Using SQLite Database with OpenOffice.org

Version 2.0

Contents

Overview

[Give a general description of the scope and purpose of the document here.]

Copyright and trademark information

The contents of this Documentation are subject to the Public Documentation License, Version 1.0 (the "License"); you may only use this Documentation if you comply with the terms of this License. A copy of the License is available at: http://www.openoffice.org/licenses/PDL.rtf

The Original Documentation is "Utilisation d'une base de données SQLite avec OpenOffice.org". The Initial Writer(s) of the Original Documentation is/are **Yves Chaufour** © 2004. All Rights Reserved. (Initial Writer contact(s):Yves Chaufour.)

Contributor(s): _____.

Portions created by G. Roderick Singleton are Copyright (C)_2004 All Rights Reserved. (Contributor contact(s):G. Roderick Singleton).

All trademarks within this guide belong to legitimate owners.

[Note: a copy of the PDL is included in this template and is also available at: http://www.openoffice.org/licenses/PDL.rtf.]

Feedback

Please direct any comments or suggestions about this document to: grsingleton@openoffic.org

Acknowledgments

Yves Chaufour for creating the original document.

Modifications and updates

Version	Date	Description of Change
[1.0]	06/07/2004	[grs: Initial translation issued for comment]
[2.0]	09/12/2004	[grs: Updated to include SDBC driver info and minor corrections]]

Introduction

The aim of this guide is to help OpenOffice.org users to take advantage of the SQLite database engine as a data source.

What is SQLite ?

SQLite (http://www.sqlite.org/) is a basic database engine that implements most of the features of SQL92.

Unlike PostgreSQL and MySQL, SQLite stores a whole data base with all its tables a single file. Other benefits are: database access requires no database server, database files can be freely shared between machines with different byte orders and databases can be up to 2 terabytes (2^41 bytes) in size. Plus it is fast (twice as much as PostgreSQL and MySQL for most operations) and has a small memory footprint.

Data management can be achieved in the following ways:

1. Via a C/C++ Linux library or Windows DLL.

2. Via an in-line program (sqlite: available under Linux and Windows) that makes it possible to create and to manage the files of data bases.

3. Via the SQLite PHP module or, if you have, PHP version 5 internally to a SQLite database.

4. Via ODBC (Linux and Windows) which allows any application supporting this standard to reach a SQLite database.

5. Using the experimental SDBC SQLite driver from
   http://dba.openoffice.org/drivers/sqlite/index.htm

This guide addresses ODBC which OpenOffice.org uses to attach to databases and SQLite, in particular.

Why use SQLite with OpenOffice.org?

The use of SQLite has many advantages:

- The data base is in only one file, in contrast to dBASE which creates a file per table, making it easy to exchange databases between various users.

- Java JRE or SDK is not required to support SQLite.

- No server is needed (local or remote) to access a database.

- ODBC drivers exist for *NIX and for Windows, thus enabling users of both environments to access data and exchange them.

- A new SDBC driver (native to OpenOffice.org) is available for experimentation. (See

http://dba.openoffice.org/drivers/sqlite/index.html)

- Sophisticated graphic interfaces , such as those of msaccess, can be easily developed using the forms, queries, states and macros of OpenOffice.org. These interfaces are stored separately in OpenOffice separate and can also be exchanged between users under *NIX or Windows.

and some disadvantages:

- Modifying the structure of a SQLite table after its creation is not directly possible. This means that you cannot easily add fields nor to modify their properties once that the table is created. Therefore you must prepare the structure of your tables before creating them.

- OpenOffice.org requires the use of the ODBC driver for accessing a SQLite database thus making this operation somewhat complicated. First it must be declared in ODBC and then in OpenOffice.org. The native SDBC driver should correct this situation when it is production ready.

- The initial database file cannot be created with OpenOffice.org but by using other tools .

In short, the principal advantages of the use of SQLite with OpenOffice.org are the format of data storage and the portability from one environment to another. In the list of disadvantages, the two last are not specific to SQLite, but are requirements of using ODBC. However, these are not as awkward as they do not take place during the initial creation of the database.

Note: SQLite appeals to anyone frustrated with using MDB files under Linux, or who has had difficulty installing MySQL or other RDBMS server on their workstation.

Installing the ODBC Driver for SQLite

For OpenOffice.org to access a SQLlite database in production, it is recommened that you install the ODBC driver.

ODBC drivers for SQLite are independent of the SQLite project. However you can obtain a driver specifically developed by Christian Werner (chw@ch-werner.de) for OpenOffice.org from his site (http://www.ch-werner.de/sqliteODBC/). This ODBC driver wraps the SQLite library and is available for Linux and Windows (for other *NIX, use the sources).

Under Linux

In order to be able to install the SQLite ODBC driver, unixODBC and SQLite must be installed first.

UnixODBC :

You will find most of the needed packages pre-installed in the majority of Linux distributions. For Mandrake, for example, install the following rpm files:

> libunixODBC2-2.2.x-xmdk.i586.rpm
> libunixODBC2-devel-2.2.x-xmdk.i586.rpm
> libunixODBC2-qt-2.2.x-xmdk.i586.rpm
> unixODBC-2.2.x-xmdk.i586.rpm
> unixODBC-GUI-qt-2.2.x-xmdk.i586.rpm.

> **Warning: Check that your version of unixODBC is at least version 2.2.5. An older version will cause OpenOffice.org to hang when using the ODBC for SQLite driver. If your version is one of the older versions which is the case for Debian or Mandrake 9.1, it will be necessary for you to download and install a more recent version of unixODBC.**

If you do not find packages that are sufficiently recent in your distribution, download from http://www.unixodbc.org/ and compile the sources.

> **Caution: Compiling from the sources does not install the graphic utility `ODBCConfig`. Thus you will have to manually configure ODBC.**

SQLite :

Before starting, users of Mandrake, RedHat and other distributions using rpm distribution, should check that the distribution does not currently have the SQLite rpm already installed.

> **Caution: SQLite evolves very quickly and the packages present in any Linux distribution often provide a version of SQLite which is dated, (for example Mandrake 10.0 integrates SQLite 2.8.6). At the time of writing, the latest versions of the ODBC driver may include a more recent version of SQLite (2.8.13 for version 0.6.2 of the driver); however, it is to better to get and install a**

more recent version than that in your distribution. In theory, the SQLite driver for ODBC can be compiled with SQLite 2.8.6, but the using this version will introduce some limitations , such as no support auto-incremented fields.

If there is a question of versioning, be careful and download from http://www.sqlite.org/download.html and install packages "`sqlite-x.x.x-x.i386.rpm`" and "`sqlite-devel-x.x.x-x.i386.rpm`". This will also install the commandline version of "`sqlite`".

