

OLYMPUS

Database Manual

cellSens_[Ver.3.2]

IMAGING SOFTWARE

For research and education

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Contents

1. Overview - Database	4
2. The user interface	5
2.1. Tool Window - Database	5
2.2. Gallery View	6
2.3. Tree View	9
2.4. Record Details View	11
2.5. Search View	13
3. Working with a database	16
3.1. Opening a database	16
3.2. Inserting data into a database	18
3.3. Searching for records	24
3.4. Loading documents from a database	26
3.5. Processing the documents from a database	27
3.6. Moving documents within a database	28
3.7. Importing and exporting data	30
4. Administrating the database	33
4.1. File storage in a database	33
4.2. Setting up a new database	34
4.3. Changing the database view	41
4.4. Managing user rights	43

1. Overview - Database

When you acquire a large number of images with your software, it makes sense to save them in a database. All of the file management functions, such as searching for images, can be more quickly and easily used in a database than with files that have been saved separately.

Your software offers a Client/Server-database for this purposes that is based on the Microsoft SQL technology. Your software's database doesn't only save images, it also saves all other types of file, for example, text files, and results sheets.

Which software version supports which database?

Note: You can only use the database if you have purchased a special Database Solution together with your software.

The following Database Solutions are available:

The Solution *Database Core Edition* comprises the full database functionality. You can create new databases and configure them to exactly suit your requirements. Make use of the user management in order to assign access rights to individual users or to user groups.

The Solution *Database Client Edition* offers limited database functionality. You can open existing databases, search for records and load them, or you can insert new records. You **cannot** create a new database.

About the database manual

The documentation is for database users as well as for database administrators. Since database administrators have more rights to work with the database, not all of the topics covered in this manual are equally relevant for all database users.

The topics about the user interface and the topics about working with the database are for all database users. Therefore, it is assumed as a precondition that a database has already been set up and configured.

The topics about configuring the database are only for the database administrator.

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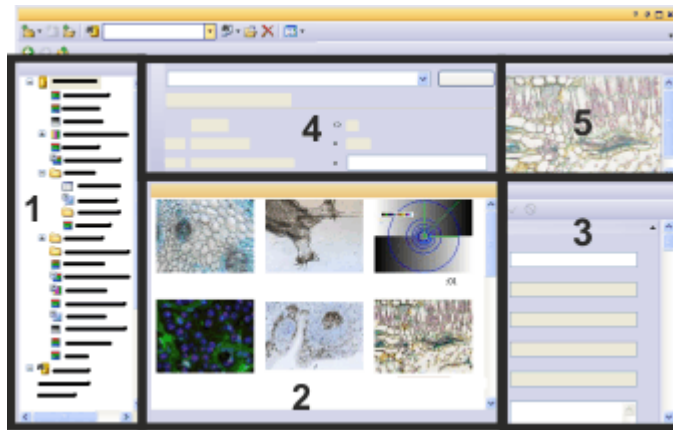
2. The user interface

2.1. Tool Window - Database

The database will be displayed in the *Database* tool window. This tool window provides you with access to all of the records contained in the database, and to numerous functions you can use to work with your database.

Views in the database window

The *Database* tool window is divided into several areas. In each of these areas, a special database view is displayed. You can adjust the size of these areas, in relation to one another, however you want to. To do so, move your mouse pointer onto an area's border in the *Database* tool window and move it while keeping the mouse button depressed.



The illustration shows the schematic make-up of the *Database* tool window when you all available views are displayed. the tool window will then contain the following database views.

- (1) [Tree View](#): The Tree View shows all of the data that is present in the database. In this view you gain a quick overview of how the database is structured.
- (2) [Gallery View](#): In the Gallery View, you will see thumbnails of all of the documents that are to be found under the selected record. You select the record in the Tree View (1).
You can also have the documents shown in the form of a table. The Gallery View will then be replaced by the Table View.
- (3) [Record Details View](#): In the Record Details View, you will see information about the currently selected record.
- (4) [Search View](#): In the Search View, you select search definitions that have already been saved and carry out the database search with them.
- (5) [Image Preview](#): The Image Preview is used to display the image that has currently been selected in the database gallery (2).

Toolbars in the database window

The *Database* tool window contains two toolbars. These toolbars provide you with access to the most important functions when you're working with a database.

Maximizing the database window

The *Database* window can, as the only tool window, be maximized. To do this, click the *Maximize* button. You can find this button in the tool window's header. This will make almost the whole of your software's user interface available for displaying the database.

