

e-Sword and Databases

Part 1

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Sort of an Introduction

Primarily and basically e-Sword is a **Database Reader**, in that it only reads database files. The database format it reads are SQLite (*.sqlite) files which have been given their own extensions. The Extensions are:

- anlx – Common files
- bblx – Bible files
- cmtx – Commentary files
- dctx – Dictionary files
- devx Devotional files
- harx – Harmony files
- illx – Sermon Illustration files
- jnlx – Journal files
- lanx – Language files
- lstx – List files
- mapx – Graphic map files
- memx – Memory Verse files
- notx – Study Note files
- ovlx – Markup files
- prlx – Prayer List files
- refx – Reference Library files
- topx – Topic Note files

A few of them are generated by e-Sword at initial start up, and they reside in the user's My Documents\e-Sword folder.

- common.anlx
- journal.jnlx
- markup.ovlx
- memory.memx
- prayer.prlx
- study.notx
- topic.topx

All database files generated by e-Sword are editable. Topic, Study, and Journal Note files are used in the editors. The language.lanx database file is used by e-Sword language configuration of different non-English speaking countries.

All the above files are used by e-Sword. It can and does handle multiple database files.

With the exception of the e-Sword generated files and the Illustration.illx file, all the other files

are **Read Only** and cannot be edited in e-Sword. Where these files are unsecured they require an external database application or a database extension application to edit these files. The Database application required is SQLite, SQLite Browser, and SQLite Manager. Database extension applications used for e-Sword are T4, and SQLite Regexer.

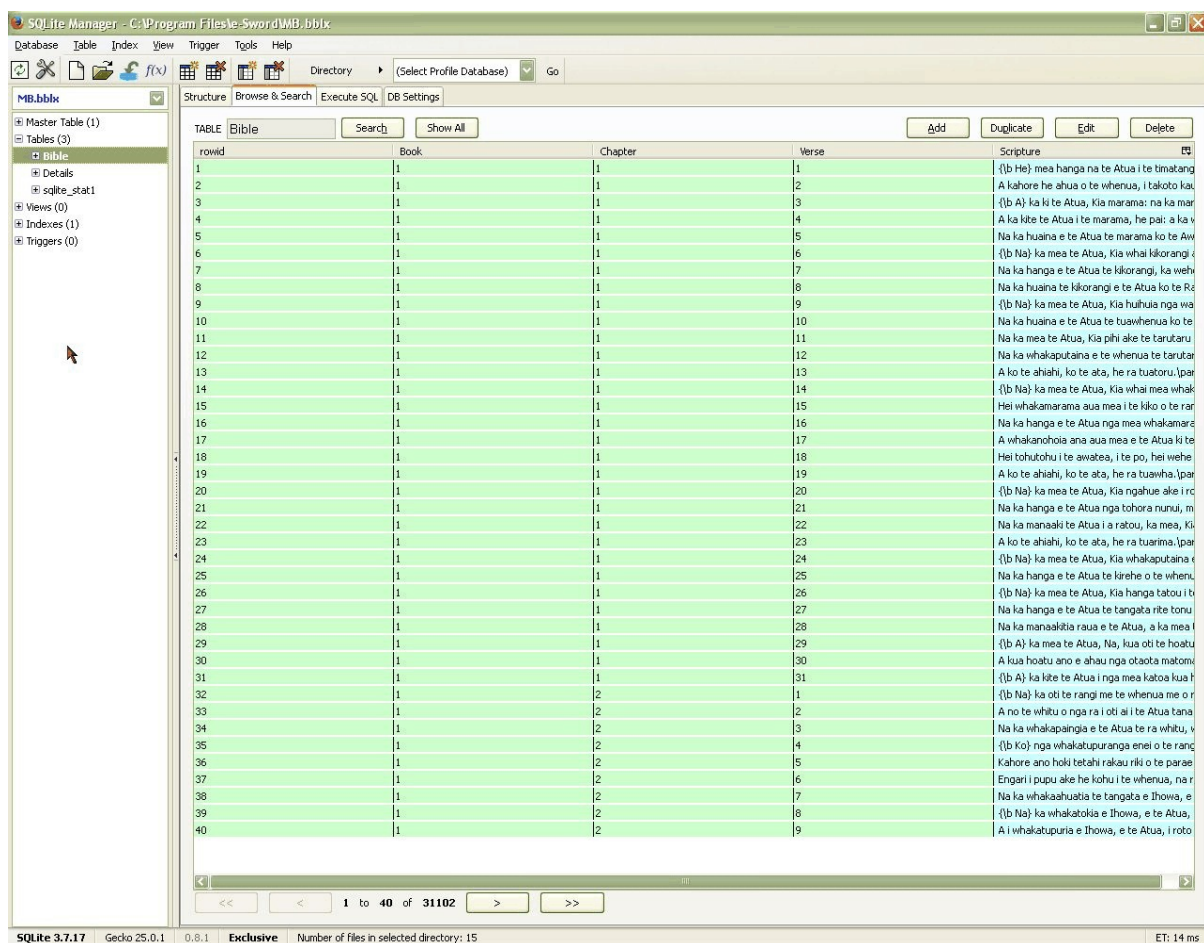
Conversion tools, such as BeST and e-Sword9Converter are database file conversion programs which converts a database file from one format to another. Ben's e-Sword Tool html, MS Access files to SQLite database files, and e-Sword9Converter converts prior to e-Sword 9x resource (MS Access) files to the current format.

