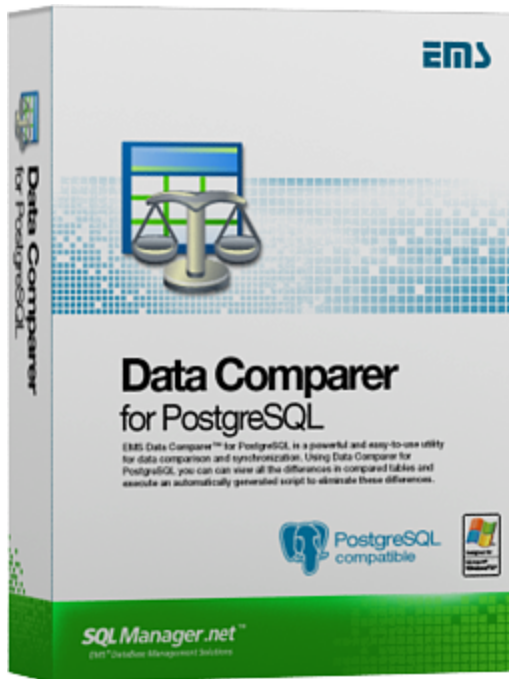


SQL Manager.net™

EMS® Software Development



Data Comparer for PostgreSQL User's Manual

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Data Comparer for PostgreSQL User's Manual

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Document generated on: 20.01.2025

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Part



1 Welcome to EMS Data Comparer!

EMS Data Comparer for PostgreSQL is a powerful and easy-to-use utility for data comparison and synchronization. You can view all the differences in the tables being compared and execute an automatically generated script to eliminate these differences. With flexible customization of the comparison and synchronization process you can select tables and fields for comparison and tune many other options. **Data Comparer for PostgreSQL** includes a graphical wizard guiding you through the data comparison and synchronization process step by step, and a command-line service for synchronizing data in one-touch.

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

Key features

- User-friendly wizard interface
- Data comparison of several tables simultaneously
- Automatic and manual selection of data being compared
- Wide range of synchronization parameters
- Unicode data support
- Partial data synchronization
- Saving data synchronization script to a file for future use
- The ability saving all the parameters specified within the current wizard session
- The command-line utility to compare and synchronize data with a template used
- The possibility to compare data using filters

Product information

Homepage: <https://www.sqlmanager.net/products/PostgreSQL/datacomparer>

Support Ticket <https://www.sqlmanager.net/support>

System:

Register online at: <https://www.sqlmanager.net/products/PostgreSQL/datacomparer/buy>

1.1 What's new

Version

Data Comparer for PostgreSQL 4.0

Release date

August 2, 2024

What's new in Data Comparer 4.0?

- Dark visual schema is now available in the application.
- SSL connection added for InterBase/Firebird, MySQL/MariaDB, PostgreSQL servers.
- Unicode object names are now supported.
- Added support for Windows 11 ARM.
- SSH library upgraded to support ECDSA, Ed25519 keys and Keyboard-interactive authentication method.
- All latest server versions are supported: Firebird 5, SQL Server 2022, MySQL 8, PostgreSQL 16.
- Restart wizard option added at the last step of the wizard.
- Improved processing of scripts for data synchronization.
- Many other improvements and fixes.

1.2 System requirements

System requirements

- Microsoft® Windows XP, Microsoft® Windows 2003 Server, Windows® 2008 Server, Microsoft® Windows Vista, Microsoft® Windows 7, Microsoft® Windows 8, Microsoft® Windows 2012 R2 Server, Microsoft® Windows 2012 Server, Microsoft® Windows 8.1, Microsoft® Windows 10, Microsoft® Windows 2016 Server, Microsoft® Windows 2019 Server, Microsoft® Windows 11, Microsoft Windows 11 ARM
- 512 MB RAM or more; 1024 MB or more recommended
- 50 MB of available HD space for program installation
- Possibility to connect to any local or remote PostgreSQL server
- Supported PostgreSQL server versions: from 7.3 up to 16.0

1.3 Installation

If you are **installing Data Comparer for PostgreSQL for the first time** on your PC:

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

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

- download the **Data Comparer for PostgreSQL** distribution package from the [download page](#) available at our site;
- unzip the downloaded file to any local directory, e.g. *C:\unzipped*;
- close Data Comparer application if it is running;
- run *PgDataComparerSetup.exe* from the local directory and follow the instructions of the wizard.

See also:

[System requirements](#)

1.4 Registration

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

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

If you want to review your order information, or you have questions about ordering or payments please visit our [PayPro Global Shopper Support](#), provided by **PayPro Global**.

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

Product distribution	PayPro Global
EMS Data Comparer for PostgreSQL (Business license) + 1-Year Maintenance*	Register Now!
EMS Data Comparer for PostgreSQL (Business license) + 2-Year Maintenance*	
EMS Data Comparer for PostgreSQL (Business license) + 3-Year Maintenance*	
EMS Data Comparer for PostgreSQL (Non-commercial license) + 1-Year Maintenance*	
EMS Data Comparer for PostgreSQL (Non-commercial license) + 2-Year Maintenance*	
EMS Data Comparer for PostgreSQL (Non-commercial license) + 3-Year Maintenance*	
EMS Data Comparer for PostgreSQL (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.

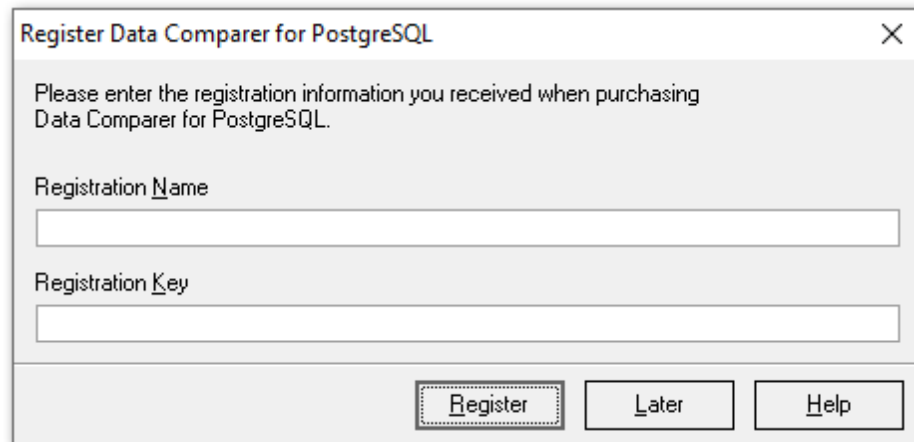
See also:

[How to register EMS Data Comparer](#)

1.5 How to register EMS Data Comparer

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

- receive the notification letter from **PayPro Global** with the registration info;
- enter the **Registration Name** and the **Registration Key** from this letter into the **Register Data Comparer for PostgreSQL** form at the [Welcome Step](#);
- make sure that the registration process has been completed successfully – check the registration information at the [startup page](#).



Register Data Comparer for PostgreSQL

Please enter the registration information you received when purchasing Data Comparer for PostgreSQL.

Registration Name

Registration Key

Register Later Help

See also:
[Registration](#)

1.6 EMS Data Comparer FAQ

Please read this page attentively if you have questions about EMS **Data Comparer for PostgreSQL**.

Table of contents

- [What is EMS Data Comparer?](#)
- [What do I need to start working with EMS Data Comparer?](#)
- [What is the easiest way to configure the template files for Data Comparer console application?](#)
- [How can I register the application?](#)
- [Are there any limitations implied in the trial version as compared with the full one?](#)
- [How can I automate comparison and synchronization process?](#)

Question/answer list

Q: *What is EMS Data Comparer?*

A: EMS Data Comparer for PostgreSQL is a powerful and easy-to-use utility for data comparison and synchronization which allows you to view differences in tables and execute an automatically generated script to synchronize data between these tables. Data Comparer for PostgreSQL includes a GUI wizard which guides you through the data comparison and synchronization process step by step, and a command-line version for synchronizing data in one-touch.

Q: *What do I need to start working with EMS Data Comparer for PostgreSQL?*

A: First of all, you must have a possibility to connect to some local or remote PostgreSQL server to work with Data Comparer. You can download PostgreSQL database server from <https://www.postgresql.org/download/>. Besides, you need your workstation to satisfy the [system requirements](#) of Data Comparer for PostgreSQL.

Q: *What is the easiest way to configure the template files for Data Comparer console application?*

A: You can configure the template files visually using the Data Comparer Wizard. Set all the necessary options in each step of the wizard and click the [Tools | Save template](#) button. All the options will be saved to the template file which can be used afterwards in the console application.

Q: *How can I register the application?*

A: If you have already purchased Data Comparer for PostgreSQL, you can register the product by entering the appropriate registration information. Please refer to [Registration](#) and [How to register EMS Data Comparer](#) 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 allows to compare and synchronize no more than 10 tables. As for the rest, the functionality of the trial version does not differ from the full one. You can test the features implemented in Data Comparer for PostgreSQL within the 30-day trial period for free.

Q: *How can I automate comparison and synchronization process?*

A: First go through all steps of the wizard setting the necessary options and [save the template](#) at the last step of the wizard. The template can be run with the [console version](#) of the utility from the command line. You can schedule the launch of the console with the template name as a parameter using native Windows Scheduler tool.

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If you still have any additional questions, please contact us at our [Support Center](#).

1.7 Other EMS Products

Quick navigation

[MySQL](#)[Microsoft SQL Server](#)[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.

[Scroll to top](#)

Microsoft SQL Server



[SQL Management Studio for SQL Server](#)

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



[EMS SQL Backup for SQL Server](#)

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



[SQL Administrator for SQL Server](#)

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



[SQL Manager for SQL Server](#)

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



[Data Export for SQL Server](#)

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



[Data Import for SQL Server](#)

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



[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.



[DB Extract for SQL Server](#)

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



[SQL Query for SQL Server](#)

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



[Data Comparer for SQL Server](#)

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

[Scroll to top](#)

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!



[EMS SQL Backup for PostgreSQL](#)

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



[SQL Manager for PostgreSQL](#)

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



[Data Export for PostgreSQL](#)

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



[Data Import for PostgreSQL](#)

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



[Data Pump for PostgreSQL](#)

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



[Data Generator for PostgreSQL](#)

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



[DB Comparer for PostgreSQL](#)

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



[DB Extract for PostgreSQL](#)

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



[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.

[Scroll to top](#)

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.

[Scroll to top](#)

IBM DB2



[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 Extract for DB2](#)

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



[SQL Query for DB2](#)

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

based on retrieved data quickly and more.

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Tools & components



[Advanced Data Export for RAD Studio VCL](#)

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



[Advanced Data Export .NET](#)

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



[Advanced Data Import for RAD Studio VCL](#)

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



[Advanced PDF Generator for RAD Studio](#)

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



[Advanced Query Builder for RAD Studio VCL](#)

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



[Advanced Excel Report for RAD Studio](#)

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

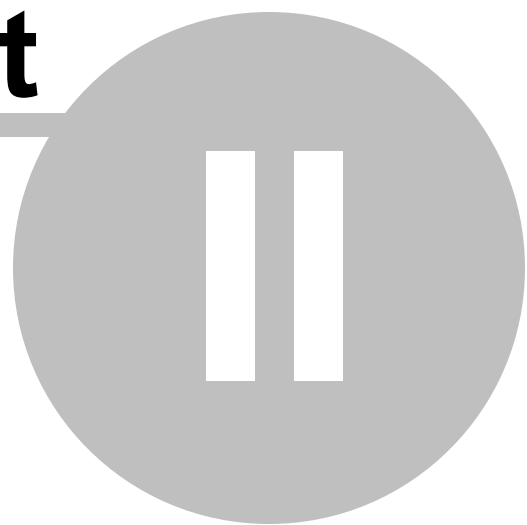


[Advanced Localizer for RAD Studio VCL](#)

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

[Scroll to top](#)

Part



2 Using Wizard Application

Data Comparer for PostgreSQL Wizard guides you through the entire comparison and synchronization process and provides an easy-to-use graphical interface allowing you to set all data comparison parameters visually.

Navigation through the steps of the wizard is performed with the help of the **Next>** and the **<Back** buttons.

Use the **Tools** button for calling the **Preferences** dialog or to **load/save a template**.

Go through the steps of the wizard and follow the wizard instructions to tune all necessary comparison options according to your needs:

[Getting started](#)

[Step 1 - Setting connection properties](#)

[Step 2 - Setting tables and fields correspondence](#)

[Step 3 - Browsing data comparison results](#)

[Step 4 - Specifying data synchronization options](#)

[Step 5 - Setting synchronization order](#)

[Step 6 - Editing synchronization script](#)

[Step 7 - Specifying additional scripts](#)

[Step 8 - Start of synchronization process](#)

See also:

[Using console application](#)

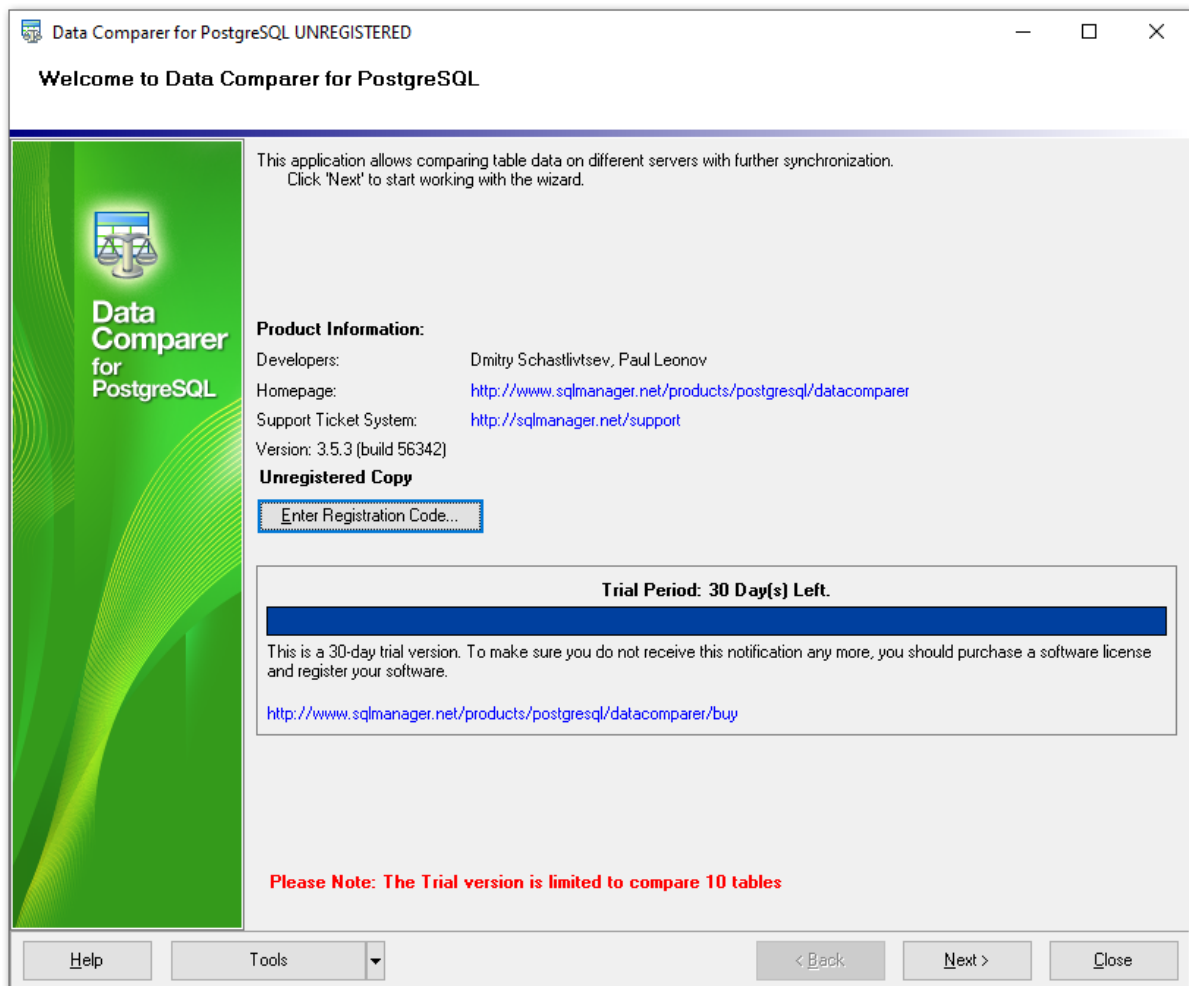
[Using templates](#)

[Setting program preferences](#)

2.1 Getting started

This is how **Data Comparer for PostgreSQL** application wizard looks when you first start it.