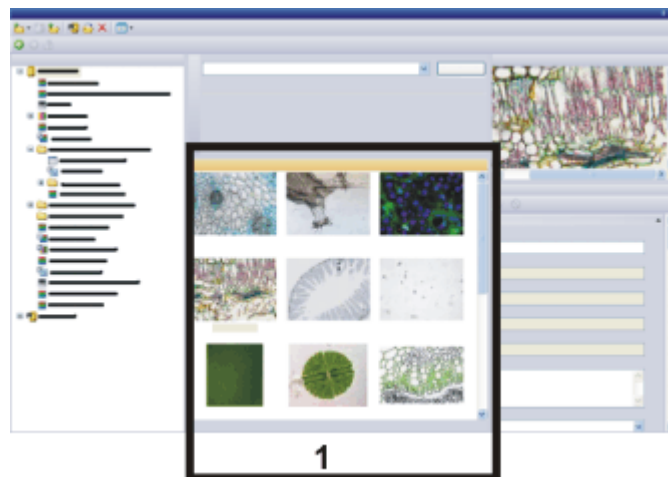
Commands in an empty database window

When no database has been opened, the *Database* tool window offers you the commands with which you can open a database, or set up a new database.

There, you can also find a list of the databases that were last opened. Simply click an entry to open the corresponding database.

4915

2.2. Gallery View



In the Gallery View, you will see thumbnails of all of the images that are contained in the database folder you have selected. Other documents (texts, MS-Excel sheets etc.) will be displayed as an icon.

Where the Gallery View will be displayed in the database window, depends on the size of the database window.

When the database window has been maximized, you'll find the Gallery View in the center of the tool window. When the database window is very small, the Gallery View will be arranged below the Tree View.

Making the Gallery View appear/disappear



1. Click the *Open Database Views Menu* button to open a list of all available database views. You can find this button on the *Database* tool window's upper toolbar.
2. Select the *Gallery/Table View* entry.

- When you do this, the Gallery View will either appear or disappear, depending on whether it was already on display.
 - Where the Gallery View will appear in the database window, depends on the size of the database window.
3. When, instead of the Gallery View, a tabular view appears in the database window, click with your right mouse button in the background of the Table View, then use the *Display Gallery* command.

Setting the appearance of the Gallery View

Changing the size of thumbnails

You have the choice between two sizes of thumbnail. Right click in the background of the Gallery View, and use the *Small Thumbnail Images* command, to switch backwards and forwards between the two thumbnail sizes. When you use a smaller thumbnail size you will be able to load far more documents into the Gallery View.

Altering the thumbnails' labeling

You can set which database field is to be used for labeling the thumbnails. The record name is, by default, used as labeling.

To do so, click your right mouse button in the Gallery View's background. From the context menu, select the *Customize Views* command. In the *Customize Views* dialog box, the *Gallery View* entry will have already become active, and you can select another database field for the labeling.

The definition of database views is user-dependent. That means that a college who opens the same database may well see other information.

Viewing information in the Gallery View

Which records will be displayed?

In the Gallery View, all of the records that are located within the database folder that has been selected in the [Tree View](#) will be listed.

Which information will be displayed?

Select a document in the Gallery View.

The [Record Details View](#) then shows you numerous database fields together with their field values, for the selected record.

Showing quick info on the documents

When you move the mouse pointer over a thumbnail, an info window will open, in which you'll find information on this thumbnail. You can specify exactly which information will be shown. To do so, use the *Customize Views* dialog box, and select the *Tool Tip View* entry in the *View* list.

Displaying a complete document path

Select a document and right click to open a context menu. Use the *Copy Hyperlink to Clipboard* command in the context menu.

This command copies the complete document path, including the record name, to the

clipboard. Use the [Ctrl + V] shortcut to insert the document path into e.g., any text document you want.

Working in the Gallery View

You can carry out a number of actions in the Gallery View.

Selecting records

In the Gallery View, you can select several records simultaneously. For the selection the standard MS-Windows conventions for multiple selection are valid. With the multiple selection you can, for example, with one command, load several images into the document group, or move them to another database folder.

Should the records you want to select be contained in different database folders, first define a database search that will include all of the records. For example, search for all of the images when you want to select specific images. When you carry out the database search, the search results will automatically be displayed in the Gallery View. Here, you can select the records you want.

Loading documents into the image preview

When you click once on an image in the Gallery View, the image will be loaded into the *Database* tool window's Image Preview. The Image Preview provides more space on the screen for image display than the Gallery View.

If you want to view an image in more detail, load it into the document group.

Loading documents into the document group

If you want to load an image into the document group e.g., to measure it, or to have a more detailed look at it, select the image, then use the *Load Documents* command in the context menu.

Alternatively, you can also double click the required document to load it.

Changing the default settings for the loading of documents

You can also alter the default setting that determines how a document reacts when you double click it. To do this, use the *Tools > Options* command. Select the *Database > General* entry. The *When a document record is double-clicked* list contains a number of ways in which a document is to behave when a double click is used.

Sorting records

In the Gallery View, you can sort records in a variety of ways. Use the *Sorting* command from the Gallery View's context menu to open a list with various sorting criteria.

