an empty table with TRUNCATE TABLE, even if the data or index files have become corrupted;
- the table handler does not remember the last used AUTO_INCREMENT value, but starts counting from the beginning.

To run the wizard, select the **Services** | **Truncate Tables...** <u>main menu</u> item, or open a table in <u>Table Editor</u> and use the **Truncate table** item of the <u>Navigation bar</u>.

<u>D</u> atabase	<u>V</u> iew	<u>T</u> ools	Sen	vices	Options	<u>W</u> indows	<u>H</u> elp
			e	Dum	p Database		
			@	Rest	ore Databa	se	
			1	Back	up Tables		
			-	Rest	ore Tables.		
				Flush	ı)	
			7	Analy	ze Tables.		
			-	Chec	k Tables		
			₽ °	Repa	air Tables		
			₽	Optin	nize Tables		
			—	Trun	cate Tables)	
				Char	ige Tables	Engine	

- Selecting database
- <u>Selecting tables for truncating</u>

• <u>Viewing routine results</u>

Availability: Full version (for Yes Windows) Lite version (for No Windows) Note: To compare all features of the Full and the Lite versions of SQL Manager, refer to the Feature Matrix page.

See also: <u>Tables</u> <u>Using templates</u>

10.10.1 Selecting database

This step of the wizard allows you to specify the **host** and the **database** where tables for truncating are stored.

🗟 Truncate Table Wizard		
Truncate Tables		
Select the host and da	abase to truncate	
SQL	Welcome to the Trunca This wizard allows you The wizard will truncat status.	ate Tables Wizard! I to truncate tables in the selected database. e tables using MySQL routines and show you current tables
Manager for MySQL	<u>H</u> ost <u>D</u> atabase	image: doom_server Image: server image: best on doom_server [test] Image: server
Help Template	s	< <u>B</u> ack <u>N</u> ext > Cancel

Host

Use the drop-down list of <u>registered</u> hosts to select the host where the database resides.

Database

Use the drop-down list of $\underline{\text{registered}}$ databases to select the database where tables for truncating are stored.

Click the **Next** button to proceed to the <u>Selecting tables for truncating</u> step of the wizard.

10.10.2 Selecting tables for truncating

Use this step of the wizard to **select the tables** to be truncated using MySQL routines.

To select a table, you need to move it from the **Available tables** list to the **Selected tables** list. Use the **Selected** buttons or drag-and-drop operations to move the tables from one list to another.

📴 Truncate Table Wizard - [D	atabase: test on doom_server]		- • •
Truncate Tables			
Select tables to truncate			
Enclosed states and the second states and the second states are specific as a second state at a second	Available a account auth_user_md5 auth_user_vendor blob_table category category_xref country ems_favorites_storage function image inventory isshinning	 ▲ Selected ■ currency ■ customers ■ employee /ul>	t> Cancel

Click the **Next** button to proceed to the <u>last step</u> of the wizard.

10.10.3 Viewing routine results

The last step of the wizard is intended to inform you that all necessary options have been set at the previous steps, and now you can start the specified process.

The green progress bar indicates the total progress of the routine.

The **Operations** tab allows you to view the log of operations.

Process completed successfully!					
100 %					
Operations Result					
Succeeded					
Flushing tables					
Succeeded					
Repairing in progress					
Succeeded					
Flushing tables					
Succeeded	=				
Unlocking tables					
Succeeded					
Repairing finished					
END OF LOG					
Close the Wizard after successful completion					

The **Result** tab displays the routine results (detailed information on routine objects, operation status, routine result messages) for each of the specified tables, and errors (if any).

		100 %				
Operations Result						
Table name	Operation	Message type	Message text			
new_db.country	repair	status	ок			
new_db.currency	repair	status	ок			
new_db.customers	repair	status	ок			
•	111					

Close the Wizard after successful completion

If this option is selected, the wizard is closed automatically when the process is

completed.

If necessary, you can save a <u>template</u> for future use.

Click the ${\bf Run}$ button to complete the operation.

10.11 Change Tables Engine

This wizard allows you to change tables storage engine.

To run the wizard select the **Services |** 🐺 **Change Tables Engine** main menu item.



- Selecting host and database
- <u>Selecting tables</u>
- Performing operation

Availability: Full version (for Yes Windows) Lite version (for No Windows) Note: To compare all features of the Full and the Lite versions of SQL Manager, refer to the Feature Matrix page.

See also:

<u>Tables</u> <u>Using templates</u>

10.11.1 Selecting host and database

Use this step to define location of tables whose storage engine needs to be changed.

🗔 Change Tables Engine Wiza	ard	
Change Table Engine		
Specify the host and data	base to change engine	
	Welcome to the Change This wizard allows you t The wizard allows chan	Table Engine! o change tables engine in the specified database. ging table engines in several tables simultaneously.
SQL Manager for MySQL	<u>H</u> ost <u>D</u> atabase	doom_server test on doom_server [test]
Help		Rack Nexts Cancel

Select **Host** and **Database** from the respective drop-down list.

If required host or database is not registered run the <u>Register Database Wizard</u>.

Click the **Next** button to proceed to the <u>Selecting tables</u> step.

10.11.2 Selecting tables

At this step you need to select tables whose storage engine you want to change.

Change Tables Engine Wiza	rd - [Database: test on	doom_ser	ver]		
Select options and tables t	o change engine				
	<u>C</u> hange engine to	InnoDB			•
	Available tables	Engine	*	Selected tables	Engine
	📑 a	MyISAM		currency	MyISAM
	account	MyISAM	E customers	MyISAM	
SOL	auth_user_md5	MyISAM		employee	MyISAM
Manager	auth_user_vendor	MyISAM			
for	blob_table	InnoDB		>	
MySQL	category	MyISAM		a	
	category_xref	MyISAM			
	country	MyISAM			
	ems_favorites_stor	MyISAM			
		MyISAM			
	image	MyISAM	-		
	mage_product_xre	MYISAM			
Help Templates			< <u>B</u>	ack <u>N</u> ext >	Cancel

The **Available tables** list displays all tables contained in the database. Move the tables to the **Selected tables** list to change their storage engine.

Select the storage engine to apply for the selected tables from the **Change engine to** drop-down list. **Selected Tables**.

Click the **Next** button to proceed to the <u>final</u> step.

10.11.3 Viewing routine results

This step of the wizard is intended to inform you that all necessary options have been set, and you can start the change tables engine process.

Click the **Run** button to complete the operation.

Operations tab

Here you can view the log of operations and errors (if any).

Process completed successfully!				
100 %				
Operations Result				
Backup process started				
Locking tables				
Succeeded				
Flushing tables				
Succeeded				
Backup in progress	=			
Succeeded				
Unlocking tables				
Succeeded				
Backup process finished				
END OF LOG	-			
Close the Wizard after successful completion				

Results tab

This tab displays the list of tables with the operations applied to them. Performance status and message is also displayed here.

Process completed successfully!							
100 %							
Operations Result							
Table name	Operation	Message type	Message text	~			
sakila.actor	check	status	OK				
sakila.actor_new	check	status	OK				
sakila.actor_new_sync	check	status	OK				
sakila.address	check	status	OK				
sakila.category	check	status	OK				
sakila.city	check	status	OK				
sakila.country	check	status	OK				
sakila customer	check	status	пк	¥			
Close the Wizard after successful completion							
	[< <u>B</u> ack	<u>R</u> un	Close			

Close the Wizard after successful completion

If this option is selected, the wizard is closed automatically when the process is completed.

If necessary, you can save a <u>template</u> for future use.

10.12 Server Properties

The **Server Properties** viewer allows you to view the properties of the selected server: server variables, processes, status, query logs.

To open the **Server Properties** viewer window, select the **Services** | **Server Properties...** <u>main menu</u> item.



- <u>Viewing variables</u>
- <u>Viewing system variables</u>
- <u>Viewing process list</u>
- <u>Viewing InnoDB status</u>
- <u>Viewing general query log</u>

Before the **Server Properties** viewer is launched, the application prompts you to specify host <u>connection parameters</u> in the <u>Login Host</u> dialog for retrieving server properties.

Availability: Full version (for Yes Windows) Lite version (for No Windows) Note: To compare all features of the Full and the Lite versions of SQL Manager, refer to the Feature Matrix page.

10.12.1 Using Navigation bar and Toolbar

The **Navigation bar** and **Toolbar** provide quick access to tools implemented in the **Server Properties** viewer.

Servers	*
doom_server	•
General	*
 Refresh Show SQL Help Restore default size Options 	
Variables	*
 Edit variable Export list Copy list to Clipboard 	

The Navigation bar of the Server Properties viewer allows you to:

Servers group

select the server to retrieve properties

General group

- a refresh the content of the active tab
- 🥙 view MySQL reference
- restore the default size and position of the viewer window

configure the Server Properties viewer within the <u>Tools | Server Properties</u> page of the <u>Environment Options</u> dialog

Depending on the current tab selection, the **Navigation bar** expands to one or more additional panes with tab-specific actions that can be useful for working with server processes:

Variables group

- ${}^{\textcircled{3}}$ edit the selected system variable using the <u>Set variable</u> dialog
- $rac{1}{2}$ export the list of variables
- log copy the list of variables to clipboard

Process List group

- 🕆 export the list of processes
- Copy the list of processes to clipboard

Items of the **Navigation bar** are also available on the **ToolBar** of the **Server Properties** viewer. To enable the <u>toolbar</u>, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select **(if you need the toolbar only) or (if you need both the toolbar and the <u>Navigation bar</u>) in the Bar style for child forms** group.

10.12.2 Viewing status variables

The **Status variables** tab of the **Server Properties** viewer displays the list of MySQL status variables and their values.

Server Properties [doom_ser	rver]		
doom_server	- 🖻 📑 🗅 🤻	- 🔜 🖉 🖕 🕖 🖂	-
Servers *	System variables	Process List InnoDB Status	General Query Log
doom_server	General	Name Open_files	Value 0
General [*]	Temporary	Ur Open_streams	0
Refresh	General	Uni Open_table_definitions Uni Open_tables Uni Opened tables	54 0 0
Restore default size	Sort	Uar Questions	12075
Doptions	Delayed Select	Uar Uptime	4217971
Variables *	Locks		
Export list	Misc Handler Networking Traffic Replication Command execution Command execution DL DL DL Misc All		
Server Version: 5.1.9-beta	Uptime: 1171:40:13	Limit: 1000	

The variables are displayed in groups: *General, Performance, Misc, Networking, Command execution, Other, All.* Select a group (or a sub-group) in the tree on the left side to browse the list of status variables included in this group.

Note: Status variables are not available for editing.

Right-click an item within the list to call the **context menu** allowing you to *refresh* the list.

If necessary, you can <u>export</u> the list of status variables to any of supported <u>formats</u> or copy the list to Windows clipboard using the corresponding items of the <u>Navigation bar</u>.

Hint: The status area at the bottom displays the exact MySQL server version and the server uptime.

See also:

Viewing system variables Viewing process list Viewing InnoDB status Viewing general query log

10.12.3 Viewing system variables

The **System variables** tab of the **Server Properties** viewer displays the list of MySQL system variables and their values.

Server Properties [doom_	server]					
doom_server	- 🖻 📑 🗅	G	🐁 <i>3</i> 2 😃	0 🖸 🛃 🚽		
Servers \$	System variables	es	Process List	InnoDB Status	General Que	ery Log
Servers × doom_server ▼ General × @ Refresh @ Show SQL Help @ Restore default size @ Options × Variables ×	General General General General General General General General General General General General General General Connections Networking Security General Fatures General Gene		ame init_file port protocol_ve server_id version_con version_con version_con version_con	mment mpile_machine mpile_Cdit va Refress	Value C:\Progr 3306 10 0 5.1.9-be MySQL ia32 Win32 ariable sh F5	am Files\MySQL\MySQL Server : ta Community Server (GPL)
Copy list to Clipboard	Memory Memory Caches Table Types InnoDB BDB Mylsam Other All					
Server Version: 5.1.9-beta	Uptime: 1171:43:0	08	Limit:	1000		11

The variables are displayed in groups: *General, Connections, SQL, Memory, Table Types, Other, All.* Select a group (or a sub-group) in the tree on the left side to browse the list of system variables included in this group.

Right-click an item within the list to call the **context menu** allowing you to *edit* a variable and to *refresh* the list.

The **Set variable** dialog allows you to edit the current value assigned to the variable and to specify whether the changes will be applied *globally*.

Set variable ×				
Var	Set the new value for the variable:			
@@GLOBAL.port:				
igodoldoldoldoldoldoldoldoldoldoldoldoldol	3306			
ODEFAULT				
	OK Cancel			

If necessary, you can <u>export</u> the list of system variables to any of supported output file <u>formats</u> or copy the list to Windows clipboard using the corresponding items of the <u>Navigation bar</u>.

Hint: The status area at the bottom displays the exact MySQL server version and the server uptime.

See also: Viewing status variables Viewing process list Viewing InnoDB status Viewing general query log 682 SQL Manager for MySQL - User's Manual

10.12.4 Viewing process list

The **Process List** tab of the **Server Properties** viewer allows you to browse the list of processes running on the server and manage them efficiently.

Server Properties [doom_server]						
i doom_server 🔹 🗟 🗣 🗅 🍇 🙀 🛷 🧶 🧶 🦉						
Servers *	Status variables System variables Process List InnoDB Status Gene	ral Query Log				
doom_server	Drag a column header here to group by that column					
General \$	Id Viser Viser DB Comman Time 317 root ka.office.ems.chel.sakila Sleep 6063	State 💌 Info 💌				
 Refresh Show SQL Help Restore default size Options 	319 root ka.office.ems.chel. test Sleep 1248 358 root ka.office.e Kill Process 0 359 root ka.office.e Kill Query	SHOW				
Process List *	Refresh F5 Export List					
Export list	Copy List to Clipboard					
Server Version: 5.1.9-beta	Uptime: 1171:47:03 Limit: 1000					

The list displays the processes as a grid with the following columns: *ID*, *User*, *Host*, *DB*, *Command*, *Time*, *State*, *Info*. If more convenient, you can <u>change the order</u> of the columns by dragging their headers horizontally.

Click a column caption to **sort** items by values of this column in the ascending or the descending mode.

If necessary, you can **group the data in grid** by any of the columns. This operation is performed by dragging the column header to the gray **"Group by" box** area at the top. When grouping by a column is applied to the grid, all the rows are displayed as subnodes to the grouping row value. To reverse grouping, just drag the column header back.

Note: The process list items are not available for editing.

Right-click an item within the list to call the **context menu** allowing you to *kill* a process or a query, *refresh* the list, or copy the list to Windows clipboard. Using the context menu you can also <u>export</u> the list of jobs to any of supported output file <u>formats</u>.

Process management tools are also available through the <u>Navigation bar</u> of the **Server Properties** viewer.

See also:

Viewing status variables Viewing system variables Viewing InnoDB status Viewing general query log

10.12.5 Viewing InnoDB status

The **InnoDB Status** tab of the **Server Properties** viewer displays the InnoDB monitor output that includes the following sections: *SEMAPHORES TRANSACTIONS FILE I/O INSERT BUFFER AND ADAPTIVE HASH INDEX BUFFER POOL AND MEMORY ROW OPERATIONS*

Server Properties [doom_server]				
doom_server	- 21 📑 🖻 🙀 🖳 🛷 🐠 100 🖃 💦 📜			
Servers [*]	Status variables System variables Process List InnoDB Status General Query Log			
doom_server				
General \$	120905 11:27:52 INNODB MONITOR OUTPUT			
 Refresh Show SQL Help Restore default size Options 	<pre>Per second averages calculated from the last 51 seconds</pre>			
	the closest match we can find is record: PHYSICAL RECORD: n_fields 5; compact format; info bits 0 ()			
Server Version: 5.1.9-beta	Uptime: 1171:48:10 Limit: 1000			

Note: The InnoDB Monitor output is not available for editing.

See also:
Viewing status variables Viewing system variables Viewing process list Viewing general query log

10.12.6 Viewing general query log

The **General Query Log** tab of the **Server Properties** viewer displays the query log for the specified server.

Note: This tab is only available for MySQL version 5.1.6 and higher and when the server is configured for logging to table. For more information refer to the official MySQL server documentation.

nn:33523				•		R	👷 🖉 🔘	b 🕐 🖻					
Servers	;		<u>S</u> tatus varia	bles	System varia	bles <u>P</u>	Process List	InnoDB S	Statu	s Gene	ral Que	ery Log	
mn:33523	•	-	Drag a colu										
General	:		Event Date	•	Event Time 💌	User a	nd Host		-	Thr 💌	Se 👻	Command	Command Text
			16.02.2007		16:38:08	root[roo	ot] @ localho	ost [127.0.0).1]	1	1	Connect	root@localhost on
Refresh			16.02.2007		16:38:08	root[roo	ot] @ localho	ost [127.0.0).1]	1	1	Query	SHOW DATABASES
Show SQL Hel	р		16.02.2007		16:38:08	root[roo	ot] @ localho	ost [127.0.0	.1]	1	1	Quit	
Restore defaul	t size		16.02.2007		16:38:16	root[roo	ot] @ localho	ost [127.0.0	.1]	2	1	Connect	root@localhost on
Options		- 8	16.02.2007		16:38:16	root[roo	ot] @ localho	ost [127.0.0	.1]	2	1	Query	SHOW VARIABLES
			16.02.2007		16:38:16	root[roo	ot] @ localho	st [127.0.0	.1]	2	1	Query	SHOW STATUS
		- 8	16.02.2007		16:38:16	root[roo	ot] @ localho	ost [127.0.0	.1]	2	1	Quit	
		8	16.02.2007		16:38:16	root[roo	ot] @ localho	ost [127.0.0	.1]	3	1	Connect	root@localhost on test
			16.02.2007		16:38:16	root[roo	ot] @ localho	ost [127.0.0).1]	3	1	Query	show collation
			16.02.2007		16:38:16	root[roo	ot] @ localho	st [127.0.0).1]	3	1	Query	SHOW ENGINES
			16.02.2007		16:38:16	root[roo	ot] @ localho	ost [127.0.0	.1]	3	1	Query	SHOW VARIABLES LIKE 'd
			16.02.2007		16:38:16	root[roo	ot] @ localho	ost [127.0.0	.1]	3	1	Query	SHOW VARIABLES LIKE 'o
			16.02.2007		16:38:16	root[roo	ot] @ localho	ost [127.0.0	.1]	3	1	Query	select database()
			16.02.2007		16:38:16	rootfroo	ot] @ localho	st [127.0.0	.11	3	1	Query	SHOW FULL TABLES

The list displays the server events as a grid with the following columns: *Event Date*, *Event Time*, *User and Host*, *Thread*, *Server ID*, *Command*, *Command Text*. If more convenient, you can <u>change the order</u> of the columns by dragging their headers horizontally.

Click a column caption to **sort** items by values of this column in the ascending or the descending mode.

If necessary, you can **group the data in grid** by any of the columns. This operation is performed by dragging the column header to the gray **"Group by" box** area at the top. When grouping by a column is applied to the grid, all the rows are displayed as subnodes to the grouping row value. To reverse grouping, just drag the column header back.

Note: The query log items are not available for editing.

See also: <u>Viewing status variables</u> <u>Viewing system variables</u> Viewing process list Viewing InnoDB status

10.13 Instance Manager

This tool allows you to monitor and manage MySQL instances.

To run this tool select the Services | 🗱 Instance Manager main menu item.



- <u>Starting/Stopping Service</u>
- <u>Configuring Service</u>

<u>Availability</u>: **Full** version (for Yes Windows) Lite version (for No Windows)

Note: To compare all features of the **Full** and the **Lite** versions of **SQL Manager**, refer to the <u>Feature Matrix</u> page.

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10.13.1 Starting/Stopping Service

This tab allows you to stop/start MySQL service on the selected host.

🗱 Instance Manager	
i 🚽 doom_server	 MySQL MySQL
Host \$	Start/Stop Service Configure Service
doom_server	Server Status
MySQL Service A MySQL	Service status: MySQL Service is running.
Service Managment 🏦	
 Refresh Stop Service 	This log shows all messages during server startup and shutdown. [05.09.2012 11:45:26] - Trying to stop the server [05.09.2012 11:45:33] - Server was stopped. [05.09.2012 11:45:35] - Trying to start the server [05.09.2012 11:45:42] - Server was started.
	Clear log

Use the navigation bar or toolbar to select the required host.

Within the Server Status section you can define whether service is stopped or running and change its state using Stop/Run Service buttons.

The log area displays the log of operations and errors (if any). Optionally, you can clear log using the respective button.

Configuring Service

10.13.2 Configuring Service

Use this tab to define MySQL service settings.

🗩 Instance Manager			x
doom_server		🔹 MySQL 🔹 🕨 🌒 🔊 🥪 💂	
Host	*	Start/Stop Service Configure Service	
Goom_server	•	Service Settings	
MySQL Service	*	☑ Launch MySQL server on system start	
MySQL	•	Display Name MySQL Name displayed in the Computer Manager Console	
Service Managment	*	Service Description Description of the server	
Refresh		Service Parameters "C:\Program Files\MySQL\MySQL Server 5.0\bin\mysqld-nt"defaults-file="C:\Program Files\MySQL\My	
Stop Service		Configuration File	
		File Name C:\Program Files\MySQL\MySQL Ser Configuration file to read startup parameters from	

Service Settings

Launch MySQL server on system start

Forces MySQL services to run on system start if enabled.

You can define service name in the **Display Name** field. Specified value will be used in Computer Manager Console.

Optionally you can define **Service Description** for the server.

Configuration file

Specify filename and its location. Parameters specified in the file will be used by service.

10.14 Run mysql.exe

Select the **Services | Run mysql.exe** main menu item to open MySQL console.



By default, the mysql.exe file is located in the C:\Program Files (x86)\EMS\SQL Manager for MySQL\Dump directory.

10.15 Ping Server

Ping Server is a simple tool which is used to check the server connection by pinging the server from the client machine.

To use the tool, select the Services | Ping Server main menu item.



If the server is pinged correctly, the 'Success! Connection is alive' information message appears, otherwise you will receive an error message.

Informati	on 💌
1	Success! Connection is alive.
	ок

<u>Availability</u>: **Full** version (for Yes Windows) Lite version (for No Windows) Note: To compare all features of the Full and the Lite versions of SQL Manager, refer to the Feature Matrix page.

See also: Shutdown Server

10.16 Shutdown Server

Shutdown Server is a simple tool which is used to shutdown MySQL server.

To use the tool, select the Services | Shutdown Server main menu item.

Note that the user must have the corresponding *Shutdown* <u>global privilege</u> granted to perform this operation.



To prevent occasional server shutdowns, a dialog with a warning message pops up each time you attempt to use this tool. You must confirm the action to shutdown the server.



Availability:

 Full version (for
 Yes

 Windows)
 Lite version (for
 No

 Windows)
 Note: To compare all features of the Full and the Lite versions of SQL Manager, refer

 to the Feature Matrix page.

See also: Ping Server



11 Server security management

SQL Manager for MySQL provides the following tools for efficient MySQL security management:

- User Manager
- User Editor
- Grant Manager

Adding Users

In order to add a new user:

- select the Tools | User Manager main menu item or use the corresponding S toolbar button to open User Manager;
- select the Add user... item from the context menu or within the Navigation bar;
- define user properties and permissions using <u>User Editor</u>.

Editing User Properties

In order to edit an existing user:

- select the Tools | User Manager main menu item or use the corresponding S toolbar button to open User Manager;
- select the Edit user... item from the context menu or within the Navigation bar;
- edit the user properties and permissions using User Editor.

Managing Grants

To define grants on <u>database objects</u>:

- select the Tools | Grant Manager main menu item, or use the corresponding toolbar button to open Grant Manager;
- select the object type using the drop-down list on the toolbar;
- select a user from the Privileges for pane of the Navigation bar;
- edit user privileges using Grant Manager.
- To define grants on *tables*, you can also:
 - right-click a table in <u>DB Explorer</u> and select the Grants for Table <table_name> item from the <u>context menu</u>;
 - edit user privileges using Grant Manager.

Deleting Users

In order to delete an existing user:

- select the Tools | User Manager main menu item or use the corresponding S toolbar button to open User Manager;
- right-click the user to delete and select the **Delete User** item from the **context** menu or within the <u>Navigation bar</u>;
- confirm deleting in the dialog window.

See also: Getting Started Database Explorer Database Management Database Objects Management Query Management Tools Data Management Import/Export Tools Database Tools Server Tools External Tools How To...

11.1 User Manager

User Manager allows you to browse the list of existing MySQL users, and manage them efficiently.

To launch the tool, select the **Tools |** S User Manager <u>main menu</u> item.

Note: You should register the server with Register Database Wizard before using this tool.



See also: User Editor Grant Manager

11.1.1 Using Navigation bar and Toolbar

The **Navigation bar** and **Toolbar** provide quick access to tools implemented in **User Manager**.



The Navigation bar of the User Manager window allows you to:

Servers group

🧟 select the server to retrieve the list of users

General group

- list of users are refresh the currently displayed list of users
- 🌺 <u>add</u> a new user
- & <u>edit</u> the selected user
- 🍇 <u>delete</u> the selected *user*
- restore the default size and position of the window

Filter group

- select the group of privileges to display:
- Y All privileges
- 🌃 Data privileges
- 🜃 Object privileges
- \overline System privileges

Items of the **Navigation bar** are also available on the **ToolBar** of the **User Manager** window. To enable the <u>toolbar</u>, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select **(a)** *Toolbar* (if you need the toolbar only) or **(a)** *Both* (if you need both the toolbar and the <u>Navigation bar</u>) in the **Bar style for child forms** group.

11.1.2 Managing users

If you are not connected to the database server yet, select the host from the **Servers** drop-down list and you will be prompted for login and password.