How does e-Sword Read Database Files

The short answer to that is, its been programmed to do that! OK, now for that long answer.

To understand how e-Sword does this, one has to have a bit of an understanding of Databases. Basically all databases follow the same principles and rules irrespective of the type they are (and we will go into that later. A database is made up of the following:

- 1 or more Tables
- 1 or more Fields
- 1 or more Records.



e-Sword's Bible Database File Open in SQLite Manager

And that is basically what a database is comprised of, and not much more than that.

A Table is what holds all the Fields and Records where the data/information is placed in it. In SQLite, an e-Sword Bible file has a Table called “Bibles,” and this Table has several Fields. A Field is a place where data of different kinds/values goes in. So each field has to be setup with its own value for the kind of data that goes into it. Not all data is that goes into it is the same. Some Fields are numerical, and they have their own values such as, Date, Integer, Float, Decimal, and etc. Then there are Text Fields, and they too have their own values such as, Memo, Text, and etc. Also a Field can be given a value as to how many digits or characters can fit into a Record.

The Fields (with their values) in the Bibles Table of an e-Sword Bible database file, are:

- Book – Integer (which a whole number)
- Chapter – Integer
- Verse – Integer
- Scripture – Text.

So, in the Fields Book, Chapter, and Verse only numbers go in them. In the Scripture Field only the Text of a particular verse goes in there.

When e-Sword was using Microsoft Access database file, these kinds of Tables and Fields were in them. Therefore the principle of a database file is basically the same right across the board. So it doesn't matter what the name of the database program is, the way its set up is relatively the same.

When e-Sword reads the information in each Field of the Table, it has to interpret what is in it. Each number in the Book Field represents the name of a book in the Bible. So, where the number 1 is read by e-Sword, that is shown as Genesis. And so goes right through the table getting all the information in it to display.

Different Kinds of Databases

Basically there are three types of Databases, and they are:

1. Relational Databases. These are MS Access, Paradox, Oracle, and a few others
2. Object Oriented Databases. There aren't many of them floating around, and there is only one that I know of, and that is a program called Jade.
3. Flat File Databases. Databases such as dBase, Maple and etc. Internet Search Engines such as Google, Yahoo, Bing, and etc., are Flat File databases.

All these databases follow the same principles in regards to Tables, Fields, and Records, and where the differences lie in these types of databases are in their capability of what they can and cannot do. Flat File and Object Oriented databases are non relational. Object Oriented Databases have the capacity of holding an extremely larger amount of data than its Relational and Flat File counterparts, and therefore are somewhat regarded as having an “*unlimited*” capability of data retention. Also Object Oriented database systems use the Method principle where Tables are read, and as such all data is view as an object rather than being relational. Apparently this (in theory) gives greater stability to the integrity of the database, and a much lesser chance of data corruption and loss. Flat file databases are only able to read one table. Types of Flat file databases

are Address Books, Calendars and certain types of Text Editors.

Its important to note that although there are many kinds of Database systems, not all Database systems are not compatible to each other. When Rick Meyers changed from the MS Access Database system to SQLite Database system, all the resources that were made for e-Sword 8x and below were not compatible for 9x versions of e-Sword because of the incompatibility of the file systems. Note also that just because there are different types of Relational Database systems does not make them compatible to each other, i.e., Paradox, a relational Database, is not compatible to MS Access, Oracle, and etc. So, please be aware that there is no such a thing as “*one size fits all*” when it comes to databases. e-Sword, from version 9 to the current version is only able to read SQLite database files, **that has been purposefully for it.**

OK, this is the end of Part 1, and I trust this is helpful to you in understanding how e-Sword works.