This page allows you to view registration information. If you have not registered Data Comparer for PostgreSQL yet, you can do it by pressing the **Enter Registration Code...** button and [specifying your registration information](#).



Press the **Next** button to proceed to the [next step](#).

2.2 Step 1 - Setting connection properties

At this step you should specify necessary settings to establish connection to PostgreSQL databases.

Data Comparer for PostgreSQL

Step 1 of 8
Set PostgreSQL connection properties

Source Database Connection Properties

Connection Tunneling* SSL

Host: ayz2
Port: 54383
Database: DemoDB
Login: ayz
Password:

☐ Both databases are located on the same server

Target Database Connection Properties

Connection Tunneling* SSL

Host: localhost
Port: 54391
Database: DemoDB
Login: postgres
Password:

Help Tools < Back Next > Close

Connection settings

Host

Specify the name or IP of the server to connect.

Port

Specify port value.


Login

Input the name of the server user.

Password.

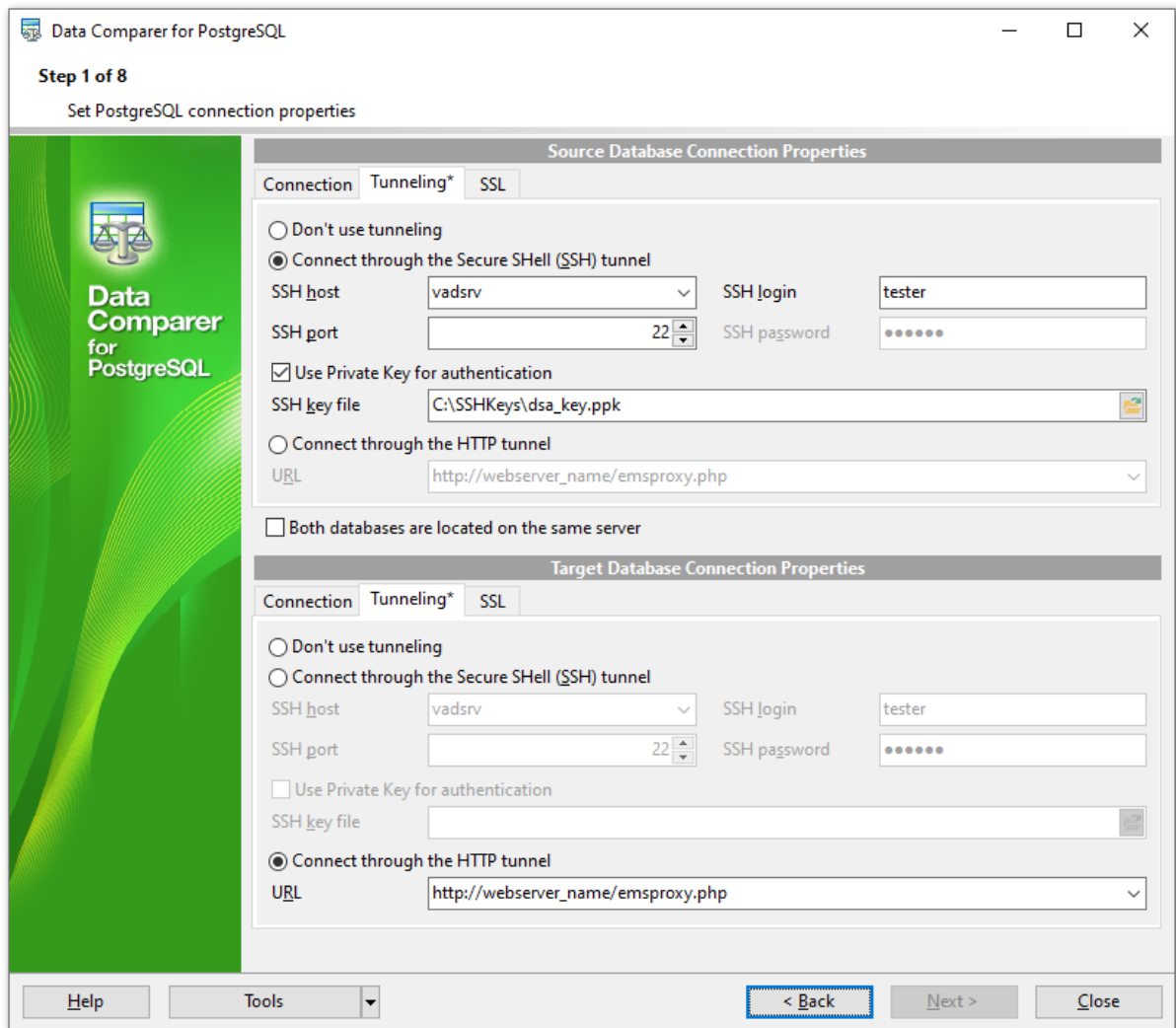
Input the password.

Database

Select the database you are going to work with: type in its name in the Database field or use the ellipsis  button to select one from the [Select database](#) list.

Please note that you need to have sufficient privileges to be able to write to the destination database on PostgreSQL server.

Tunneling settings



Data Comparer for PostgreSQL

Step 1 of 8
Set PostgreSQL connection properties

Source Database Connection Properties

Connection Tunneling* SSL

☐ Don't use tunneling

☒ Connect through the Secure SHell (SSH) tunnel

SSH host: vadsrv SSH login: tester

SSH port: 22 SSH password:

☒ Use Private Key for authentication

SSH key file: C:\SSHKeys\dsa_key.ppk

☐ Connect through the HTTP tunnel

URL: http://webserver_name/emsproxy.php

☐ Both databases are located on the same server

Target Database Connection Properties

Connection Tunneling* SSL

☐ Don't use tunneling

☐ Connect through the Secure SHell (SSH) tunnel

SSH host: vadsrv SSH login: tester

SSH port: 22 SSH password:

☐ Use Private Key for authentication

SSH key file:

☒ Connect through the HTTP tunnel

URL: http://webserver_name/emsproxy.php

Help Tools < Back Next > Close

SSH host name

Set the name of the host where SSH server is running.

SSH port

Indicate the port where SSH server is activated.

SSH login

Specify the user on the machine where SSH server is running (**Note:** it is a Linux/Windows user, not a user of PostgreSQL server).

SSH password

Input the Linux/Windows user password.

☒ **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.

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. For more details see [SSH tunneling options](#).

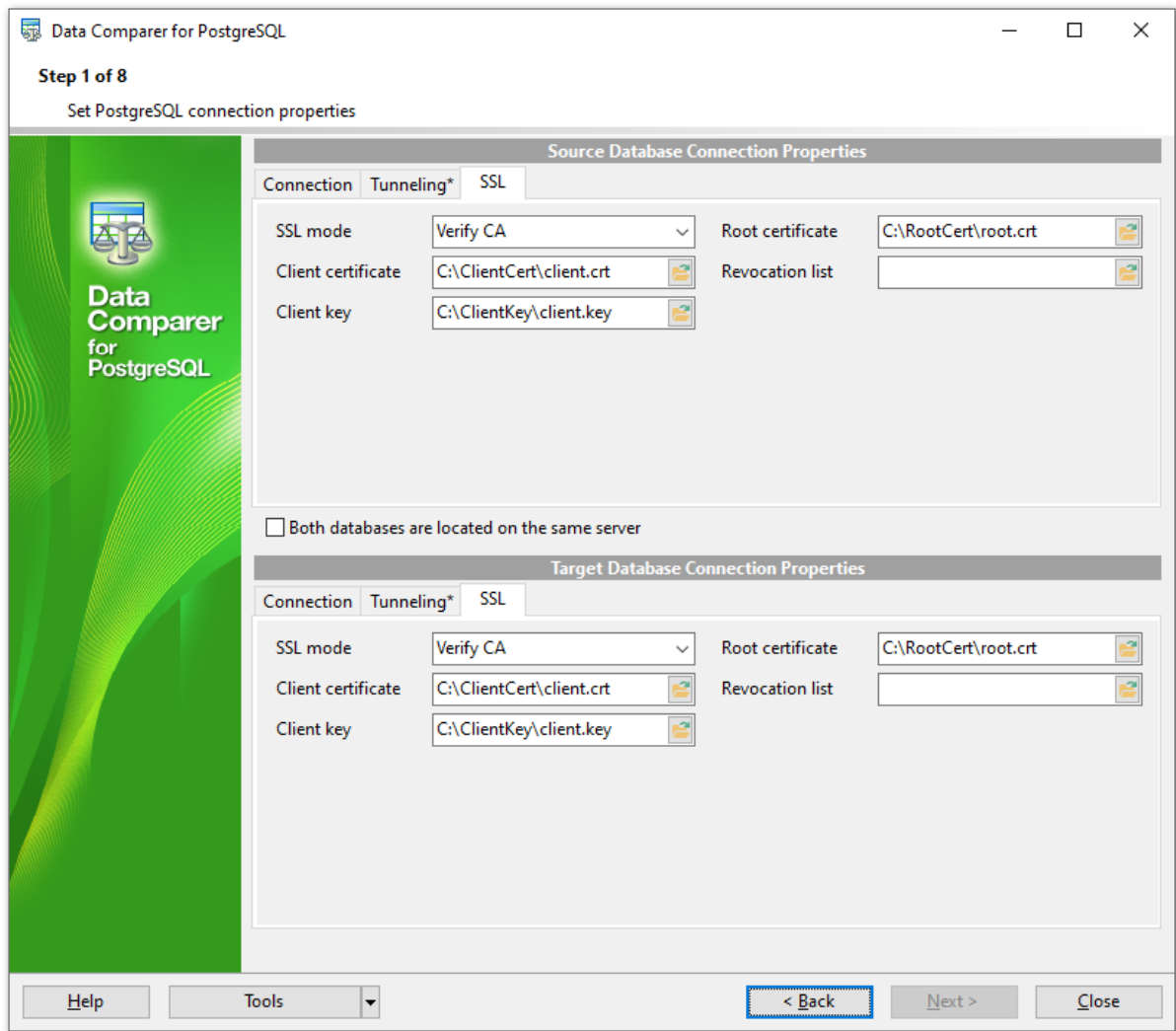
To use **HTTP tunneling**, just upload the tunneling script to the webserver where PostgreSQL server is located, or to any other webserver from which direct connections to your PostgreSQL server are allowed. This script exposes the PostgreSQL API as a set of web-services which is used by Data Comparer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

For details see [HTTP tunneling options](#).

Repeat the steps above for the **target** PostgreSQL connection or just check the **Both databases are located on the same server** option for comparing data from databases located on the same server.

When you are done, press the **Next** button to proceed to the [selecting schemas for refreshing](#) or directly to [Step 2](#) (if the **Select schemas...** dialog is disabled in the [program preferences](#)).

SSL settings



SSL mode

Select the required SSL mode from the dropdown menu: Disabled, Allow, Prefer, Require, Verify CA or Verify Full.

Client certificate

Select the server client public key certificate file.

Client key

Select the path to the client private key file.

Root certificate


Define the path to the certificate authority file.

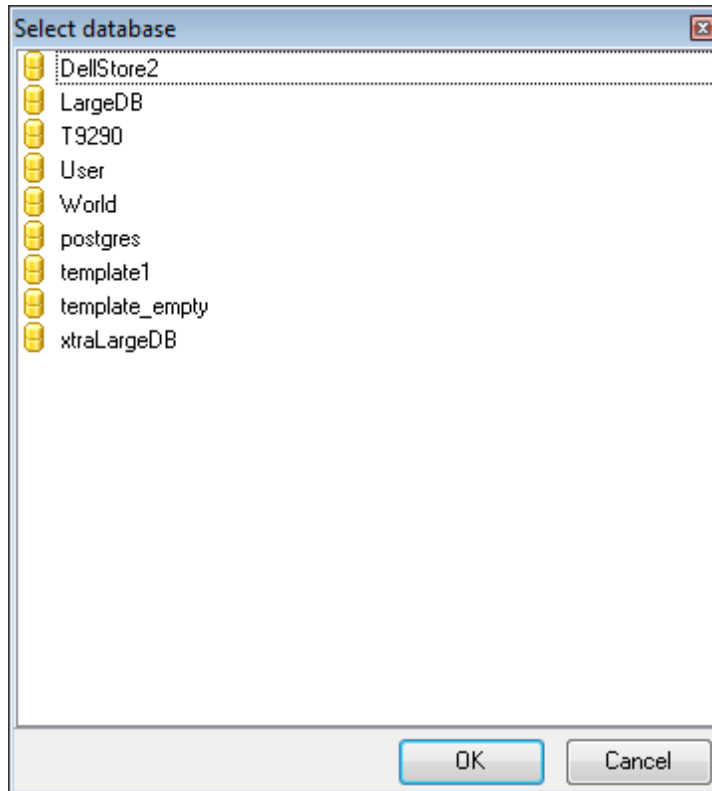
Revocation list

Specify the file containing certificate revocation lists, if required.

