EasyOne Connect Database Options

C. Buess, May 2025

1. Introduction

This Application Note describes the various database options available with ndd's software EasyOne Connect (and, therefore, also with the EasyOne Pro/LAB V5). It also explains how to set up and use a Microsoft SQL Server database with ndd's software. The version used to verify its functioning was Microsoft SQL Server 2014, but any version 2012 or higher is expected to function as described in this document. The amount of required storage space is not large: If you use 30 devices daily for 5 years, they will create around 16 GB of data.

2. Prerequisites

To use the EasyOne Connect database options, the following is needed:

- EasyOne Connect software 3.X OR
- EasyOne Pro/LAB V5*

* The EasyOne Pro/LAB V4 runs on Windows XP Embedded and, therefore, does not support a connection to Azure SQL Server databases. We do not recommend attempting to use the EasyOne Pro/LAB V4 with an SQL Server database, since Windows XP is no longer supported by Microsoft.

3. Database Options

EasyOne Connect offers three database options:

1. Local SQLite file-based database
2. On-premise Microsoft SQL Server database
3. Azure cloud-hosted Microsoft SQL Server database

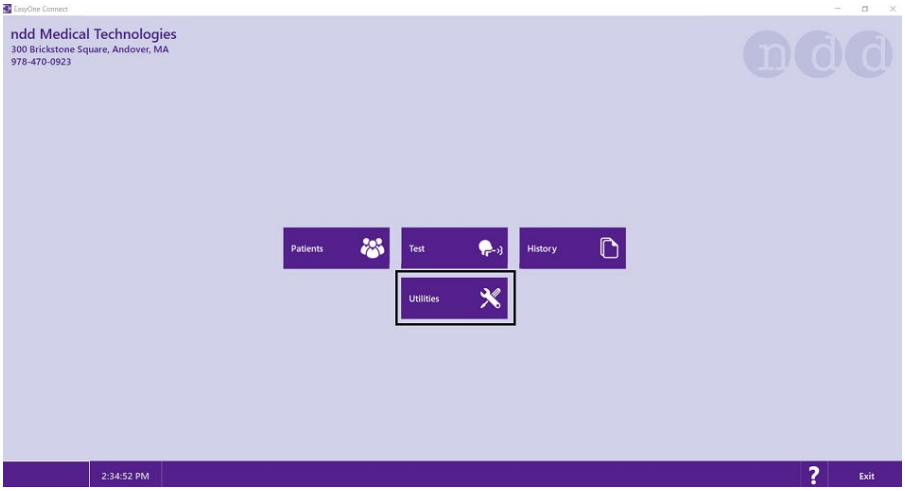
The default data storage solution that is configured when the software is used for the first time is the local SQLite file-based database. This is a good solution for smaller practices where there is no need to access through multiple PCs the data stored by EasyOne Connect. A Microsoft SQL Server solution is needed to allow several users to access the same data; or when the volume of data stored in an SQLite database becomes large enough to have an impact on the application's performance (e.g., >5,000 patients in the database). The Microsoft SQL Server can be on-premise or hosted on Azure.

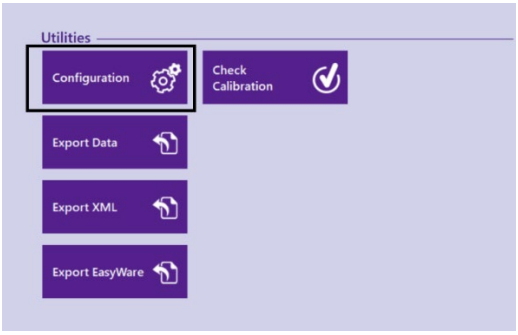
3.1 Local SQLite File-Based Database

To create, select, and update an SQLite file-based database with EasyOne Connect, please follow the instructions below.