For example, select the *Sort by Insertion Order* sorting criterion. The last record in the Gallery View is then the one that was last inserted.

Use the *Sorting > Sort Manually* command to move individual records by Drag&Drop, within the Gallery View.

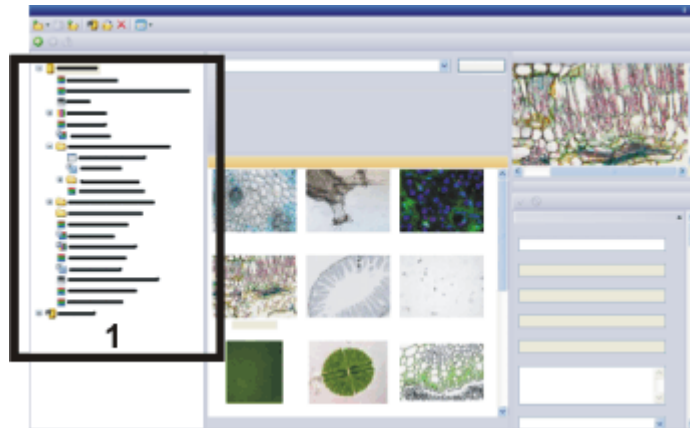
Opening the context menu

Select a record in the Gallery View and click with the right mouse button. In this way, you open a context menu that offers you a number of commands you can, e.g., use for

editing this record. Here you will also find general database commands and commands with which you can change the appearance of the database view.

00314

2.3. Tree View



The Tree View shows all of the records that are present in the database in a tree structure. In this view you gain a quick overview of how the database is structured.

Making the Tree View appear/disappear



Click the *Open Database Views Menu* button to open a list of all available database views. You can find this button on the *Database* tool window's upper toolbar. Select the *Tree View* entry.

When you do this, the Tree View will either appear or disappear, depending on whether it was already on display.

Viewing information in the Tree View

Making information on documents appear

Select any record in the Tree View.

The [Record Details View](#) then shows you numerous database fields together with their field values, for the selected record.

Showing quick info on the documents

When you move your mouse pointer over an entry in the Tree View, an info window will open, in which you'll find information on this record. You can specify exactly which information will be shown. To do so, use the *Customize Views* dialog box, and select the *Tool Tip View* entry in the *View* list.

Displaying a complete document path

Select a document and right click to open a context menu. Use the *Copy Hyperlink to Clipboard* command in the context menu.

This command copies the complete document path, including the record name, to the clipboard. Use the [Ctrl + V] shortcut to insert the document path into e.g., a text document.

Working in the Tree View

You can carry out a number of actions in the Tree View.

Browsing in the database

Double click on a database folder in the Tree View to expand the entry. Then all of the records that lie under this folder will be shown.

As soon as you have selected a record in the Tree View, all of the records that lie one hierarchy level below the selected record will be displayed in the [Gallery View](#) or the Table View. Images will be shown as thumbnails, other documents will be shown as icons.

Loading documents into the image preview

When you click once on an image in the Tree View, the image will be loaded into the [Database](#) tool window's Image Preview. The Image Preview provides more space on the screen for image display.

If you want to view an image in more detail, load it into the document group.

Loading documents into the document group

If you want to load an image into the document group e.g., to measure it, or to have a more detailed look at it, select the image, then use the [Load Documents](#) command in the context menu.

Changing the default settings for the loading of documents

You can also alter the default setting that determines how a document reacts when you double click it. To do this, use the [Tools > Options](#) command. Select the [Database > General](#) entry. The [When a document record is double-clicked](#) list contains a number of ways in which a document is to behave when a double click is used.

Moving records

There are several ways of moving documents within the database. In the Tree View, you can move a document, e.g., an image, simply by Drag&Drop, into another database folder. You can find more information on moving documents [here](#).

Viewing search results

In the Tree View, you will also find the results of a database search. The [Search Results](#) folder (2) is located on the same hierarchy level as the database (1).

When you expand the [Search Results](#) folder, you will see all of the search definitions and search templates (3) that have previously been set up for this database. An icon shows you which is a search definition and which is a search template.



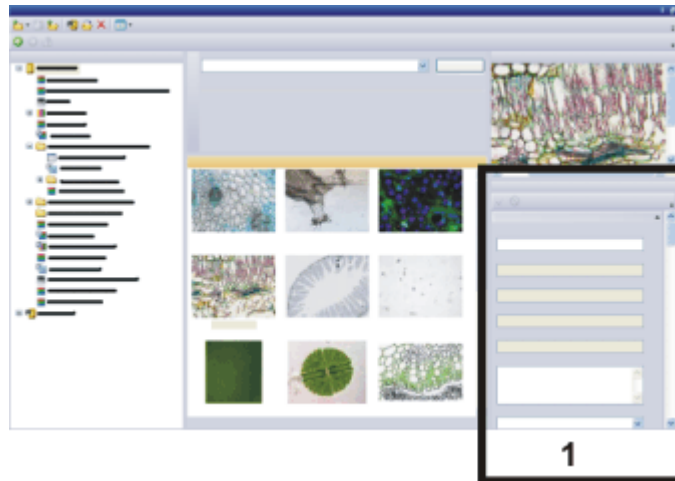
You can find more information on searching in a database [here](#).

