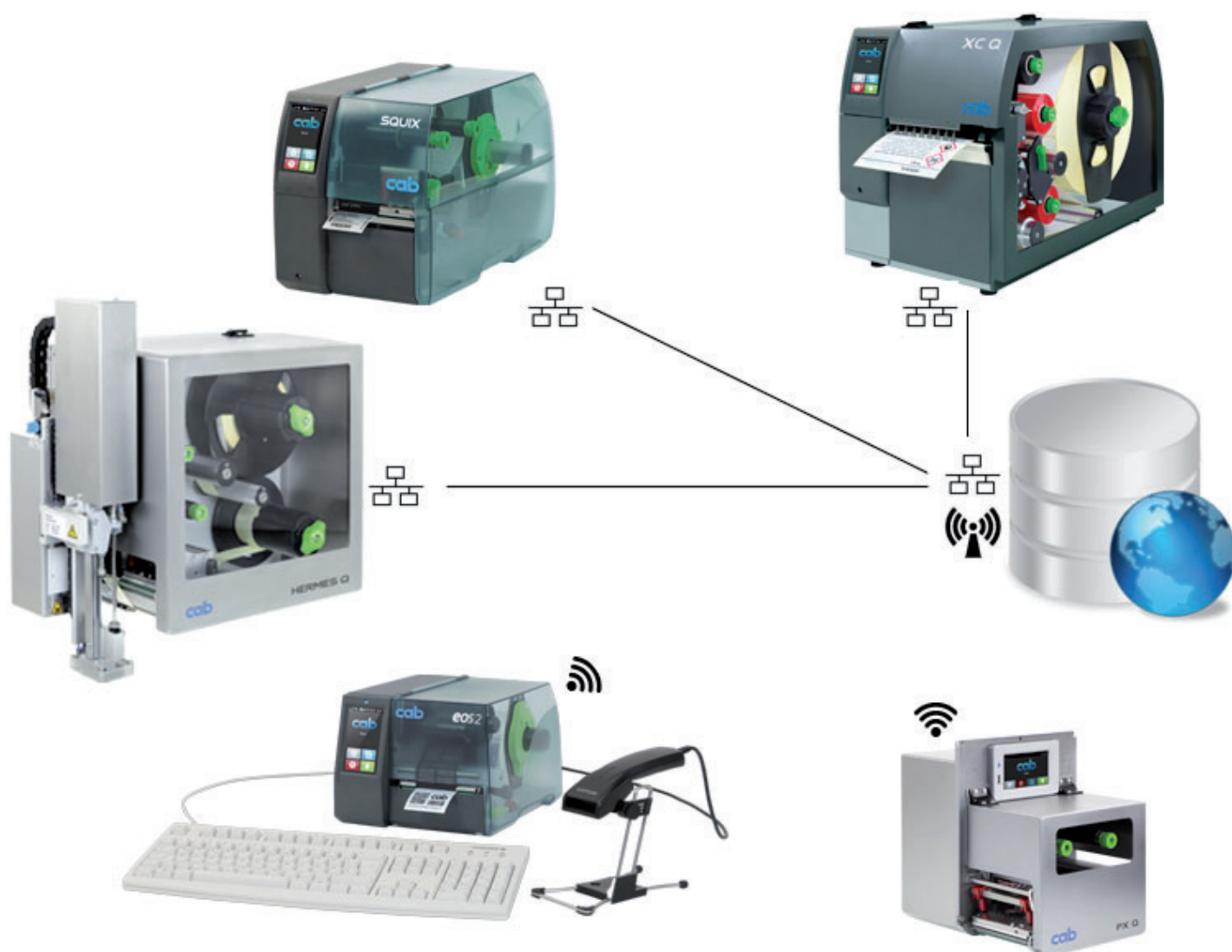


## Operator's manual



Software

# DATABASE CONNECTOR

MADE IN GERMANY

Family	Model
Software	Database Connector

Edition : 10/2024

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## 1.1 Instructions

Important information and instructions in this documentation are designated as follows:



### **Danger!**

Draws attention to an exceptionally great, imminent danger to your health or life due to hazardous voltages.



### **Danger!**

Draws attention to a danger with high risk which, if not avoided, may result in death or serious injury.



### **Warning!**

Draws attention to a danger with medium risk which, if not avoided, may result in death or serious injury.



### **Caution!**

Draws attention to a danger with low risk which, if not avoided, may result in minor or moderate injury.



### **Attention!**

Draws attention to potential risks of property damage or loss of quality.



### **Notice!**

Advices to make work routine easier or on important steps to be carried out.



### **Environment!**

Gives you tips on protecting the environment.



Handling instruction.



Reference to section, position, illustration number or document.



Option (accessories, peripheral equipment, special fittings).

*Hour*

Information in the display or in the user interface.

## 1.2 System requirements

- PC with 2 GHz or higher processor
- 2 GB available RAM (depending on the operating system)
- 400 MB available hard disk space
- 32/64 bit Microsoft® Windows® operating system
  - 10 Server 2016
  - Server 2019
  - 11 Server 2022
- Supported databases: MS Access, MS SQL Server, Oracle, DBase and all databases supporting ODBC connections
- Administrator rights on local computer for installation and configuration
- cab printer with X2 or higher board (Ax under condition).

Board	Printer models
Ax	A3, A4, A6, A8, Hermes A
X2	A+, MACH4, Hermes+, Hermes C, PX, XC, XD
X3	EOS1, EOS4
X4	SQUIX, MACH 4S, EOS2, EOS5, HERMES Q, PX Q, AXON, XC Q, XD Q



### **Notice!**

All documentation are up to date and can be viewed on our website.

### 1.3 Overview

Database Connector is a module that gives cab printers directly access to external databases through TCP/IP.

It is possible, for the same label, to access simultaneously multiple tables in the database.

Similarly, several printers are accessing the same database and this simultaneously, thus ensuring data consistency.

It provides access to any type of database through an ODBC (Open Database Connectivity) or ADO (ActiveX Data Object) driver.

The most common databases are:

- Access
- SQL Server
- Oracle
- DBase
- Informix
- Paradox
- Foxpro

Database Connector is composed of two separate modules:

- SQL client integrated in the printer
- The server part installed on a computer



#### Notice!

**To be able to use Database Connector, SQL client must have been previously enabled on the printer.**

- **For printers with Ax board, SQL client is enabled through a specific Ethernet card (Art. No. 5580210)**
- **For printers with X2 board, SQL client is activated by default since firmware version 3.37.**
- **For printers with X3 board, SQL client is activated by default since firmware version 4.16.**

## 2.1 Installing the client part on the printer

### 2.1.1 Installing on printers with Ax board

To install on printers with Ax board, just insert the additional network card on the back of the printer  
▷ Operator's manual network card for A-Series.

