PERMISSION REPORTER® V4.0

Quickstart Guide: Database

NETsec

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1 Introduction 3
2 The report data destination page 3
2.1 SQL Server Name: 4
2.2 Name of database: 4
2.3 Authentication Mode: 4
2.4 Required permissions on database 4
2.5 Using LocalDB 5
3 Testing the database 6
3.1 The selected database does not exist 7
3.2 The selected database does not have a model for Permission Reporter 7
3.3 The selected database contains a model which is not compatible .. 8
3.4 All checks has been passed 8
4 Summary 9
5 Errors during creation of database or model 10
5.1 Failed due to insufficient permissions 10
5.2 Failed because object already exists 10

1 Introduction

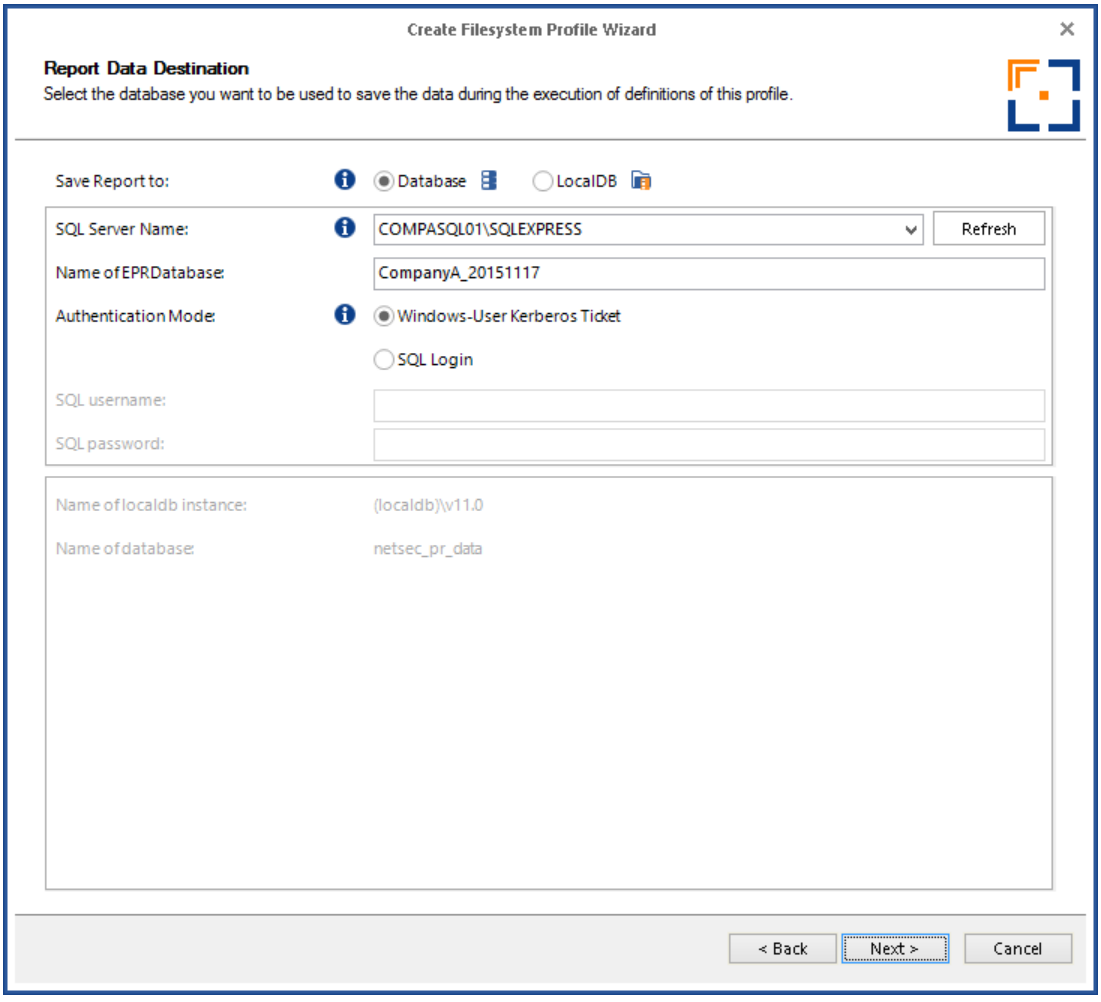
NETsec Permission Reporter needs a database to be able to store the data it generates during analysis. We strongly recommend using a database which will be used exclusively for Permisson Reporter.