8	User Manager	r [vad	srv]														×
Ξv	adsrv		- E	3 🎭	2/ 8	: 🌱	ii ii	**	2								
	User		Host	Select	Insert	Update	Delete	Create	Drop	Reload	Shutdown	Process	File	Grant	References	Insert	Alter
2	MyNewUser	d	/S	1		1											
2	ODBC	lo	calhost	1	1	1	1	1	1	1	1	1	1		V	1	1
2	alex	%			1	1	1	1	1	1	V	1	1		1	1	v
2	alex@%	%	i	1	1	1	1	1	1	1	V	1	1		1	1	1
2	grants	%	i														
2	merlin	Va	adsrv.office.ems.cl	1	1	1	1	1	1	1	V	1	1	1	V	1	1
2	qq	go	d%														
2	root	~			V	V			V	V		V	V	V	V		
2	root	20	Add User	V	1	1	1	V	1	1	1	1	1	1	V	1	1
2	root	22	Edit User	V	1	1	1	1	1	1	1	1	1	1	V	1	1
2	root	8.	Delete User	V	1	1	1	1	1	1	1	1	1	1	1	1	1
2	root			V	1	1	1	1	1	1	1	1	1		V	1	1
1	root	-3	Export List	V	1	1	1	1	1	1	1	1	1	1	1	1	1
2	root@%	%	•	1	1	1	1	V	1	1	1	1	1	1	1	1	1
2	test																
2	test_http	go	old%														
2	tester	%	i														
2	tester1	%	i														
•																	- F

The list displays the existing users as a grid with the following columns: User, Host, and the columns indicating the <u>global privileges</u> granted to the user: Select, Insert, Update, Delete, Create, Drop, Reload, Shutdown, Process, File, Grant, References, Index, Alter, Show Database, Super, Create TMP Table, Lock Tables, Execute, Replicate Slave, Replicate Client, Show View, Create View, Create Routine, Alter Routine, Create User, Event, Max. Queries, Max. Updates, Max. Connections.

Click a column caption to **sort** items by values of this column in the ascending or the descending mode.

To ease managing user privileges you can work with a specific group of privileges at a time. Select required group from the Filter drop-down list that is located on the navigation bar. You can also find filtering buttons on the toolbar: $\forall All \text{ privileges}, \notin Data \text{ privileges}, \notin Object \text{ privileges}, \notin System \text{ privileges}.$

Right-click an item within the list to call the **context menu** allowing you to *create* a new user and specify its properties using <u>User Editor</u>, *edit*, *delete* the selected user, or show/ hide columns of the list. Using the context menu you can also <u>export</u> the list of users to any of supported output file <u>formats</u>.

Users management tools are also available through the <u>Navigation bar</u> and <u>toolbar</u> of **User** Manager.

11.2 User Editor

The **User Editor** dialog allows you to create/edit a user and specify its properties.

Name

Enter a name for the new user, or modify the name of the user being edited.

Host

Specify the host from which the user is allowed to access the server. **Note:** The % character can be used to indicate that the user is allowed to access the server from any host.

Password / Confirm password

Set a password by which the user will be identified in the server.

Edit User 'root'@'%'		×
Name	root	
Host	%	
Password	•••••	•••••
Confirm password	•••••	•••••
SSL Require		
Require By	NONE	~
Require By Cipher		
Require By Subject		
Dequire By Incurr		
Require by issuer		
Global privileges		
Select	✓ Index	Create routine
✓ Insert	✓ Alter	Alter routine
Update	Show databases	✓ Create user
Delete	Super	✓ Event
Create	Create temp. tables	Trigger
🗹 Drop	Lock	Create tablespace
Reload	Execute	
Shutdown	Repl. slave	
Process	Repl. client	
File	Show view	
References	Create view	
All privileges	With grant option	
Max. queries per hour	0 ▲ Max.	connections per hour 0
Max. updates per hour	0 ► Max.	users connection 0
	ОК	Cancel Help

SSL Require

This section allows you to define additional user authentication parameters.

Note: This section is active only when server is running with SSL.

Require By

MySQL server can check the X509 certificate attributes additionally to common authentication based on user name and password. Select authentication method from the drop-down list.

SSL

Allow only SSL-secured connections for the account.

X509

Client must have valid certificate. The only requirement for the certificate is that it should be possible to verify its signature with one of the CA certificates.

Require By Cipher

Cipher is needed to ensure that ciphers and key lengths of sufficient strength are used. SSL itself can be weak if old algorithms using short encryption keys are used. Using this option, you can ask that a specific cipher method is used to allow a connection. *Example: EDH-RSA-DES-CBC3-SHA*

Require By Subject

Places the restriction on connection attempts that the client must present a valid X509 certificate containing the subject. If the client presents a certificate that is valid but has a different subject, the server rejects the connection.

Example: C=EE, ST=Some-State, L=Tallinn, O=MySQL demo client certificate, CN=Tonu Samuel/Email=tonu@mysql.com

Require By Issuer

Places the restriction on connection attempts that the client must present a valid X509 certificate issued by CA 'issuer'. If the client presents a certificate that is valid but has a different issuer, the server rejects the connection. Use of X509 certificates always implies encryption, so the SSL option is unnecessary in this case.

Example:C=FI, ST=Some-State, L=Helsinki, O=MySQL Finland AB, CN=Tonu Samuel/ Email=tonu@mysql.com

Global privileges

This group allows you to specify the <u>global privileges</u> for the user being created/edited.

Extended user properties

This area allows you to define additional properties pertaining MySQL users: *Max. queries per hour, Max. updates per hour, Max. connections per hour, Max. users connection.* Use the spinner controls to set the required values for the properties.

Hint: The **Global privileges** and **Extended user properties** can also be specified in <u>Grant Manager</u>.

See also:

<u>User Manager</u> Grant Manager

11.3 Grant Manager

Grant Manager allows you to set the user access grants for certain <u>databases</u> and <u>database objects</u>: <u>tables</u>, <u>views</u>, <u>functions</u>, etc.

'Global' user privileges define the user access rights to all the database tables on the server. Granting privileges on the selected databases, tables or columns allows user to perform the defined operation (select, update, insert) over all the tables of the selected database, over the selected tables or over the selected fields only.

To open Grant Manager, select the Tools | 🗫 Grant Manager <u>main menu</u> item.



- Using Navigation bar, Toolbar and context menu
- <u>Managing global privileges</u>
- <u>Managing database-specific privileges</u>
- Managing column permissions
- Filtering objects in list

See also: User Manager User Editor

11.3.1 Using Navigation bar, Toolbar and context menu

The **Navigation bar**, **Toolbar** and **context menu** provide quick access to tools implemented in **Grant Manager**.

	Host or da	tabase	*
6	sakila on d	oom_server	•
	General		*
2	Refresh		
2	Add new us	er	
2	Edit selected	d user	
8	Delete selec	ted user	
-	Extract user	r's grants	
\$	Extract all u	sers' grants	
	Restore def	ault size	
	Privileges	for	*
Us	er	Host	
8	User	doom_serve	er
8	alex	alex%	
8	root	%	
8	root	localhost	
8	tester	%	
	Sa Add U	Jser	
	🛃 Edit U	lser	
	Sa Delete	e User	
	Legend		*
Γ	Revoked (r	not set)	
	Granted		
	Granted wi	th grant ontio	0
		fas askur	
L	Has grants	for columns	

The Navigation bar of Grant Manager allows you to:

Host or database group

select a host to manage <u>global privileges</u> or a database to manage <u>database-specific</u> and <u>column permissions</u>

General group

- a refresh the content of the window
- scall User Editor to add a new database user
- & call <u>User Editor</u> to <u>edit</u> an existing user
- 🏜 <u>delete</u> a database user
- 🗳 extract the selected user's grants and load the script to <u>SQL Script Editor</u>
- extract all users' grants and load the script to <u>SQL Script Editor</u>
- restore the default size and position of the window

Privileges for group

Select an existing database user to grant privileges to

Right-click an item within the **Privileges for** list to call the **context menu** allowing you to:

- call <u>User Editor</u> to <u>add</u> a new user;
- call <u>User Editor</u> to <u>edit</u> the selected user;
- <u>delete</u> the selected user.

Items of the **Navigation bar** are also available on the **ToolBar** of **Grant Manager**. To enable the <u>toolbar</u>, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select **(i)** *Toolbar* (if you need the toolbar only) or **(i)** *Both* (if you need both the toolbar and the <u>Navigation bar</u>) in the **Bar style for child forms** group.

The **context menu** is aimed at facilitating your work: you can perform a variety of operations using context menu items.

The context menu of Grant Manager allows you to:

- grant a permission on an object to the selected user;
- revoke a previously granted permission;
- grant a permission (with GRANT OPTION) on an object to the selected user;
- revoke a previously granted permission (with GRANT OPTION);
- grant all permissions on an object to the selected user;
- grant all permissions (with GRANT OPTION) on an object to the selected user;
- revoke all previously granted permissions on an object;
- grant a permission on all objects to the selected user;
- grant a permission (with GRANT OPTION) on all objects to the selected user;
- revoke a previously granted permission on all objects;
- grant all permissions on all objects to the selected user;
- grant all permissions (with GRANT OPTION) on all objects to the selected user;
- revoke all previously granted permissions on all objects.



See also:

Managing global privileges Managing database-specific privileges Managing column permissions Filtering objects in list

11.3.2 Managing global privileges

The **Global privileges** area of the **Grant Manager** window allows you to define global privileges and extended properties for MySQL users.

Note: This area is available for setting grants on entire *databases* when a **host** is selected in the **Host or Database** group of the <u>Navigation bar</u> (or <u>toolbar</u>).

To edit global privileges of a user, select the user in the **Privileges for** pane of the <u>Navigation bar</u> or <u>toolbar</u>. Tick off a checkbox to grant the global privilege to the selected user. For your convenience the \blacksquare **With grant option** and \blacksquare **All privileges** options are available below.

Use the panel below of the user **Global privileges** group to edit **extended user properties**: *Max. queries per hour, Max. updates per hour, Max. connections per hour, Max. users connection.* Use the spinner controls to set the required values for the properties.

)» G	rant Manager																×
Θ	hr on merlin:5149(1)		-	웅 'tes	ter'@'%'				-	2	22 🎭	🍇	8 🖇	2			
Glo	bal privileges																
	Select	1	Reload			V Alte	r			🗸 Re	pl. slave		V	Create user	r		
V	Insert	1	Shutdow	'n		V Sho	w datat	bases		V Re	pl. client		V	Event			
	Update	1	Process			V Sup	er			V Sh	ow view		V	Trigger			
V	Delete	1	File			V Cre	ate tem	p. table	s	V Cre	eate viev	v					
	Create	1	Referen	ces		Loc	k			V Cre	eate rout	ine					
	Drop	1	Index		l	V Exe	cute			V Alte	er routine	•					
	All privileges	V	With gra	nt optio	n												
1	Max. queries per hou	r 🗌		0	Max. co	onnecti	ons per	hour			0						
	Max, undates per hou				Max III	eare on	nnectio				0						
	wax. updates per not	"		•	Max. us	5015 00	meeuo				•						
Dat	tabase-specific pri	vilege	5														
	All objects 💌		Granted o	only		<u>F</u> ilte	er										
	Object Name	SEL	INS	UPD	DEL	CRT	DRC	OP RE	EF	IND	ALT	CRT VIEW	SHOW VIEW	TRIGGER	ALT ROUTINE	EXEC	ŕ
	countries	۵	۵	۵	٨	۵	2			٥	٨	۵	2	😞			
16	country		2	٨													
	customer	۵	🔒	۵			Gr	ant									
	department	۵		۵			Re	voke									
	employee	۵		۵		6	Gra	ant GR	ANT	OPTIO	N						
	employeeaddress	۵		۵			Re	voke G	RAN	T OPT	ION						Ξ
	employeedepartmer	۵		۵			Gr	ant All									
	employeepayhiston	۵		۵							OPTIC						
	employees_departn	۵		۵			Gn	ant Ail V	min G	RANT	OPHO	N I					
	employees_departn	۵		۵		•	Re	voke A									
	import	٨		۵		8	Gra	ant on A	All								
	jobcandidate	٨		٨		2	Gn	ant on A	All wit	h GRA		ION					
	jobcandidate_new	٨		٨			Re	voke or	n All								
	mymfavorites	۵		٨			_										
	mymreports	۵		٨			Gra	ant All o	on All								
	shift	۵		٨			Gra	ant All o	on All	with GI	RANT O	PTION					
-	new_proc1						Re	voke A	ll on A	N							
•								111								•	

See also:

Using Navigation bar, Toolbar and context menu Managing database-specific privileges Managing column permissions Filtering objects in list

11.3.3 Managing database-specific privileges

The **Database-specific privileges** area allows you to define privileges on database objects and grant privileges to a <u>user</u>.

Note: This area is available for setting grants on *database objects* when a **database** is selected in the **Host or Database** group of the <u>Navigation bar</u> (or <u>toolbar</u>).

To edit the privileges of a <u>user</u> on an object of a database, select the database using the **Host or Database** pane of the <u>Navigation bar</u>, then select a *user* from the **Privileges for** list available within the <u>Navigation bar</u>. Then select the <u>type of objects</u> to be displayed in the main working window using the drop-down list at the top.

The **Object Name** column contains the list of objects of the selected type; each subsequent column corresponds to the permission which can be granted on the selected object:

Database-specific privileges																
	All objects		Granted (only		<u>F</u> ilter										
	Object Name	SEL	INS	UPD	DE	EL CRT	DROP	REF	IND	ALT	CRT VIEW	SHOW VIEW	TRIGGER	ALT ROUTINE	EXEC	*
6	film	۵														
	film_actor	۵	۵	۵) 🔒	۵	۵	۵	2	8	2	😞			
	film_category	۵				Crant										
	film_text	٨				Granic										
	inventory				•	Revoke										
6	language	۵			₿	Grant GR	ANT OP	TION								
I	payment	۵				Revoke G	RANT O	PTION								
6	rental	۵			0	Grant All										
6	staff					Creat All y										=
	store	۵				Grant Air v		NI OPI	ION							_
-	film_in_stock				••	Revoke A	I									
-	film_not_in_stock				8	Grant on A	N									
-	rewards_report				8	Grant on A	All with G	RANT C	PTION							
	get_customer_bala					Revoke or	1 All									
	inventory_held_by_															
3	inventory_in_stock					Grant All o	n All									
4	actor_info	٨				Grant All o	n All with	GRAN		N						
4	customer_list	۵				Revoke A	I on All									
4	film_list	۵			-											Ŧ
1															- F	

SEL, INS, UPD, DEL, CRT, DROP, REF, IND, TRIG, ALT (for <u>tables</u>, <u>views</u>); EXEC, ALTER ROUTINE (for <u>procedures</u>, <u>functions</u>).

The list of objects can be configured in several ways: you can specify that <u>only granted</u> <u>objects</u> are displayed in the grid, or define an object name to <u>filter</u> the objects by that name.

Right-click a cell to grant a specific permission on a certain object. To grant a permission on an object, you should find the object in the **Object Name** list and the column with the corresponding permission. Note that the cells that are highlighted gray do not admit to

setting grants for an obvious reason (e.g. you cannot execute a table). The <u>context</u> <u>menu</u> of a cell contains possible permissions that can be granted:

- 🔵 Grant
- 悬 Grant with GRANT OPTION
- *Revoke* (removes a previously granted permission)
- 🥯 Grant All
- 🥵 Grant All with GRANT OPTION
- 🛑 Revoke All
- 🎖 Grant on All
- arright Strant on All with GRANT OPTION 😂
- 🛢 Revoke on All
- ✓ Grant All on All
- ✓ Grant All on All with GRANT OPTION
- ✓ Revoke All on All

Hint: You can also assign privileges by double-clicking the respective cell - in this case the grant status is changed in the following order: *Grant* -> *Revoke*.

See also:

Using Navigation bar, Toolbar and context menu Managing global privileges Managing column permissions Filtering objects in list

11.3.4 Managing column permissions

If you select a table or a view the **Column permissions** area appears. It displays the grid with table/view columns and the privileges that can be granted to the selected <u>user</u>.

Use items of the <u>context menu</u> to grant/revoke permissions on columns.

Database-specific priv	vileges	;													
Tables 💌		anted	only		<u>F</u> ilter										
Object Name	SEL	INS	UPD	DEL	CRT	DROP	REF	IND	ALT	CRT VIEW	SHOW VIEW	TRIGGER	ALT ROUTINE	EXEC	- III
actor	۵	۵	🔒	😂	۵	۵	۵	۵	2	8	🔒	۵			
address	۵														
category	۵														
📑 city	۵														
country	۵														-
Column Name	s	EL I	INS	UPD R	EF					*					
actor_id	(•	•	Grant	<u> </u>										
first_name		•		Develop											
last_name		•		Revoke											
last_update		•	•	Grant All											
			e e	Revoke All											

See also:

Using Navigation bar, Toolbar and context menu Managing global privileges Managing database-specific privileges Filtering objects in list

11.3.5 Filtering objects in list

In large databases with huge amount of objects it may be difficult to find the required object. For this purpose you are provided with several tools for *filtering objects in list*:

- the **Object type** control: select the required object type from the drop-down list (e. g. *Tables*);
- the **Filter** panel: enter a character string to filter the object names by that string (note that the filter is case-sensitive);
- the **Granted only** option: check this option to display objects with at least one granted operation.

Dat	tabase-specific pr	ivilege	5												
	All objects	•	Granted	only		<u>F</u> ilter	fi								
	Object Name	SEL	INS	UPD	DEL	CRT	DROP	REF	IND	ALT	CRT VIEW	SHOW VIEW	TRIGGER	ALT ROUTINE	EXEC
	film	😞													
	film_actor	😞	۵	۵	۵	۵	۵	٨	۵	۵	۵	۵	۵		
	film_category	2													
	film_text	😞													
-	film_in_stock														
-	film_not_in_stock														
4	film_list	8													

See also:

<u>Using Navigation bar, Toolbar and context menu</u> <u>Managing global privileges</u> <u>Managing database-specific privileges</u> <u>Managing column permissions</u>



12 Options

SQL Manager for MySQL provides you with capabilities for flexible personalization of the application.

Please see the chapters below to learn how to use personalization tools effectively.

- Environment Options
- Editor Options
- <u>Save Settings</u>
- Localization
- <u>Keyboard Templates</u>
- <u>Object Templates</u>
- Find Option dialog

The **Options** menu allows you to export all program settings to a *.*reg* file for future use, e.g. when you need to move the settings to another machine (see <u>Save Settings</u> for details).

Hint: Each of the SQL Manager Options dialogs is provided with the **Reset to defaults button**. You can use it either to **Reset current category** or to **Reset all categories**.

See also: <u>Getting Started</u> <u>Database Explorer</u> <u>Database Management</u> <u>Database Objects Management</u> <u>Query Management Tools</u> <u>Data Management</u> <u>Import/Export Tools</u> <u>Database Tools</u> <u>Server Tools</u> <u>External Tools</u> How To...

12.1 Environment Options

Environment Options allow you to customize general options of the **SQL Manager** application.

To open the **Environment Options** window, select the **Options** | **b Environment Options...** <u>main menu</u> item, or use the **b Environment Options** button on the main toolbar.

	<u>D</u> atabase	<u>V</u> iew	<u>T</u> ools	Services	Optic	ons	Windows	<u>H</u> elp	
					4	Env	ironment Opt	ions	
						Edit	or Options		
						Luit	or optiono		
Preferences									
Full mode ad	<u>ctivation</u>								
Confirmation	<u>15</u>								
Appearance									
IOOIS									
Table Editor									
SOL Editor									
SOL Monitor	-								
SQL Script	-								
Query Builde	<u>er</u>								
<u>Style & Colo</u>	or Palette								
Visual Datab	ase Desi	gner							
Print Metad	<u>ata</u>								
Data Export	ortion								
Server Prop	erties								
Grid									
Data Option	s								
Print Data	-								
Color & Forr	<u>nats</u>								
<u>Advanced</u>									
<u>Column Opti</u>	ons								
Localization									
Global Short	<u>cuts</u>								
Find Option									

See also: Editor Options

12.1.1 Preferences

Show splash screen at startup

Displays the splash screen of **SQL Manager for MySQL** at the application startup.

Restore desktop on connect

This option determines whether the previously opened windows and their positions should be restored upon connection to the database.

Do not restore if 'Refresh objects on connection' database registration option is off

The previously opened windows and their positions are not restored for the databases having 'Refresh objects on connection' off at the Database Registration Info.

Disable multiple instances

Checking this option prevents one from running multiple instances of **SQL Manager for MySQL**.

Show desktop panel (for MDI Environment style only)

Displays <u>Desktop Panel</u> when no child windows are open.

Show Full Version features

This option is available in the Lite version of **SQL Manager**. When selected, a 30-day period of fully-functional usage is <u>activated</u>.

Environment Options		\times
Preferences	Preferences	
Confirmations Appearance Confirmations Appearance Confirmations Confirma	Show splash screen at startup Restore desktop on connect (for refreshed on connect databases) Do not restore if 'Refresh objects on connection' database registration option is off Disable multiple instances Show desktop panel (for MDI environment only)	
<u>R</u> eset to Defaults ▼	OK Cancel Help Apply	/
Hint: The **Reset to defaults** button which is common for all sections of the **Environment Options** dialog allows you to discard all changes and restore the settings to their defaults.

See also: Confirmations Windows Tools Fonts Grid Localization Find Option

12.1.1.1 Full mode activation

Note that when using **the FREE Lite version of SQL Manager for MySQL** (which contains functional limitations) you can activate a 30-day period of fully-functional usage. During this period you will get the splash screen displaying the number of days left every time you start the application. After the period expires, you will be able to continue using the Lite version.



To activate the 30-day Full version mode, please enable the \blacksquare Show Full Version features option available on the <u>Preferences</u> page of the Environment Options dialog (note that this option is only available in the Lite version of SQL Manager).

12.1.2 Confirmations

Confirm saving the object (or document) upon closing the editor

If this option is selected, the program requires confirmation each time you want to save changes in a database object or document.

Confirm dropping of object

If this option is selected, the program requires confirmation of <u>dropping</u> a database object.

Confirm exit from SQL Manager

If this option is set, you are prompted for confirmation each time when you exit the application.

Environment Options	×
Preferences	Confirmations
Confirmations Appearance Grid Grid Global Shortcuts K Find Option	 Confirm saving the object (or document) upon closing the editor Confirm gropping of object Confirm egit from SQL Manager Confirm transaction commit Confirm transaction rollback Confirm deleting records Confirm addition into spell checking dictionary Confirm transformation of misprint into substitution Confirm metadata changing (Changing Metadata window) Confirm reorder columns Confirm flush operation
<u>R</u> eset to Defaults ▼	<u>O</u> K <u>Cancel H</u> elp <u>A</u> pply

Confirm transaction commit

If this option is selected, the program requires confirmation on attempt to commit a transaction.

Confirm transaction rollback

If this option is selected, the program requires confirmation on attempt to rollback a transaction.

Confirm deleting records

This option enables/disables a confirmation dialog for deleting records.

Confirm addition into spell checking dictionary

Option defines whether confirmation required to add new word into spell checking dictionary

Confirm transformation of misprint into substitution

Enable the option to avoid accident transformations of misprints into substitutions.

Confirm metadata changing (Changing Metadata window)

Use the option to enable/disable confirmation of metadata changing.

Confirm reorder columns

Enable this option if you wish to be prompted for confirmation when reordering columns.

Confirm flush operation

If this option is selected, the program prompts to confirm the <u>flush</u> operation.

Notify about possible problems with incorrect client character set on connection

If this option is selected, the application will check the character set specified for connection and notify you if it is incorrect.

12.1.3 Appearance

Theme

Select the main color theme for the application: Light, Blue or Dark.

Environment style

This group allows you to define the basic window environment -
• MDI (like Microsoft®)
Office) or

• Floating windows (like Borland® Delphi IDE).

Windows restrictions

This option allows you to set the number of editors (<u>Table Editor</u>, <u>SQL Editor</u>, etc.) that can be opened simultaneously.

Zoom options

This group of options is only available if **Environment Style** is set to *Floating windows environment*. It allows you to set maximization size for child windows:

- Full screen
- Restricted by Main Form
- Restricted by Main Form and DB Explorer
- Justified my Main Form and DB Explorer

Bar style for child forms

Here you can define the location of action buttons:

within the Navigation bar (on the left) and/or
on the Toolbar.

If necessary, you can also **I Enable floating toolbars** for your application.



12.1.4 Tools

Show only connected databases in drop-down menu

If this option is checked, only <u>connected</u> databases are displayed in drop-down menus of such tools as <u>Query Builder</u>, <u>SQL Script</u>, etc.

Allow using parameters in query text

This feature allows you to specify different values within a query in a <u>popup dialog</u> just before the query execution. Use the colon (':') character before an identifier (e.g. :P1) to specify a parameter within the query.

Show object dependencies from other databases

Enable the option to display dependent object stored in other databases.

Environment Options			
Environment Options Preferences Confirmations Windows DB Explorer DB Explorer DB Explorer DB Explorer SQL Editor SQL Editor SQL Script Visual Database Designer Visual Database Designer Visual Database Designer Server Properties Grid Global Shortcuts Find Option	Tools Show only connected databases in drop-down menu Allow using parameters in query text Show object dependencies from other databases New tool form should be opened for Database currently selected in DB Explorer Database selected in currently focused form		
Reset to Defaults	<u>O</u> K <u>C</u> ancel	Help Apply	

New tool form should be opened for

This option defines which database should be selected in the launched tool. **Database currently selected in DB Explorer**

Tool will be opened with the database focused in the DB Explorer selected.

Database selected in currently focused form

Tool will be opened with the database which is selected in the current form.

12.1.4.1 Timeouts

Connect timeout (in seconds) option is used to define the timeout for connection to the server.

Metadata lock wait timeout (in seconds) option is used to define the timeout for attempts to acquire metadata locks. This timeout applies to all statements that use metadata lock: DML and DDL operations on tables, views, stored procedures, and stored functions, LOCK TABLES, FLUSH TABLES WITH READ LOCK, and HANDLER statements.

Environment Options		×
Preferences	Timeouts	
Confirmations		
Windows	Connect timeout (in seconds)	5-
E Tools	Metadata lock wait timeout (in seconds)	5 🚔
Timeouts		
DB Explorer		
Table Editor		
SQL Editor		
SQL Monitor		
SQL Script		
Query Builder		
Usual Database Designer		
Print Metadata		
Data Export		
Server Properties		
Fonts		
Eind Ontion		
<u>R</u> eset to Defaults ▼	<u>O</u> K <u>Cancel</u> <u>H</u> elp	Apply

12.1.4.2 DB Explorer

General options

Show hosts in DB Explorer

Shows/hides database hosts in the <u>DB Explorer</u> tree.