2.2.1 Selecting databases

When the server connection settings are specified, you should select databases for data comparison using the **Select database** dialog.




To call this dialog, click the ellipsis  button of the **Database** control at [Step 1](#).

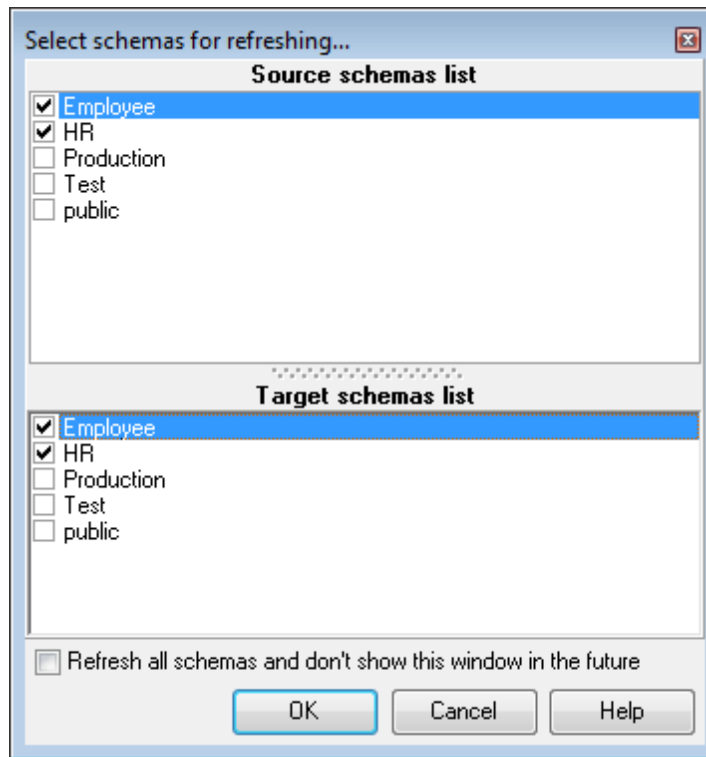


When you are done, press **OK** to apply the database selection.

2.2.2 Selecting schemas for refreshing

Before you proceed to the [Setting tables and fields correspondence](#) step of the wizard, you are offered to specify the schemas to be refreshed using the **Select schemas for refreshing...** dialog.

Hint: For your convenience the **context menu** is available in both the **Source schemas** and **Target schemas** lists. Using the context menu you can  *Check all*,  *Uncheck all* and  *Invert items selection* in the lists.



☒ **Refresh all schemas and don't show this window in the future**

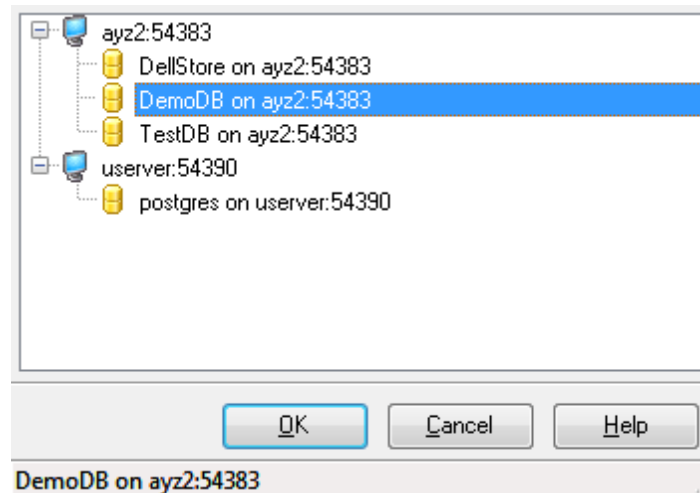
Set this option to specify all of your PostgreSQL schemas for refreshing and skip this dialog in the future sessions of the wizard.

Note: To activate/deactivate this dialog, use the *Show select schemas window* option in the [General](#) section of the [Preferences](#) dialog.

When you are done, press **OK** to proceed to [Step 2](#) of the wizard.

2.2.3 Selecting registered database

Use this dialog to select a database for comparison. This dialog is available only in EMS SQL Management Studio version of Data Comparer for PostgreSQL.



All databases registered in EMS SQL Management Studio for PostgreSQL are displayed in the list.

Select the necessary database and click the **OK** button.

Database registration information will be filled on the [first step](#) automatically.

2.3 Step 2 - Setting tables and fields correspondence

At this step you should select objects for data comparison.

Data Comparer for PostgreSQL

Step 2 of 8

Set correspondence for tables and fields to compare

DemoDB on testing-pg:54160 <-> ayz2 on testing-pg:54160

Set table correspondence

Mask for autofill

Autofill tables and fields

Source Tables	Target Tables	Data Filter
HR.DEPARTMENT	HR.DEPARTMENT	< Set Filter >
HR.EMPLOYEE	HR.EMPLOYEE	< Set Filter >
HR.EmployeeAddress		
HR.EmployeeDepartmentHistory		
HR.EmployeePayHistory		

Set field correspondence

Autofill fields

Source Fields	Target Fields	Key Field
EMP_ID integer	EMP_ID integer	<input checked="" type="checkbox"/>
POSITION varchar(40)	POSITION varchar(40)	<input type="checkbox"/>
FIRST_NAME varchar(30)	FIRST_NAME varchar(30)	<input type="checkbox"/>
LAST_NAME varchar(30)	LAST_NAME varchar(30)	<input type="checkbox"/>
GENDER char(1)	GENDER char(1)	<input type="checkbox"/>
MARITAL_STATUS char(1)	MARITAL_STATUS char(1)	<input type="checkbox"/>
BIRTH_DATE date	BIRTH_DATE date	<input type="checkbox"/>
HIRE_DATE date	HIRE_DATE date	<input type="checkbox"/>

Options

☐ Ignore case when comparing strings

☐ Compare BLOB values

☒ Trim CHAR fields

NOTE: Synchronization for OID fields is possible if PL/PGSQL language is installed on the server

Number of comparison threads: 3

Help Tools < Back Next > Close

Setting table correspondence


The upper grid allows you to set correspondence between tables of the source and the target databases. If you wish to setup correspondence between tables (as well as between their fields) automatically on the basis of equivalence of their names, press the **Autofill tables and fields** button. If no correspondence is set for a table, it will not be included in the data comparison process.



kpfpk

For your convenience the **Mask for autofill** of object names is added. The filter is intended for excluding unnecessary tables from auto filling.

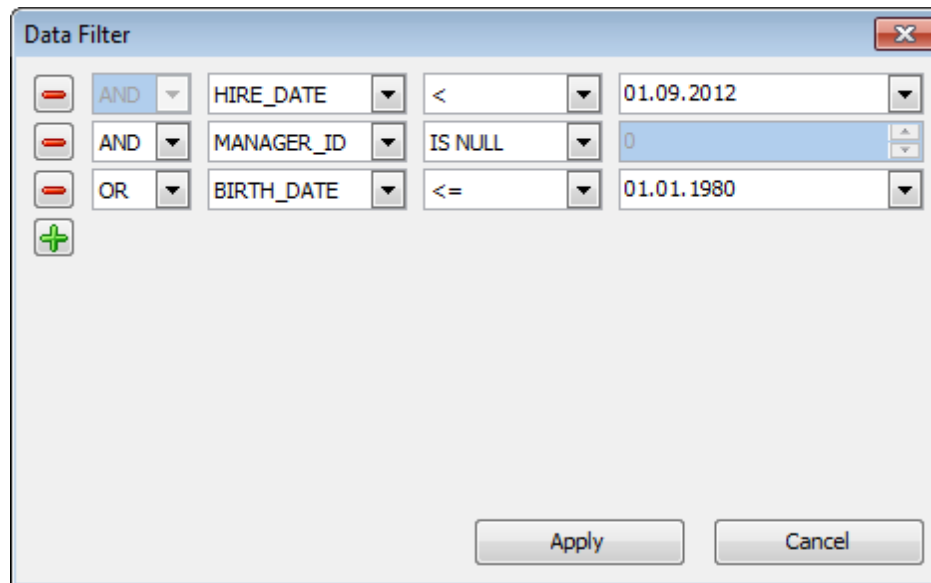
You can use standard wildcards like asterisk (*) or percent sign (%) which are the same, or the question mark (?). To exclude the object names set in the filter, use the exclamation mark (!) at the beginning, e.g. the result for !T* stands for all objects except the object names starting with T. If any of these symbols presents the name of the object and you do need to apply filter to them, just double that symbol, e.g. the result for !!T* will result in all objects with names that start with !T.

Data Filter


Click the  button in the **Data Filter** column to set filter for comparing data. Only data within specified condition will be compared and synchronized.

Use  \  buttons to **Add\Remove** conditions and drop-down lists to select column names and operators.

Note: You can apply either **OR** or **AND** operator between conditions.



Operator	Field	Operator	Value
AND	HIRE_DATE	<	01.09.2012
AND	MANAGER_ID	IS NULL	0
OR	BIRTH_DATE	<=	01.01.1980

Buttons:  Apply Cancel

Setting field correspondence

The lower grid allows you to set correspondence between table fields of the source and the target databases. If you wish to set up correspondence between table fields automatically on the basis of equivalence of their names, press the **Autofill fields** button. Please note that you can set field correspondence for fields of identical data types only. If no correspondence is set for a field, it will not be included in the data comparison process.

Tick off the checkboxes in the **Key Field** column for those fields which will be used as key columns to determine appropriate records in the tables being compared. Please keep in mind that you can define a key field only after a correspondence has been set for this field.

Note: you can define options for multiple tables/fields at a time by using the [context menus](#) implemented for your convenience in the **Setting table correspondence** and the **Setting field correspondence** grids.

Attention! You should define at least one **key field** for each pair of tables, otherwise they will be painted red, and you will be unable to proceed.

☒ **Ignore case when comparing strings**

Set this option for case-insensitive comparison of strings.

☒ **Compare BLOB values**

Set this option to compare the content of the BLOB fields.

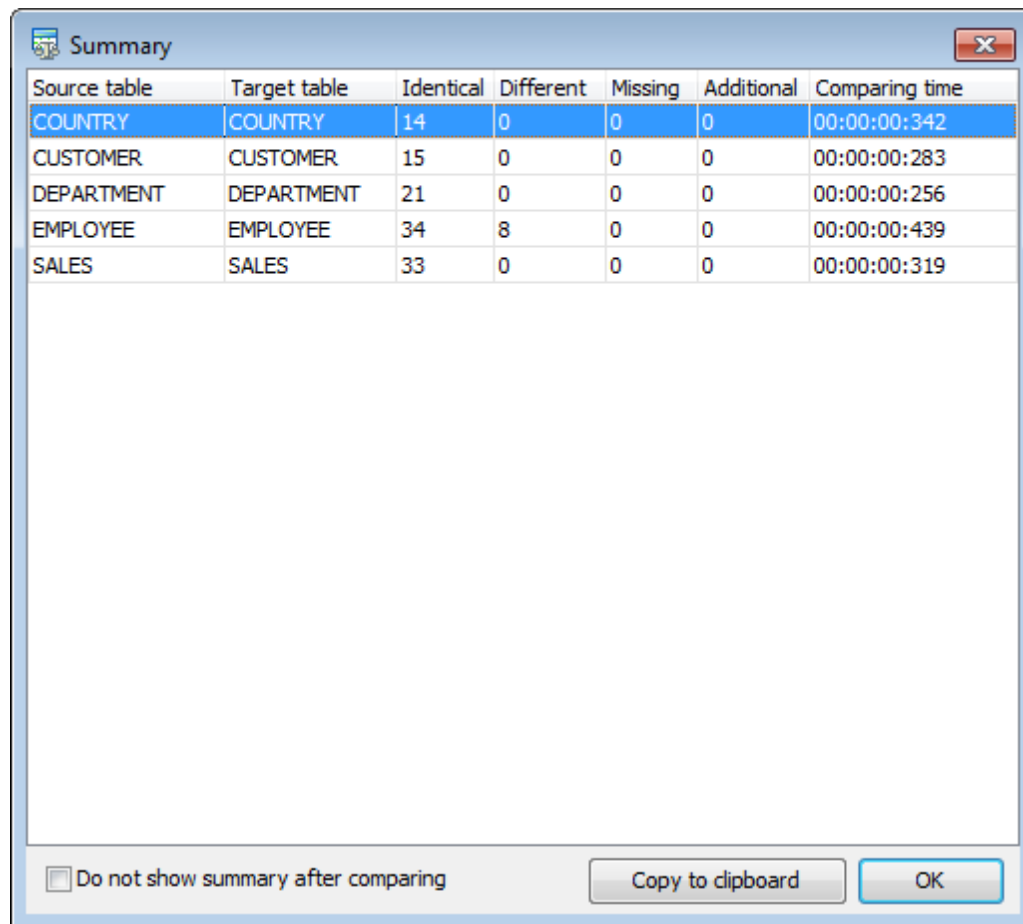
☒ **Trim CHAR fields**

Set this option to trim CHAR fields on synchronization. Note, that if data only contains spaces it will be regarded as empty string ("). If the option is off data is processed as is (including spaces at the end of the string).

Number of comparison threads

Specify the number of comparison threads (max 5).

When table comparison is complete the **Summary** dialog appears. This dialog provides you with common information about the result of table(s) comparison. The number of *identical*, *different*, *missing* and *additional* records for each pair of tables can be found at the corresponding columns of this report.



Source table	Target table	Identical	Different	Missing	Additional	Comparing time
COUNTRY	COUNTRY	14	0	0	0	00:00:00:342
CUSTOMER	CUSTOMER	15	0	0	0	00:00:00:283
DEPARTMENT	DEPARTMENT	21	0	0	0	00:00:00:256
EMPLOYEE	EMPLOYEE	34	8	0	0	00:00:00:439
SALES	SALES	33	0	0	0	00:00:00:319

☐ Do not show summary after comparing Copy to clipboard OK

Check the **Do not show summary** option if there is no need in this dialog. The **Show summary dialog after comparison** option at the [preferences](#) dialog allows you to manage this dialog appearance. You can sort data in a column by clicking the column caption.

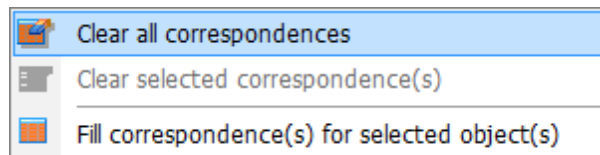
When you are done, press the **Next** button to proceed to the [next step](#).

2.3.1 Using the context menus

For your convenience the **context menus** are implemented in the **Setting table correspondence** and the **Setting field correspondence** grids within [Step 2](#) of the wizard.

