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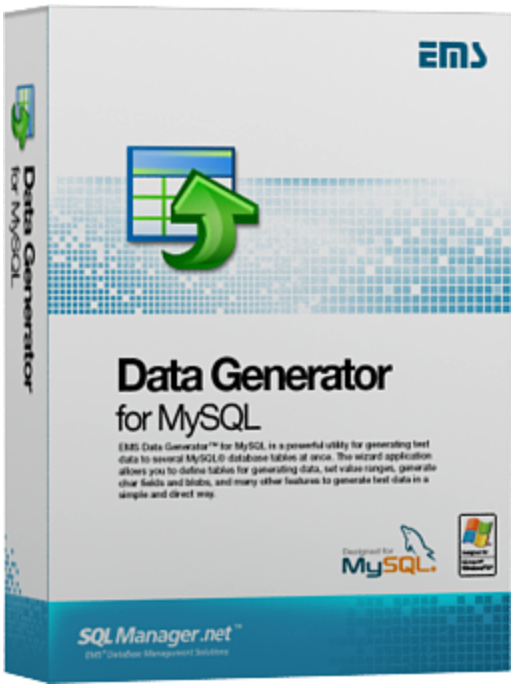

Data Generator for MySQL User's Manual

Data Generator for MySQL
User's Manual

This manual documents EMS Data Generator for MySQL, version 3.0.x.x

Document generated on: 06.12.2012

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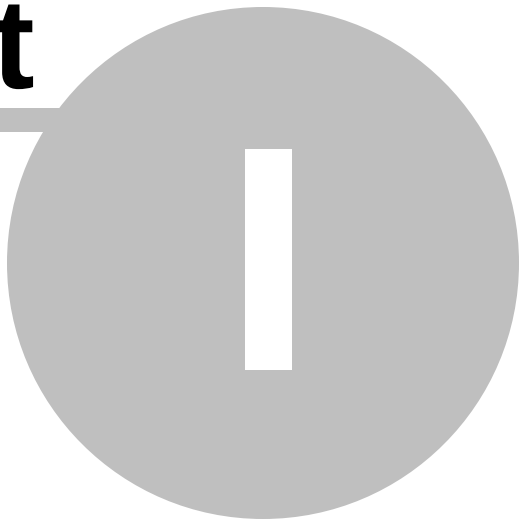


1 Welcome to EMS Data Generator!

EMS Data Generator for MySQL is a powerful utility for generating test data into one or several MySQL database tables simultaneously, with script saving and editing capabilities. The wizard application allows you to define tables and fields for generating data, set value ranges, generate string fields by mask, load values for BLOB fields directly from files, set lists of values manually, get sets of values from SQL queries and perform other operations with test date in a simple and direct way. The distribution of the utility also provides you with the console application which allows you to generate data in one-touch by using data generation templates.

Visit our web-site: http://www.sqlmanager.net for details.

Key features:

- Unicode support
- Localisable user-friendly wizard interface
- Ability to save and edit data generation script, without actual script execution
- Generating data into several tables of different databases at one host
- Support for all MySQL data types including ENUM, SET, GEOMETRY
- Various data generation modes for each field including list, random, incremental data generation and more
- Ability to use SQL query results as the list of values for data generation
- Ability to get data from another field for data generation
- Ability to preview the data grid for each table
- Automatic control over referential integrity for data generation into linked tables
- Wide variety of generation parameters for each field type
- Ability to set NULL values for a specified percent of cases
- Ability to empty tables before data generation
- Possibility of saving all the generation parameters specified within the current wizard session
- The command-line utility to generate data using the configuration file

Product information:

Homepage:	http://www.sqlmanager.net/en/products/mysql/datagenerator
Support Ticket System:	http://www.sqlmanager.net/support
Register online at:	http://www.sqlmanager.net/en/products/mysql/datagenerator/buy

1.1 What's new

Version	Release Date
Data Generator for MySQL 3.0	July 2, 2008

What's new in EMS Data Generator?

- Implemented Unicode support
- Added options for data generation to SQL script: appending to an existing file; viewing/editing script
- Added options for generating the same data into several columns
- Added options for generating string data according to sample text
- Implemented data preview
- Added options for generating data into dependent fields related as 1:n (n records will be generated into the dependent table field for each record of the primary table)
- Implemented data generation into fields of type GEOMETRY
- Data generation is now performed within a separate thread
- Other minor improvements and bug-fixes

See also:

Version history

1.2 System requirements

System requirements for Data Generator for MySQL

- 300-megahertz (MHz) processor; 600-megahertz (MHz) or faster processor recommended
- Microsoft® Windows NT4 with SP4 or later, Microsoft® Windows 2000, Microsoft® Windows 2000 Server, Microsoft® Windows XP, Microsoft® Windows 2003 Server, Microsoft® Windows 2008 Server, Microsoft® Windows Vista, Microsoft Windows 7, Microsoft Windows 8
- 64MB RAM or more; 128MB or more recommended
- 20MB of available HD space for program installation
- Super VGA (800x600) or higher-resolution video adapter and monitor; Super VGA (1024x768) or higher-resolution video adapter and monitor recommended
- Microsoft® Mouse or compatible pointing device
- Possibility to connect to any local or remote MySQL server
- Supported MySQL server versions: from 3.23 up to 6.0

1.3 Installation

If you are **installing Data Generator for MySQL for the first time** on your PC:

- download the Data Generator for MySQL distribution package from the download page available at our site;
- unzip the downloaded file to any local directory, e.g. *C:\unzipped*;
- run *MyDataGenSetup.exe* from the local directory and follow the instructions of the installation wizard;
- after the installation process is completed, find the Data Generator shortcut in the corresponding group of Windows Start menu.

If you want to **upgrade an installed copy of Data Generator for MySQL** to the latest version:

- download the Data Generator for MySQL distribution package from the download page available at our site;
- unzip the downloaded file to any local directory, e.g. *C:\unzipped*;
- close Data Generator application if it is running;
- run *MyDataGenSetup.exe* from the local directory and follow the instructions of the installation wizard.

See also:

System requirements

1.4 Registration

To make it easier for you to purchase our products, we have contracted with share-it! registration service. The share-it! order process is protected via a secure connection and makes online ordering by credit/debit card quick and safe. The following information about share-it! is provided for your convenience.

Share-it! is a global e-commerce provider for software and shareware sales via the Internet. Share-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, Check or Cash.

If you have ordered EMS software online and would like to review your order information, or if you have questions about ordering, payments, or shipping procedures, please visit our Customer Care Center, provided by Share-it!

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 or passwords and download links for archives of full versions. Also you will receive a copy of registration keys or passwords by e-mail. Please make sure to enter a valid e-mail address in your order. If you have not received the keys within 2 hours, please, contact us at sales@sqlmanager.net

To obtain **MORE INFORMATION** on this product, visit us at http://sqlmanager.net/en/products/mysql/datagenerator

Product distribution	
Data Generator for MySQL (Business license) + 1-Year Maintenance*	Register Now!
Data Generator for MySQL (Business license) + 2-Year Maintenance*	
Data Generator for MySQL (Business license) + 3-Year Maintenance*	
Data Generator for MySQL (Non-commercial license) + 1-Year Maintenance*	
Data Generator for MySQL (Non-commercial license) + 2-Year Maintenance*	
Data Generator for MySQL (Non-commercial license) + 3-Year Maintenance*	
Data Generator for MySQL (Trial version)	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 online, speed-through

Maintenance Reinstatement/Renewal Interface. After reinitiating/renewal you will receive a confirmation e-mail with all the necessary information.

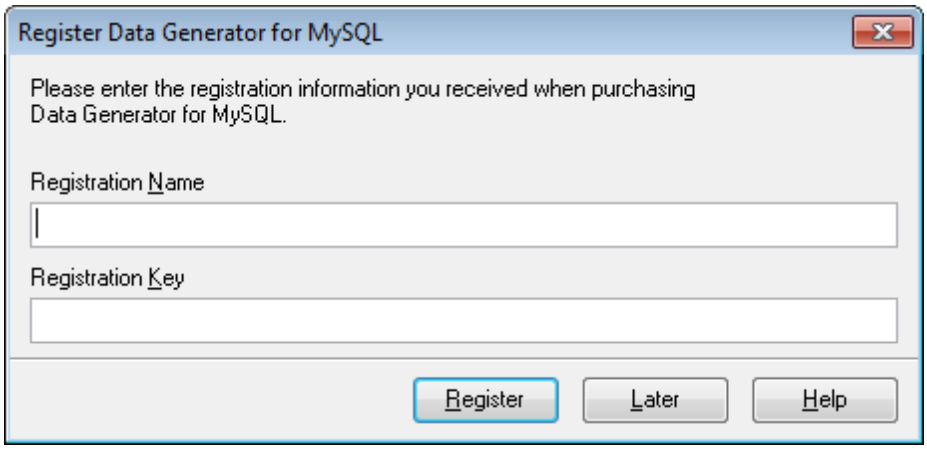
See also:

How to register EMS Data Generator

1.5 How to register Data Generator

To **register** your newly purchased copy of EMS **Data Generator for MySQL**, perform the following:

- receive the notification letter from **Share-it!** 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 at the startup page.



See also:

Registration

1.6 Version history

Product name	Version	Release date
Data Generator 2005 for MySQL	**Version 2.3.0.1**	February 7, 2007
Data Generator 2005 for MySQL	**Version 2.2.0.1**	June 26, 2006
Data Generator 2005 for MySQL	**Version 2.1.0.1**	August 8, 2005
Data Generator 2005 for MySQL	**Version 2.0.0.1**	April 12, 2005
MySQL Data Generator	**Version 1.0.0.1**	May 14, 2003

Full version history is available at http://www.sqlmanager.net/products/mysql/datagenerator/news.

Version 2.3

- Wizard interface has become more user-friendly
- Implemented Private Key support for SSH authentication
- Added the 'Clear tables before generation' option
- Implemented encrypted passwords storage
- Increased data generation speed
- Improved data generation for tables with Foreign keys
- Minor bug-fixes and improvements

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Version 2.2

- The 'Commit every...' option added
- Added the ability to load lists of values from TXT and CSV files
- The console version now creates log files
- System tables are not displayed any more
- Fixed a bug concerned with applying default constraints
- Increased generation speed for string fields
- Added the opportunity to connect through HTTP tunnel
- Added the opportunity to connect through SSH tunnel

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Version 2.1

- Improved processing of table relationships
- Now you can generate incremental data for date fields
- Formula-based random data generation for integer fields
- Minor interface improvements
- Fixed the bug when ordering tables related by foreign keys
- Fixed the bug concerned with refreshing metadata
- Fixed the bug concerned with generation of NULL values

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Version 2.0

- Completely rewritten source code
- More user-friendly wizard interface
- Retrieving values for data from SQL queries

- Foreign keys support
- The opportunity to empty tables before data generation
- The ability to set NULL values for certain percent of cases
- String fields data generation by mask
- Incremental data generation for float fields
- Getting values for BLOB fields from files
- A number of bugs fixed

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Version 1.0

Basic features:

- Generating data to several tables simultaneously
- Most MySQL data types supported
- Generating as many records as you want
- Defining fields for generating data
- Easy-to-use wizard interface
- Adjustable parameters for each field type including minimum and maximum value for integer types, minimum and maximum length, start and end char for string fields, etc.
- The possibility of saving all the generation parameters used within the current wizard session
- The command-line utility to generate data using the template file

and more...

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See also:

What's new

1.7 EMS Data Generator FAQ

Please read this page attentively if you have questions about EMS Data Generator for MySQL.

Table of contents

Question/answer list

Q: What is Data Generator for MySQL?
A: Data Generator for MySQL is a powerful utility for generating test data to several MySQL database tables at once. The wizard application allows you to define tables for generating data, set value ranges, generate char fields and BLOBs, and many other features to generate test data in a simple and direct way. The utility also provides you with the console application which allows you to generate data in one touch by using generation templates.

Q: What do I need to start working with EMS Data Generator for MySQL?
A: First of all you must have a possibility to connect to some local or remote MySQL server to work with Data Generator for MySQL. You can use the following link to download the server: http://www.mysql.org/downloads/. Besides, you need your computer to satisfy the system requirements for Data Generator for MySQL.

Q: What is the easiest way to configure the template files for the console application of Data Generator?
A: You can configure the template files for each table or export type visually using the MySQL Data Generator wizard. Set the required generation options at Step 4 of the wizard, click the 'Tools' button and select the 'Save Template' popup menu item. All the options will be saved to the template file which can be used later in the console application.

Q: How can I register the product?
A: If you have already purchased Data Generator for MySQL, you can register the product by entering the appropriate registration information. Please refer to Registration and How to register EMS Data Generator for details.

Q: Are there any limitations implied in the trial version as compared with the full one?
A: The trial version of the utility admits to the maximum of 100 records to be generated at a time. In all other respects it does not differ from the full version as far as the functionality is concerned. That is, you can test all the features implemented in Data Generator for MySQL within the 30-day trial period.

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If you have any additional questions, contact us at our Support Center.

1.8 Other EMS Products

Quick navigation


MySQL


Microsoft SQL


PostgreSQL


InterBase / FireBird


Oracle


IBM DB2


Tools & components

MySQL


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!


SQL Manager for MySQL
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.

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Microsoft SQL

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!

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.

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

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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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!

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.

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.


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.


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.

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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DB2

SQL Management Studio for DB2
EMS SQL Management Studio for DB2 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 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

Data Generator for DB2
Generate test data for database testing purposes in a simple and direct way. Wide range of data generation parameters.

DB Comparer for DB2
Compare and synchronize the structure of your databases. Move changes on your development database to production with ease.

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.

Data Comparer for DB2
Compare and synchronize the contents of your databases. Automate your data migrations from development to production database.

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Tools & components

Advanced Data Export
Advanced Data Export Component Suite (for Borland Delphi and .NET) will allow you to save your data in the most popular office programs formats.

Advanced Data Export .NET
Advanced Data Export .NET is a component suite for Microsoft Visual Studio .NET 2003, 2005, 2008 and 2010 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
Advanced Data Import™ Component Suite for Delphi® and C++ Builder® will allow you to import your data to the database from files in the most popular data formats.

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

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

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

Advanced Localizer
Advanced Localizer™ is an indispensable component suite for Delphi® for adding multilingual support to your applications.

Source Rescuer
EMS Source Rescuer™ is an easy-to-use wizard application for Borland Delphi® and C++Builder® which can help you to restore your lost source code.

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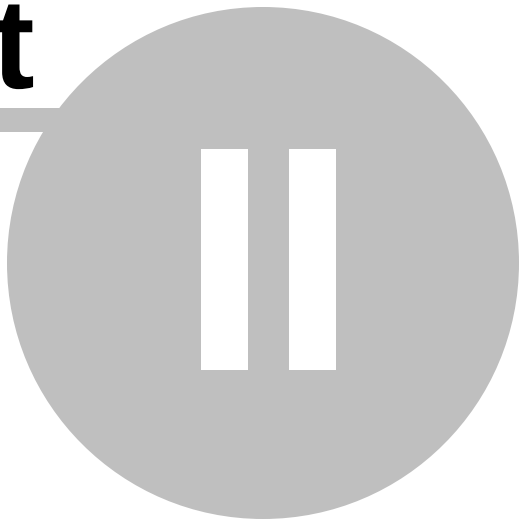
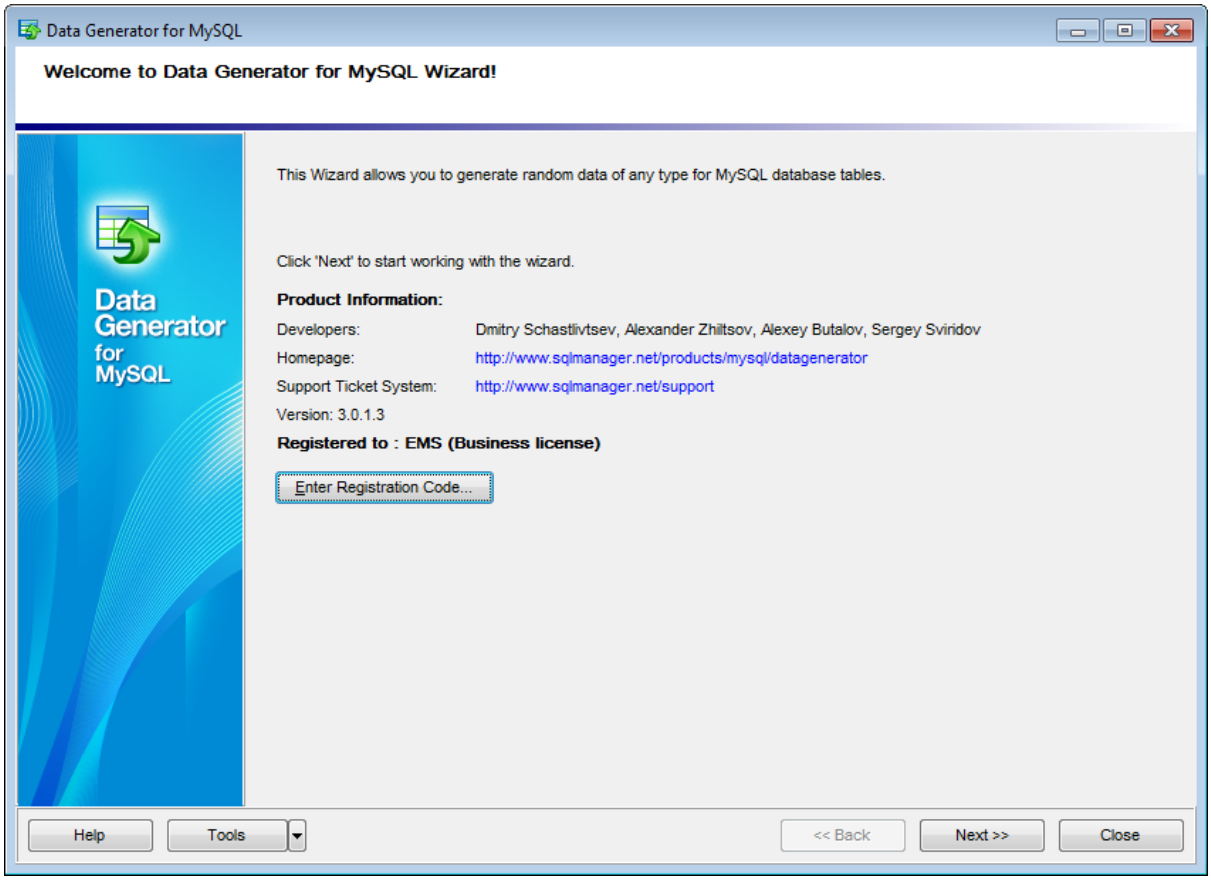
Part



2 Wizard Application

Data Generator for MySQL wizard application provides easy-to-use wizard interface to set all data generation parameters visually.

- Using wizard application
- Using configuration files
- Setting program preferences



See also:

Console Application

2.1 Using wizard application

Go through the steps of the wizard and follow the wizard instructions to generate test data for your needs.

- Getting started
- Step 1 - Setting connection properties
- Step 2 - Selecting databases and tables
- Step 3 - Specifying generation parameters
- Step 4 - Setting generation options
- Step 5 - Start of data generation process
- Step 6 - Editing generation script

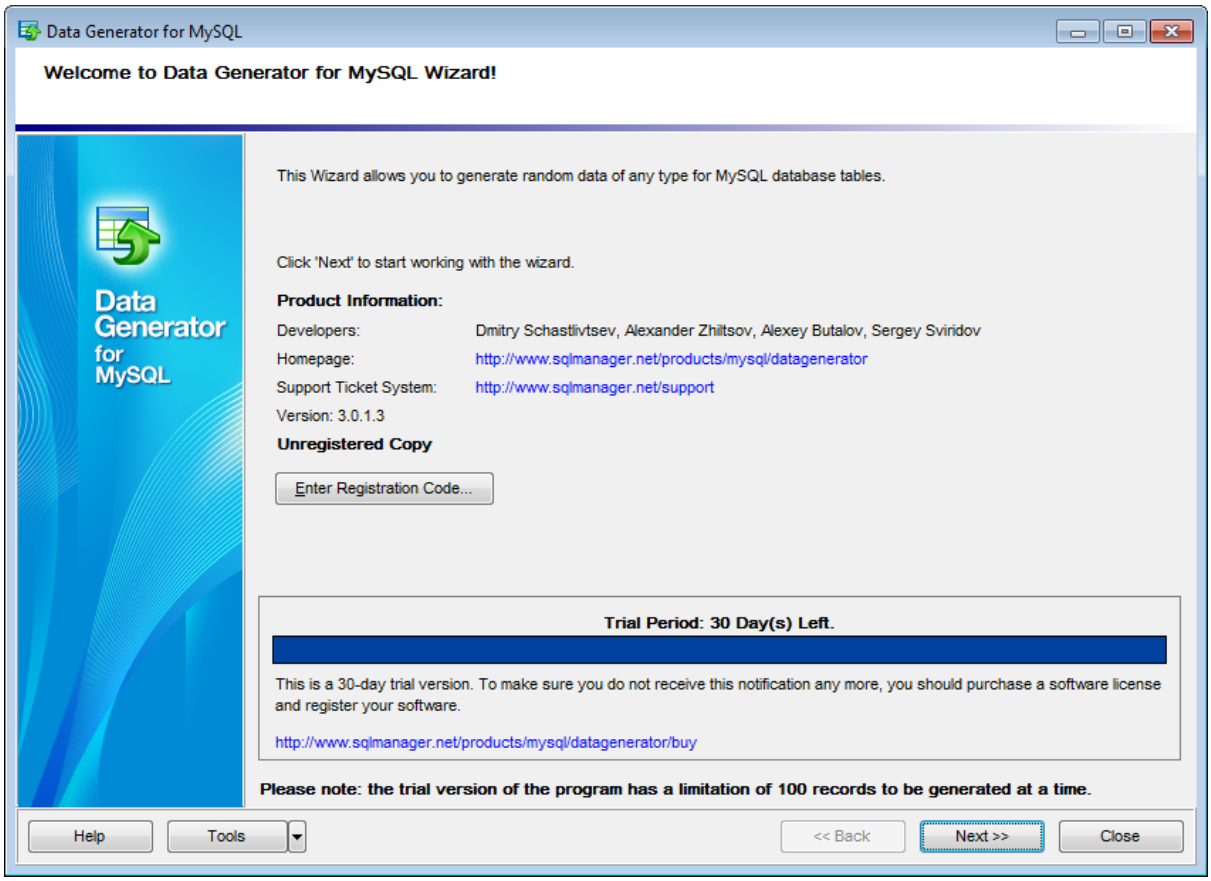
See also:

Using console application

2.1.1 Getting started

This is how Data Generator for MySQL wizard application looks when you first start it.

This page allows you to view registration information. If you have not registered Data Generator for MySQL yet, you can do it by pressing the **Enter Registration Code...** button and specifying your registration information.



When you are done, press the **Next** button to proceed to Step 1.

See also:

Registration

2.1.2 Step 1 - Setting connection properties

At this step you should enter the necessary settings to establish connection to MySQL server.

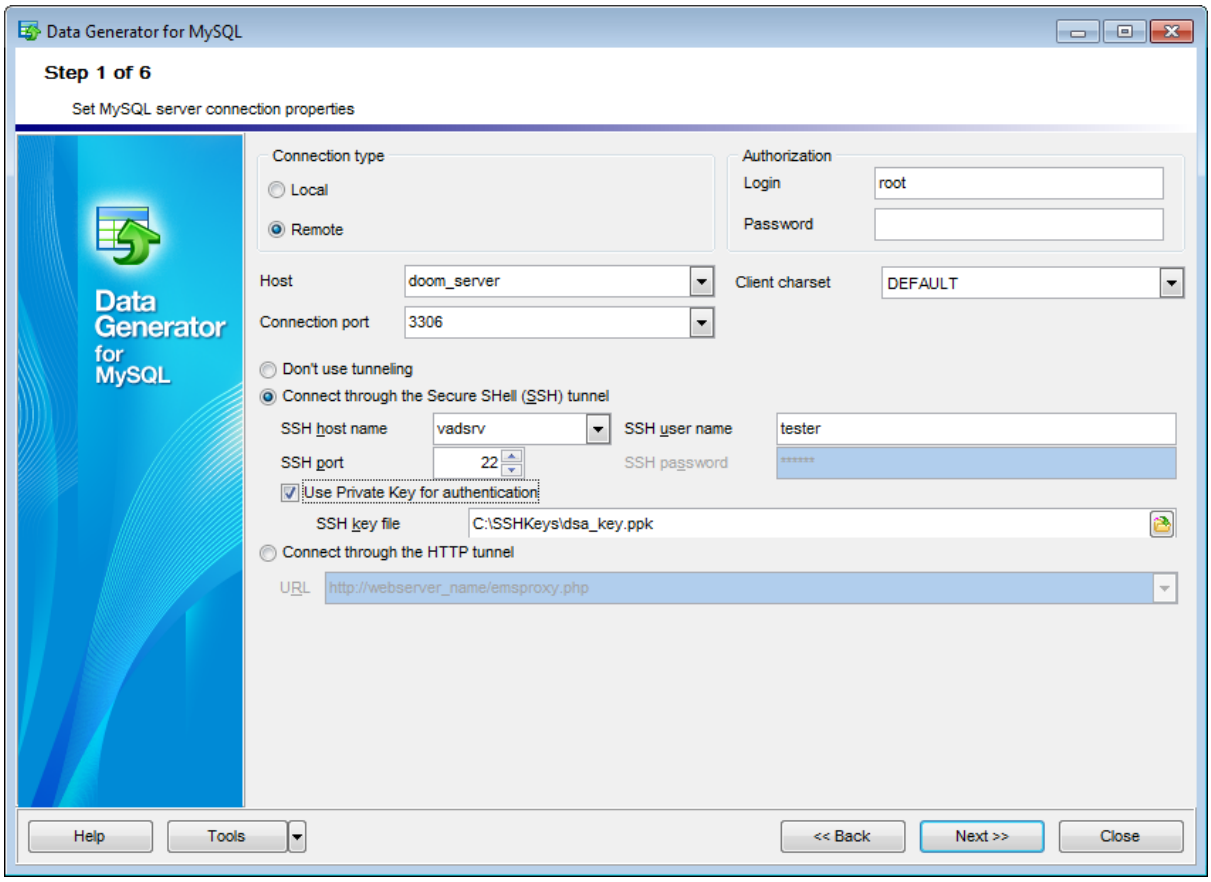
Connection settings

First select the **connection type**: *local* or *remote*.
Local connection is used to connect to MySQL server launched on the same machine where Data Generator for MySQL is running.
The **Remote** mode allows you to connect to MySQL server launched on another computer in the network.