Show table subobjects

Shows/hides table subobjects (columns, indexes, etc.) in the DB Explorer tree.

Sort by aliases

Use this option to apply sorting registered hosts and databases by their aliases in the \underline{DB} <u>Explorer</u> tree.

Rename objects by editing in place

Allows you to edit object names in <u>DB Explorer</u> by selecting any object and clicking its alias one more time.

Refresh objects on showing in SQL Assistant

This option enables/disables refreshing objects each time they are displayed in <u>SQL</u> <u>Assistant</u>.

Auto expand navigation pane

If this option is checked, the list of navigation tabs in DB Explorer is expanded automatically on program launch.

Show hint

Enables displaying of hints for the databases in the DB Explorer tree.

Environment Options X			
Preferences Confirmations Appearance Timeouts DB Explorer Search Table Editor	DB Explorer General options Show hosts in DB Explorer Show table subobjects Sort by aliases Rename objects by editing in place Refresh object on showing in SQL Assistant		
SQL Editor SQL Monitor SQL Script Query Builder Syle & Color Palette Visual Database Designer Print Metadata Data Export	Auto expand navigation pane Auto expand navigation pane Show hint Recent objects count 10 Table details in SQL Assistant O Columns O Indices		
Global Shortcuts	 Foreign keys Triggers Table status Description Definition 		
<u>R</u> eset to Defaults ▼	<u>O</u> K <u>C</u> ancel <u>H</u> elp <u>A</u> pply		

Recent objects count

Defines the number of objects displayed within the <u>Recent</u> menu of the <u>DB Explorer</u>.

Table details in SQL Assistant

These options switch the <u>SQL Assistant</u> mode for displaying <u>table</u> details (columns, indexes, Foreign keys, triggers, table status, description or definition).

See also: Database Explorer

12.1.4.2.1 Search

Here you can set search options for DB Explorer search string:



Search by categories

This option determines the search scope when the <u>Find Item</u> feature is used: if this option is selected, the search is performed within the currently selected category (node in the tree) only.

Use case sensitive search

If this option is selected, the search string case is considered when using the <u>Search</u> <u>Panel</u>.

Environment Options	×	
Preferences Confirmations Appearance Tools Timeouts DB Explorer Sarch Sal Editor SQL Script SQL Script SQL Script Yisual Database Designer Print Metadata Data Export Server Properties T Fonts Global Shortcuts Find Option	Search options Search by categories Search by categories Source case sensitive search Source case sensitive search Start-with search	
<u>R</u> eset to Defaults ▼	OK Cancel Help Apply	

Don't search in collapsed nodes

Enable the option to search within the expanded nodes only.

Start-with search

Check this option to search for objects those names begin with the defined searched string.

12.1.4.3 Table Editor

Always open the Columns tab

If this option is checked, the <u>Columns</u> tab is activated by default upon opening a table in <u>Table Editor</u>.

Show Object Explorer

Enables/disables the Object Explorer panel within the <u>Navigation bar</u> of <u>Table Editor</u>.

Show table status panel

Enables/disables the table status panel.

Do not retrieve record count for a table

Check this option to disable retrieving record count for tables (with this feature enabled, opening large tables may take much time).

Allow to edit tables with no keys

Enables/disables editing tables that have no key columns (note that editing tables without unique or primary keys might lead to data integrity issues).

Environment Options				×
Preferences	Table Editor			
Confirmations				
Appearance	Always open the Columns tab			
Tools	Show Object Explorer			
Timeouts	Show table status panel			
B DB Explorer	Do not retrieve record count for	r a table		
Table Editor		a table		
SQL Editor	Allow editing tables with no key	/\$		
SQL Monitor	Default storage engine for new t	ables		
🕞 👽 SQL Script	 Use default engine defined or 	the server		
🕀 🔛 Query Builder	Use the following engine for a	all databases		
····타 <mark>··</mark> Visual Database Designer	Default storage engine	MyISAM	~	
Print Metadata		MVISAM		
Data Export		ISAM		
Server Properties		MEMORY		
TI Fonts		InnoDB		
🖶 🛄 Grid		BerkeleyDB		
Localization		Gemini		
Global Shortcuts		FEDERATED		
Find Option		ARCHIVE		
		BLACKHOLE		
		SOLIDDB		
		FALCON		
Reset to Defaults		MRG_ISAM		Apply
<u> </u>		ndbinfo		
		PBXT		
		SPHINX		
		SEQUENCE		

Default storage engine for new tables

This group allows you to define the storage engine to be used while creating a new table:

Idefault engine defined on the server

• the following engine for all databases (use the **Default storage engine** drop-down list to select one of the supported <u>types</u>: MyISAM, ISAM, HEAP, MRG_MyISAM, InnoDB, BerkeleyDB, Gemini, FEDERATED, ARCHIVE, CSV, NDBCluster, BLACKHOLE, SOLIDDB, FALCON).

See also: Table Editor

12.1.4.4 SQL Editor

Explain query on execution

If this option is checked, the <u>query plan</u> is displayed automatically upon query execution in <u>SQL Editor</u>.

Show result for each query

With this option checked, when you <u>execute</u> two or more queries, the result of each query will be displayed one by one. Otherwise, only the result of the last query will be displayed.

Execute selected text separately

Check this option to allow <u>execution</u> of the selected statement separately.

Write only successfully executed queries to database SQL log file

If this option is checked, unsuccessful queries will not be saved to the SQL Editor log file (see <u>Setting log options</u> in the <u>Database Registration Info</u> dialog).

Environment Options X			
Preferences Confirmations Appearance Tools Timeouts DB Explorer Sol Editor Sol Editor Sol Sol Cript Sol Script Sol Script Script Sol Script S	SQL Editor Explain query on execution Show result for each query Execute selected text separately Write only successfully executed queries to database SQL log file Show results on Edit tab Don't save queries automatically for the next session Always save changes in Favorite Queries before closing Same queries for all databases Refresh DB Explorer upon successful DDL statement execution Transaction confirmation Disable transaction confirmation Default action on closing the editor		
<u>R</u> eset to Defaults ▼	<u>O</u> K <u>Cancel H</u> elp <u>Apply</u>		

Show results on Edit tab

If this option is checked, the **Results** tab is displayed as a separate tab.

Don't save queries automatically for the next session

If this option is checked, the SQL query text will not be saved. Otherwise, it will be saved

in Windows registry and will be therefore available in the next application sessions.

Always save changes in Favorite Queries before closing

This option enables/disables saving changes in SQL queries marked as <u>Favorite</u> automatically upon closing the editor.

Same queries for all databases

With this option enabled, <u>SQL Editor</u> stores all queries in a shared repository, so that switching to another database does not cause loading queries of that database (applying this option does not affect currently opened copies of SQL Editor). The value of the option can be changed freely without any risk to lose the query repository content.

Refresh DB Explorer upon successful DDL statement execution

If this option is selected, the content of <u>DB Explorer</u> is refreshed each time a DDL statement is <u>executed</u> successfully in <u>SQL Editor</u>.

Transaction confirmation

Disable transaction confirmation

If this option is checked, no transaction confirmation will be required on closing <u>Visual</u> <u>Query Builder</u> and <u>SQL Editor</u>. Specify the **default action** (*Commit* or *Rollback*) and this action will be performed automatically each time when you close the editor.

See also:

SQL Editor

12.1.4.5 SQL Monitor

Operations

Specify the operations to be logged in <u>SQL Monitor</u>: Connect, Disconnect, Start of transaction, Commit, Rollback, Show objects, Execute query, Ping server.

SQL log

This group of options allows you to enable logging of all <u>SQL Monitor</u> events to a file. Check the **Log SQL Monitor events to file** option, specify the path to the log file using the \blacksquare button, and enter a name for the *.*sql* file. To clear the log file after it reaches some definite size, check the **Clear log file when it is greater than...** option and set the maximum file size (in Kilobytes).

Environment Options	×
Preferences	SQL Monitor
Confirmations Co	Operations Image: Connect Image: Disconnect Image: Start of transaction Image: Commit Image: Rollback Image: Show objects Image: Execute query Image: Ping server SQL log
Print Metadata Data Export Server Properties Grid Localization Global Shortcuts Find Option	Log SQL Monitor events to file Clear log file when it is greater than (KB) Show time of operation Always show on top
<u>R</u> eset to Defaults ▼	<u>Q</u> K <u>C</u> ancel <u>H</u> elp <u>A</u> pply

Show time of operation

If this option is checked, the execution time of logged operations is added.

Always show on top

Select this option if you want to display the <u>SQL Monitor</u> window in the foreground permanently.

See also:

SQL Monitor

12.1.4.6 SQL Script

Abort script on error

If this option is checked, script execution is aborted if an error occurs.

Enable parsing

With this option checked, <u>SQL Script Editor</u> parses the loaded script to enable fast navigation in the <u>Script Explorer</u> tool.

Show message when done

Displays a message box on finishing script execution.

Execute selected text separately

Check this option to allow <u>execution</u> of the selected statement separately.

Don't clear error list on selected text execution

If this option is checked, the error list is not cleared upon execution of the selected statement.

Skip unknown statements

If the option is disabled, the execution of unknown statement in script results in error. Enable the option to skip such statements and continue performing script.

Disable all code features in SQL Script

This option disables code completion, code folding, highlight and all options that are set on the <u>Quick Code</u> page. For options that are set on the <u>Color</u> page, the defaults will be applied.

Environment Options			×
Confirmations	^	SQL Script	
Appearance	_	_	_
🖶 🌞 Tools		Abort script on error	
- 🕞 Timeouts		Enable p <u>a</u> rsing	
DB Explorer		Show message when done	
Search			
Table Editor			
SQL Editor		Don't clear error list on selected text execution	
SQL Monitor		Skip unknown statements	
👽 SQL Script		✓ Disable all code features in SQL Script	
📄 🔛 Query Builder		Database options	
Style & Color Palette		Register newly created databases	
Visual Database Designer			
Print Metadata			
Data Export		Transaction options	
Server Properties		Rollback on abort	
		Start transaction automatically if needed	
Bata Options			
Color & Formats			
Column Options	J		
	Ť		
<u>R</u> eset to Defaults ▼		<u>Q</u> K <u>C</u> ancel <u>H</u> elp <u>A</u> pply	

Database options

Register newly created databases

Enable the option to register newly created databases in SQL Manager for MySQL.

Connect automatically to just created database

Check the option to connect to newly created database automatically.

Transaction options

Rollback on abort

This option is only available if the **Abort script on error** option is checked. This option evokes automatic rollback when script execution is aborted.

Start transaction automatically if needed

If the option is enabled then transaction starts automatically after statements is executed. Otherwise, the BEGIN statement is required for transaction to start.

See also: SQL Script Editor

12.1.4.7 Query Builder

General options

Allow SELECT queries only

When this option is checked, the *INSERT*, *UPDATE* and *DELETE* statements are not allowed in <u>Query Builder</u>.

Select condition row

Displays the selected condition in different rows on the **Criteria** and **Grouping Criteria** tabs of <u>Query Builder</u>.

Drag column name

Displays the dragged column name in the **Builder** area.

Hide selection when inactive

Hides the selection when the <u>Query Builder</u> window is inactive.

Show column types

Displays the column data type next to the column name in the table box.

Union all by default

Check this option to use the UNION ALL expression in <u>Query Builder</u> by default. The UNION keyword allows you to include the results of two SELECT statements in one resulting table.

The *ALL* parameter incorporates all rows into the results, including duplicates. If not specified, duplicate rows are removed.

Environment Options X			
Preferences Confirmations Appearance Tools DB Explorer Search Table Editor	Query Builder General options Allow SELECT queries only Select condition row Drag column name Hide selection when inactive Show column types Ulning all by default		
SQL Editor SQL Monitor SQL Script SQL Script SQL Script Syle & Color Palette Syle	Visible tabs Criteria Selection Group criteria Sorting	Script format Keywords format As is ~ Functions format As is ~	
Global Shortcuts			
<u>R</u> eset to Defaults ▼	<u>0</u> K	<u>C</u> ancel <u>H</u> elp <u>A</u> pply	

Visible tabs

These options specify which <u>Query Builder</u> tabs are available and which are not. Use the check boxes to make the corresponding tabs visible/invisible.

Script format

These options specify case formatting of keywords and functions in query text within the <u>Edit</u> tab: As is keeps the original case, Uppercase sets all the keywords/functions to the upper case, Lowercase sets all the keywords/functions to the lower case, and First upper sets the first letters of all keywords/functions to the upper case.

Additionally, you can set styles and color for all **Query Builder** objects by using <u>Style &</u> <u>Color Palette</u>.

See also: <u>Visual Query Builder</u> 12.1.4.7.1 Style & Color Palette

Style

These options specify the way various <u>Query Builder</u> elements look: the **Condition button** : *Flat*, *3DLook*, *Raised*; **object borders**: *Bump*, *Etched*, *Raised*, *Sunken*. If necessary, you can also specify **flatness** for objects and buttons using the corresponding options.

V XP tables style

This option determines the appearance of non-client areas of tables in <u>Query Builder</u>.

Show icons on tabs

With this option selected, you can see icons next to the tab names in <u>Query Builder</u>.

Environment Options		×
Preferences	Style & Color Palette	
Confirmations	Style	
Appearance	Condition button style Raised	~
Tools	Object border kind Raised	
🚱 Timeouts		
🖻 📙 DB Explorer	Flat object's buttons	
Search	✓ Flat objects	
Table Editor	 Windows style of tables 	
SQL Editor	Show icons on tabs	
😳 SQL Monitor	Color palette	
📴 SQL Script		Column text
🖨 🔛 Query Builder		
🔠 🎫 Style & Color Palette	Condition text	Selected column text
·····El [®] Visual Database Designer	Condition item text	Work space
Print Metadata	Table client area	Column
Data Export		
Server Properties	Active table caption-	
TI Fonts	Active table caption text*	Group
	Inactive table caption*	Predicate
	Inactive table caption text*	Subquery
Global Shortcuts	Note: If the option Windows style of th	ables' is turned on values of the ontions marked with the
Find Option	asterisk (*) symbol are ignored.	and a terror of, rando of the options marked with the
<u>R</u> eset to Defaults ▼		OK Cancel Help Apply

Color palette

These options define the colors of various <u>Query Builder</u> elements.

Active condition row (at the Criteria and Grouping criteria tabs):

	All	of the following are met		
N	1.	HR.DEPARTMENT.DEPARTMENTID	=	HR.EMPLOYEE.DEPT_ID
43	2.	<u>HR.EMPLOYEE.IS ACTIVE</u> = <u>1</u>		

Condition text (at the <u>Criteria</u> and <u>Grouping criteria</u> tabs):

<u>All</u>	of the following are met		
1.	HR.DEPARTMENT.DEPARTMENTID	=	HR.EMPLOYEE.DEPT_ID
2.	HR.EMPLOYEE.IS ACTIVE = 1		

Condition item text (at the Criteria and Grouping criteria tabs):

All of the following are met	
1 HR.DEPARTMENT.DEPARTMENTID	= HR.EMPLOYEE.DEPT ID
$2.\sqrt[5]{HR.EMPLOYEE.IS ACTIVE} = 1$	

Table client area (in the diagram area):



Active table caption (in the diagram area):



Inactive table caption (in the diagram area):

HR.EMPLOYEE			
EMP_ID			
POSITION			
FIRST_NAME			
LAST_NAME			
GENDER			
MARITAL_STATUS		HR.DEPARTMEN	
BIRTH_DATE	● 🗹	DEPARTMENTID	K
✓ HIRE_DATE	🗹	NAME	
✓ IS_ACTIVE	_	GROUPNAME	
SALARY SALARY	🗹	MANAGERID	
✓ DETAILS		DEPT_PHONE	
DEPT_ID	•/	DEPT_ROOM	
MANAGER_ID		DEPT_ADDRESS	

Field text (in the <u>diagram area</u>):



Selected field text (in the diagram area):

	GROUPNAME
	MANAGERID
	DEPT_PHONE
↓	DEPT_ROOM
	DEPT_ADDRESS
	•

Work space (in the <u>diagram area</u>):

IS_ACTIVE	DEPT_PHONE
SALARY SALARY	DEPT_ROOM
✓ DETAILS	DEPT_ADDRESS
DEPT_ID	<u>ما ر</u>
MANAGER_ID	<i>↓ ↓ ↓</i>

Field (at the Criteria and Grouping criteria tabs):

<u>All</u>	of the following are met		
1.	HR.DEPARTMENT.DEPARTMENTID	=	HR.EMPLOYEE.DEPT ID

Operation (at the Criteria and Grouping criteria tabs):

 All	of the following are met		
1.	HR.DEPARTMENT.DEPARTMENTID	=	HR.EMPLOYEE.DEPT ID
2.	HR.EMPLOYEE.IS ACTIVE		

Group (at the Grouping criteria tab):

<u>All</u> of t	he following are met		
1. M4	<u>እአ HR.EMPLOYEE.SALARY</u> ካ	=	

Predicate (at the <u>Criteria</u> and <u>Grouping criteria</u> tabs when a <u>subquery</u> is used):

	All of the following are met		
	1. <u>HR.DEPARTMENT.DEPARTMENTID</u>	>= <u>ALL</u> 진짜	(SELECT HR.DEPARTMENT.
•	III		4

Subquery (at the <u>Criteria</u> and <u>Grouping criteria</u> tabs when a <u>subquery</u> is used):

	All of the following are met		
	1. HR.DEPARTMENT.DEPARTMENTID	>= <u>ALL</u>	<u>(SELECT HR.DEPARTMENT.</u> প্ ^দ ্য
•	III		Þ

Click an item to select a color for the corresponding element using the **Color** dialog where you can specify the required color from the palette.

12.1.4.8 Visual Database Designer

Visual settings

Model notation

When you work in <u>Visual Database Designer</u>, you can choose one of the following modeling notations:

- Integration DEFinition for Information Modeling (IDEF1X);
- Information Engineering (IE).

The *IDEF1X* and *IE* notations use different symbols to represent relationships between entities (and tables).

Environment Options				×
Preferences	Visual Database De	signer		
Confirmations	Visual settings			
Appearance	Model notation	IDEF1x (Integration DEFini	ition for information modeling) ~
Tools		KEV ashima assessable		
Timeouts		KEY columns separately		name
🕀 🗄 DB Explorer	Draw entities icc	ons	Draw attribute inform	nation
Table Editor	Draw attributes	icons	Draw page borders	
- 📝 SQL Editor	Draw only name	s of entities		
🖓 🔁 SQL Monitor	Grid options			
📴 SQL Script	Show grid	Gr	ridisize X 10	🗎 Y 10 🗎
🕀 🔛 Query Builder	Snap to grid			
····타 <mark>@</mark> Visual Database Designer				
Print Metadata	Style & Color			
Data Export	Element:	Font name	Tr Verdana	\sim
Server Properties	Workspace Selected item	A East size	10	Font style
TI Fonts	Table	T UNIT SIZE		Bold
🕀 🛄 Grid	View	Font color	Black 💌 …	
Localization	Function Procedure	Brush color	White 💌 …	Italic
Global Shortcuts	Relation	Dep color		Underline
Section Section	Column Primary key	Per color		
	Unique column	¥		Apply to All
<u>R</u> eset to Defaults ▼		<u>0</u> K	<u>C</u> ancel <u>H</u>	elp <u>A</u> pply

Draw PRIMARY KEY columns separately

Separates Primary key columns from other columns with a horizontal line.

address	•	:	•	:	:	:	i	:	•
address_id: SMALLINT		Ė	·	•	•	•	!	•	•
address: VARCHAR(50)	2	Ŀ					i		
♦ address2: VARCHAR(50)	a	dd	Ire	ss	i	d	ľ	Ì	
district: VARCHAR(20)	Т	yp	e:	S	M/	AL	LI	NT	·
♦ city_id: SMALLINT	Ρ	rin	na	ry	ke	≥y			
♦ postal_code: VARCHAR(10)	N	lot	:N	ull					
phone: VARCHAR(20)		11			:	:		:	
♦ last_update: TIMESTAMP		1	÷	:	:	:	÷	:	:
.L									

Draw entities icons

Displays icons at the left of each entity header according to its type.



Draw attributes icons

Displays icons at the left of each attribute according to its type (Primary key, Foreign key, ordinary field).



Draw only names of entities

Displays only entity headers, fields are hidden.



Draw FOREIGN KEY name

Displays foreign key names for the corresponding relations.

address	:		:	:	•	• •	:	:		:	:	:	:	:	0	cit	ty					-			-		_
ø address_id: SMALLINT	1		:	:	:		:	÷		:				:	P	cit	ty.	i	1:	SM	A	LL	IN	т			
address: VARCHAR(50)	ŀ.				•						i			·	۵	cit	ty	: V	AI	RCH	1/	R	(5(D)			٦
♦ address2: VARCHAR(50)	1		:	:	:		:	:		:	÷	:	:	:	۵	co	u	ntr	Y.	_id	: :	SM	A	LI	(N)	Т	
district: VARCHAR(20)	÷.		·	·	•	• •	·	·	• •	•	÷	·	·	•	۵	las	st_	up	da	ate:	Т	١M	IES	ST/	١M	Ρ	
◊ city_id: SMALLINT	۲		<u> </u>	· · -	-		<u> </u>			_ :	_	:	:	1													_
♦ postal_code: VARCHAR(10)	÷	f	k_	ad	dr	es	<u>s_</u>	cit	y	:	:	÷	:	:	•	÷	:	: :	:	• •		:	:	• •	:	: :	:
phone: VARCHAR(20)	÷					. h	ξ.																				
♦ last_update: TIMESTAMP	1		:	:	:		:	:	: :	:	:	:	:	:		:	:	: :	:			:	:		:	: :	:

Draw attribute information

Display attribute properties (optionality, keys, etc.) in parentheses after the attribute

name and type.

Employee (HumanResources)	
🤌 EmployeeID: int	
NationalIDNumber: nvarchar(15) (AK _R)	
☆ ContactID: int (FK1)	
LoginID: nvarchar(256) (AK1)	

Draw page borders

Displays borders on the diagram page which are the borders used when printing pages with the diagram.

Grid options

Show grid

Displays dots in the diagram area to make the grid visible.

Snap to grid

Automatically aligns entities on the form with the nearest grid line. You cannot place an entity in between grid lines.

Grid size

Sets grid spacing in pixels along the x- and y-axes. Specify a higher number to increase grid spacing.

Style and Color

In this section you can set style and color for all <u>VDBD</u> diagram objects: *Workspace*, *Selected Item*, *Table*, *Relation*, *Field*, *Comment*.

Select an item from the list and define its properties: font name, font style, font size, font color, brush color and pen color.

Click **Apply to all** to use current settings for all the elements.

See also: Visual Database Designer

12.1.4.9 Print Metadata

Default paper size

Define the default paper size for reports created with the Print Metadata tool used: A4 (210 x 297 mm)
 Letter (8 1/2 x 11 ")

Environment Options	
Preferences	Print Metadata
Confirmations	Defent encoder
	Detault paper size
🖶 🌯 Tools	A4 (210 x 297 mm) A4 (210 x 297 mm)
🙀 Timeouts	O Letter (8 1/2 x 11 ")
DB Explorer	
Table Editor	
SQL Editor	
SQL Monitor	
SQL Script	
🕀 🔛 Query Builder	
······································	
Print Metadata	
Data Export	
Server Properties	
1 Fonts	
E Grid	
Localization	
Global Shortcuts	
Find Option	
Reset to Defaults	OK Cancel Help Apply

See also:

Print Metadata

12.1.4.10 Data Export

Environment Options					X		
Preferences	Data Export						
Confirmations Co	Data formats Integer format Float format Date format Time format Date Time format Currency format Boolean True		# ### ##0 dd.MM.yyyyy h:mm dd.MM.yyyy h:mm true				
	Boolean False		false				
Print Metadata	Null string		null				
Print Metadata Data Export Server Properties Fonts Grid Cocalization Global Shortcuts Find Option	✓ Auto save format strings						
<u>R</u> eset to Defaults ▼		<u>о</u> к	<u>C</u> ancel	Help	Apply		

This page allows you to customize formats applied to <u>exported</u> data.

Data formats

Edit the format masks to adjust the result format in the way you need: Integer format, Float format, Date format, Time format, DateTime format, Currency format, Boolean True, Boolean False, Null string.

Auto save format strings

Select this option to save specified format strings automatically.

Click the **Set defaults** button if you wish to apply default data formats.

These settings can also be specified at the <u>Adjusting data formats</u> step of <u>Export Data</u> <u>Wizard</u>.

Fore more details see Format specifiers.

See also: Export Data Wizard

12.1.4.11 Server Properties

Using this page you can set the process/logs list *refresh intervals*, specify the *order* for the log items list, and set the *limit options* for **General Query Log** that will be applied to the <u>Server Properties</u> viewer.

Environment Options			x
Preferences	Server Properties		
Confirmations	Process list refresh interval (sec.)	5	
Windows	Logs refresh interval (sec.)	60	
Timeouts	List log items in descending date order		
DB Explorer	Limit options in General Query Log		
Table Editor	Select all records from log		
SQL Monitor	Select only 100 record	Is	
😏 SQL Script			
Query Builder			
Print Metadata			
Data Export			
Server Properties			
🖭 Fons			
- E Localization			
Global Shortcuts			
<u>R</u> eset to Defaults ▼	<u>о</u> к	Cancel Help Apply	

Process list refresh interval (sec.)

Use this spinner control to set the refresh interval for the process list (in seconds).

Logs refresh interval (sec.)

Use this spinner control to specify the refresh interval for logs (in seconds).

List log items in descending date order

Check this box to sort the log items in the descending date order.

Limit options in General Query Log

This group allows you to set limitations for the <u>General Query Log</u>:

- Select all records from log
- If you choose this item, all records will be selected from the log,
- Select only ... records

if you choose this item, only the defined number of records will be selected from the log.

See also:

Server Properties

12.1.5 Fonts

This section of the **Environment Options** dialog allows you to specify fonts used in the application.