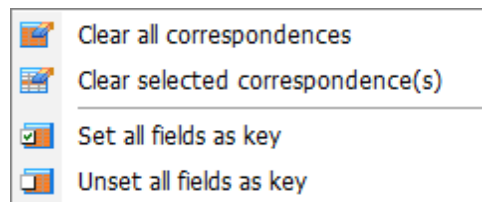
To call a context menu, use standard Windows means (right-click the grid or use the *Shift+F10* shortcut).

The context menu of the **Setting table correspondence** grid allows you to:



- clear all table correspondences;
- clear the selected table correspondences (**Hint:** selection of two or more rows in the grid is performed with the **Ctrl** or the **Shift** key pressed);
- find the matching table name in the list of available tables and set the table into correspondence with the selected one.

The context menu of the **Setting field correspondence** grid allows you to:



- clear all field correspondences for the selected table;
- clear the selected field correspondences (**Hint:** selection of two or more rows in the grid is performed with the **Ctrl** or the **Shift** key pressed);
- set all fields of the table as key fields for the comparison process;
- unset all key fields.

2.4 Step 3 - Browsing data comparison results

At this step the results of data comparison are represented. You can set options for each of the tables being compared.

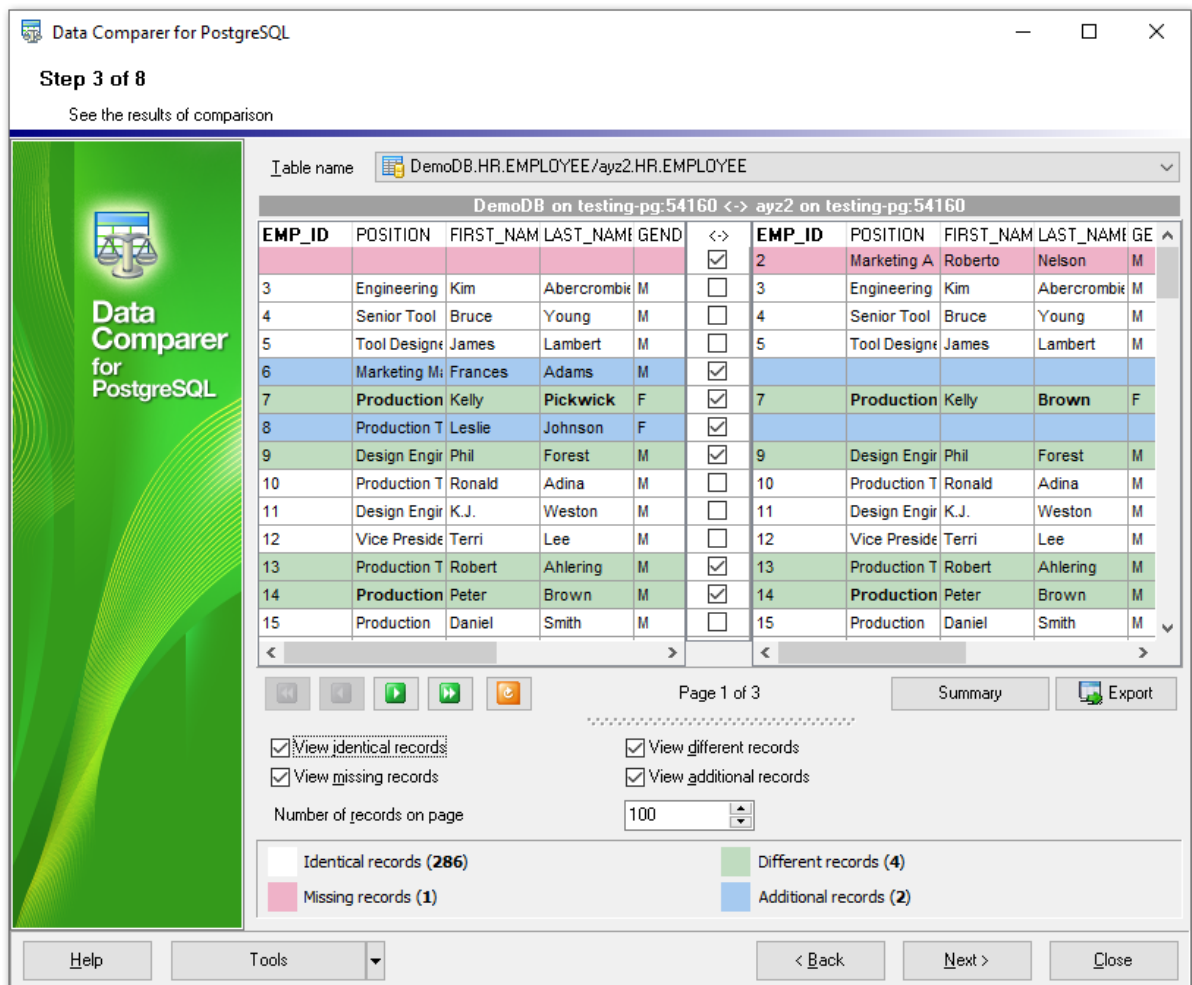
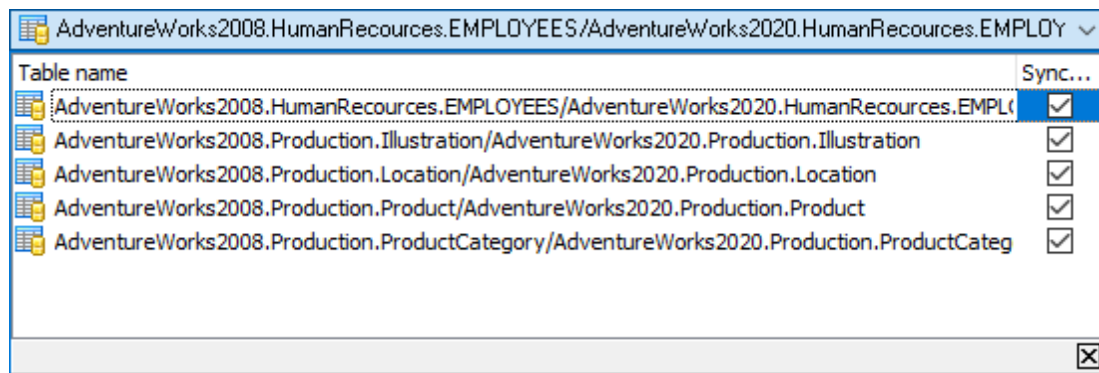


Table name

The drop-down list of available tables allows you to select a pair of tables to view their data comparison results.

In the **Synchronize** column the pairs to be compared are checked.



The header of the **Key field** specified at the [previous step](#) is marked out with bold font.

All data records are divided into several groups distinguished by different colors in the data comparison result grid:

- *identical records* are the same in both tables;
- *different records* are those having different data in one or more fields (text of different records is marked out with bold font);
- *missing records* are the records found in the table of the source database, but not in the table of the target one;
- *additional records* are the records found in the table of the target database, but missing in the table of the source one.

Note: To view the BLOB data, you can use internal **BLOB viewer**. To learn more, see [Viewing BLOB data](#).

Use the check boxes column to filter records that you want to synchronize. If the record is checked then it will be changed in the target table.

You can sort data by the needed column. Simply click a column title to sort the data.

Use the following options to filter data:

☒ **View identical records**

Select this option to view records which are identical in source dataset and target one.

☒ **View different records**

Select this option to view records which vary from the source dataset to the target dataset.

☒ **Missing records**






Use this option if records missing from the source dataset should be displayed at the comparison result list.

☒ **Additional records**

Enable this option to view records missing from the target dataset.

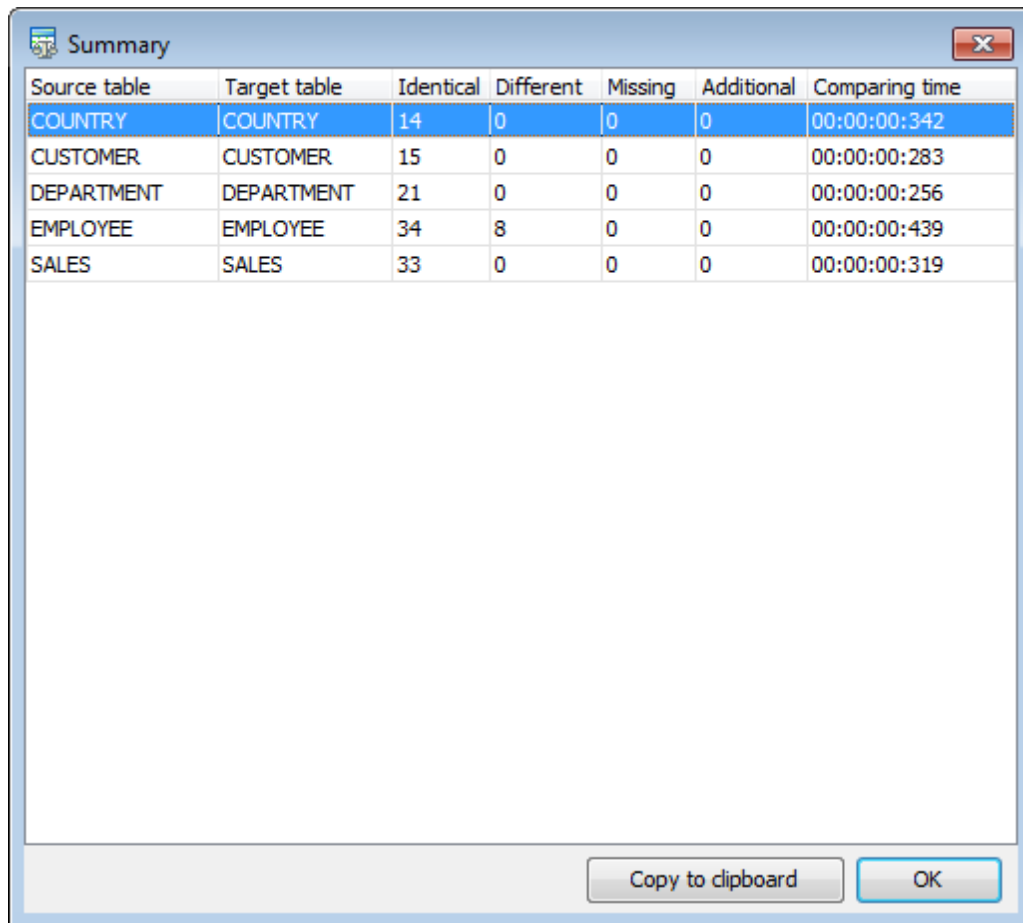
Number of records on page

This value determines the quantity of records displayed as one page in the grid.

Use the     buttons for navigation through the pages. To apply changes in filtering or **Number of records on page** options, you should use the **Refresh result list**  button.

Summary

Pressing the Summary button allows you to preview the result of object comparison.



Source table	Target table	Identical	Different	Missing	Additional	Comparing time
COUNTRY	COUNTRY	14	0	0	0	00:00:00:342
CUSTOMER	CUSTOMER	15	0	0	0	00:00:00:283
DEPARTMENT	DEPARTMENT	21	0	0	0	00:00:00:256
EMPLOYEE	EMPLOYEE	34	8	0	0	00:00:00:439
SALES	SALES	33	0	0	0	00:00:00:319

Copy to clipboard OK


If an error occurs, the line is highlighted red. The error type is displayed in the hint that appears when moving the cursor over the error.

If necessary, you can  **Export comparison results** to *MS Excel*, *HTML*, *RTF* using the corresponding dialog. See the [Exporting comparison results](#) page to learn more about this feature.

When you are done, press the **Next** button to proceed to the [next step](#).

2.4.1 Viewing BLOB data

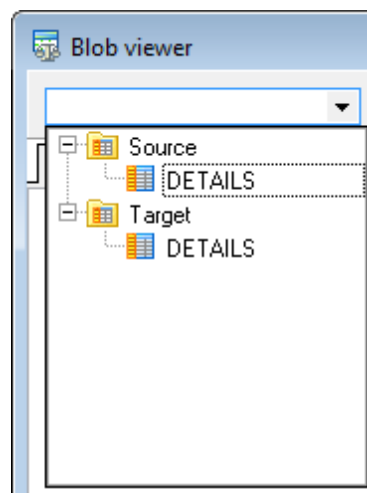
Data Comparer for PostgreSQL provides a **BLOB viewer** for browsing the content of BLOB (Binary Large Object) fields being compared.

The tool can be invoked from the data grid at [Step 3](#) by clicking the ellipsis  button next to a record of the BLOB field. Use the combo-box control in the upper area of the viewer to specify the field for viewing.

Please note that **BLOB Viewer** is only available if the **Compare BLOB values** option has been checked at [Step 2](#) of the wizard.

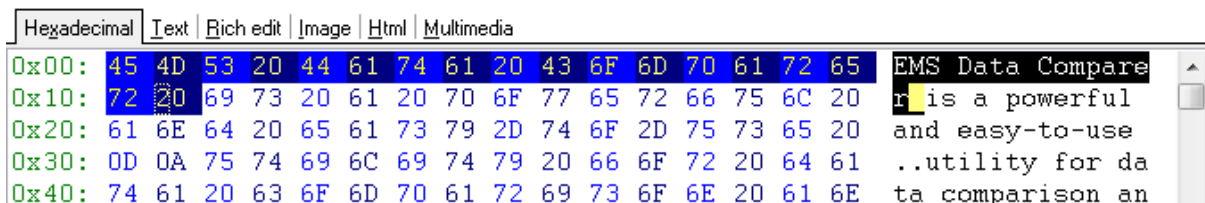
When working with the **BLOB viewer**, you can use the drop-down list in the top left corner of the window for quick navigation.

The drop-down list allows you to switch the source/target fields easily.

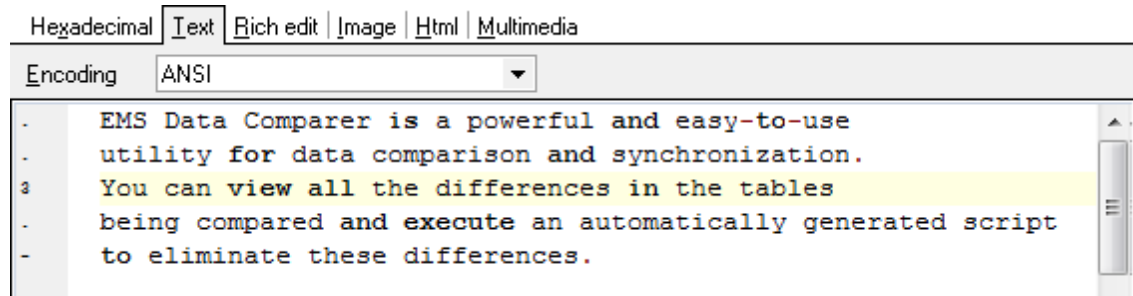


Switch between the **BLOB viewer** tabs to explore the field content.