Opening the context menu

Select a record in the Tree View and click with the right mouse button. In this way, you open a context menu that offers you a number of commands you can, e.g., use for editing this record. As well as this, the context also contains general database commands.

00307

2.4. Record Details View



In the Record Details View, you can for every record, view the way the database fields have been filled out for this record.

Note: The Record Details View can't be displayed when the database window is very small. Enlarge the *Database* tool window correspondingly. You will then find the view either at the bottom left, or the bottom right, depending on how large the tool window is.

Making the Record Details View appear/disappear



1. Click the *Open Database Views Menu* button to open a list of all available database views. You can find this button on the *Database* tool window's upper toolbar.
2. Select the *Records Details View* entry.
 - Should this command be displayed in gray, enlarge the *Database* tool window.
 - When you do this, the Record Details View will either appear or disappear, depending on whether it was already on display.
 - Where the Record Details View will be displayed in the database window, depends on the size of the database field.

Using the "Record Details" tool window.

For documents that you load into your software from the database, you can also use the *Record Details* tool window as an alternative to the Record Details View. In this tool window, all of the information will be displayed, that is also displayed in the Record Details View.

In the *Record Details* tool window, there is normally much more room for the displayed information, than in the database window.

In this case, you can make the Record Details View disappear from the database window, and also gain more room for other views in the *Database* tool window.

Should the *Record Details* tool window be hidden, use the *View > Tool Windows > Record Details* command to make it appear.

Customizing the appearance of the Record Details View

You can specify which database fields will be shown. To help you keep a better overview, you also distribute the database fields over several different groups. To do so, right click one of the database fields in the Record Details View. From the context menu, select the *Customize Views* command. In the *Customize Views* dialog box, all of the necessary entries are then already active, and you can select the database fields you want.

The definition of database views is user-dependent. That means that a colleague who opens the same database with his password may well see other information.

Viewing information in the Record Details View

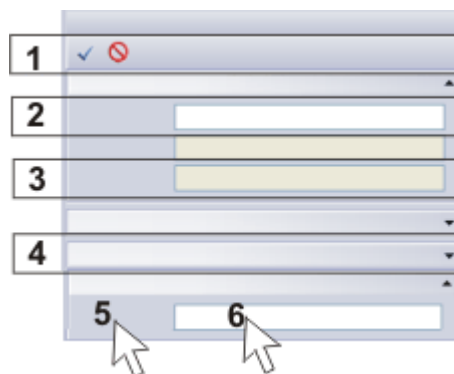
Displaying and modifying field values

Select a record. You can select the record in the [Tree View](#), [Gallery View](#), or Table View.

The Record Details View then shows you numerous database fields together with their field values, for the selected record. Fields with a gray background serve only as information. Fields with a white background can also be altered.

Please note that the database fields that are displayed depend on the type of record selected. When you select a database folder you will see other database fields than when you, for example, select an image.

Working in the Record Details View



Modifying field values

Use the Record Details View to edit existing entries in database fields. You can, however, only change fields which have a white background (2). Fields with a gray background (3) serve only as information.

Confirming the changes

As soon as you have changed an entry in a database field, the two buttons *Confirm Changes* and *Abort Changes* will become active in the **Record Details View** toolbar (1). Click the *Confirm Changes* button to have your changes adopted.

Expanding groups

To help you keep track of everything, you can assign the database fields to groups. You can reduce every group in the Record Details View to its header. This enables you to hide information that doesn't interest you. Double click on a group's header (4), to reduce the size of the group, or to expand it again.

Opening context menus

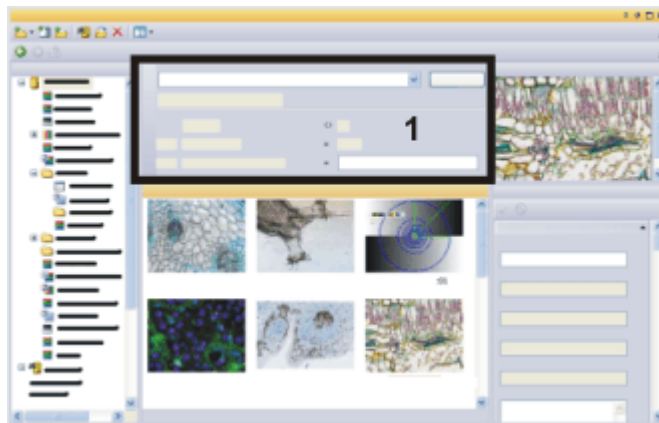
The Record Details View offers you two different context menus.