By default the program uses local connection. It is indicated by radio-button **Local** selected. If you wish to establish remote connection, you should select the **Remote** radio-button. For remote connection you should also enter MySQL host name in the **Host** field. For both types you should enter MySQL port to connect through in the **Connection port** field.

Afterwards you should specify *authorization* settings: **Login** and **Password**.
The default superuser name is 'root' and the default password is empty.

If necessary, use the drop-down list to specify the preferable **Client charset** to be used by the application.



Please note that you should have sufficient privileges to write to the destination database on MySQL server.

Tunneling settings

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

For details see SSH tunneling options.

To use **HTTP tunneling**, just upload the tunneling script to the webserver where MySQL server is located, or to any other webserver from which direct connections to your MySQL server are allowed. This script exposes the MySQL API as a set of web-services which is used by Data Generator for MySQL.

Note that the *emsproxy.php* script file is included into the distribution package and can be found in Data Generator installation directory.

For details see HTTP tunneling options.

When you are done, press the **Next** button to proceed to the next step.

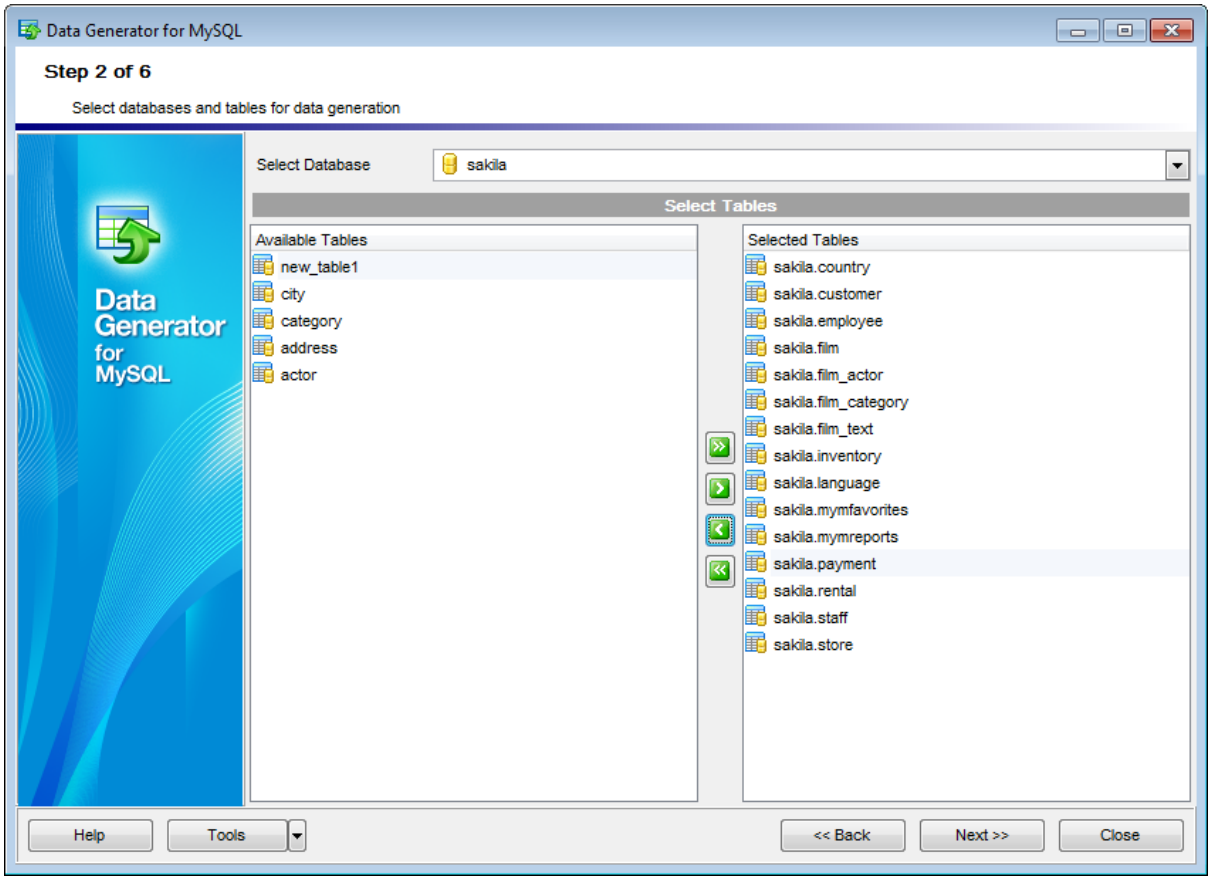
2.1.3 Step 2 - Selecting databases and tables

At this step you should select tables for test data generation.

First you should select a database from the **Select Database** drop-down list at the top of the window. If the ☑ **Show databases** option is disabled at the General Options tab of the Preferences dialog, there will be no drop-down list. Type the database name manually in this case.

In the **Available Tables** list you can see all the tables belonging to the selected database. To select a table, you need to move it from the **Available Tables** list to the **Selected Tables** list. In this list tables are displayed with their full names: <database_name>.<table_name>. To cancel table selection, just remove it from the **Selected Tables** list. Use the  buttons or drag-and-drop operations to move the tables from one list to another.

Hint: To select multiple tables, hold down the *Shift* or *Ctrl* key while selecting the table names.



Please note that the order of data generation for tables depends on their position in the **Selected Tables** list. This might be critical in case of generating data for linked tables. You can change their order by dragging tables across the list.

When you press the **Next** button at this step, Data Generator for MySQL analyzes the order of data generation to avoid referential integrity conflicts and advises you to set a new order for data generation.

When you are done, press the **Next** button to proceed to the next step.

2.1.4 Step 3 - Specifying generation parameters

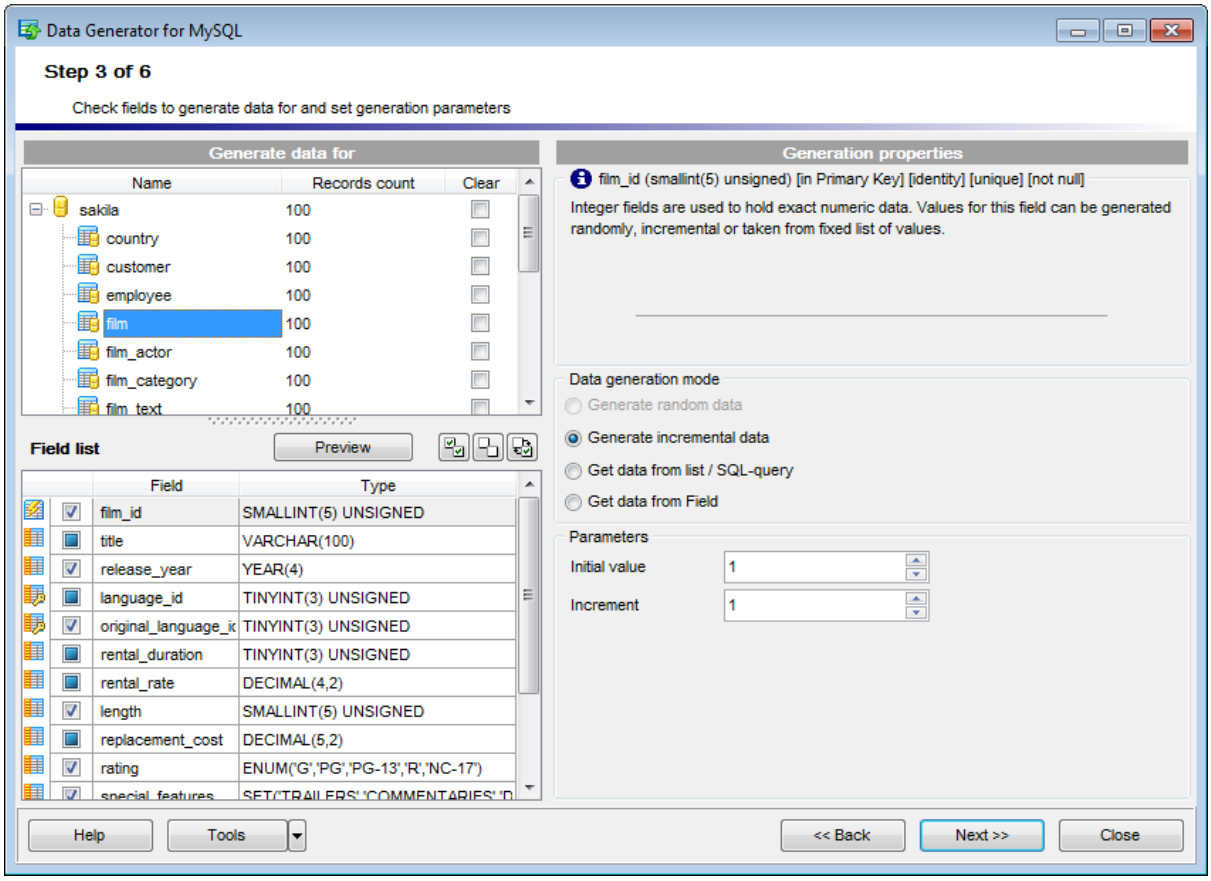
At this step you can select fields for generating data and set various data generation parameters.

Selected tables are displayed in the **Generate data for** tree at the top-left side of the window. Table fields and their types are listed in the grid of the **Field list** area below.

Records count
Set the number of data records to be generated for each table.

Clear
Set this flag for a table to empty the table before data generation.

Preview
Click the **Preview** button to browse the selected table data in the preview mode.



When you select a table in the **Generate data for** tree, you can set data generation parameters for each of its fields within the **Generation properties** area at the right side of the window. Use the  and the  buttons to manage fields within the **Field list** area. For each field you can set the following:

☑ **Set NULL value in ... % of cases**
Check this option and specify the percentage of NULL values for the field, if necessary.

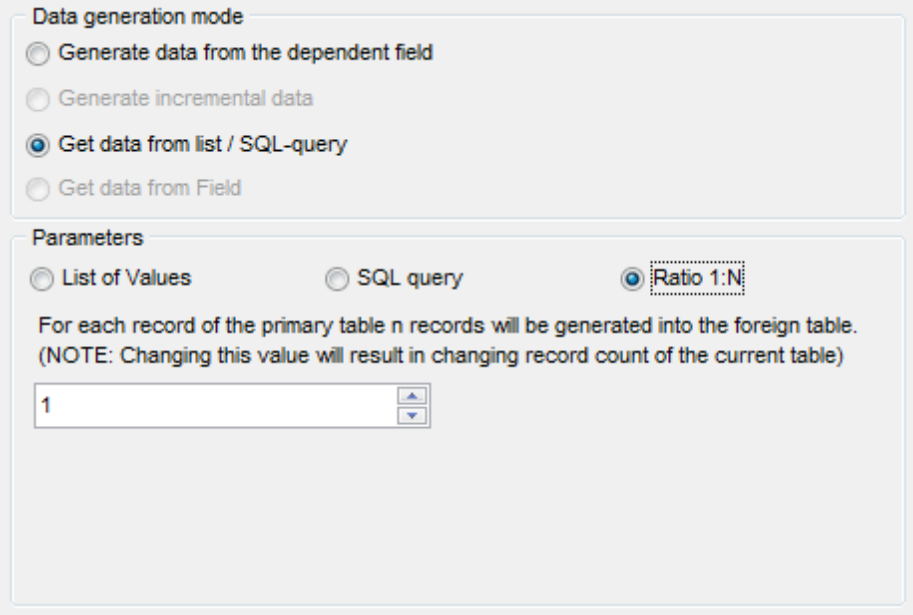
Other generation parameters vary according to the data type of the selected field:

- FLOAT field parameters
- INTEGER field parameters
- DATE field parameters
- TIME field parameters
- STRING field parameters
- BLOB field parameters
- GEOMETRIC field parameters
- ENUM and SET field parameters
- BIT field parameters

If a field is part of a foreign key, you can select one of the following options for this field:

◉ *Generate data from the dependent field*
Values for the field will be taken from the corresponding field(s) of the foreign table(s).

◉ *Generate data from list / SQL-query*
◉ *Ratio 1:N*
If this option is selected you should specify the *N* value using the spin-edit box below. Data will be generated into the field related as 1:N, i.e. *n* records will be generated into the foreign table for each record of the primary table.



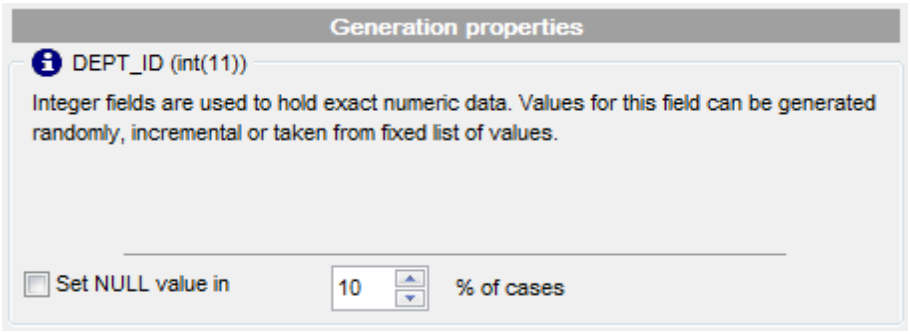
When you are done, press the **Next** button to proceed to the next step of the Wizard.

2.1.4.1 Setting type-specific properties

2.1.4.1.1 INTEGER field parameters

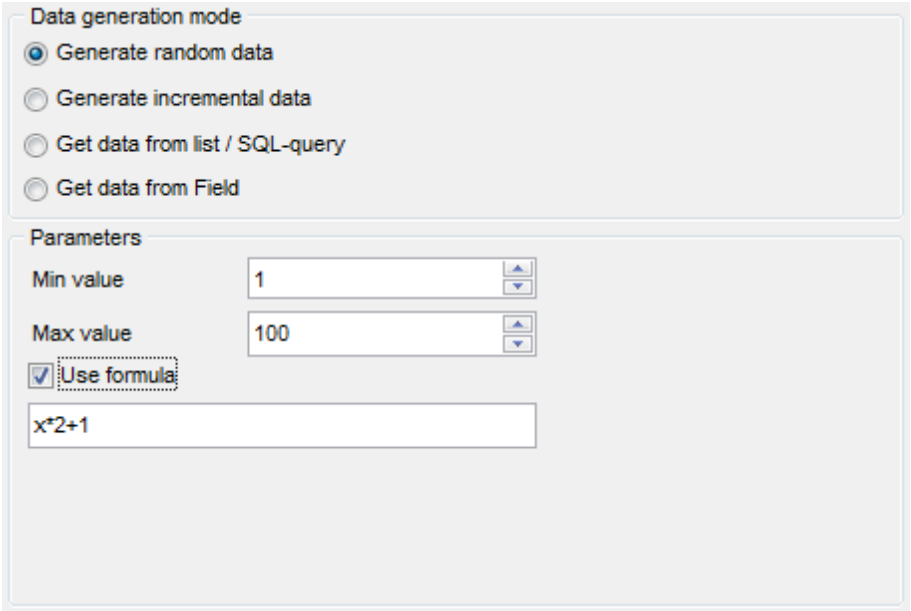
Integer fields are used for exact numeric data storage. Values for this field can be generated *randomly*, *incrementally*, or they can be taken from a fixed *list* of values or *SQL query*, or from an existing table *field* of the same data type.

The **Generation properties** panel allows you to define preferences for generating values for integer field types.



Select Data generation mode as follows:

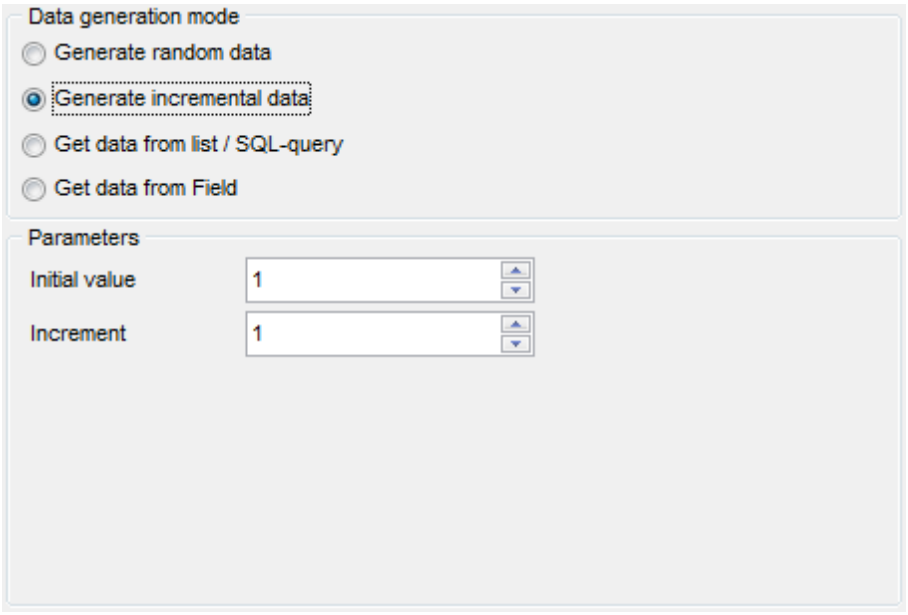
Generate random data
The value is generated randomly within the defined interval (the minimum and the maximum values).



Use formula
This option allows you to correct your data according to a formula; x is a randomly generated value here. Addition, substraction, multiplication, dividing and exponentiation

operations (+,-,*,/,^) can be used.

Generate incremental data
Specify the **Initial value** and the **Increment** properties to generate an ordered incremented sequence of values.



Get Data from List / SQL query
This panel allows you to define the list of values to generate integer data from. You can enter these values directly into the editor by selecting the **List of Values** option.

To add a single value, use the **Add Value** button.

To load a list of values from an existing external file, use the **Load from file** button.

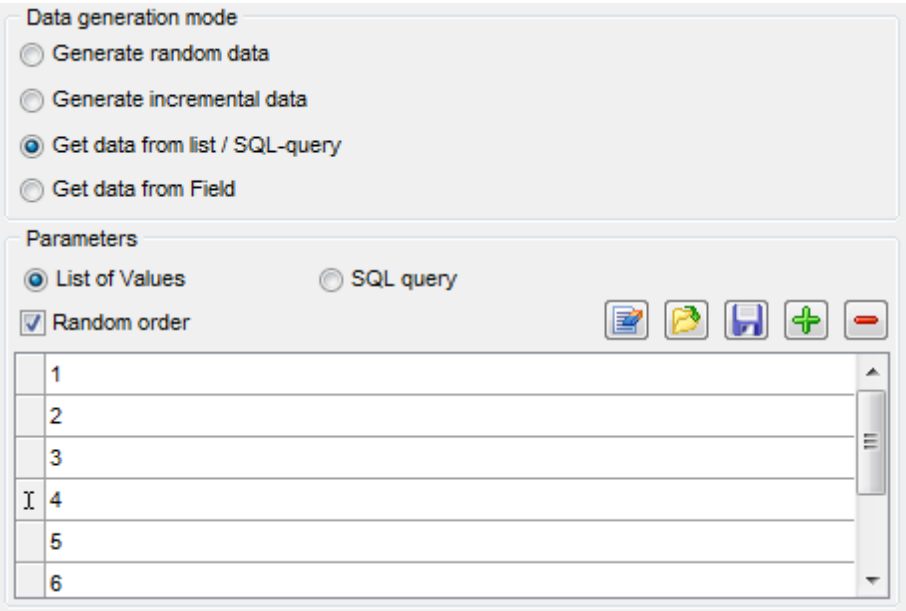
To save the list to an external file, use the **Save to file** button.

To remove a single value, use the **Delete Value** button.

To remove all items from the list, use the **Clear** button.

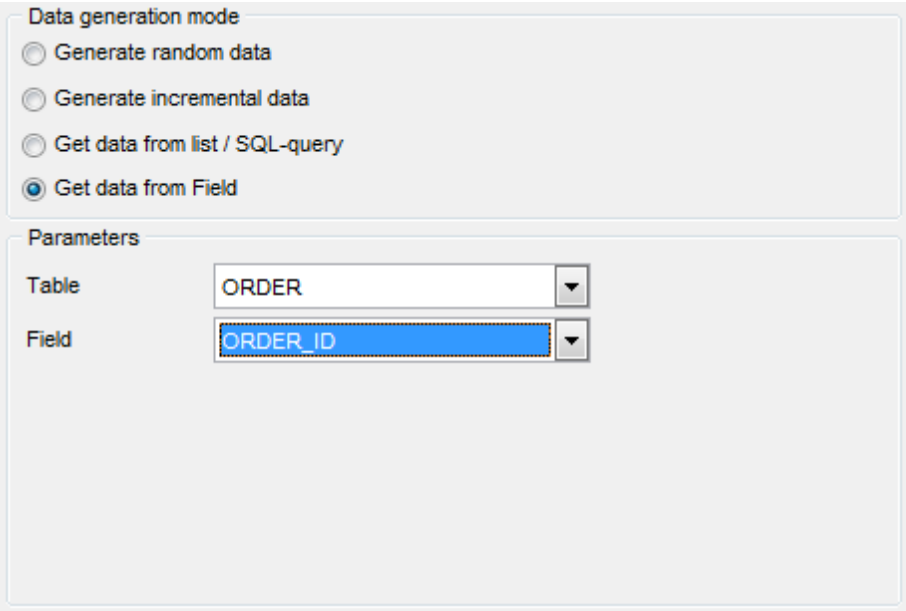
You can also specify whether the values are to be taken in **random order** or in the order they have been inputted.

Alternatively, you can set the **SQL Query** option and input an SQL query into the editor, and the resulting dataset will be used as the list for data generation.



Get data from Field

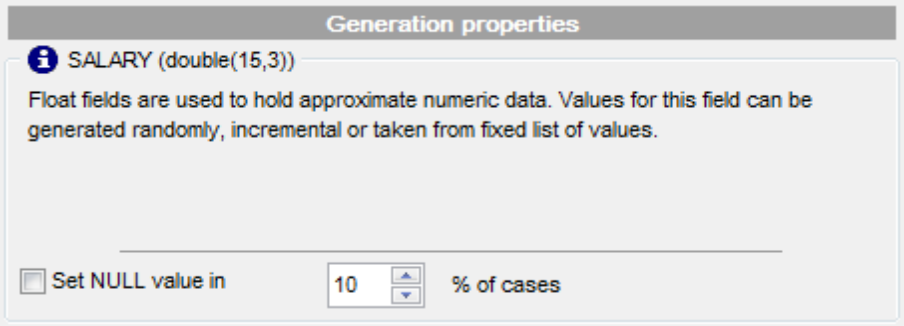
This option allows you to specify a field to generate data from: use the **Table** and **Field** drop-down lists to select the source table and field that will be used to take data for generation.



2.1.4.1.2 FLOAT field parameters

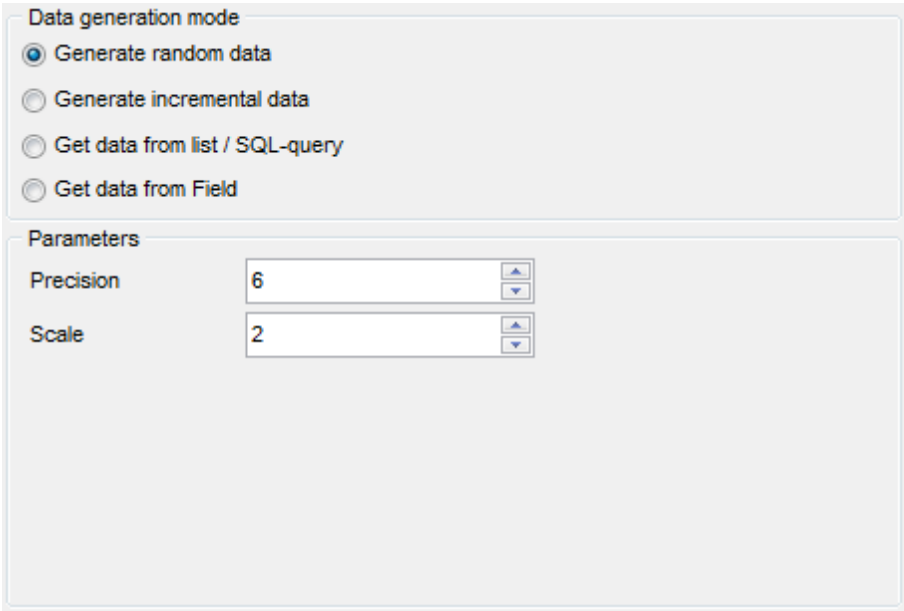
Float fields are used for approximate numeric data storage. Values for this field can be generated *randomly*, *incrementally*, or they can be taken from a fixed *list* of values or *SQL query*, or from an existing table *field* of the same data type.

The **Generation properties** panel allows you to define preferences for generating values for floating point numeric field types.