### 2.1.2 Installing on printers with X2 or X3 boards

Database Connector module is already activated by default:

- since firmware version 3.37 for printers with X2 board
- since firmware version 4.16 for printers with X3 board

If your printer has an older firmware version, then you need to update it before using Database Connector.

Check out our website : [www.cab.de/en](http://www.cab.de/en) (Support & Downloads section) to get the latest firmware version.

You can always check on the printer if the activation is done properly through the menu *PPP => PPP short status*

▷ printer configuration manual.

### 2.1.3 Installing on printers with X4 or higher board

For these models, Database Connector module is already activated per default.

## 2.2 Installing the server part on the computer

The server part of Database Connector must be installed on a computer that will act as a server and allow the connection to the database.

- ▶ You can download the installation file from our website:  
<https://www.cab.de/en/marketing/label-software/databaseconnector/>  
If you have downloaded the installation file, double-click on the file "DatabaseConnector\_Setup.exe".
- ▶ Check the 32 or 64 bit architecture of the ODBC driver used to connect to the database. The architecture of Database Connector must be the same as the ODBC driver. This information will be required upon installation.
- ▶ Select the installation language of the program.

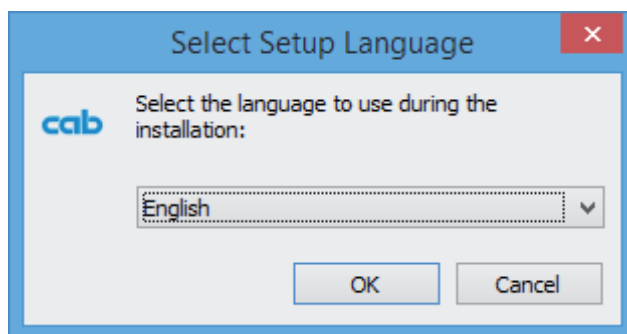


Figure 1 Installation language selection

If the Log Service is not installed, its installation will start before installing Database Connector. This service allows you to record all events related to Database Connector. It will allow to check for errors and if necessary to correct them.

- Start installation by clicking the *Next* button.

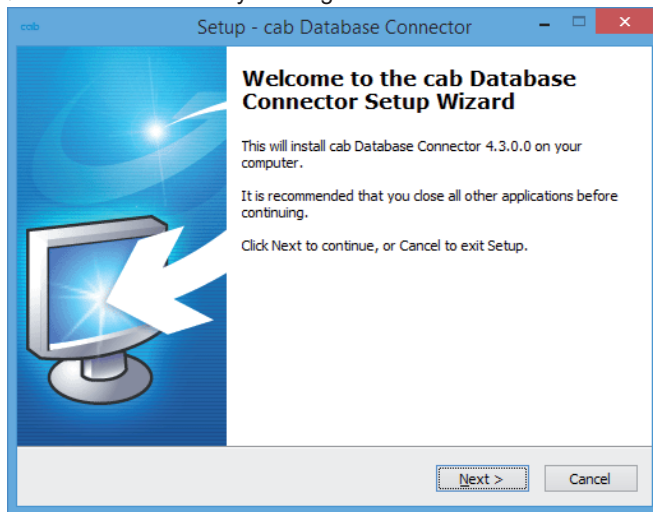


Figure 2 Start of installation program

- Enter user information and then select 32 or 64 bit architecture depending on your operating system and on the ODBC driver you want to use to connect to the database. Click on the *Next* button.

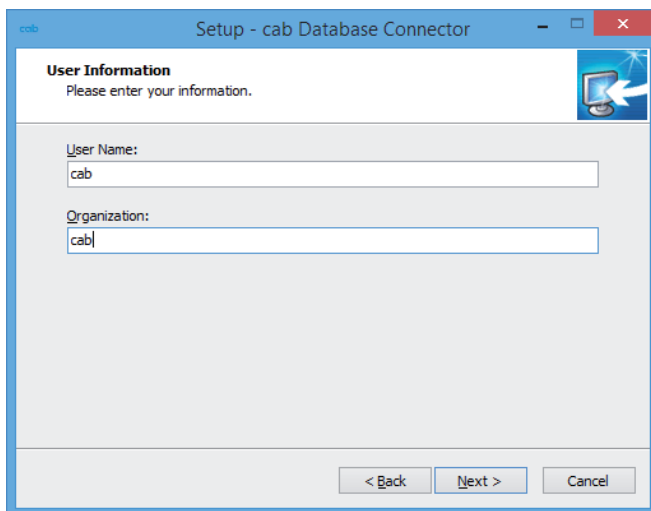


Figure 3 User information

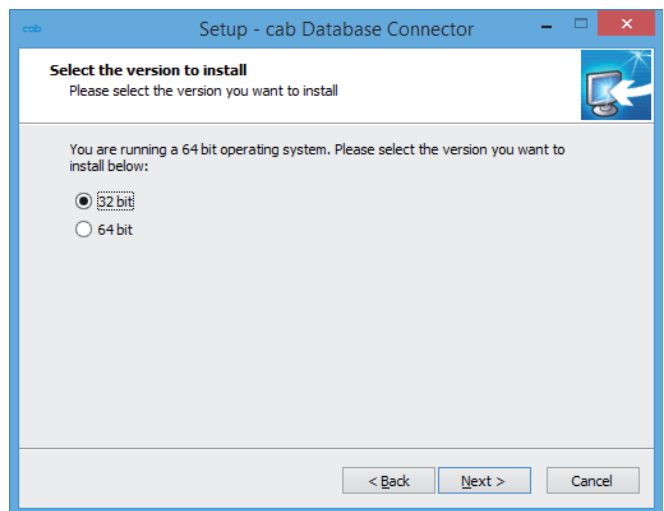


Figure 4 Architecture selection



### Attention!

The architecture of Database Connector must be the same type as the ODBC driver. If you have a 64 bit architecture, it is possible to download the 32 bit ODBC drivers on Microsoft's website.