The box below displays the *sample text* with the selected font applied.

Environment Options							×				
Preferences	Fonts	•									
Confirmations	System font name										
🕀 🙀 Tools	The Arial										
TI Fonts	System font size 8 ~										
□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □											
Find Option	Find Option Grid font name										
	Tr Arial										
	Grid font size 8 ~										
	Drag	a column header here	e to group by that colu	IMN							
	ID	FIRST_NAME	LAST_NAME	GENDER	IS_ACTIV	SALARY	BIRTH_DATE				
	1	Gustavo	Achong	М	\checkmark	14500,35	15.05.1972				
	2	Roberto	Nelson	М		14000	03.06.1977				
	3	Margaret	Smith	F	\checkmark	15030,99	16.02.1986				
	4	Leslie	Johnson	F		13000,01	29.10.1972				
<u>R</u> eset to Defaults ▼			<u>0</u> K	<u>C</u> ancel	l	<u>H</u> elp	Apply				

System font name

Defines the font used by **SQL Manager for MySQL**. Select the font name from the dropdown list of available system fonts.
Syst	tem font name	
Ŧ	Arial Unicode MS	•
	Arial Rounded MT Bold	S
Ŧ	Arabic Typesetting	*
Ŧ	Arial	
Ŧ	Arial Black	=1
Ŧ	Arial Narrow	=
Ŧ	Arial Rounded MT Bold	
Ŧ	Arial Unicode MS	
Ŧ	Baskerville Old Face	
Ŧ	Batang	
Tr	BatangChe	
Ŧ	Bauhaus 93	
Ŧ	Bell MT	
Ŧ	Berlin Sans FB	
Ŧ	Berlin Sans FB Demi	
Ŧ	Bernard MT Condensed	Ŧ

System font size

Defines the font size used by **SQL Manager for MySQL**. Type in or use the drop-down list to select the required value.

Grid font name

Defines the font for the data grid.

Grid font size

Defines the font size for the data grid.

12.1.6 Grid

General options

Striped grids

Displays the odd grid rows in a different color defined by the **Strip** option available on the <u>Color & Formats</u> page.

Show editor immediately

Allows editing the cell value right after the cell is clicked.

Always show editor

Set this option to make the cell editors always active.

Enable auto-search in grid

If this option is checked, the cursor is automatically forwarded to the closest match when you start typing.

Column auto-width

With this option set, column widths are changed in order to display all columns without using the horizontal scroll bar. If the content a column is still too large to display without a need to resize the grid, then the column values are truncated and the hidden characters are replaced with an ellipsis at the end.

Restore layout and sorting

Use this option to keep the original grid width and custom sorting.

Cell auto-height

If the widths of the columns are insufficient to display the full content, then text clipping occurs. Set this option to prevent this. If this option is set, the cell content is displayed in multiple lines where necessary. You can set the number of lines to display using the **Cell max line count** option.

Environment Options		×
Preferences	Grid General options Striped grids Show editor immediately	Root level options Show "Group By" box Show indicator
Grid Gibal Shortcuts Find Option	 Always show editor Enable auto-search in grid Column auto-width Restore layout and sorting Cell auto-height Cell max line count 	Show navigator Show "New Item Row" Selection Cell selection Row/cell multi-selection
	Detail level options Show "Group By" box Show indicator Show navigator Show "New Item Row" Hide tabs for single detail	
<u>R</u> eset to Defaults ▼	<u>0</u>	K <u>C</u> ancel <u>H</u> elp <u>A</u> pply

Root level options

These options are applied to the <u>main view</u> of the grid. See <u>Grid View</u> for details.

Detail level options

These options are applied to the <u>detail view</u> of the grid. See <u>Grid View</u> for details.

Show "Group by" box

Displays the gray area above the column caption allowing one to group data in the grid.

Show indicator

Activates/deactivates the row indicator pane at the left.

:	DEPAR 👻	NAME 💌	GROUPNAME	MANAG 👻
	1	Administration	Executive General and Administration	4
ð,	2	Marketing	Sales and Marketing	
Γ	हे 3	Purchasing	Sales and Marketing	12
	4	Human Resources	Executive General and Administration	35

Show navigator

Activates/deactivates the data navigator similar to the <u>navigation pane</u> at the top of the grid. The navigator is available at the bottom of detail level view.

:	DEPAR 👻	NAME 💌	GROUPNAME 💌	MANAG 👻	
	1	Administration	Executive General and Administration	4	
►	2	Marketing	Sales and Marketing	7	
	3	Purchasing	Sales and Marketing	12	
	4	Human Resources	Executive General and Administration	35	÷
H		>₩+-▲ ∕>		+	

Show "New item row"

Displays an empty row at the bottom of a view which is a convenient way for adding data to the grid.

Hide tabs for single detail

This option is useful when only one view is present on the detail level. When the option is enabled, the view tab is hidden.

Selection

Select whether **Row** or **Cell** should be highlighted in the grid on focusing the cell.

Row multi-selection

With this option set, multiple rows can be selected in grid.

See also:

Grid View

12.1.6.1 Data Options

Limit options in table and view editors

Define the number of records to be selected on opening the **Data** tab of <u>Table Editor</u> and <u>View Editor</u>:

Select all records from a table*

Select only ... records* (you should set the number of records using the corresponding spinner control)

Advanced

Use separate connections for each data view within a database*

Select this option to create a separate connection for each data view. Enabling this option is recommended if maximum allowed number of connections is too low.

Asynchronous query execution

Check this option to allow executing queries in background mode (asynchronously). Note that this option is only available when the *Use separate connections for each data view* within a database option is enabled.

Use transactions

Check this option to enable transactions for data. You can change this option for the separate databases in the <u>Database Registration Info</u>.

Perform data sorting on client in data view*

If enabled, the data are sorted by **SQL Manager for MySQL** (on the client side). If this option is disabled, the data are sorted on MySQL server with the help of the *ORDER BY* clause used in SQL query.

Perform data filtration on client in data view*

If enabled, the data are filtered by **SQL Manager for MySQL** (on the client side). If disabled, SQL filter is used in <u>data view</u>. In this case filtering is performed on the MySQL server with the help of the *WHERE* clause used in SQL query.

With the **Perform data sorting on client in data view** option enabled, sorting is performed by means of the grid. Otherwise a click on the column header for sorting causes reloading all table data with the selected column in the *ORDER BY* expression of the *SELECT* statement.

If the table contains a huge amount of records and the **Select only N records** mode (see the **Default limit options in table and view editors** group) is used, this mode is more preferable (e.g. all the records having values starting with "A" will be displayed, and not those which were in originally opened N records).

All above-mentioned is related to the **Perform data filtration on client in data view** option as well. If the filter is applied to a table containing a great number of records, it is strongly recommended to enable this option - in this case the filter will be applied to all table/view records, not only to those which are displayed at the present moment.

Load visible rows mode if records more than...

Set this option to switch to the Load visible rows mode when the number of records in

the dataset exceeds the specified value.

String fields width (chars)

Using this option you can limit string fields width that may improve performance on large datasets.

Environment Options	×				
Preferences	Data Options				
Confirmations	Limit options in table and view editors				
Appearance	○ Select all records from a table *				
	Advanced				
Data Options	Use separate connections for each data view within a database *				
Print Data	Asynchronous query execution				
Color & Formats	Use transactions *				
	Perform data sorting on client in data view *				
Column Options	Perform data filtration on client in data view *				
Localization	Load visible rows mode if records more than 3000				
Global Shortcuts	String fields width (chars)				
The Option					
	Default grid mode				
	Load all rows * O Load visible rows *				
	Note: Changing the options marked with the asterix (*) symbol does not influence the way data are viewed in currently opened windows. These options are used as default values for Data Options parameters for newly registered databases. To change the options for registered databases please use Database Registration Info dialog.				
<u>R</u> eset to Defaults ▼	OK Cancel Help Apply				

Default grid mode

Load all rows*

The grid loads all records from a dataset. This option increases the grid performance by reloading only changed dataset records when updating. In this mode all features (automatic sorting, filtering and summary calculations) are available.

Load visible rows*

The grid loads only a fixed number of dataset records into memory. This option minimizes dataset loading time. Automatic sorting, filtering, summary calculations are not available in this mode.

The **Default grid mode** options allow you to define the grid mode which will be used by default.

With the **Load all rows** option enabled, when loading data, all the records are loaded into grid buffers. In this mode opening the tables with many records may take a considerable amount of time. But in this case you can make use of some advantages: in the filter drop-

down list the column headers are displayed with the values for quick filtering; it is possible to open several sub-levels at the same time when viewing data in master-detail view, etc.

In case opening and other operations with an object consisting of many records takes sufficient time, the **Load visible rows** mode should be used instead. It can be set individually for each table and saved between sessions (can be set via the context menu of the <u>grid</u>).

Note: Changing the options marked with the asterisk (*) sign does not affect the way data are viewed in currently opened windows. These options are used as default values for Data Options parameters for newly registered databases. To change the options for registered databases, please use the <u>Database Registration Info</u> dialog.

See also: EMS SQL Manager FAQ

12.1.6.2 Print Data

Save/restore following print data properties

These options specify which <u>Print Data</u> properties will be saved between work sessions (e. g. if you tick off the *Page settings* item, those settings will be saved and stored between the sessions).

You can save/restore the following **Print Data properties**: Card view representation, Detail view representation, Expanding, Formatting, Level options, "On every page" options, Pagination, Preview options, Image options, Selection options, Report size options, Showing grid elements, Page number format, Page settings, Report title.

Environment Options		
Preferences Confirmations Confirmations Confirmations Confirmations Cols Cols Cols Colors Color & Formats Advanced Column Options Colars Colars Colors Colo	Print Data Save/restore following print data properties Image: Card view representation Image: Detail view representation	 Image options (refinements) Selection options Report size options Showing grid elements Page number format Page settings Report title
Global Shortcuts		
<u>R</u> eset to Defaults ▼	<u>о</u> к	Cancel Help Apply

12.1.6.3 Color & Formats

Display formats

Integer columns

Defines the format for displaying SMALLINT, INTEGER and BIGINT data.

Float columns

Defines the format for displaying NUMERIC and DOUBLE PRECISION data.

Date / Time columns

Defines the format for displaying DATE / TIME data.

Environment Options		×
Preferences Confirmations Appearance Tools Grid Grid Color & Formats Color & Formats Color & Formats Global Shortcuts Find Option	Color & Formats Display formats Integer columns Float columns Datetime columns Date columns Time columns Colors Grid White Row \$00D77800 Strip \$00E1FFFF	#,##0 yyyyy-mm-dd hh:mm:ss yyyyy-mm-dd hh:mm:ss NULL values Text Null Font color Black NULL values
Reset to Defaults	<u>о</u> к	<u>Cancel Help Apply</u>

For more information refer to the Format specifiers page.

Colors

Options of this group allow you to set colors for basic <u>grid</u> elements. Use the ellipsis \square button to open the **Color** dialog allowing you to select the required color from the palette.

Grid

Defines the background color of the data grid.

Row

Defines the color of the selected row in the data grid.

Strip

Defines the color of the odd rows (applied if the **Striped grids** option is set on the <u>Grid</u> page).

NULL values

Text

Defines the text that stands for NULL values in grid.

Font color

Defines the font color for displaying NULL values in the <u>grid</u>. Use the ellipsis button to open the **Color** dialog allowing you to select the required color from the palette.

12.1.6.4 Advanced

Advanced options

Cell hints for clipped text

Indicates whether a hint box is displayed when hovering over a cell containing clipped text.

Focus cell on cycle

Determines whether the focus moves to the next row after it reaches the right-most cell within the current row.

Focus first cell on new record

Determines whether the focus moves to the first cell of a newly created row.

Next cell on pressing Enter

Determines whether the current view columns can be navigated by using the **Enter** key.

Show navigator hints

Indicates whether a hint box is displayed when hovering over navigation buttons.

MRU list in column filter

Enables showing of Most Recently Used items when filtering columns

Card width

Defines the width of the card used in <u>Card View</u> mode.

Environment Options		×	
Environment Options Preferences Confirmations Appearance Tools Grid Data Options Print Data Color & Formats	Advanced Advanced options Grid lines Cell hints for clipped text Focus cell on cycle Focus first cell on new record Next cell on pressing Enter Show navigator hints		
Advanced Column Options Localization Global Shortcuts K Find Option	✓ MRU list in column filter Card width 200 ✓ Form view ✓ Large memo editor Number of lines 10 ✓ Word wrap in memo editor Word wrap in string editor	Card layout direction Horizontal Vertical Show edit buttons Never For focused record Always	
	<u>o</u> ĸ	Cancel Help Apply	

Form view

Large memo editor

Sets the number of lines for text-typed columns when viewing data in Form view.

Word wrap in memo editor

Determines whether long strings are wrapped within the memo editor area.

Word wrap in string editor

Determines whether long strings are wrapped within the string editor area.

Grid lines

Determines whether to display *vertical* and *horizontal* lines between cells.

Detail tabs position

Specifies the position of the tabs in detail level views: top or left.

Card layout direction

Specifies the direction of cards in Card View mode: *horizontal* or *vertical*.

Show edit buttons

Indicates when the edit buttons are displayed: never, for focused record or always.

12.1.6.5 Column Options

Common options

Auto-select text

Determines whether all text within an editor is automatically selected when the editor gets focus.

Hide selection on losing focus

Determines whether the visual indication of the selected text remains when the editor loses focus.

Memo editor options

Inserting Return characters

Specifies whether a user can insert return characters into text.

Inserting Tab characters

Specifies whether a user can insert tab characters into text.

Word wrap in grid

Determines whether long strings are wrapped in grid.

Popup memo editors

Turns on popup memo editors for text BLOB type columns.

Environment Options	
Environment Options Preferences Confirmations Vindows Tools Grid Data Options Print Data Color & Formats Advanced Column Options Column Options Find Option Find Option	Column Options Common options Auto-select text Hide selection on losing focus Memo editor options Inserting Return characters Inserting Tab characters Vord wrap in grid Popup memo editors Spin editor options Use Ctrl+Up instead of Up to increase value Show large increment buttons Increment Image incr
	Honzontal / right
<u>R</u> eset to Defaults ▼	QK <u>C</u> ancel <u>H</u> elp <u>A</u> pply

Spin editor options

W Use Ctrl+Up instead of Up to increase value

Allows you to use *Ctrl+Up* and *Ctrl+Down* key combinations for editing spinner values (for *INTEGER* column values).

Show large increment buttons

Determines whether fast buttons (for large increment) are visible within the editor.

Increment

Specifies the increment value for the spin editor (spinner control).

Large increment

Specifies the large increment value for the spin editor (spinner control).

Spin editor buttons' position

Specifies the position of spin editor (spinner control) buttons: vertical, horizontal / left and right or horizontal / right.

12.1.7 Localization

The **Localization** section of the **Environment Options** dialog is provided for managing the localization files of **SQL Manager for MySQL**.

You can create your own *.*Ing* files similar to those available in the *%program_directory %\Languages* folder, add them to the list of available languages and set the new language as the program interface language.

Default directory

Use the **Explorer** button to specify the directory where the *.*lng* files are to be stored by default.

Choose program language

Use the drop-down list of available languages to select the interface language to be applied to the application.

Auto scan languages on startup

When checked, the directory with localization files will be scanned automatically at the application startup; all the languages found will be added to the list of available languages.

Available Languages

Lists all the languages available for localization and the corresponding *.lng files. Doubleclick a language in the list to edit its name or the *.lng file.

Add Defaults

This button is used to search for *. *Ing* files in the **Default directory** and add all of them to the **Available Languages** list.

Add

Opens the <u>Add language</u> dialog where you can specify your own localization file and set the language name.

Edit

Opens the <u>Edit language</u> dialog where you can change the language name or select another localization file for the specified language.

Delete

Removes the selected language from the **Available languages** list (without confirmation).

Environment Options			
Preferences	Localization		
Confirmations Windows Tools Fonts Grid Cocalization	Default directory Choose program lang Z Auto scan langua	guage ages on sta	C:\Program Files\EMS\SQL Manager for MySQL\Languages\
Global Shortcuts	Language Name	Languag	le File
Find Option	Default English French German Russian	(none) C:\Progr C:\Progr C:\Progr	am Files\EMS\SQL Manager for MySQL\Languages\english.Ing am Files\EMS\SQL Manager for MySQL\Languages\french.Ing am Files\EMS\SQL Manager for MySQL\Languages\german.Ing am Files\EMS\SQL Manager for MySQL\Languages\russian.Ing
	Add Defaults		<u>Add</u>
<u>R</u> eset to Defaults ▼		(OK Cancel Help Apply

See also: Localization

12.1.8 Global Shortcuts

This section allows you to view/edit shortcuts most needed actions when working with SQL Manager for MySQL.

Environment Options				
Preferences	Global Shortcuts			
Confirmations	Shortcut Name Shortcut			
Tools Till Fonts Grid Localization	···· Window List ···· Next Window ···· Previous Window	Ctrl+Alt+0 F6 ⊑ Ctrl+F6		
Global Shortcuts	Set Defaults to All Windows	Ctrl+Alt+D		
	 Connect to Database Disconnect from Database Register Database Unregister Database Refresh Find Object Find Next Object New Object Edit Object Drop Object Rename Object New Sub Folder 	Shift+Ctrl+C Shift+Ctrl+D Shift+Alt+R Shift+Alt+U F5 Ctrl+F F3 Ctrl+F F3 Ctrl+N Ctrl+O Shift+Del Ctrl+R Shift+Ctrl+S		
		Help Apply		

To edit shortcut, select the required action click the ellipsis button and press the preferred key combination to assign it with the action.

Edit Shortcut	—
Shift+Ctrl+S	
<u>о</u> к	Cancel Help

This dialog displays currently assigned key combination. Pressing any key changes the value in the field. Press the required key combination and click **OK** to apply it.

Note: TAB and PRINT SCREEN keys cannot be used in combination.

12.1.9 Find Option

The **Find Option** section allows you to search for options available within the **Environment Options** dialog easily and quickly.

Option

In this field you can enter the name of the option to search for within **SQL Manager** *Environment Options*.

Environment Options					×
Preferences	Find Option				
Confirmations					
- Mindows	Option	use			
🗄 🌯 Tools	Avertable Oat		Online Kind	Coloren	0
TI Fonts	Available Opt	itivo coarch	Option Kind	Category DB Evaluate	Group
🖳 🎹 Grid	Use case sens	connections for ea	Environment Options	DB Explorer	General options
	Eor focused re	connections for ea	Environment Options	Advanced	Show edit buttops
Global Shortcuts	Use Ctrl+Up in	ostead of Up to inc	Environment Options	Column Options	Ship editor options
Find Option	Use default er	naine defined on th	Environment Options	Table Editor	Default storage engin
	Use the follow	ing engine for all d	Environment Options	Table Editor	Default storage engin
					Show Option
Reset to Defaults			<u>о</u> к <u>С</u> а	ancel <u>H</u> elp	Apply

The **Available options** area lists all options of the *Environment Options* category according to the specified name. The **Option Kind**, **Category** and **Group** columns specify option type and location.

Select the required option in the list and click \swarrow **Show Option** to open the corresponding section where you can view/edit the value of this option. For your convenience the required option is marked with an animated \Re icon.

12.2 Editor Options

Editor Options allow you to set the parameters of viewing and editing SQL statements within <u>SQL Editor</u> and other SQL editing tools of the **SQL Manager** application.

To open the **Editor Options** window, select the **Options | Editor Options...** <u>main</u> <u>menu</u> item, or use the **Editor Options** button on the main <u>toolbar</u>.

<u>D</u> atabase	<u>V</u> iew	<u>T</u> ools	<u>S</u> ervices	<u>O</u> pti	ons	<u>W</u> indows	<u>H</u> elp
				4	Env	ironment Op	tions
				2	Edit	or Options	

- <u>General</u><u>Display</u>
- SOL Formatter
- Key Mapping
- Spell Checking
- Find Option
- See also: Environment Options

12.2.1 General

Editor options

Auto indent

If this option is checked, each new indention is the same as the previous one when editing SQL text.

Indents and outdents are used in the process of text editing to make the source code easier to read.

Insert mode

If this option is checked, the insert symbols mode is on by default.

Find text at cursor

If this option is checked, the **Text to find** field in the <u>Find Text</u> dialog is automatically filled with the text on which the cursor is set.

Always show hyperlinks

If this option is checked, hyperlinks are displayed in the editor window. To open a link, click it with the *Ctrl* key pressed.

Double click line

If this option is checked, double-clicking the line on which the cursor is set selects the whole line.

Trim trailing spaces

If this option is checked, all spaces after the last symbol in line will be trimmed.

Fixed line height

Prevents line height calculation. If this option is checked, the default line height is taken.

Persistent blocks

Keeps marked blocks selected even when the cursor is moved with the arrow keys used, unless a new block is selected.

Fixed column move

If this option is checked, the caret keeps its horizontal position when moved between lines.

Optimal fill

Check this option to enable optimal algorithm of filling text content in the working area of the editor.

W Unindent keep align

Keeps align for the lines that are not indented.

Smart caret

This option determines the caret movement (up, down, line start, line end). The caret is moved to the nearest position on the screen.

🗹 Resolve aliases

Enables/disables the syntax highlight and code completion features for aliases.

Editor Options			×
General	General		
 Image: SQL Formatter Image: Key Mapping Image: Spell Checking Image: Find Option 	Editor options Auto indent Insert mode Find text at cursor Always show hyperlinks Double click line Trim trailing spaces Fixed line height Persistent blocks Fixed column move Optimal fill Unindent keep align Smart caret Resolve aliases Collapse level Undo limit 50 -	Overwrite blocks Show caret in read only mode Copy to clipboard as RTF Drag and drop text Group undo Group redo Cursor beyond EOL Enable column selection Hide cursor on type Hide dynamic (no focus) Collapse empty lines Scroll to the last line only Seek variables Tab mode Use Tab character 4	Word wrap Variable horizontal scrollbar Float markers Undo after save Disable selection Draw current line focus Hide selection (no focus) Greedy selection Keep selection mode Select search result Smart paste Disable all code features Comment symbols I**/ Block indent
<u>R</u> eset to Defaults ▼		<u>O</u> K <u>C</u> ancel	Help Apply

Overwrite blocks

Replaces a marked block of text with whatever is typed next. If **Persistent Blocks** is also selected, the text you enter is appended to the currently selected block.

Show caret in read only mode

Displays/hides the caret in read-only mode.

Copy to clipboard as RTF

If this option is checked, the selected text is copied in RTF format.

Drag and drop text

This option allows to drag and drop selected text.

Group undo

This option allows you to undo multiple actions of the same kind.

Group redo

This option allows you to redo multiple actions of the same kind.

Cursor beyond EOL

If this option is checked, the horizontal position of a cursor is kept. If you move the cursor (using the *Up* and *Down* arrow keys) onto a line having length less than the current cursor horizontal position, it will be positioned after the last symbol of the line.

Enable column selection

Enables/disables column selection mode.

Hide cursor on type

Hides/displays mouse cursor within the working area while a user is typing some text.

Hide dynamic (no focus)

Hides dynamic highlights when an editor is not focused.

Collapse empty lines

Collapses empty lines after a text range when this range has been collapsed.

Scroll to the last line only

When the option is enabled, you can scroll to the last line of the text only, otherwise you can scroll to the end of the page.

Seek variables

Switches code completion feature for variables.

Word wrap

When on, text is wrapped at the right margin of the editor area to fit in the visible area.

Variable horizontal scrollbar

If this option is checked, the horizontal scrollbar varies according to the current content of the editor.

Float markers

When enabled, markers are linked to the text, and they will move with the text while the text is being edited; otherwise the markers are linked to the caret position, and stay unchanged while the text is being edited.

Undo after save

Keeps undo buffer unchanged after saving.

Disable selection

Disables any selection when editing.

Draw current line focus

Draws the focus rectangle around the current line when the editor has focus.

W Hide selection (no focus)

Hides the selection when the editor loses focus.

Greedy selection

Selects an extra column/line in column/line selection modes.

Keep selection mode

Enables selection for caret movement commands (like in BRIEF).

Select search result

Determines whether the <u>search</u> result should be selected.

Smart paste

When this option is enabled, the editor gets both Unicode and ANSI content from the clipboard, converts them using the selected character set and selects the best text to be pasted. This allows getting correct text copied from both ANSI and Unicode applications

disregarding the currently selected keyboard language.

Disable all code features

This option disables code completion, code folding, highlight and all options that are set on the <u>Quick Code</u> page. For options that are set on the <u>Color</u> page, the defaults will be applied.

Collapse level

Specifies the level of text ranges that will be affected by the "Collapse all" command.

Undo limit

Defines the maximum number of changes possible to be undone.

Tab mode

Specifies the way the TAB key is processed. Possible values are: *Use tab character* (inserts a tab character); *Insert spaces* (inserts space characters); *Dialog behaviour* (when the edit control is in a dialog, the focus is switched to the next control); *Smart tab* (tabs to the first non-white space character in the preceding line).

Tab stops

Defines the tab length used when editing a text.

Comment symbols

Defines the symbols which will be used to comment code fragments.

Block indent

Specify the number of spaces to indent a marked block.

Hint: The **Reset to defaults** button which is common for all sections of the **Editor Options** dialog allows you to discard all changes and restore the settings to their defaults.

12.2.2 Display

Default editor fonts

Use these options to set the *font* and *size* used in the editor.

Show only fixed-width fonts

Use this option to display only fonts with fixed width in the **Font** dialog.

Gutter

Show line numbers

If this option is checked, line numbers are displayed in the SQL text editor window.

Gutter auto width

Enable this option to specify that the gutter width will be adjusted automatically.

Display line state

If this option is checked, a colored line indicating the state of all altered lines in the text is displayed at the gutter of the editor window.

Use code folding

Check this option to enable to code folding feature of SQL Editor.

Width

Defines the gutter width in the editor window.

Use these options to set the *Font*, *Size* and *Numbering style* used in the gutter.

Show only fixed-width fonts

Use this option to display only fonts with fixed width in the **Font** dialog.