The **Hexadecimal** tab allows you to view the BLOB data as hexadecimal dump.

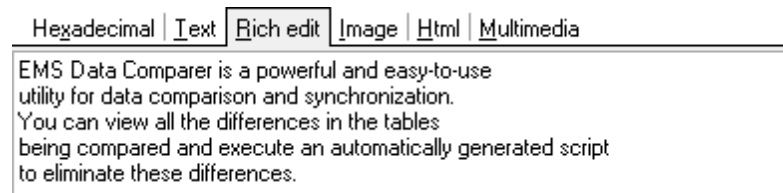


The **Text** tab allows you to view the BLOB data as plain text.



Specify text encoding in the **Encoding** drop-down list.

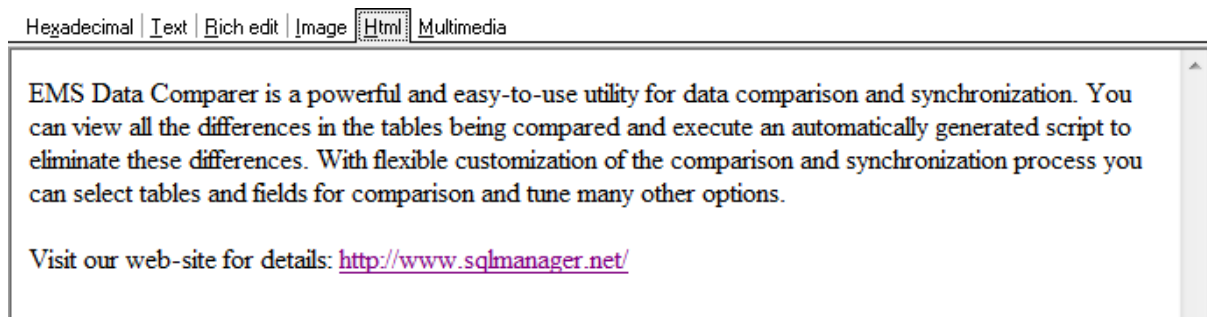
The **Rich Text** tab allows you to view the BLOB data in Rich Text format (RTF).






The **Image** tab allows you to view the BLOB data as an image.

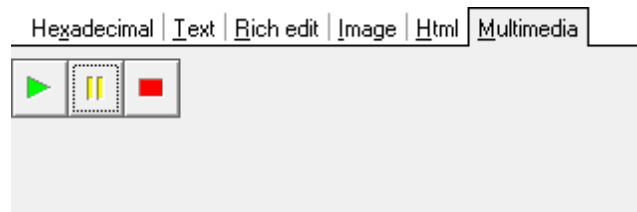


The **HTML** tab allows you to view the BLOB data as HTML (Hyper-Text Markup Language format) - in the way this data would be displayed by your Internet browser.



The **Multimedia** tab allows you to view the BLOB data as a multimedia (audio/video) file.

Use the **Play**  , **Pause**  , **Stop**  buttons to navigate within the multimedia content.




Having finished browsing the BLOB data, you can close the editor and continue [browsing data comparison results](#) in the grid.

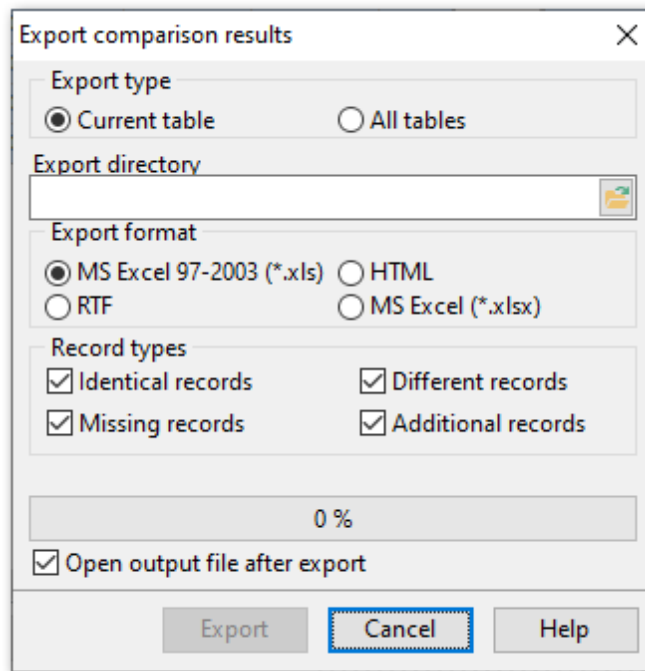
See also:

[Exporting comparison results](#)

2.4.2 Exporting comparison results

When the comparison process is finished, you can **export comparison results** using the corresponding dialog.


To open the dialog, use the **Export**  button which is available under the [grid](#), on the right.



Export type

- ☒ *Current table* - export comparison results for the current table only.
- ☐ *All Tables* - export comparison results for all tables.

Export directory

Type in or use the  button to specify the output directory name and its location using the standard **Save As...** dialog.



Export format



This group allows you to select format of the output file:

- ☒ *MS Excel*
- ☒ *RTF*
- ☒ *HTML*
- ☒ *MS Excel 97-2003*

Record types

Use this group to define which records should be exported to the specified file:

- ☒ *Identical records* (colored  in the [grid](#))
- ☒ *Missing records* (colored  in the [grid](#))

- ☒ *Different records* (colored  in the [grid](#))
- ☒ *Additional records* (colored  in the [grid](#))

If necessary, you can check the ☒ **Open output file after export** option to open the result file with the associated program.

Click the **Export** button to perform the operation. For your convenience the progress bar displays the operation progress.

2.5 Step 4 - Specifying data synchronization options

At this step you can specify advanced data synchronization parameters.

Table synchronization options

These options define the direction of synchronization: from the source to the target or vice versa.

☒ **Synchronize in new table**

Check this option to create a new table with the synchronization applied. In this case the name of the new table will be composed of the name of the source table and the user-defined **postfix** (`_sync` by default).

☒ **Insert additional records**

Set this option to insert additional records to the destination tables.

☒ **Delete missing records**

Set this option to delete missing records from the destination tables.

☒ **Update different records**

Set this option to correct different records during the synchronization process.

☒ **Drop and create indexes**

This option forces dropping and subsequent creation of indexes by using corresponding SQL statements in the target script. This option increases synchronization speed.

Note: Turn off the *Synchronize in new table* option to enable this option.

☒ **Disable triggers**

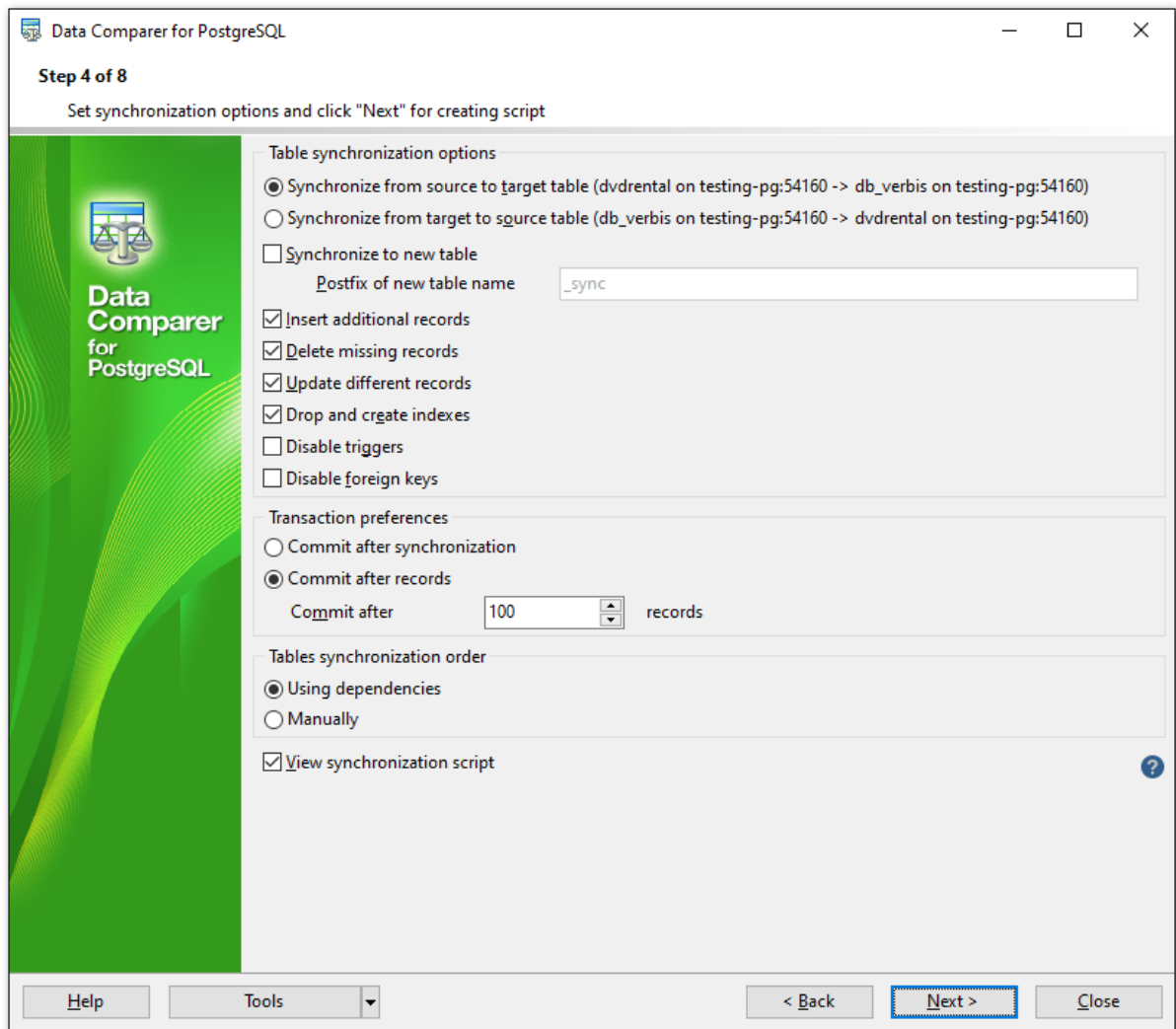
By setting this option you can disable triggers to avoid undesirable effects during data synchronization.

Note: Turn off the *Synchronize in new table* option to enable this option.

☒ **Disable foreign keys**

By setting this option you can disable **foreign keys** to avoid undesirable effects during data synchronization.

Note: Turn off the *Synchronize in new table* option to enable this option.



Transaction preferences

☒ Commit after synchronization

Use this option to commit transaction only when the entire synchronization process is complete. If an error occurs during synchronization, it will be possible to rollback all the changes made.

☒ Commit after ... records

Define the number of records in each block of the synchronization script to be supplemented with the *COMMIT* statement.

Table synchronization order

☒ Using dependencies

If this option enabled, synchronization order will be defined automatically according to table dependencies.

☒ Manually

In this case synchronization order must be defined manually at [Step 5](#).



☒ **View synchronization script**

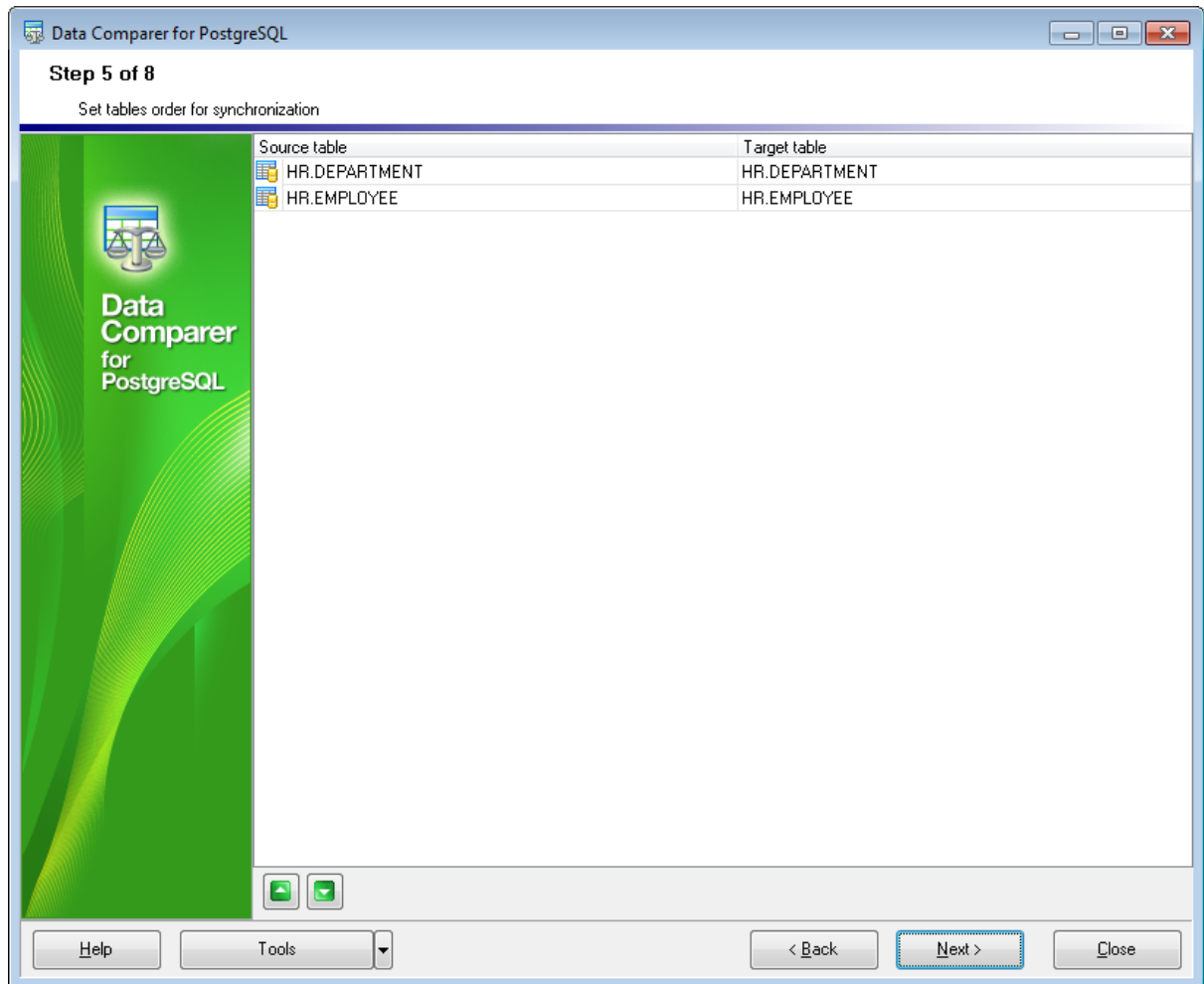
If you select this option you will be able to view/edit the synchronization script at [Step 6](#). Otherwise the next step will be skipped, and you will be forwarded to [Step 7](#) upon pressing the **Next** button.