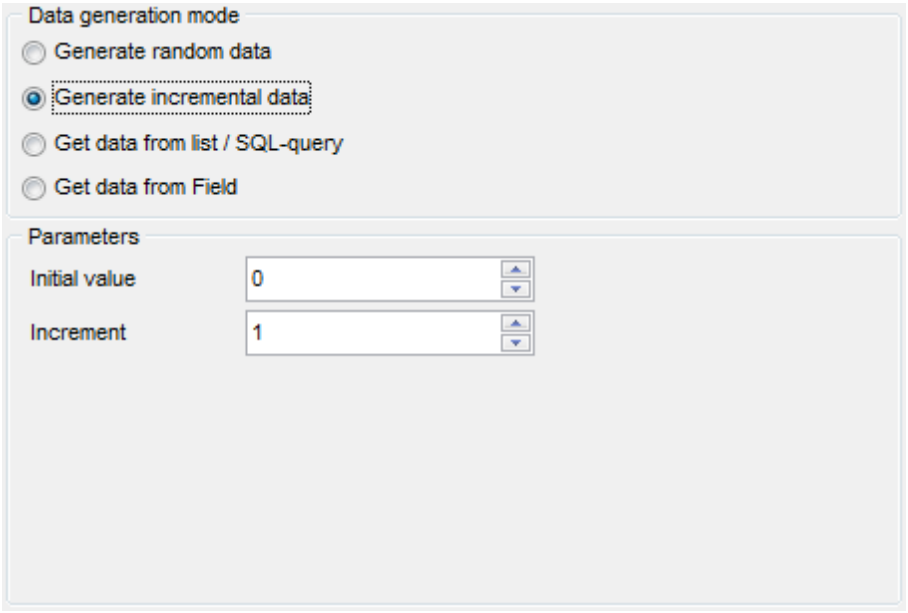


Select Data generation mode as follows:

Generate random data
Here you can define the number of digits and the precision for the result randomly generated values.



Generate incremental data
Specify the **Initial value** and the **Increment** properties to generate an ordered incremented sequence of values.



Get data from List / SQL query
This panel allows you to define the list of values to generate floating point numeric data from. You can enter these values directly into the editor by selecting the **List of Values** option.

To add a single value, use the **Add Value** button.

To load a list of values from an existing external file, use the **Load from file** button.

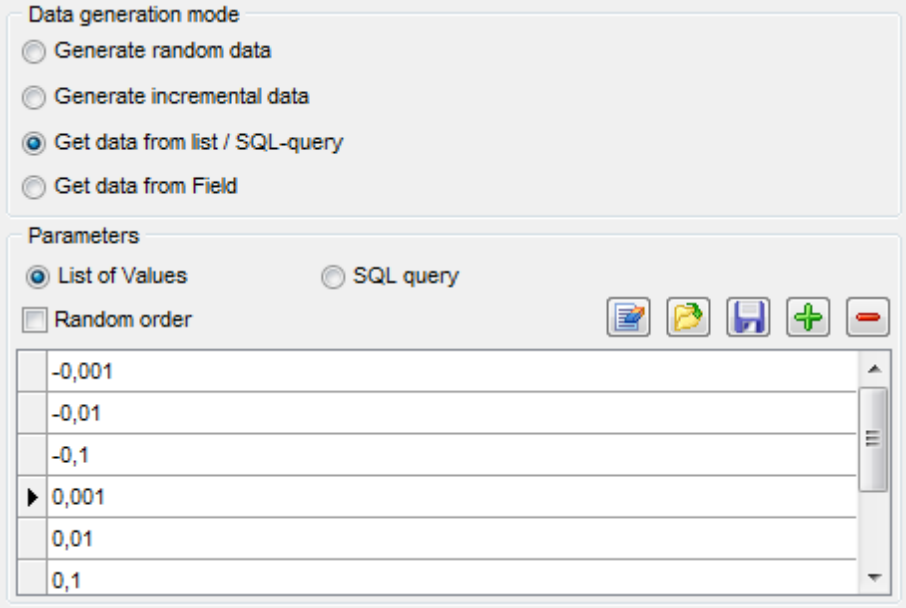
To save the list to an external file, use the **Save to file** button.

To remove a single value, use the **Delete Value** button.

To remove all items from the list, use the **Clear** button.

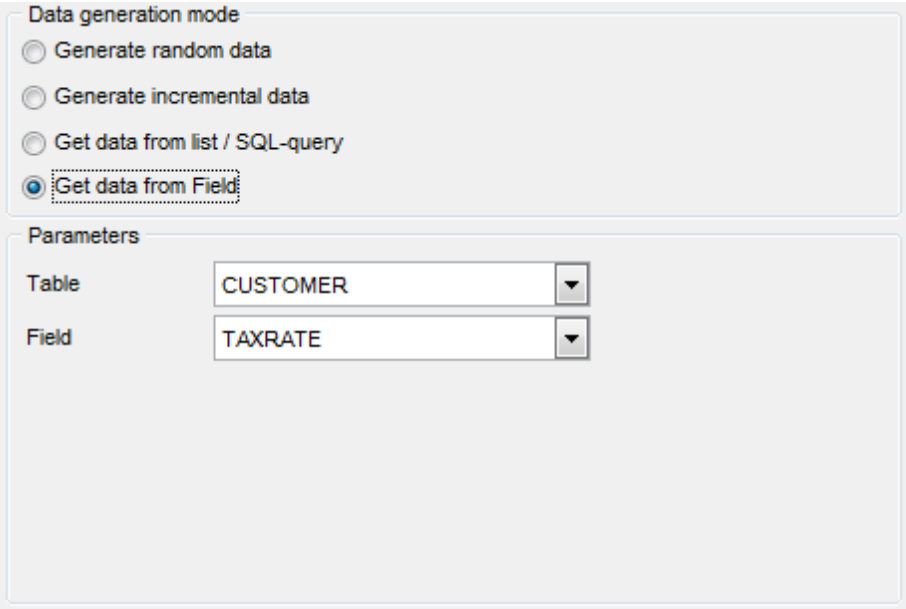
You can also specify whether the values are to be taken in **random order** or in the order they have been inputted.

Alternatively, you can set the **SQL Query** option and input an SQL query into the editor, and the resulting dataset will be used as the list for data generation.



Get data from field

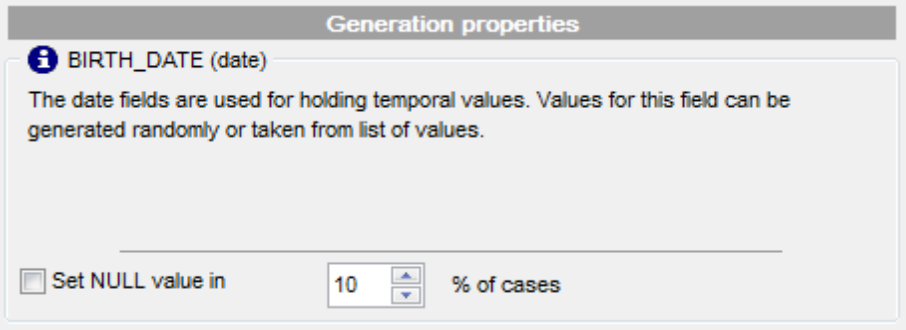
This option allows you to specify a field to generate data from: use the **Table** and **Field** drop-down lists to select the source table and field that will be used to take data for generation.



2.1.4.1.3 DATE field parameters

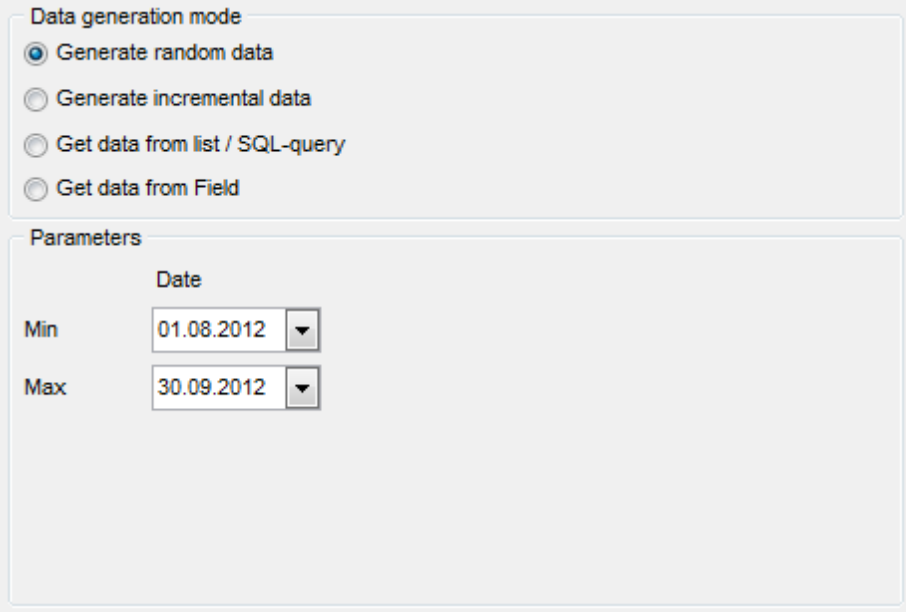
Date fields are used for temporal values storage. Values for this field can be generated *randomly*, *incrementally*, or they can be taken from a fixed *list* of values or *SQL query*, or from an existing table *field* of the same data type.

The **Generation properties** panel allows you to define preferences for generating date values for date field types.

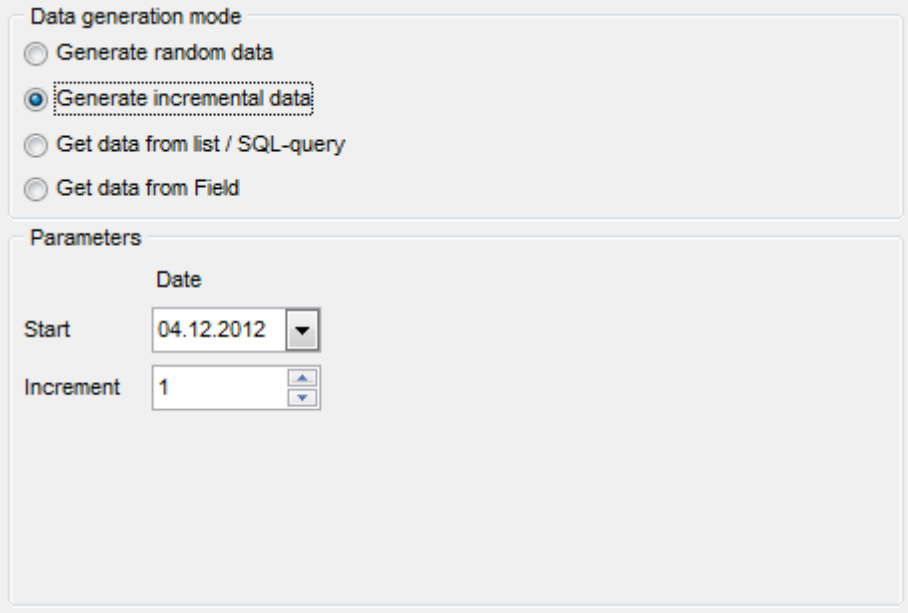


Select Data generation mode as follows:

Generate random data
Set the date range by defining the minimum and the maximum values. Check the **Include Time** option to generate non-zero random time in addition to the date.



Generate incremental data
Specify the **Initial Value** and the **Increment** properties to generate an ordered incremented sequence of dates. The incremented value is day.



Get data from list / SQL query

This panel allows you to define the list of values to generate temporal data from. You can enter these values directly into the editor by selecting the **List of Values** option.

To add a single value, use the **Add Value** button.

To load a list of values from an existing external file, use the **Load from file** button.

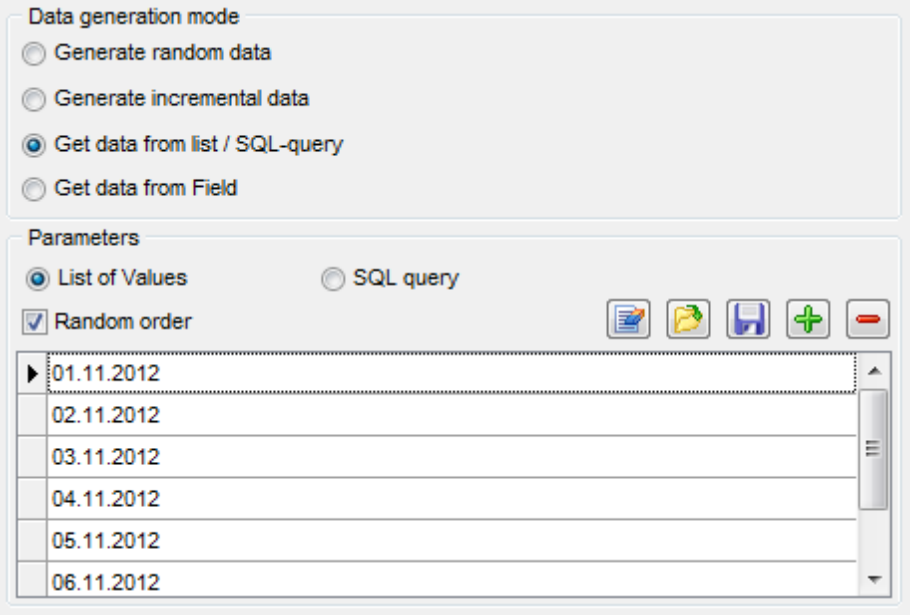
To save the list to an external file, use the **Save to file** button.

To remove a single value, use the **Delete Value** button.

To remove all items from the list, use the **Clear** button.

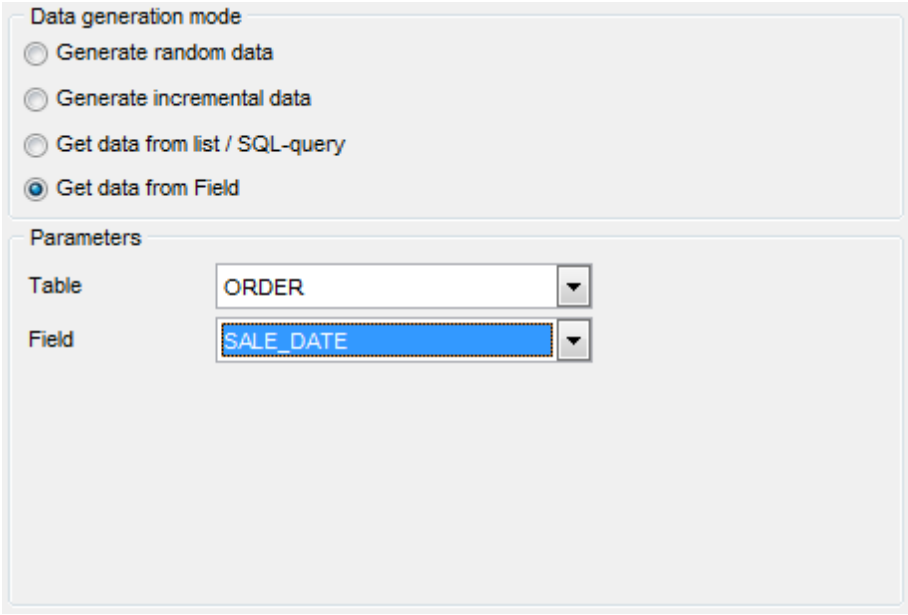
You can also specify whether the values are to be taken in **random order** or in the order they have been inputted.

Alternatively, you can set the **SQL Query** option and input an SQL query into the editor, and the resulting dataset will be used as the list for data generation.



Get data from Field

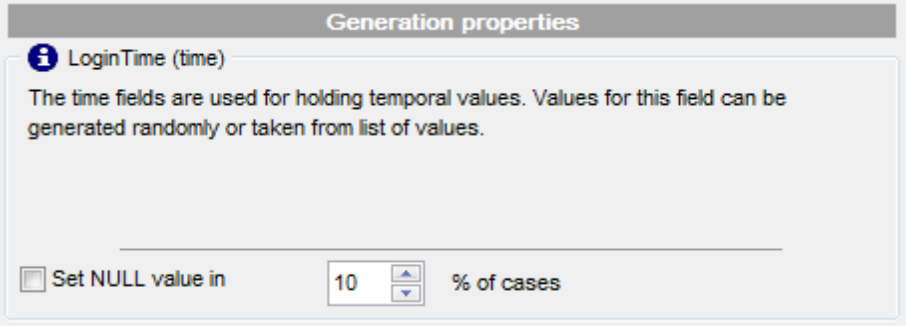
This option allows you to specify a field to generate data from: use the **Table** and **Field** drop-down lists to select the source table and field that will be used to take data for generation.



2.1.4.1.4 TIME field parameters

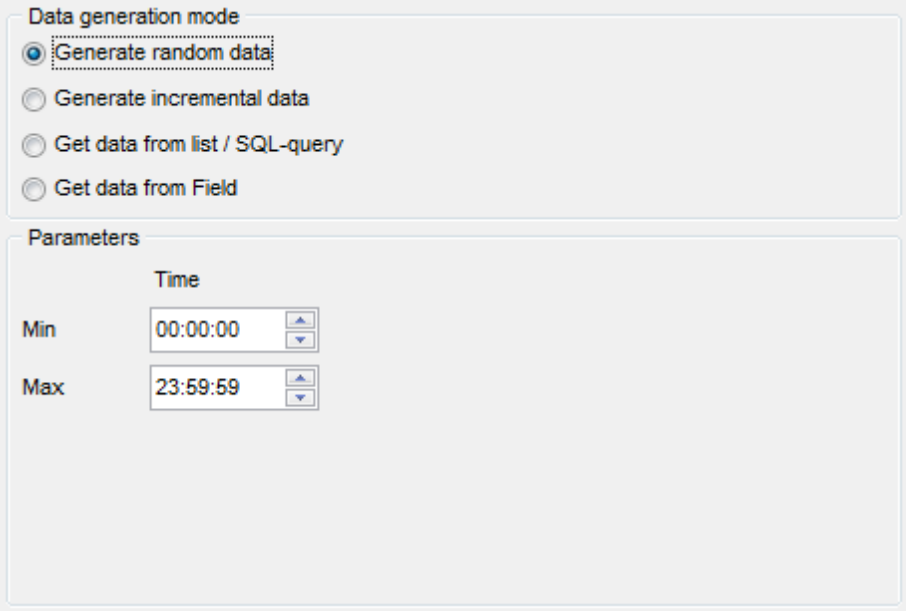
Time fields are used for temporal values storage. Values for this field can be generated *randomly*, *incrementally*, or they can be taken from a fixed *list* of values or *SQL query*, or from an existing table *field* of the same data type.

The **Generation properties** panel allows you to define preferences for generating time values for time field types.

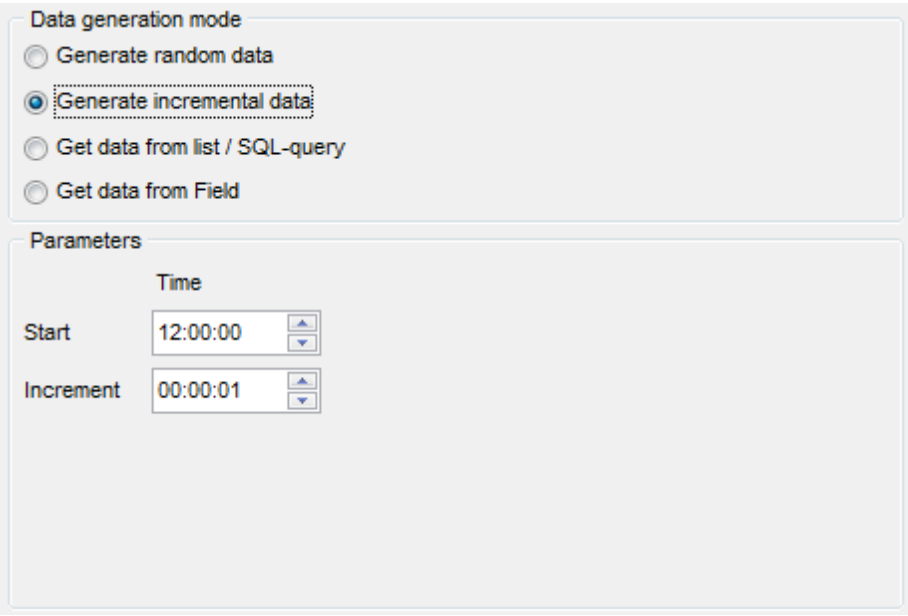


Select Data generation mode as follows:

Generate random data
Set the time range by defining the minimum and the maximum values.



Generate incremental data
Specify the **Start** value and the **Increment** properties to generate an ordered incremented sequence of values.



Get data from List / SQL query
This panel allows you to define the list of values to generate temporal data from. You can enter these values directly into the editor by selecting the **List of Values** option.

To add a single value, use the **Add Value** button.

To load a list of values from an existing external file, use the **Load from file** button.

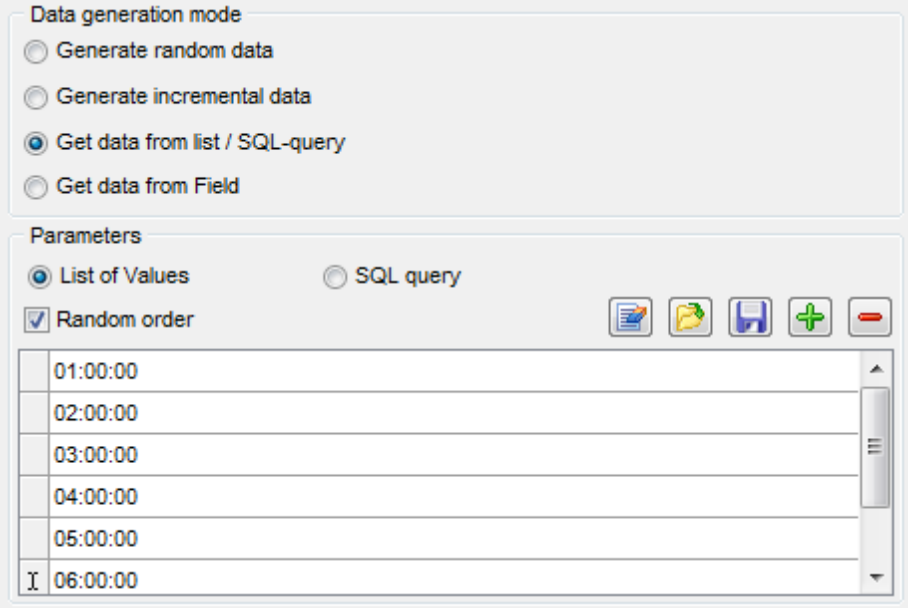
To save the list to an external file, use the **Save to file** button.

To remove a single value, use the **Delete Value** button.

To remove all items from the list, use the **Clear** button.

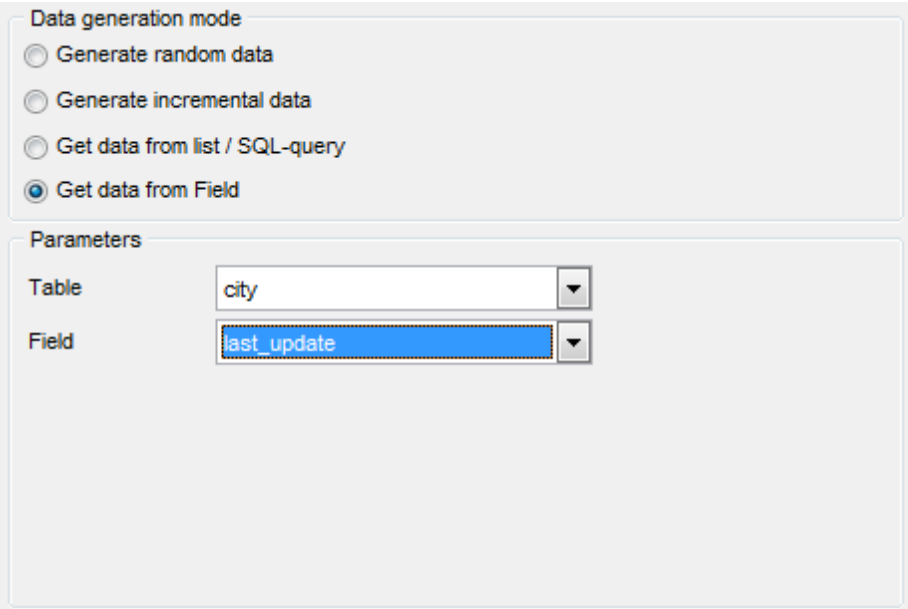
You can also specify whether the values are to be taken in **random order** or in the order they have been inputted.

Alternatively, you can set the **SQL Query** option and input an SQL query into the editor, and the resulting dataset will be used as the list for data generation.



Get data from Field

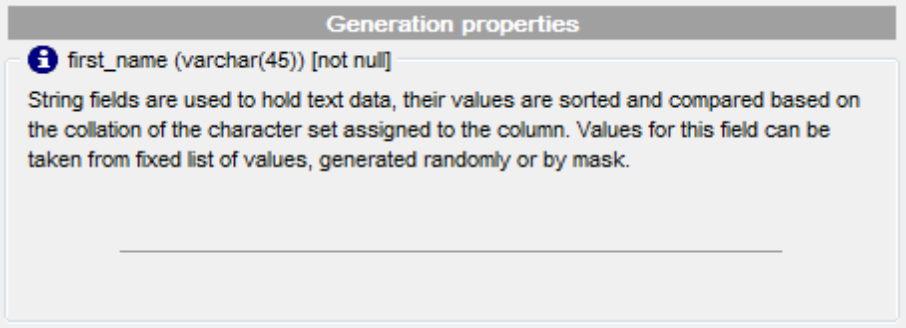
This option allows you to specify a field to generate data from: use the **Table** and **Field** drop-down lists to select the source table and field that will be used to take data for generation.



2.1.4.1.5 STRING field parameters

String fields are used for text data storage. The values are sorted and compared on the basis of the collation of the character set assigned to the column. Values for this field can be generated *randomly* (with *constraints* or *mask* used), *incrementally*, or they can be taken from a fixed *list* of values or *SQL query*, or from an existing table *field* of the same data type.