In this quick start guide we will explain common database scenarios.

2 The report data destination page

When you create a new profile, set up the global configuration using the wizard or change the settings of a profile, you will be able to change database settings. The following picture shows you the page for database settings inside the wizard which is used for creating a new profile.

We recommend using a Microsoft SQL-Server, therefore, this document will lay focus on a "Database" as destination.



2.1 SQL Server Name:

Expects the address of the server (and instance) you are going to use.

If your server instance name is not the default instance name which is MSSQLSERVER, the name of the instance has to be typed in here separated by "\" after the address of the server. If you use an SQL Express Server the default instance is SQLExpress.

If the SQL Server Browser service is running on your SQL Server it will show up in the list of available servers.

2.2 Database Name:

You need to enter the name of the database that Permission Reporter will use. If the database does not exist, you should let Permission Reporter create the database for you. This requires the permission to create databases on the selected server (and instance if applicable).

If the database already exists, you can only choose a database which was either created by Permission Reporter, or an empty database. Permission Reporter will not able able to save to a database with existing tables or model.

2.3 Authentication Mode:

Permission Reporter can authenticate with the database server using the Windows Authentication or through SQL Server Authentication.

Due to security reasons, Microsoft recommends always to use Windows Authentication when possible and so do we.[1]

2.4 Required permissions on database

If you choose Windows Authentication, the user which is using Permission Reporter must have read permissions on the database in order to be able to read data of performed analyses.

In addition to read permissions the user must have the permissions to create a database (and tables) if needed during the configuration of the profile and the permission to delete data while deleting analyses.

The service account needs permissions to read, write and modify data in the database, so that analyses can be created, and run successfully.

[1] More information about authentication https://msdn.microsoft.com/en-us/library/ms144284.aspx

If you are using SQL Server Authentication the given SQL account needs permissions to

- create a database (and tables) if needed during the configuration of the profile
- read, write, and update data to insert the analysis data into the database
- delete data when deleting analyses.

2.5 Using LocalDB

Please note that using LocalDB is for testing purposes only.

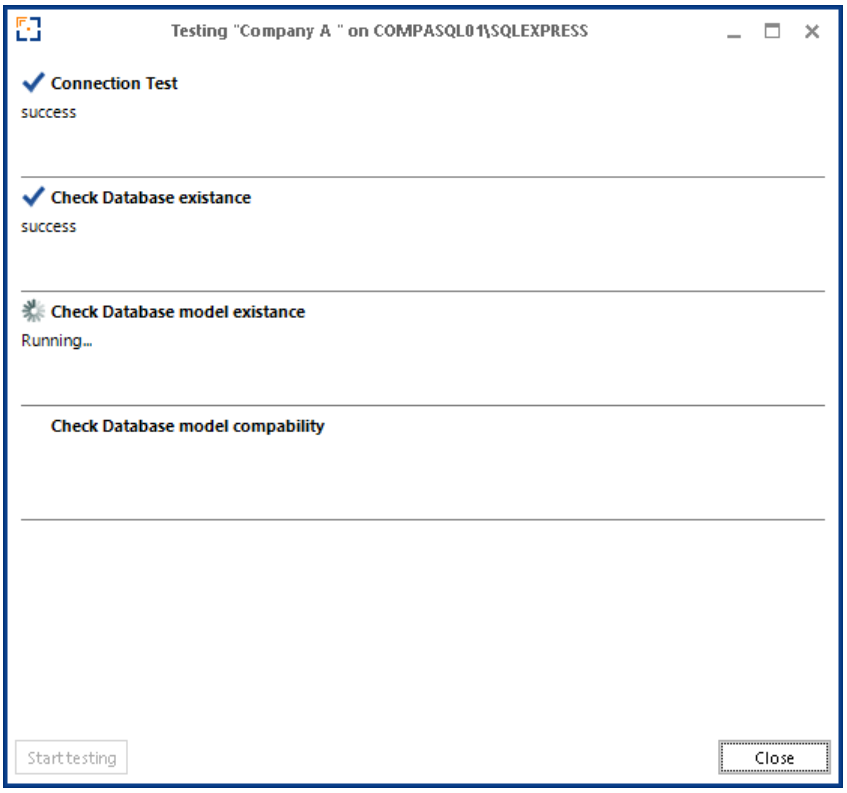
If you want to use LocalDB as a storage, Permission Reporter will try to use the default instance of a Server 2012-LocalDB installation on your local system.