When you are done, press the **Next** button to proceed to the [next step](#).

2.6 Step 5 - Setting synchronization order

Use this step of the wizard to set table synchronization order. It is available only if the *manual table synchronization order* option was selected at the [previous step](#).

Use the up  and down  buttons or drag and drop move the selected table pair in the list.




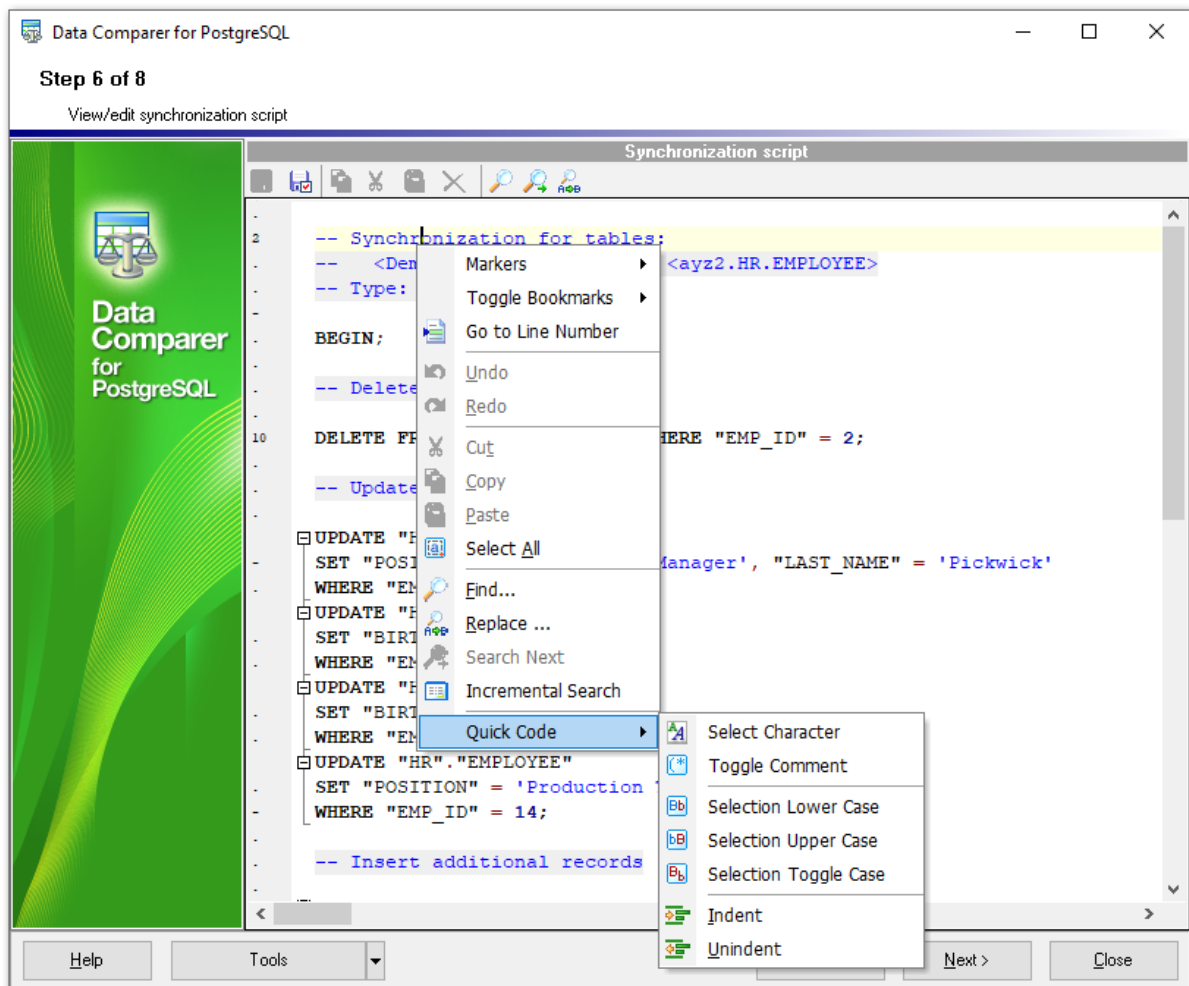
Click the **Next** button to proceed with the [next step](#) of the wizard.

2.7 Step 6 - Editing synchronization script

This step of Data Comparer wizard allows you to view and edit the synchronization script. This step is only available if the ☒ **View synchronization script** option has been selected at [Step 4](#).

Using the **Script Editor** area you can perform basic editing operations and / or toggle comments.

If necessary, you can save the result synchronization script to an external *.sql file using the **Shift+Ctrl+S** shortcut or the  **Save as...** toolbar button.



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


The **context menu** of SQL Script 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 toggle *bookmarks*, *move the cursor to a particular line*. Most of these operations can be also performed with the corresponding hot keys used.

Implementation of the [Find Text](#) / [Replace Text](#) dialogs and **Incremental search** bar contributes to more efficient work with the SQL code.

When you are done, press the **Next** button to proceed to the [next step](#).

2.7.1 Using the Find Text dialog

The **Find Text** dialog is provided for quick and flexible searching for specified text within the [Script Editor](#) working area.

To open this dialog, use the **Ctrl+F** shortcut or press the corresponding **Find Text**  button on the toolbar. This item is also available in the context menu of the **Script Editor** area.

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**

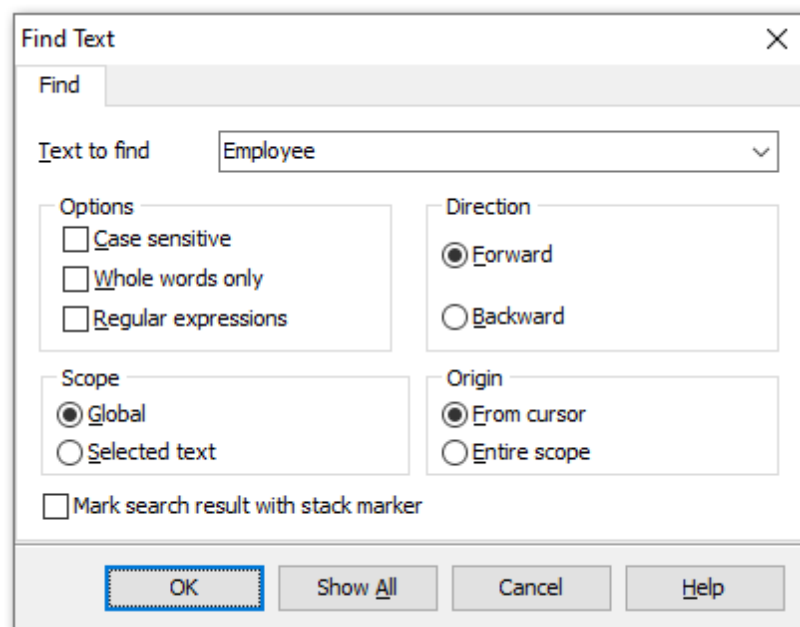
This option can be used to differentiate uppercase characters from lowercase ones during the search process.

☒ **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 **Script Editor** area.

☒ **Backward**

Searches from the current position to the beginning of the **Script Editor** area.

Scope

☒ **Global**

Searches within the entire **Script Editor** 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.

See also:

[Using the Replace Text dialog](#)

2.7.2 Using the Replace Text dialog

The **Replace Text** dialog is provided for searching and replacing text within the [Script Editor](#) working area.

To open this dialog, use the **Ctrl+R** shortcut or press the corresponding **Replace Text**  button on the toolbar. This item is also available in the context menu of the **Script Editor** area.

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**

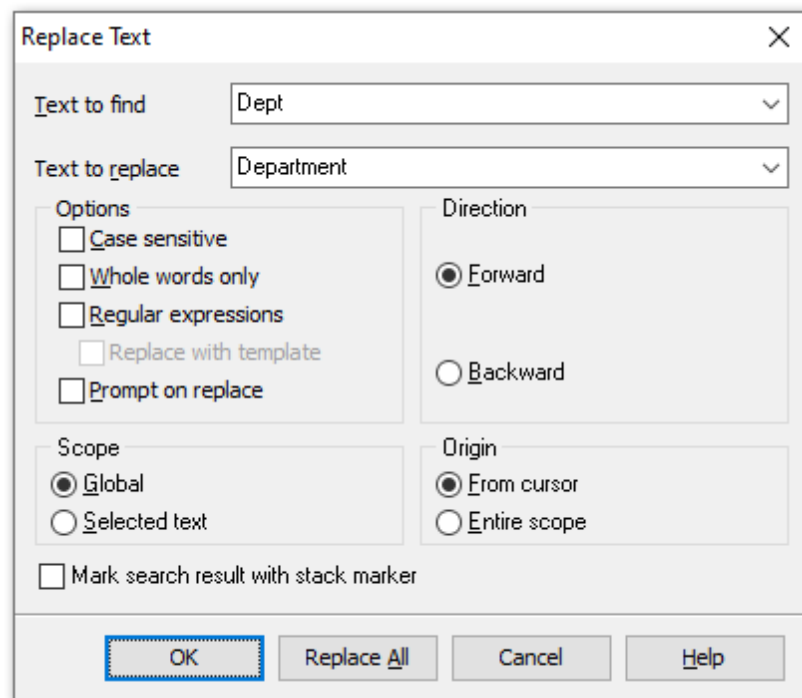
This option requires the **Regular expressions** option selection.

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.



Scope

☒ Global

Searches and replaces within the entire **Script Editor** 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.

Direction

☒ Forward

Searches and replaces from the current position to the end of the **Script Editor** area.

☐ Backward

Searches and replaces from the current position to the beginning of the **Script Editor** area.

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.

See also:

[Using the Find Text dialog](#)

2.8 Step 7 - Specifying additional scripts

This step allows you to specify additional scripts to be executed for the source database before and/or after the main [synchronization script execution](#).

Use the respective editors to create scripts: **Before synchronization script** and **After synchronization script**.

The statements can be typed in directly or pasted from the clipboard (use the [context menu](#) of the editing area for this purpose).

The **Save** and **Load** buttons provide saving/loading script file operations for the current editor window. The **Clear** button erases the text and clears the current editor window.

The image shows two text editors side-by-side. The top editor is titled 'Before synchronization script' and contains the text: `1 /*Specify the script that will be executed on this source server`
`2 BEFORE data synchronization*/`. The bottom editor is titled 'After synchronization script' and contains the text: `1 /*Specify the script that will be executed on this source server`
`2 AFTER data synchronization*/`. Both editors have a 'Save' button (floppy disk icon), a 'Load' button (folder icon), and a 'Clear' button (red X icon) at the bottom right.

When you are done, press the **Next** button to proceed to the [last step](#) of the wizard.

2.9 Step 8 - Start of synchronization process

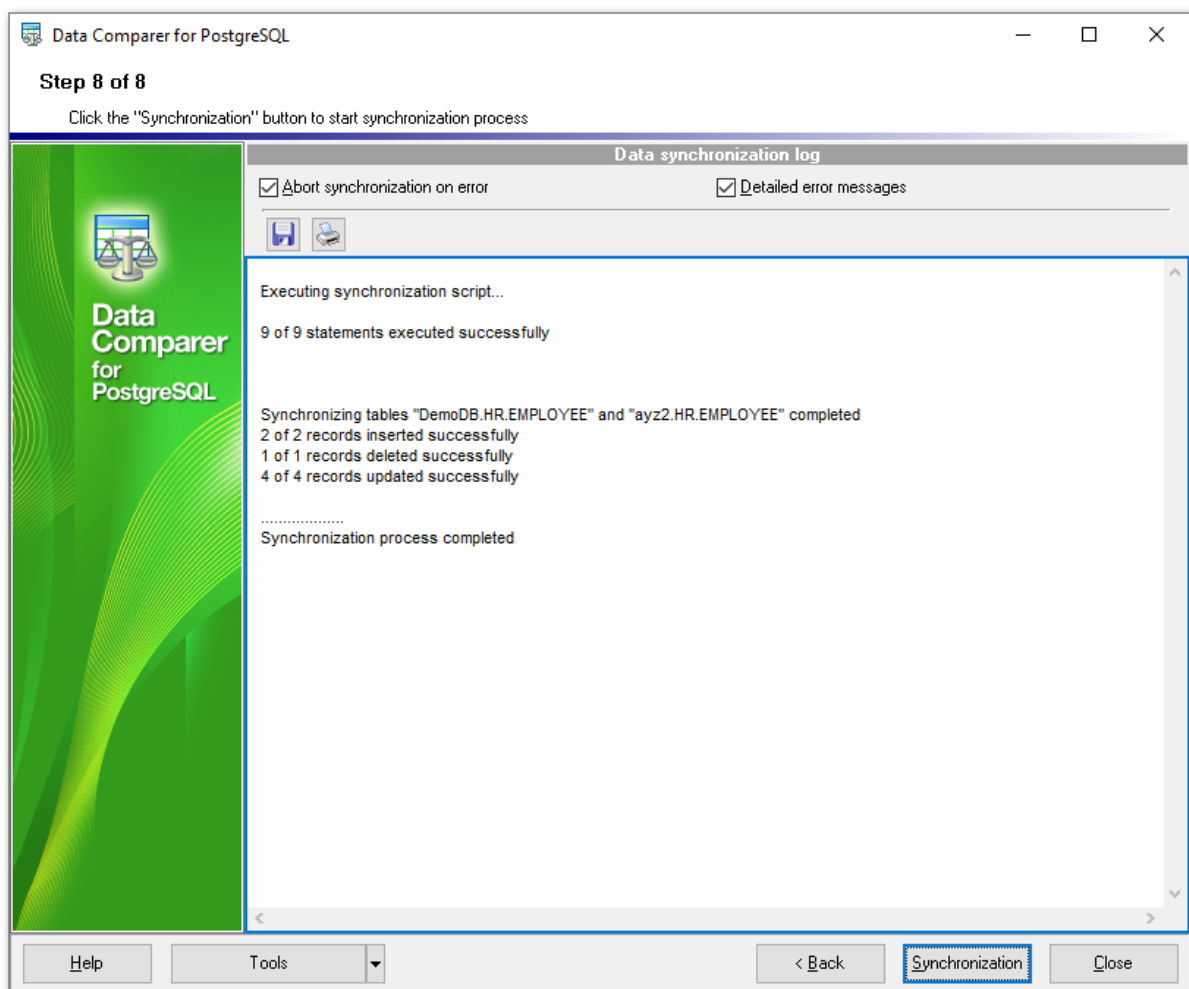
This step is intended to inform you that all the synchronization parameters have been set, and you can now **start the synchronization process** itself.