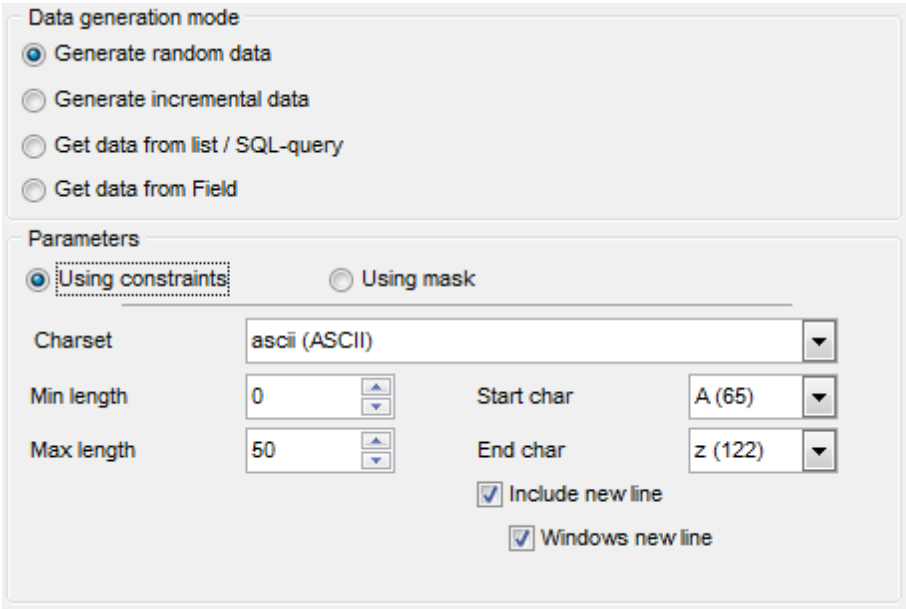
The **Generation properties** panel allows you to define preferences for generating string values for string-based field types.



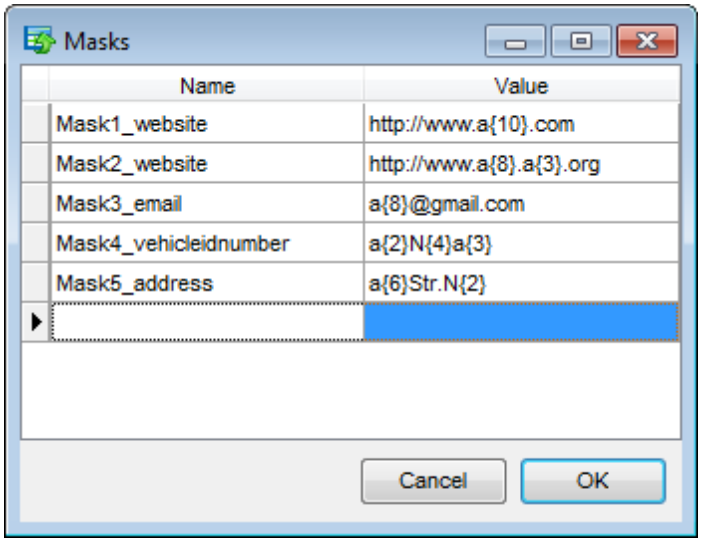
Select Data generation mode as follows:

Generate random data
String random data can be generated in two ways - by using constraints or by typing the mask.

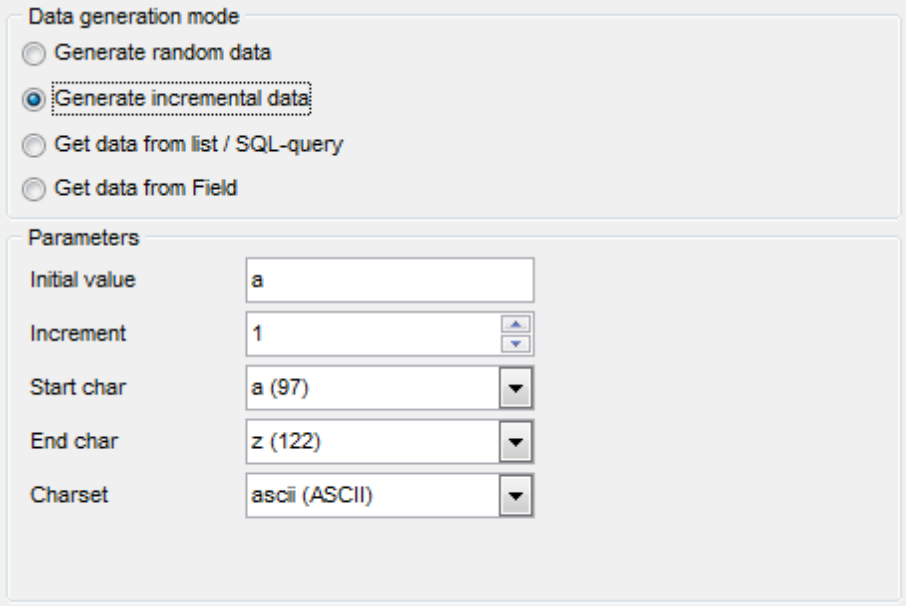
- **Using constraints**
  Set the **Min length**, **Max length** values to define the minimum and the maximum length for generated values. You can also specify the **Start char** and the **End char** segments to be used for string values generation.



- **Using mask**
  Check the option to generate values by mask. Use the **Masks** window to create and edit various masks for string data generation:
  - the '*A*' and the '*a*' characters are replaced with a random letter (from '*A*' to '*Z*' and from '*a*' to '*z*');
  - the '*N*' character is replaced with a random digit;
  - '*{n}*' results in iteration of the last sign n times;
  - the character after the '\' symbol is interpreted as a common character.
  All the rest of the mask characters will be moved to the result value without changes.



Generate incremental data
Specify the **Initial value** and the **Increment** properties to generate an ordered incremented sequence of values.



Get data from list / SQL query
This panel allows you to define the list of values to generate string data from. You can enter these values directly into the editor by selecting the **List of Values** option.

To add a single value, use the **Add Value** button.

To load a list of values from an existing external file, use the **Load from file** button.

To save the list to an external file, use the **Save to file** button.

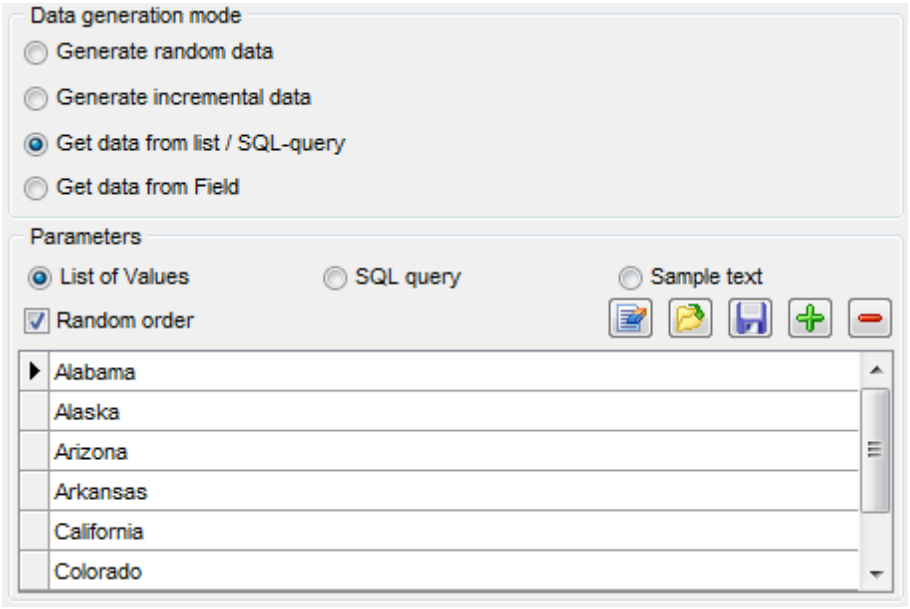
To remove a single value, use the **Delete Value** button.

To remove all items from the list, use the **Clear** button.

You can also specify whether the values are to be taken in **random order** or in the order they have been inputted.

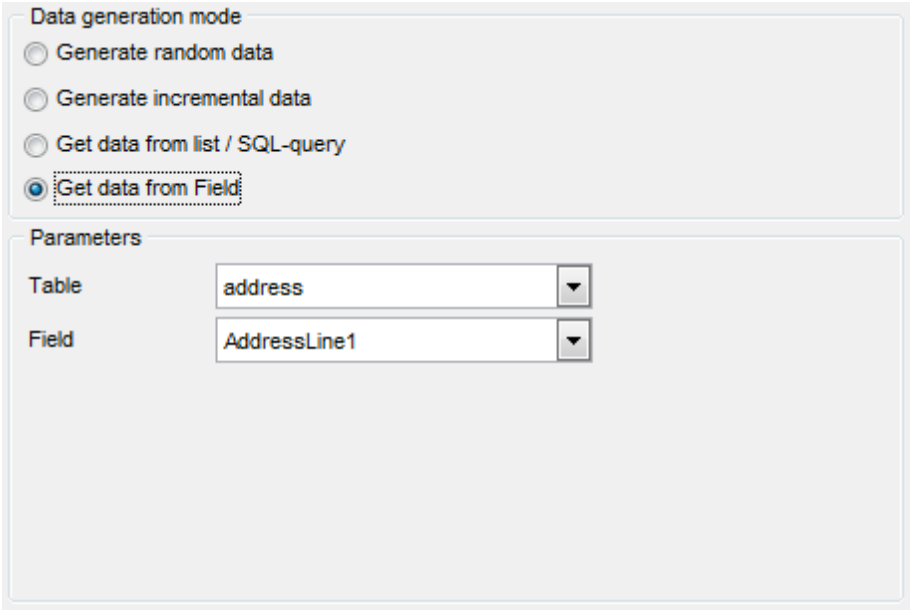
Alternatively, you can set the **SQL Query** option and input an SQL query into the editor, and the resulting dataset will be used as the list for data generation.

Use of the **Sample text** option allows you to generate fragments of previously defined text into the string field. To define sample text used by default, see the Default constraints section of the Preferences dialog.



Get data from Field

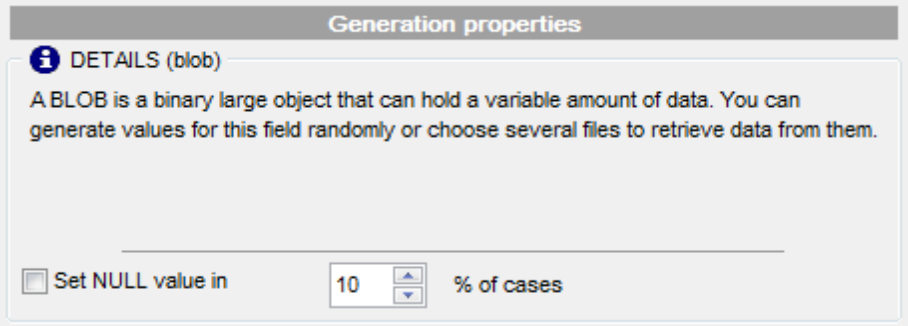
This option allows you to specify a field to generate data from: use the **Table** and **Field** drop-down lists to select the source table and field that will be used to take data for generation.



2.1.4.1.6 BLOB field parameters

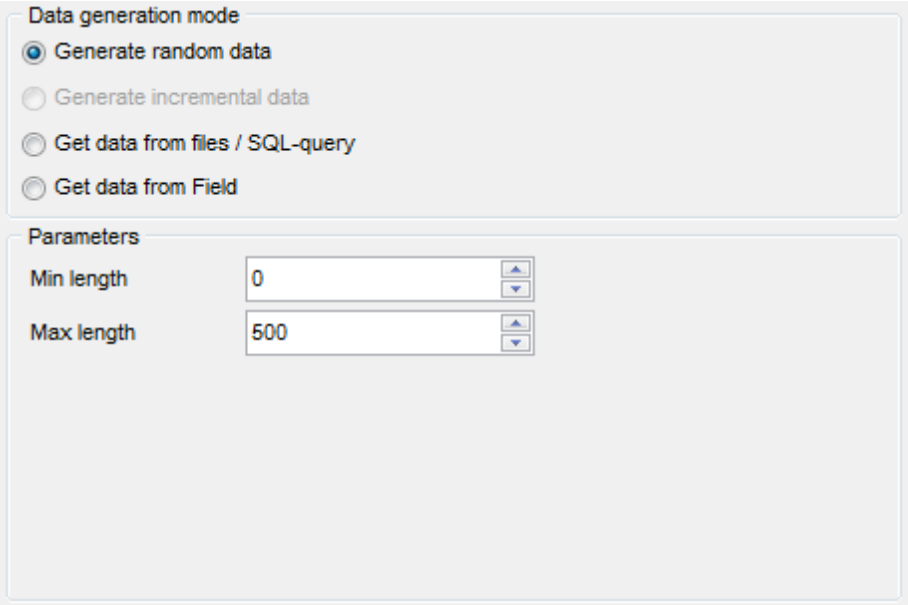
A BLOB is a binary large object that can store a variable amount of data. You can generate values for this field *randomly* or choose to take them from a specified *list* of files or *SQL query*, or from an existing table *field* of the same data type.

The **Generation properties** panel allows you to define preferences for generating values for BLOB field type.



Select Data generation mode as follows:

Generate random data
Set the **Min length**, **Max length** values to define the minimum and the maximum length for generated values.



Get data from files / SQL query
This panel allows you to define the list of files to generate BLOB data from. You can specify the list of files to use their content as values for the BLOB field by selecting the **List of Files** option.

To add a file, use the **Add Value** button.

To load a list of file paths from an existing external file, use the **Load from file** button.

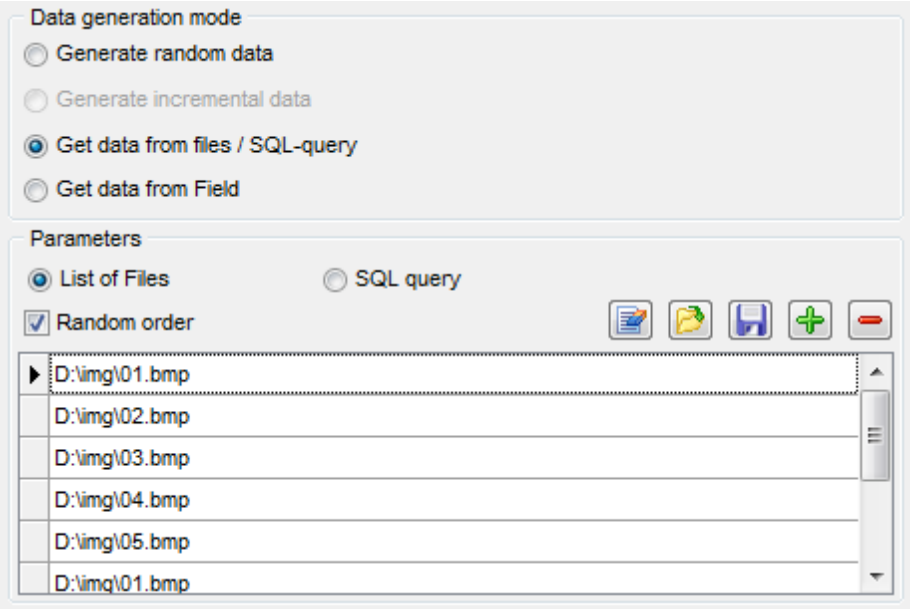
To save the list to an external file, use the **Save to file** button.

To remove a single file, use the **Delete Value** button.

To remove all items from the list, use the **Clear** button.

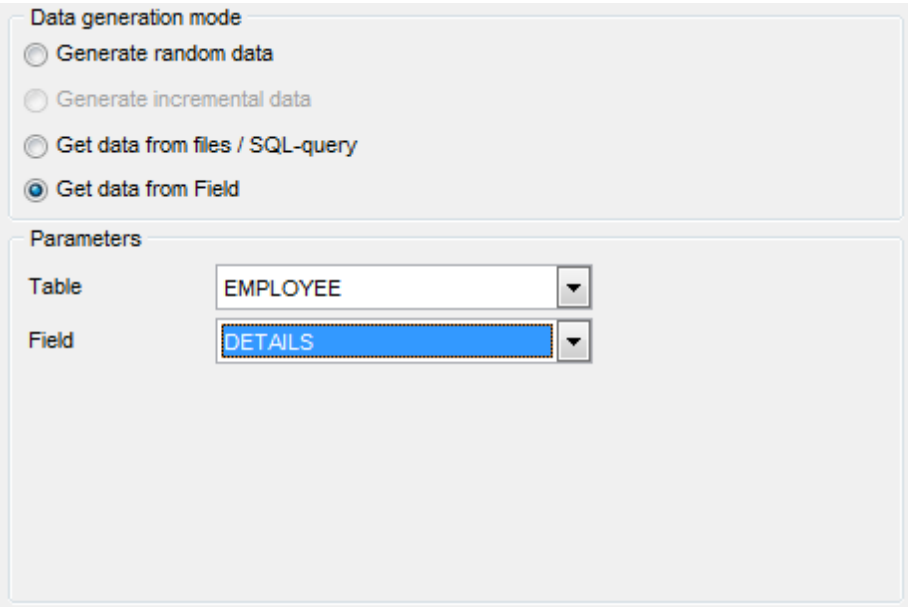
You can also specify whether the files are to be taken in **random order** or in the order they have been inputted.

Alternatively, you can set the **SQL query** option and input an SQL query into the editor, and the resulting dataset will be used as the list for data generation.



Get data from Field

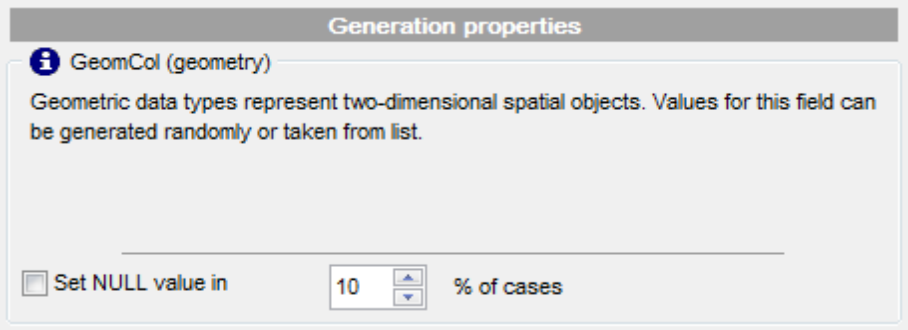
This option allows you to specify a field to generate data from: use the **Table** and **Field** drop-down lists to select the source table and field that will be used to take data for generation.



2.1.4.1.7 GEOMETRIC field parameters

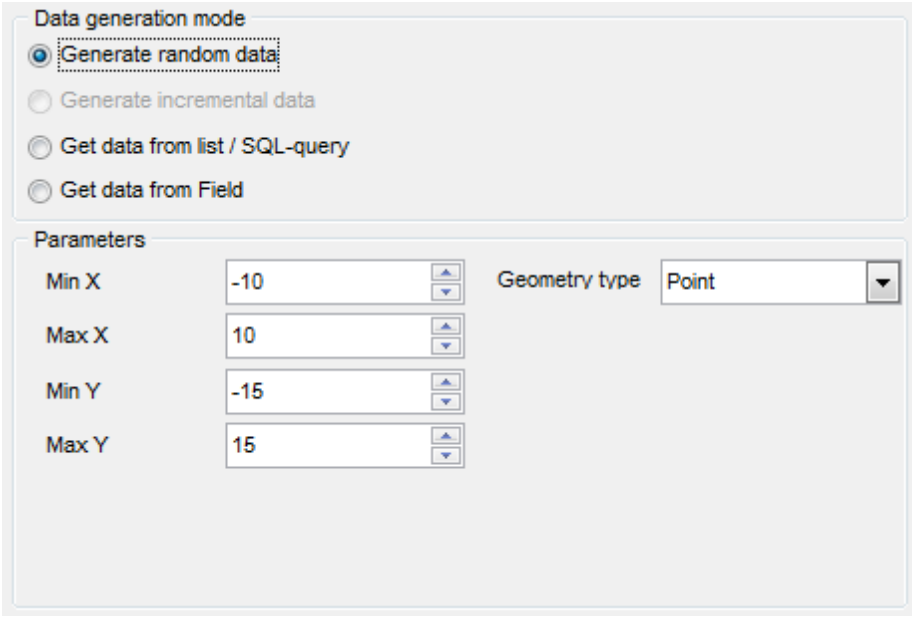
Geometric data types represent two-dimensional spatial objects. You can generate values for this field *randomly* or choose to take them from a specified *list* of values or *SQL query*, or from an existing table *field* of the same data type.

The **Generation properties** panel allows you to define preferences for generating values for geometric field types.



Select Data generation mode as follows:

Generate random data
The coordinates are generated randomly within the defined intervals (the minimum and the maximum values).



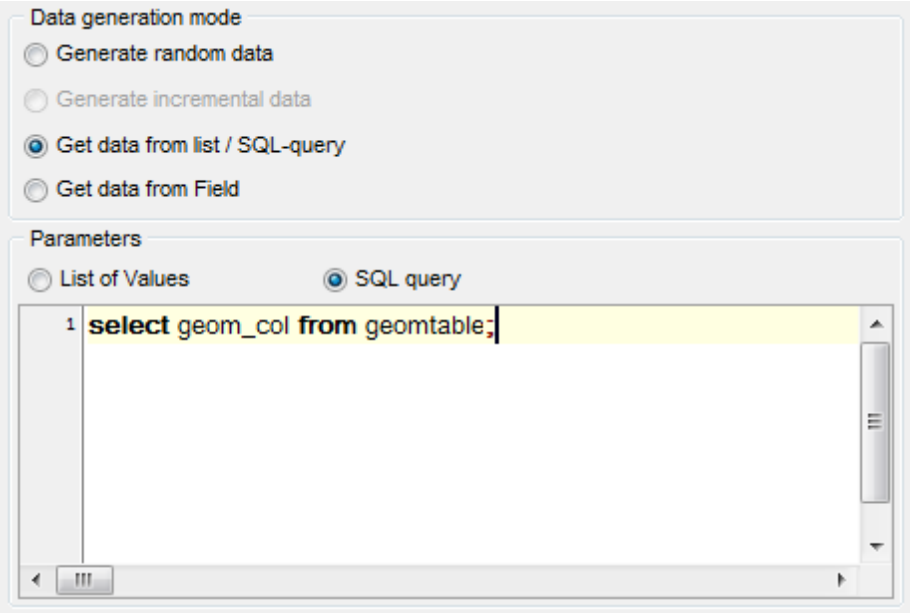
Get data from list / SQL query
This panel allows you to define the list of values to generate geometric data from. You can enter these values directly into the editor by selecting the **List of Values** option.

To add a single value, use the **Add Value** button.

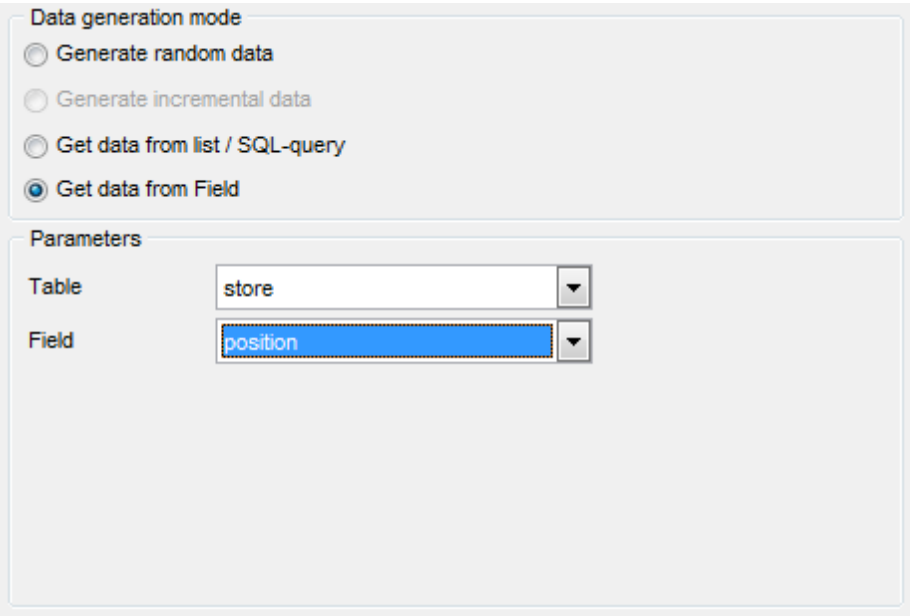
To load a list of values from an existing external file, use the **Load from file** button.
To save the list to an external file, use the **Save to file** button.
To remove a single value, use the **Delete Value** button.
To remove all items from the list, use the **Clear** button.

You can also specify whether the values are to be taken in **random order** or in the order they have been inputted.

Alternatively, you can set the **SQL Query** option and input an SQL query into the editor, and the resulting dataset will be used as the list for data generation.



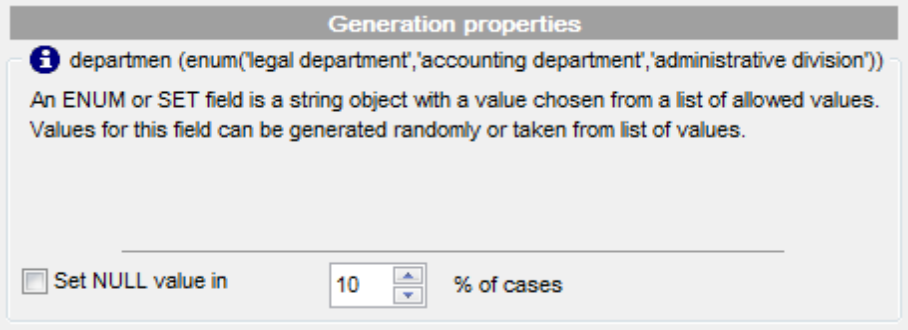
Get data from Field
This option allows you to specify a field to generate data from: use the **Table** and **Field** drop-down lists to select the source table and field that will be used to take data for generation.