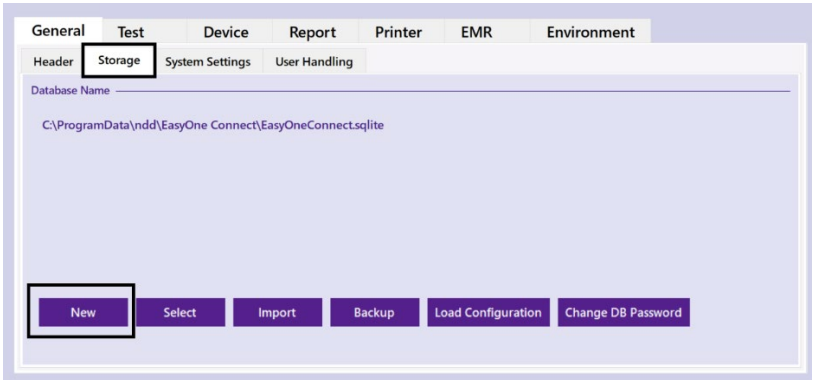
3.1.1 Create a New SQLite File-Based Database

1. Launch EasyOne Connect and go to *Utilities* / *Configuration*:

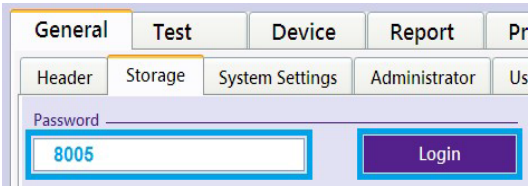




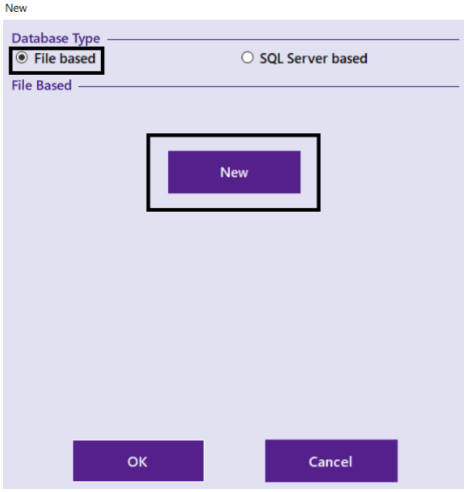
2. In the sub-tab under *General*, select the tab named *Storage* and click *New*:



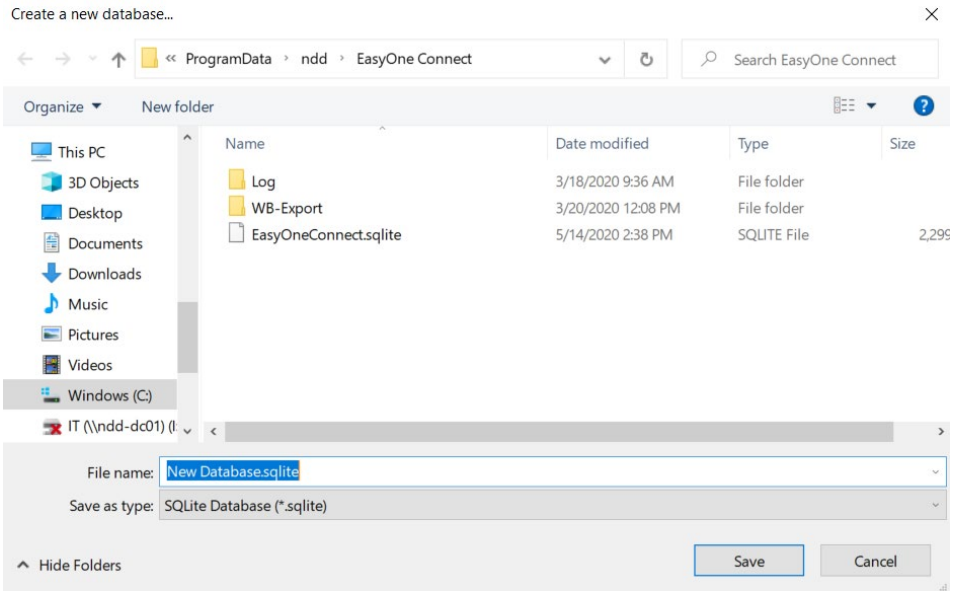
If you are prompted to provide a password, enter either the default password '8005' or your admin password, then select *Login*. If you do not have an admin password, please consult your local IT department for assistance.