> **Caution: For Mandrake (9.1, 9.2 or 10.0) users, the installation of these rpm will issue warnings that "`libreadline.so.4`" is missing even though it is installed. This is because the rpm referred to above does not look for this library where Mandrake installs it. Check initially with `rpmdrake` that the library "`libreadline4`" is installed (if not install it), then install the rpm `sqlite` from the commandline and force the no dependencies check:**

> `# rpm -ivh sqlite-devel-2.8.x-x.i386.rpm –nodeps`

> `# rpm -ivh sqlite-2.8.x-x.i386.rpm --nodeps`

If you have Debian or another distribution that will not install the rpm, download `sqlite-x.x.x.tar.gz` from http://www.sqlite.org/download.html and compile the sources.

sqliteODBC :

Since there are no precompiled binary packages (RPM or other) of `sqliteODBC`, download the source code from the author's site (http://www.ch-werner.de/sqliteODBC/). Download a version at least equal to the 0.6.1, to avoid limitations with OpenOffice.org. If you have downloaded the `.tar.gz`, uncompress and unpack it using `tar xvzf <filename>`, which will create a directory `sqliteODBC-0.6.x` containing all the files. Change into this directory and type the following commands for compilation and installation:

> `$ ./configure –prefix=/usr`

> `$ make`

> `$ su`

> `# make install`

> *Note: `--prefix=/usr` is optional, but is especially useful with Mandrake distributions, to install the driver in `/usr/lib` rather than in the default location, `/usr/local/lib`.*
>
> *Note: Certain dependences are necessary to the compilation of the driver. For example, if compilation fails by saying that `ltdl.h` is not found, it will be necessary for you to install the corresponding library/development package (`libltdl3-devel` under Mandrake) before restarting the compilation process.*
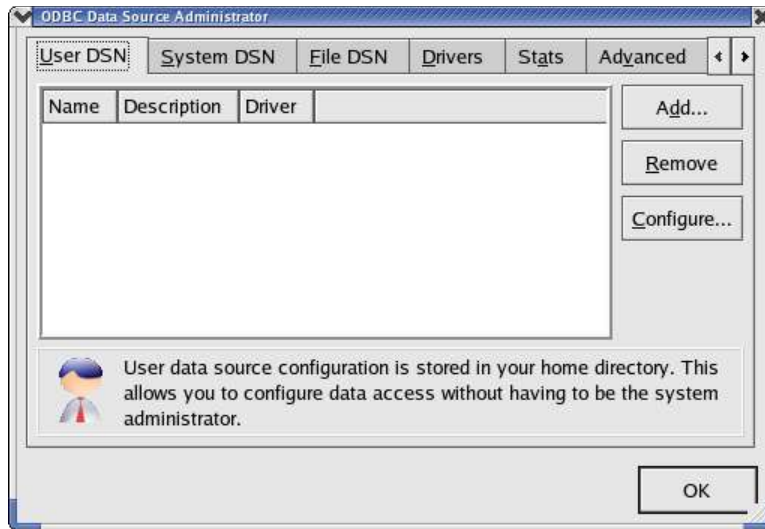
To complete installation, the driver should be integrated into `unixODBC`. To do this, launch the `ODBCConfig` utility as root in an open terminal window or xterm and type what follows:
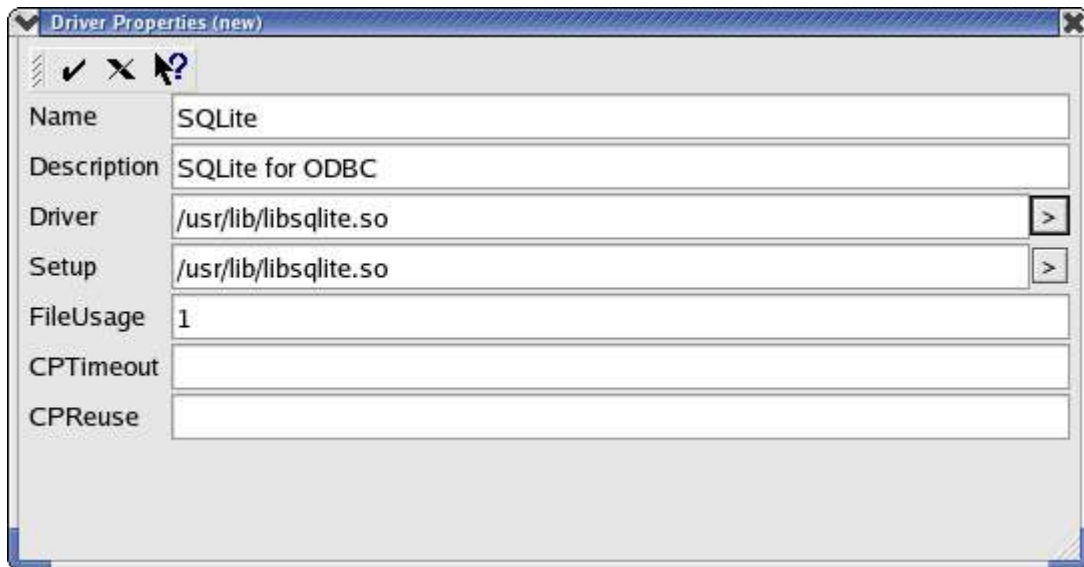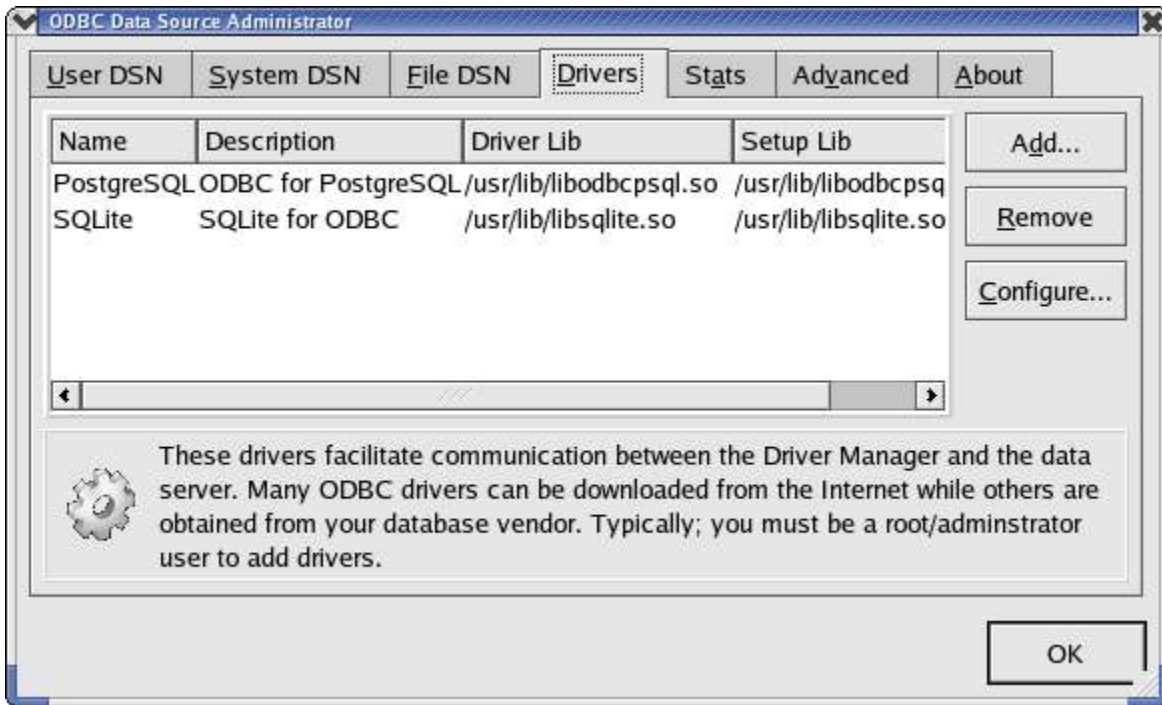
> `$ su`

```
# ODBCConfig
```

This command brings up the following window:

Click the "`Drivers`" tab and choose "`Add...`". Then fill the fields in the property window exactly as on the following graphic:

Then confirm using the ✔icon on the left in top of the window. Your new driver will now appear in the "`Drivers`" tab:

The driver installation under Linux is now finished and you can exit `ODBCConfig`.

