Database on the server

If you need more than one user to work with your database at the same time, you need to access it through the Firebird database server. It is a free, robust, easily operated and controlled system, which has been developed over a long period of time. A description of Firebird and links to other information resources can be found at https://firebirdsql.org/

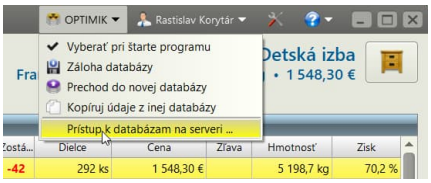
The procedure:

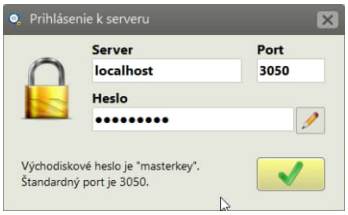
1. Install the Firebird database server (32-bit version 3.0.XX) on the selected computer in your local area network (LAN). You can download it from https://firebirdsql.org/en/firebird-3-0/
   After the installation, the Firebird SQL Server will start automatically as a service when Windows starts (if you have enabled this option during installation). If a firewall is installed (enabled) on the computer, you have to "open" the standard communication port 3050 (unless it is already open). For example, for the Windows 10 firewall system you have to click on Start - Control Panel - Windows Defender firewall - Advanced settings and to add there the new port 3050 for incoming and outgoing communication (e.g. name: Firebird 3, port number: 3050). If you already have an older version of Firebird installed and need to keep it, you will need to enter a different port (see the description at the end of this guide).

2. Install OPTIMIK here too and create a local database in it. This database will act as a "network" database from the perspective of other client computers. If you are using another operating system on this computer (so that OPTIMIK cannot be run here), copy the created database to this place (file with the extension *.OP4) from another computer.

3. Add information about this database to the configuration file "databases.conf", which is located in the Firebird server installation folder (the default, this is C:\Program Files (x86)\Firebird\Firebird_3_0). Windows will not allow you to edit this file directly, but copy it to another folder, edit it there, and then overwrite the original file with it. The contents of this file may also be changed during operation of the Firebird server.
   Database information must be entered in the file in the form Database name = Database path.
   Thus, for example: *Firm 2020 = D:\Data Optimik\Firm 2020.op4*

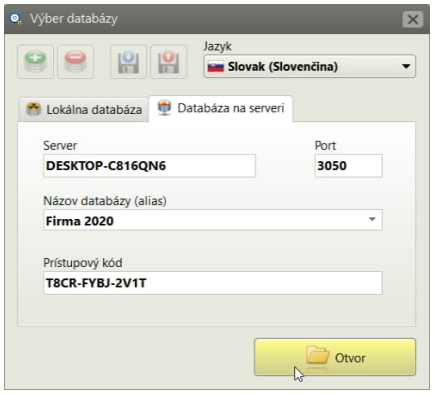
4. Start Optimik (if necessary, this step can also be performed on another computer connected to this server) and open this local database as an Administrator. In the main window, click on the name of your database (on the top right bar) and then on the "Access to databases on the server" button. In the window that subsequently appears, enter the server access data:





Server - enter "localhost" (or the IP address or the computer name if you are connecting from a client computer)
Port - Firebird uses port 3050 by default
Password - the default password is "masterkey". We recommend changing it (by clicking on the button on the right).
After clicking on the button at the bottom right, the data and connection will be checked, and if everything is OK, the program will connect to the Firebird server and a window for generating/changing the access code will be displayed.

5. Run Optimik on the client computer and connect to the "network database" by entering the set parameters:



Database security:
Firebird 3 allows the database to be secured only at the database server level; the database itself does not contain any access passwords, or encryption. This means that anyone who gets the database has no problem accessing it by means of a new Firebird installation. Therefore, the entire security consists in placing the database in a folder that is not publicly accessible to other users, who do not know its location. Therefore, access to the database is performed through its placeholder name (alias) - see above, step 3. A further increase in security consists in changing the generally known password "masterkey" for the Firebird database server itself (see above, step 4).

Possible errors :

"Your user name and password are not defined. Ask your database administrator to set up a Firebird login.":
This error can occur when the Firebird process unable to open the security database to perform authentication. This can happen if you installed Firebird in C:\Program Files, and you are running the Firebird server as an application (instead of as a service) and UAC is enabled,
or you are running as a service, but the user account running the service has insufficient rights to read and write to the security3.fdb file.
You either need to run Firebird as a service (e.g. as configured by the installer), or if you really want to run Firebird as an application, install Firebird outside of C:\Program Files.

Back up and restoration of the database on the server:

For security reasons, it is possible to back up and restore the database only from OPTIMIK installed on the server. Run OPTIMIK here and connect to your database here as a local database (however, this can only be done if no other user is connected to it). Afterwards, functions for its backup and restoration will be accessible.

Parallel operation of different versions of Firebird database servers

Some older programs may use an older Firebird server version. E.g. OPTIMIK 3 uses Firebird 2.5, but due to the advantages of this server it can also be used by other, older programs of yours. Several versions of Firebird may be running on the computer at the same time, but it is necessary to set a different communication port for each of them. The installation procedure is as follows:

1. Pause the work of the current server. First, make sure that no other user is connected through it. Then pause it using Ctrl + Alt + Del - Task Manager. On the Services tab, find Firebird, right-click on it and select "Stop".

2. Install Firebird 3. During installation, a window will appear informing you that an older version has been found and you need to make the settings manually.

3. After the installation, open a new port in your firewall, e.g. 3051 and set the path to the database and its placeholder name - alias (see description above).

4. You must also change the communication port for the currently installed Firebird 3. Open the folder where you just installed Firebird 3 (by default, this is C:\Program Files (x86)\Firebird\Firebird_3_0) and look for the file firebird.conf. Copy it to another folder and start editing it. Find the line #RemoteServicePort = 3050 in it. Remove the grid at the beginning of the line and enter the changed port - e.g. RemoteServicePort = 3051. Save the file and copy it back to the original folder (overwrite the original file).

5. After the computer restarts, both versions of Firebird (the original and the new one) should be running, each communicating on its own port.

6. Now you can also connect to your database from client computers, but do not forget to enter the correct port number in the introductory window.