

DATA TAMING

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StarOffice integrates the database software Adabas D. This program can enable you to create database tables, queries etc. in a professional way. You will thereby be able to organise your data more professionally than is possible by, for example, StarOffice's spreadsheet application.

Many StarOffice users administer their data with the help of the integrated spreadsheet application – StarOffice Calc – or even the word processing module – StarOffice Writer. Most people either don't consider the integrated StarOffice Base software or, due to its large range of functions, think that it is beyond their capabilities. It is our intention, with this detailed, two-piece workshop, to change all that. We will show, with an example of a music CD administration, how fast, easy and effective it is to administer your database with StarOffice Base.

There it is in the cupboard, your arduously acquired music CD collection. But you've lost all hope of finding the CD you want, thanks to a sorting method that simply wasn't up to the task. And your inventory list, written in StarOffice Writer, confuses more than it actually helps. On top of all that, you'd gladly hear that long lost (and rare) favourite "TuX Hits 2000" again – if only you could remember whom you lent it to way back then.

If this situation seems familiar to you then StarOffice, with its database StarOffice Base, could be just the thing you need. With it, you'll not only be able to clearly organise any rare favourites but you'll also be able to lead a precise record of whom you lent them to and when. With the following example, we want to make you familiar with the basis of a simple CD admin system, and take you step by step through the modes of operation and concepts of StarOffice Base. You will see that a database is not only something for large computing centres, but that it can also be a true help in many private instances. In contrast to many other workshops, we want to create something real and useful, thereby giving you the tools to work independently on your own projects.

Fundamentals

The first thing we have to do, before even starting work with StarOffice, is to give some thought to

Adabas D

Adabas D is a professional database from Software AG. Some restrictions apply to the free version, which comes included with StarOffice, or which can be downloaded from the StarOffice homepage. The restrictions apply to size: each database may not exceed 100MB, and users: the number of simultaneous users in the user sharing system is limited to three. Please note that Adabas D can not be used as the user root.

Adabas D operates according to the Client/Server principle, with which a special program, the "Server", administers all databases as well as receiving and processing inquiries by other programs, the "Clients". The Adabas D package incorporates both the server program as well as a client program. In the case of StarOffice, the StarOffice Base module controls both components, so that you don't have to

worry about or learn the cryptic text commands.

You can find further information using the StarOffice help function under the key word Adabas, and the Internet on the Adabas D homepage under <http://www.adabas.com/>.

Trouble shooting at start-up: If Adabas D won't operate, despite being successfully installed, then this problem is most probably caused by either missing or incorrect

how we want to set up our database. Even if you create a new database, you should determine the structure in advance. This is necessary as in most cases, the subsequent modification of a database structure can lead to a not insignificant amount of lost data.

Each database consists of one or more tables, in which the individual data is stored. Each column contains data belonging to a certain category such as the author or title of a CD. The rows then contain the complete data record; in our case a row would have all the information about a certain CD (see figure 7).

We will create two tables for our example: the first contains the information of the individual CDs, the second contains all the details about the lending out of CDs. Although this sounds very much like having to enter the data twice, fortunately with a modern database like StarOffice's Adabas D, this is no longer the case. This program utilises various linking mechanisms to permit the connection of tables containing different types of reference information. In our example, we will create a special database array in the second table, which refers to the appropriate lent CD in the first table. In this way double data entry can be simply bypassed. More information will be given on this in the second part of our workshop.

The CD administration presented here is only a small example. The larger the table, i.e. the larger the quantity of the data to be stored, the more difficult it becomes to find the right data allocation (what info one puts in which table). A tip is to try to keep the number of data arrays stored in a table to a minimum, thus keeping the number of columns as small as possible. It is of course also possible to keep all the data in just one, large table. This is advisable however only with smaller volumes of data, since increasing table size will not only make the database access slower, but it also makes it easier to lose a clear overview.