> *Note: For those who do not have `ODBCConfig` or who prefer to carry out this configuration manually, it is necessary to edit the file "`/etc/odbcinst.ini`" as root and add the following lines:*
>
> *[SQLite]*
>
> | | |
> |---|---|
> | *Description* | *= ODBC for SQLite* |
> | *Driver* | *= /usr/lib/libsqliteODBC.so* |
> | *Setup* | *= /usr/lib/libsqliteODBC.so* |
> | *FileUsage* | *= 1* |
> | *CPTimeout* | *=* |
> | *CPReuse* | *=* |

If you are comfortable compiling, the easy way is to get the source rpm of `sqliteODBC` from http://www.ch-werner.de/sqliteODBC/. Once you have the srpm, it is easy to create a rpm for your distribution by typing the following instruction:

```
# rpmbuild --rebuild sqliteODBC-0.60-1.src.rpm
```

You now should have a pre-compiled binary rpm ready for installation that, according to the author, self-configures the driver in ODBC thus avoiding the above manual procedures.

Under Windows

Under Windows installation and configuration is easier. Simply download the file `sqliteODBC.exe` and execute it. The driver installs automatically and is also configured automatically in ODBC. You will be able to check it by launching "`data Source ODBC`" from the control panel:
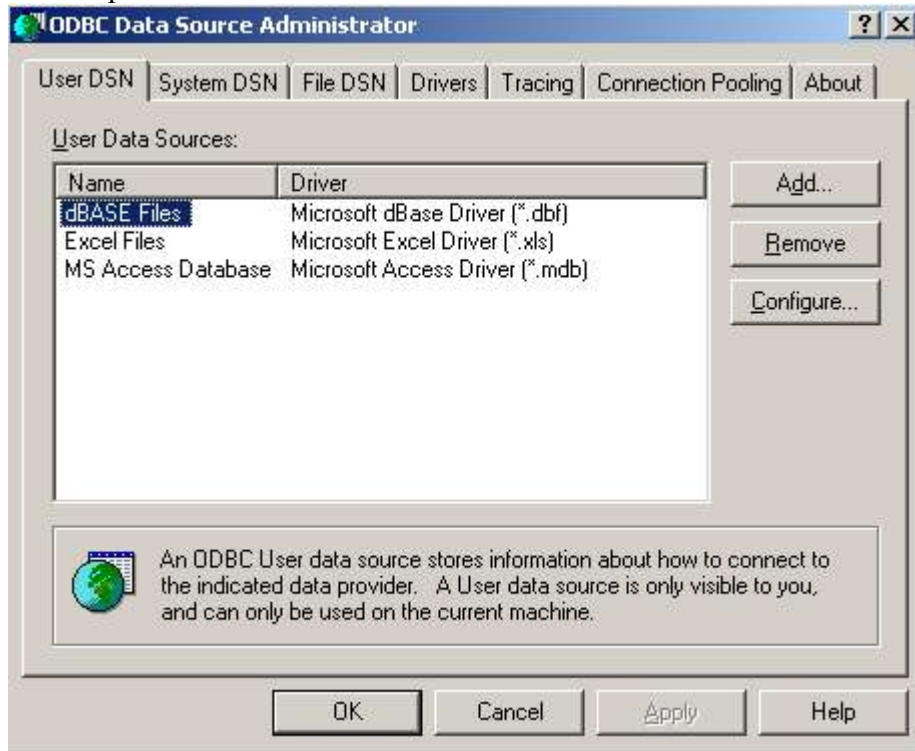
Note: A second, experimental driver is installed (Utf-8) but you are cautioned to only use standard driver.

Creating a Data File

An initial database file cannot be created directly in OpenOffice.org but, rather, this is accomplished by using either the utility "sqlite" on the command line, or by using the tool sqlitebrowser which is graphic, very simple and available for both Linux and for Windows. If you wish to use sqlitebrowser, you will find it as the third entry in the list at: http://www.sqlite.org/cvstrac/wiki?p=SqliteTools,

The utility "sqlite" should be already installed if you use Linux and have installed SQLite from rpm. For other *NIX systems, you must build SQLite from source which you can find at http://www.sqlite.org/download.html .

Performance and usage under Linux and Windows is identical.

Using "sqlite"

Open a terminal window or xterm and change to the directory where you want to create your database and then enter the following instructions:

```
$ sqlite <name of the database>
SQLite version 2.8.12
Enter ".help" for instructions
sqlite> .database
sqlite> .exit
```

You can then check that the file was, indeed, created in your filesystem. The name of the file does not require a file extension, but you can give it the extension "db" so that is easy to locate as a database.

Using "sqlite" on the command line program also makes it possible to create tables and indices, to enter and post data, and to make queries providing you know the SQL language ; however, it is more practical for beginners to carry out these operations using OpenOffice.org.

Using SQLite Database Browser

After unpacking the file, launch `sqlitebrowser` and select "`File/New Database`" or the corresponding icon:
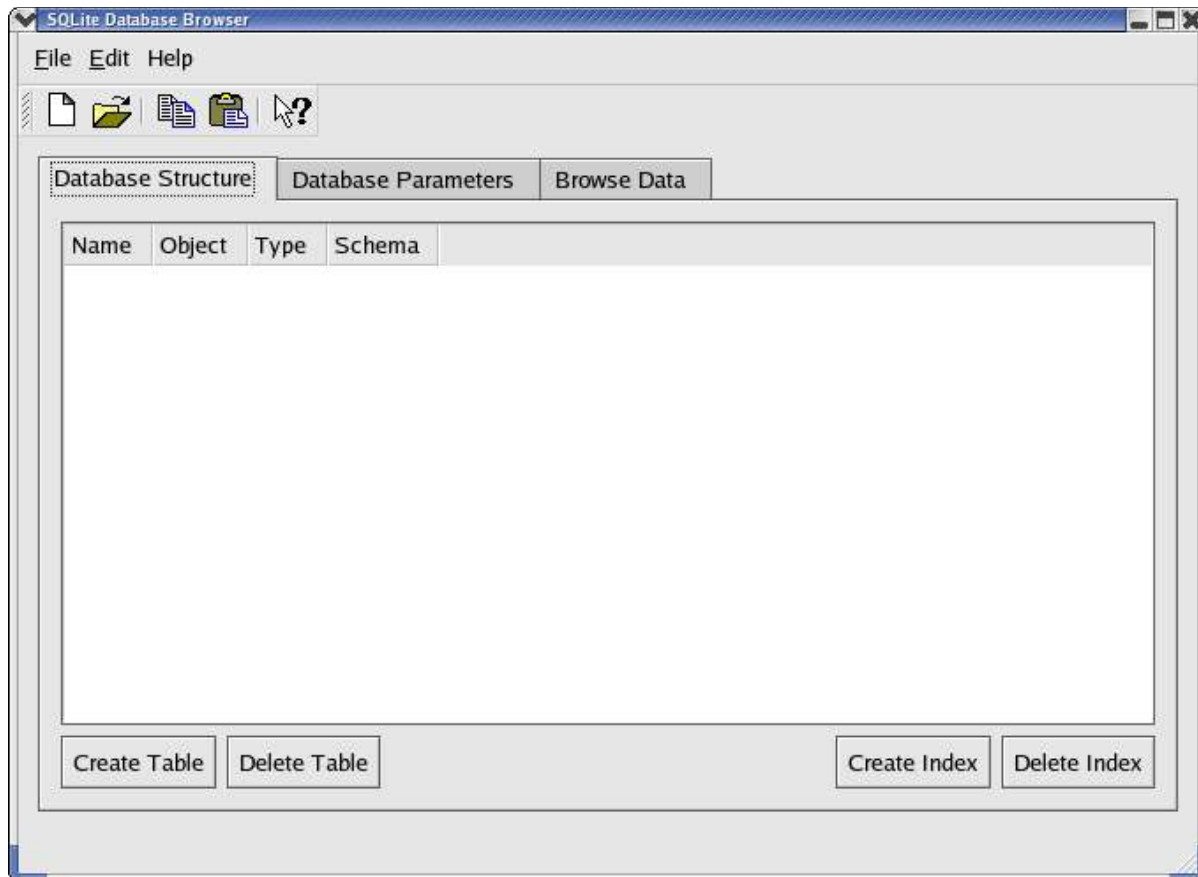
Choose the directory in which to place file and then enter name of the database file and click on "`Save`".