Right click on a database field (5). This will open a context menu containing numerous commands with which you can e.g., change the appearance of the database view.

Right click on an entry in a database field (6). This will open a context menu containing numerous commands with which you can reformat the field entries.

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2.5. Search View



In the Search View, you select search definitions that have already been saved and carry out the search with them.

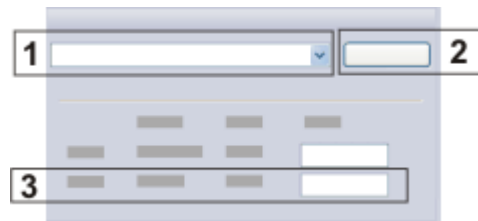
Note: The Search View can't be displayed when the database window is very small. Enlarge the *Database* tool window correspondingly, when you wish to have the Search View displayed.

2.5.1. Making the Search View appear/disappear



Click the *Open Database Views Menu* button to open a list of all available database views. You can find this button on the *Database* tool window's upper toolbar. Select *Search View* entry.

2.5.2. Working in the Search View



(1) List of all saved search definitions

In the Search View, you can find a list with all of the search definitions that have been defined for the active database to the left of the *Search* button.

As soon as you have selected a search definition, the search conditions that have been saved in it will be displayed in the Search View.

To define and to save search conditions as a file, use the *Define Search* dialog box.

(2) Carrying out a search

Click the *Search* button in the Search View to carry out the search.

The search results will be displayed in the Gallery View or in the Table View. Only the records that fulfill the search conditions you've set will be displayed. When the ([Organ] equals 'Liver') search condition has been selected, only the images of specific samples, for example, will be displayed. Should a search not produce any records that fulfill the search conditions set, the text *There are no records to display* will appear.

You will also find the results of a database search in the Tree View. There you will find the *Search Results* folder (2) on the same hierarchy level as the database (1). When you expand the *Search Results* folder, you will see all of the search definitions (3) that have previously been set up for this database. An icon shows you which is a search definition and which is a search template.



(3) Using search templates

When you define a search condition, you can either define a concrete value or leave the value as a variable. Where a variable search condition is concerned, the user has to add the concrete value for which the search is to be carried out, before the database search can start.

A search condition with at least one variable search condition is called a search template.

A completely defined search condition is, e.g., ([Organ] equals 'Liver'). In this case you are searching for all of the records in which, in the database field [Organ], the field content 'Liver' has been entered.

A variable search condition is, e.g., ([Organ] equals '(variable)'). Then, in the Search

View, the database field [Organ] will appear as the search condition. Later in the Search View, the user then specifies for precisely which organ is to be searched.

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3. Working with a database

3.1. Opening a database

When you want to work with a database, use the *Open Database* dialog box. You have to open the database when you want to load documents (e.g., images, charts or workbooks) that are contained in that database, or to insert new records into it. Only one database can be opened at a time. As soon as you open another database, the one that has already been opened will be automatically closed.

To be able to open a database, you must be registered as a user with the database server. The database administrator takes care of that.

There are several ways in which you can open databases:

- Use the *Database > Open* command
- Use the *File > Open > Database* command.
- On the *Standard* toolbar, click the small arrow next to the *Open* button to open a context menu with all of the available commands you can use for loading files.
- You can find a list of the databases that were last opened, in the *Database* menu. Simply select one of the databases that is listed.
- When no database has been opened, in the empty *Database* tool window, you'll find a list of the databases that have recently been opened. Click the name of the database you want, to open it.



Selecting a connection mode

When you want to open a database, you first have to register your PC with the database server. The appearance of the *Open Database* dialog box depends on the connection mode you have selected. Click the *Options* button in the *Open Database* dialog box to select the connection mode.

Entering connection data manually

Click the *Options* button in the *Open Database* dialog box.

If you want to enter all of the information that is necessary for logging-on to a server manually, select the *Enter connection data manually* option. Use this option when, e.g., you only want to log onto a database on one occasion. To log-on manually, you require the following information: the database management system, the name of the database, and the name of the server on which the database is located. If you are not certain about anything, contact your database administrator.

Close the *Options* dialog box with *OK*.

The *Open Database* dialog box will then contain the *Database* group.

Enter the name of the database in the *Database > Database Name* field. If a server has already been selected, all of the databases that are on the selected database server will be automatically listed.

In the *Database > Server* field, enter the name of the server on which the database can be found. Should you not know the exact name of the server, click the [...] button to open the *Select Servers* dialog box. Select the server from the list of the available

database servers, then click the *Add >>* button. Click the *OK* button to close the dialog box, and to return to the *Open Database* dialog box.

Select the database management system in the *Database > Database system* list.