- Select the target folder and the start menu folder

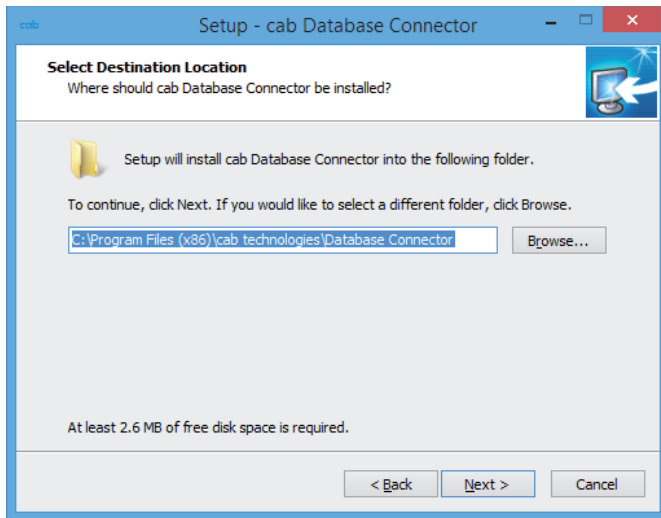


Figure 5 Choose of target folder

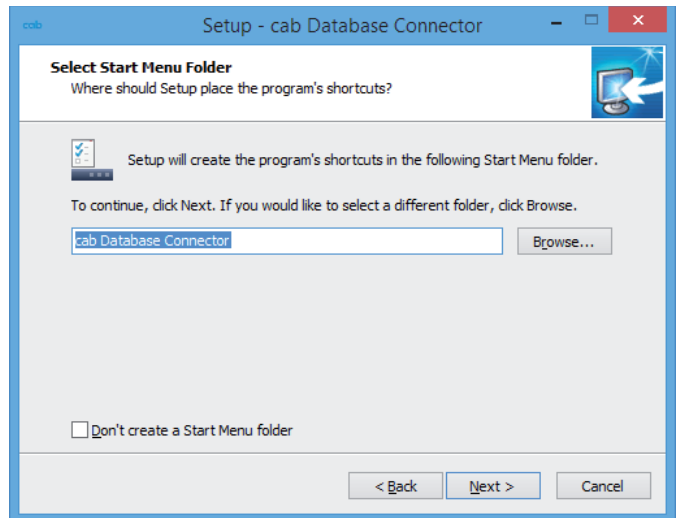


Figure 6 Choose of start menu folder

- Select the additional tasks to be done by the installation program and check the selected options summary.
- Click on the *Install* button.

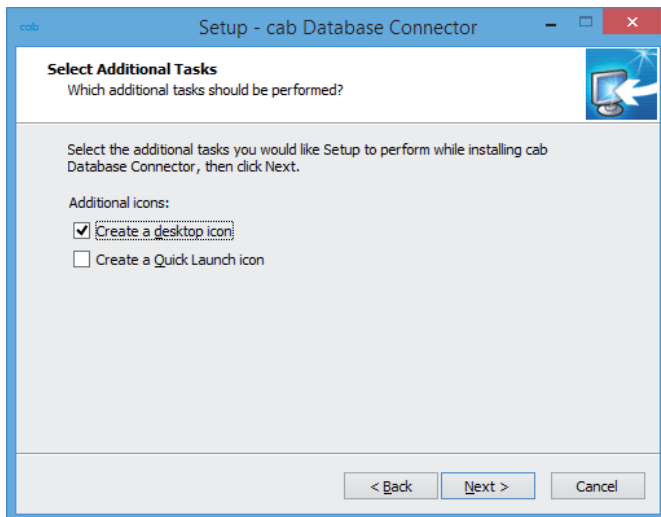


Figure 7 Additional tasks

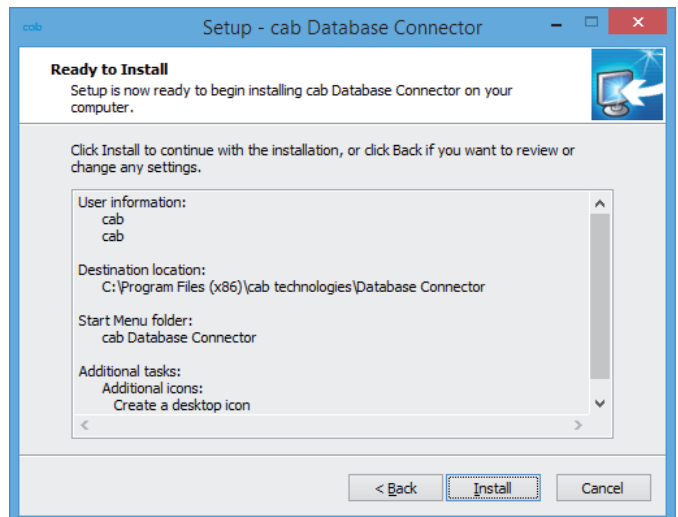


Figure 8 Installation summary



- Wait until the end of the installation, then choose if you want to start the program and click on the *Finish* button

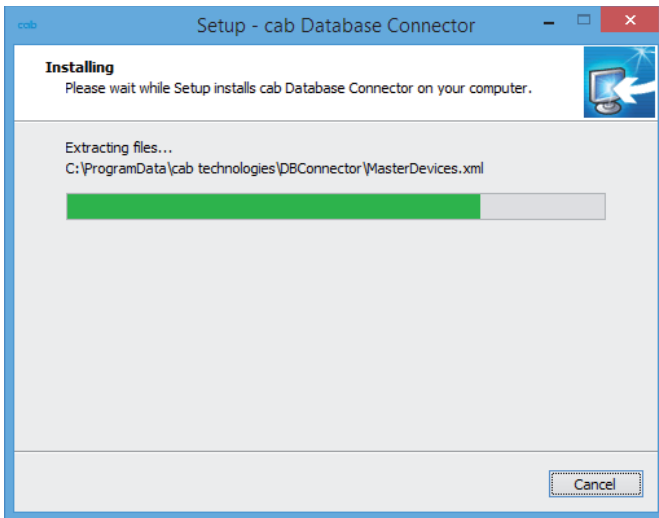


Figure 9 Installation progress



Figure 10 End of installation

## 2.3 Starting the program

After installing Database Connector, an icon of the program is placed on the user desktop and/or in the start menu (depending on the selected installation options).

- Start the program by double clicking on one of these icons.



### Attention!

You must run Database Connector as an administrator in order to be able to modify settings or to modify the service state.

This can be done by right clicking on the program icon and selecting "Run as administrator".

## 3.1 Database Connector

**Attention!**

If you have a firewall on your computer, you must open the port used by Database Connector (by default 1001). If the port is closed the program will not work.