Using this program, you can also create the tables, the fields and the indices, to access data and to visualize them. While `sqlitebrowswer` is suitable for these actions, there is the disadvantage that it does not show the full list of field types during field creation. In this case, it may be preferable to do it later using OpenOffice.org.

Configuring ODBC

This step demonstrates how to define your new database in ODBC and to set that the driver to be used should be `SQLite` so that OpenOffice.org can access it. This operation has to be repeated for each new `SQLite` database that must be accessed through ODBC.

Under Linux

Launch "`ODBCConfig`", go in the tab "`User DSN`" and choose "`Add...`". A window appears then in which you must choose the `SQLite` driver. In the next window, as shown below, you enter a name for this connection (for example the name of your database) and enter the complete access path to the file which you created previously.
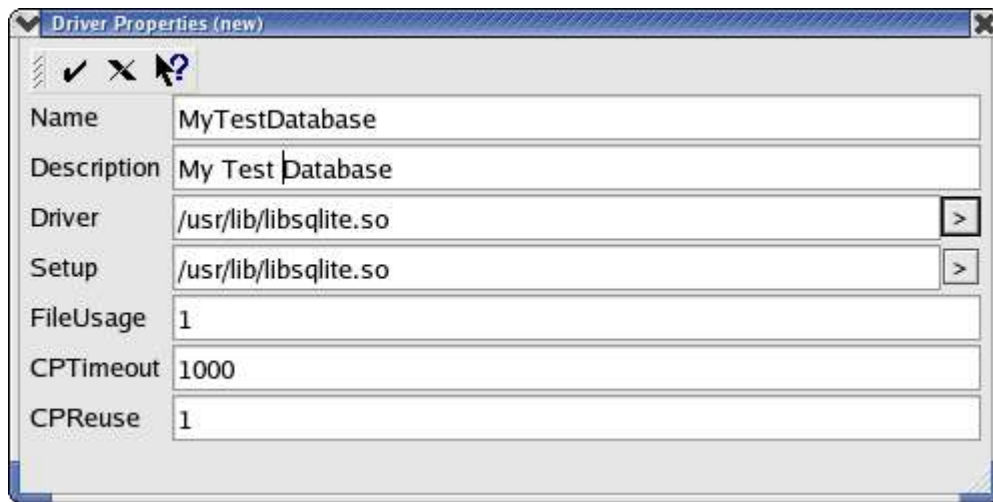
Validate the data on the screen, click ✔ and you should see your new data source in the tab "`User DSN`".

> **Caution: If in the place of this window you obtain an error message ("Could not construct has property list for (SQLite)"), your version of the driver is too old. Install version 0.6.1, or higher, which corrects this bug.**

If you do not have `ODBCConfig` or simply prefer to configure manually, launch your favorite editor, open (or create) the file "`odbc.ini`" in your home directory, and add the following lines to it:

```
[My Base]
Description             = My test database
Driver          = SQLite
Database        = /home/<user>/basename.db
Timeout         = 1000
```

```
StepAPI            = No
```

You are now ready to access your data base with OpenOffice.org!

Under Windows

Open "`data Source ODBC`" and go to the tab "`Source data user`". Choose "`To add...`" and start by selecting the driver "`SQLite ODBC Driver`". In the following window, enter the name of this data source (`Data Source Name`) and the complete access path to your data file (`Database Name`), or select it by using the "`Browse...`". button

Validate the data and exit ODBC. Nothing more is needed and you may launch OpenOffice.org and be able to reach your database!
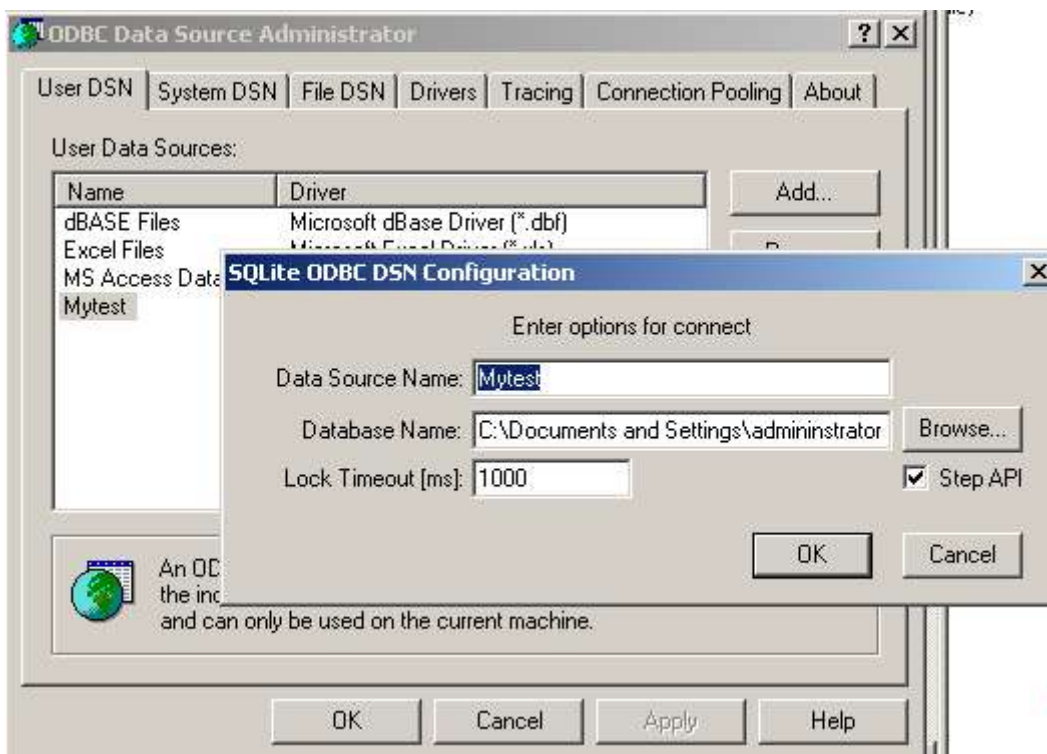
Configuring the Data Source in OpenOffice.org

