4D Tools®

Reference

Mac OS and Windows Versions

4D Tools® Reference
Version 6.0 for Mac™ OS and Windows®

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4D Tools

The primary function of 4D Tools is to help you analyze and repair a damaged database. Databases can become damaged when, for instance, there is a power failure while 4$^{\text{th}}$ Dimension or 4D First is writing to cache, or when the disk containing the database becomes damaged.

4D Tools also provides features that enable you to optimize a database.

Using 4D Tools, you can:

■ Repair databases

■ Compact structure or data files

■ Permanently sort data in a data file

This chapter describes how to launch 4D Tools and how to use 4D Tools to perform each of the operations listed.

Using 4D Tools

To use 4D Tools, you must first launch the application and open a 4th Dimension or 4D First database.

▶ To do so:

1 Double-click on the 4D Tools application icon. Or, select the 4D Tools application icon and choose Open from the File menu.

A standard Open File dialog box appears, allowing you to open a database.

2 Open the database on which you want to run 4D Tools.

You can open a different database at any time by choosing Open from the application's File menu.

If the database you choose to open has a password access system installed, you will need to enter your user name and password in the Enter Password dialog box. Note that only the Designer or Administrator can open a database using 4D Tools. For more information on the password access system, refer to the 4D or 4D First documentation.

3 Select one of the options available in the Utilities menu.

Utilities
Check & Recover...
Compact...
Sort File...

These options are described in detail in the remainder of this chapter.

Checking and Recovering Database Files

You use the Check & Recover menu item to analyze and repair damage in a database. When you choose Check & Recover, 4D Tools displays the Check & Recover dialog box, which has three options.
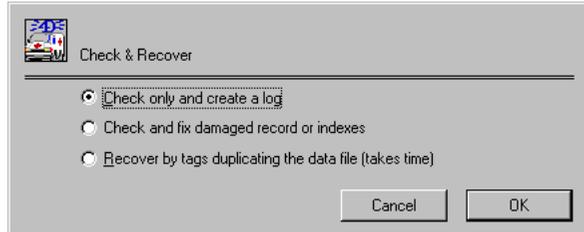
The options are:

■ **Check only and create a log**: Selecting this option instructs 4D Tools to analyze the selected database, looking for damage. A text file called "Journal" is created on disk in the folder in which the database is located. The file contains information describing any damage that was found. The database is not modified.

■ **Check and fix damaged record or indexes**: Selecting this option instructs 4D Tools to analyze the database and repair any damaged records or indexes. If any part of the database cannot be repaired, a message appears, recommending that you use "Recover by tags."

IMPORTANT : Before choosing this option, be sure to make a backup copy of your database.

■ **Recover by tags duplicating the data file**: Selecting this option instructs 4D Tools to recover the records using "tags." Tags are markers stored with each record when it is created. This option should be used only when a database has been badly damaged and cannot be repaired by the "Check and fix damaged record" option. When you use this option, a new data file called "*database*.temp" is created. A data file that has been recovered by tags may contain records that were deleted.

IMPORTANT : Before choosing this option, be sure to make a backup copy of your database.

IMPORTANT : Before performing "Recover by tags," you must have a single mounted volume with at least enough free disk space to duplicate your existing data file.

Compacting Files

4D Tools can also be used to compact structure and data files. Both data and structure files can develop unused space ("holes"). As you design a database, the structure file develops holes when you modify and delete things such as forms and methods. Similarly, a data file develops holes when records are modified and deleted.

In both cases, holes are created when information no longer fits in the space it used to occupy or when information is deleted. Although 4th Dimension or 4D First reuses a hole when something can fit into it, you may want to compact structure and data files to remove all holes.

▶ To compact structure and data files:

1 Be sure that you have enough room on your disk for another copy of the database.

The process of compacting the files creates new copies of both files.

2 Choose Compact from the Utilities menu.

A standard Save File dialog box is displayed.

3 Enter the name of the new database in the Name entry box.

4 Click Save.

4D Tools creates a copy of your database, compacting both files in the process.

Sorting Files

The Sort File command permanently sorts the existing contents of a data file. In the process, it rebuilds all indexes belonging to that file. While rebuilding indexes, it displays a progress indicator.

IMPORTANT : *It is wise to backup your database before sorting a file. If there is an interruption during the sort, the database may be damaged and need to be repaired.*

▶ To sort a file:

1 Choose Sort File... from the Utilities menu.

2 Choose the file you want to sort and click OK.

4D Tools displays the Sort editor. You use the Sort editor in the same way as in the 4D User environment. However, you can sort on fields only; you cannot sort the file based on formulas.

3 Enter the sort fields.

For information on entering sort fields, refer to *4th Dimension User Reference* manual or *4D First Reference* manual.

4 Click the Sort button.

4D Tools sorts the file, rebuilds all indexes for the file, and saves the records in the new sort order. If your database is very large, rebuilding indexes may be time-consuming.

New records added to the database are not automatically inserted in the sort order. Permanent sorting is intended mainly for use on files that contain fixed data.