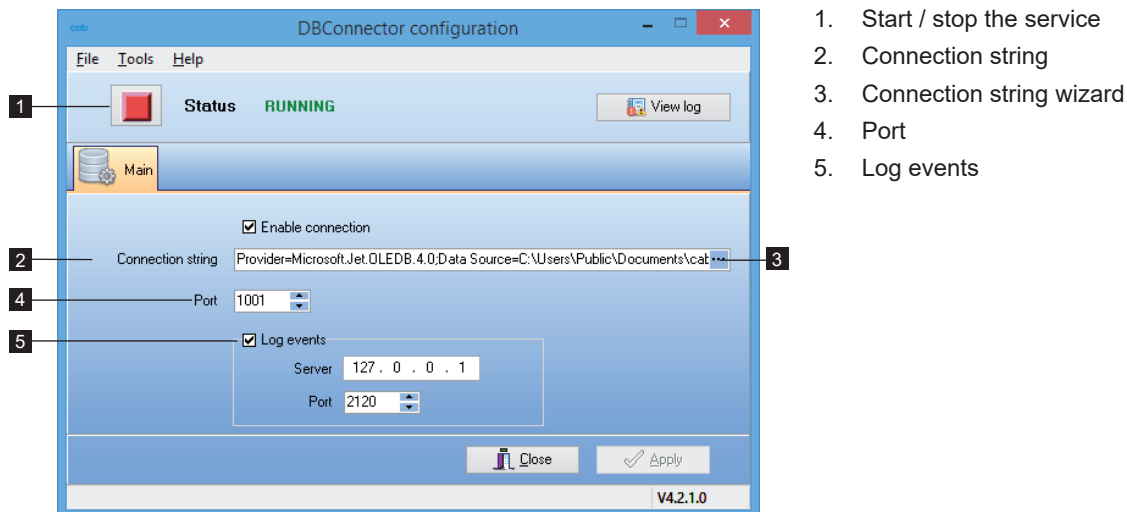


Figure 11 Database Connector

- Start or stop the service using the button next to the status (1).

The *Main* tab allows you to select the connection string to the database (2), the port used by Database Connector (4) and the parameters for recording events (5).

- Choose the database provider, depending on the type of database, by pressing the button next to the connection string (3).

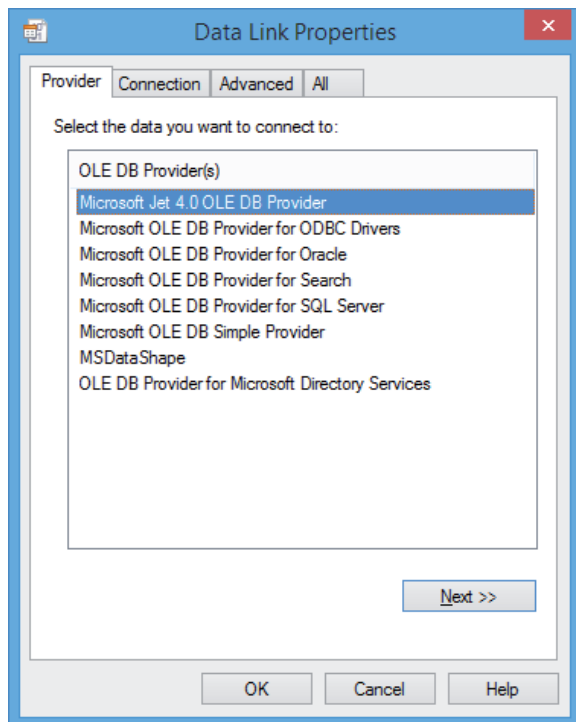


Figure 12 Data Link Properties

## 3.2 Event log

Database Connector records every action performed. This allows to have an history in case of a problem or error and thus to find out the cause and get a solution more easily.

All these actions are registered directly in the Windows Event Viewer

- You can easily access the events by clicking on the *View log (1)* button of the main interface.

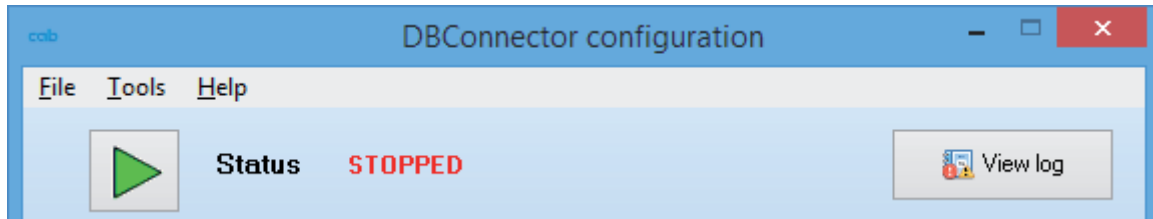


Figure 13 Log access

- The log interface will open, allowing you to view only the events related to Database Connector.