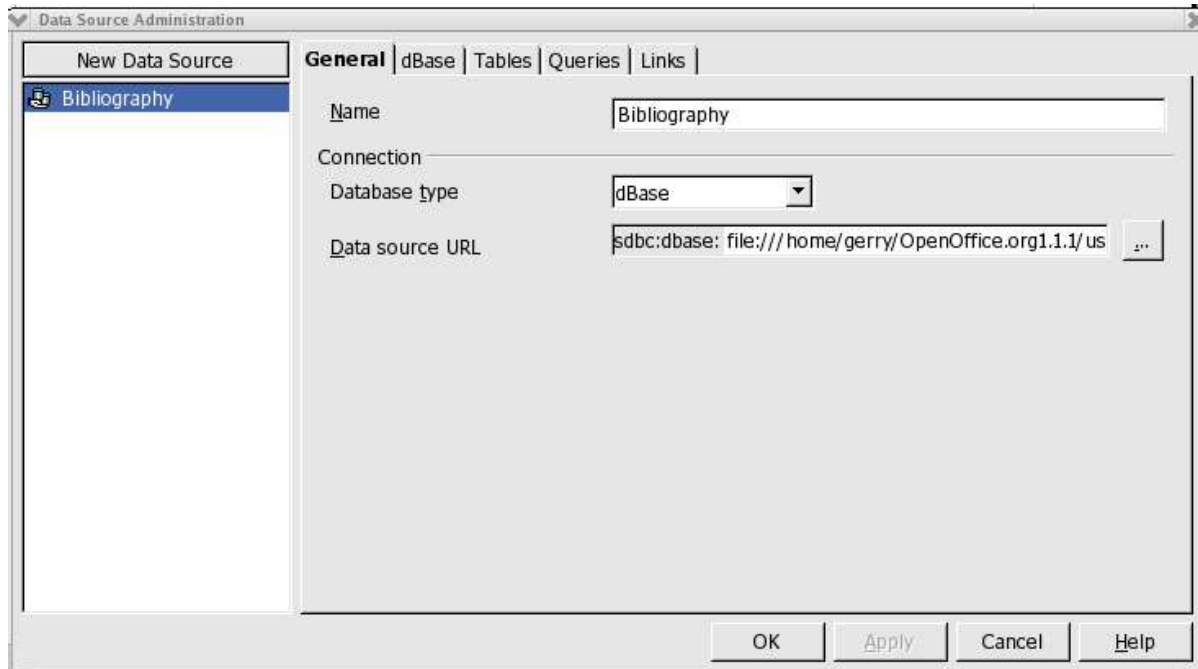Now you can finally start using OpenOffice.org with SQLite. In order to make use of your new SQLite database and to add tables, it is necessary to configure the "data source". To do this, use the menu **Tools > Data Sources...**.

In the window shown below, click on "New data source":

- In the Name field, replace Bibliography with the name of your data source.

- In Database type, select ODBC.

- For Data source URL, select the button with the three dots (on the right-hand side of the field). This opens a window in which you see all the data sources already declared in ODBC. Choose that which you created in the preceding chapter.

Voilà, your SQLite database is now accessible from OpenOffice.org!

Now click on Apply without leaving this window, so that we can create the tables and the fields of the database as described in the next section.

Creating Database Tables in OpenOffice.org

In the window, `Data Source Administration,` go in the tab `Tables.` To create your first table, select `New` icon in `Table Designer` to get a window in which create the fields for the new table:
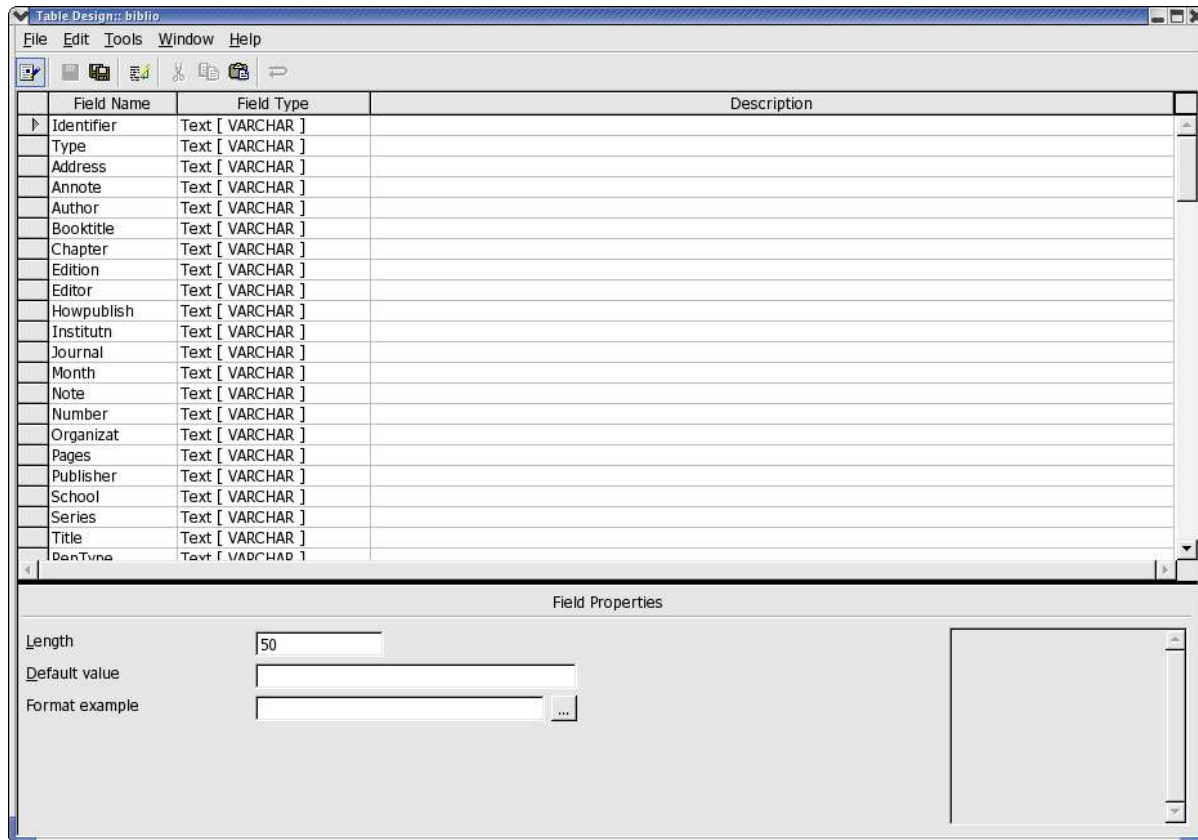
1. Enter the name of the new field in the `Field Name` column.

2. Select its field type from the drop-down list.

3. In the `Field Properties` zone, set the `Length` as necessary, default value of this field and choose the format.

4. Repeat steps 1-3 for all fields .

> **Caution: The creation of a primary key on a field type of integer is available only with version 0.6.1, or later, of sqliteODBC driver. Primary keys are useful in assuring that OpenOffice.org can add records to your table,. In a table, the first field is often a unique identifier (id) that can be defined as the primary key. ???Right click on the heading of line of this field will reveal a contextual menu in which it is necessary to select key primary education".**
>
> **Fields defined as type "integer", automatically increment the value of the field**

**at the addition of each new record in this table .**

Once you have created all your fields, checked that all is good and selected your primary key, save your new table by clicking on the icon representing a diskette (?) and enter the name of your table

Caution: Once you have saved your table, you cannot modify it! I.e. you will not be able to modify the properties of the fields any more, nor add or remove !

This rather awkward constraint is specific to SQLite, which does not handle the SQL command `ALTER COUNTS`, and not the ODBC driver. This limitation is designed in by the authors in order to make the basic database engine as light as possible. However, this limitation may be eliminated in a future version. Therefore you are advised to check your table structure very carefully before recording it.

If you must modify a table, the only solution is to create a new table and save it under different name. By doing do, you can transfer the data from the original table to the new table.

