



LIGHTFACTORY V2 MULTI USER SETUP GUIDE

V2.2

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OVERVIEW

LightFactory is a unique PC based lighting controller that combines the best of traditional lighting control with advanced features only available with the power of a PC.

Now with multi user functionality you can connect several LightFactory systems together all programming or operating on the same show. Any updates made by one user will appear on all other connected systems in real time.

The multi user functionality takes advantage of the Firebird SQL database to share information. A default installation of LightFactory uses an embedded version of Firebird to simplify installation for most users. To switch to a multi user environment you must install the client server version of Firebird.

There are 4 steps to setup a multi user environment.

1. Download Firebird installation.
2. Installation of the firebird super server
3. Setting up the show file you want to share between users
4. Connecting LightFactory systems to the show.

FIREBIRD

Firebird is an open source relational database management system that runs on GNU/Linux, Windows, and a variety of Unix platforms.



A default installation of LightFactory will install a very lightweight client called “Firebird Embedded”. The advantages of this system are that installation and configuration of LightFactory is very simple. In most cases the end user does not need to be concerned with how the show data is handled. In order to run LightFactory in multi user mode you must install the full version of Firebird to allow more than one system to open the show file.


DOWNLOAD INSTALLATION

To obtain the full version of Firebird visit the following web site:

<http://www.firebirdsql.org/>

Go to the download page and click on “Download Firebird 2.1.X” where the X is any sub version number. LightFactory uses the 2.1 release of firebird.



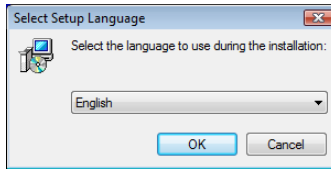
In the list of downloadable files find the “Windows executable installer for full Classic or Superserver, recommended for first-time users” under the win32 ( Win32) heading.

Once you have downloaded the file, run the executable to install Firebird.

INSTALLING FIREBIRD SUPER SERVER

Firebird server – and any databases you create or connect to – must reside on a hard drive that is physically connected to the host machine. You cannot locate components of the server, or any database, on a mapped drive, a filesystem share or a network filesystem.

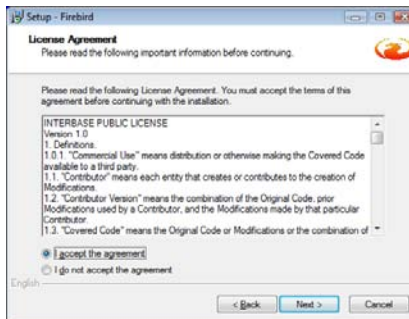
To setup the Firebird server run the installation file downloaded from the web site and the setup language selection will appear.



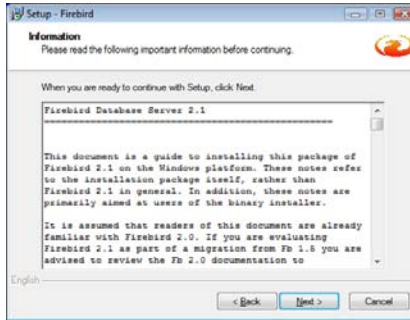
Select your language from the drop down list and click on “OK”.



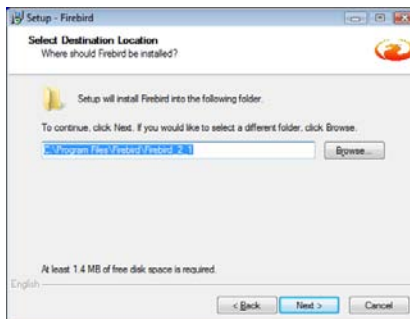
Click “Next” on the welcome screen.



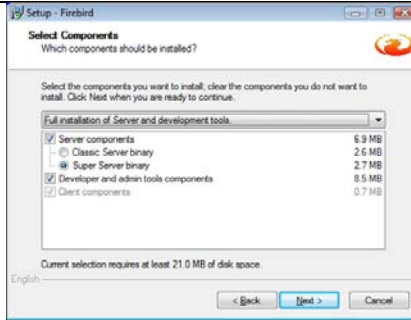
Read the Firebird license and click on “I accept the agreement” radio button if you are happy with the licensing terms. Click on “Next” to continue or “Cancel” to exit the installation.