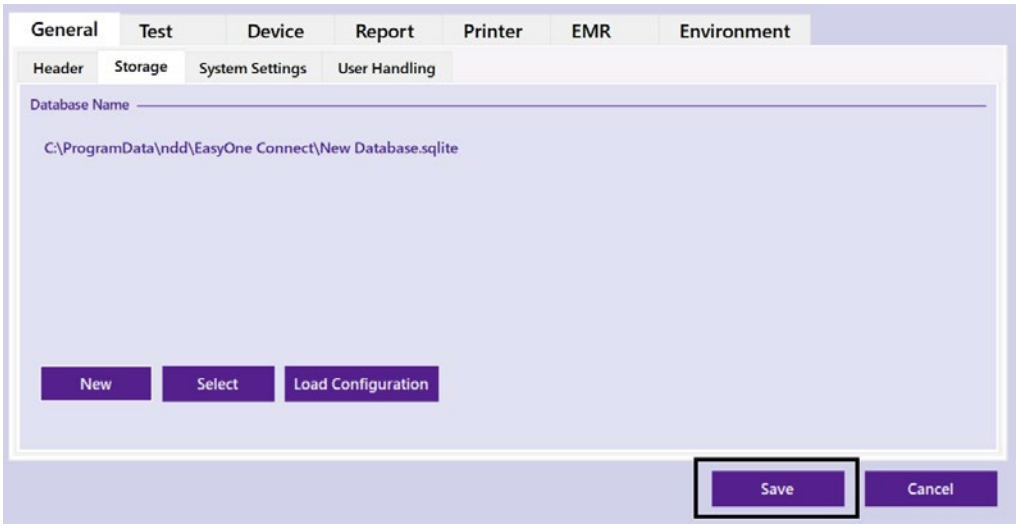
3. In the window that appears, select the option *File based* and click *New*:



4. In the window that appears next, select the folder where you would like to store the database. If you wish, you can change the name of the database. Once that is set, click *Save*.

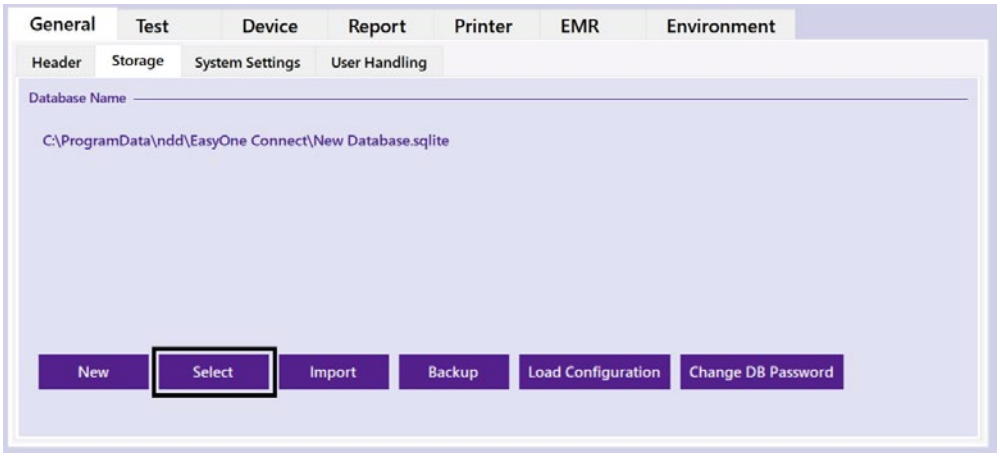


5. Back in EasyOne Connect, click *Save* again to apply the changes. The software will restart automatically and load the new database. You will then be ready to use it.