2.1.4.1.8 ENUM and SET field parameters

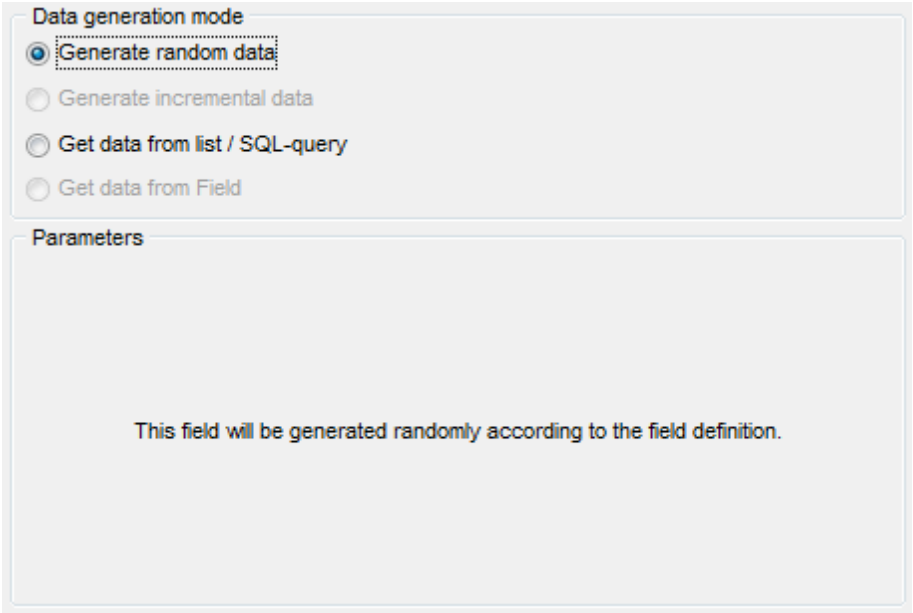
An ENUM or a SET field in MySQL is a string object with a value which is selected from a list of defined values. Values for this field can be generated *randomly* or they can be taken from a fixed *list* of values or *SQL query*.

The **Generation properties** panel allows you to define preferences for generating values for ENUM and SET field types.



Select Data generation mode as follows:

Generate random data
There are no additional parameters for this field type.



Get data from List / SQL query
This panel allows you to define the list of values to generate list data from. You can enter these values directly into the editor by selecting the **List of Values** option.

To add a single value, use the **Add Value** button.

To load a list of values from an existing external file, use the **Load from file** button.

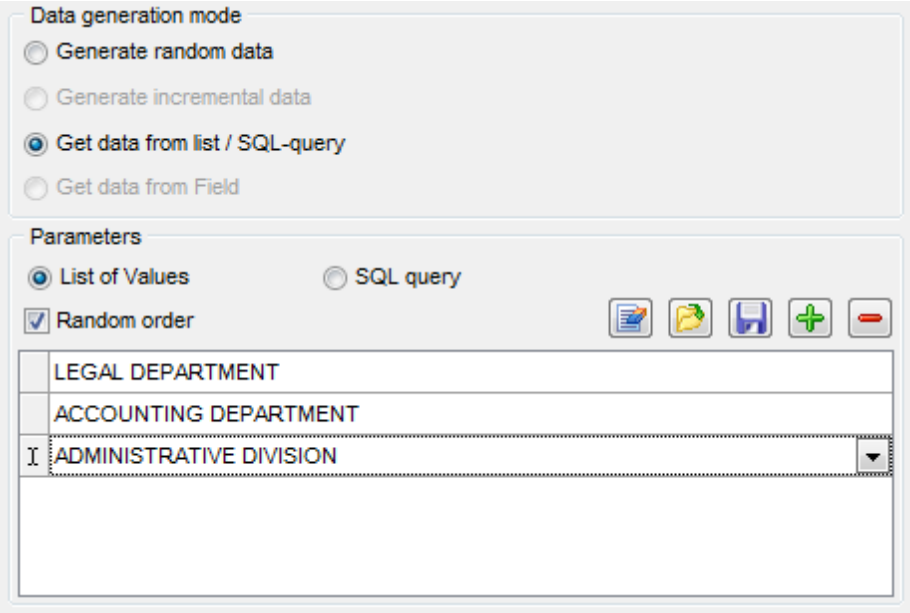
To save the list to an external file, use the **Save to file** button.

To remove a single value, use the **Delete Value** button.

To remove all items from the list, use the **Clear** button.

You can also specify whether the values are to be taken in **random order** or in the order they have been inputted.

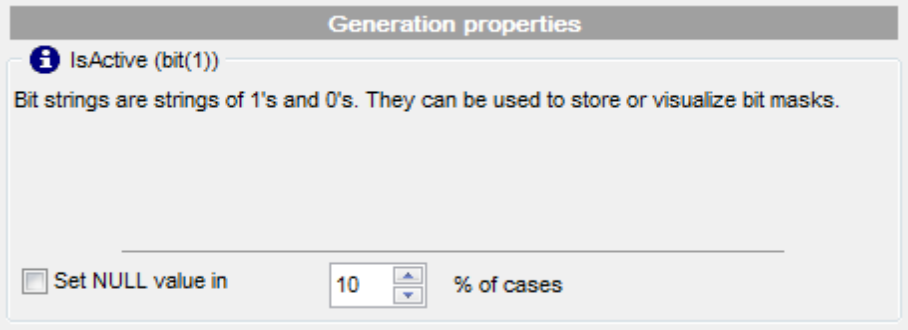
Alternatively, you can set the **SQL Query** option and input an SQL query into the editor, and the resulting dataset will be used as the list for data generation.



2.1.4.1.9 BIT field parameters

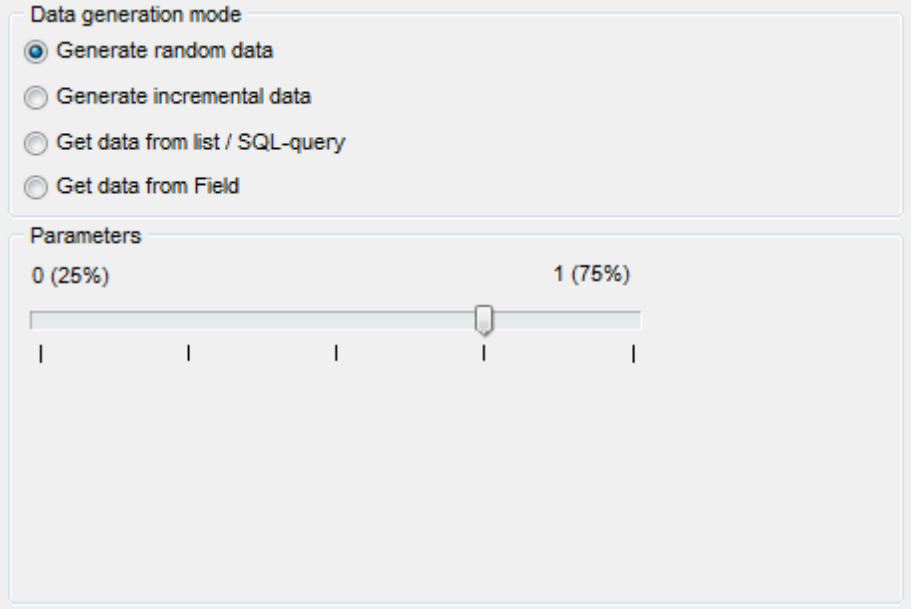
Bit strings are strings of 1's and 0's. They can be used to store or visualize bit masks. You can generate values for this field *randomly*, *incrementally* or choose to take them from a specified *list* of values or *SQL query*, or from an existing table *field* of the same data type.

The **Generation properties** panel allows you to define preferences for generating values for Bit field type.

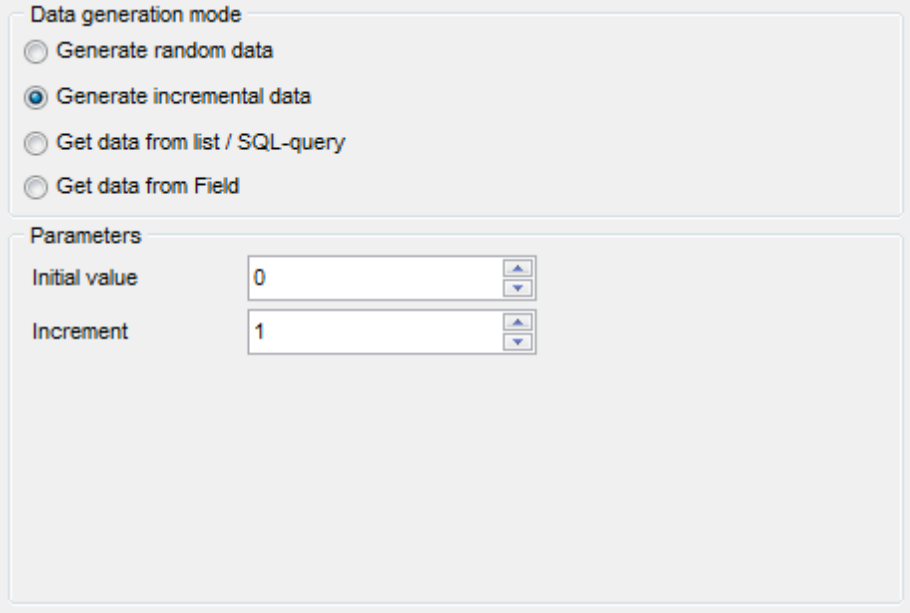


Select Data generation mode as follows:

Generate random data
Specify the ratio between True and False values in randomly generated data.



Generate incremental data
Specify the **Initial value** and the **Increment** properties to generate an ordered incremented sequence of values. The value is incremented bit-by-bit.



Get data from list / SQL query

This panel allows you to define the list of values to generate bit data from. You can enter these values directly into the editor by selecting the **List of Values** option.

To add a single value, use the **Add Value** button.

To load a list of values from an existing external file, use the **Load from file** button.

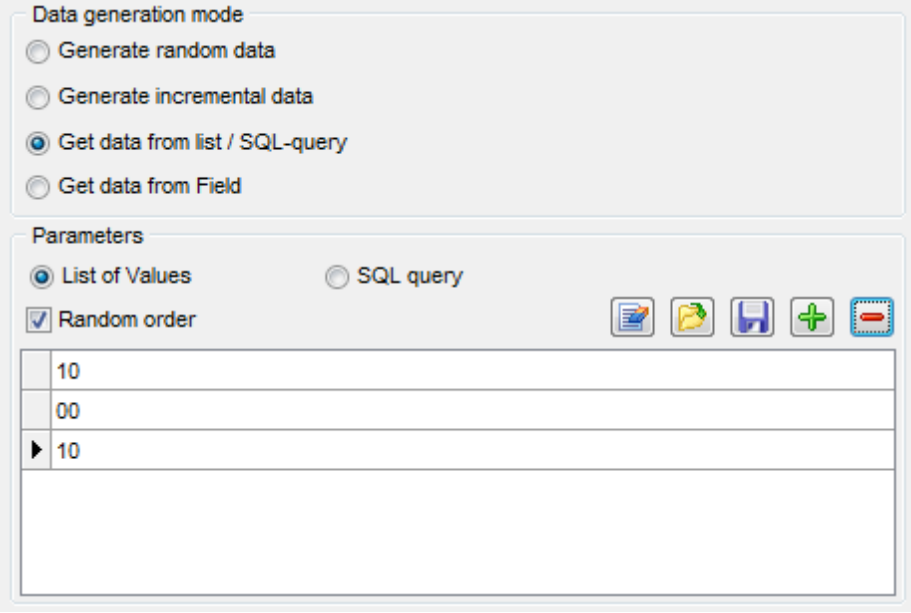
To save the list to an external file, use the **Save to file** button.

To remove a single value, use the **Delete Value** button.

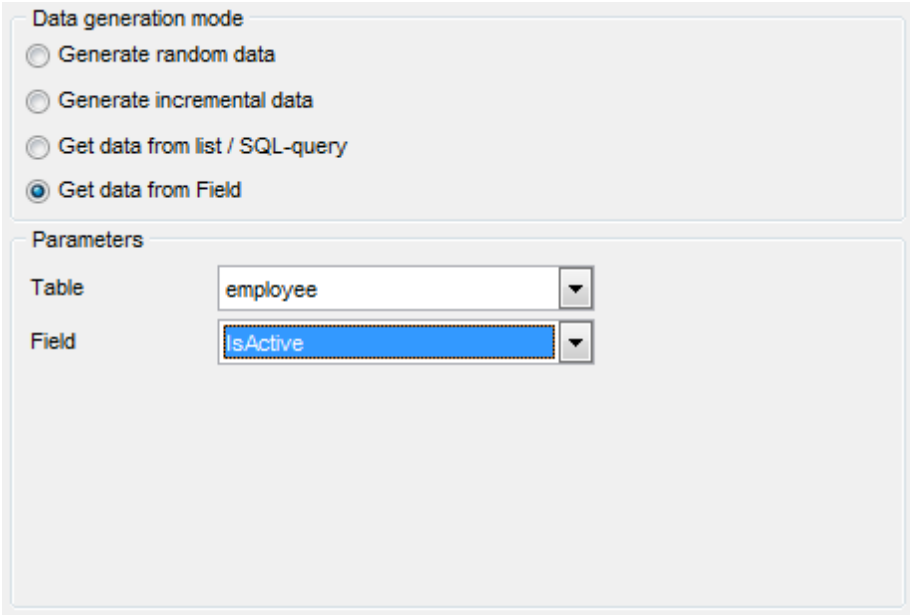
To remove all items from the list, use the **Clear** button.

You can also specify whether the values are to be taken in **random order** or in the order they have been inputted.

Alternatively, you can set the **SQL Query** option and input an SQL query into the editor, and the resulting dataset will be used as the list for data generation.



Get data from Field
This option allows you to specify a field to generate data from: use the **Table** and **Field** drop-down lists to select the source table and field that will be used to take data for generation.



2.1.4.2 Viewing table DDL

When you select a database in the **Generate data for** tree, you can select a table belonging to the database and view its DDL structure within the **Table Definition** area at the right side of the window.

Hint: If more convenient, you can select the **Show DDL for table in hint** option (available in the General section of the Preferences dialog) to enable hints that popup when the mouse cursor is positioned over the table names within the **Generate Data for** area.

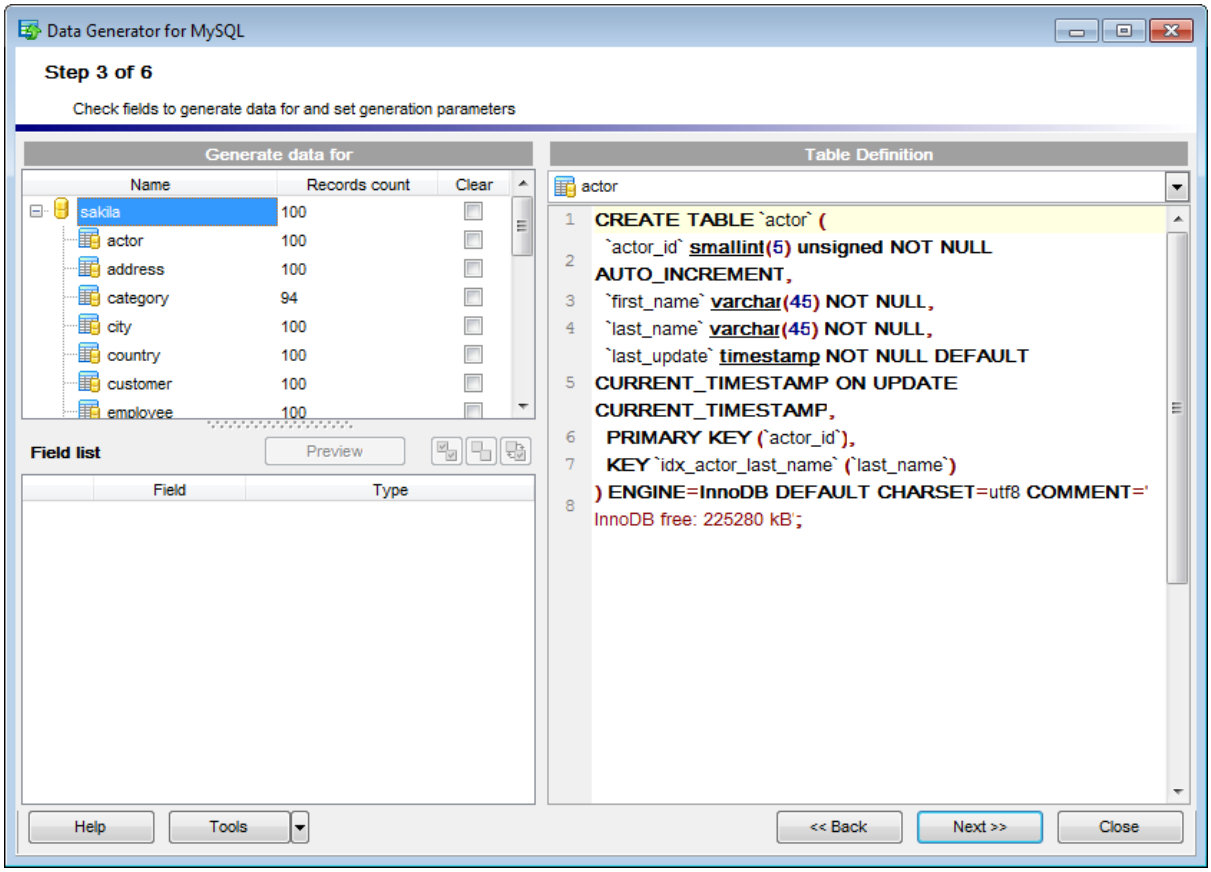


Table Definition
The drop-down list at the top contains the tables that were selected for data generation at Step 2. Select a table to view its DDL.

Right-click within the **Table Definition** area to call the **popup menu** allowing you to *copy* the DDL of the table to Windows clipboard.

2.1.4.3 Data Preview

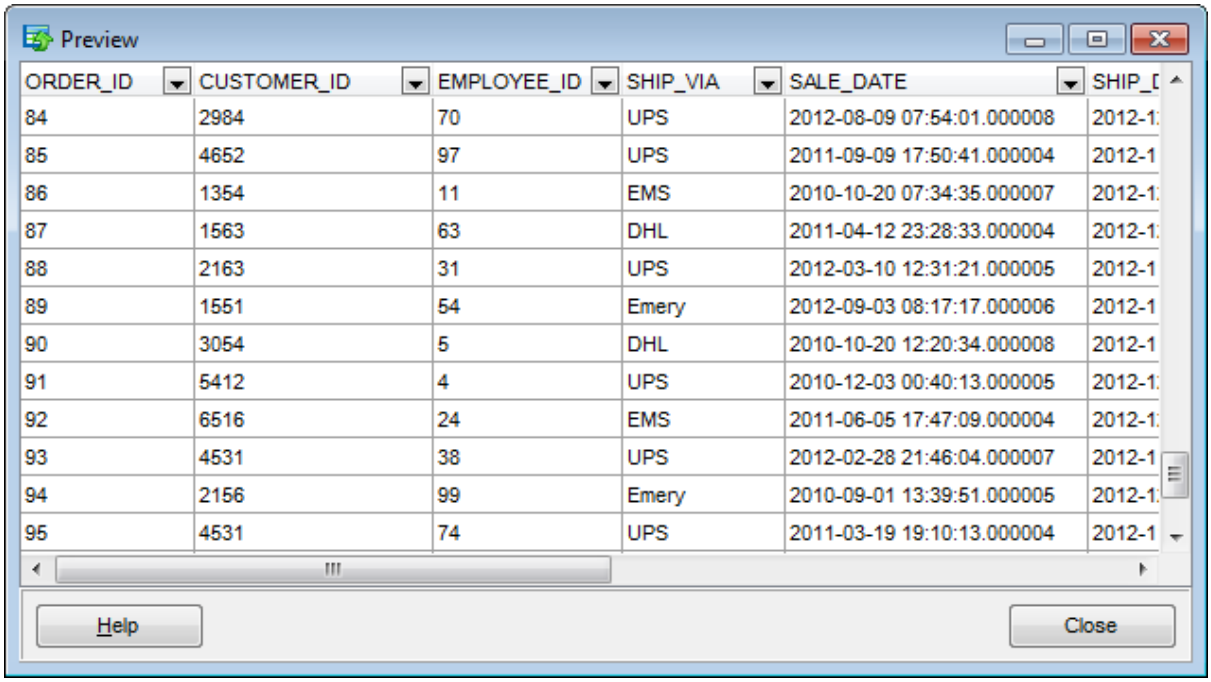
The **Preview** window allows you to browse the selected table data in the preview mode.

Note: The data in preview are selected randomly according to specified parameters and are not actually inserted into the table, i.e. a different set of values will be generated into the table.

To open the window, click the **Preview** button available at Step 3.

The grid contains all selected columns with data that will be generated according to the parameters you have specified at Step 3. If more convenient, you can **change the order** of the columns by dragging their headers horizontally.

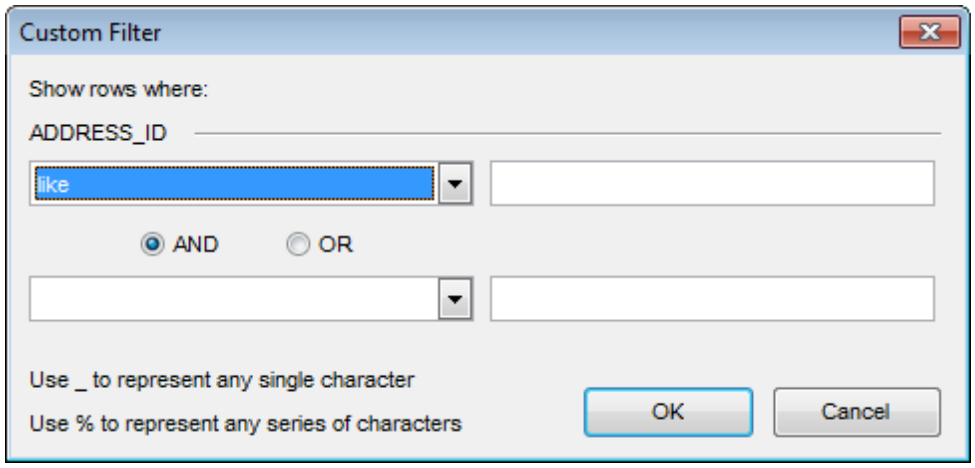
Click a column caption to **sort** items by values of this column in the ascending or the descending mode.



If necessary, you can filter records in the grid in either of the following ways:

- 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;
- 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 **Custom Filter** dialog.

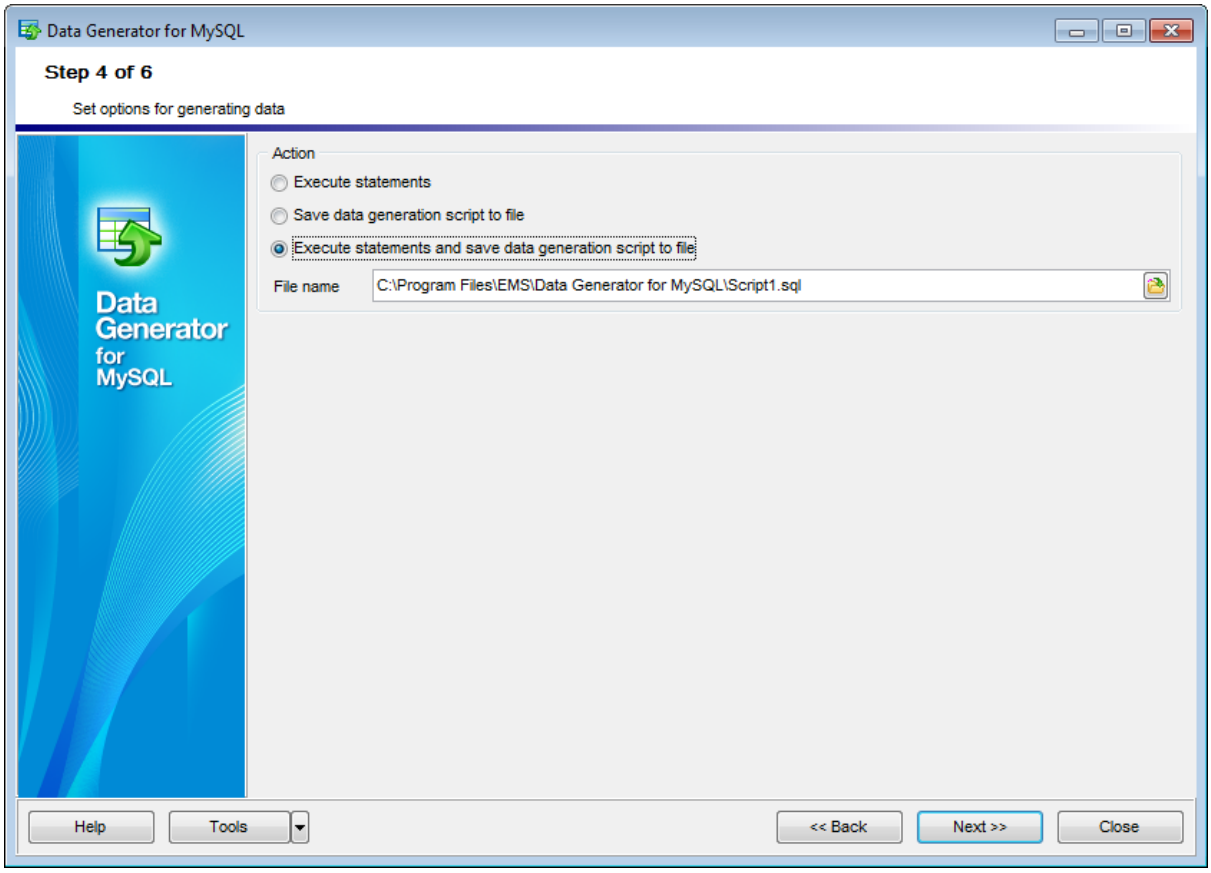
Select a logical operator for checking the column values (*like*, *is less than*, *is greater than* , etc.) and set a value to be checked by this operator in the corresponding box on the right.



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.

2.1.5 Step 4 - Setting generation options

At this step you can specify data generation options.



Action
Specify the action to be taken at the next step of the wizard:

Execute statements
Select this option to execute the script for data generation.