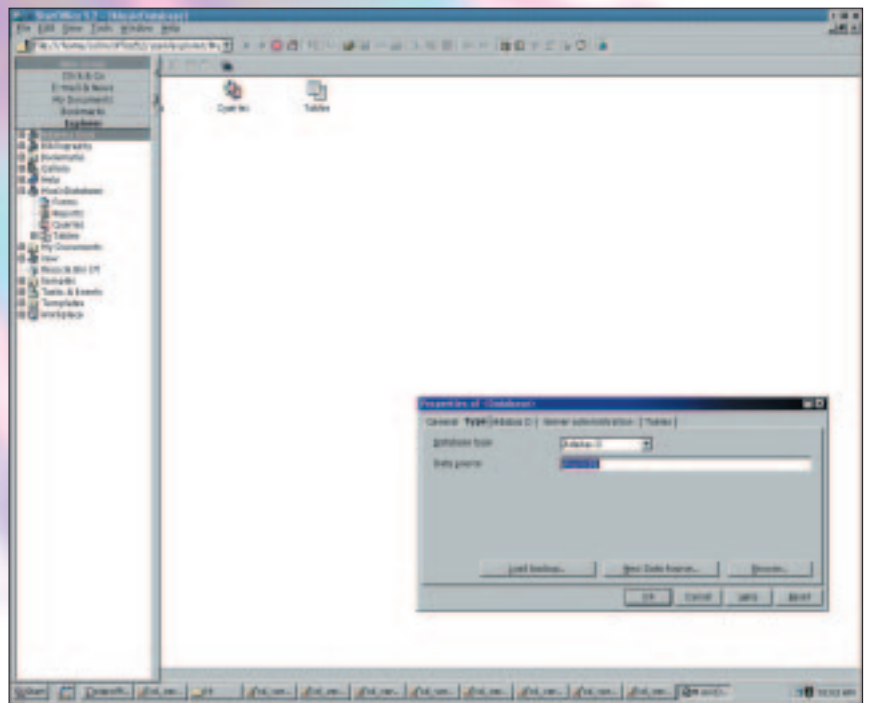
Installation

In this Workshop, we want to administer the previously mentioned data using the provided database Adabas D. If you don't want to install this

additional module, you can also change to a database format built into StarOffice Base, for example dBase. The following steps are more or less identical for all database formats. StarOffice Base takes over the control of the database (which operates in the background) thus making a uniform user interface available for each format.

If you want to use Adabas D but have not yet installed it, you should do this now. If you have StarOffice and Adabas D as a part of your distribution, you can install these using the attached set up program. You can refer to your manual, if necessary, for further assistance. If you don't have StarOffice on a CD ROM, you can download Adabas D free of charge from StarOffice's homepage <http://www.sun.com/staroffice/>. Those in possession of a StarOffice CD should put it in, switch to the linux/adabas directory and start the adabas program. After this, simply follow the commands given by the installation program's graphic interface. After successful installation, you will have to log off and then log on again to the Linux system. The reason for this is because Adabas D changes some environment variables during the

Figure 1: This is the window in which you determine the type of database you want to use. In our example this is Adabas D



environment variables. During installation, the set up program automatically tries to complete some of the entries in one of the following hidden files: `.bashrc` (together with sister file `.profile`), `.cshrc` or `.tcshrc`: If none of these files are available in your home directory, you should first check your manual to find out which shell your Linux system uses. (Most Linux distributions use Bash as the standard shell.) When you have

found your shell, you must create an empty configuration file (appropriate to your shell) with a text editor. If you are unsure of your shell, you can also create all four of the files specified above. Then install Adabas D again.

Problems during operation: If StarOffice Base gives you an error message, then you can click the "Extras" button to receive a detailed description. In order to be able to

interpret the error description completely, you need both a good knowledge of the English language, as well as a good knowledge of the database language SQL. The StarOffice help unfortunately gives no information about how Adabas D errors can be corrected. For those who encounter running problems, this leaves only a search on the internet or a change over to a dBase based database.

installation. The renewed logging on to operating system set these back to their correct values (refer Box "Adabas D").

Starting up

When all the preparations are finished and finalised, StarOffice can be started. You should first open Explorer from the desktop and place this to the far left of the screen (View/Explorer). This enables the only quick and easy access to all databases and their components. Make sure that the content of the group Explorer is visible. If this is not the case then click the button of the same name in the Explorer window. Finally, fix it by pinning it to the Desktop so that the work surface doesn't disappear under it.

Now we can create our music database. To start off, select New/database from the menu. A window appears, on which you must enter some important basic settings. Under the General register, enter a name for your new database, for example MusicDatabase. Next, determine the required database format in the Type register.