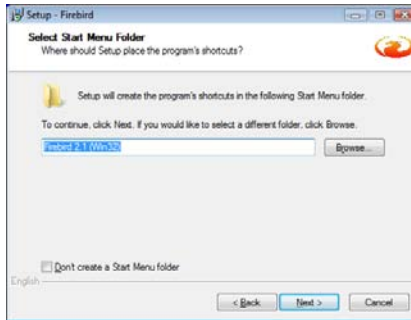
The information in the next window contains release notes and detailed instructions that will be covered later in this guide. Click “Next” button to progress to the next page.



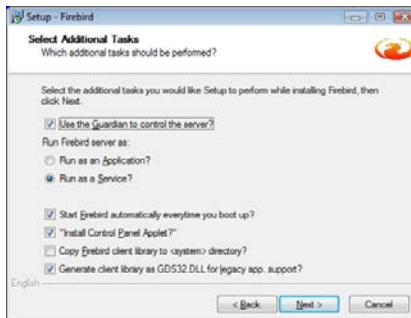
Accept the default installation directory (recommended) and click on the “Next” button.



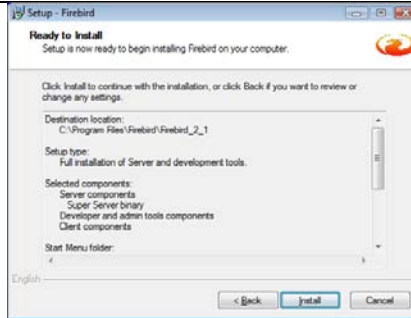
In the select components window ensure that the “Super Server” is selected and click on the “Next” button.



Use the default start menu settings (recommended) and click on the “Next” button to continue.



Use the default settings shown in the above picture for the “Select Additional Tasks” page. Click on the “Next” button to continue.



Once you are ready to install the database server click on the “Install” button. You will see the installation progress and a new page indicating that the installation is complete.

CONFIRMING FIREBIRD IS RUNNING

Before setting up the show file we recommend that you confirm that the firebird server is running.

If everything works as designed, the Firebird server process will be running on your server machine upon completion of the installation. It will also start up automatically whenever you restart your computer.

Before testing the Firebird server itself, it is advisable to verify if the server machine is reachable from the client at all. At this point, it is assumed that you will use the recommended TCP/IP network protocol for your Firebird client/server connections.

PINGING THE SERVER

The ping command – available on most systems – is a quick and easy way to see if you can connect to a server machine via the network. For example, if your server's IP address in the domain that is visible to your client is 192.13.14.1, go to a command shell on the client machine and type the command

```
ping 192.13.14.1
```

substituting this example IP address with the IP address that your server is broadcasting. If you are on a managed network and you don't know the server's IP address, ask your system administrator. Of course you can also ping the server by its name, if you know it:

ping vercingetorix

If you are connecting to the server from a local client – that is, a client running on the same machine as the server – you can ping the virtual TCP/IP loopback server:

ping localhost –or– ping 127.0.0.1

If you have a simple network of two machines linked by a crossover cable, you can set up your server with any IP address you like except 127.0.0.1 (which is reserved for a local loopback server) and, of course, the IP address which you are using for your client machine. If you know the “native” IP addresses of your network cards, and they are different, you can simply use those.

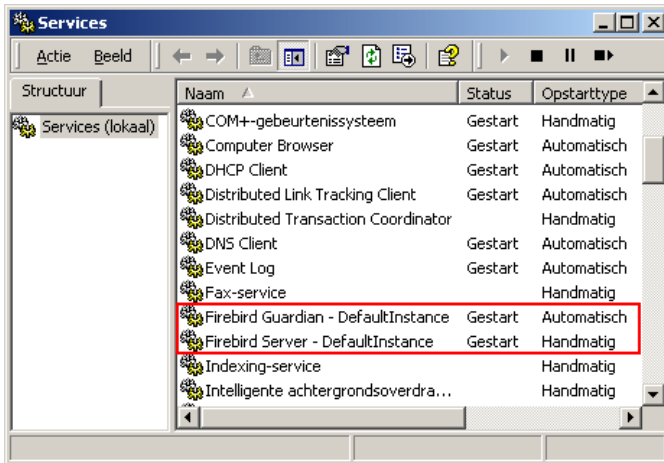
Once you have verified that the server machine is reachable from the client, you can go on to the next step.

CHECKING THAT THE FIREBIRD SERVER IS RUNNING

After installation, Firebird server should be running as a service or as an application. Service is default and highly recommended.

Open Control Panel -> Services (NT) or Control Panel -> Administrative Tools -> Services (2000, XP).