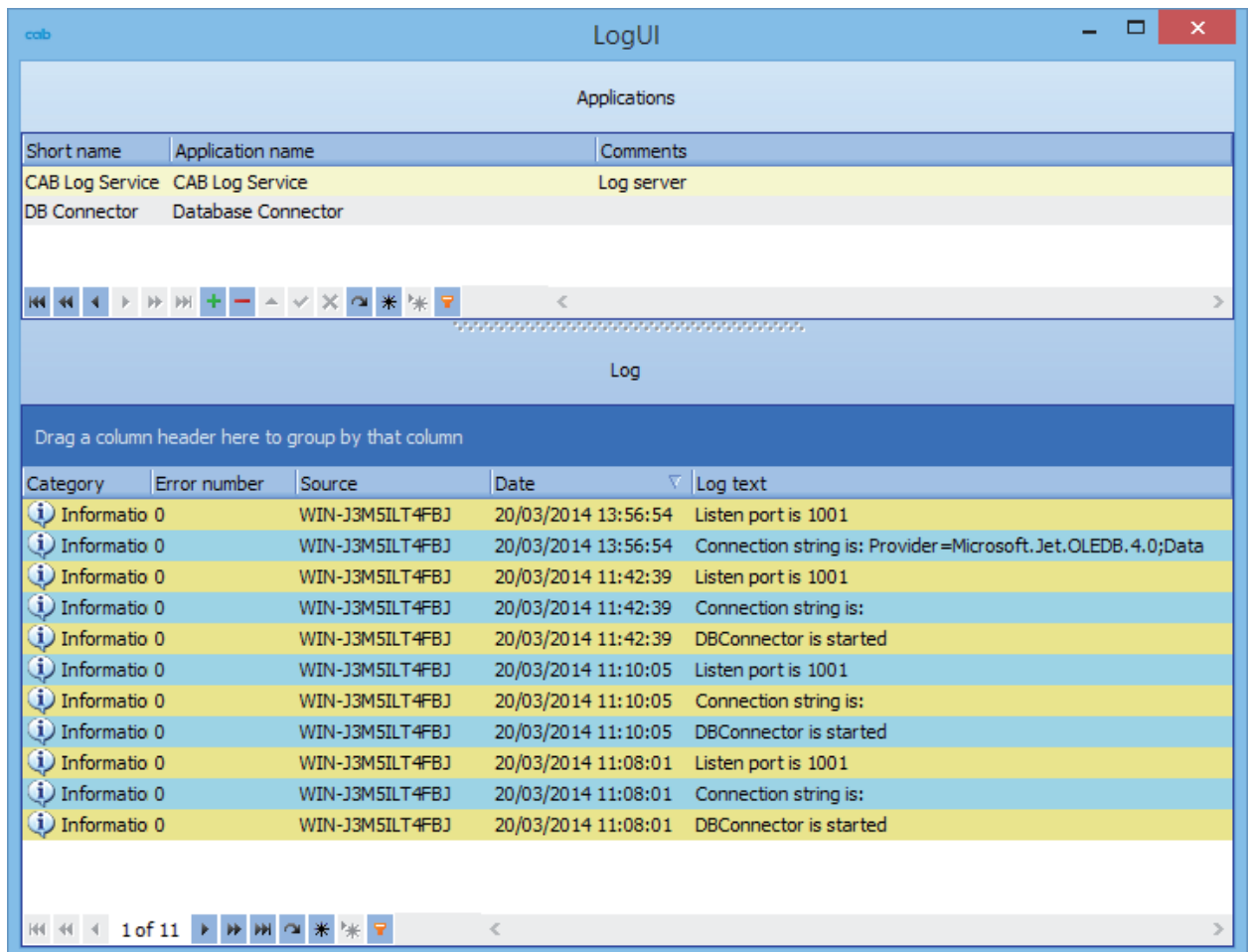


Figure 14 Event log

► You can also view these information in the Windows Event Viewer.

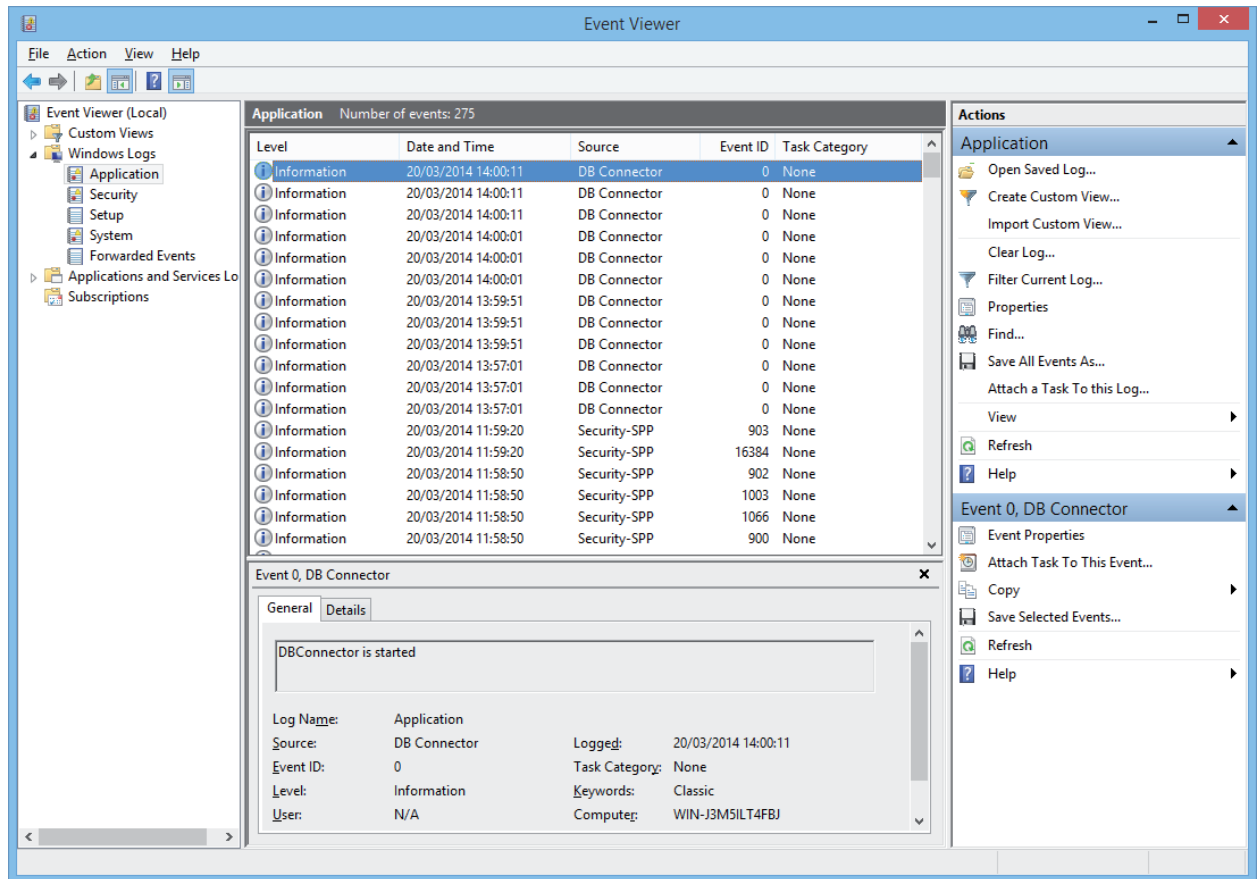


Figure 15 Windows Event Viewer



#### Notice!

**To access the Event Viewer:**

**Control Panel => System and security => Administrative Tools => Event viewer**

**Notice!**

Labels using Database Connector can be made directly with the labeling software cablabel S3 Pro, cablabel R2 Pro (*discontinued*), or Codesoft.

- Only cablabel S3 Pro, cablabel R2 Pro (*discontinued*), Codesoft Pro and Enterprise allow you to use Database Connector.
- Database Connector only works with native printers and does not work with Windows drivers.

## 4.1 Creating a label with cablabel S3 Pro

In cablabel S3 Pro, just use the Database Wizard.