Adabas D is selected by default. As already mentioned, you also have the possibility of selecting another format, such as dBase. If you have decided to go with Adabas D, then the Server Administration password registration must appear. The absence of this registration screen is a safe indication that Adabas D either could not be started or could not be reached by StarOffice Base (refer Box 1, Adabas D).

In the case of a dBase database, go to the Type register and enter the input path, in which your database is to be stored, into the Directory field. If you use Adabas D, go to the same field (here named Data Source) and enter a name up to a maximum of eight characters long. This could be for

Deleting a database

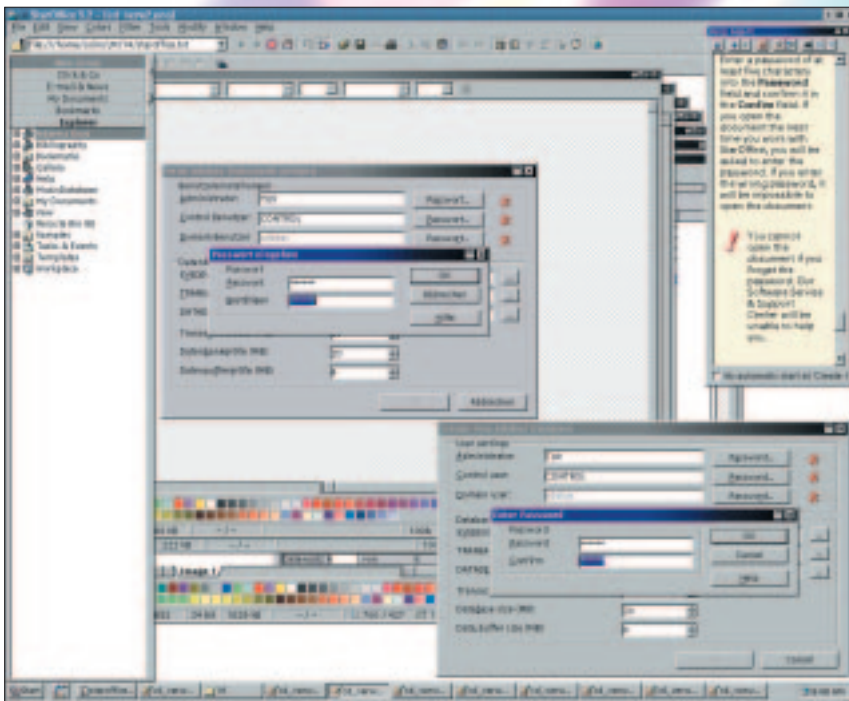
Adabas D: First note the name of your database, how it is denoted in Explorer. Right mouse click on this entry and select Properties? Select the second register Type and make a note of the name in the Data Source field. Leave StarOffice and switch over to the file manager, to the User/Explorer directory in your StarOffice directory. The latter should be located (as a standard) in your home directory. Delete all files that include the name of your database in this directory. After this, go to the sql subdirectory of the Adabas D installation. Delete all files that contain the same character string before the dot, that you previously identified as Data Source in StarOffice. Repeat the above procedure in the config subdirectory. To finish off, delete the subdirectory with the name of the data source in the work directory. Thus is your database finally deleted.

dBase: It's enough here to right mouse click the database name in Explorer and select Delete in the context menu. Your database is completely removed as soon as you confirm this by clicking Delete in the popup dialog window.

example musicdb for our CD administration record. Adabas D uses this name for the internal identification of our database. After you've done this, go ahead and click New Data Source. You will now see a popup window. StarOffice has already filled in most fields with sensible values for you. Only the database administrator needs to receive a user name and password. This is necessary as Adabas D permits several users simultaneous access to the database. The administrator is in this case a special user with special rights. He or she may unconditionally change (and also delete) all areas of the produced database. The administrator name can, for example, be as the Linux system user name. The name should not contain umlauts or special characters, as this may cause identification problems at a later date. After this, click on Password and enter your secret password into the two data entry fields. Click on OK to close all windows. You will land in a dialog window entitled Properties of Music database. You may need to exercise some patience here (especially those of you with older or slower computers) as, on the one hand Adabas D only loads in the background, and on the other hand the database must be set up and opened. StarOffice will freeze during this time – DON'T PANIC.

StarOffice should have automatically filled out all the other registers of the Properties of Music database window. You have the possibility of determining if you want Adabas D to automatically close when you quit out of StarOffice. To do this, open Server Administration register and mark the End Service When Quitting StarOffice switch.