Using the database connection file

Click the *Options* button in the *Open Database* dialog box.

If you want to adopt all of the information that is necessary for logging-on to a database from a text file, select the *Use database connection file* option. That will save you a great deal of writing.

Close the *Options* dialog box with *OK*.

The *Open Database* dialog box now contains the *Database connection file* group.

Select the database connection file for the database you want to open, in the *Database connection file > File name* list. By default, the database connection file that was last selected will already have been preselected in the *File name* field.

Click the [...] button if you want to open a database connection file that is not yet present in the *File name* list.

You will see a description of the database you have selected in the *Database connection file > Description* field. This short description must be entered by your database administrator when the database connection file is set up. Should no short description have been saved when the database connection file was set up, this field will be empty.

User's details

With which authentication you need to log onto the database (either SQL or Windows authentication) will have been determined when the database was set up.

Windows authentication

If you want to use the log-on data with which you are logged on to the MS-Windows operating system also for logging-on to the database, select the *Windows Authentication* entry in the *User > Authentication* list. In this case, you will neither need to enter a password nor a user name.

If the database requires the *Windows authentication* for the log on, you will have to be registered with your company's LAN (Local Area Network).

SQL authentication

Select the *SQL Authentication* entry in the *User > Authentication* list if you want to use database specific log-on data. In this case, you will have to enter both your password and your user name every time you log on. You obtain your password and user name from the database administrator.

Using a database as a standard database

To turn the current database into a standard database, select the *Use as standard database* check box.

The standard database will normally be automatically opened when you start your software. Use the *Options > Database > Standard Database* dialog box if you want to change the way the standard database behaves when your software starts.

The settings for the standard database are user dependent. For this reason, another user can have defined another database as a standard database.

5621

3.2. Inserting data into a database

You can insert two different types of data into a database.



Structuring records

For the better structuring of a database, there are structuring record types, that are indicated within the database by a folder icon. A record that belongs to this record type isn't referenced to a document, but instead contains only the information that is entered in the database fields. Use these records as a database folder. Create, e.g., a structuring record "Experiment" with all of the information that describes the experiment, then insert all of the images and reports that belong to this experiment, underneath this record.

Documents

Documents are, for example, images, workbooks or diagrams.

You can of course insert all of the documents that you create with your software, or load into it, into a database.

As well as that, you can, however, also insert any other files that have already been saved on a data medium. That applies also to document types that are not supported by your software, e.g., MS-Word documents with the file extension DOC.

3.2.1. Overview - Inserting data into a database

There are several ways in which you can insert data into a database. Use the commands in the *Database* menu, or from various context menus, or click the buttons in the *Database* tool window. You can also insert documents by Drag&Drop. All of these possibilities will be described in the text that follows.

Menu commands

Use the *Database > Insert* menu commands. The following commands are available:

- Geöffnete Dokumente einfügen
- Alle geöffneten Dokumente einfügen
- Dateien einfügen
- Strukturierenden Datensatz einfügen

Buttons

Use one of the buttons located on the *Database* tool window's upper toolbar.

Context menu commands

Use the *Insert* menu in the context menu. You open this context menu by right clicking on one of the following views in the *Database* tool window.

- Strukturansicht
- Galerieansicht
- Tabellenansicht

You can also insert a single document, for example, an image, directly out of the document group into the database. Right click the document's title in the document bar to open a context menu. The context menu will contain the *Insert into Database* command.

Drag&Drop

Select in MS-Windows Explorer, the files that you want to insert.

Drag the selected files from MS-Windows Explorer either onto the database icon, or onto another record in the Tree View. The files are inserted below the record.

You can also drag the files onto the database gallery or the Table View. To do so, first select the record in the database, into which you want to insert the document. Then drag the document from MS-Windows Explorer onto the database gallery or the Table View.

Inserting images automatically into a database

You can have images automatically inserted into a database when they have been acquired. You can find more information on this topic [here](#).

3.2.2. Notes on how to insert data into a database

When you insert records into a database, please pay attention to the points listed below:

The database is structured hierarchically

You cannot insert records into every database level. When your database is based on the database template provided, you won't be able to insert any data below images. When you select an image, the data will be automatically inserted on the same hierarchy level on which the image lies.

Inserting documents that have been changed

When you load a document from a database into your software, and edit it there, when you close the document in your software, a dialog box containing numerous possibilities, will open. You can replace the original document in the database, insert the processed document as a new record, or save it as a file in any directory you want.

You can also change this behavior by altering the database's settings. Open the *Database > Settings > General > Other* dialog box. Here, clear the *Fields and records > Allow replacing of documents* check box.

Now, the documents in the database can't be overwritten. If you want to insert a new version of a document into the database, you will have to insert the new document into the database under a new name, then delete the old document.

Moving images to another database folder

Should you once have inserted documents in the wrong place, you can retroactively move them to the correct database folder by using the *Cut* and *Paste* context menu commands.