Editor Options					×
General	Display Default editor fonts				
Color Scheme Code Completion	Font The Courier	er New 🗸 🗋 S	Show only fixed-w	vidth fonts	
Per Rey Mapping Spell Checking	Gutter Show line numbers Gutter auto width	Display line state	9	Width	30 ▲
	Font 🛱 Courie	er New 🗸 🗌 S	Show only fixed-w	vidth fonts	
	Size 8	Num	nbering style	Default	~
	Right margin Visible Posit Word break	ion 80 💌 🗸	ode staples] Visible] Single color	Offset	2 -
	1 2 3	Sample Text 12	345		
<u>R</u> eset to Defaults ▼		<u>о</u> к	<u>C</u> ancel	<u>H</u> elp	Apply

Right margin

Visible

Makes the right text margin visible.

Word break

Allows breaking the words at the right margin.

Position

Defines the position of the right text margin in the editor window.

Code staples

🗹 Visible

Makes the code staples visible in the editor window.

Single color

Check the option to apply a single color for code staples.

Offset

Specify the offset value for code staples.

12.2.2.1 Color Scheme

Scheme

Select the default color scheme for all editors: Default (Light) or Dark.

Editor Options				×
General	Color Scheme			
Display	Scheme Default V			
Code Completion	Right margin	^	Bold	Italic
☐ ⁺ ⁺ ⁺ ⁺ ⁺ [−] ⁺	Selected text		Foreground	#000080
SQL Words	Search mark		Background	
ABC Cool Chapting				
Spell Checking	String	_	Effects	
	Keyword		Bordered	~
	Symbol			
		*		
	CREATE TABLE tablel (
	2 Int_field INT(11) NOT NULL default	ilt	'ABC'	
	4)TYPE=MyISAM;		120	
	5			
	6 /* comment */			
	7 CREATE INDEX int_field ON tablel (in	nt_f	ield);	
<u>R</u> eset to Defaults ▼	<u></u>	incel	Help	Apply

The **Element** list contains all elements available in SQL editors of the program. For your convenience the preview area (located below the **Element** list) illustrates the changes being made to each of the elements

Controls for changing the properties of the item selected in the **Element** list are located on the right. Use the following instructions for each of the elements.

Bold

Highlights the element with bold.

🗹 Italic

Makes the element text cursive.

Foreground

Select the foreground color for the element.

Background

Select the background color for the element.

Effects

Enables additional effects for the element text.

See also:

General Display Quick Code SQL Formatter Key Mapping Spell Checking Find Option

12.2.2.2 Code Completion

This dialog allows you to specify the **automatic features**, **fonts**, **styles**, **foreground** and **background colors**, **borders** and other attributes of the text used by the editor to display objects for 'quick code': *tables*, *UDFs*, *indices*, columns, *foreign keys*, *procedures*, *functions*, *views*, *triggers*, *scheduled events*, *SQL keywords*, *SQL functions*.

Automatic features

Code completion

If this option is checked, then on typing the first word characters in the SQL text editor you will be offered some variants for the word completion in a popup list (an analogue of the **Code Insight** feature in **Delphi IDE**). The popup list will appear after a period of time defined by the **Delay** option.

Delay

Using this option you can change the time after which completion variants popup.

Sensitivity

This option allows you to set the number of characters to be typed before code completion is activated.

Parameters completion

If this option is checked, the Delphi-like hint for key words is enabled.

Group by type

If enabled, the items in the code completion list are sorted by type, otherwise they are sorted by name.

Sort column names

Enable this option to force sorting for column names.

Show information hints

This option enables/disables information hints for variants offered by *code completion* feature.

Auto launch keyboard templates

Allows you to use keyboard templates for faster typing frequently used expressions (see <u>Keyboard Templates</u>).

Accept by Space key too

Enables selecting the completion item with Space key.

Editor Options			×
General Display Color Scheme Code Completion SQL Words Key Mapping Spell Checking Kind Option	Code Completion Automatic features Code completion Parameters completion Group by type Sort column names Show information hints	Sensitivity (char) 2 Delay (sec) 1 Accept by Space key too Auto launch <u>k</u> eyboard templates	Tables UDFs UDFs Indices Columns Foreign Keys Forcedures Functions Views
	Completion list object Tables Tables UDFs Indices Columns Foreign Keys Procedures Functions Views Triggers Scheduled Events SQL keywords Visable Element 	Bold Italic Foreground	Triggers Scheduled Even SQL keywords SQL functions
<u>R</u> eset to Defaults ▼		<u>O</u> K <u>C</u> ancel	Help Apply

Completion list object

The list contains all objects for which you can set quick code parameters. For your convenience the preview area (located to the right of the **Completion list object** list) illustrates the changes being made to each of the objects.

If you press the **Disable element** button, the standard settings will be applied to this object; the button text will change to **Enable element**. If you press this button, you will be able to change font and color attributes for this object.

Controls for changing the properties of the item selected in the **Completion list object** list are located on the right.

ee also:	
<u>ieneral</u>	
<u>visplay</u>	
<u>olor</u>	
<u>QL Formatter</u>	
ey Mapping	
pell Checking	
ind Option	

12.2.3 SQL Formatter

SQL Formatter is a feature implemented in SQL Manager for MySQL and is a useful tool for formatting SQL queries and scripts, making SQL statements easy to read. SQL Formatter is introduced in <u>SQL Editor</u>, <u>SQL Script</u> and some object editors.

The **Settings** tab of the **SQL Formatter** section allows you to enable this feature and apply SQL formatting to subqueries, if necessary.

Format SQL query

Check this option to enable SQL formatting.

Format subquery

Enables SQL formatting for subqueries.

Editor Options	
General	SQL Formatter
Display SQL Formatter SQL Words Key Mapping Spell Checking Sind Option	✓ Format SQL query ✓ Format subquery
<u>R</u> eset to Defaults ▼	OK Cancel Help Apply

See also: SQL Editor

12.2.3.1 SQL words

The **SQL words** tab of the **SQL Formatter** section allows you to select the key words for each action of SQL formatter and to set formatting parameters.

Wrap first element

Wraps the selected text at a specific column. Select the SQL key words after which formatting should be applied.

Params in line/list

Allows you to display the parameters followed by the defined key words in list or in line.

Editor Options			
General	SQL Words		
	Wrap first element	Params in line/list	OR - AND
Key Mapping	FROM	FROM	 Separate
Spell Checking			Right
	HAVING	HAVING	Keywords case Opfault
	INTO	INTO	 Upper Lower
			Capitalize
	UPDATE	UPDATE	Identifiers case Default
		SET	O Upper
			Capitalize
	Space before bracket		Indent in list 2
	Space into brackets		
)	<u>o</u> k	Cancel Help Apply

OR - AND

Set the placement of the AND an OR operators according to the operands followed by them. See the example below.

Left

WHERE

AND ... AND ... AND ...

Separate

WHERE

AND

. . .

... AND

Right

WHERE

... AND ... AND ... AND

The **Keywords case** / **Identifiers case** options allow you to define the case of the corresponding items.

You can choose UPPER, lower, Capitalize. Default case means that the name of the identifier/keyword remains "AS IS".

Space before bracket

Adds a "space" character before the opening bracket and after the closing one.

Space into brackets

Adds a "space" character after the opening bracket and before the closing one.

Indent in list

Sets the size of indent relatively to the previous string.

12.2.4 Key Mapping

For your convenience **key mapping** is provided in **SQL Manager for MySQL**. On this page you can set the <u>shortcuts</u> for various commands/operations according to your needs.

Use the **Commands** list on the right to select the command for which you need to make a shortcut, then place cursor into the **Key** editor and press the key combination you find useful (use *Ctrl Alt Shift* buttons). After setting the shortcut, press the **New** button to add it to the list of existing **Key combinations**. If the specified shortcut is already assigned to another command/operation, an error message with the command/operation will be returned.

Editor Options						×
General	Key Mapping					
	Scheme name	Default		•	Save As	Delete
ABC Spell Checking	Commands		•	Key		
Find Option	Cursor moving Text selection Page scrolling Editor modes Case Folding Toggle Foldin Collapse looc Expand block Collapse all b Expand all co Collapse sele	g and block at current line k at current line at current line locks in the text llapsed blocks in the text cted block	E	New Key combinat	Add	Clear
	Collapse/expanded Collapse range	and nearest block ges in selection	-			
			<u>о</u> к	<u>C</u> ancel	Help	

Note: It is possible to set more than one key combination for the same command/ operation (e.g. *Ctrl-K*, *Ctrl-H*) using the **Add** button.

If necessary, you can export the current Key mapping list to an external file by pressing the **Export** button.

Manage the shortcuts within the Key combinations list using the **Delete** (to remove the selected item) and the **Clear** (to remove all shortcuts for this command/operation) buttons.

It is also possible to save a custom key mapping scheme, if necessary:

- set the shortcuts for the appropriate commands/operations;
- click the Save As... button;
- input the new scheme name in the corresponding dialog.

To delete a scheme, select it in the **Scheme name** drop-down list and press the **Delete** button.

See also:

SQL Editor SQL Manager shortcuts

12.2.5 Spell Checking

Spell checking is a new feature implemented in **SQL Manager for MySQL** for your convenience.

Set the necessary Spell checker mode:

Highlighting

In this mode incorrectly spelled and misprinted words are highlighted in the editor.

Autocorrection

In this mode incorrectly spelled and misprinted words are replaced with the corresponding words from the **Substitutions** list automatically.

None

In this mode the spelling checker is disabled.

Use the **Add...** button to add a new item to the **Substitutions** list, the **Edit...** button to alter the selected substitution, and the **Delete** button to remove the selected substitution from the spelling checker vocabulary.

Editor Options		X
Editor Options General Display SQL Formatter Key Mapping Spell Checking Find Option	Substitutions	Spell checker mode Highlighting Autocorrection None Add Case sensitivity Support case consistency with substitution Edit Ignore case while spell checking Delete Keep the misprint case when replacing Misprints Add Auto Edit Delete Clear Check atter alter alter
	for	
Reset to Defaults		OK <u>Cancel H</u> elp <u>Apply</u>

Case sensitivity

Support case consistency with substitution

If this option is selected, the spelling checker uses the case of words-substitutions when performing a replacement.

Ignore case while spell checking

Check this option to disable case checking.

Keep the misprint case when replacing

Check this option if you do not wish to change the case of the replaced word.

Misprints

Controls of this group allow you to manage the spelling checker vocabulary: use the **Add...** button to add a new misprint to the vocabulary, the **Auto** button to use the default list of misprints, the **Edit...** button to change the selected misprint, the **Delete** button to remove the selected misprint from the vocabulary, and the **Clear** button to empty the list of misprints for the currently selected substitution.

It is also possible to exclude a misprint from spell checking without deleting the misprint. This misprint will therefore remain in the vocabulary, but it will be ignored by the spelling checker.

To mark a misprint as excluded, you need to move it from the **Check** list to the **Ignore** list. Use the **Ignore** buttons or drag-and-drop operations to move the misprints from one list to another.
12.2.6 Find Option

The **Find Option** section allows you to search for options available within the **Editor Options** dialog easily and quickly.

Option

In this field you can enter the name of the option to search for within **SQL Manager** *Editor Options*.



The **Available options** area lists all options of the *Editor Options* category according to the specified name. The **Option Kind**, **Category** and **Group** columns specify option type and location.

Select the required option in the list and click \swarrow **Show Option** to open the corresponding section where you can view/edit the value of this option. For your convenience the required option is marked with an animated \aleph icon.

12.3 Save Settings

Save Settings Wizard allows you to export the settings of **SQL Manager for MySQL** - wholly or partially - to a single *.*reg* file which can be applied afterwards to **SQL Manager for MySQL** installed on another machine, or it can be used to backup previous settings.

To start the wizard, select the **Options |** 🐱 **Save Settings** main menu item.



To apply saved settings you need to open the created *.reg file, then press the OK button in the window appeared. All settings will be applied automatically (they will be added in the Windows Registry).

- <u>Specifying destination file</u>
- Selecting settings
- Selecting databases
- <u>Saving settings</u>

12.3.1 Specifying destination file

This step of the wizard allows you to specify the location of the destination file.

Filename

Use the \blacksquare button to set the path to the *.reg file where the application settings are to be saved.

Note: If the target file already exists, the application will show a <u>warning</u> dialog where you can choose the action you need.

🔒 Sav	🔂 Save Settings Wizard				
Sav	Save Settings				
	Select the file name and I	ocation			
		Welcome to the Sa This wizard allows The wizard will hel	ive Settings Wizard! you to save program settings into a file. p you to select file name and settings to save.		
	SQL Manager for MySQL	Filename	C:\EMS\SQL Manager for MySQL\MyManager	gerSettings.reg 📄	
<u>H</u> elp <u>T</u> emplates ▼ < <u>B</u> ack <u>N</u> ext > Cancel					

Press the **Next** button to proceed to the <u>next step</u> of the wizard.

12.3.2 Selecting settings

This step of the wizard allows you to specify the information you need to be saved to the result file: Database registration info, Favorite objects, Tabs, Environment options, Editor options, Visual options, Keyboard templates, Object templates, External tools list, Form placements, MRU lists, Favorite queries stored in registry.

Register Save Settings Wizard	😥 Save Settings Wizard				
Save Settings	Save Settings				
Select settings to save					
SQL Manager for MysQL	Settings to save Database registration info Favorite objects Tabs Favorite objects Favorite objects Favorite objects Favorite objects Favorite objects Collect object templates Form placements	 MRU lists Favorite queries stored in registry 			
Help Templates ✓ Cancel					

Press the **Next** button to proceed to the <u>next step</u> of the wizard.

12.3.3 Selecting databases

This step of the wizard allows you to select the database(s) to save the registration settings.

To select a database, you need to move its alias from the **Available Databases** list to the **Selected Databases** list. Use the **Databases** list. Use the **Databases** list to move the databases from one list to another.

ि Save Settings Wizard			
Save Settings			
Select databases and click	the Next button		
SQL Manager for MySQL	Available Databases adan on vadsrv [adan] test_db on merlin:5149 [test_db] sakila on doom_server [sakila] test on doom_server [sakila] for_testers on kmn:33558 [for_tes for_testers on kmn:33562 [for_tes	Selected Databases Image: test on vadsrv [test] Image: hr on mertin:5149(1) [hr] Image: test on vadsrv [test] Image	
<u>H</u> elp <u>T</u> emplates ▼ < <u>B</u> ack <u>N</u> ext > Cancel			

Click the Next button to proceed to the final step.

12.3.4 Saving settings

After the saving settings operation has been configured, you can immediately start the process.

If all the settings are saved correctly, you will get the following message:

🕞 Save Settings Wizard	🕞 Save Settings Wizard 📃 💷 💌				
Save Settings	Save Settings				
Click the Run button to sa	ave settings				
	Saving form placements				
	70 %				
SQL Manager for MySQL	Saving environment options Done! Saving editor options Done! Saving visual options Done! Saving keyboard templates Done! Saving object templates	A E			
	Done! Saving external tools list Done! Saving form placements	-			
Help <u>T</u> emplates	▼ < <u>B</u> ack Stop	Cancel			

If necessary, you can click **Details** to display/hide extended information about the operation.

12.4 Object Templates

The **Object Templates** window allows you to preset the definition template for the name of an object to be created.

To open this window, select the **Options | Diject Templates...** <u>main menu</u> item.



Select an object in the tree and define its template which will be used as the name for the newly created object in the respective field.

Object Templates					
Tables	Tables				
Subobjects View Procedure Function Function Composition Compositio	Set template for naming of new table new_table[num_for_dup] Insert Tag				
Reset to defaults	OK Cancel Help Apply				

Insert Tag



Use this list to insert the [num_for_dup] tag to the template. This tag allows adding serial number for duplicates.

Additionally you can define templates for table subobjects.

Table subobjects Find option

See also: Database/Server Objects Management

12.4.1 Table subobjects

Using the **Foreign keys** tab you can set a template for <u>foreign key</u> naming. The **Insert Tag** drop-down list allows you to select one or more tags that may simplify template creation:

Table Name: {table_name}
Serial Number (for duplicates): {num_for_dup}
Referenced Table Name: {ref_table_name}

Use the **Insert Tag** button to add the selected tag value to the template, e.g. {*table_name*}, {*num_for_dup*}, etc.

Object Templates				
Tables	Subobjects			
Tables Subobjects Views Forcedures Functions Federated Servers Cog File Groups Fablespaces Favorite Queries Favorite Objects Find Option	Subobjects Set template for naming of new table subobject Column [OwnerName]_column[num_for_dup] Index [OwnerName]_idx[num_for_dup] Index [OwnerName]_idx[num_for_dup] Foreign keys Triggers Foreign key naming template [OwnerName]_fk[num_for_dup] Insert Tag	•		
<u>R</u> eset to Defaults ▼	OK Cancel Help Apply			

This page allows you to define name templates for table subobjects.

Use the **Columns** and **Index** fields to define name templates for newly created objects. Press the **Insert Tag** button and select an item from the drop-down list to add a tag to name template.



Table Name: [OwnerName]; Serial Number (for duplicates): [name_for_dup].

Using the **Foreign keys** tab you can set a template for <u>foreign key</u> naming. The **Insert Tag** drop-down list allows you to select one or more tags that may simplify template creation:



Table Name: {table_name}
Serial Number (for duplicates): {num_for_dup}
Referenced Table Name: {ref_table_name}

Using the **Triggers** tab you can set a template for <u>trigger</u> naming. Here you can also specify templates for **tags** added to default names of *Before* and *After* trigger types and for **tag parts** added to trigger events: *Insert*, *Update*, *Delete*.

Foreign keys	Triggers			
Trigger namin	ig template			
[OwnerName	e]_[trig_type]_[trig_events]_tr[num_for_dup]	Insert Tag	
Trigger type	e tag value			
Before		before		
After after				
Trigger eve	ents tag part	s		
Insert ins				
Update		upd		
Delete		del		

The **Insert Tag** drop-down list allows you to select one or more tags that may simplify template creation:



Table Name: {table_name}
Serial Number (for duplicates): {num_for_dup}
Trigger Type: {trig_type}
Trigger Events: {trig_events}

Example:

For newly created foreign key you define:

- prefix "fk_"
- ID for the first table "T1"
- tag [table_name]
- ID for the referenced table "T2"
- tag [ref_table_name]

Template in this case will be 'fk_T1[OwnerName]_T2[num_for_dup]'. Foreign key name created with this template will be:

"fk_T1Lotti_MateriePrime_T2Commesse_Lotti", where Lotti_MateriePrime and Commesse_Lotti are table names.

12.5 Localization

When using **SQL Manager for MySQL**, your are provided with multi-language interface support. You can change the program language, specify the directories for your localization files easily, edit existing localizations and create your own localization files.

Changing Program Language

In order to select the program interface language:

- select the **Options | Select Program Language...** main menu item;
- select the interface language in the <u>Select Language</u> dialog;
- click **OK** to apply the language and close the dialog.

Editing Program Localization

In order to edit the interface localization:

- open one of the program windows (e.g. <u>Table Editor</u>, <u>SQL Editor</u>) where you wish to edit the localization of captions and hints;
- use the *Shift+Ctrl+L* keyboard <u>shortcut</u> to open the <u>Localization Editor</u> window;
- edit window captions and hints as necessary;
- click the **Save** 🚽 button on the <u>toolbar</u>.

Note: The <u>Localization Editor</u> window is only available if the currently selected language is different from the default.

Creating New Localization Files

In order to create a new localization file:

- create a new localization file similar to those located in the %program_directory% \Languages folder;
- select the Options | Environment Options main menu item;
- proceed to the Localization section of the Environment Options dialog;
- click the **Add** button;
- set the language name and the path to the new *.*lng* file within the <u>Language Info</u> <u>Editor</u> dialog.

The new language is added to the list of available languages. Now you can set it as the interface language using the <u>Select Program Language</u> dialog or the <u>Localization</u> section of the <u>Environment Options</u> dialog.

See also:

Localization Language Info Editor

12.5.1 Localization Editor

The **Localization Editor** window allows you to edit the captions and hints of any **SQL Manager** window, if the selected program language is different from the default one.

To call this window, use the *Shift+Ctrl+L* <u>shortcut</u> in any child window of **SQL Manager for MySQL**.

The working area of the window contains the element names and the corresponding strings divided by the "=" character. These strings are what you see in the program as menu items, window captions, button hints, etc. Edit them to change the program appearance. Be careful and do not edit the identifiers that stand before the "=" character - this will not produce any effect.

For your convenience the **Find** and **Replace** features are provided - the corresponding toolbar buttons are used to call the <u>Find Text</u> dialog or the <u>Replace Text</u> dialog respectively. The **Search Again** subtract button enables the repeated search for the text that was last searched.

The second secon	×
TfmDBExplorer	=
aAddObject.Caption=Add Object	
aAddObject.Hint=Add Object to Project	
aAddObjects.Caption=Add Objects	
aAddToVC.Caption=Add to Version Control	
aAddToVC.Hint=Add to Version Control	
aBringToFront.Caption=Bring To Front	
aBringToFront.Hint=Bring To Front	
aCheckVC.Caption=Check Repository	
aCheckVC.Hint=Check Version Control Repository	
aCloseCurrent.Caption=Close Window	
aCloseCurrent.Hint=Close Window	
aCommitVC.Caption=Commit to Version Control	
aCommitVC.Hint=Commit to Version Control	
aConnectToDb.Caption=Connect to Database	
aConnectToDb.Hint=Connect to Database	
aCopyUserItemToClipboard.Caption=Copy User Item to Clipboard	
aCreateDB.Caption=Create Database	
aCreateFavorite.Caption=New Favorite Query	-
<	Þ.
1: 1 Insert	.::

When you are done with editing, click the **Save** \square button on the toolbar to apply the changes you have made.

See also:

Select Program Language Localization

12.5.2 Select Program Language

The **Select Language** dialog allows you to select a language for **SQL Manager for MySQL** localization.

To open this dialog, select the **Options | F** Select Program Language... <u>main menu</u> item.



The dialog displays the list of available languages configured on the <u>Environment Options</u> | <u>Localization</u> page. Select a language from the list and click **OK** to confirm your choice and close the dialog.

Select Language	×
Default - no localization (English)	
English	
French	
German	
Russian	
OK Cancel Help	

See also:

Localization Editor

12.6 Keyboard Templates

The **Keyboard Templates** window allows you to create new keyboard templates for quicker typing regularly used expressions and to edit the existing ones.

To open this window, select the **Options | Keyboard Templates...** main menu item.



To add a new keyboard template, click the **Add Template...** button, set the template name and define the template expression. In the upper right area of the window you can change the **case** of the template expression (*As is, Uppercase, Lowercase, First upper*).

You can deactivate an existing template by selecting it from the list on the left and removing the **Active** flag of the template.

Keyboard Tem	plates		— ×
Ac Template	• •	Add Template Case of Templates	
¥ (*		As is	
V **		Edit Template O Uppercase	
✓ ++	=	Delete Template O Lowercase	
✓ ✓ /*		☑ Old style ○ First upper	
√ //		Expansion	
ANT		Cursor Author Time Date Clipboard	larker
AT		1 CREATE FUNCTION # RETURNS INTEGER SONAME " "	
BAI			
CFR	Add Te	emplate	
CFS	Edit Te	emplate F2	
CHT	Delete	Template Del	=
CI			
🗸 СТ			
DD DD			
DT			
	•		P
Reset to	defaults	<u>O</u> K <u>C</u> ancel	Help

If necessary, you can also edit the template name using the **Edit Template...** button, delete the template using the **Delete Template** button or edit the template expression within the **Expansion** area of the window. For faster editing you can use the *Cursor*, *Author*, *Time*, *Date*, *Clipboard*, *Marker* buttons.

Hint: Add/edit/delete template items are also available in the *context menu* of the template list on the right.

Old style

This option specifies whether the selected keyboard template expansion should conform to the template specifications used in the earlier versions of **SQL Manager for MySQL**.

Once you have defined the templates, you can use them in <u>SQL Editor</u>. First of all, make sure that the **V Auto launch keyboard templates** option is selected on the <u>Quick Code</u> page of the <u>Editor Options</u> dialog. When <u>editing SQL text</u> in SQL Editor, type a template name and use the *Ctrl+J* <u>shortcut</u>: the text associated with the template (**Expansion**) will be inserted automatically.

Hint: The **Reset to defaults** button which is available at the bottom of the **Keyboard Templates** dialog allows you to discard all changes and restore the settings to their defaults. See also: <u>Quick Code</u> <u>SQL Manager shortcuts</u>

12.7 Find Option dialog

The **Find Option** dialog allows you to search for **SQL Manager** options easily.

To open this dialog, select the **Options |** 🐰 **Find Option** main menu item.



Option

In this field you can enter the name of the option to search for within the entire set of **SQL Manager** options.

💥 Find Option				- • ×
General 🎗	Option time			
Show option Restore default size	Available Options	Option Kind Environment option	Category Data Export	Group Data formats
	Time format	Environment option	Data Export	Data formats
	Time columns	Environment option	Color & Formats	Display formats
	Connect <u>time</u> out (in seconds) Metadata lock wait <u>time</u> out (in seconds)	Environment option Environment option	Timeouts Timeouts	

The **Available options** area lists all options by categories according to the specified name. The **Option Kind**, **Category** and **Group** columns specify option type and location. Select the required option in the list and click \checkmark **Show Option** to open the corresponding dialog where you can view/edit the value of this option. For your convenience the required option is marked with an animated \Re icon.

12.8 External tools

When using **SQL Manager for MySQL**, you can add **external Windows applications** to make your work more efficient.

- External Tools dialog
- External Tool Info editor

<u>D</u> atabase	<u>V</u> iew	Tool	s <u>S</u> ervices <u>Options</u> <u>Windows</u> <u>H</u> elp
		ď	Show SQL Editor F12
		i	New SQL Editor Shift+F12
			Show Query Builder
		₩	New Query Builder
		6	SQL Monitor Shift+Ctrl+M
		9	SQL Script Shift+Ctrl+S
		a	New SQL Script Shift+F9
			Extract Database
		đ	Compare Databases
		۵	Print Metadata
		-3	HTML Report
			Report Designer
			Dependency Tree
		Ø	Search in Metadata Ctrl+Alt+F
		69	Copy Database
		8	User Manager
		۵	Grant Manager
		₽(0	Visual Database Designer
			External Tools Data Export
			Show DB Extract
			Data Import
			🙀 Data Pump
			Data Comparer

Adding External Tools

In order to add an external program:

- select the **Options | External Tools...** <u>main menu</u> item;
- click the **Add...** button in the <u>External Tools</u> dialog;

- specify parameters of the new external tool within the External Tool Info editor;
- confirm adding the new external tool by clicking **OK** in the <u>External Tool Info</u> editor and the <u>External Tools</u> dialog.