Figure 2: An Adabas D database needs a password as well as an administrator name



Another click on OK will open the database on the desktop, and at the same time open a new entry in Explorer.

The settings dialog, which you have just left, can be called up at any time. This is accessed through the right mouse button context menu. To do this, right mouse click the name of the database in Explorer and select Properties.

Have a look at the status bar of the StarOffice desktop (located at the lower edge of window). There beside the clock, you will see a small display light indicating the status of Adabas D (refer Figure 7). A green colour indicates that the database is operational. If you have several databases open, then each database will have its own individual status light. To find out which status light corresponds to which database, activate the Tool Tip assistance (Help/Tip), and position the cursor over a status light for a couple of seconds. A display indicating the name of the corresponding database will pop up.

Creating Tables

Four symbols should be now located on the work space of the desktop. These can be used to create new forms, reports, queries or tables, as well as administering those that already exist. If these symbols are not displayed automatically, then double click the database name in the Explorer window. Alternatively, you can do this directly in Explorer. Clicking on the plus symbol in front of the name of the database will bring up the same symbols as those on the desktop.

We will first create two new tables for our CD example and then later fill these with relevant information. The first table will be dealt with in this part of the workshop and the next part will deal with the second table. The Autopilot will be used for the first table. This will come in handy later, by providing us with some helpful functions. This small

aid offers a whole range of 'ready made' database items, which we then only have to adapt to our own needs.

Right mouse click either the table symbol on the desktop or the appropriate entry in the Explorer window. Select New/Table/Autopilot from the context menu. Now you have to select the Personal line from the drop down menu in the upper selection list of the pop up window. A list will then appear below this, displaying a selection of tables that autopilot has already pre-defined for you. For the purposes of our CD administration, we will want to select the Music Collection choice. Click Next to proceed.

The left side of figure 5 shows some suggestions of possible database fields. You can select the fields that are applicable for you by marking a candidate in the left list and then clicking on the single arrow. If you would like to transfer all fields to your database, you merely have to click the double arrow. If you shifted a field on to the right page by mistake and want to remove it, then you can use the arrows in the same way to shift it to the left again. The entries in the right list will then form the columns of the database table.

The list entries from top to bottom correspond to the columns from left to the right. This, in particular, means that the entry of data takes place in exactly this order: For example if Author is located in the list above Album Name, then you must first enter the authors and then the album names. For our CD collection, you should transfer the following fields over to the right hand list: Music ID, Artist, Album Name, Music Category and Length. Make sure that they are in this order. These fields are sufficient for our small example database. The first field, Music ID, will help us to later link the two tables together. When you are finished transferring the above fields,

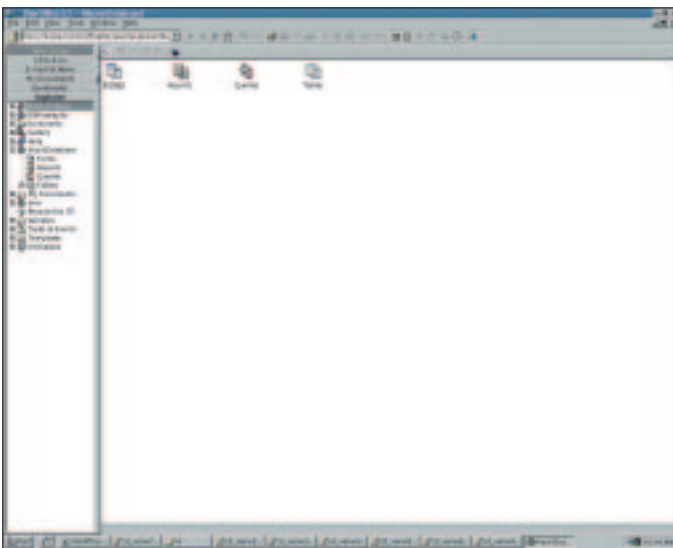
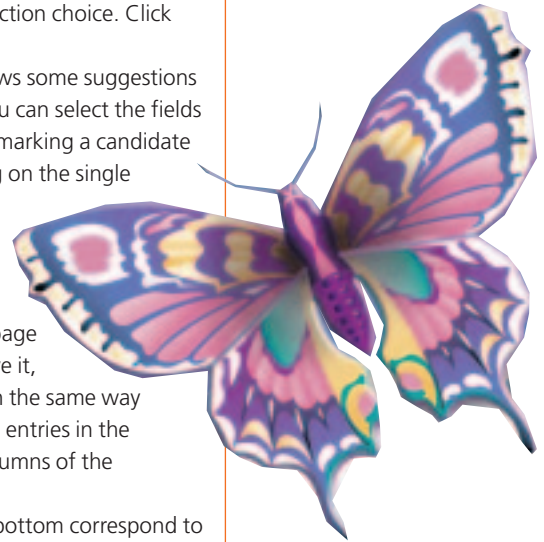