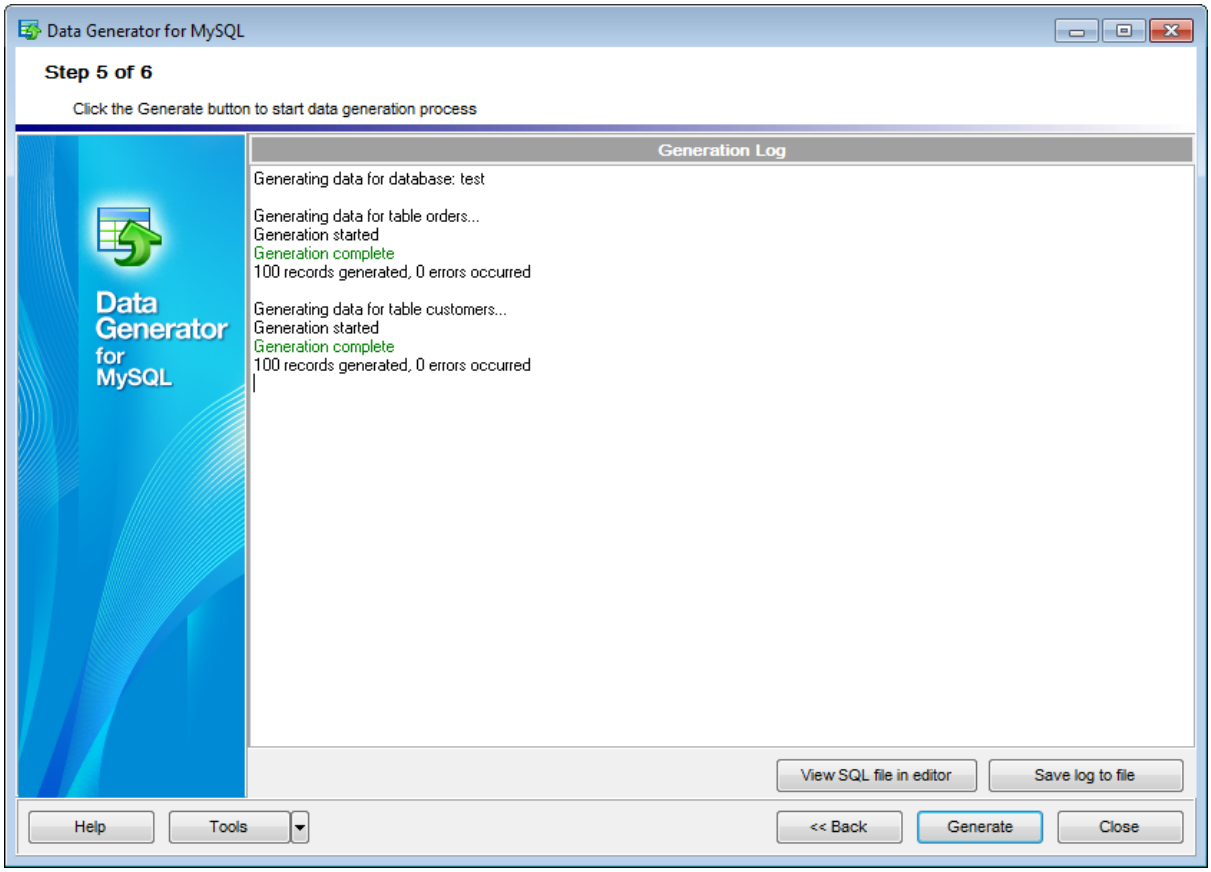
Save data generation script to file
Select this option if you only need to save the script for data generation to a file, without the script execution.

Execute statements and save data generation script to file
Select this option to execute the script for data generation and save it to a file.

File name
This box is enabled if the *Save data generation script to file* or *Execute statements and save data generation script to file* option is selected. Type in or use the **Explorer** button to specify the path to the **.sql* file to store the SQL script.

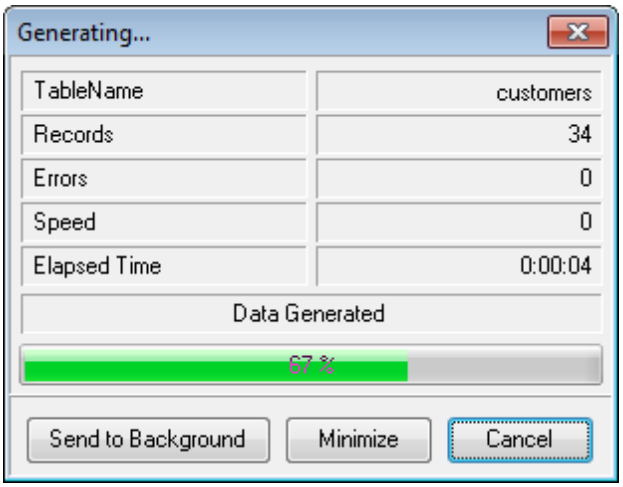
2.1.6 Step 5 - Start of data generation process

This step informs you that all data generation parameters are set, and you can start the generation process.



If everything is correct, press the **Generate** button to start the process. If you want to change something, you can return to any of the wizard steps using the **Back** button.

The **Generating...** dialog indicates the amount of generated *records*, elapsed *time*, the number of *errors* (if any) and visually represents the percentage of *data generated*.



Use the **Send to background** button to run the process in the background mode, the **Minimize** button to minimize the application to Windows Task bar, or the **Cancel** button to stop the generation process.
During data generation the **Generation Log** area displays the log of performed operations and errors (if any).

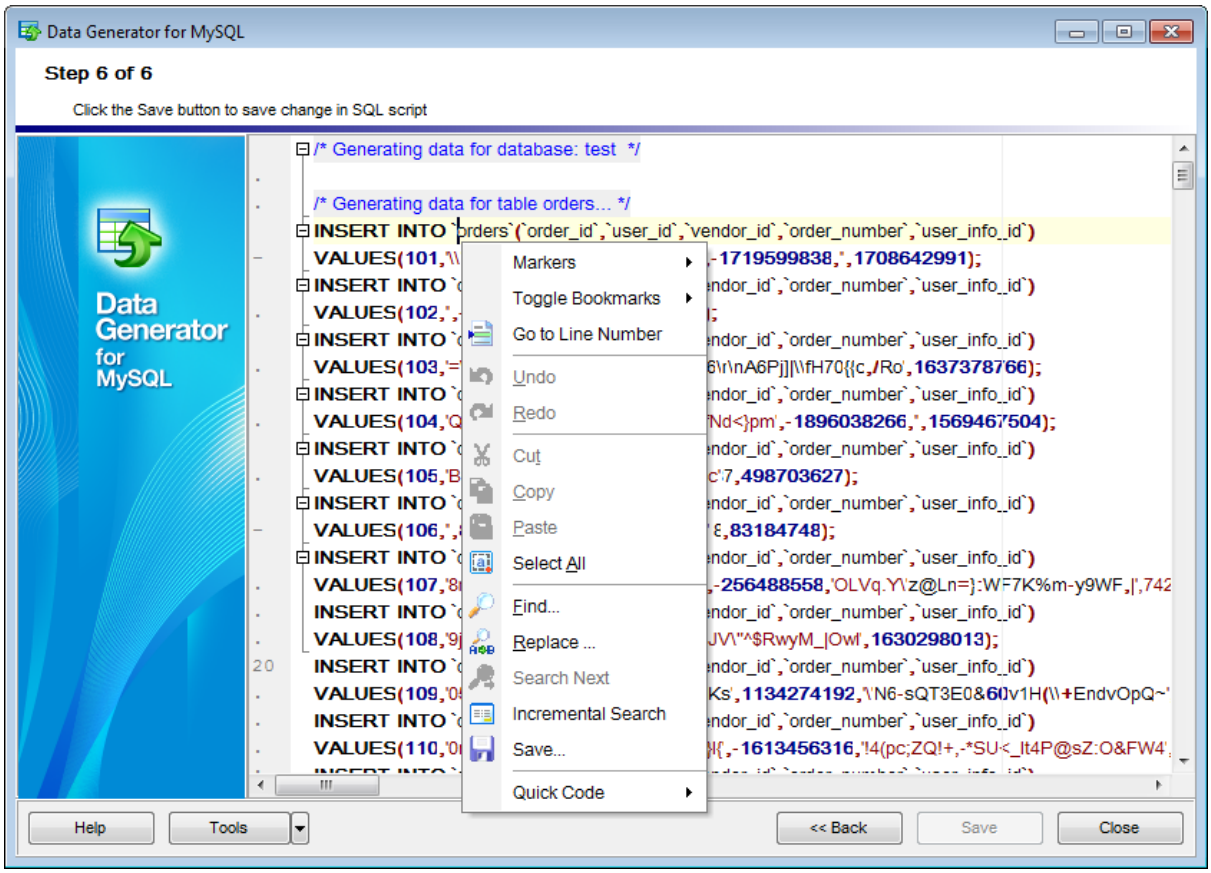
When the process is completed, you can use the **View SQL file in editor** and the **Save log to file** buttons to edit the data generation script at Step 6 of the wizard and save the generation log content to an external text file respectively.

Do not forget to save data generation options if you need to repeat the generation process with the same (or similar) settings later.

2.1.7 Step 6 - Editing generation script

This step of the wizard allows you is provided for working with the result SQL script for data generation.

For your convenience the **code folding**, **syntax highlight** and a number of other features for efficient SQL editing are implemented.



The **context menu** of the editor area contains most of the standard text-processing functions (*Cut*, *Copy*, *Paste*, *Select All*) and functions for working with the script as a whole, e.g. you can *move the cursor to a particular line*, set *markers*, toggle *bookmarks*, etc.

Implementation of the Find Text and the Replace Text dialogs contributes to more efficient work with the SQL code.

Find the complete list of the context menu items below. The context menu allows you to:

- 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;
- go to a line with specified number;
- perform editing operations: *Undo/Redo*, *Cut*, *Copy*, *Paste*, *Select all*;
- perform search and replace operations;
- save the script to an external **.sql* file;

- format the selected code using *SQL Formatter* to make the code easier to read;
- use the Quick Code features: select a character, toggle a comment for a code fragment, toggle case of the selected text, indent/unindent lines in the script.

Press the **Back** button to return to any of the previous steps (the content of the editor area will not be lost).

If you press the **Save** button, the script will be saved to an external file.

Pressing the **Close** button will result in closing the application (before closing Data Generator will prompt for saving changes).

2.2 Using configuration files

Data Generator for MySQL allows you to store its settings in external **.gtm* files if you need to repeat data generation process several times.

You can load previously saved configuration settings to the application wizard if you need to make some changes before data generation, or you can run it with the console application for quicker generation.

- Saving configuration file
- Loading configuration file

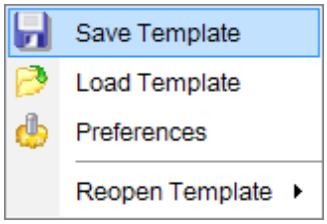
See also:

Using wizard application

Setting program preferences

2.2.1 Saving configuration file

Data Generator templates are saved within the **Save template options** dialog. To open this dialog, press the **Tools** button and select the **Save Template** popup menu item.



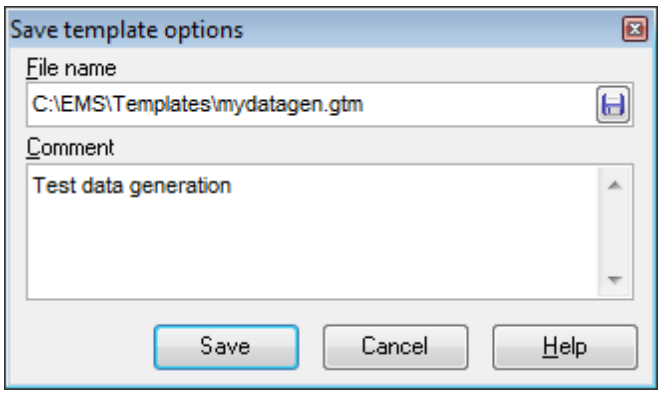
Please note that you can only save data generation options at the Specifying generation parameters step or at the last step of Data Generator for MySQL wizard.

- Save Template options
- Loading configuration file

2.2.1.1 Save Template options

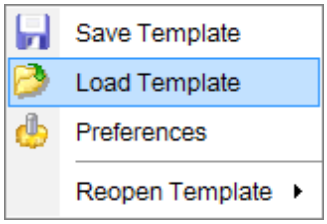
File name
Specify the template file name and select its location using the button to open the **Save As...** dialog.

Comment
If necessary, set a comment for your template file in this field.



2.2.2 Loading configuration file

Data Generator templates are loaded within the **Open template** dialog. To open this dialog, press the **Tools** button and select the **Load template** popup menu item.



Please note that you can **reopen a template** at any step of the wizard using the corresponding popup menu item of the **Tools** menu.

- Saving configuration file
- Save Template options

2.3 Setting program preferences

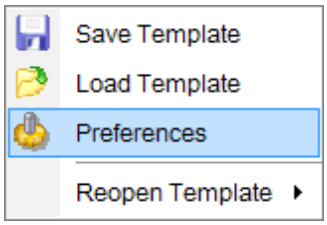
Data Generator for MySQL provides full customization of the program interface by setting various options within the **Preferences** dialog. This chapter is intended to inform you how to use these options.

General options
These options define general behavior of Data Generator for MySQL

Default constraints
This page allows you to set the constraints for field values used by default in the generation process.

Language
This page allows you to select a language to be applied for your copy of Data Generator for MySQL.

Interface
This branch contains several pages with a number of options allowing you to customize the application interface style according to your liking.



See also:
Using wizard application
Using configuration files

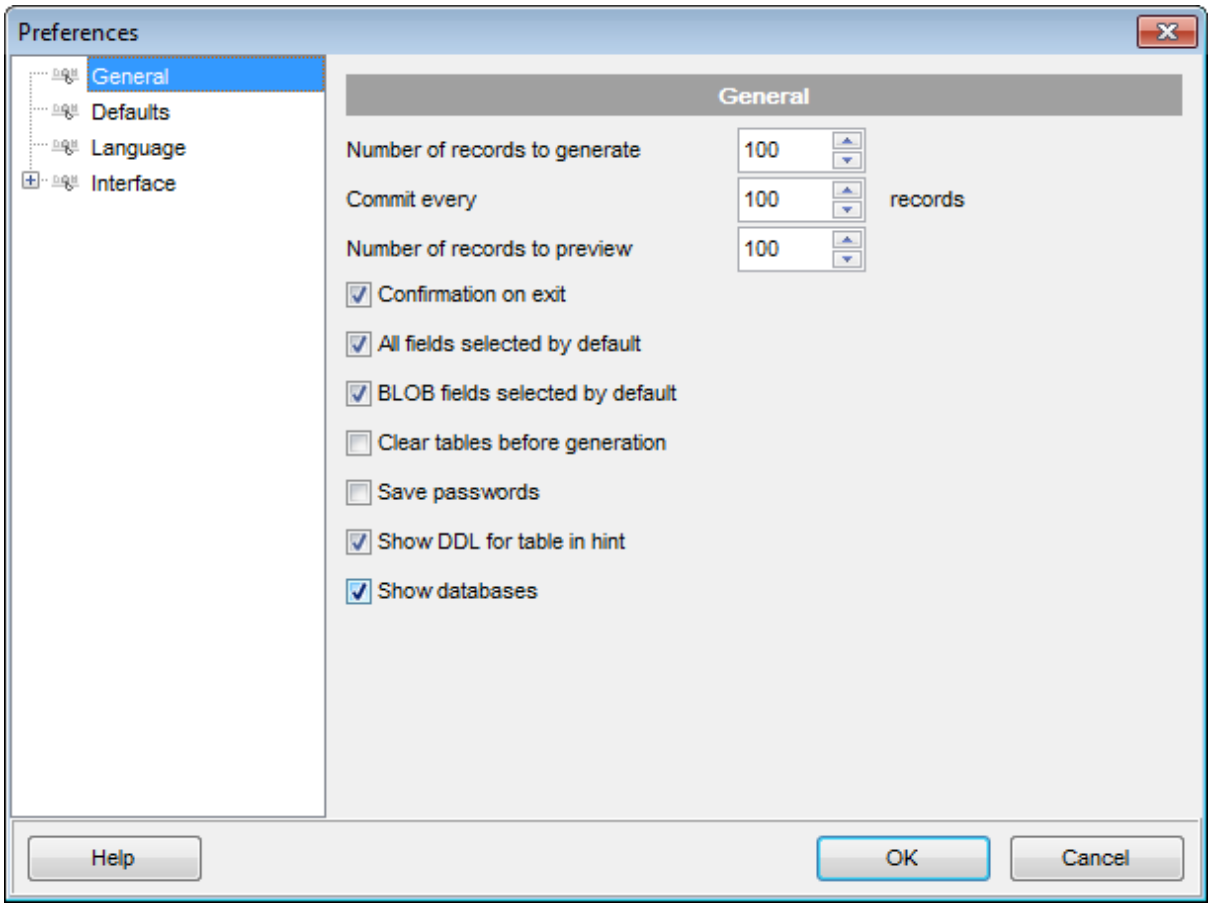
2.3.1 Setting general options

This page allows you to define general options of the application.

Number of records to generate
Sets the quantity of records generated by default.

Commit every ... records
Specifies the number of records in each block of the generation script to be supplemented with the COMMIT statement.

Number of records to preview
Sets the quantity of records used in the Data Preview window by default.



☑ **Confirmation on exit**
Enables/disables confirmation upon exiting the program.

☑ **All fields selected by default**
Check this option to include all fields into the data generation process by default.

☑ **BLOB fields selected by default**
Uncheck this option if you need to exclude BLOB fields from the generation process by default.

Clear tables before generation
Set this option to empty tables before data generation.

Save passwords
Setting this option allows you to save passwords used for access to the databases automatically upon closing the application. Please note that checking this option saves the latest password used for connection to the database (including the SSH server password).

Show DDL for table in hint
This option enables/disables hints that popup when the mouse cursor is positioned over the table names within the **Generate Data for** area at Step 3.

Show databases
This option enables/disables the 'Select Database' drop-down list at Step 2 of the wizard. If you check this option, you can select the database from the list, otherwise you must type the database name manually.

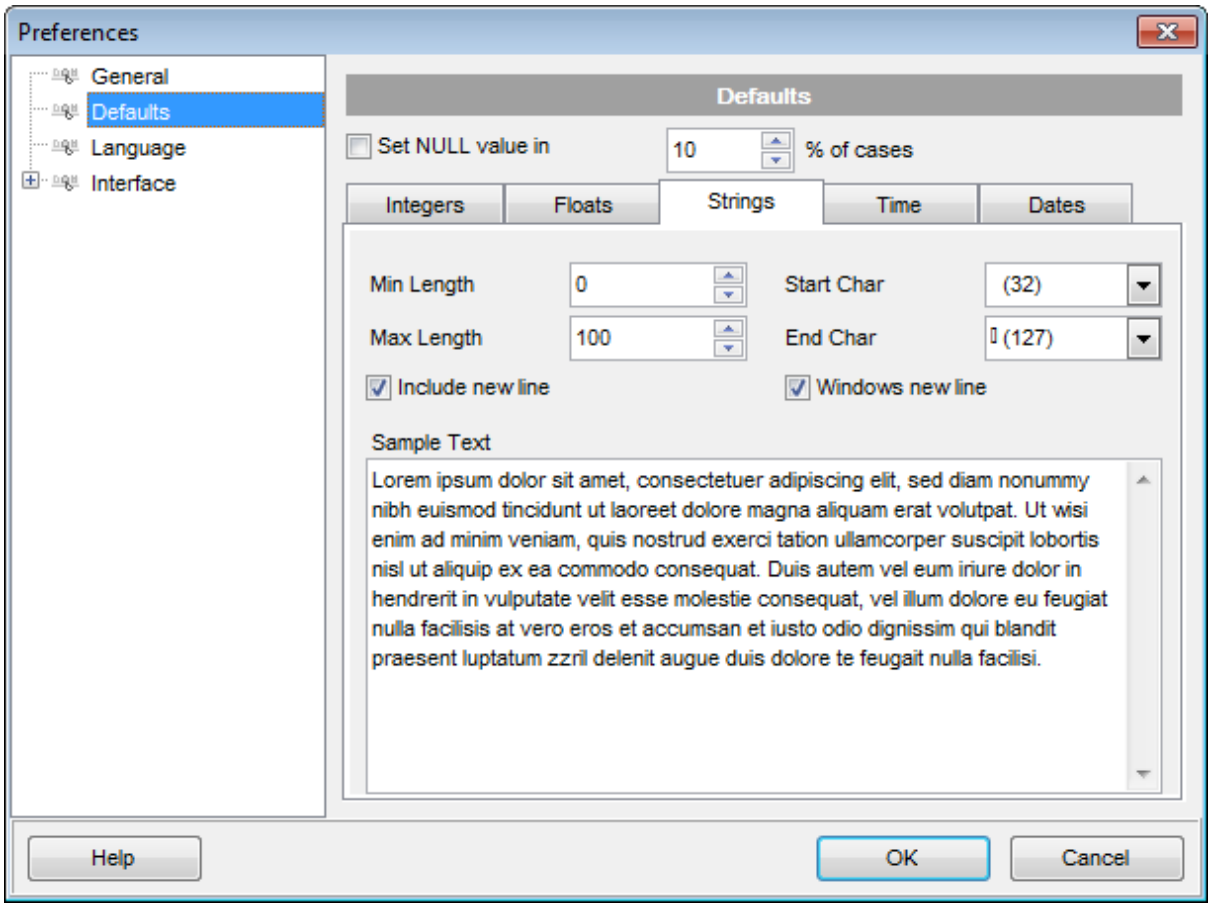
See also:

Setting default constraints
Setting program language
Defining interface style

2.3.2 Setting default constraints

On this page you can define the default constraints for all supported data types.

Set NULL value in ... % of cases
This option allows you to specify the percentage of records that will remain *NULL* by default.



Default Integers
Use this tab to set the desired minimum and maximum integer values to be generated.

Default Floats
Use this tab to set the number of digits and the precision for the floating point numeric values.

Default Strings
Use this tab to set the range of characters to be used for generating string values (for example, from "A" to "z") and their minimum/maximum length.

Include new line
Select this option to allow line feeds in generated string values.

Windows new line
Select this option to specify Windows-style line feeds.

Sample Text
If more convenient, you can input any string that will be used as sample text. You can choose to generate sample text when setting generation parameters for strings.

Default Date
Use this tab to set the date range by defining the minimum and the maximum values. Check the **Include Time** option to generate non-zero random time in addition to the date.

Date format
Type in or use the drop-down list to specify the preferable date format.

Default Time
Use this tab to set the time range by defining the minimum and the maximum values.

Time format
Type in or use the drop-down list to specify the preferable time format.

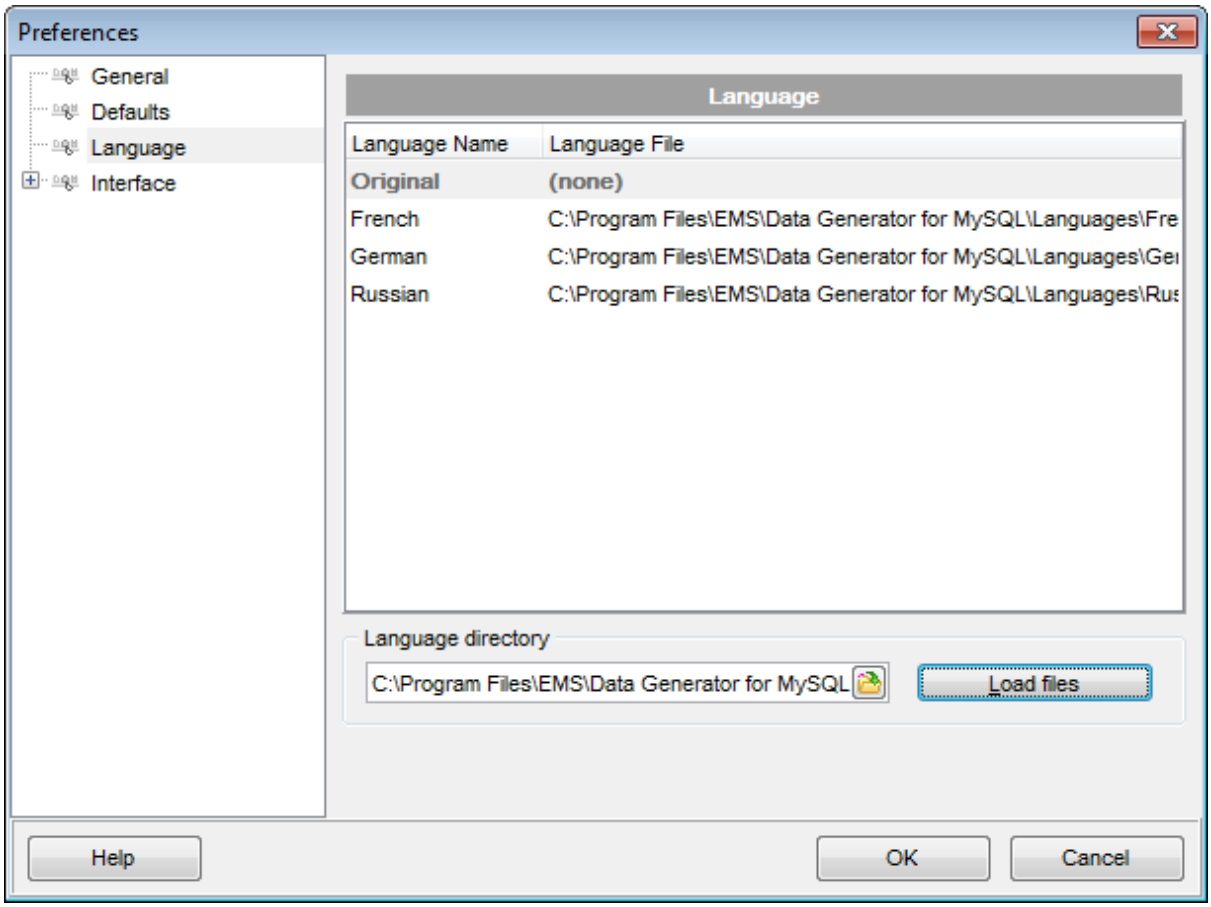
See also:
Setting general options
Setting program language
Defining interface style

2.3.3 Setting program language

The **Language** page is provided for managing Data Generator localization files.