00393 13102020

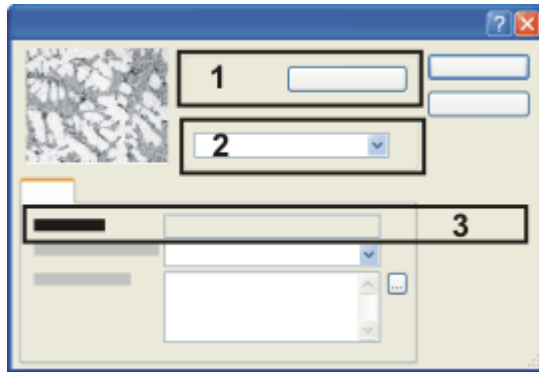
3.2.3. Inserting data into a database

Inserting documents into a database

You can insert all of the documents that you create with your software, or load into it into a database. As well as that, you can also insert any other files that have already been saved on a data storage medium.

In these step-by-step instructions, you insert documents that have currently been opened in your software.

1. Open the database with which you want to work.
2. Load documents that you want to insert into the current database, into your software. You can also create new documents. It doesn't matter whether the documents have already been saved as a file or not.
Switch to e.g., the *Acquisition* layout, and acquire an image, or load an image from your hard disk.
3. First, select the record in the database into which you want to insert the document.
 - Please note that you cannot insert documents at every hierarchical database level.
 - When your database is based on the database template provided, you won't be able to insert any documents below images. When you select an image, the documents will be automatically inserted on the same hierarchy level on which the image lies.
4. Use the *Database > Insert > Insert Open Documents* command.
 - The *Insert Open Documents* dialog box opens. This dialog box lists all documents that have been opened. The icon in front of the document shows you what type of document it is.
5. In the *Insert Open Documents* dialog box, you have to decide whether you want to insert all of the opened documents into the database, or only some of them. Select the check box in front of each of the documents you want to insert into the database.
6. Click the *OK* button.
 - The *Insert <document type>* dialog box opens for the first document you want to insert. The dialog box's appearance depends on which type of document you insert into the database.



Enter all information into the insertion dialog that you want to have saved along with the record.

7. Check whether the document is going to be inserted into the correct record. In the *Insert into* (1) group, the record into which the document is to be inserted will be displayed.
Should you want to correct the higher level record, click the *Browse* button.
 - The *Insert Into* dialog box opens. The *Destination* field gives you access to the database's Tree View. Browse to the correct record, then confirm this with *OK*.
8. In the *Permission Set* (2) group, define who may see the document. For example, if you select the *Everyone* entry, you will allow every user who can log onto the database to view the image.
9. Enter the required information on the document in the database fields. Database fields that are displayed in bold letters must be filled out. In some database fields, e.g., the one for the record name, you'll be supplied with suggestions.

Case 1: Inserting information for every single document

10. Click the *Insert* button to save the current document together with the information displayed in the database.
 - The *Insert <document type>* dialog box for the next document opens.
11. Fill out the *Insert <document type>* dialog box for all of the documents.

Case 2: Inserting the same information for all documents

10. If you want to insert the same information for all of the documents, click the *Insert All* button.
 - All of the documents that have been selected are saved in the database one after the other. The *Insert <Document Type>* dialog box won't open again.
 - The database fields are filled out in the same way for all of the selected documents. The information will be adopted from the first record.

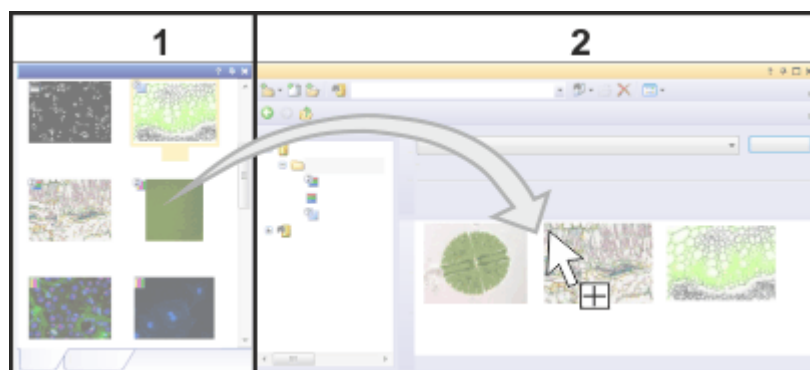
When the documents have been inserted

- All of the documents that have been inserted have now been saved in the database.
- The documents you have inserted will be displayed in the database window. This process can, especially where large images are concerned, take some time. The process is in progress as long as the mouse pointer remains in the form of an hourglass.

- When an open document has been inserted into the database, it will still remain open in the document group. Should you no longer need the image, close it without saving it again.
- Should the inserted documents have already been saved as files: During the insertion a copy of the file will be saved in the database. The files that have already been saved won't be changed during the insertion in a database.