This adds the icon and the title of the application you have selected to the **Tools** | **External Tools** submenu. Now you can run this tool quickly without closing **SQL Manager**

Removing External Tools

In order to remove an external program:

- select the Options | External Tools... main menu item;
- select the tool to be removed in the **Tools** list of the <u>External Tools</u> dialog;
- press the **Del** key or click the **Delete** button within the dialog;
- click **OK** to confirm removing the tool and closing the dialog.

The selected tool has been removed and is no longer accessible from the **Tools | External Tools** submenu.

See also:

Getting Started Database Explorer Database Management Database Objects Management Query Management Tools Data Management Import/Export Tools Database Tools Server Tools Personalization How To...

12.8.1 External Tools dialog

The **External Tools** dialog allows you to manage the list of external applications which can be easily run from within **SQL Manager** environment.

To open this dialog, select the **Options | External Tools...** main menu item.



Tools

Lists all added external applications.

Add...

Opens the <u>External Tool Info</u> editor for adding a new tool to the **Tools | External Tools** submenu.

Edit...

Opens the <u>External Tool Info</u> editor for editing the title, the hot key, the path to the executable file, the working directory and execution parameters of the tool currently selected in the **Tools** list.

Delete

Removes the selected tool from the list of **SQL Manager for MySQL** external tools.



To change the order of tools in the list, use the \bigcirc \bigcirc arrow buttons at the bottom area of the dialog, or use the *Ctrl+Shift+Up / Ctrl+Shift+Down* shortcuts. You can also dragand-drop items within the list box to change their positions.

See also: External Tool Info editor

12.8.2 External Tool Info editor

The **External Tool Info** editor allows you to set common parameters of running added external programs from within **SQL Manager** environment. This dialog is used both when adding external tools and editing their parameters (see <u>Add External Tool</u> and <u>External Tools</u>).

Title

Enter the title to be displayed in the Tools | External Tools submenu of SQL Manager.

Hot Key

Press a key or a key combination to set it as a hot key for running the tool.

Program

Use the **Explorer** button to specify the path to the *.exe file of the external program.

Working Dir

Set the default working directory of the program.

Parameters

This box stores parameters for the program execution (if required).

Edit External Tool Info		—
Title	Data Export	Hot Key CTRL + D
Program	C:\Program Files\EMS\Data Export for MySQL\MyExport.exe	
Working Dir		
Parameters		
	<u></u> K	<u>Cancel</u> <u>H</u> elp

See also:

External Tools dialog



13 How To...

The succeeding pages of this chapter are intended to provide you with brief instructions on how to perform this or that operation correctly using **SQL Manager for MySQL**.

Work with Databases

Connect to a database Create a database Edit database connection parameters Make work with a database faster Design a visual database faster View an ER diagram Create a database copy Document a database Save metadata reports to file Log database changes Get an SQL dump Synchronize two databases

Work with Database Objects

Group objects Find objects View dependecies Get an object DDL

Work with Data

View tables with many records Set data filter Sort and group data Export/import data Export filtered data Export data as SQL Script Edit data of master-detail tables Add image to table Set data display format

Work with Queries and Scripts

Create SQL statements rapidly Control a query productivity Work with several queries at once Save most frequently used queries Execute queries with parameters Export query results into file Execute scripts Execute a large SQL script Make SQL script work faster Customize work with Query/Script text View executed queries and scripts

<u>Manage privileges</u> <u>Prevent connection timeout</u> Connect to hosting provider's database Create a simple report in Report Designer Transfer program settings Update SQL Manager Report bugs and suggestions

See also:

Getting Started Database Explorer Database Management Database Objects Management Query Management Tools Data Management Import/Export Tools Database Tools Server Tools Personalization External Tools

13.1 Work with Databases

13.1.1 Connect to a database

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If you want to connect to a database that is not registered yet then perform the following operations:

- 1. Launch the <u>Register Database wizard</u> by selecting the **Database |** Register **Database...** <u>main menu</u> item.
- 2. If a host where the database is located have not been registered yet then type in its name in the **Host name** field on the <u>first step</u> of the wizard. Otherwise, select the necessary host from the drop-down list.

Note: To register several databases at once uncheck the **Register a single database** option. In this case you will proceed to the <u>Selecting databases</u> step of the wizard where you will define databases want to be registered.

3. On the last step of the wizard set database name and specify specific options.

4. The registered database(s) is/are now displayed in the <u>DB Explorer</u>. To connect to the database double-click its alias or select the **Connect to Database** item of the database <u>context menu</u>.

13.1.2 Create a database

To create a database on the registered server perform the following operations:

- 1. Launch the <u>Create Database wizard</u> by selecting **Database | Use Create Database** <u>main menu</u> item.
- 2. On the <u>first step</u> specify a name for a newly created database.
- 3. On the <u>second step</u> set the necessary **connection parameters** for the database being created. Use the corresponding boxes and options: *Host name*, *User name* and *Password*.
- 4. Click the **Next** button to view the result SQL statement. If you have checked the **■ Register After Creating** box on the <u>first step of the wizard</u> then the <u>Database</u> <u>Registration Info</u> dialog will appear after creating a new database.

13.1.3 Edit database connection parameters

If you have made a mistake when <u>creating</u> and <u>registering</u> a database or the information provided is incomplete then it can be edited using the <u>Database Registration Info</u> dialog. You can view this information both for connected or disconnected database.

To open the dialog, select the database or any of its objects in the <u>DB Explorer</u> tree, then select the **Database | * Database Registration Info...** <u>main menu</u> item, or right-click the database alias in <u>DB Explorer</u> and use the *** Database Registration Info...** <u>context</u> <u>menu</u> item.

The connection parameters can be changed on the **Connections** tab of the dialog. Here you can define or redefine the following properties in the corresponding boxes: *Host name*, *Port, User name, Password, Named pipe, Database name, Database alias, Client charset and Font charset.*

13.1.4 Make work with a database faster

If your database contains too many objects or if connection to the database is slow you can increase work speed by uncheking the \blacksquare **Refresh objects on connection** option when registering database or editing the <u>Database Registration Info</u>. Also you can uncheck the \blacksquare **Restore desktop on connect** option in the <u>Preferences</u> section of the <u>Environment Options</u>.

13.1.5 Design a visual database structure

To design your database visually you may use the <u>Visual Database Designer</u>. It allows you to create, edit and drop tables and table columns, set relations between tables and perform other operations you may need to achieve your purpose.

To create a new object right-click within the diagram area and then choose the **Create** item of the context menu. After that a new object will appear on a diagram. After you have finished designing your diagram you can click a Compile button to create

this structure physically.

13.1.6 View an ER diagram

The relationship diagram is built using the <u>reverse engineering</u> operation.

- To view an ER diagram of a scheme you should follow the steps:
 - 1. Run Visual Database Designer;
 - 2. Click the **Reverse Engineer** button on the <u>main toolbar</u> or use the corresponding item of the <u>context menu</u>.
- 3. Choose schemas to reverse engineer from.

The created diagram can be saved as a *.myd file (**Save Diagram** button) or as an image (**Save as Picture** button).

13.1.7 Create a database copy

In order to create a copy of the whole database or of separate objects you can:

- Extract DB objects structure and data into SQL script using the Extract Database Wizard. The result script can be used to copy or restore your database. If the
 Generate CREATE DATABASE statement option was not checked while customizing script options then you need to create a database before performing the extract script. It is better to execute a script from file using the <u>SQL Script Editor</u>.
- 2. Create a database copy with the help of the Copy Database Wizard.
- 3. Create copies of separate database objects by using the <u>Duplicate Object Wizard</u>.
13.1.8 Document a database

There are several ways to document a database:

- 1. You can generate a detailed HTML report of the selected database objects using <u>HTML Report Wizard</u>.
- 2. You can generate and <u>print metadata</u> reports of any database object(s). Generated reports can be exported to any of the available formats: HTML file, Excel file, Text file, RTF file, CSV file, HTML file, BMP image, Excel table (OLE), JPEG image, TIFF image.
- 3. You can save the <u>Visual Database Designer</u> diagram as a *.*myd* file for future use. A diagram is saved with the objects XML files. If necessary, you can also save the diagram as an image.

13.1.9 Save metadata reports to file

To save a metadata report in a file of any supported format (*.*txt*, *.*csv*, *.*pdf*, *.*html*) you should do the following:

- 1. Open the <u>Print Metadata</u> window by selecting the **Tools** | Selecting the <u>main menu</u>.
- 2. Mark the needed objects and define printing settings and click the A **Preview** button on the <u>navigation bar or toolbar</u>.
- 3. In the opened Preview window click **Export** and select from the drop-down list the needed file format for report saving. When done, specify file name and location.

13.1.10 Log database changes

If you want to perform metadata changes logging and SQL query logging you need to:

- 1. Check the **Enable log of metadata changes** and specify the path to the *.sql file to store the metadata logs.
- 2. Check the **Enable log of SQL Editor queries** and specify the path to the *.sql file to store the logs of SQL queries: date/time of query execution, SQL text, execution result or errors (if any).

This can be done in the <u>Database Registration Info | Logs</u> window.

13.1.11 Get an SQL dump

To get an SQL dump (an *.sql file) of your database use the Extract Database Wizard that will extract database objects and/or data to an SQL script, e.g. for backup purposes.

13.1.12 Synchronize two databases

The synchronization between two databases can be done with a help of the <u>Compare</u> <u>Databases Wizard</u>. This wizard allows you to compare databases and create a script to deploy changes from one database into another one.

To run the wizard use the **Tools |** in **Compare Databases...** item of the main menu.

13.2 Work with Database Objects

13.2.1 Group objects

If you want to group objects you can do it in one of the following ways:

Using <u>favorite objects</u> (situated in the <u>DB Explorer</u> tree)

- 1. Click create **New Sub Folder** in the **Favorite Objects** folder using the corresponding item of the context menu
- 2. Define its name and drag-and-drop necessary objects there or use the **Add Object** item of the created folder context menu. Pick the objects to add to folder from the appeared dialog.

Using <u>DB Explorer</u> tabs

- 1. Right-click the necessary object in the <u>DB Explorer</u>.
- 2. Choose the **New Tab from Here** item of the <u>object context menu</u> and define the name of the tab.

3. Now your objects are stored on the separate tab of a <u>DB Explorer</u>.

Note: If object is not a tree node, it cannot be placed on separate tab.

13.2.2 Find objects

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In order to search for objects you need you can:

- Call the Find Object dialog by right-clicking the Database alias, any database object group nodes or objects in the DB Explorer tree and select the Find Object... context menu item.
- 2. Call the **Find Object** dialog by using the *Ctrl+F* shortcut.
- 3. Type in the first letters in the edit-box of the <u>Search Panel</u>, and the corresponding object will be highlighted in the tree, as displayed in the picture below.

Note: Objects among which the search is performed should be updated and the object node should be expanded.

4. Launch the <u>Search in Metadata</u> tool by selecting the **Tools |** Search in Metadata <u>main menu</u> item, or using the *Ctrl+Alt+F* <u>shortcut</u>. After the search is complete, the **Explorer** group on the <u>Navigation bar</u> displays the tree of database objects in which the search string is found, and allows you to view metadata of the required object or its fragment.

13.2.3 View dependecies

If you want to view all the object dependencies then:

1. Use a <u>dependencies tab</u> in the <u>Table Editor</u>.

2. Use the <u>Dependency Tree</u> tool.

These tools may be useful when you can't find an object that prevents your from dropping a table.

13.2.4 Get an object DDL

In order to get an object DDL you can:

- 1. Right-click the object in the <u>DB explorer</u> tree and select the **Script to New SQL Editor** | **Create** context menu item.
- 2. Right-click the object and select the **Edit <object> <object_name>...** context menu item or double-click the object and then proceed to the <u>DDL</u> tab in the opened object editor window.

13.3 Work with Data

13.3.1 View tables with many records

If your table contains a lot of records you can minimize dataset loading time by:

- 1. Setting the number of records to be selected;
- 2. Enabling
 Load visible records in order to load only a fixed number of dataset records into memory

These options can be set only for the selected database on the <u>Data Options</u> page of the <u>Database Registration Info</u>.

Default settings for newly registered databases can be defined on the <u>Grid | Data Options</u> page of the <u>Environment Options</u> dialog.

You can set the maximum number of visible records in the **Record Limit** counter

200 C located on the Data View toolbar. Press **Enter** or click the data grid to apply changes.

If the number of records exceeds the maximum number, the **Fetch all** button becomes active. It allows viewing all records in a table.

Use the Grid Mode tab of the <u>Data View context menu</u> to set the display mode. You can choose among the *Load All Rows, Load Visible Rows* and *Default* modes.

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13.3.2 Set data filter

Quick Filtering (by the current value in a cell)

Open the context menu of the needed column and choose the **Quick Filter** item. Then choose a <u>filter condition</u> in the opened submenu.

Filtering by Column



Open the drop-down list on the column title and choose a filter condition from the list. You can set advanced conditions by using the **Custom...** menu item. When choosing this item, the special window for setting filter conditions opens.

Advanced Filtering

You can set advanced filter options by pressing the button \square on the <u>toolbar</u> of the Data View and set filter parameters in the <u>Filter Builder</u>. Apply the set conditions by pressing the **Apply** button.

If a filter is set for a table, the special bar appears in the lower part of the table where you can see filter conditions and the history of filter changes opened by pressing the drop-down list.



Disable Filtering

To cancel filtering, open the context menu of the column and choose the **Disable filter** item.

Or press the 🗾 button on the filter toolbar.

13.3.3 Sort and group data

In order to sort data, do the following:

- 1. Open data at the **Data** or **Results** tab.
- 2. Choose the column by which you need to sort data and click the column title.
- 3. If the column was not sorted, the first click will sort it in the ascending order and the second one in the descending order.

Note: To cancel the sorting, open the context menu by right-clicking the necessary column and choose the **Clear Sorting** item, or press the *Ctrl* button and click the column title.

To enable grouping, drag the column title to the special grouping bar above the grid.

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EMP_ID	

Note: To disable grouping, drag the column title from the group bar back to the table.

13.3.4 Export/import data

You can *export* data from a database table into an external <u>file of any supported format</u> by means of the <u>Export Data Wizard</u>.

There are several ways to launch Export Data Wizard

- 1. Open the **Data** or **Results** tab, press **Export Data** on one of the Data View <u>toolbars</u>.
- 2. Open the **Data** or **Results** tab, choose **Data Manipulation** | ¹ **Export Data** in the <u>Data Grid context menu</u>.
- 3. Open the <u>table context menu</u> in the <u>DB Explorer</u>, choose the **Data Manipulation** | **Export Data** item.
- 4. Open the **Data** or **Results** tab and use the shortcut **Shift+Ctrl+E**.
- You can import data from external sources into a table or view using <u>Import Data</u> <u>Wizard</u>
 - 1. Open the **Data** tab, press the Timport Data button on one of the Data View toolbar
 - 2. Open the **Data** tab, choose **Data Manipulation |** The **Data** in the **Data** Grid <u>context menu</u>.
 - 3. Open the <u>table context menu</u> in the <u>DB Explorer</u>, choose the **TImport Data** item.
 - 4. Open the **Data** tab and use the shortcut **Ctrl+I**.

Note: Export and import data tolls are available in full version of SQL Manager for MySQL only.

13.3.5 Export filtered data

If you have set a filter in a <u>Data View</u> and want to export only this data then you need to uncheck **Perform data filtration on client in data view** option on the <u>Database</u> <u>Registration Info | Data Options</u> tab. In this case all the changes made by applying filters are performed on the MySQL server with the help of the *WHERE* clause used in SQL query. Otherwise your changes will just be displayed on your client machine but data will be exported into a file without applied filters.

13.3.6 Export data as SQL Script

You can export data from a database table into SQL script with INSERT INTO statements in one of the following ways:

- 1. Open the **Data** or **Results** tab, press the **Export Data as SQL Script** on one of the **Data View** toolbars and set export parameters in the opened Export as SQL Script Wizard.
- 2. Open the **Data** or **Results** tab, choose **Data Manipulation** | **Export Data as SQL Script** in the <u>Data Grid context menu</u> and set export parameters in the opened <u>Export</u> <u>as SQL Script Wizard</u>.
- 3. Open the <u>table context menu</u> in the <u>DB Explorer</u>, choose the **Data Manipulation** | **Export Data as SQL Script** item and set export parameters in the opened <u>Export as</u> <u>SQL Script Wizard</u>.

Note: In order to extract table DDL (CREATE TABLE statement), check the \blacksquare Add CREATE TABLE statement box at the <u>Step 1</u>.

13.3.7 Edit data of master-detail tables

You can work with data in multi-level mode, that is you can view and modify it in several related tables simultaneously.

To manage grid levels, right-click the grid and select the **Grid Levels** <u>context menu</u> group. Click **Add Grid Level** in the menu to run the <u>Create Grid Level wizard</u>. After the level is added you can edit data of the related tables.

13.3.8 Add image to table

If you want to add an image to a table then do the following:

- 1. Open the table on the Data tab.
- 2. Go to the BLOB View section (the navigation buttons are located in the bottom part of the window) and then proceed to the Image tab.
- 3. If there are several BLOB fields, choose the required field from the Select BLOB Column drop-down list on the toolbar of the Blob View tab and press the P Load from File button on the same toolbar.
- 4. Choose the needed image file in the appeared dialog.

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Note: Adding images to table is possible only if table contains at least one <u>BLOB field</u>.

13.3.9 Set data display format

To set the format for displaying data open the **Options |** from the <u>main program menu</u>, proceed to the <u>Color & Formats</u> tab and define or choose the display format for some data types in the **Display formats** section.

13.4 Work with Queries and Scripts

13.4.1 Create SQL statements rapidly

There are two options for creating SQL queries rapidly:

In the DB Explorer

- 1. Right-click a table in the <u>DB Explorer</u>
- 2. Choose Script to New SQL Editor context menu item.
- 3. Select the necessary query type.

In the Visual Query Builder

- 1. Open Visual Query Builder.
- 2. On the **Builder** tab drag an object from the <u>DB Explorer</u> tree to the diagram area.
- 3. Choose necessary columns to include in the query by checking the corresponding box located to the left from the column name in the list, or just by double-clicking it. To include all columns of the table/view, check the box located to the left of the table/ view caption.
- 4. <u>Associate two objects</u> by their columns.Drag a column from one object list to another. This will set a link between these objects by the selected columns. It is indicated by a bidirectional arrow between the linked columns.
- 5. <u>Edit link properties</u>. Double-click the linking arrow or right-click it and select the **Property** popup menu item. The **Link properties** dialog allows you to change the association condition by choosing it from the drop-down list.
- 6. You can view and edit your SQL statement on the **Edit** tab of the <u>Visual Query Builder</u>.

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13.4.2 Control a query productivity

You can view a query productivity on the <u>query plan</u>. It allows you to view the sequence of actions performed by the database server in the process of the query execution, and the amount of system resources used for the query execution.

To view the **Plan** of a query, open the query in **SQL Editor** and use the **B** Show estimated execution plan item of the <u>Navigation bar</u> or <u>toolbar</u>.

If necessary, you can specify that the **Plan** tab appears automatically upon query execution in <u>SQL Editor</u>: select the **Show actual execution plan on query execution** option available within the <u>Tools | SQL Editor</u> section of the <u>Environment Options</u> dialog.

13.4.3 Work with several queries at once

<u>SQL Editor</u> provides a possibility to open and edit several queries. You can create tabs in the lower part of the **SQL Editor**, each tab may contain a separate query. There are several ways for creating tabs:

1. Open **SQL Editor** and choose **Add New Query** on one of the <u>toolbars</u>.

2. Open **SQL Editor** and choose **Add New Query** in the context menu of the

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existing tab.		<u>.</u>	Add New Q	uery	Ctrl+N
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3. Use the shortcut **Ctrl + N**.

Note: Each tab can be renamed and any query can be added to Favorite Queries.

13.4.4 Save most frequently used queries

Use the <u>Favorite Queries</u> feature to store your most frequently used SQL queries. To access the list of your favorite queries you can use the **Favorite Queries** node of DB Explorer or create a separate tab for your Favorite queries.

Using the context menu you can create a new Favorite query or edit an existing one using <u>Favorites editor</u>, open any of the existing queries in <u>SQL Editor</u> or remove a query if you don't need it any longer.

13.4.5 Execute queries with parameters

If you want to use queries with parameters then you should check **Allow using parameters in query text** option in the <u>Environment Options | Tools</u>. This feature allows you to specify different values within a query in a <u>popup dialog</u> just before the query execution. Use the colon (':') character before an identifier (e.g. :P1) to specify a parameter within the query.

13.4.6 Export query results into file

When executing queries, their results can be displayed on the **Edit** or **Results** tab in the <u>Data View</u>.

You can copy data from database tables into an external <u>file of any supported format</u> in one of the following ways:

- 1. Open the **Data** or **Results** tab, press **Export Data** on one of the Data View toolbars and define export parameters in the opened <u>Data Export Wizard</u>.
- 2. Open the **Data** or **Results** tab, choose **Data Manipulation** | **** Export Data** in the <u>Data Grid context menu</u> and define export parameters in the opened <u>Data Export</u> <u>Wizard</u>.
- 3. Open the <u>table context menu</u> in the <u>DB Explorer</u>, choose the **Export Data** item and define export parameters in the opened <u>Data Export Wizard</u>.
- 4. Open the **Data** or **Results** tab and use the shortcut Ctrl+E.

13.4.7 Execute scripts

<u>SQL Script</u> allows you to create, view, edit and execute SQL scripts. To open SQL Script Editor select the **Tools | SQL Script...** <u>main menu</u> item. This tool is intended for work with a great number of SQL statements and with scripts that are stored in files. For instance, you can execute a script directly from a file without loading it to the Editor window. This reduces memory usage. However SQL Script allows just to estimate whether the execution of script statements will be successful, but it does not return query result.

Note: To execute SQL scripts you should use SQL Script, not SQL Editor. The latter is intended for creating, editing and executing SQL statements. It also provides a possibility to view query result, perform various operations with it (data import, data export, etc.) and manage transactions.

13.4.8 Execute a large SQL script

If you need to execute a large SQL script it's not necessary to load it from file to the <u>SQL</u> <u>Script Editor</u> window as it can take a lot of time. Instead you can execute script directly from *.*sql*, *.*zsql* or *.*txt* file. In order to do this click the **Fixecute script from file** button of the <u>Navigation bar and Toolbar</u> in <u>SQL Script editor</u>.

13.4.9 Make SQL script work faster

In order to make the SQL script work faster, you can disable some functions.

Parsing

Choose and disable the **Bisable Parsing** item on <u>one of SQL Script Editor toolbars</u>.

Automatic Creation of Hierarchical Text Structure

Uncheck the **Use code folding** box in the <u>Display</u> section of the **Editor options**.

Syntax Highlight and Quick Code for Aliases

Choose **Options** | **Editor options** in the <u>main program menu</u>, proceed to the <u>General</u> tab and uncheck the \mathbb{Z} **Resolve aliases** box - the <u>syntax highlight</u> and <u>quick code</u> for aliases will be disabled.

13.4.10 Customize work with Query/Script text

To customize work with a query/script text you may:

Use Internal Link

This means that the name of the object existing on a database is highlighted in a query/ script text. Such an object can be opened by holding the *Ctrl* key and clicking the object with a mouse.

Add Text Template

<u>Keyboard templates</u> allow you to type regularly used expressions and edit the existing ones quicker. Once you have defined the templates, you can use them in <u>SQL Editor</u>. When <u>editing SQL text</u> in SQL Editor, type a template name and use the *Ctrl+J* <u>shortcut</u>: the text associated with the template will be inserted automatically.

Use Automatic Completion (Object List)

You can call the autocompletion list by starting entering the first characters of the text and using the shortcut Ctrl + Space.

Customize Autocompletion List

Choose **Options** | **Editor options** in the <u>main program menu</u>, proceed to the <u>Code</u> <u>Completion</u> tab and define the list and quick code parameters.

Apply Automatic Formatting of Query/Script

Choose **Quick Code** | **Format** in the SQL Editor/SQL Script <u>context menu</u> or the *Shift+Ctrl+F* shortcut to apply automatic formatting.

Set Font and Query/Script Format at the Display tab

Choose **Options** | **Editor options** in the <u>main program menu</u>, proceed to the <u>Display</u> tab and define common font and format parameters for SQL Editor/SQL Script.

Set Font and Query/Script Format at the Highlight tab

Choose **Options** | **Editor options** in the <u>main program menu</u>, proceed to the <u>Color</u> <u>Scheme</u> tab and define font options for each element.

Note: If some font parameters are defined on the **Highlight** tab, they will be applied to the query/script text and not the ones defined on the **Display** tab.

13.4.11 View executed queries and scripts

To view all queries and scripts sent to the server you need to launch <u>SQL Monitor</u>. It will show you the log of database operations and SQL queries as items, each consisting of 3 parts: *Executed* (the date and time of the operation), *Operation* (SQL statement sent to the server), *Result* (the result of the operation).

Note: SQL Monitor only displays scripts and queries executed in SQL Manager for MySQL during current session.

13.5 Manage privileges

To define grants on database objects:

- select the Tools | Grant Manager main menu item, or use the corresponding toolbar button to open Grant Manager;
- select the object type using the drop-down list on the toolbar;
- select a user from the **Privileges for** pane of the Navigation bar;
- edit user privileges using Grant Manager.
- To define grants on <u>tables</u>, you can also:
 - right-click a table in <u>DB Explorer</u> and select the Grants for Table <table_name> item from the <u>context menu</u>;
 - edit user privileges using Grant Manager.