You can create your own **.lng* 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.

Available languages
Lists all the languages available for localization and the corresponding **.lng* files. Double-click a language in the list to edit its name or the *.lng file.



Language directory
Use the button to specify the directory where the **.lng* files are stored by default.

Load files
This button is used for searching for **.lng* files in the **Language directory** and adding all them to the **Available languages** list.

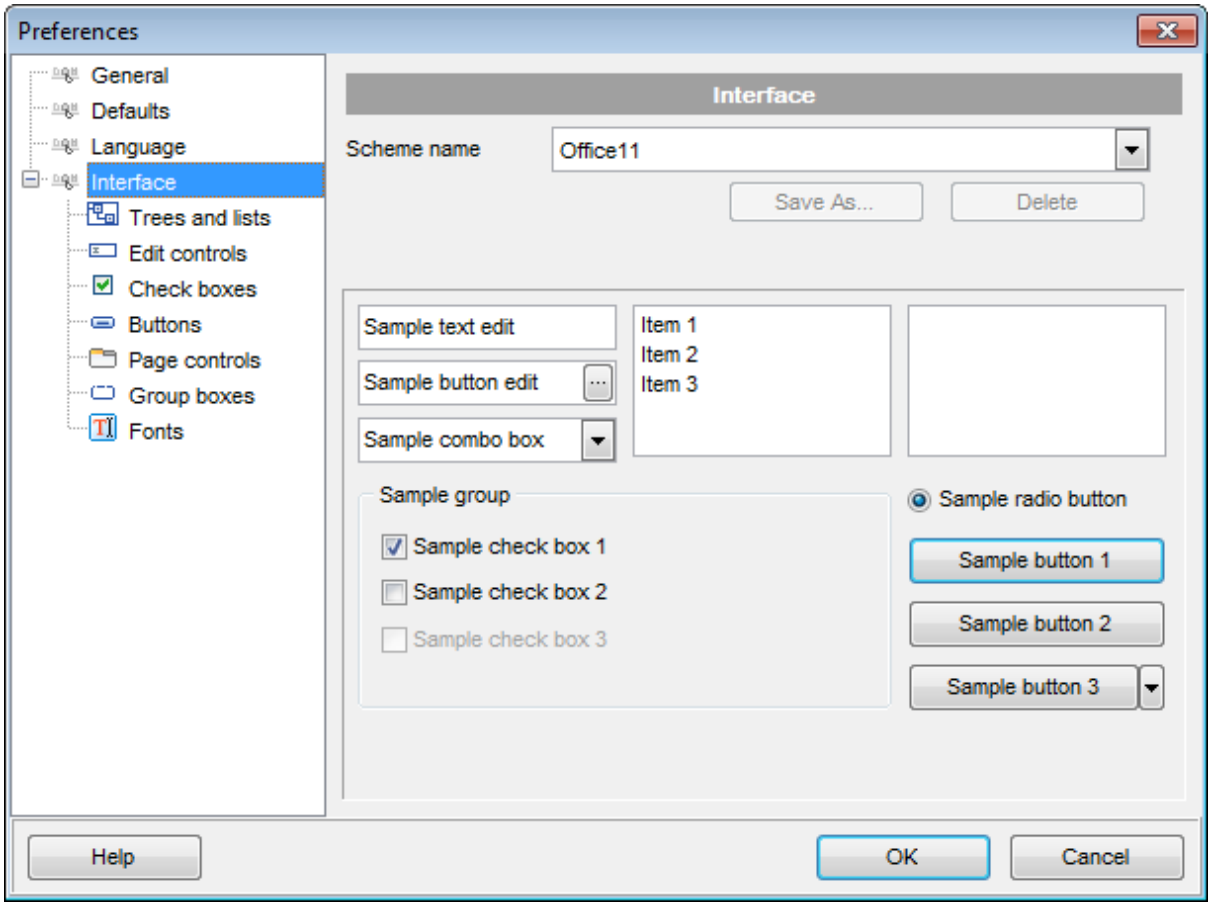
See also:

2.3.4 Defining interface style

The **Interface** section of the **Preferences** dialog allows you to customize the application interface style to your liking.

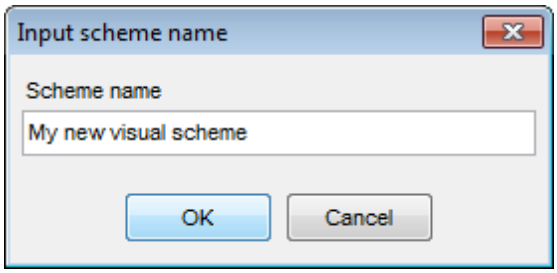
- Trees and lists
- Edit controls
- Check boxes
- Buttons
- Page controls
- Group boxes
- Fonts

Use the **Scheme name** drop-down list to select an interface scheme according to your liking: *Classic*, *Office XP* style, *Windows XP* native style, etc.



It is also possible to create one's own interface scheme, if necessary:

- set your preferences within the available branches of the **Interface** node (*Trees and Lists*, *Edit Controls*, *Check Boxes*, *Buttons*, *Page controls*, *Group Boxes*, *Fonts*);
- return to the **Interface** page and click the **Save As** button;
- specify the scheme name in the **Input scheme name** dialog.



Note: For your convenience the previews illustrating the changes are displayed in the **Sample** area of each branch of the **Interface** node.

See also:

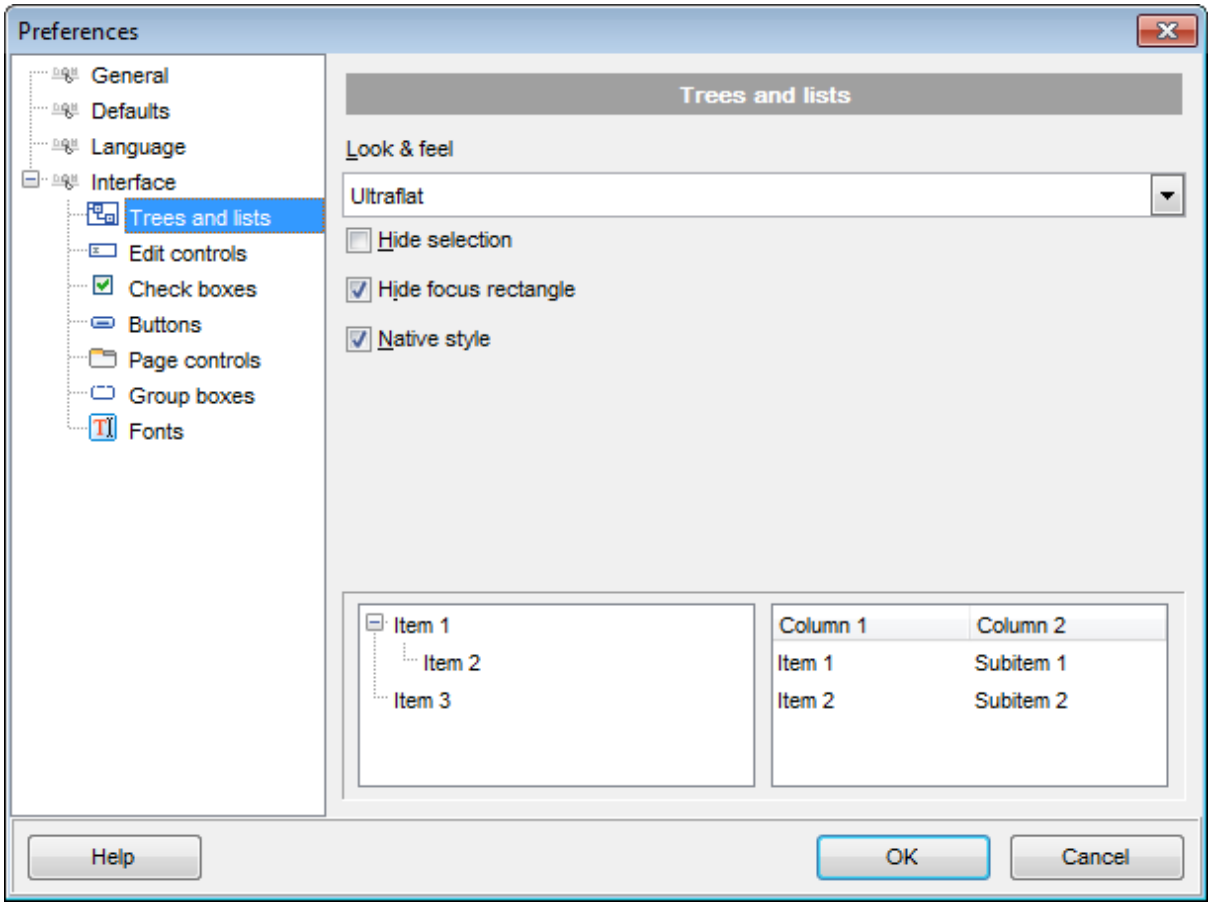
Setting general options

Setting default constraints

Setting program language

2.3.4.1 Trees and lists

Use the **Trees and lists** section to view and edit the corresponding options.



Look & feel
This setting determines the manner in which tree and list elements are painted. Use the drop-down list to select the painting style that will be applied to the trees and lists:
Standard
Flat
UltraFlat

Hide selection
This option specifies how selected tree nodes and list items are displayed when focus leaves the tree or list control.
If this option is enabled, selected nodes look like other nodes. Otherwise, selected nodes/ items are highlighted within the tree/list.

Hide focus rectangle
This option determines whether a focus rectangle is displayed around the focused tree node or list item within the tree or list control.
If this option is disabled, the focused node/item is not highlighted but the focus rectangle is displayed around it.

Native style
This option determines whether the native Windows style will be applied to the trees and lists.
The option has the highest priority for trees and lists. If this option is selected, the tree nodes and list items are painted according to the native Windows style, regardless of other painting settings.

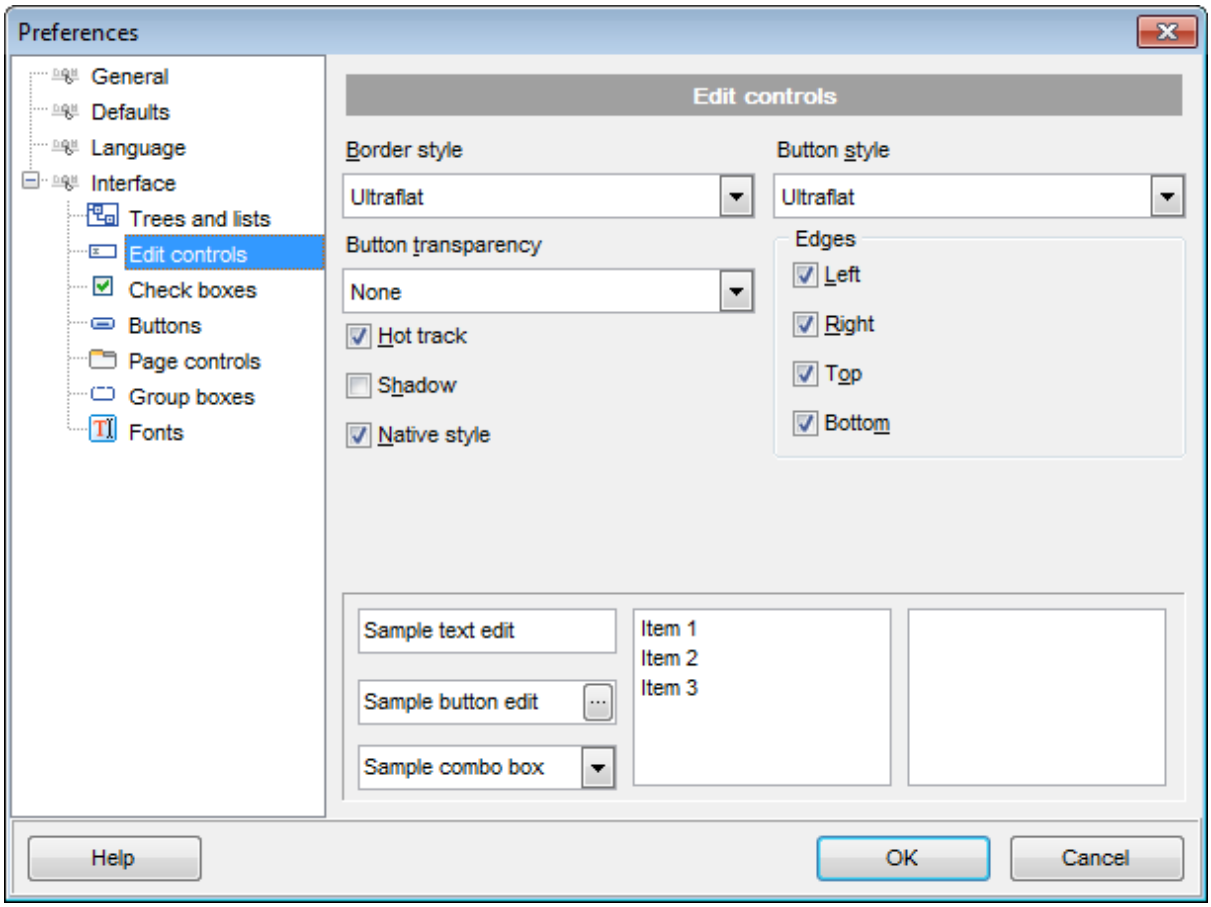
Note: The **Native style** option is currently supported for the Windows® XP operating system only.

See also:

Edit controls
Check boxes
Buttons
Page controls
Group boxes
Fonts

2.3.4.2 Edit controls

Use the **Edit controls** section to customize the appearance of various Data Generator for MySQL edit controls: *Border style*, *Button style*, *Button transparency*, etc.



Border style / **Button style**
Use these drop-down lists to specify the style around an editor (the edit control **borders**) and select the painting style that will be applied to the edit control **buttons** (ellipsis button, arrow-down combo-box button, etc.) respectively:
None
Single
Thick
Flat
3D
UltraFlat

Button transparency
Represents the button transparency mode within an editor. Use the drop-down list to specify the transparency that will be applied to the edit control **buttons** (ellipsis button, arrow-down combo-box button, etc.):
None (a button is always displayed in a non-transparent fashion)
Inactive (a button is drawn when the editor has focus or when the mouse cursor is positioned over the button; otherwise, the button is transparent)

Always (a button is always transparent)
Hide inactive (a button is drawn only when the editor has focus; otherwise, the button is invisible)
Hide unselected (a button is drawn when the editor has focus or when the mouse cursor is positioned over the editor region; otherwise, the button is invisible).

Edges
This group defines which edges are displayed within an editor. Check/uncheck the boxes to hide/show individual edges of the edit controls:
☑ *Left* (if unchecked, the left border edge is invisible)
☑ *Right* (if unchecked, the right border edge is invisible)
☑ *Top* (if unchecked, the top border edge is invisible)
☑ *Bottom* (if unchecked, the bottom border edge is invisible)

☑ **Hot track**
This option specifies whether editor items are highlighted when the mouse cursor is positioned over an edit control. Select this option to highlight an edit control in response to mouse movements.

☑ **Shadow**
If this option is selected, a shadow is displayed for the edit controls.

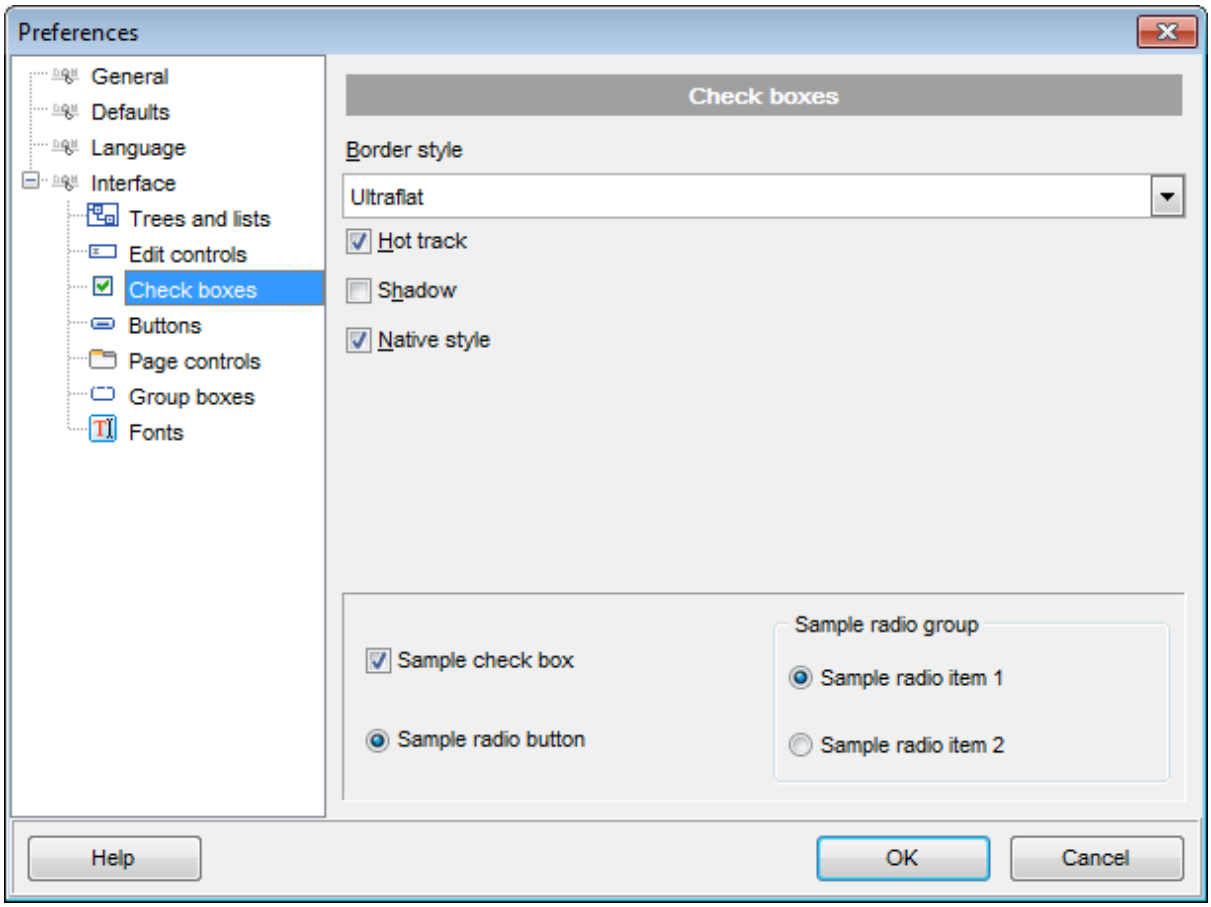
☑ **Native style**
This option determines whether the native Windows style will be applied to the edit controls.
The option has the highest priority for edit controls. If this option is selected, the edit controls are painted according to the native Windows style, regardless of other painting settings.

Note: The **Native style** option is currently supported for the Windows® XP operating system only.

See also:
Trees and lists
Check boxes
Buttons
Page controls
Group boxes
Fonts

2.3.4.3 Check boxes

Use the **Check boxes** section to customize the *border style* and the appearance of *check boxes* and *radio buttons*.



Border style
This setting determines the manner in which check box and radio group borders are painted. Use the drop-down list to select the painting style that will be applied to the check boxes and radio groups:
None
Single
Thick
Flat
3D
UltraFlat

Hot track
This option specifies whether check boxes are highlighted when the mouse cursor is positioned over the check box controls. Select this option to highlight check boxes in response to mouse movements.

Shadow
If this option is selected, a shadow is displayed for the check boxes and radio groups.

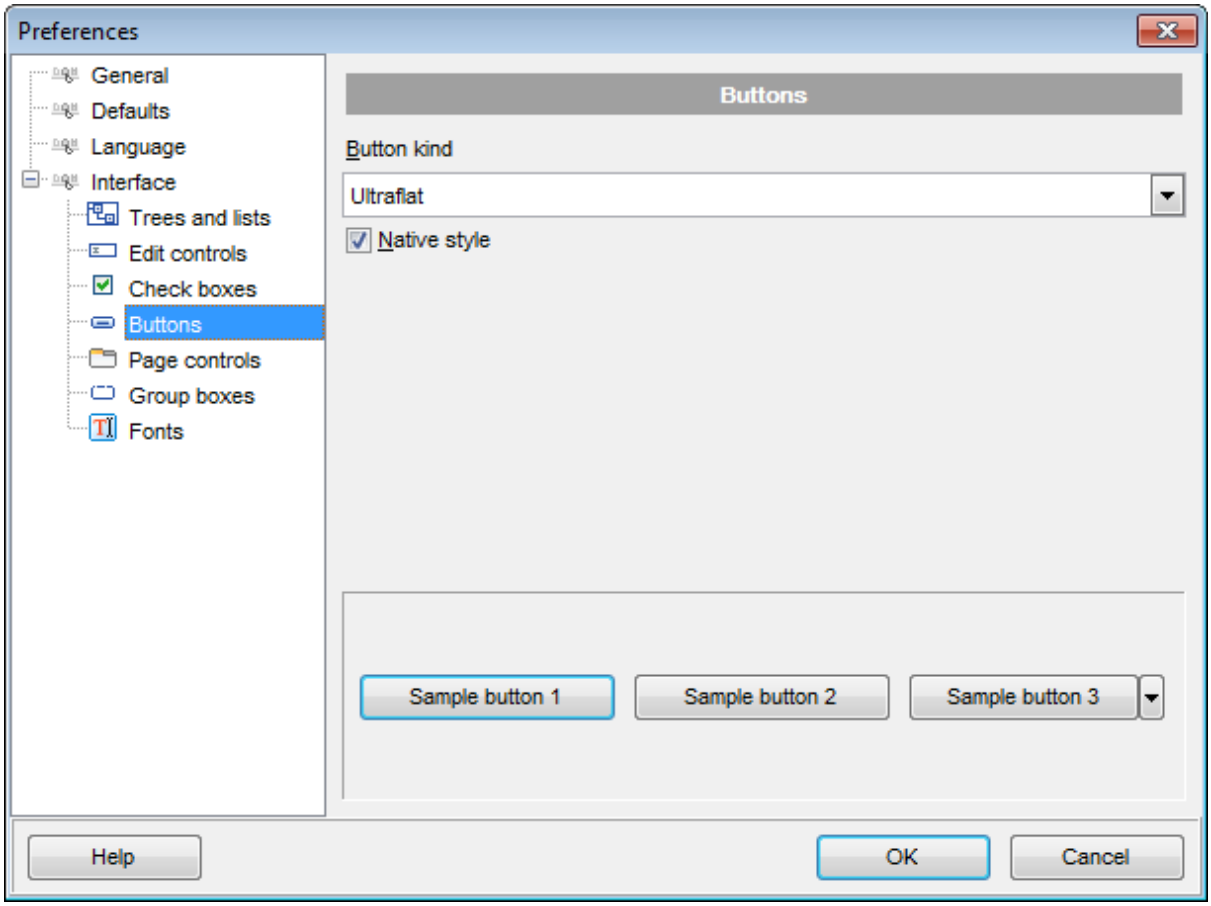
Native style
This option determines whether the native Windows style will be applied to the check boxes and radio buttons.
The option has the highest priority for check boxes and radio buttons. If this option is selected, the check boxes and radio buttons are painted according to the native Windows style, regardless of other painting settings.

Note: The **Native style** option is currently supported for the Windows® XP operating system only.

See also:
Trees and lists
Edit controls
Buttons
Page controls
Group boxes
Fonts

2.3.4.4 Buttons

Use the **Buttons** section to customize Data Generator *buttons*.



Button kind
This setting determines the manner in which a button is painted. Use the drop-down list to select the painting style that will be applied to buttons:
Standard
Flat
UltraFlat

Native style
This option determines whether the native Windows style will be applied to the buttons. The option has a higher priority than the **Button kind** setting. If this option is selected, the buttons are painted according to the native Windows style, otherwise the **Button kind** selection is applied.

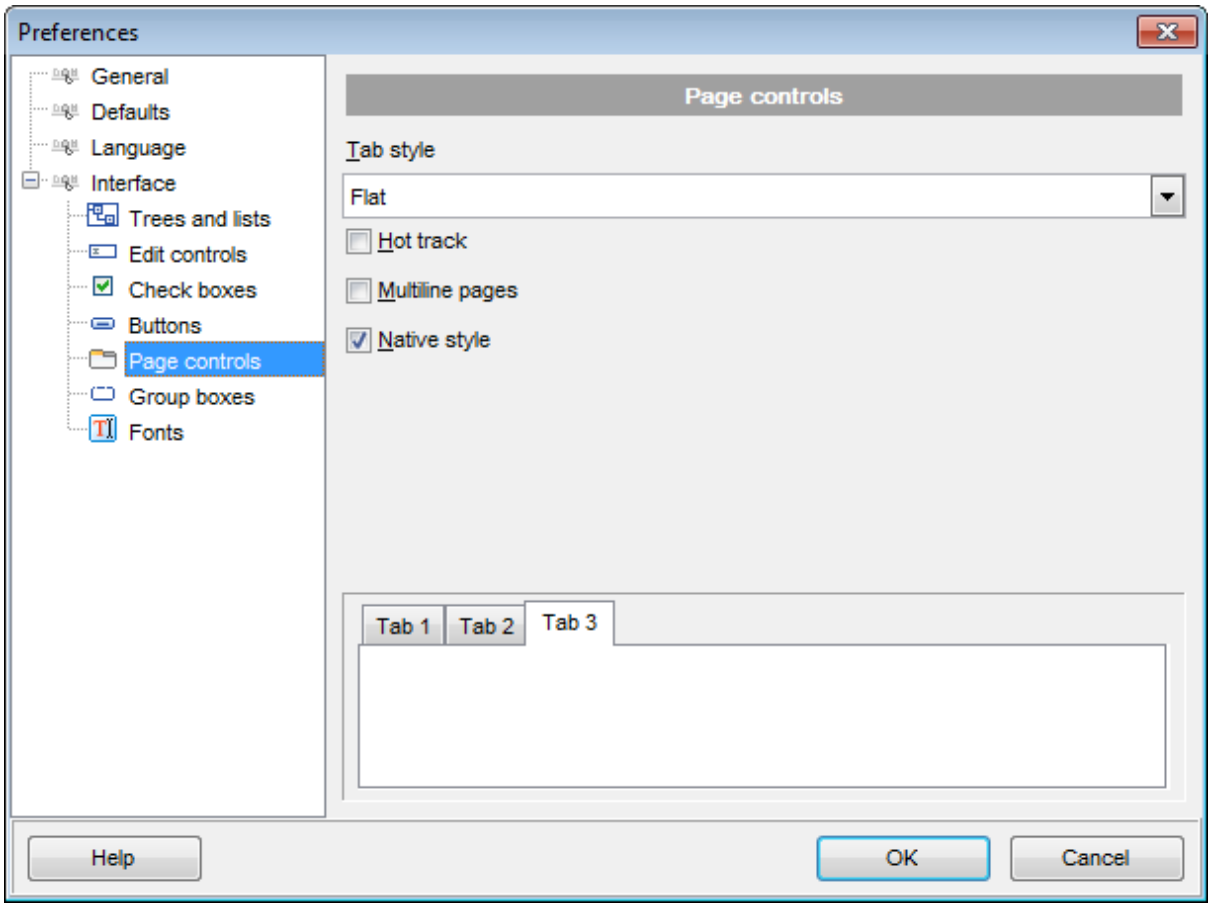
Note: The **Native style** option is currently supported for the Windows® XP operating system only.