Permission Reporter also uses the local default instance, which is bound to the querying account and stored inside the user-folder of the current account.

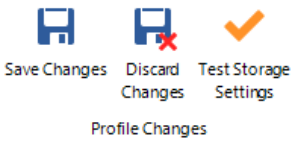
This means the service account for the Permission Reporter Service must be the same account which is going to be used for the application itself. Otherwise, the creation of the database will fail and no analyses will be shown if the database has been created during a previous session, even if analyses has been finished successfully.

3 Testing the database

After a change has been made to the database settings, the new settings will be tested during the save process or when the application proceeds to the next page inside the wizard.



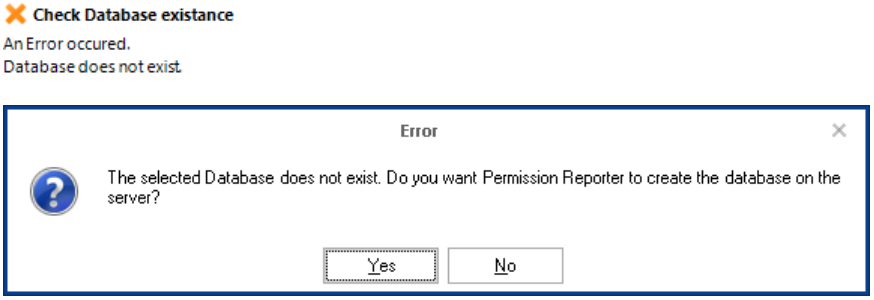
You can also start the database tests using the Test Storage Settings button inside the application.



During the tests specific results may occur, which are described in the following section.

3.1 The selected database does not exist[2]

If Permission Reporter does not find an existing database, you will be asked to let Permission Reporter create a database.

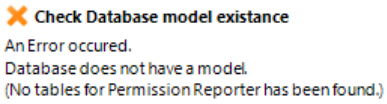


After you allow Permission Reporter to create the database, it will try to do so and apply the model to the new created database.

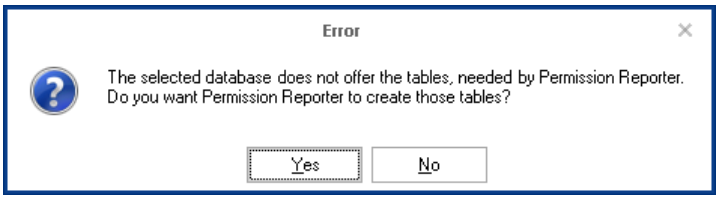
Otherwise the database will not be created and Permission Reporter will cancel any future analyses from profiles pointing to the selected database as long the database does not exist.

3.2 The selected database does not have a model for Permission Reporter[3]

If a database exists, but no model for Permission Reporter has been created inside the database, you will be asked if Permission Reporter can create the model.



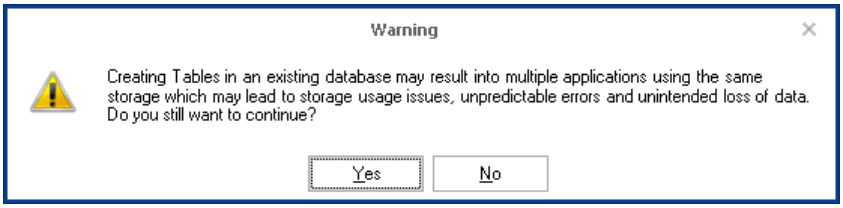
If you have the permission to let Permission Reporter create a new database we always recommend to create a database over applying a model to an existing database.