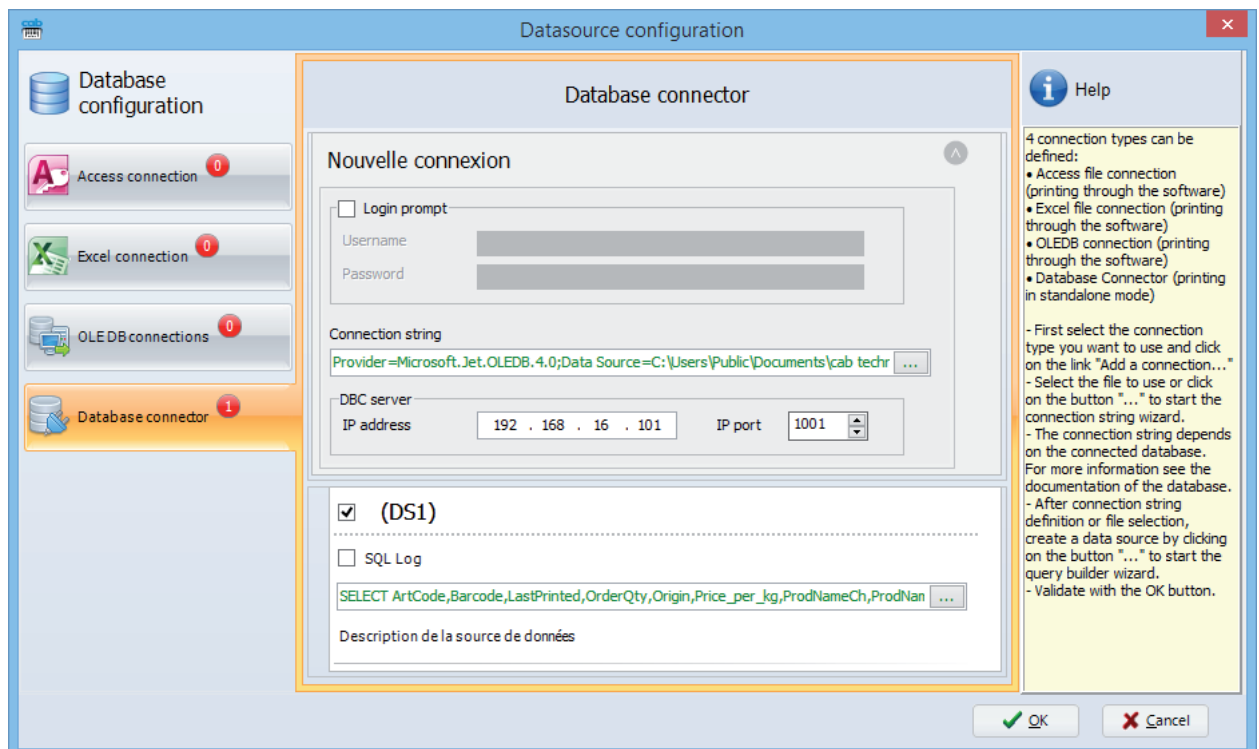


Figure 16 Database Wizard

- Configure the Database Connector connection string.
- Select the data source using the Query Builder.

After that, the different desired fields of the label may be linked to the data source.

**Notice!**

For more information ► cablabel S3 Pro operator's manual, chapter *Database Wizard*.

4.2 Creating a label with cablabel R2 Pro or Codesoft

4.2.1 Activating the Database Connector option

- Start cablabel R2 Pro or Codesoft.
- Install a native cab printer.
- Enable the Database Connector option in the printer configuration by entering the computer IP address where the server part is installed.

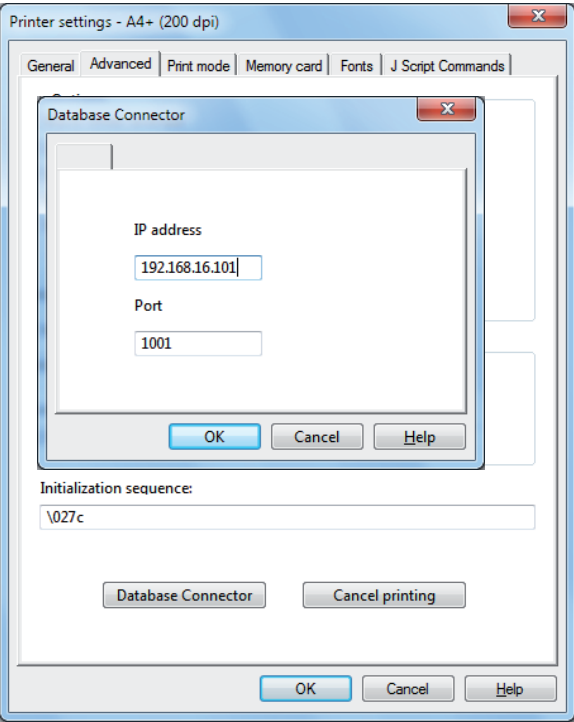


Figure 17 Printer configuration

- Create one or more queries.
- In the next examples we will use the table below:

Products											
ArtCode	Barcode	ProdNameUs	ProdNameFr	ProdNameGe	ProdNameSp	ProdNameIt	ProdNameCh	ProdNameRu	Origin	OrderQty	We
1	642136478963	Banana	Banane	Banane	Plátano	Banana	香蕉	Банан	Island	8	
2	145987632546	Grapes	Raisins	Traube	Uva	Uva	葡萄	Виноград	Australia	11	
3	354698743612	Appel	Pomme	Apfel	Manzana	Mela	苹果	Яблоко	France	10	
4	298765832156	Cherry	Cerise	Kirsche	Cereza	Ciliegia	櫻桃	Вишня	Germany	6	
5	456319875634	Kiwi	Kiwi	Kiwi	Kiwi	Kiwi	奇异果	Киви	Italia	9	
6	569132687456	Strawberry	Fraise	Erdbeere	Fresa	Fragola	草莓	Клубника	Spain	20	
7	756198456789	Orange	Orange	Orange	Naranja	Arancia	橙	Апельсин	Maroc	5	
8	863259478934	Peach	Pêche	Pfirsich	Melocotón	Pesca	桃子	Персик	Greece	10	
9	956489231489	Plum	Prune	Pflaume	Ciruela	Prugna	梅	Слива	Portugal	12	
*	(Nouv.)									0	

Figure 18 Query result

## 4.2.2 Creating a query

To create queries, you must use the free variables of cablabel R2 Pro or Codesoft.

- ▶ Create a free variable.
- ▶ Place the variable on the label as a text.
- ▶ Right-click on the variable to access the *Specific options*.