This illustration shows the Services applet display on Windows 2000. The appearance may vary from one Windows server edition to another. Also, service names may vary with the Firebird version.



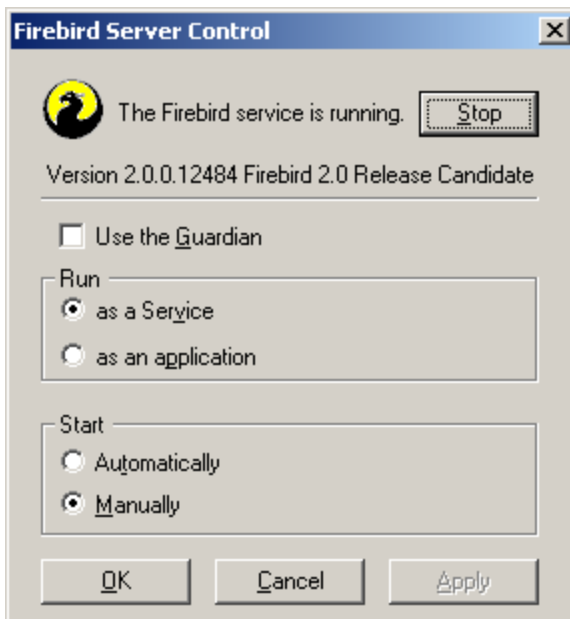
You should at least find the Firebird server in the services listing. The Guardian may or may not be running, depending on the choices you made during installation.

WINDOWS CONTROL PANEL APPLETS

Several control panel applets are available for use with Firebird. Whilst such applets are not essential, they do provide a convenient way to start and stop the server and check its current status.

The Firebird Server Manager applet is included in the Firebird distribution. The option to install this applet is only available for Superserver.

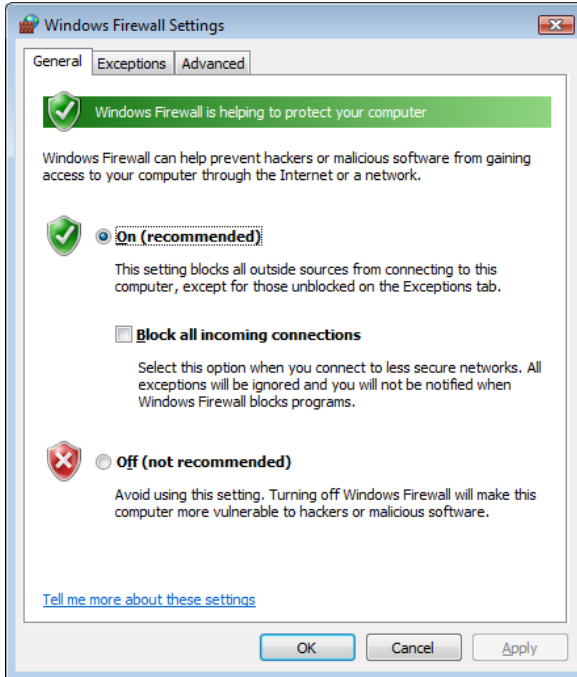
This is a screenshot of the activated applet. Notice that the title bar says “Firebird Server Control”, although it is listed in the Control Panel as Firebird 2.0 Server Manager.



FIREWALL

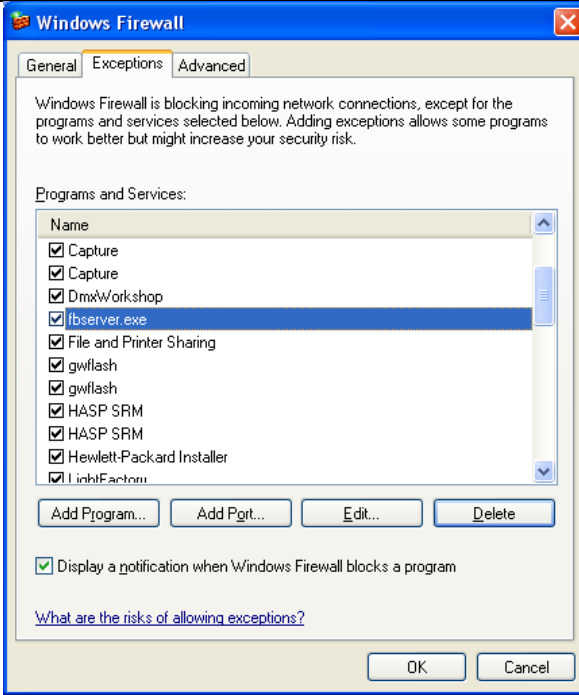
Before attempting to connect to a show file from a remote system you must make sure that windows firewall will allow acces.