Figure 3: The database is open. Note that the database can be accessed both via the desktop and via Explorer.

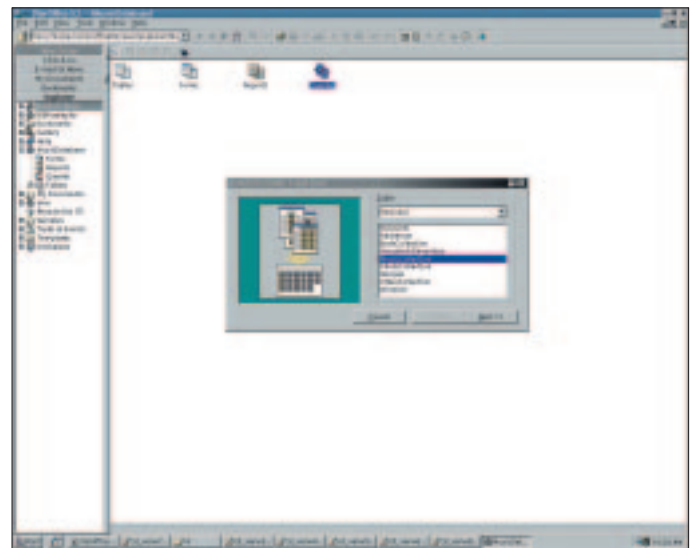


Figure 4: With the help of the autopilot, a selection of preformatted tables is presented. The settings shown in this picture should be selected for our CD administration database.

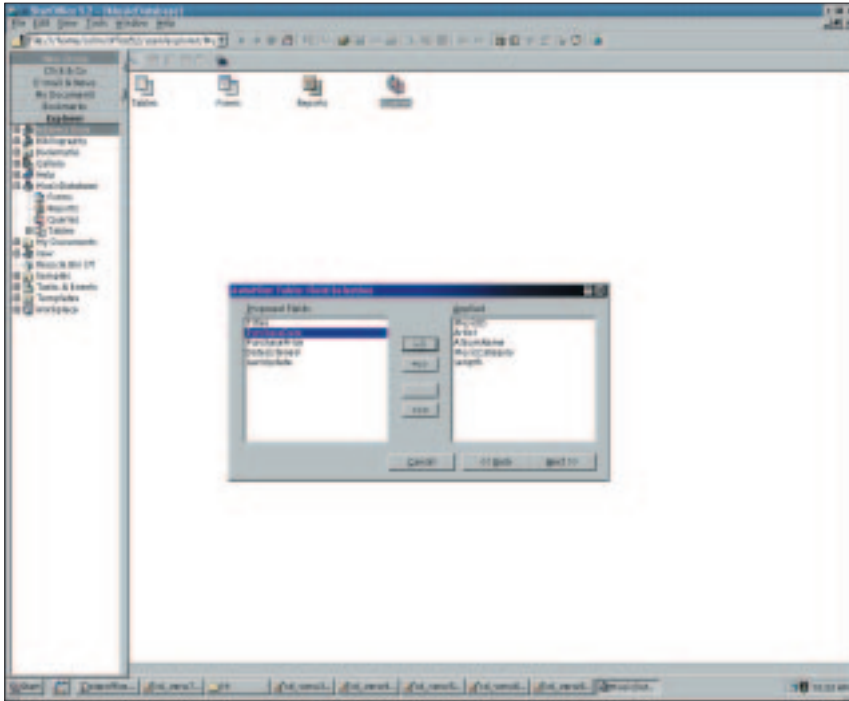
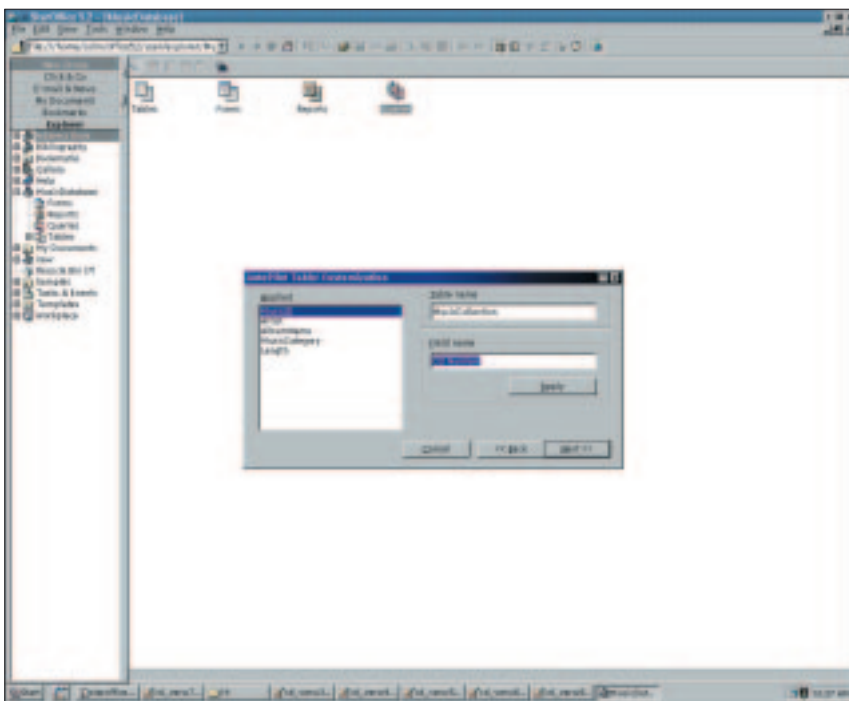