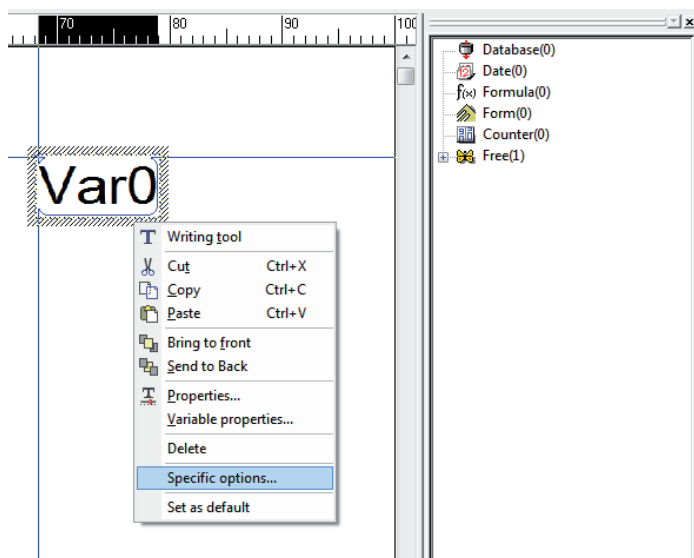


Figure 19 Specific options

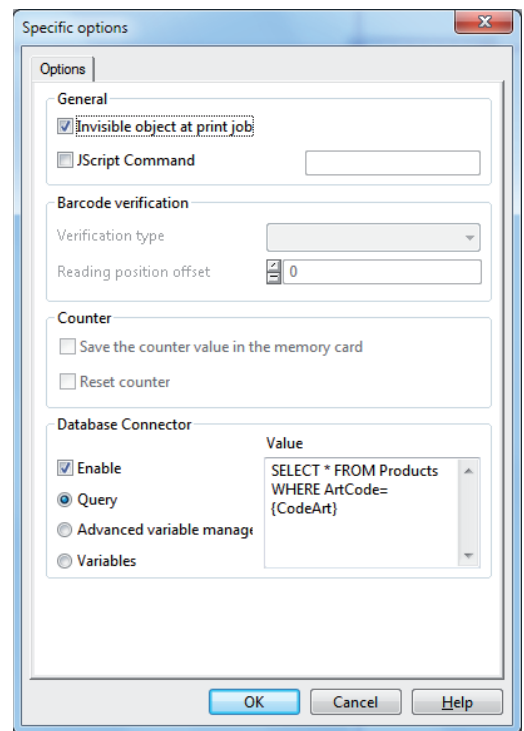


Figure 20 Specific options settings

- ▶ Enable Database Connector and select the variable type *Request*.
- ▶ Enter the SQL query in the *Value* field.

Example: `SELECT * FROM Products WHERE ArtCode = {CodeArt}`

If you need to use a variable from the label in the query, just use the name of this variable by enclosing it in braces {} and with single quotes if it is a string.

Example : {CodeArt} for a variable representing an integer in the database

'{CodeArt}' for a variable representing a character string in the database

**Notice!**

You can also make this variable invisible through the *Invisible object at print job* option if you do not want it to appear on the printed label, which is very often the case.

### 4.2.3 Creating a variable with the result of a query

To create a variable with the result of a query you should still use the free variables of cablabel R2 Pro or Codesoft.

- Create a free variable.
- Place the variable on the label as a text, barcode or picture.
- Right-click on the variable to access the *Specific options*.

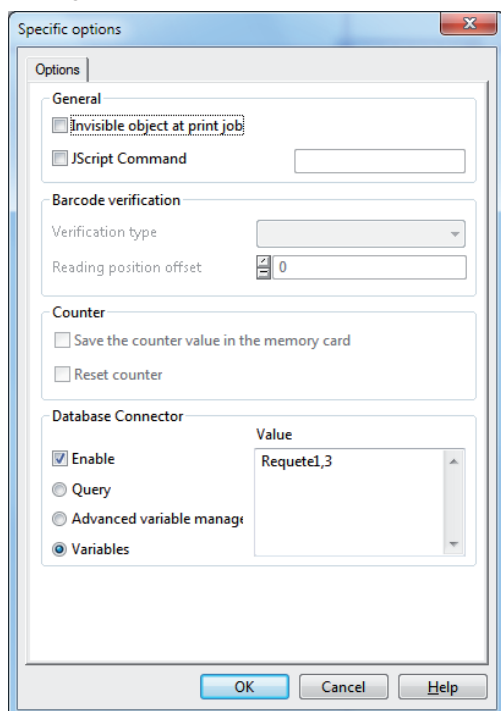


Figure 21 Specific options

- Enable Database Connector and select *Variable*.
- Use the name of the free variable containing the SQL query.
- Add, separated by a comma, the index of the desired field. The index of the first result field is always 1.

If we take the table and the previous query, the index 1 represents the field *Artcode*, index 2 the field *Barcode*, index 3 the field *ProdNameUs* ...

**Example:** Requete1,7

Requete1 is the name given to the free variable that contains the SQL query.  
7 is the index of the field from the database (in the example the field *ProdNameIt*).



#### Notice!

You can also make this variable invisible through the *Invisible object at print job* option if you do not want it to appear on the printed label.



## 5.1 List of commands

Below is the list of specific JScript commands to use Database Connector.

### **E SQL;Server\_IP:Server\_Port**

Enables Database Connector specifying the IP address and port of the server.

This command is to be added at the beginning of the file after the “S” command with the label size.

*Server\_IP*: IP address of the computer where the Database Connector server part is installed.

*Server\_Port*: port of the computer where the Database Connector server part is installed.

Example: E SQL;192.168.10.32:1001

In the example the IP address of the server is 192.168.10.32 and port 1001.

### **[SQL:Query]**

This command is added behind a text or barcode field.

The command “E SQL...” must of course have been previously specified.

*Query*: any SQL query.

Example: T:Requete;10,15,0,3,5;[SQL:SELECT \* FROM Products WHERE ArtCode={CodeArt}]

Selects all fields from the table Products where the field ArtCode is equal to the part number entered by the operator.

### **[SQLLOG:Query]**

Same function as [SQL:Query], except that SQLLOG is performed only when the label is printed.

This allows to make a logging in a database.

*Query*: any SQL query.

Example: T;57.4,5,3,0,3,3.57,q100;[SQLLOG:UPDATE Products SET LastPrinted='{Hour0}' WHERE ArtCode={CodeArt}][I]

### **[SPLIT:Result,Index]**

This command is added behind a text or barcode field.

*Result*: name of the field where the result of the query is stored.

*Index*: field index to retrieve from the query (1 is the first field).

Example: T:Product;23.1,13.8,0,3,3.57,q100;[SPLIT:Requete,3]

In the example, we retrieve the third field of the “Requete” request.



#### **Notice!**

More information about the direct programming of the printer ► [cab Programming Manual](#).