Once a table is created, you can create an index to speed up queries and sorting on large volumes of data. To do this, select your table from the tab "`Tables`" in the `Data Source Administration` window and click on the icon "To publish the table". You are again in the window which posts the fields of your table. Select the fourth icon then "Outlines index..." and you will obtain the following window: ????
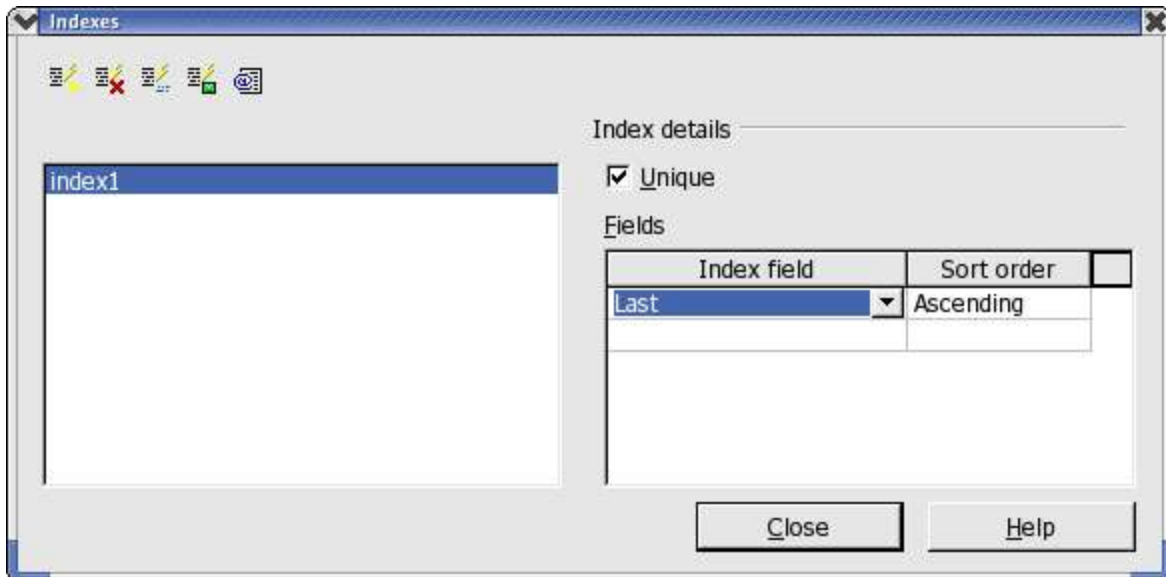
Click on the first icon "New index" and enter a name for this index. In the column "`Index Field`," choose the field(s) to be indexed, the order of sorting, and check the "`Single`" box. Save this by clicking on the fourth icon "`To record the active index`".

Caution: When saving the index, you may see an error message, "`Error connecting to the data source`". To check if the message is valid, exit

the index window then the table window. Re-open the index window, and check that your index is created in spite of the error/ You may find that it is but that the `"Single"` box is no longer checked. This is a known incompatibility between the sqliteODBC driver and the way in which OpenOffice.org dispatches a create index with ODBC! This problem has been identified and a patch already proposed that should appear in the next version of OpenOffice.org. Where you absolutely must create an index, use `"sqlite"` or `"sqlitebrowser"` which do so with no problems.

Now your database structure is created and you can use OpenOffice.org to connect, add data et cetera.

Using a Database with OpenOffice.org

This chapter is not specific to SQLite databases but its purpose is to succinctly present the various existing possibilities and how thy relates to the limitations and possibilities of SQLite.

Accessing databases via Data Sources

The simplest method to access your databases in OpenOffice.org is to open Data Sources dialogue using the icon on the Main toolbar which is the vertical bar on the left in Writer and Calc.
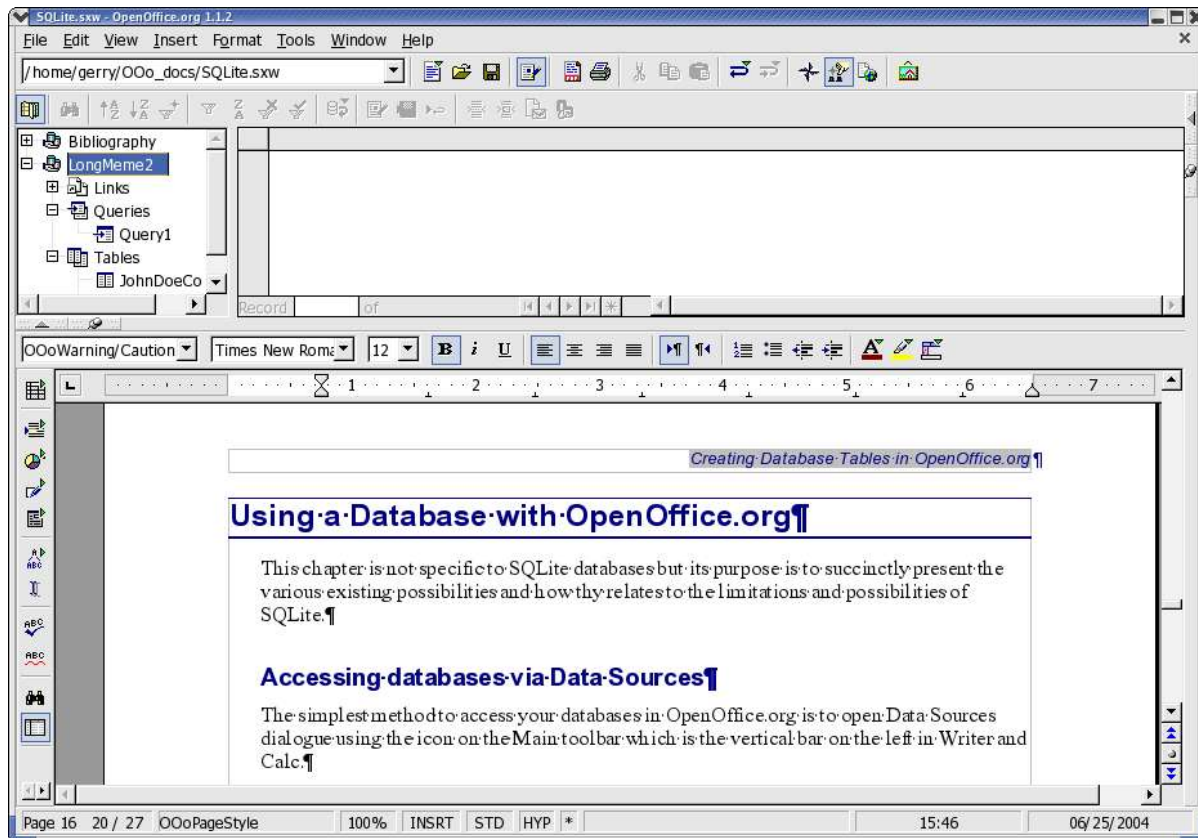
You can find the name of your database, named as you declared it in OpenOffice.org, in the left part of the panel by traversing the tree structure while clicking on "+". You will find a heading "Tables" from which you can select your table and have the contents displayed in the panel to the right. In this panel, you will be able to modify each record directly in the table, or to create new records by adding them in the line with the "*" symbol.

> **Note**: If the first field of your table is of type "integer" and you defined it as the primary key , it will contain "< auto-increment >" provided you have not selected the complete line (i.e. You pressed "Enter"after each field). This means that this field will take the value of the preceding record's auto-increment field plus 1.