☒ **Abort synchronization on error**



If this option is selected, the synchronization process is stopped upon any execution error.


☒ **Detailed error messages**

Tick off the checkbox to get the detailed error log displayed on the screen. The statements for which the execution resulted in errors will be listed in the **Data synchronization log** area.



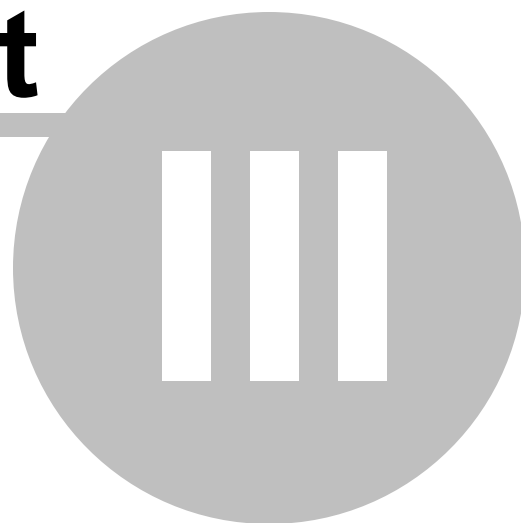
If everything is correct, press the **Synchronize** button to start the process. If you want to change any options, you can return to any of the wizard steps using the **Back** button.

You can  save process log into *.rtf file or  print it instantly using the corresponding buttons.

Note: When you press the  print button, the utility saves the current log text as a temporary *.rtf file to open it with the editor that is associated with this file extension in OS and then print.

Please do not forget to [save comparison templates](#) if you need to repeat the synchronization process with the same or similar settings later.

Part



3 Using Configuration Files (Templates)

Data Comparer for PostgreSQL allows you to store its comparison and synchronization settings in external template (*.edc) files if you need to perform the data comparison/synchronization process repeatedly.

You can [load](#) a previously saved template to the [application wizard](#) if you need to make some changes before data comparison, or you can run it with the console application for quicker comparison/synchronization.

- [Saving templates](#)
- [Loading templates](#)
- Restore Wizard

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

```
C:\Program Files\EMS\Data Comparer for PostgreSQL>PgDataComparerC.exe_
```

Data Comparer for PostgreSQL command line utility is intended for quick and powerful data comparison of PostgreSQL tables.

- [Using the console application](#)

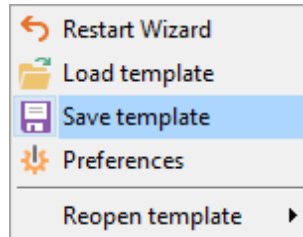
See also:

[Using application wizard](#)

[Setting program preferences](#)

3.1 Saving templates


Data Comparer 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.



Templates can be saved at every step of the wizard.

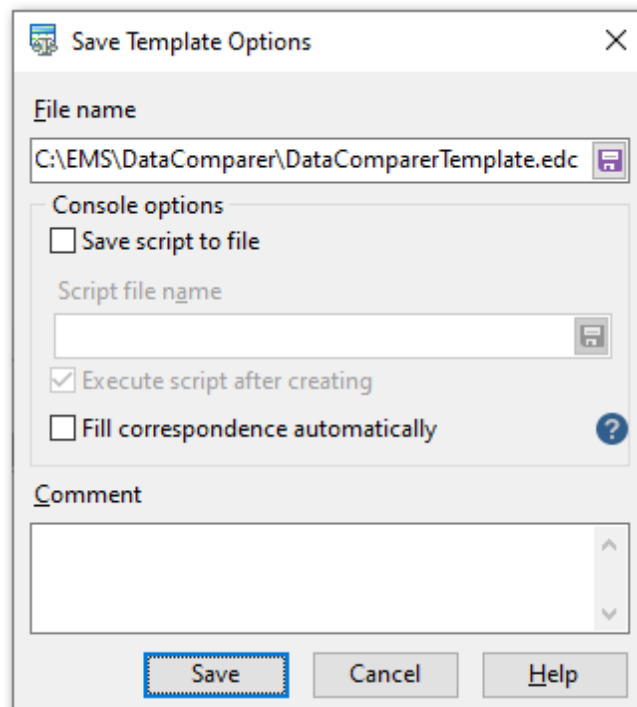
Save template options

File name


Type in or use the  button to specify the template file name and its location using the standard **Save As...** dialog.

Comment

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



Console options

These options determine the behavior of Data Comparer for PostgreSQL for the synchronization session. You can choose to **save** the synchronization script to a *.sql file, specify the **script file name** and select its location using the  button.

☒ Execute script after creating

If this option is checked, after the script is generated it will be immediately executed by the [console version](#) of Data Comparer for PostgreSQL (console-only option).

Note that this option is only available for deselection if you have checked the ☒ **Save script to file** option.

☒ Fill correspondence automatically

If this option is checked, the console ignores correspondence set at [Step 2](#), and sets it automatically.

Password options**☒ Save password in template**

Set this option to remember the password(s) for accessing the database(s).

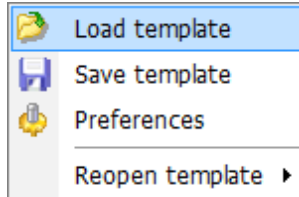
If this option is disabled, the password is prompted upon template load.

See also:

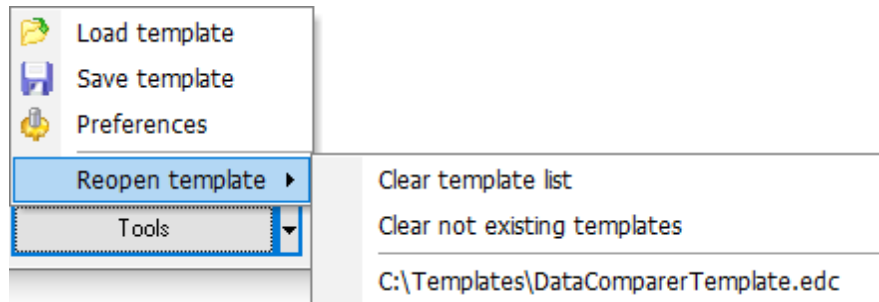
[Loading templates](#)

3.2 Loading templates

Data Comparer 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.



You can *Clear template list* and *Clear not existing templates* using corresponding menu items.

When the template file is loaded, you are immediately forwarded to the [Editing synchronization script](#) step of the wizard. If necessary, you can return to any of the previous steps to make appropriate changes, or proceed to the [last step](#) of the wizard to start the synchronization process.

See also:

[Saving templates](#)

3.3 Using Console Application

All the comparison options are set in **template** (*.edc) files. A template can be also used in the **Console version** of Data Comparer for PostgreSQL.

To create a template file, follow the instructions below:

- start Data Comparer for PostgreSQL [Application wizard](#);
- set all the required options in all steps of the wizard;
- test the comparison and synchronization process at the last step;
- [save all comparison and synchronization options in the template](#).

The easiest way to start Data Comparer for PostgreSQL console application is to double-click the generated *.edc template. The other way is to enter the command line and type the appropriate command.

Usage:

*<path to Data Comparer for PostgreSQL console application>\PgDataComparerC.exe
TemplateFile [-L] [-B]*

TemplateFile

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

[-L]

Selects current localization set in [Wizard Application](#) (GUI)

[-B]

Use this parameter in the command line to run the console version of Data Comparer for PostgreSQL in the background mode

[-LOG]

This parameter sets path to the log file. By default the log is written to the program's folder.

Example:

```
"C:\Program Files\EMS\Data Comparer for PostgreSQL\PgDataComparerC.exe" "C:\EMS\DataComparer\1st_sync.edc" -L -LOG"C:\Logs\datacomparer.log"
```

Note: The following exit codes can be returned by Data Comparer for PostgreSQL to the operating system after performing the latest task:

- 0 - successful completion;
- 1 - error(s) occurred during task performing;

See also:

[Using GUI application](#)

[Configuration file format](#)

Part

IV

4 Setting Program Preferences

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

General

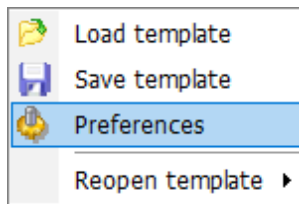
These options define general behavior of Data Comparer for PostgreSQL.

Directories

On this page you can specify the directory into which cache will be loaded.

Language

On this page you can select a language to be applied to the GUI for your copy of Data Comparer for PostgreSQL.



See also:

[Using application wizard](#)

[Using templates](#)

4.1 General

General

Theme

Select the main color theme for the application: Light or Dark.

☒ Remember password

Set this option to remember the password(s) for accessing the database(s).

☒ Show table definition hints

This option enables/disables popup definition hints for the tables upon moving the cursor on their aliases (the [Set tables and fields correspondence](#) step of the wizard).

☒ Save current options on exit

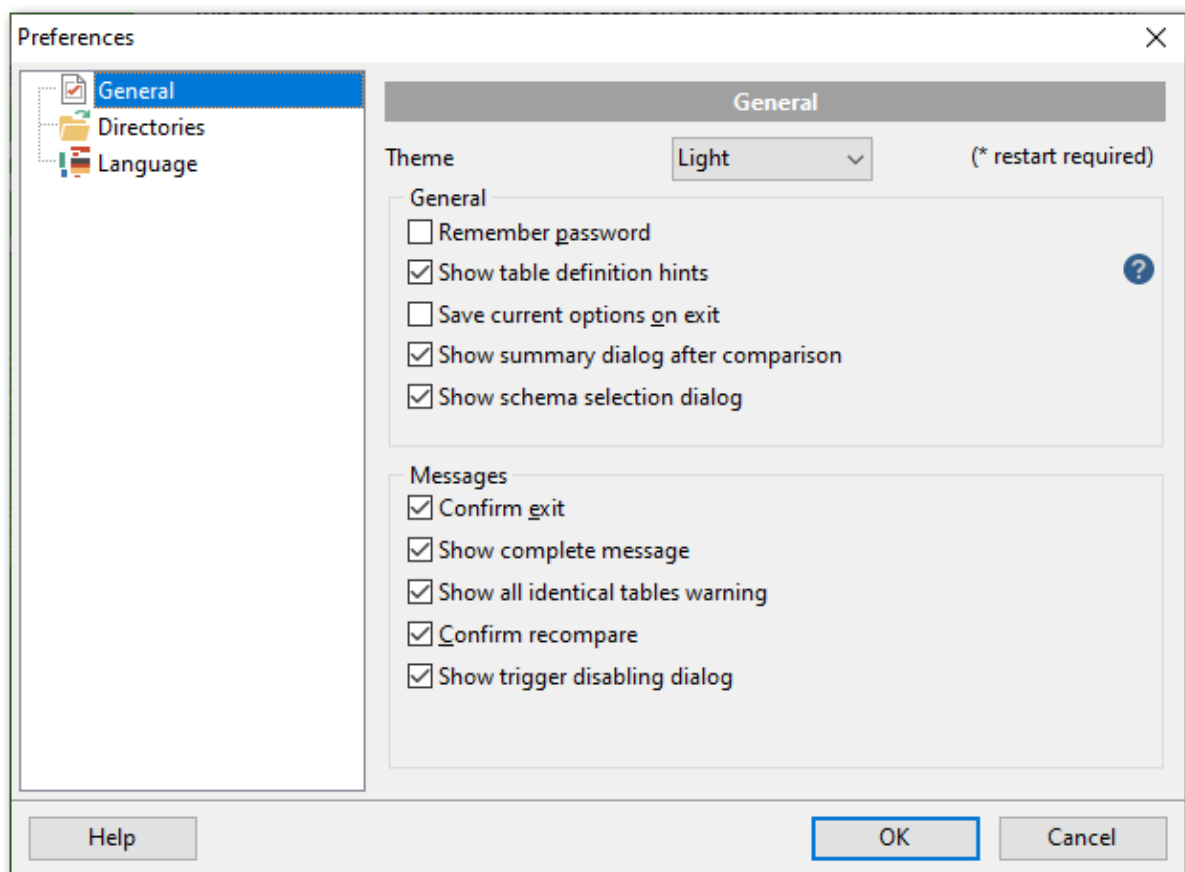
Setting this option allows you to save all the comparison options automatically upon closing the application.

☒ Show summary dialog after comparison

If this option is enabled, comparison summary report will be displayed at [Step 2](#).

☒ Show schema selection dialog

If this option is checked, the list of PostgreSQL database schemas is displayed before you proceed to [Step 2](#) of the wizard. The list allows you [to select schemas to be refreshed](#).



Messages

☒ **Confirm exit**

Enables/disables confirmation upon exiting the program.

☒ **Show complete message**

If this option is selected, the application returns the complete message when data synchronization process is completed at the [Start of synchronization process](#) step of the wizard.

☒ **Show all identical tables warning**

Toggles displaying the warning message in case the compared tables are identical.

☒ **Confirm recompare**

If this option is selected, on attempt to re-compare data (e.g. when you need to return to [Step 2](#) to change tables and/or fields correspondence) you will be prompted to confirm this action.

☒ **Show trigger disabling dialog**

If this option is checked then the warning message asking about disabling triggers on synchronization is appeared after [Step 4](#).