### Full sample

The following example is distributed with Database Connector. You can find it in the “Examples” folder located in the installation folder of the program (by default *C:\Program Files\cab technologies\Database Connector\Examples*)

It is used with the Access database located in the same folder.

```
mm
zO
J
O R,S,P
H100,0,T
D 0.0,0.0
SI1;0.0,0.0,42.0,42.0,100.0,100.0,1
E SQL;192.168.10.32:1001
T:CodeArt;25.3,4.7,0.5,3.2,q100;[?:Code article ?,2,,,L200]
T1.5,4.7,0.5,3.2,q100;Code article :
T2.5,13.8,0.3,3.57,q100;Product:
T2.5,19.0,0.3,3.57,q100;Produit :
T2.5,23.9,0.3,3.57,q100;Produkt:
T56.6,12.7,0.3,3.57,q100;Quantité :
T56.6,18.5,0.3,3.57,q100;Poids :
T:Requete;40.8,5.3,0.3,3.57,q100;[SQL:SELECT * FROM Products WHERE ArtCode={CodeArt}][I]
T:Update;57.4,5.3,0.3,3.57,q100;[SQL:UPDATE Products SET LastPrinted='{Date0}' WHERE ArtCode={CodeArt}][I]
T:Insert;72.2,5.3,0.3,3.57,q100;[SQL:INSERT INTO PRINT (ArtCode,PrintDate) VALUES ({CodeArt}, '{Date0}')[I]
B:Barcode;35.8,28.0,0,CODE128,12.6,0.25;[SPLIT:Requete,2]
T:Product;23.1,13.8,0.3,3.57,q100;[SPLIT:Requete,3]
T:Produit;23.1,19.0,0.3,3.57,q100;[SPLIT:Requete,4]
T:Produkt;23.1,23.9,0.3,3.57,q100;[SPLIT:Requete,5]
T:Quantite;76.1,12.7,0.3,3.57,q100;[SPLIT:Requete,11]
T:Poids;84.0,5.3,0.3,3.57,q100;[SPLIT:Requete,12][I]
T:Date0;3.1,39.1,0.3,3.57,q100;[DAY02]/[MONTH02]/[YYYY]
T:Formule0;76.1,18.5,0.3,3.57,q100;[*:Poids,1][D:4,1][R:m]
A [?]

```

## Operating diagram of Database Connector

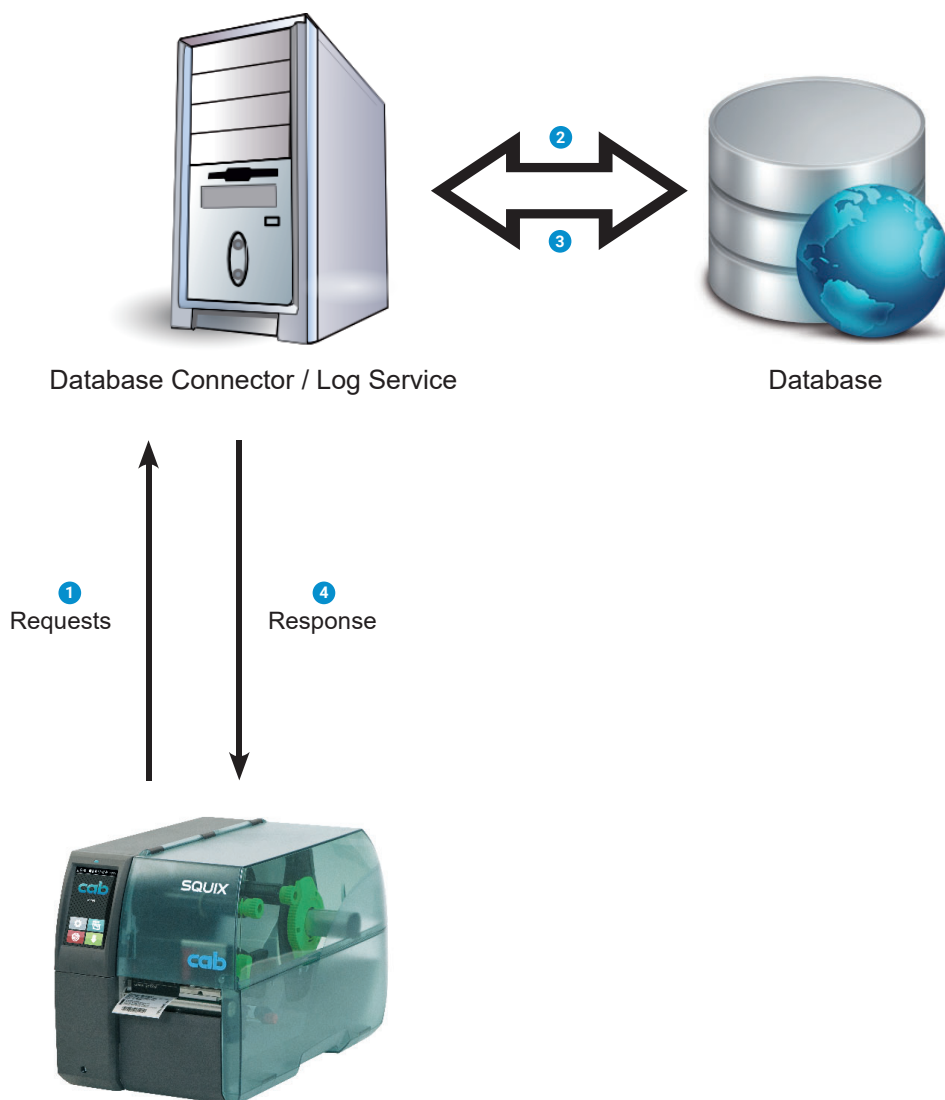


Figure 22 Operating principles

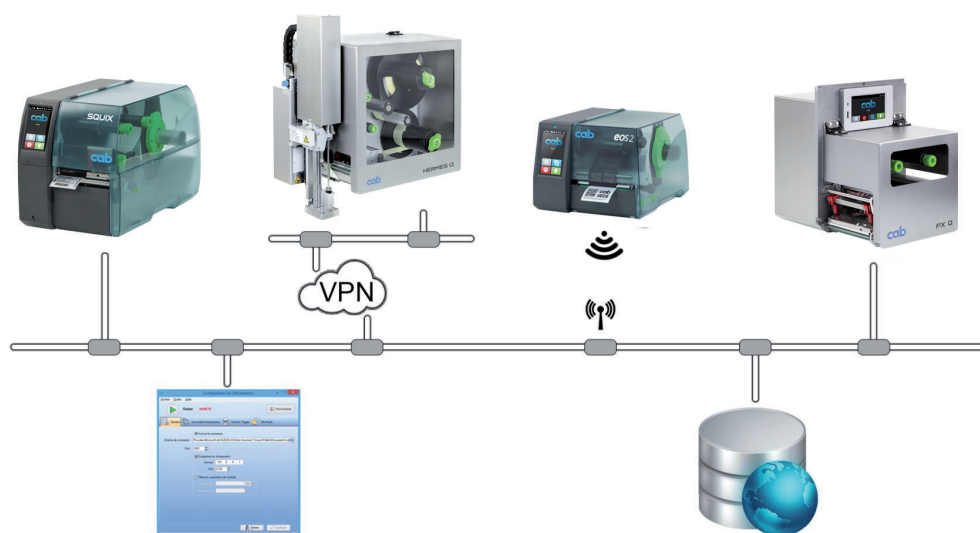


Figure 23 Example of networking