[2] Creating a database does require permissions given to either the windows user which is using the application or the SQL Login used to connect to the database with. To see which permissions are required please have a look at "Required permissions on database"

[3] Creating tables inside a database does require permissions given to either the windows user which is using the application or the SQL Login used to connect to the database with. To see which permissions are required please have a look at "Required permissions on database"

Requesting Permission Reporter to apply the model to an existing database, will lead to a warning, which informs you about the risks of doing so.

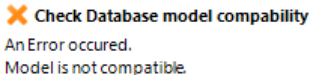


After the model has been applied to the database, the tests will be restarted to ensure that everything is ok.

If you decided not to apply the model to the database, you would be able to save the configuration, but Permission Reporter will cancel any future analyses from profiles pointing to the selected database as long the model does not exist.

3.3 The selected database contains a model which is not compatible

If the last check failed, the database contains a model which is not compatible with the current model of the application.



In this case, please contact us at support@netsec.de.

3.4 All tests have passed

After all tests have passed, Permission Reporter is ready to use the selected database as storage for future data of analyses.

4 Summary

If the selected database does not exist, Permission Reporter will offer to create the database and all tables which are needed for saving data of analyses during the database tests of the wizard or the configuration.

If the selected database already exists, Permission Reporter will check, whether the database contains a model for Permission Reporter and check for compatibility of the model inside the database compared to the model defined by your current version of Permission Reporter.

If no model of Permission Reporter has been applied to the database, Permission Reporter provides functionalities to create the tables, which will be used by its analyses.

Please Note: We do not recommend using an existing database for Permission Reporter unless it has been created by Permission Reporter, because there is a high risk of several applications using the same database which may lead to storage space issues or unintended application behavior if the same data is read, written and or modified by multiple applications.

After the database is created and the model has been applied, all profiles which uses this database as storage will be ready to start with their analyses.

If Permission Reporter states, that the given model is not compatible with the current model of the application, please contact us at support@netsec.de.

If an analysis is started before the database is created or the model has been applied, no data will be written and the analysis will be canceled, because Permission Reporter expects your expressed permission to create a database or change its tables.

5 Errors during creation of database or model

During the creation of the database and the model, there errors can occur.

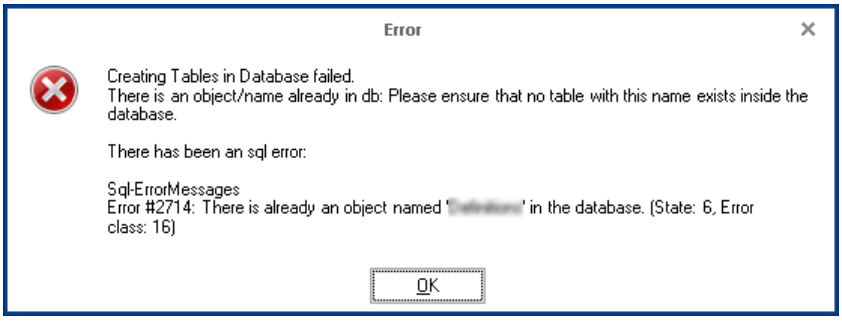
5.1 Insufficient permissions

Creating a database or applying a model may fail due to insufficient permissions. In this case Permission Reporter will show a message box like the following.

Please ensure, that you have the correct permissions to create a database (if requested) and to apply the model to the selected database.

5.2 Object or Table already exists

Permission Reporter may create a model inside a database, which has not been created by Permission Reporter.



To prevent collisions between Permission Reporter and other applications, creating the tables will fail if there is another table with the same name already inside the database. Permission Reporter will fail to create the model even if the table which is causing the error has the correct set of columns and constrains.

To resolve this issue, please select a database, which is exclusively meant to be used by Permission Reporter.