See also:

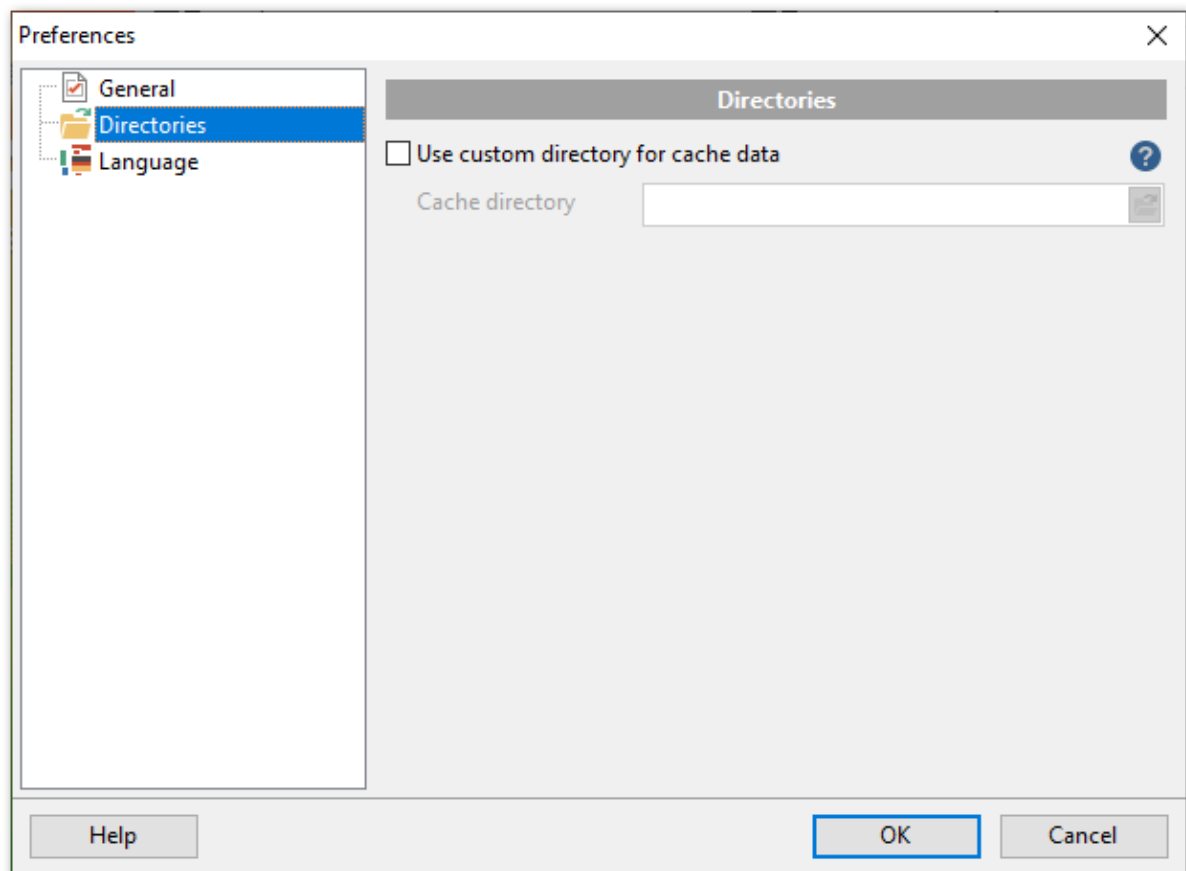
[Directories](#)

[Language](#)

4.2 Directories

☒ Use custom directory for cache

If this option is enabled, cache is loaded into user's folder specified at **Cache directory**. Recommended if no free space is left on the system disk. If it's off, cache is loaded into the Temp folder of the current user.



See also:

[General](#)

[Language](#)

Data font


4.3 Language

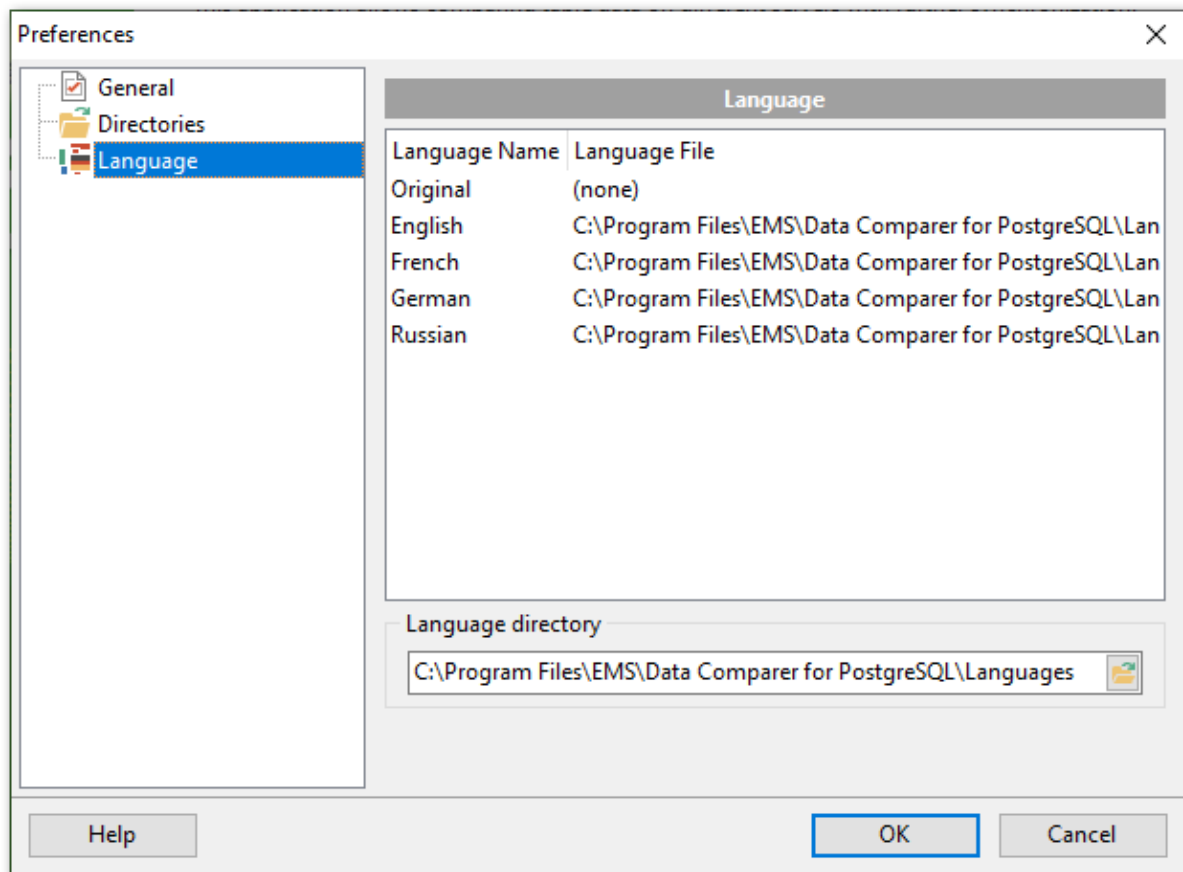
The **Language** page is provided for managing Data Comparer localization files.

You can specify your own localization file by creating **.lng* file similar to those available in the %program_directory%\Languages folder and place it there. After it your language will be added to the list of available languages.

In the **Languages** area the list of available languages and the names of the corresponding localization (**.lng*) files is displayed. Here you can choose the preferable language.

Language directory

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



See also:

[General](#)

[Directories](#)

Part

V

5 Appendix

5.1 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 PostgreSQL server)
- **SSH password** is the Linux/Windows user password

Please note that PostgreSQL **host name** should be set relatively to the SSH server in this case. For example, if both PostgreSQL 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

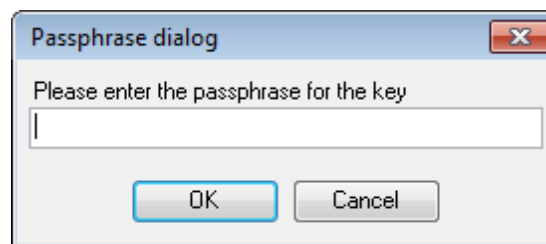
Specify the location (the secure box) of the **Private key** file on your local machine. Supported Private Key file formats are:

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.



5.2 HTTP tunneling options

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

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 Comparer for PostgreSQL are available.

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

5.3 Configuration file format

The **configuration (template) file** used by Data Comparer for PostgreSQL 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:

<i>Parameter</i>	<i>Description</i>
Product	internal product name
Version	major version

[#SourceDB#]

This section stores connection parameters for the *source* database. The parameters correspond to the values entered at [Step 1](#) of the [Wizard application](#) and are obligatory.

<i>Parameter</i>	<i>Description</i>
Host	host where the source database resides (if Remote = 1)
Port	port on which PostgreSQL is listening
Remote	0 = local connection 1 = remote connection
DBName	source database name
Login	PostgreSQL login
Password	password to identify the login (encrypted)
Charset	client character set specified for the connection
FontCharset	the parameter is not used by Data Comparer for PostgreSQL
TunnelType	indicates the tunneling type being used: SSH, HTTP, or none (TunnelType = <i>ttNotUse</i>)
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 = <i>True</i>)
SSHUseKeyFile	<i>True</i> = SSH Private Key is used <i>False</i> = SSH Private Key is not used
HTTPUrl	URL to the <i>emsproxy.php</i> script file uploaded to your web-server (for HTTP tunneling)

[#TargetDB#]

This section stores connection parameters for the *target* database. The parameters correspond to the values entered at [Step 1](#) of the [Wizard application](#) and are obligatory. The set of parameters is the same as for the source database ([#SourceDB#]).

[#Options#]

This section stores comparison options. The parameters correspond to the values specified at [Step 2](#) and [Step 3](#) of the [Wizard application](#).

<i>Parameter</i>	<i>Description</i>
Blobs	0 = BLOB fields are not specified for comparison

IgnoreCase	1 = BLOB fields are specified for comparison 0 = case is considered when comparing strings
FillIdentical	1 = case is ignored when comparing strings 0 = identical records are not displayed at Step 3 of the wizard 1 = identical records are displayed at Step 3 of the wizard
ViewRecordsCount	number of records displayed on one page at Step 3 of the wizard
ThreadCount	number of comparison threads
SavePassword	0 = Password is not saved in template file 1 = Password is saved in template file
PasswordEncrypted	0 = Password is not encrypted in template file 1 = Password is encrypted in template file
TrimCharFields	0 = CHAR fields are trimmed on synchronization 1 = CHAR fields are not trimmed on synchronization
CompareOnServerSide	0 = comparison is performed on the client 1 = comparison is performed on the server

[#SyncOptions#]

This section stores synchronization options. The parameters correspond to the values specified at [Step 4](#) and [Step 7](#) of the [Wizard application](#).

<i>Parameter</i>	<i>Description</i>
TargetToSource	0 = synchronization from source to target 1 = synchronization from target to source
TablePostfix	postfix added to the synchronization table name (if SyncInNewTable = 1), by default <code>_sync</code>
SaveScript	0 = synchronization script is saved to an external file upon saving template 1 = synchronization script is not saved
DisableTriggers	the parameter is not used by Data Comparer for PostgreSQL
ScriptFileName	path to the file into which the synchronization script is saved (if SaveScript = 0)
InsertMissRecs	0 = missing records are ignored during synchronization 1 = missing records are inserted during synchronization
DeleteAddRecs	0 = additional records are ignored during synchronization 1 = additional records are deleted during synchronization
UpdateDiffRecs	0 = different records are ignored during synchronization 1 = different records are updated during synchronization
SyncInNewTable	0 = synchronization is performed in the source (if TargetToSource = 1) or in the target (if TargetToSource = 0) 1 = a new table is created and the synchronized data are inserted into the table
CreateComputed	the parameter is not used by Data Comparer for PostgreSQL
LoadToScriptEditor	0 = synchronization script is not loaded to Script Editor 1 = synchronization script is loaded to Script Editor and displayed at Step 5 of the wizard
AbortExecuteOnError	0 = synchronization process is not stopped if an error occurs 1 = synchronization process is stopped upon any execution error
DetailErrors	0 = detailed error log is not displayed 1 = detailed error log is displayed on the screen at Step 7 of the wizard
ExecuteScript	0 = synchronization script is not executed automatically 1 = synchronization script is executed automatically by the

DropIndexes	console version after template creation 0 = table indexes are not considered 1 = table indexes are dropped and then recreated in the synchronization script
CommitAlterAutofill	number of committed records in the synchronization script 0 = tables correspondence set at Step 2 , will not be set automatically 1 = tables correspondence will be set automatically

[#Comment#]

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

<i>Parameter</i>	<i>Description</i>
Line<N>	comment text

where *N* stands for the comment line identifier

Example:

Line0=Data Comparer for PostgreSQL
Line1=Template file
Line2=Data synchronization #1

[#SrcAfterScript#]

This section stores the text of the script executed for the source database after data synchronization, as specified at [Step 6](#) of the [Wizard application](#).

<i>Parameter</i>	<i>Description</i>
Item_Count	number of lines
Line<N>	script text

where *N* stands for the script line identifier

Example:

Item_Count=2
*Line0=/*AFTER synchronization*/*
*Line1=/*script to be executed for the source database*/*

[#TrgAfterScript#]

This section stores the text of the script executed for the target database after data synchronization, as specified at [Step 6](#) of the [Wizard application](#).

<i>Parameter</i>	<i>Description</i>
Item_Count	number of lines
Line<N>	script text

where *N* stands for the script line identifier

Example:

Item_Count=2
*Line0=/*AFTER synchronization*/*
*Line1=/*script to be executed for the target database*/*

[#SrcBeforeScript#]

This section stores the text of the script executed for the source database before data synchronization, as specified at [Step 6](#) of the [Wizard application](#).

<i>Parameter</i>	<i>Description</i>
Item_Count	number of lines
Line<N>	script text

where *N* stands for the script line identifier

Example:

```
Item_Count=2
Line0=/*BEFORE synchronization*/
Line1=/*script to be executed for the source database*/
```

[#TrgBeforeScript#]

This section stores the text of the script executed for the target database before data synchronization, as specified at [Step 6](#) of the [Wizard application](#).

<i>Parameter</i>	<i>Description</i>
Item_Count	number of lines
Line<N>	script text

where *N* stands for the script line identifier

Example:

```
Item_Count=2
Line0=/*BEFORE synchronization*/
Line1=/*script to be executed for the target database*/
```

[SrcSchemas]

This section stores the list of source database [schemas](#) specified for comparison.

<i>Parameter</i>	<i>Description</i>
Item_Count	number of schemas
Line<N>	schema name

where *N* stands for the schema item identifier in the list

Example:

```
Item_Count=1
Line0=DEMO
```

[TrgSchemas]

This section stores the list of target database [schemas](#) specified for comparison.

<i>Parameter</i>	<i>Description</i>
Item_Count	number of schemas
Line<N>	schema name

where *N* stands for the schema item identifier in the list

Example:

```
Item_Count=2
```

Line0=TEST
Line1=PRODUCTION

[Table<N>]

Sections of this type contain table/field correspondences (*N* stands for the correspondence identifier), as specified at [Step 2](#) of the [Wizard application](#).

<i>Parameter</i>	<i>Description</i>
#SourceTable#	source table name
#TargetTable#	target table name
Synchronize	0 = tables will not be synchronized 1 = tables #SourceTable# and #TargetTable# are specified for synchronization
#SourceOwner#	schema/owner of the source table (#SourceTable#)
#TargetOwner#	schema/owner of the target table (#TargetTable#)
<field_name>	corresponding target table field
<field_name>_CompareKey	0 = the field is not used as key column for data comparison 1 = the field is used as key column for data comparison

Example:

```
[Table0]
#SourceTable#=EMPLOYEE
#TargetTable#=EMPLOYEE_UPD
Synchronize=1
#SourceOwner#=DEMO
#TargetOwner#=PRODUCTION
EMP_ID=EMP_NO
EMP_ID_CompareKey=1
FIRST_NAME=FIRST_NAME
FIRST_NAME_CompareKey=0
LAST_NAME=LAST_NAME
LAST_NAME_CompareKey=0
```

Credits

Software Developers:

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