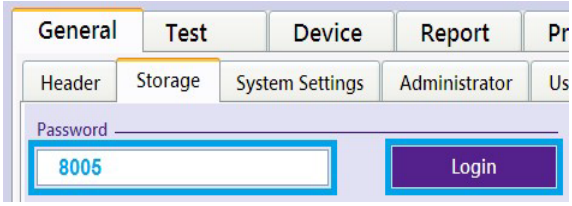


3.1.2 Select an SQLite File-Based Database

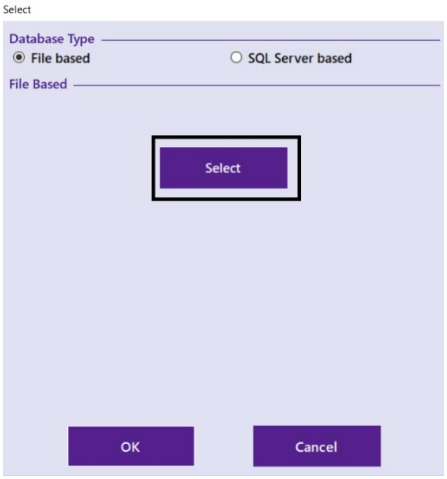
1. Go to *Utilities* / *Configuration* / *Storage* and click *Select*:



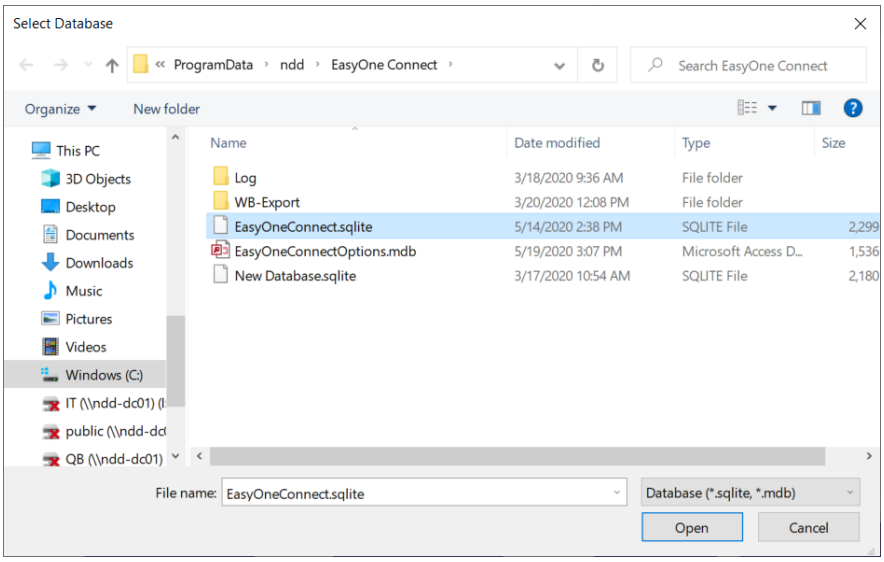
If prompted to provide a password, enter either the default password '8005' or your admin password. If you do not have an admin password, please consult your local IT department for assistance.



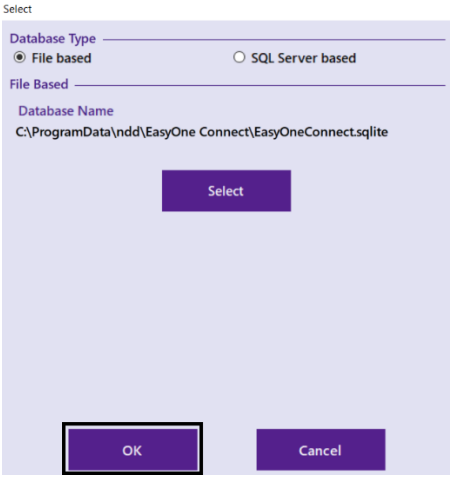
2. In the window that appears, select the option *File based* and click *Select*:



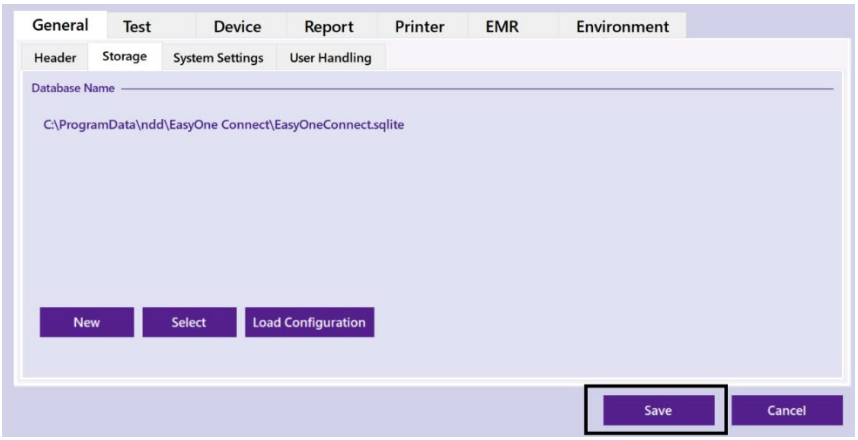
3. Navigate to the folder in which the database is stored and select the database, then click *Open*:



4. Click *OK*:



5. Click *Save*:



6. EasyOne Connect will automatically restart. Depending on the version of the database that you have selected, EasyOne Connect may prompt you to update the database to the latest version. **Please note that this update cannot be undone. You will no longer be able to open the database in earlier versions of EasyOne Connect if you proceed with the update.** If you are not sure whether to perform an update, we recommend that you create a backup copy of the database before updating.

3.2 On-Premise Microsoft SQL Server Database

For most customers looking for a data storage option which provides centralized data access and enhanced cybersecurity, an on-premise Microsoft SQL Server database is the best choice.

3.2.1 Authentication

EasyOne Connect can use a Microsoft SQL Server database with two different authentication mechanisms:

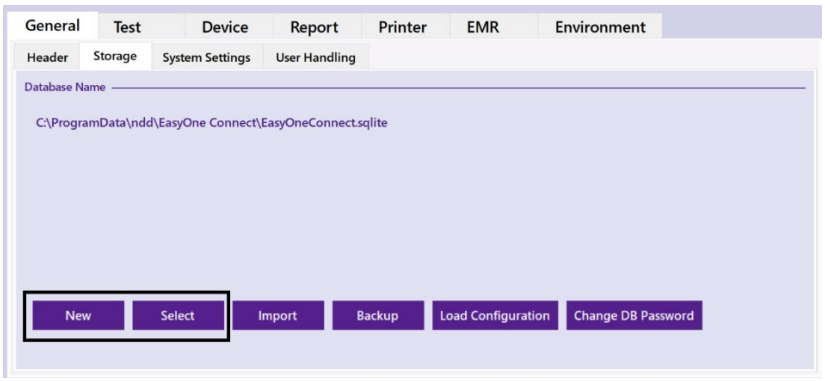
1. **Microsoft Windows Authentication:** with your Windows account login. Make sure that a user has been created and that Windows authentication is being used.
2. **Microsoft SQL Server Authentication:** with a username and password combination as defined in the SQL Server.

Note: You can create users as well as configure and adjust database permissions with Microsoft SQL Server Management Studio. The free version offered by Microsoft is adequate for most uses.

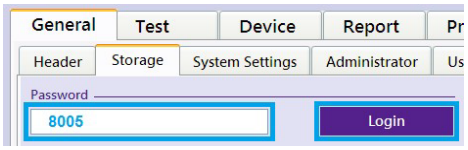
3.2.2 Connecting to On-Premise Microsoft SQL Server

1. Launch EasyOne Connect

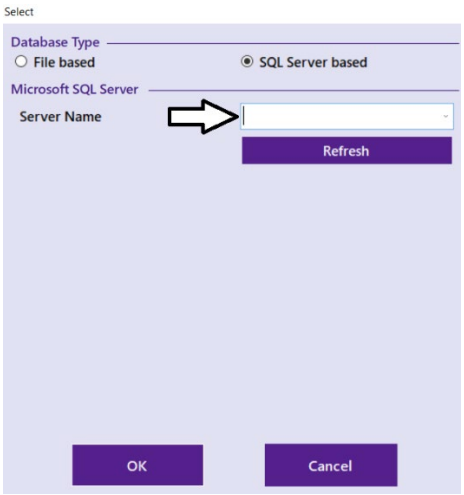
   Go to Utilities / *Configuration* / *Storage* and click either *New* or *Select*:



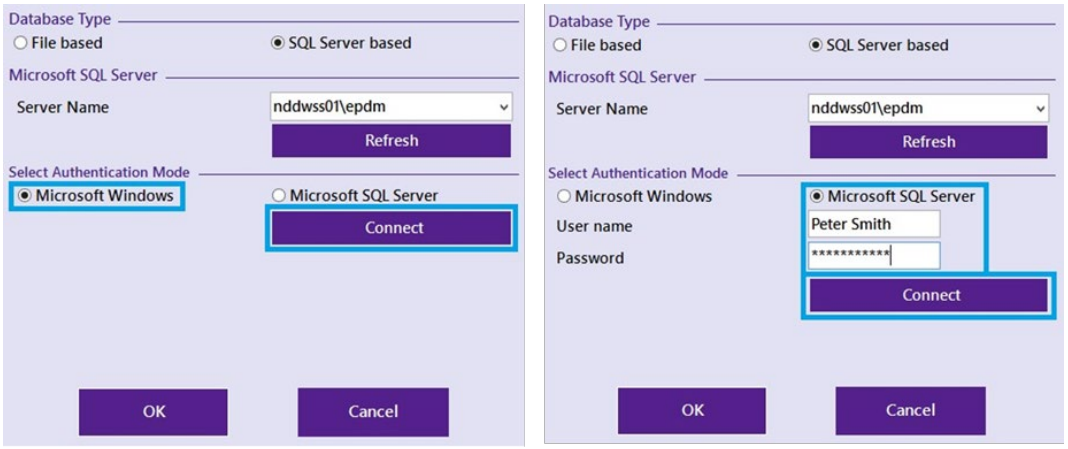
   If prompted to provide a password, enter either the default password '8005' or your admin password. If you do not have an admin password, please consult your local IT department for assistance.



2. Select the option *SQL Server based* and enter the server name. If you are not using the default instance, also enter the instance name as SERVER_NAME\INSTANCE_NAME. **Do not click the *Refresh* button.**



3. Select the authentication mode that you would like to use, enter credentials if prompted, and click *Connect*:



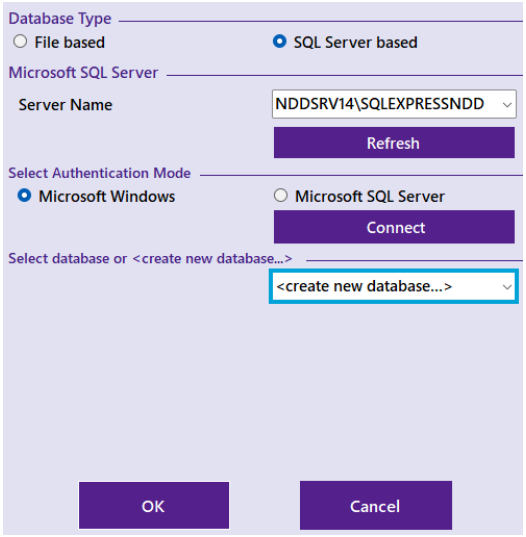
4. When a connection has been established, you can either choose your database from the dropdown list or select <*create new database…*> to set up a new database. If you have already created a database in the SQL Server and clicked *Select* in step 1 under 5.2, please continue with section 5.2.1. Otherwise, proceed to section 5.2.2 to learn how to create a new database.