See also:

Trees and lists
Edit controls
Check boxes
Page controls
Group boxes
Fonts

2.3.4.5 Page controls

Use the **Page controls** section of the **Preferences** dialog to customize the style of all Data Generator *page controls*.



Tabs are visual elements of **tab controls**. Their purpose is to identify pages and switch between them. Once a tab is clicked, the corresponding page is selected.
Pages are container controls that represent the contents of tab controls. Tab controls contain a single page, whose context is to be updated each time the selected tab changes. **Page controls** contain the number of pages equal to the number of tabs.

Tab style
Use the drop-down list to select the painting style that will be applied to the tab controls:
Tabs (tabs are painted as notebook tabs)
Buttons (the selected tab is painted as a pressed button, other tabs are painted as released buttons)
Flat (tabs are painted as notebook tabs, but appear lowered slightly)

☑ **Hot track**
This option specifies whether tab captions are highlighted when the mouse pointer hovers over tabs. Select this option to enable tab highlighting.

☑ **Multiline pages**

This option specifies whether tabs are arranged across several rows.
If this option is enabled, tabs are automatically arranged into the minimum number of rows required to fit all of them. If this option is disabled, tabs are displayed within a single row.

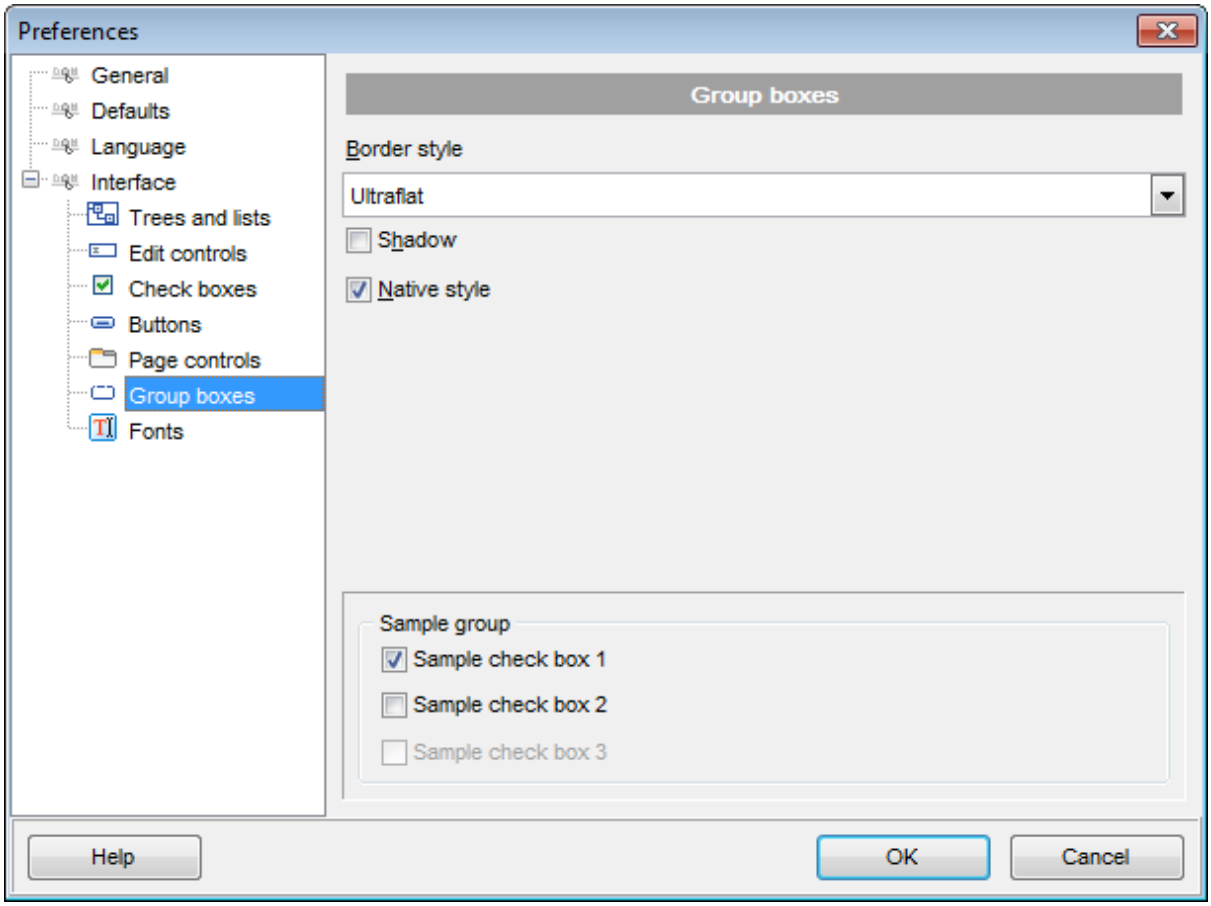
☑ **Native style**
This option determines whether the native Windows style will be applied to the tab controls.
The option has the highest priority for the tab controls. If this option is selected, the tabs are painted according to the native Windows style, regardless of other painting settings.

Note: The **Native style** option is currently supported for the Windows® XP operating system only.

See also:
Trees and lists
Edit controls
Check boxes
Buttons
Group boxes
Fonts

2.3.4.6 Group boxes

Use the **Group boxes** section to customize all Data Generator *group boxes* to your liking.



Border style
This setting determines the manner in which group box borders are painted. Use the drop-down list to select the painting style that will be applied to the group boxes:
None
Single
Thick
Flat
3D
UltraFlat

Shadow
If this option is selected, a shadow is displayed for the group boxes.

Native style
This option determines whether the native Windows style will be applied to the group boxes.
The option has the highest priority for the group boxes. If this option is selected, the group boxes are painted according to the native Windows style, regardless of other painting settings.

Note: The **Native style** option is currently supported for the Windows® XP operating system only.

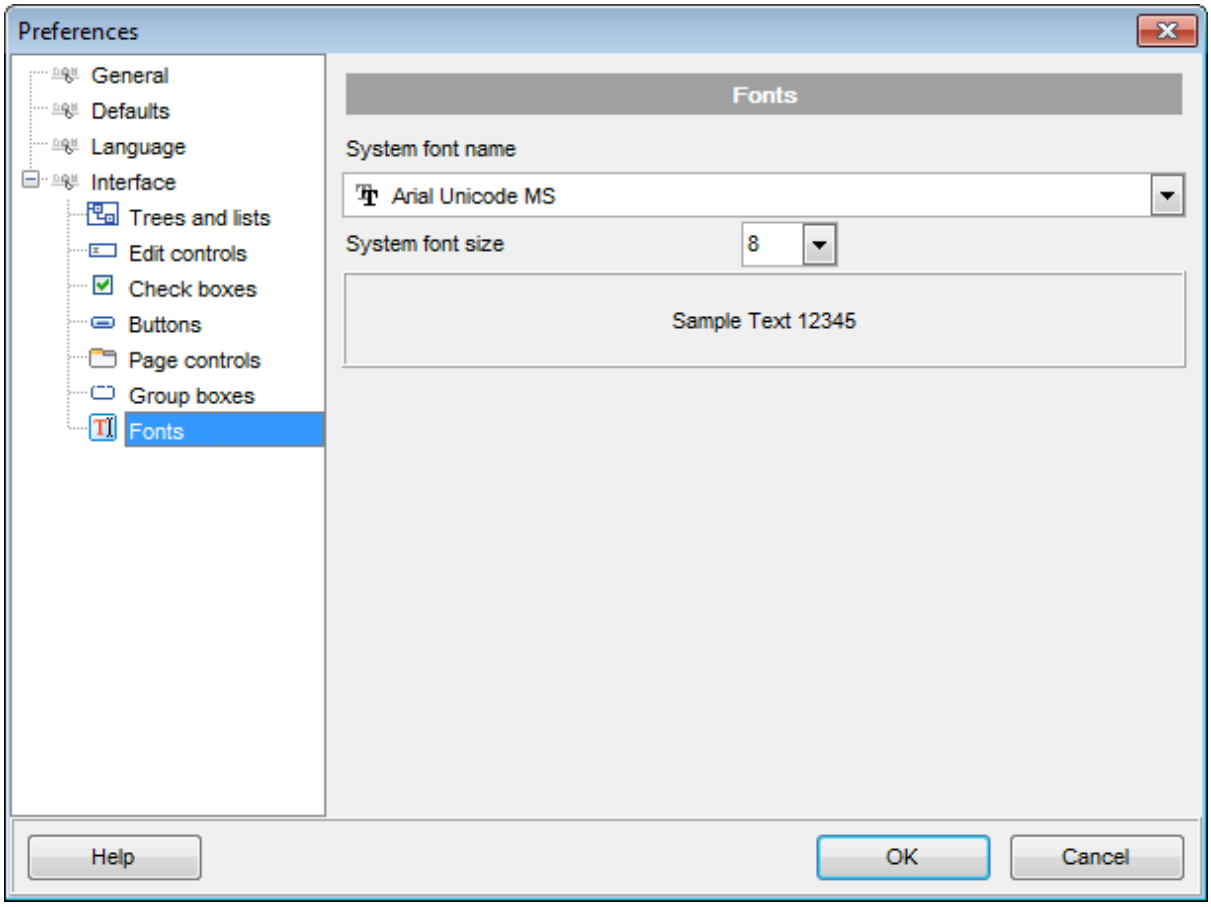
See also:

Trees and lists
Edit controls
Check boxes
Buttons
Page controls
Fonts

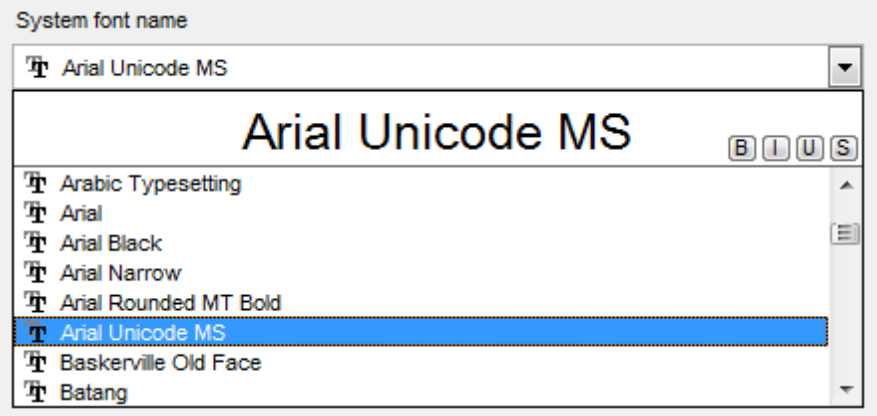
2.3.4.7 Fonts

This section of the **Preferences** dialog allows you to specify fonts used in the application.

The box below displays the *sample text* with the selected font applied.



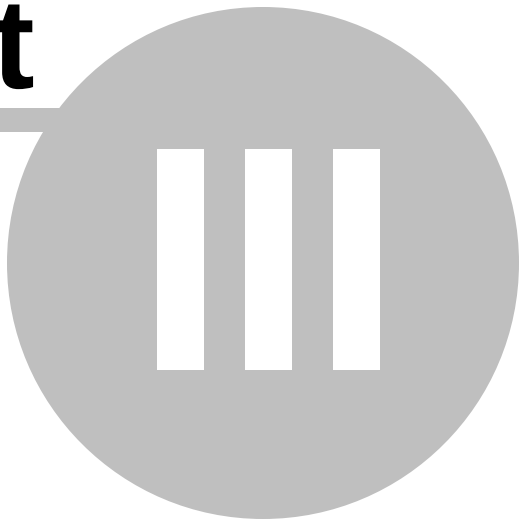
System font name
Defines the font used by Data Generator for MySQL. Select the font name from the drop-down list of available system fonts.



System font size
Defines the font size used by Data Generator for MySQL. Type in or use the drop-down list to select the required value.

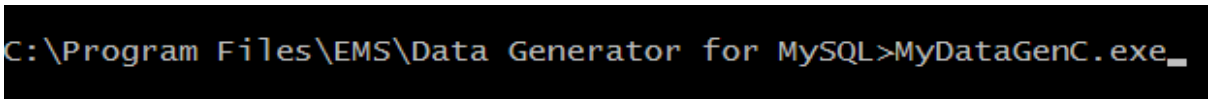
See also:
Trees and lists
Edit controls
Check boxes
Buttons
Page controls
Group boxes

Part



3 Console Application

Additionally to **the GUI version** which is implemented in the form of a wizard application, the installation package of Data Generator for MySQL includes **the console version** which is intended for being run from Windows command line with a template file name used as the execution parameter.



Data Generator for MySQL command line utility is intended for quick and powerful data generation to MySQL tables.

- Using console application

See also:
Wizard Application

3.1 Using console application

All the generation options are set in **template** (*.gtm) files. A template can be also used in the **Console version** of Data Generator for MySQL .

To create a template file, follow the instructions below:
- start Data Generator for MySQL Wizard Application;
- set all the required options in all steps of the wizard;
- test the generation process at the last step;
- save all generation options in the template file.

The easiest way to start Data Generator for MySQL console application is to double-click the generated *.gtm template file. The other way is to enter the command line and type the appropriate command.

Usage:

<path to Data Generator for MySQL console application>\MyDataGenC.exe TemplateFile [-L] [-B]

TemplateFile
Stands for the *.gtm template file to be used as the console version execution parameter

[-L]
Applies the current localization selected in Wizard Application (GUI)

[-B]
Use this parameter in the command line to run the console version of **Data Generator for MySQL** in background mode

Example:

"C:\Program Files\EMS\Data Generator for MySQL\MyDataGenC.exe" "C:\EMS\Templates\DataGenerator\Example.gtm" -L

Note: The result of the latest task performed by Data Generator for MySQL can be found in the system variable '*%ERRORLEVEL%*'.
0 - successful completion;
1 - error(s) occurred during task performing;
2 - fatal error occurred. The task was not performed.

See also:
Using wizard application
Configuration file format

Part

4 Appendix

4.1 SSH tunneling options

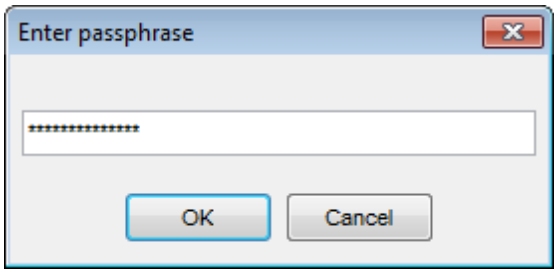
To setup the connection via **SSH tunnel**, input the following values in the corresponding fields:

- **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.

☑ **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.



4.2 HTTP tunneling options

To use **HTTP tunneling**, just upload the tunneling script to the webserver where MySQL server is located, or to any other webserver from which direct connections to your MySQL server are allowed. This script exposes the MySQL API as a set of web-services used by Data Generator for MySQL.

In case of using this connection method the response will be slower as compared to the direct connection or the SSH Tunneling method, since the data are XML encoded and HTTP is stateless by nature. However, all the features of Data Generator for MySQL are available.

Note that the *emsproxy.php* script file is included into the distribution package and can be found in Data Generator installation directory.

4.3 Data generation mode

This option defines data generation mode - *random data generation*, *incremented values generation* or getting data from *list or SQL query*, or getting data from an existing table *field*.

Select the **Generate random data** option to generate random data within the defined range.

Another mode - **Generate incremental data** - allows one to set the initial value and the increment for generated values.

Select the **Get Data from List / SQL query** option to generate data by getting values from the user-defined list randomly or in the fixed order. This can be:
- a *list of values* (for numeric, string, date/time, boolean data types);
- a *list of files* (for BLOB data type);
- an *SQL query*;
- previously defined *sample text* (for string data types).

Select the **Get data from Field** option to specify a field to generate data from: use the *Table* and *Field* drop-down lists to select the source table and field that will be used to take data for generation.

4.4 Configuration file format

The **configuration** (**template**) **file** used by Data Generator for MySQL is divided into several sections, each corresponding to a particular group of settings specified at different steps of the GUI application wizard.

[#General#]
This section stores general information about the utility:

Parameter	*Description*
Product	internal product name
Version	major version

[#Comment#]
This section stores the template file comment as specified optionally in the Save template options dialog:

Parameter	*Description*
Line<N>	comment text

where *N* stands for the comment line identifier

Example:
Line0=Data Generator for MySQL
Line1=Template file
Line2=Data generation #1

[CONNECTION]
This section stores connection parameters to MySQL. The parameters correspond to the values entered at Step 1 of the Wizard application and are obligatory.

Parameter	*Description*
Host	host where the database resides (if **Remote** = *1*)
Port	port on which MySQL is listening
Remote	*0* = local connection *1* = remote connection
Login	MySQL login
Password	password to identify the login (encrypted)
Charset	client character set specified for the connection
FontCharset	font character set used by the application
Major	major version used to encrypt the passwords (the value must not be changed)
Minor	minor version used to encrypt the passwords (the value must not be changed)

[TUNNELING]
The section contains parameters required for connection with tunneling used; the values correspond to the settings specified at Step 1 of the Wizard application for connection via SSH Tunnel or HTTP Tunnel (if used).

Parameter	*Description*
TunnelType	indicates the tunneling type being used: SSH, HTTP, or none (**TunnelType** = *ttNotUse*)
SSHHostName	name of the host where SSH server is running
SSHPort	port on which SSH server is activated
SSHUserName	user on the machine where SSH server is running
SSHPassword	password to identify SSH server user (encrypted)
SSHKeyFile	path to the Private key used for the SSH connection (if **SSHUseKeyFile** = *True*)
SSHUseKeyFile	*True* = SSH Private key is used *False* = SSH Private key is not used
PassPhrase	passphrase for Private key (if **SSHUseKeyFile** = *True*)
HTTPUrl	URL to the *emsproxy.php* script file uploaded to your web-server (for **HTTP** tunneling)

[ADDITIONAL]
The section contains additional settings specified at Step 2 and Step 4 of the Wizard application.

Parameter	*Description*
TablesCount	number of tables selected for data generation
SqlExecute	corresponds to the *Execute statements* option of the **Action** radio group available at Step 4: *1* = enabled *0* = disabled
SqlSave	corresponds to the *Save data generation script to file* option of the **Action** radio group available at Step 4: *1* = enabled *0* = disabled
SaveFile	path to the script file (if **SqlSave** = *1*)
BlobFile	the parameter is not used by Data Generator for MySQL
ExportBlobType	the parameter is not used by Data Generator for MySQL

[TABLE_XX]
The section is repeated for all tables; the settings are specified at Step 3 of the Wizard application.

Parameter	*Description*
Database	indicates the name of the database where the table is located
TableName	indicates the name of the table to generate data into
RecordCount	number of records to be generated
ClearBeforeGeneration	*1* leads to emptying table *0* leaves the table as it was before data generation

[TABLE_XX_FIELD_YY]
The section is created for each field of each table.

Parameter	*Description*
DoGenerate	*0* indicates that the field is excluded *1* indicates that the field is included
IncludeNulls	*1* specifies that the NULL values are set for certain percent of cases *0* disables this option

NumNulls	the percentage of field values to be set to NULL
GenMethod	defines Data generation mode: *0* stands for incremental data generation *1* = random data generation *2* refers to **Get data from list / SQL query** option *3* = from another field
GenFromSQL	*0* = the direct list of values is taken for data generation *1* = SQL query is used
SQL	text of the SQL query from which a list of values is taken for generation (as the result of the SQL query execution)
UsingMask	*0* = no mask is used for string field values *1* = generation of string field values by mask
Mask	mask for string field values generation
MinInt	minimal value for integer fields
MaxInt	maximal value for integer fields
UseFormula	*0* = no formula *1* = a formula is applied for data generation
Formula	formula for data generation, e.g. *x*2+1*
Digits	digits quantity for float fields
Precision	precision value for float fields
MinDate	minimum value for date fields
MaxDate	maximum value for date fields
IncludeTime	indicates whether time is added (for *DATETIME* fields)
MinTime	minimum value for time fields
MaxTime	maximum value for time fields
MinLength	minimum length for string fields
MaxLength	maximum length for string fields
StartChar	first char code for generating strings
EndChar	last char code for generating strings
Charset	field character set
InitialValue	the initial value for data generation into the field
IncrementStep	specifies the step to increment values (for **GenMethod** = *0*)
UseNewLine	1 = a line feed is used for a new line 0 = no line feeds used
WinNewLineStyle	style to be applied to line feeds: *1* = Windows style *0* = Unix style
SampleText	sample text to be generated for a string field

4.5 Find Text dialog

The **Find Text** dialog is provided for quick and flexible searching for specified text within the working area of the script editor.

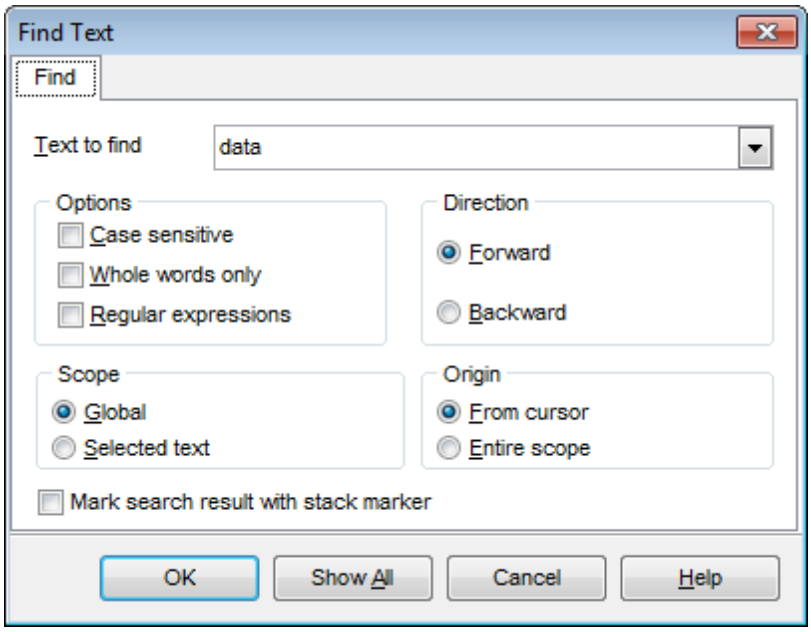
Text to find
Enter a search string in this box. The Arrow-Down button which can be found next to the input box allows you to select any of the previously entered search strings.

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 search string.



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.

4.6 Replace Text dialog

The **Replace Text** dialog is provided for searching and replacing text within the working area of the script editor.

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.

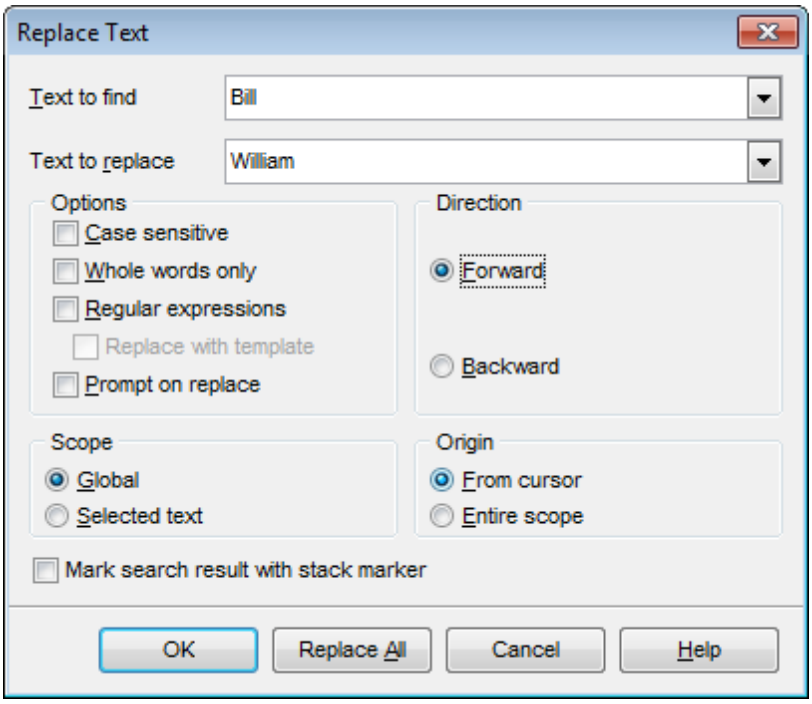
☑ **Whole words only**
Use this option to search for words only (with this option off, the search string might be found within longer words.)

☑ **Regular expressions**
Recognizes regular expressions in the search string.

☑ **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.



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

Global
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.

Credits

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