> **Caution: This feature of auto-incrementing primary keys with type "integer" is not possible unless you use a version of the sqliteODBC driver that is, at least, version 0.6.0 or higher.**

Creating Queries

Creating queries can also be done through the data sources panel. To post the heading "`Queries`" of your base in the panel of right-hand side and click above with the right button of the mouse. In the contextual menu, choose "`New Query (Design View)`" and you will open a new window:
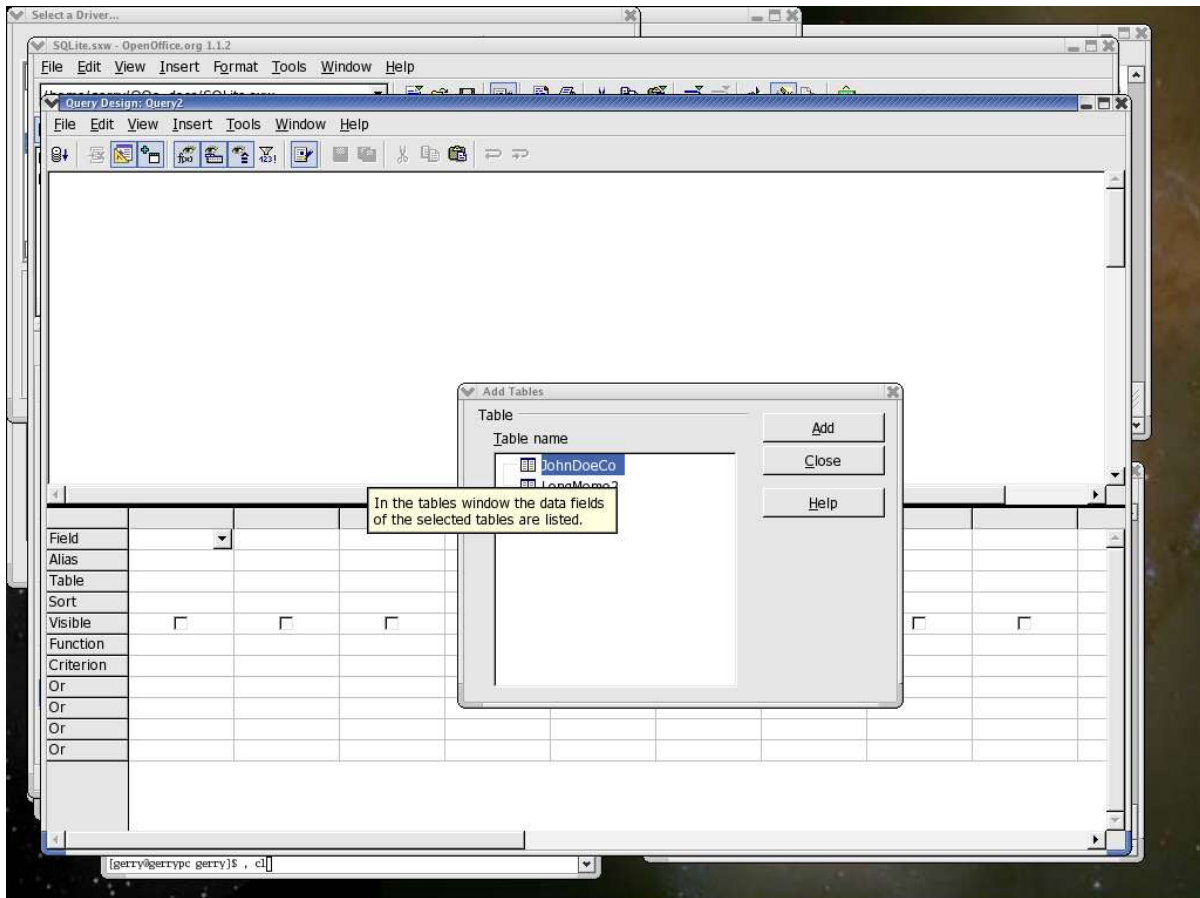
You must start by selecting all the tables, that are to be included in your query, by choosing them from the list then while clicking "`Add`". Then you can create connections by dragging one field of a table on to the corresponding field in the other table.

To define your query, select the fields which are to be part of the query and drag them to the table located in the lower part of the window, one-at-a-time. For each field added to the query, this table will enable you to choose the order of sorting, grouping, criteria, et cetera.

The various icons will then enable you to post the result of your query, to save it, publish it in

mode SQL...

Remember creating queries offers so many possibilities that it is not possible to detail them here; however, a good guide to using SQL should help.

> **Caution: The possibility of adding several tables during creation of a query on a SQLite database, and thus of querying multi-tables, is not possible with sqliteODBC driver, version 0.6.0.**

Creating Forms

Creating forms with Writer or Calc is a very powerful feature of OpenOffice.org that makes it possible to create a true graphic presentation from your data base. Form features and applications are so numerous that it is not possible to describe them in this document. However, you will find information on how to make forms in OpenOffice.org Help and on http://documentation.openoffice.org/.

By creating subforms your options are multiplied tenfold.

> **Caution: To create subforms in forms, it is necessary to use "named parameters " in order to establish the link between the various tables. For this you will have to use a macro whose installation and use are described in the following document: http://dba.openoffice.org/howto/param_subst.html.**

Exchanging databases between users

Thanks to the availability of driver sqliteODBC driver for both Linux and Windows (just as for OpenOffice.org, of course!), a SQLite database SQLite can be easily exchanged between users of the two environments. It is necessary, of course, that each has an installed ODBC driver that is aware of the target SQLite file and which is defined as a data source in OpenOffice.org. Likewise, Writer and Calc files (sxw and sxc) containing forms and macros can also be exchanged between users of the two environments.

> **Caution: If forms are to function correctly for each user, it is absolutely necessary that each user applies exactly the same name to the data source during its creation.**

Credits

Original Author : **Yves Chaufour**

English Translation Author : **G. Roderick Singleton**

Thanks to: Christian Werner, the author of driver ODBC for SQLite the SDBC driver.
Tony Galmiche and Serge Louarne who tested the use of a SQLite base
Philippe Lefevre for his tests and its second reading.

Index

Public Documentation License, Version 1.0

1.0 DEFINITIONS.

1.1. "Commercial Use" means distribution or otherwise making the Documentation available to a third party.

1.2. "Contributor" means a person or entity who creates or contributes to the creation of Modifications.

1.3. "Documentation" means the Original Documentation or Modifications or the combination of the Original Documentation and Modifications, in each case including portions thereof.

1.4. "Electronic Distribution Mechanism" means a mechanism generally accepted for the electronic transfer of data.

1.5. "Initial Writer" means the individual or entity identified as the Initial Writer in the notice required by the Appendix.

1.6. "Larger Work" means a work which combines Documentation or portions thereof with documentation or other writings not governed by the terms of this License.

1.7. "License" means this document.

1.8. "Modifications" means any addition to or deletion from the substance or structure of either the Original Documentation or any previous Modifications, such as a translation, abridgment, condensation, or any other form in which the Original Documentation or previous Modifications may be recast, transformed or adapted. A work consisting of editorial revisions, annotations, elaborations, and other modifications which, as a whole represent an original work of authorship, is a Modification. For example, when Documentation is released as a series of documents, a Modification is:

A. Any addition to or deletion from the contents of the Original Documentation or previous Modifications.

B. Any new documentation that contains any part of the Original Documentation or previous Modifications.

1.9. "Original Documentation" means documentation described as Original Documentation in the notice required by the Appendix, and which, at the time of its release under this License is not already Documentation governed by this License.

1.10. "Editable Form" means the preferred form of the Documentation for making Modifications to it. The Documentation can be in an electronic, compressed or archival form, provided the appropriate decompression or de-archiving software is widely available for no charge.

1.11. "You" (or "Your") means an individual or a legal entity exercising rights under, and complying with all of the terms of this License or a future version of this License issued under Section 5.0 ("Versions of the License"). For legal entities, "You" includes any entity which controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

2.0 LICENSE GRANTS.

2.1 Initial Writer Grant.

The Initial Writer hereby grants You a world-wide, royalty-free, non-exclusive license to use, reproduce, prepare Modifications of, compile, publicly perform, publicly display, demonstrate, market, disclose and distribute the Documentation in any form, on any media or via any Electronic Distribution Mechanism or other method now known or later discovered, and to sublicense the foregoing rights to third parties through multiple tiers of sublicensees in accordance with the terms of this License.