Figure 5: Not all suggested fields will be needed in our example. All fields on the right list are transferred to the table.

click Next. In the next step, autopilot will offer you the possibility of renaming both the name of the table and the names of the individual fields. To rename database fields, go to the left list and mark the field, whose name you would like to modify. Then simply change the name in the Field Name data entry field. Click the Confirm button to allow the modified name to be assigned to the selected field. For the purposes of our example, rename the Music ID field CD Number. You can leave the suggested table name unchanged, i.e. Music Collection (or Musicco1 in the case of a dBase database). Click Next, and then Create in the next dialog window to finish setting up this table. The empty table is then opened onto the desktop,

Figure 6: Renaming database fields



and you can begin with the entry of your CD data. Please note that the name of a dBase table may only be a maximum of eight characters long. StarOffice Base also offers the option of using longer names, however this can lead to problems in the interface with the autopilot.

Data entry

In order to get the hang of the data entry process, go ahead and use the keyboard to enter the information pertaining to a couple of your CDs. You can move between fields either by clicking the mouse or pressing the tab key. As soon as you begin with the entry, StarOffice Base creates a new, empty line, which is marked with an asterisk in the first (nameless) column. As well as this, the line in which you current data entry field is located will be marked with a Pen symbol. Please note that a data line in Adabas D is only then saved, when you either change the line or save the table (by clicking the diskette symbol in the symbol bar or by selecting File/ Save Current Data Record). After finishing the entry for a line, you can navigate within the table using the arrow keys. A small triangle in the nameless column shows thereby, which data record you are currently in. If you want to escape with out saving changes or want to delete the data record you have just created, all you have to do is right mouse click the appropriate line in the nameless column to the left. Then select Delete Row or Undo: Data Entry from the list of functions in the context menu.

You will also find, located to the left of the horizontal picture bar at the bottom edge of the screen, all the navigation functions. You can: use the arrows to move between the individual data records, use the asterisk symbol to create new entries, or enter a number into the input field to land directly on the corresponding data record.

When entering the data, you will notice that you must always enter a unique value into the first field (in this case CD Number). The reason for this is that this field was defined by the autopilot as the "Primary Key Field ". It is thereby guaranteed not only that for each data record only one CD Number exists, but also that this number is assigned only once. The occurrence of double lines is automatically prevented in this way, and at the same time double CDs (with same name) are able to be differentiated from each other. More information on this will follow in the next section of the workshop.

