

Music Label 2004 Database under Linux

Introduction

Music Label is a Windows application for managing your music collection. Music Label uses Firebird SQL as a backend database. Firebird is an open source database engine that derives from Borland Interbase. The source of Firebird is hosted on sourceforge.net, there you can find binaries for lots of different operating systems. Among others you can find installers for Windows, Linux and Mac OS. Information about Music Label can be found under <http://www.codeaero.com/>. Information about Firebird SQL can be found under <http://www.firebirdsql.org/>.

Goal

The main goal of this document is to provide information on **how to use Music Label with a remote Firebird database running under Linux**. In addition I want to show how to implement some basic security and problems I encountered while researching this matter.

Motivation

There are several interesting points in having a remote (internet) database. The most important reason is surely to have **access to your music collection from everywhere** you are. As lots of internet servers are running under Linux, it would be nice to have the option to use not only Windows but also Linux servers as database hosts.

In addition it is interesting for me to have **access to my music collection from my web server via PHP**. With this I can run custom programs over my data and evaluate them in ways that might be only important to me.

Prerequisites

In this article I am working with the **Network Version of Music Label v10.03**. This is the first version that supports different username and passwords. In general Music Label v10.02 is also working but has some security issues. Older versions of Music Label seem to have some problems in accessing a Firebird database under Linux.

On the server side I use **Firebird 1.5 SuperServer**. You can download Firebird under <http://sourceforge.net/projects/firebird/> You could also use the classic server, it should not make any difference for this document.

I tested everything on a SuSE Linux 8.2 distribution. It should run on any flavour of Linux though.

Conventions

In order to speak about the same things I make the following conventions about different path. They all can vary on your individual settings. If you do have different settings, I assume you know how to adapt the directories to your need.

Music Label Program Directory:	C:\Program Files\Music Label
Music Label Data Directory:	C:\Documents and Settings\ <login data\music="" label\db<="" td="" user>\application=""></login>
Firebird Installation Directory:	/opt/firebird
Firebird Data Directory:	/data/firebird
Test database:	test.gdb

Note: Since Firebird 1.5 the extension of Firebird databases is .fdb. Music Label still uses the .gdb extension for historical reason. For simplicity we use also test.gdb instead of test.fdb. Firebird does not really care about this difference.

Preparation Music Label

Music Label doesn't yet support to create a new database on a remote server. Therefore we need to install a new database locally, back it up and then copy the backup on our Linux machine. Of course we can also backup and copy an existing music collection.

1. Install a new local database under Music Label:
Go to menu 'File', 'Database Operations'. In the following dialog click on 'New' and create the new database.
2. Backup the local Database:
Go to menu 'File', 'Backup/Restore'. Click on Backup and performe the backup at the desired location.
3. Copy the backup on your linux machine in the (newly created) database directory.

Note: You could also copy the database directly onto the server. However a backup is the way to garanty a working copy. Also theoretically it should be possible to get a working copy of the database running under the new user by restoring the database – I just didn't get it to work yet...

Installation Firebird under Linux

1. Login to your Linux machine as root
2. Download Firebird v1.5 into a temp directory using any tool you like, I use 'wget':

```
# cd /tmp
# wget http://heanet.dl.sourceforge.net/sourceforge/firebird/FirebirdSS-1.5.0.4290-0.i686.tar.gz
```

3. Install Firebird by unpacking the tar file and calling the install script:

```
# tar xvzf FirebirdSS-1.5.0.4290-0.i686.tar.gz
# cd FirebirdSS-1.5.0.4290-0.i686
# install.sh
```

In the following questions you have to specify the master password for the database. Please don't leave it blank and don't use the default password.

4. Adapting Firebird

After the last step, Firebird should be up and running. You might want the adapt /opt/firebird/firebird.conf. At least change the line '# Database Access = ' to the following:
DatabaseAccess = Restrict /opt/firebird;/data/firebird

Note: If you installed the Firebird classic server, you might have to enter a line in /etc/inetd.conf and restart inetd. The line looks somehow like this (this should be only one line):

```
gds_db stream tcp nowait firebird /opt/firebird/bin/fb_inet_server
fb_inet_server
```

Configure Restricted Access to your database

If you followed the installation until here, you could already access a copied database from Music Label via the database admin user 'sysdba'. However, this could be a slight security risk, as the password will be available in plain text on your Windows computer.

To access a database with another user, you have to install a new user in the 'security' database, restore the backup with the new user and grant all the rights to the different tables. Finally you will have to put the database online.

1. Installing a new user 'myuser' with password 'mypass'

```
# /opt/firebird/bin/gsec -user sysdba -password <sysdbapass>
GSEC> add myuser -pw mypass
GSEC> quit
```

2. Restore the backup with the new user:

```
# /opt/firebird/bin/gbak -c -user myuser -pas mypass /data/firebird/test.BAK
/data/firebird/test.gdb
```

3. With the last step we should have a database test.gdb owned by user myuser. For unknown reasons this is not the case, so we have to grant access rights to 'myuser' for all our tables:

```
# /opt/firebird/bin/isql -user sysdba -password <sysdbapass>
/data/firebird/test.gdb
SQL>
grant all on artistdata to myuser;
grant all on artistimage to myuser;
grant all on artistlink to myuser;
grant all on booking to myuser;
grant all on comment to myuser;
grant all on covertrack_temp to myuser;
grant all on cover_temp to myuser;
grant all on credits to myuser;
grant all on fsbatch to myuser;
grant all on fsbatchtrack to myuser;
grant all on insurance to myuser;
grant all on lend to myuser;
grant all on media to myuser;
grant all on mediatypes to myuser;
grant all on months to myuser;
grant all on mp3 to myuser;
grant all on mp3comment to myuser;
grant all on mp3credits to myuser;
grant all on multimedia to myuser;
grant all on options to myuser;
grant all on region to myuser;
grant all on role_ to myuser;
grant all on schedrow to myuser;
grant all on schedule to myuser;
grant all on segcredits to myuser;
grant all on segments to myuser;
grant all on status to myuser;
grant all on style to myuser;
grant all on track to myuser;
grant all on url to myuser;
grant all on userview to myuser;
grant all on userviewrow to myuser;
grant all on wantlist to myuser;
SQL> quit;
```

4. Put the database online:

```
# /opt/firebird/bin/gfix /data/firebird/test.fdb -online
```

Configuration Music Label

1. In Music Label under menu 'File', 'Database Operations' click on 'Network'
2. Enter the path to the database. This should be in the form:
my.internethost.com:/data/firebird/test.gdb
3. Exit Music Label

4. Go to the Music Label data directory.
5. In that directory you find among other files a 'database.lst'
6. In this file you find a line that should be exactly the line you entered under 2). Copy that line.
7. Open a new file 'security.lst'. Paste the above line, press <Return> and enter the username, a colon and the password of the database, afterwards close the file. The file could look like this:
`my.internethost.com:/data/firebird/test.gdb`
`myuser:mypass`

Now you are done! You can use Music Label with the remote database.

Various Issues

- If you use the database over the internet, you will have a much slower access to your database. So I recommend you only to use the database on an internet server if you frequently need to access the same database from different computers outside your intranet.
- The installing of the database right are not yet as nice as they could be.

History

2004/04/24 v1.0: initial version of this document by Tim Kask, tyra (at) tyra.ch