The license rights granted in this Section 2.1 ("Initial Writer Grant") are effective on the date Initial Writer first distributes Original Documentation under the terms of this License.

2.2. Contributor Grant.

Each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license to use, reproduce, prepare Modifications of, compile, publicly perform, publicly display, demonstrate, market, disclose and distribute the Documentation in any form, on any media or via any Electronic Distribution Mechanism or other method now known or later discovered, and to sublicense the foregoing rights to third parties through multiple tiers of sublicensees in accordance with the terms of this License.

The license rights granted in this Section 2.2 ("Contributor Grant") are effective on the date Contributor first makes Commercial Use of the Documentation.

3.0 DISTRIBUTION OBLIGATIONS.

3.1. Application of License.

The Modifications which You create or to which You contribute are governed by the terms of this License, including without limitation Section 2.2 ("Contributor Grant"). The Documentation may be distributed only under the terms of this License or a future version of this License released in accordance with Section 5.0 ("Versions of the License"), and You must include a copy of this License with every copy of the Documentation You distribute. You may not offer or impose any terms that alter or restrict the applicable version of this License or the recipients' rights hereunder. However, You may include an additional document offering the additional rights described in Section 3.5 ("Required Notices").

3.2. Availability of Documentation.

Any Modification which You create or to which You contribute must be made available publicly in Editable Form under the terms of this License via a fixed medium or an accepted Electronic Distribution Mechanism.

3.3. Description of Modifications.

All Documentation to which You contribute must identify the changes You made to create that Documentation and the date

of any change. You must include a prominent statement that the Modification is derived, directly or indirectly, from Original Documentation provided by the Initial Writer and include the name of the Initial Writer in the Documentation or via an electronic link that describes the origin or ownership of the Documentation. The foregoing change documentation may be created by using an electronic program that automatically tracks changes to the Documentation, and such changes must be available publicly for at least five years following release of the changed Documentation.

3.4. Intellectual Property Matters.

Contributor represents that Contributor believes that Contributor's Modifications are Contributor's original creation (s) and/or Contributor has sufficient rights to grant the rights conveyed by this License.

3.5. Required Notices.

You must duplicate the notice in the Appendix in each file of the Documentation. If it is not possible to put such notice in a particular Documentation file due to its structure, then You must include such notice in a location (such as a relevant directory) where a reader would be likely to look for such a notice, for example, via a hyperlink in each file of the Documentation that takes the reader to a page that describes the origin and ownership of the Documentation. If You created one or more Modification(s) You may add your name as a Contributor to the notice described in the Appendix.

You must also duplicate this License in any Documentation file (or with a hyperlink in each file of the Documentation) where You describe recipients' rights or ownership rights.

You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Documentation. However, You may do so only on Your own behalf, and not on behalf of the Initial Writer or any Contributor. You must make it absolutely clear than any such warranty, support, indemnity or liability obligation is offered by You alone, and You hereby agree to indemnify the Initial Writer and every Contributor for any liability incurred by the Initial Writer or such Contributor as a result of warranty, support, indemnity or liability terms You offer.

 3.6. Larger Works.

You may create a Larger Work by combining Documentation with other documents not governed by the terms of this License and distribute the Larger Work as a single product. In such a case, You must make sure the requirements of this License are fulfilled for the Documentation.

4.0 APPLICATION OF THIS LICENSE.

This License applies to Documentation to which the Initial Writer has attached this License and the notice in the Appendix.

5.0 VERSIONS OF THE LICENSE.

5.1. New Versions.

Initial Writer may publish revised and/or new versions of the License from time to time. Each version will be given a distinguishing version number.

5.2. Effect of New Versions.

Once Documentation has been published under a particular version of the License, You may always continue to use it under the terms of that version. You may also choose to use such Documentation under the terms of any subsequent version of the License published by_____ [Insert name of the foundation, company, Initial Writer, or whoever may modify this License]. No one other than _____[Insert name of the foundation, company, Initial Writer, or whoever may modify this License] has the right to modify the terms of this License. Filling in the name of the Initial Writer, Original Documentation or Contributor in the notice described in the Appendix shall not be deemed to be Modifications of this License.

6.0 DISCLAIMER OF WARRANTY.

DOCUMENTATION IS PROVIDED UNDER THIS LICENSE ON AN "AS IS" BASIS, WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES THAT THE DOCUMENTATION IS FREE OF DEFECTS, MERCHANTABLE, FIT FOR A PARTICULAR PURPOSE OR NON-INFRINGING. THE ENTIRE RISK AS TO THE QUALITY, ACCURACY, AND PERFORMANCE OF THE DOCUMENTATION IS WITH YOU. SHOULD ANY DOCUMENTATION PROVE DEFECTIVE IN ANY RESPECT, YOU (NOT THE INITIAL WRITER OR ANY OTHER CONTRIBUTOR) ASSUME THE COST OF ANY NECESSARY SERVICING, REPAIR OR CORRECTION. THIS DISCLAIMER OF WARRANTY CONSTITUTES AN ESSENTIAL PART OF THIS LICENSE. NO USE OF ANY DOCUMENTATION IS AUTHORIZED HEREUNDER EXCEPT UNDER THIS DISCLAIMER.

7.0 TERMINATION.

This License and the rights granted hereunder will terminate automatically if You fail to comply with terms herein and fail to cure such breach within 30 days of becoming aware of the breach. All sublicenses to the Documentation which are properly granted shall survive any termination of this License. Provisions which, by their nature, must remain in effect beyond the termination of this License shall survive.

8.0 LIMITATION OF LIABILITY.

UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, WHETHER IN TORT (INCLUDING NEGLIGENCE), CONTRACT, OR OTHERWISE, SHALL THE INITIAL WRITER, ANY OTHER CONTRIBUTOR, OR ANY DISTRIBUTOR OF DOCUMENTATION, OR ANY SUPPLIER OF ANY OF SUCH PARTIES, BE LIABLE TO ANY PERSON FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER DAMAGES OR LOSSES ARISING OUT OF OR RELATING TO THE USE OF THE DOCUMENTATION, EVEN IF SUCH PARTY SHALL HAVE BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES.

9.0 U.S. GOVERNMENT END USERS.

If Documentation is being acquired by or on behalf of the U.S. Government or by a U.S. Government prime contractor or subcontractor (at any tier), then the Government's rights in Documentation will be only as set forth in this Agreement; this is in accordance with 48 CFR 227.7201 through 227.7202-4 (for Department of Defense (DOD) acquisitions) and with 48 CFR 2.101 and 12.212 (for non-DOD acquisitions).

10.0 MISCELLANEOUS.

This License represents the complete agreement concerning the subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. This License shall be governed by California law, excluding its conflict-of-law provisions. With respect to disputes or any litigation relating to this License, the losing party is responsible for costs, including without limitation, court costs and reasonable attorneys' fees and expenses. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not apply to this License.

Appendix

Public Documentation License Notice

The contents of this Documentation are subject to the Public Documentation License Version 1.0 (the "License"); you may only use this Documentation if you comply with the terms of this License. A copy of the License is available at http://www.openoffice.org/licenses/PDL.rtf.

The Original Documentation is _____. The Initial Writer of the Original Documentation is _____ (C) ____. All Rights Reserved. (Initial Writer contact(s):_____[Insert hyperlink/alias].)

Contributor(s): _____.

Portions created by _____ are Copyright (C)_____[Insert year(s)]. All Rights Reserved.   (Contributor contact(s): _____[Insert hyperlink/alias]).

Note: The text of this Appendix may differ slightly from the text of the notices in the files of the Original Documentation. You should use the text of this Appendix rather than the text found in the Original Documentation for Your Modifications.