Open the firewall control panel applet:



If you are not running the windows firewall or have it turned off then no further configuration is required.

If you are using the windows firewall click on the “exceptions” tab to check that “fbserver.exe” or “Firebird Superserver” is listed. If you do not see this in the exception list click on the “Add Program” button at the bottom of the list and locate the “fbserver.exe” program from the installation directory.



SETTING UP THE SHOW FILE

The Firebird show file must reside on a hard drive that is physically connected to the host machine. You cannot locate your show files on a server, mapped drive, flash drive, a filesystem share or a network filesystem.

You can make any number of show files available for remote connection.

To connect to a remote show file you must know the host computer name (or IP address) and the location of the file itself.

Because Firebird does not provide any ability browse for the file we recommend that you store the show files in an easy to remember directory. (e.g. c:\shows).

TESTING THE CONFIGURATION

If you move or copy a show file, be sure to place it on a hard disk that is physically attached to your server machine. Shares, mapped drives or (on Unix) mounted SMB (Samba) filesystems will not work.

Connecting to a Firebird database (show file) requires the user to authenticate with a user name and a valid password. For simplicity all LightFactory show files are setup with the default authenticating username SYSDBA and the password masterkey.

Also, to keep the lines in the examples from running off the right edge, we will work with local databases located in the directory c:\shows\.

Of course everything you'll learn in these sections can also be applied to remote databases, simply by supplying a full TCP/IP connection string.

CONNECTING WITH ISQL

Firebird ships with a text-mode client named isql (Interactive SQL utility). You can use it in several ways to connect to a database (show file). One of them, shown below, is to start it in interactive mode. Go to the bin subdirectory of your Firebird installation and type isql (Windows) at the command prompt.

[In the following examples, # means "hit Enter"]

```
C:\Program Files\Firebird\Firebird_2_0\bin>isql#
```

```
Use CONNECT or CREATE DATABASE to specify a database
SQL>CONNECT c:\shows\DEFAULT_SHOW.fdb user SYSDBA
password masterkey;#
```

At this point, isql will inform you that you are connected:

```
Database: c:\shows\DEFAULT_SHOW.fdb, User: sysdba
```

```
SQL>
```

To get back to the command prompt, type:

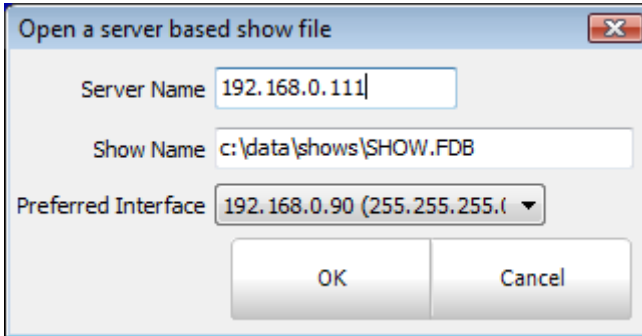
```
SQL>QUIT;#
```

You can also type EXIT instead of QUIT, the difference being that EXIT will first commit any open transactions, making your modifications permanent.

LIGHTFACTORY

CONNECTING

To connect to a remote LightFactory show file click on the “Options” menu and select “Open server based show file”:



Connecting to a remote show is similar to the opening a regular show file. You must enter the name of the remote system in the “server name” field. This can be either the machine name or the IP address.

In the show name field enter the full path on the remote system to the file. Unfortunately Firebird does not provide an ability to browse for the file name so you must enter the full patch manually.

The “preferred interface” option can be used to set the network interface that should be used for communication between LightFactory systems. This is highly recommended that you not use the same network interface as your DMX output (assuming Ethernet based DMX) as this may affect the DMX performance.