You will have probably observed by now that the entries in the Play Time field are always brought into a uniform format by StarOffice Base. As in all databases, StarOffice Base allows all fields to be assigned with a specific type. In this case, the autopilot determined that the Play Time field contained clock times. During the data entry process, these are automatically brought into an

appropriate, uniform format by StarOffice Base. If your CD has for example a playing time of 79 minutes, then you can enter 00:79; this will then be converted to 01:19:00.

Size and Scale

Apart from the above, using a StarOffice Base database table is similar to a StarOffice Calc table: Copy and paste, as well as the modification of a cell are all carried out similarly using the appropriate menu functions. The same also applies to the column width, row height and the formatting of a table. If, for example, the name of an author does not fit into the appropriate field, then there are several ways of moving it into the right light:

The first possibility is executed by dragging the mouse. Place the cursor in a position between two column inscriptions so that it changes into a double arrow. If you now hold the left mouse button pressed and move the mouse, you will change the size of the left of the two columns. Another method is to first left mouse click the column inscription, thereby marking the entire column. Press the right mouse button and select Column Width? from the context menu. Finally, enter the absolute value for the desired column width into the input field in the popup window, and click OK. Alternatively, you can mark Automatic in the same popup window. The width of the selected column will be thereby adjusted to the width of the column text.

Saving Data

As previously mentioned, StarOffice Base saves each row directly after the entry in Adabas D has been completed. For this reason it is not necessary to save the table before closing. – The table is always kept up to date.

You can locate all tables in the Explorer window below the appropriate database entry. Click the plus symbol in front of the name in Explorer to expand that part of the tree. Once found, double click the name to open the table. As you will be able to see, three tables already exist for our

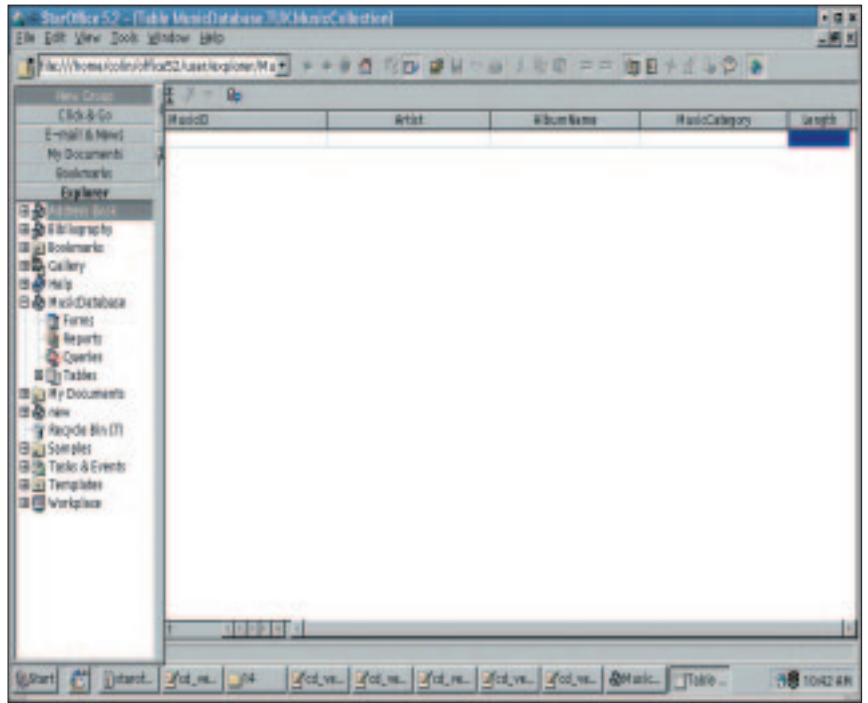


Figure 7: An empty database table, created with the assistance of the autopilot

example database. The two additional tables are created automatically by Adabas D. They administer running information that the database needs. In addition to this, the user name of the creator is located in front database name. On the basis of this, one can detect who this table belongs to.

The first part of our workshop comes to an end here. You shouldn't however delete the data you have entered, as we will need it for the next part of the workshop. There, we will investigate more of the interesting functions offered by StarOffice Base. We will also complete our example database with the second table.

Figure 8: A finished database table with some example data. The pen in the unlabelled column to the left shows that the data record in this line is currently being processed.