13.6 Prevent connection timeout

To prevent connection timeout as well as to speed up table data viewing and prevent hanging you should choose 'Select only' mode when configuring the <u>Grid | Data Options</u> section of the <u>Environment Options</u> dialog.

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13.7 Connect to hosting provider's database

If MySQL host is located on the web hosting provider's remote server and direct TCP/IP connection to this host is denied on the security grounds, but there is a "local" MySQL account that can be used in scripts (PHP, ASP etc.) or in PHPMyAdmin then HTTP tunneling can be used to connect to the hosting provider's database. HTTP tunneling is a connection type, when connection and data transmit between program and MySQL server is implemented by HTTP/HTTPS protocols. HTTP server (eg. Apache) and PHP with MySQL extension must be installed on the remote host. As a rule this software is offered by all hosting providers that allot hosting on Linux-based servers.

To create HTTP-tunnel you need to upload emsproxy.php script (included to program pack) to your webserver. Our program uses this script for transferring data through HTTP. The uploaded script file must be accessible on a URL address (for example in the directory with other scripts). If your webserver meets all the requirements listed above and the script was copied correctly then on opening the 'http://<your_webserver_name>/ emsproxy.php' page you will see: 'EmsProxy v1.31' (version can be different). To register a database with HTTP connection you need to configure the following settings in the Register Database Wizard:

1. Select **W** Use tunneling and **O** HTTP tunneling;

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✓ Use tunneling	
Tunneling	
SSH tunneling	HTTP tunneling
	~ <u> </u>

2. Define **URL** (*emsproxy.php* script file is located)

U <u>R</u> L	http://webserver_name/emsproxy.php	-	
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Script implements connection to MySQL server using authorization information defined in SQL Manager. Script also gets all further queries from SQL Manager to perform and to send results back to SQL Manager. Script itself doesn't require authorization. Thereby, to create an HTTP-tunnel you need only MySQL account. Host from which the connection to my sql is performed is a host, where HTTP-server is running.

Create a simple report in Report Designer 13.8

To create a report using Report Designer:

- 1. Select the **Tools |** Report Designer main menu item.
- 2. In the opened **Report Designer** select the **File | New Report** main menu item, or click the **New Report** item of the navigation bar. The following objects will be added to the newly created report: ReportTitle, MasterData and PageFooter.
- 3. Connect to data source.

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- 4. Add <u>ADOTable</u> or <u>ADOQuery</u> object.
- 5. Link ADOTable or ADOQuery with ADODatabase.
- 6. Place database columns on the Page1. Move the required columns from Data Tree to Band MasterData.

13.9 Transfer program settings

If you want to apply current program settings (wholly or partially) to SQL Manager for MySQL installed on another machine you can save them into a single **.reg* file. This can be done by means of the <u>Save Settings Wizard</u>.

Note: <u>Favorite Queries</u> are not saved in this case. To get access to your queries from another machine please <u>store</u> them in the database. To save a favorite query in a database select the *Database* from the drop-down list in the **Storage** field when creating or editing a favorite query.

13.10 Update SQL Manager

SQL Manager for MySQL can be updated in the following ways:

- 1. Download the SQL Manager for MySQL distribution package from the <u>download</u> page, then extract archive to the preferable directory (e.g. c:\unzipped). Close SQL Manager for MySQL if it's opened and run *MsManagerFullSetup.exe* or *MsManagerLiteSetup.exe*.
- 2. Select the **Help |** <u>SQL Manager Direct</u>, then press the **Update** button. If new SQL Manager for MySQL version is released it will be offered for downloading. Click Yes in the dialog window to update SQL Manager for MySQL automatically.

13.11 Report bugs and suggestions

- 1. Before reporting bugs and suggestions make sure you are using the latest version of the SQL Manager for MySQL.
- 2. If so then you may contact us via Members Area on http://www.sqlmanager.net/, via Help main menu or by sending an email to support@sqlmanager.net/.
- 3. Please, don't forget to mention your OS version, MySQL version and program version.
- 4. Describe the steps to reproduce the bug in detail and illustrate them with screenshots.


14 Appendix

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14.1 **Program interface**

Main menu

The main menu allows you to perform various **Database** operations, open <u>To-Do List</u> and activate/deactivate <u>Database Explorer</u>, <u>SQL Assistant</u> and various <u>toolbars</u> within the **View** menu, manage your databases using items of the **Tools** and **Services** menus, <u>customize</u> the application using the **Options** menu, manage SQL Manager **Windows** using <u>Window List</u> and other tools, and access <u>Registration</u> information and product documentation, <u>update</u> the product to the latest version using the corresponding items available within the **Help** menu.

Database View Tools Services Options Windows Help

Note: To learn how to configure **SQL Manager** menus, refer to the <u>Customize toolbars</u> and menus page.

Navigation bars in object editors and program tools

Navigation bars are interface elements that enable users to quickly locate tools they need. Navigation bar items are displayed within a group with the help of links. A typical Navigation bar of **SQL Manager** contains links to commonly accessed tools (*refresh*, *print*, *restore default size* of the window), *options* pertaining to the editor or tool, and specific tools.

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employee	•				
General	*				
Refresh					
🞸 Compile					
😓 Print					
O Show SQL help					
Table Editor options					
Restore default size					
Tools	*				
Truncate table					
Create View					
Create Procedure					
Create Function					
Explorer	*				
Fields (13)	*				
POSITION [VARCHAR(40]	1				
FIRST_NAME [VARCHAR	(30				
LAST_NAME [VARCHAR(40)					
GENDER [CHAR(1)]					
MARITAL_STATUS [CHAP	ર(1				
BIRTH_DATE [DATE]					
HIRE_DATE [DATE]					
IS_ACTIVE [TINYINT(1)]	-				
	· ·				

Navigation bar panes (groups) can be **expanded**/**collapsed**. When expanded, a pane provides access to its links; when collapsed, panes are displayed as headers only. To expand/collapse a pane, click the pane header. The * * icons indicate the current pane state (collapsed/expanded respectively).



Note: Depending on the current tab selection, Navigation bars in most of the program tools expand to one or more additional panes with tab-specific actions that can be useful for working with the object or service.

Hint: Most items of the Navigation bars are also available on the <u>Toolbars</u>.

Toolbars in the main program window, object editors and program tools

A **toolbar** is a horizontal row or vertical column of selectable image buttons that give the user a constantly visible reminder of and an easy way to select certain application functions. Most **SQL Manager** editors and tools are supplemented with toolbars.

To enable the **toolbars** in **SQL Manager for MySQL**, open the <u>Environment Options</u> dialog, proceed to the <u>Windows</u> section there and select **(if you need the** toolbar only) or **(if you need both the toolbar and the** <u>Navigation bar</u>) in the **Bar style for child forms** group.

Hint: Most **SQL Manager** toolbars are dockable, i.e. you can place a toolbar to any available location within the parent window.

To learn how to configure toolbar items, refer to the <u>Customize toolbars and menus</u> page.

Progress bars

A **progress bar** is an interface element that conveys the progress of a task or service. Several **SQL Manager** editors (e.g. <u>SQL Script</u>),tools (e.g. <u>Dependency Tree</u>) and wizards (e.g. <u>Import Data Wizard</u>) are supplemented with progress bars indicating the progress of lengthy operations.

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The graphic of **SQL Manager** progress bars is accompanied by a textual representation of the progress in the percent format.

Splitters

Splitter controls are used to resize docked controls at run time. In **SQL Manager for MySQL** the splitter controls are used on the main form, <u>DB Explorer</u>, and in program tools and editors as a separator between the working area and <u>Navigation bars</u>, status bars, etc.



Incremental Search bar

Incremental search bar is the tool which is available in the status bar area of some **SQL Manager** tools. The bar is normally called through the *Ctrl+I* <u>shortcut</u>. Type in the first letters of the search string, and the corresponding string will be highlighted in the search scope.

Search:

14.2 Viewing object DDL structure

The **DDL** (Data Definition Language) tab displays the SQL statement for creating the object with all its subobjects, if any. This text is read-only. If you want to change the object definition, use the appropriate editor tabs instead, or copy the text to the Windows Clipboard to paste it in the <u>SQL Editor</u> or <u>SQL Script Editor</u>.



Hint: If more convenient, you can use the **Save DDL to file** and **Open DDL in SQL Editor** items available on the DDL pane within the <u>Navigation bar</u> of object editors.

14.3 Editing object description

The **Description** tab allows you to view and edit the comment for the object (optional).



You can save changes made in this area by clicking the **Compile** item on the <u>Navigation</u> <u>bar</u>.

14.4 Browsing object dependencies

The **Dependencies** tab allows you to view objects that depend on the object being edited, and the objects that the edited object depends on.

While the tree of dependencies is built, the <u>progress bar</u> is displayed in the status area of the editor window.



Hint: To open a dependent object or a depending object in its editor, you can simply double-click the object alias in the **Objects that <object_name> depends on** and **Objects that depend on <object_name>** lists.

See also: Dependency Tree

14.5 Changing Metadata window

The **Changing Metadata** window is used to trace the errors and edit SQL statements during their compilation. The compilation window appears each time metadata is changed, both when the compilation is successful and when there are compilation errors. To hide this window for successful metadata changes, select the **I Don't show this window on success** option.

Compile SQL

This area displays the SQL statement pending to be executed to perform metadata changing. In this area you can view and edit the SQL statement. In case of a compilation error the **Error** tab also becomes visible - here you can view the error description returned by the server.

Commit

This button starts execution of the statement(s). Click it to commit the current transaction. This button is available only if there were no errors in compilation.

Rollback

This button cancels the script execution and allows you to return to the previous stage (editor window or <u>DB Explorer</u>).

Rollback and Recompile

This button calls for recompilation with the changes you made in the **Compile SQL** area. Use this button after correcting the SQL statement.

Ch	anging Met	adata							
1	ALTER	TABLE	`employee`	DROP	COLUMN	`Salaried	Flag		1
-	- HILL	THEFE	Cmpioyee	DROT	COLORIA	Juluite	i Lug	E	
•									
	C <u>o</u> py i	nformation	to clipboard			<u>E</u> xecute		Cancel	

If necessary, you can **copy information to clipboard** and save it in a text editor afterwards (the button is only enabled when a compilation error occurs).

If you want this window to appear only in case of an error, uncheck the \blacksquare **Confirm metadata changing (Changing Metadata Window)** option (checked by default) available within the **Confirmations** section of the <u>Environment Options</u> dialog.

14.6 Find Text dialog

The **Find Text** dialog is provided for quick and flexible searching for specified text within the working area of **SQL Manager** editors.

Text to find

Enter a search string in this box. The Arrow-Down button which can be found next to the input box allows you to select any of the previously entered search strings.

Options

Case sensitive

This option can be used to differentiate uppercase characters from lowercase ones during the search process.

Whole words only

Use this option to search for words only (with this option off, the search string might be found within longer words.)

Regular expressions

Recognizes regular expressions in the **Text to find** field.

For example, you can type "empl*" to search for metadata containing the "empl" substring; enter "^emp" to search for words starting with "emp" or "^emp|emp\$" to search for the string "emp" at the beginning or at the end of the string. **Note:** The syntax of regular expressions that can be used in the **Text to find** field is similar to that used in Perl regular expressions. Comprehensive information about it can be

found at <u>http://perldoc.perl.org/perlre.html#Regular-Expressions</u>.

Find Text	×
Find Find in metadata	
Text to find Employee	•
Options <u>Case sensitive</u> <u>Whole words only</u> Regular expressions	Direction Forward Backward
Scope <u>G</u> lobal <u>S</u> elected text	Origin From cursor Entire scope
Mark search result with stack mark	ker
OK Show <u>A</u> ll	Cancel <u>H</u> elp

Direction

Forward

Searches from the current position to the end of the working area.

Backward

Searches from the current position to the beginning of the working area.

Scope

Global

Searches within the entire working area, in the direction specified by the *Direction* setting.

Selected text

Searches only within the currently selected text, in the direction specified by the *Direction* setting. You can use the mouse or block commands to select a block of text.

Origin

From cursor

The search starts at the cursor's current position, and then proceeds either forward to the end of the scope, or backward to the beginning of the scope depending on the *Direction* setting.

Entire scope

The search covers either the entire block of selected text or the entire script (no matter where the cursor is in the Editor area) depending upon the *Scope* options.

Mark search result with stack marker

The option toggles marking search results. If this option is selected, stack markers are set at all search positions - this makes it possible to jump from one marker (search result) to another within the text.

Click the **Show All** button to highlight every occurrence of the search string.

Find in metadata

Find in metadata		—
<u>T</u> ext to find Database	EMPLOYEE	EMODB]
Options	e only ssions	Direction <u>F</u>orward <u>B</u>ackward
	ОК	Cancel <u>H</u> elp

This tab allows you to define options for search in metadata.

Use the **Database** drop-down list to select database to search in.

14.7 Replace Text dialog

The **Replace Text** dialog is provided for searching and replacing text within the working area of **SQL Manager** editors.

Text to find

Enter a search string in this box. The Arrow-Down button which can be found next to the input box allows you to select any of the previously entered search strings.

Text to replace

This box allows you to enter a string to replace the search string. The Arrow-Down button which can be found next to the input box allows you to select any of the previously entered strings. To replace the search string with an empty string, leave this input box blank.

Options

Case sensitive

This option can be used to differentiate uppercase characters from lowercase ones during the search process.

Whole words only

Use this option to search for words only (with this option off, the search string might be found within longer words.)

Regular expressions

Recognizes regular expressions in the **Text to find** field.

Replace with template

This option requires the **Regular expressions** option selection.

Enable this option to use regular expressions in the **Text to replace** field. Expression used in this field will be applied to each string that matches the **Text to find** expression.

Note: The syntax of regular expressions that can be used in the **Text to find** and the **Text to replace** fields is similar to that used in Perl regular expressions. Comprehensive information about it can be found at http://perldoc.perl.org/perlre.html#Regular-Expressions.

Prompt on replace

Check this option if you wish to be prompted before replacing upon each occurrence of the search string. When this option is off, the search string is replaced automatically.

Replace Text			×
Text to find	Bill		•
Text to replace	William		•
Options	•	Direction	
Whole words o	only	Eorward	
Replace with to Prompt on replace	ssions emplate ace	© Backward	
Scope		Origin	
Olobal		Erom cursor	
Selected text		Entire scope	
Mark search res	ult with stack mark	ter	
ок	Replace A	I Cancel	Help

Direction

Forward

Searches and replaces from the current position to the end of the working area.

Backward

Searches and replaces from the current position to the beginning of the working area.

Scope

Iobal

Searches and replaces within the entire working area, in the direction specified by the *Direction* setting.

Selected text

Searches and replaces only within the currently selected text, in the direction specified by the *Direction* setting. You can use the mouse or block commands to select a block of text.

Origin

From cursor

The search and replace process starts at the cursor's current position, and then proceeds either forward to the end of the scope, or backward to the beginning of the scope depending on the *Direction* setting.

Entire scope

The search and replace process covers either the entire block of selected text or the entire script (no matter where the cursor is in the Editor area) depending upon the *Scope* options.

Mark search result with stack marker

The option toggles marking search results. If this option is selected, stack markers are set at all search positions - this makes it possible to jump from one marker (search result) to another within the text.

Click the **Replace All** button to replace every occurrence of the search string. If you have checked the **Prompt on replace** option, the confirmation dialog box appears upon each occurrence of the search string.

14.8 Format specifiers

The following format specifiers are supported in the format string:

Float/Integer format

0

880

Digit place holder. If the value being formatted has a digit in the position where the '0' appears in the format string, then that digit is copied to the output string. Otherwise, a '0' is stored in that position in the output string.

#

Digit placeholder. If the value being formatted has a digit in the position where the '#' appears in the format string, then that digit is copied to the output string. Otherwise, nothing is stored in that position in the output string.

.

Decimal point. The first '.' character in the format string determines the location of the decimal separator in the formatted value; any additional '.' characters are ignored.

<u>′</u>.

Thousand separator. If the format string contains one or more ',' characters, the output will have thousand separators inserted between each group of three digits to the left of the decimal point. The placement and number of ',' characters in the format string does not affect the output, except to indicate that thousand separators are wanted.

E+

Scientific notation. If any of the strings 'E+', 'E-', 'e+', or 'e-' are contained in the format string, the number is formatted using scientific notation. A group of up to four '0' characters can immediately follow the 'E+', 'E-', 'e+', or 'e-' to determine the minimum number of digits in the exponent. The 'E+' and 'e+' formats cause a plus sign to be output for positive exponents and a minus sign to be output for negative exponents. The 'E-' and 'e-' formats output a sign character only for negative exponents.

Date/Time format

С

Displays the date using the format using the Short Date Format, followed by the time using the Long Time Format. The time is not displayed if the date-time value indicates midnight precisely.

d

Displays the day as a number without a leading zero (1-31).

dd

Displays the day as a number with a leading zero (01-31).

ddd

Displays the day as an abbreviation (Sun-Sat) using the strings of the Short Day Names.

dddd

Displays the day as a full name (Sunday-Saturday) using the strings of the Long Day Names.

ddddd

Displays the date using the Short Date Format.

ddddd

Displays the date using the Long Date Format.

е

Displays the year in the current period/era as a number without a leading zero (Japanese, Korean and Taiwanese locales only).

ee

Displays the year in the current period/era as a number with a leading zero (Japanese, Korean and Taiwanese locales only).

g

Displays the period/era as an abbreviation (Japanese and Taiwanese locales only).

gg

Displays the period/era as a full name. (Japanese and Taiwanese locales only).

m

Displays the month as a number without a leading zero (1-12). If the m specifier immediately follows an h or hh specifier, the minute rather than the month is displayed.

mm

Displays the month as a number with a leading zero (01-12). If the mm specifier immediately follows an h or hh specifier, the minute rather than the month is displayed.

mmm

Displays the month as an abbreviation (Jan-Dec) using the strings given of the Short Month Names.

mmmm

Displays the month as a full name (January-December) using the strings of the Long Month Names.

уу

Displays the year as a two-digit number (00-99).

уууу

Displays the year as a four-digit number (0000-9999).

h

Displays the hour without a leading zero (0-23).

hh

Displays the hour with a leading zero (00-23).

n

Displays the minute without a leading zero (0-59).

nn

Displays the minute with a leading zero (00-59).

S

Displays the second without a leading zero (0-59).

SS

Displays the second with a leading zero (00-59).

Z

Displays the millisecond without a leading zero (0-999).

ZZZ

Displays the millisecond with a leading zero (000-999).

t

Displays the time using the Short Time Format.

tt

Displays the time using the Long Time Format.

am/pm

Uses the 12-hour clock for the preceding h or hh specifier, and displays 'am' for any hour before noon, and 'pm' for any hour after noon. The am/pm specifier can use lower, upper, or mixed case, and the result is displayed accordingly.

a/p

Uses the 12-hour clock for the preceding h or hh specifier, and displays 'a' for any hour before noon, and 'p' for any hour after noon. The a/p specifier can use lower, upper, or mixed case, and the result is displayed accordingly.

ampm

Uses the 12-hour clock for the preceding h or hh specifier, and displays the contents of the TimeAMString global variable for any hour before noon, and the contents of the TimePMString global variable for any hour after noon.

/

Displays the date separator character using the Date Separator.

2

Displays the time separator character using the Time Separator.

'xx'/"xx"

Characters enclosed in single or double quotes are displayed as-is, and do not affect formatting.

14.9 Language Info Editor

The **Language Info Editor** dialog allows you to set the language name and specify the corresponding *.*lng* localization file. This dialog is opened when you add or edit a language (see Environment Options | Localization).

Language Name

The name of the language that is displayed in the <u>Select Program Language</u> dialog and within the **Available Languages** list of the <u>Environment Options | Localization</u> section.

Language File

The *.*lng* file containing the translated string resources. See the %*program_directory*% *Languages* folder to find already existing localization files.

Adding a language

The *Add language* dialog allows you to specify your own localization file and set the language name.

Add Language		- ×-
Language Name	French	
Language File	C:\SQL Manager\French.Ing	2
	<u>O</u> K <u>C</u> ancel	<u>H</u> elp

Editing a language

The *Edit language* dialog allows you to change the language name or select another localization file for the specified language.

Edit 'English' Languag	e	×
Language Name	English	
Language File	C:\SQL Manager\English.Ing	2
	OK <u>C</u> ancel <u>H</u> elp	

14.10 Using templates

For your convenience the ability to use templates is provided by **SQL Manager for MySQL**. A template is a named collection of wizard options stored in a file.

Instead of performing a long chain of routine steps all the time you can save all the options of the wizard for future use as a template file. Select the **Templates | Save Template** drop-down menu item, specify the template file name and set an optional comment for the template file.

When starting the wizard next time, you can load the template by selecting the **Templates | Load Template** drop-down menu item.

14.11 Supported file formats

MS Excel 97-2003

The most popular e-table format used by Microsoft® Excel (*.*xls*). The result files are fully compatible with Microsoft® Excel versions 97-2003 and XP.

MS Access 97-2003

File of Microsoft® Access format (*.*mdb*) with an ADO connection used.

MS Access

File of Microsoft® Access format (*.accdb).

MS Word 97-2003

One of the most popular text processing formats used by Microsoft® Word (*.*doc*). The result files are fully compatible with Microsoft® Word versions 97-2003 and XP.

RTF

885

Rich Text Format (*.rtf) supported by many text processing programs (e.g. WordPad).

ITML

Hyper Text Markup Language file format (*.*html*, *.*htm*), complete compatibility with HTML 4.0 specification.

PDF

A standard format in electronic publishing (*.pdf).

Text file

Plain text file format (*.txt).

CSV file

Comma-Separated Value file format (*.csv).

OIF file

Data Interchange File (*.dif) format.

SYLK

Symbolic Links (*.slk) file format.

Note: all the text formats including *Text file*, *CSV*, *DIF*, *SYLK* are usually used as working or interchange formats.

LaTeX

A specific file format (*.tex) which is a popular (especially among mathematicians and physicists) macroextension of TeX pack developed by D.Knut.

XML

A markup language for documents containing structured information (*.xml).

OBF

Database file format (*.*dbf*) used by dBASE and a number of xBASE applications.

MS Excel

The contemporary e-table format used by Microsoft® Excel 2007 (*.xlsx). The result files

are fully compatible with Microsoft® Excel.

MS Word

The contemporary text processing format used by Microsoft Word 2007 (*.*docx*). The result files are fully compatible with Microsoft Word.

ODF Spreadsheets

OASIS Open Document Format for Office Applications - open document file format for spreadsheets (*.ods) used by a number of applications including OpenOffice.org and KOffice.

ODF text

OASIS Open Document Format for Office Applications - open document file format for word processing (*.*odt*) documents used by a number of applications including OpenOffice.org and KOffice.

14.12 To-Do List

The **To-Do List** window allows you to make up a list of tasks for the database.

To call this window, select the **View | To-Do List** <u>main menu</u> item, or use the *Shift+Ctrl+T* <u>shortcut</u>.



The task list is displayed in a form of a grid. Its columns (*Action, Priority, User, Category*) correspond to the task parameters. Click the column caption to sort the task list by the current parameter or change the sorting direction. Use the Navigation bar and context menu to *add*, *edit*, and *delete* to-do items.

🗄 To-Do Items - [hr on merlin:5149(1)]					
🗄 🖯 Databases 🕶 📑 💕 💁	强 🔁				
Database *	Action		Priority	User	Category
	Export table 'emple	oyee'	2	manager	Data manipulation
🔒 hr on merlin:5149(1) [hr]	Backup tables of o	latabase sakila	5	root	DB backup
	Update table 'addr	'ess'	1	manager	Data manipulation
General *	Optimize tables of	production database	3	admin	Maintenance
🗗 Add item		Add Item	Ins		
Git item		Git Item	Enter		
🛃 Delete item		Belete Item	Del		
🙀 Delete all		Delete All Ct	rl+Del		
Restore default size					

Database

Select the database to apply the task list to. When switching between the databases you can view different task lists.

To add a task to this list, click the **Add Item** link on the Navigation bar, or select **Add Item** from the context menu. You can also use the *Ins* key for the same purpose. Define the task parameters and click **OK** to add the new task to the list.



Text

Optional text to describe the task.

Priority

Set a numeric value to indicate the priority of the task.

User Name

The database User name this task is applied to.

Category

Set a category for the task. Using categories may be useful for grouping tasks.

To modify a task, select the task in the list and click the **Edit Item** link of the Navigation bar, or select **Edit Item** in the context menu. You can also use the *Enter* key for the same purpose.

To remove a task, select the task in the list and click the **Delete Item** link of the Navigation bar, or select **Delete Item** in the context menu. You can also use the *Del* key for the same purpose.

To remove all tasks from To-Do List, click the **Delete all** link of the Navigation bar, or select **Delete all** in the context menu. You can also use the *Ctrl+Del* <u>shortcut</u> for the same purpose.

14.13 Windows List

The **Windows List** panel allows you to browse the list of windows that are currently opened within **SQL Manager for MySQL** IDE.

To activate this panel as a DB Explorer <u>tab</u>, select the **Windows | Window List** <u>main</u> <u>menu</u> item, or use the Ctrl+Alt+0 <u>shortcut</u>.

Windows List		
🖃 🖯 hr on merlin:5149(1)		
To-Do Items - [hr on meri	in:5149(1)]	
- 👜 UPDATE department		
dept_view		
employee		
new_proc1		
🖶 🖯 test on KMN:3334		
Dependency Tree		
Query Builder - [test on K	MN:3334]	
SQL Editor - [test on KMN	1:3334]	
Background Processes	Bring To Front	
SQL Script [Untitled	Close Window	
SQL Monitor	Cascade	
	Minimize All	
	Restore All	
	Tile Horizontal	
	Tile Vertical	
	Set Defaults to All Windows Ctrl+	Alt+D
C	Close All	
🔒 Databases	Close All Database Windows	
G Windows List		

If necessary, you can right-click within the list area to call the **popup menu** which allows you to bring a window to foreground, close windows one by one or in groups, and to arrange the windows according to your preferences.

14.14 Customize toolbars and menus

For your convenience **SQL Manager for MySQL** provides **toolbars** and **menus** that you can customize, so the commands you use frequently are readily available and easily identifiable.