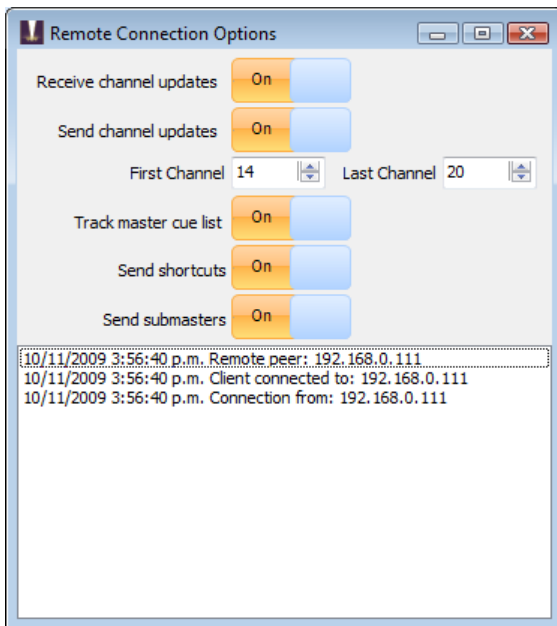


Note: If you are using LightFactory on the same host computer as the firebird system you must still connect in the same way. If you open the show file using the regular “Open saved show” then the server will not be able to open the file and all remote users will be locked out.

Once you have entered all of the settings click on the “OK” button to connect to the show. If successful you should see the show file open normally.

OPTIONS

The remote connection options can be found in the “Extras” menu on the main LightFactory window.



At the bottom of this window is a log of connection activity that can be used to debug communication between the LightFactory systems.

RECEIVE CHANNEL UPDATES

This option will allow you to control incoming channel changes from other users. When another user makes a change to a channel it will be sent to all connected LightFactory systems. To prevent these changes being reflected on this system turn off this option.

SEND CHANNEL UPDATES

If you have a remote system that is only used to do blind editing or view the show information then you can turn off the sending of channel changes. Any channel change on the system will not be seen by the other users and will only be shown locally.

CHANNEL RANGE

When "Send channel updates" is turned on you can select the range of channels that will be sent to the other users. This can be useful for partitioning the system when you have multiple programmers. It allows each user to only work on the channels then need to work on and eliminating the chance that they make a change on a channel they do not need.

To set the channel range enter the first and last channel in the edit boxes provided.

TRACK MASTER CUE LIST

Use the "Track master cue list" option to set if the system will listen to cue list updates. When this option is turned on the system will always be on the same cue as other system that have this option enabled.

SEND SHORTCUTS

This option will send a message to all the remote systems when you press a shortcut key on in either the window or using external hardware. All systems will fire a shortcut if one is received.

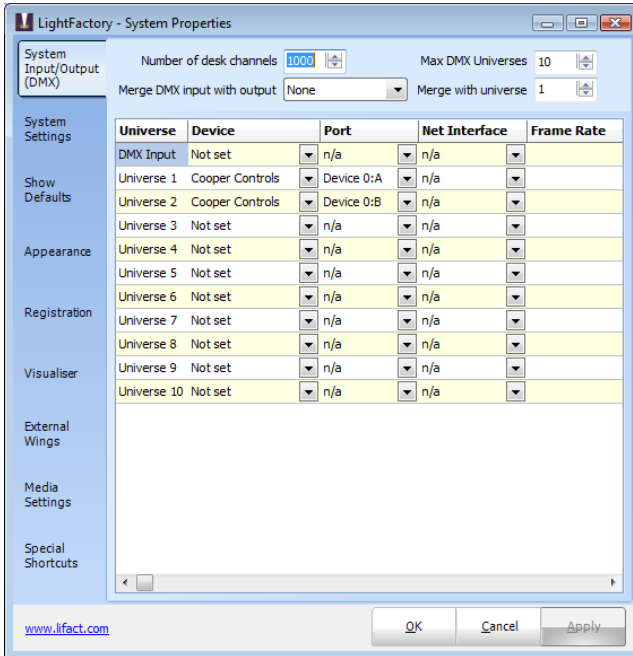
SEND SUBMASTERS

This option will send a message to all the remote systems when a submaster changes. All systems will set the corresponding submaster to the same position when these messages are received.

PARTITIONING THE DMX OUTPUT

In most cases you will only ever have one of the LightFactory systems outputting DMX. This system should be considered the master and primary controller. If you are working on a particularly large system you may want to distribute the workload to more of the LightFactory systems that are connected. You can do this using output partitioning.

Output partitioning utilizes existing option in LightFactory to set the output destination of each universe. In the “System Properties” are the “System input/output” options.



For each LightFactory system set the universe output required and set the universe’s you do not want to output to “None”. The software will then ignore these outputs when processing the DMX.

FURTHER READING

As part of the installation you will find several documents are installed in the start menu:

- Firebird release notes
- Quick start guide
- Bug fixes
- Installation guide
- Readme
- Release Notes

You will also find further reading including the full user manual at the Firebird web site:

www.firebirdsql.org