3.2.3 On-Premise SQL Server Database Selection

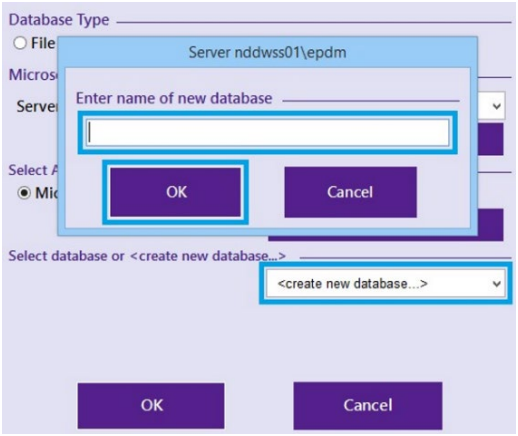
1. Select your database from the dropdown list.
2. If the database was created outside of EasyOne Connect, you will need to create the schema. If the *Create Schema* button appears, click on it to configure the database to be used with EasyOne Connect. **IMPORTANT:** In order to create the schema for a database, you will need to be running the EasyOne Connect software with administrative privileges, and you will need to be connected to the **SQL Server with DBO privileges**.
3. Once the schema has been created, click *OK*. The software will restart automatically.
4. Depending on the version of the database that you have selected, EasyOne Connect may prompt you to update the database to the latest version. **Please note that this update cannot be undone. You will no longer be able to open the database in earlier versions of EasyOne Connect if you proceed with the update.** If you are not sure whether to perform an update, we recommend that you create a backup copy of the database before updating.

3.2.4 On-Premise SQL Server Database Creation

1. Select <*create new database…*> from the dropdown menu marked in blue, then click OK:



2. Enter the name that you wish to give to the new database:

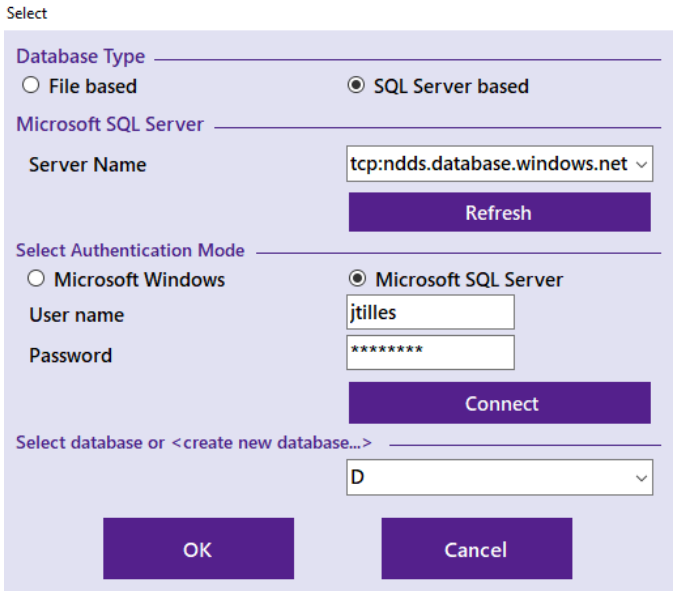


3. Click *OK* to create the new database. **IMPORTANT:** In order to create the schema for a database, you will need to be running the EasyOne Connect software with administrative privileges, and you will need to be connected to the **SQL Server with DBO privileges**.
4. EasyOne Connect may prompt you to update the newly created database to the latest version. Click *OK* to allow the update. If you are not sure whether to perform an update, we recommend that you create a backup copy of the database before updating. You can now use the database.

3.3 Azure Cloud-Hosted Microsoft SQL Server Database

Establishing a connection to an Azure SQL Server database using EasyOne Connect requires a nearly identical process to the one described above for an on-premise database. The only difference lies in how the *Server Name* field in EasyOne Connect is filled out. You will need the connection string for your database, which can be retrieved from the Azure portal by going to the resource page for your database and checking the field *Connection String* from the overview. The input to the EasyOne Connect field which references an external server will be a portion of the connection string accessible in the Azure portal, using only the server name and port.

Example of connection string: tcp:ndds.database.windows.net,1433



Remark: Depending on how your organization's Azure account is set up, you may need to ask your IT department to add firewall rules or other security configurations allowing your local device to communicate with Azure via port 1433.

3.3.1 Encrypting Connections to Microsoft SQL Server

Enabling SSL/TLS encryption increases the security for data transmitted across networks between instances of Microsoft SQL Server and applications. EasyOne Connect and EasyOne Pro/LAB are able to use Microsoft SQL Server's encryption for data transmission. The SSL/TLS encryption is performed within the protocol layer and is available to all SQL Server clients except DB Library and MDAC 2.53 clients.

The level of encryption used by EasyOne Connect when connecting to a server-based database is dictated by the server. EasyOne Connect will observe the security level required by the server up to and including TLS 1.2 encryption.