The **Customize** dialog allows you to create and personalize **SQL Manager** menus and <u>toolbars</u>.

To call this dialog, click **More buttons...** on the right side of any <u>toolbar</u>, then click **Add or Remove Buttons** and select **Customize...** from the drop-down menu. Alternatively, you can right-click any toolbar and select the **Customize...** popup menu item.

×	Database
~	Options
×	Tools
>	Windows
~	Windows Bar
~	Services
	Customize

Toolbars

Toolbars

This list displays all currently existing toolbars of **SQL Manager** (both *default* and *user-defined* toolbars). Check/uncheck the box at a toolbar name to show/hide the toolbar.

New...

Use this button to add a new user-defined toolbar to the **Toolbars** list. Set a name for the newly created toolbar and dock it by dragging it to any permitted location within the application window.

Rename...

Use this button to rename the selected user-defined toolbar.

Delete

Use this button to delete the selected user-defined toolbar.

Customize	— ×-
Toolbars Commands Options	1
l oolb <u>a</u> rs:	
Main Menu	<u>N</u> ew
Database Options	R <u>e</u> name
Tools Windows	<u>D</u> elete
Vindows Bar	
Services	
	Close

Commands

This tab allows you to browse the list of all commands available within the menus and toolbars of the application window. Selecting categories in the **Categories** list displays commands of the selected category (e.g. 'Database' or 'Tools') in the **Commands** list.

If necessary, you can pick a command and drag it to any $\underline{toolbar}$ to create a button for this command.

Default	*	1	Show SQL Editor	*
Database View		E	New SQL Editor	
Services	Ξ		SQL Monitor	
Tools Options		3	SQL Script	
Windows		E	Extract Database	
Help		8	Print Metadata	
	Ŧ	BB	HTML Depart	Ŧ

Options

Personalized Menus and Toolbars

Menus show recently used commands first

This option determines whether the most frequently used items will be placed in menus at first position.

If this option is enabled, frequently used menu items are "promoted" and displayed higher on the list. Unused and infrequently used menu items are visually suppressed and appear "collapsed".

Show full menus after a short delay

This option is available only if the **Menus show recently used commands first** option is selected.

If this option is enabled, infrequently used menu items (if they appear "collapsed") will be automatically expanded after a delay upon setting mouse cursor (or upon selection with the Up/Down keys) on the bottom of the menu. Otherwise, the menu expands only after clicking its bottom-most button (or using the Ctrl+Down shortcut).

Reset my usage data

Resets the lists of recently used commands in the toolbars and menus.

Toolbars	Commands Options			
Personalized Menus and Toolbars				
Menus show recently used commands first				
🔽 Sh	Show f <u>ul</u> l menus after a short delay			
<u>R</u> eset my usage data				
Other — Large	je icons			
Show Tool <u>T</u> ips on toolbars				
Show shortcut keys in ToolTips				
<u>M</u> enu ani	nimations: (None)			

Other

Large icons

This option displays larger icons on the parent window toolbars.

Show ToolTips on toolbars

If this option is selected, ToolTips (hints) popup when the mouse cursor is positioned over a <u>toolbar</u> button.

Show shortcut keys in ToolTips

If this option is selected, the corresponding <u>shortcuts</u> are displayed in ToolTips (hints) for toolbar buttons.

Menu animations

Use the drop-down list to specify the menu animation effects: *None* (no animation) *Random* (random choice: *Unfold*, *Slide*, *Fade*) *Unfold* (unfolding menus) *Slide* (sliding menus) *Fade* (menus fade in when appearing)

14.15 SSH tunneling options

SSH (Secure Shell Host) protocol is used to heighten computer security when working with Unix systems on the Internet. SSH uses several encryption algorithms of different reliability. The spread of SSH is also related to the fact that a number of *nix operating systems (e.g. FreeBSD) include SSH server in their standard distributions. To learn more about SSH, please visit <u>http://openssh.org</u>.

The SSH tunneling feature of **SQL Manager** is a means of ensuring secure connection to MySQL servers when working over insecure connection channels. You can also use SSH tunnel to get access to the remote MySQL servers when port 3306 is closed for external connections for some reasons.

The connection via SSH tunnel works in the following way.

First, a connection is established and the process of authentication between SSH client built in **SQL Manager** and remote MySQL server is performed. Then all incoming and outgoing information between the application and MySQL is transmitted through SSH server with the help of a communication port (regularly port 22), and SSH server transfers this information directly to MySQL server.

To setup the connection via **SSH tunnel**, input the following values in the corresponding fields:

- SSH host name is the name of the host where SSH server is running
- SSH port indicates the port where SSH server is activated
- **SSH user name** stands for the user on the machine where SSH server is running (**Note:** it is a Linux/Windows user, not a user of MySQL server)
- **SSH password** is the Linux/Windows user password

Please note that MySQL **host name** should be set relatively to the SSH server in this case. For example, if both MySQL and SSH servers are located on the same computer, you should specify *localhost* as **host name** instead of the server external host name or IP address.

Connect through the Secure SHell (SSH) tunnel				
SSH host name	vadsrv			
SSH port	22 💌			
SSH <u>u</u> ser name	tester			
SSH password	*****			
Use Private Key for authentication				
SSH <u>k</u> ey file	C:\SSHKeys\dsa_key.ppk			

Use Private Key for authentication

If the SSH encryption is enabled on the SSH server, a user can generate a pair of cryptographic keys (the **Private key** and the **Public key**). The **Public key** is placed on the SSH server, and the **Private key** is the part you keep secret inside a secure box that can only be opened with the correct passphrase (or an empty string as the passphrase). When you wish to access the remote system, you open the secure box with your

passphrase (if any), and use the private key to authenticate yourself with the Public key on the remote Linux computer.

SSH Key file

Specify the location (the secure box) of the **Private key** file on your local machine. Supported Private Key file formats are: *OpenSSH Putty SSH.com* Note that you need to trust your local machine not to scrape your passphrase or a copy of your Private key file while it is out of its secure box.

Passphrase dialog	×
Please enter the passphrase for the key	

14.16 HTTP tunneling options

HTTP tunneling is a connection type, when connection and data transmit between program and MySQL server is implemented by HTTP/HTTPS protocols. Such connection type can be used when MySQL host is located on the web hosting provider's remote server and direct TCP/IP connection to this host is denied on the security grounds, but there is a "local" MySQL account that can be used in scripts (PHP, ASP etc.) or in PHPMyAdmin. HTTP connection uses port #80, which is also used for common work of web-browser. HTTP server (eg. Apache) and PHP with MySQL extension must be installed on the remote host. As a rule this software is offered by all hosting providers that allot hosting on Linux-based servers.

To create HTTP-tunnel you need to upload emsproxy.php script (included to program pack) to your webserver. Our program uses this script for transferring data through HTTP. The uploaded script file must be accessible on a URL address (for example in the directory with other scripts). If your webserver meets all the requirements listed above and the script was copied correctly then on opening the 'http://<your_webserver_name>/ emsproxy.php' page you will see: 'EmsProxy v1.31' (version can be different). To register a database with HTTP connection you need to define the following parameters in <u>Register Database Wizard</u>:

URL

Address where *emsproxy.php* script file is located (e.g. http://mywebserver/emsproxy.php).

U <u>R</u> L	http://webserver_name/emsproxy.php	-

Script implements connection to MySQL server using authorization information defined in SQL Manager. Script also gets all further queries from SQL Manager to perform and to send results back to SQL Manager. Script itself (as opposed to SSH-server) doesn't require authorization. Thereby, to create an HTTP-tunnel you need only MySQL account. Host from which the connection to my sql is performed is a host, where HTTP-server is running. Basically (in most of common configurations of provided hosts) it's 'localhost' (i.e. HTTP-server and MySQL host are running on the same machine).

What if URL requires additional authorization? If it is a common website or proxy authorization (i.e. window with login/password form appears on opening URL-address) then the window requesting authorization info appears in SQL Manager when trying to connect to the database. Additional authorization can be caused by redirection to HTMLpage requesting password and saving data to cookie are. Such cases are not supported.

14.17 SQL Manager Direct

SQL Manager Direct is a feature of **SQL Manager for MySQL** which provides you with quick access to the related Internet resources and allows you to keep your **SQL Manager** version up-to-date.

To open the **SQL Manager Direct** window, select the **Help | SQL Manager Direct** item from the <u>main menu</u>.

📄 <u>D</u> atabase	<u>V</u> iew	<u>T</u> ools	Services	<u>O</u> ptions	<u>W</u> indows	Help
						What's New?
						Contents
						MySQL Reference
						Download Manuals and Languages
						삼 SQL Manager Home Page
						🚱 SQL Manager Direct
						Send Bug Reports to
						Purchase SQL Manager
						Register SQL Manager
						1 <u>A</u> bout

Links to <u>sqlmanager.net</u> resources provided by the **SQL Manager Direct** window are grouped into several sections:

- SQL Manager for MySQL News
- General Information
- Downloads
- Related Products

Upon a link selection you will be immediately forwarded to the corresponding resource.

SQL Manager for MySQL News

This section takes you directly to the latest EMS news column. Using the links you can get up-to-date news, product information and downloads from <u>sqlmanager.net</u>.

General Information

This section offers a number of links to product news, features, <u>Feature Matrix</u>, <u>system</u> <u>requirements</u>, testimonials and much more.

Downloads

Using links of this section you can download other product versions from the <u>download</u> <u>page</u>.

Related Products

This section allows you to browse the list of related products developed by EMS Database Management Solutions, Inc.



Use the 💿 💿 buttons to navigate in the same way as you normally do it using a web browser.

Click the **Update** button to refresh the page.

Automatically poll network in interval (in days)

If this option is selected, the page is refreshed automatically after the specified time interval. Use the spinner control to set the interval (in days).

In the **Status** area at the bottom of the **SQL Manager Direct** window you can find the status of your request to the <u>sqlmanager.net</u> website.

14.18 Login Host / Database Login dialogs

The **Login Host** dialog appears each time a request is sent to the server which requires authentication. The application prompts you to specify host <u>connection parameters</u> to access the specified host: *user name, password, client charset,* and <u>SSH tunneling</u> or <u>HTTP tunneling</u> settings (if used).

Login Host	
Host m	nerlin:5149
<u>U</u> ser name	root
Password	
Client charset	DEFAULT
	Test Connection
SSH Tunneling HT	TP Tunneling
Connect throug	h the Secure SHell (SSH) tunnel
SSH <u>h</u> ost name	localhost
SSH port	22 🔺
SSH <u>u</u> ser name	
SSH password	
Use Private Key	y for authentication
SSH key file	
	Load connection info
	OK Cancel Help

Once you have specified the connection properties, you can check whether it is possible to establish connection to the server: click the **Test Connection** button for this purpose. If connection is successful, you will get the 'Connected!' message; otherwise an error message will be returned.

The **Database Login** dialog appears on attempt to <u>connect</u> to a database if the **Login prompt before connection** option is enabled on the <u>Options</u> page of the <u>Database</u> <u>Registration Info</u> dialog.

Database Login	—
Database	test
<u>U</u> ser name	tester
Password	*******
SSH <u>u</u> ser name	
SSH password	
	<u>O</u> K <u>C</u> ancel

Note: The **SSH user name** and **SSH password** boxes are available only if <u>SSH tunneling</u> is used for the database connection.

Specify user name / password, SSH user name / SSH password (if necessary) and click **OK** to start working with the database.
14.19 Overwriting existing output file

If a file having the same name as specified for an output file generated by **SQL Manager** already exists, a warning dialog is displayed.

Warning			×
	The file 'C:\E:	xports\HR_EMPLO	YEE.xls' already exists.
	Overwrite	Make Unique	Cancel

You can **Overwrite** the file, **Make** it **Unique**, or **Cancel** both and change the path or file name manually.

The application makes the file unique by adding the current timestamp to the specified file name if the \mathbb{Z} Add Timestamp to filename option is enabled, or by adding a simple numeric postfix to the file name if this option is disabled.

14.20 Script conversion

The **Script conversion** dialog allows you to select encoding to be used for script conversion upon loading script to one of **SQL Manager** editors (<u>SQL Editor</u>, <u>SQL Script</u> <u>Editor</u>) from an external file.

Script Conversion	
Select the encoding for script conve	ersion
 Windows default Database default 	Simplified Chinese (Hong Kong, PRC) swe7 (7bit Swedish) Unicode (USC-2)
Other encoding	Unicode (UTF-8)
Preview	
□ # 18 # Data for the `departr 19 ↓ 20	ment' table (LIMIT -483,500)
DINSERT INTO <u>`department</u>	t` (`Name`, `DepartmentID`, `Modifi
<pre>23 ('Engineering',1,'200 24 ('Tool Design',2,'200 25 ('Sales',3,'2004-07-3 26 ('Marketing',4,'2004-</pre>	04-07-31 00:00:00','Research and De 04-07-31 00:00:00','Research and De 31 00:00:00','Sales and Marketing') -07-31 00:00:00','Sales and Marketi
	<u>OK</u> <u>Cancel</u> <u>H</u> elp

Windows default

Specifies that the standard Windows encoding will be used for the script conversion.

Database default

Specifies that the default encoding of the database will be used for the script conversion.

Other encoding

Allows you to select the encoding that will be used for the script conversion.

Preview

This area displays the script with the current encoding parameters applied.

14.21 Storage engines reference

MySQL provides several **storage engines** that act as handlers for different table types. All MySQL storage engines include:

- those that handle transaction-safe tables;
- those that handle non-transaction-safe tables.

ISAM

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It was the original storage engine which managed non-transactional tables. ISAM was deprecated in MySQL 4.1, and is not supported in the latest versions of the server. This engine was replaced with MyISAM.

MyISAM

It is the table handler that replaced ISAM. MyISAM manages non-transactional tables. It provides high-speed storage and retrieval, as well as fulltext searching capabilities. Each MyISAM table is stored on disk in three files:

*.frm - the file that stores the table format;

*.MYD (MYData) - the data file;

*.MYI (MYIndex) - the index file.

HEAP (also known as MEMORY)

This storage engine handle non-transactional tables and provides in-memory tables, i.e. the table data are only stored in memory.

Each MEMORY table is associated with one disk file. The file name begins with the table name and has the *.frm extension to indicate that it stores the table definition. MEMORY tables use hash indexes by default, which makes them fast, and very useful for creating temporary tables.

MERGE (also known as MRG_MyISAM)

This storage engine handles a collection of identical (i.e. having identical column and index information) MyISAM tables that can be used as one table.

When one creates a MERGE table, two files are created on disk:

*.frm - the file that stores the table format;

*.*MRG* - the file which contains the names of the tables that should be used as one.

InnoDB

This storage engine handles transaction-safe tables with row locking and foreign key support (since MySQL version 3.23.44 only).

Being a transaction-safe (ACID compliant) storage engine, InnoDB has commit, rollback, and crash recovery capabilities. Locking is performed on the row level; also, an Oracle-style consistent non-locking read in SELECT statements is provided. These features increase multi-user concurrency and performance.

The <u>FOREIGN KEY constraints</u> supported by InnoDB can freely mix InnoDB tables with tables from other MySQL storage engines, even within the same statement.

InnoDB has been designed for maximum performance when processing large data volumes. Tables and indexes are stored in a tablespace which may consist of several files (or raw disk partitions). InnoDB tables can be of any size even on operating systems where file size is limited to 2GB.

BDB (also known as **BerkeleyDB**)

This storage engine is provided by Sleepycat Software. The BerkeleyDB transactional storage engine handles transaction-safe tables with page locking. BDB tables are capable of COMMIT and ROLLBACK operations on transactions.

BerkeleyDB is not supported in the latest versions of the server.

EXAMPLE

This is a stub engine: its purpose is to serve as an example in the MySQL source code that illustrates how to begin writing new storage engines.

An EXAMPLE table is stored in a table format (*.*frm*) file on disk. No data can be stored into the table, and retrievals return an empty result.

Indexing is not supported either.

As such, the EXAMPLE storage engine is primarily of interest to developers.

FEDERATED

This storage engine was added in MySQL 5.0.3. Data are stored in a remote database, and the FEDERATED storage engine enables data to be accessed from a remote MySQL database on a local server without using replication or cluster technology.

When using a FEDERATED table, queries on the local server are automatically executed on the remote (federated) tables. No data are stored in the local tables.

The FEDERATED table definition is the same as with standard storage engines (such as MyISAM or InnoDB, where each table consists of the table definition and the associated data), but the physical storage of the data is handled on a remote server.

SELECT statements and INSERT, UPDATE, DELETE operations are sent to the remote server for execution, where they update the data file on the remote server or return matching rows from the remote server.

ARCHIVE

This storage engine is used for storing large amounts of data without indexes with a very small footprint.

When an ARCHIVE table is created, the server creates the following files in the database directory:

*.frm - a table format file;

*.ARZ - data files;

*.ARM - metadata files;

*.ARN - the file that appears during optimization operations.

Rows are compressed as they are inserted. The ARCHIVE engine uses zlib lossless data compression. On retrieval, rows are uncompressed on demand; there is no row cache.

CSV

This storage engine stores data in text files using comma-separated values format. When an CSV table is created, the server creates two files in the database directory:

*.frm - a table format file;

*.CSV - a data file (a plain text file);

*.CSM - a Meta-file that stores the state of the table and the number of rows that exist in the table (in MySQL 5.1.9 and later).

When data are stored into the table, the storage engine saves them into the data file in the comma-separated values format.

The CSV storage engine does not support indexing.

BLACKHOLE

This storage engine accepts data but throws it away and does not store it, therefore retrievals always return an empty result.

When an BLACKHOLE table is created, the server creates a table format (*.frm) file in the database directory.

The BLACKHOLE storage engine supports all kinds of indexes.

Inserts into a BLACKHOLE table do not store any data, but if the binary log is enabled, the

SQL statements are logged (and replicated to slave servers). This can be useful as a repeater or filter mechanism.

FALCON

This storage engine has been designed to meet modern database requirements, and particularly for use within high-volume web serving or other environment that requires high performance, while still supporting the transactional and logging functionality required in this environment. Falcon has been specially developed for systems that are able to support larger memory architectures and multi-threaded or multi-core CPU environments. Most 64-bit architectures are ideal platforms for the FALCON engine, where there is a larger available memory space and 2-, 4- or 8-core CPUs available. Falcon supports all of the standard column data types supported by MySQL.

NDB Cluster

It is the storage engine used by MySQL Cluster to implement tables that are partitioned over many computers.

GEMINI

It is a table type developed by NuSphere Company. GEMINI is not released under an Open Source license.

For details refer to the official MySQL documentation.

14.22 Select Object dialog

The **Select Object** dialog appears each time the application requests a database object selection, e.g. upon a root object selection for the <u>Dependency Tree</u> tool, or when choosing an object to be added to a <u>project</u>.

🥂 S	Select Object -	hr on merlin:51	.49(1) [hr]			×
	Tables					
8 4			9			
4 9	countries	country	customer	department	employee	employeead
•••					9	
B	employeede	employeepa	employees	employees	import	jobcandidate
	jobcandidat	mymfavorites	mymreports	shift		
				<u>о</u> к	<u>C</u> ancel	<u>H</u> elp

First select the object type in the list on the left-hand side of the window. Pick the object you need and click \mathbf{OK} the apply your selection.

14.23 SQL Manager shortcuts

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Database management:

Shift+Ctrl+RRegister a MySQL host using Register Database WizardShift+Alt+RRegister a database using Register Database WizardShift+Alt+UUnregister the selected databaseShift+Ctrl+CConnectConnectto a databaseShift+Ctrl+DDisconnect from a database

Database objects management:

Ctrl+NCreate a new object (the object type depends on the current selection)Ctrl+OEdit the selected object in its editorCtrl+RRename the selected objectShift+DelDrop the selected objectCtrl+Shift+CCollapse the current DB Explorer tree branch and switch selection to the parent tree node

SQL Manager tools:

View/hide <u>Database Explorer</u> Search for an item in the <u>DB Explorer</u> tree Open the <u>To-Do List</u> window Show SQL Editor
Open a new instance of <u>SOL Editor</u>
Open <u>SQL Monitor</u>
Open <u>SQL Script Editor</u>
Open Localization Editor
Add a new table subobject (the subobject type depends on the current tab selection)
Add a parameter in Procedure Editor and Function Editor
Remove a parameter in Procedure Editor and Function Editor
Move an argument up in Procedure Editor and Function Editor
Move an argument down in Procedure Editor and Function Editor
Start incremental search

SQL Editor and SQL Script (fixed and default):

Execute query/script
Execute selected only
Execute under cursor
Reset execution point (SQL Editor only)
Toggle bookmark # <digit></digit>
Go to bookmark # <digit></digit>
Go to next bookmark
Go to previous bookmark
Drop marker to current position
Collect marker (jump back)

Shift+Esc Swap marker to current position Ctrl+Z; Undo Alt+BkSp Shift+Ctrl+Z; Redo Shift+Alt+BkS D Ctrl+F Search for text using the Find Text dialog Ctrl+R Replace text using the Replace Text dialog F3 Search next Ctrl+I Start incremental search Go to line number (an input number dialog prompts for the number) Alt+G Ctrl+L Load a script from an external file Ctrl+S Load the script to an external file *Shift+Ctrl+F* Format the SQL text using SQL Formatter Alt + (symbol) Switch to the query with (symbol) in its name (SQL Editor only) Ctrl+1 Insert a keyboard template Ctrl+D Toggle query results display mode (at the Edit tab or at a separate one) Ctrl+Alt+Left Switch to the next tab of <u>SQL Editor</u> *Ctrl+Alt+RightSwitch* to the previous tab of SQL Editor Ctrl+Alt+PgUpSwitch to the last tab of SQL Editor Ctrl+Alt+PgDoSwitch to the first tab of SQL Editor wn Ctrl+Q,S Move cursor to beginning of line Move cursor to end of line Ctrl+Q,D Ctrl+Q,R Move cursor to absolute beginning Move cursor to absolute end Ctrl+Q,C Normal selection mode Ctrl+O,N Line selection mode Ctrl+0,L Ctrl+0,C Column selection mode *Shift+Ctrl+Lef*Select the previous word *Shift+Ctrl+RigSelect* the next word ht *Shift+Home* Select text to the beginning of the line Select text to the end of the line Shift+End Shift+PageUp Select one page up *Shift+PageDo* Select one page down wn *Shift+Ctrl+Pa* Select text to the first line on the page aeUp *Shift+Ctrl+Pa* Select text to the last line on the page aeDown Shift+Ctrl+Ho Select text to the absolute beginning me Shift+Ctrl+En Select text to the absolute end d *Shift+Alt+LeftSelect* column symbol-by-symbol to the left Shift+Alt+RighSelect column symbol-by-symbol to the right t *Shift+Alt+Up* Select column upwards *Shift+Alt+Do* Select column downwards wn Shift+Ctrl+Alt Select column word-by-word to the left +Left Shift+Ctrl+Alt Select column word-by-word to the right

+Riaht Shift+Alt+Ho Select column to the beginning of line me Shift+Alt+End Select column to the end of line Shift+Alt+Pag Select column to the beginning of the page eUp Shift+Alt+Pag Select column to the end of the page eDown Shift+Ctrl+Alt Select column from the current cursor position to the beginning of the first +Home line Shift+Ctrl+Alt Select column from the current cursor position to the beginning of the last +End line Ctrl+Up Scroll up one line with cursor position unchanged Ctrl+Down Scroll down one line with cursor position unchanged Alt+Down, Toggle case of a current word Alt+Up *Ctrl+Alt+Up* Toggle case to upper of a current selection or char Ctrl+Alt+Dow Toggle case to lower of a current selection or char n Ctrl+G+T Toggle folding *Ctrl+G,Ctrl+F* Collapse block at current line Ctrl+G,Ctrl+E Expand block at current line Ctrl+G, Ctrl+C Collapse/Expand block at current line *Ctrl+G*,*Ctrl+M*Collapse all blocks in the text *Ctrl+G,Ctrl+P* Expand all blocks in the text Ctrl+= Collapse/expand the nearest block *Shift+Ctrl+B* Jump to matching bracket (change range side) *Shift+Ctrl+I* Indent selected block *Shift+Ctrl+U;* Unindent selected block Shift+Tab Ctrl+/ Comment/uncomment selected block Show code completion Ctrl+Space Ctrl+Alt+SpacShow character map е Show procedures Ctrl+Alt+P Show functions Ctrl+Alt+N Show views Ctrl+Alt+V Ctrl+Alt+S Show SQL keywords Ctrl+Alt+T Show tables Show user-defined functions Ctrl+Alt+U Ctrl+Alt+G Show triggers Show events Ctrl+Alt+E Ctrl+Alt+Ente Select table in DB Explorer Shift+Ctrl+Sp Show code parameters ace Ctrl+C; Copy selection to Clipboard Ctrl+Ins Cut selection to Clipboard Ctrl+X: Shift+Del Ctrl+V; Paste Clipboard to current position Shift+Ins Ctrl+Del Delete from cursor to the next word Delete from cursor to the end of the previous word Ctrl+BkSp Ctrl+B Delete from cursor to the beginning of the line

Delete from cursor to the end of the line Delete the current line
Break line at current position, move caret to a new line
Insert Tab char
Start macro recording
Play macro
Skip misprint
Skip all misprints
Correct all misprints
Toggle breakpoint
Enable breakpoint
Show original help

Print Data View:

Ctrl+0	Load a printing report from a file
Ctrl+S	Save the report to file
Ctrl+P	Open the <u>Print</u> dialog
Ctrl+Home	Go to the first page
Ctrl+Up	Go to the previous page
Ctrl+Down	Go to the next page
Ctrl+End	Go to the last page
Ctrl+D	Open <u>Report Formatter</u>
Ctrl+\	Zoom 100%
Ctrl+0	Zoom page width
Ctrl+1	Whole page
Ctrl+2	Two pages
Ctrl+4	Four pages
Ctrl+W	Widen to source width
Ctrl+M	Show/hide margins
Ctrl+K	Set background color for the report

Working with windows, menus and tabs:

Switch to the next <u>tab</u>
Open <u>Windows List</u>
Set defaults to all windows
Switch to the previous window
Switch to the next window
Close the active window
Expand a collapsed menu

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