Inserting documents by Drag&Drop into a database


1. Load or create documents that you want to insert into the current database, in your software.
2. Make the *Database* and *Documents* tool windows appear. To do so, use the *View > Tool Windows* command.
3. Position the *Database* and *Documents* tool windows in such a way that both tool windows can be seen in your user interface at the same time.
4. In the *Documents* tool window, select the documents you want to insert into the database.
5. Drag the selected documents from the *Documents* tool window onto the folder in the database window into which you want to insert them.
You can also drag the documents directly onto the database icon. In this case, the documents will be inserted on the database's top hierarchy level.



By holding down the left mouse button, you can directly drag images which are loaded in your software from the *Gallery* (1) tool window to the *Database* (2) tool window.

Note: You can also insert documents into a database from the *Gallery* tool windows or directly from MS-Windows Explorer using Drag&Drop.

Inserting new database folders

1. Make sure that in the tree view no record in the *Search Results* database folder has been selected, as otherwise the command will be inactive.
2.  Click the *Insert Record* button. You can find this button on the *Database* tool window's upper toolbar.
 - Should several structuring record types have been defined in your database, a selection menu will open. It contains the structuring record types that have been defined for this database.

3. Select the *Folder* entry.
 - The *Insert Folder* dialog box opens. The dialog box contains input fields for a variety of database fields that relate to the database folder.
 - The database fields that are to be filled out in the *Insert Folder* dialog box, have been specified by the database's administrator.
 - Some fields have to be filled out before you can set up the record. Those are the mandatory fields that are displayed in extra bold type. Other fields that belong to this record can also be filled out or altered later on, in the [Record Details View](#).
 - Depending on the type of information you have to enter, you may be offered a picklist, or a calendar field in which you can select a date.
4. Enter the name for the database folder in the *Folder name* field.
5. Fill out all input fields, then click the *Insert* button to set up the database folder.
 - A new database folder will be set up. The database folder will be displayed in the [Tree View](#).
 - Subsequently, insert the documents into this database folder.


Having images automatically inserted into a database when they have been acquired

You can have images you have acquired with your software automatically inserted into a database.



1. Open the *Acquisition Settings* dialog box.
To open this dialog box, click the *Acquisition Settings* button. You can find this button, e.g., on the *Camera Control* toolbar.
2. Select the *Saving* entry in the tree structure.
3. Select the acquisition process for which you want to make the settings.
 - Select, e.g., the *Snapshot* entry, when you want to have every image you acquire, automatically saved in the database.
4. In the *Automatic save* group, select the entry *Database* in the *Destination* list. Now, the image will be automatically saved in a database when it has been acquired.
5. In the *Database > Name* list, select the database in which you want the images to be saved.
 - You can either choose a specific database, or always have the image saved in the database that is open when the acquisition is made.
6. In the *Database* group, specify where the images are to be inserted in the database, and who is allowed to view the images.
7. Close the *Acquisition Settings* dialog box with *OK*.
 - From now on, all of the acquired individual images will be automatically saved in a database.

3.3. Searching for records

You can search for data in your database at any time you want to. To do so, use the *Database > Define Search* command or click the *Define Search*  button. You can find this button on the top toolbar in the database window.

When you search through a database, please pay attention to the following points.

- The database search will always be conducted through the whole database.
- You will find the results of a database search in the [Tree View](#). There, you will find the *Search Results* folder on the same hierarchy level as the database.
- You can make use of the results of different database searches.

Different search possibilities

There are always two ways to search for records.

- Searching directly for a record
If you only need a search definition once, specify the search condition with the *Database > Define Search* command and apply it directly.
- Searching in the Search View
If you want to use the same search definition repeatedly, save the search definition and used these saved search definition in the Search View.

Before you start your search

Before you start a search it's advisable to update the view. By updating you will make sure that all of the records will be found that at the time of the search are located in the database. If you don't update the view, it can occur, that records that another user on another PC, inserted into the database, shortly before the search began, won't be found.

To update the view, use the *Database > Views > Update Views* command.

Searching directly for a record

1. Use the *Database > Define Search* command.
 - The *Define Search* dialog box opens. You define the search conditions here.
2. In the *Search for* group, you can limit the search to a few record types. You can, e.g., only search for images.
3. Define one or more search conditions in the *Conditions* group.
4. Click the *Search* button to start the database search.
 - The *Define Search* dialog box closes.
 - In the Tree View, your software will automatically switch to the *Search Results > Recent Search Results* folder. The records that have been found will be displayed in the Gallery or Table View.
 - Should a *Recent Search Results* folder with the results of an earlier database search already exist, the contents of this folder will be overwritten.

Exiting the Search Results View

1. Select a record in the database gallery.
2. Click your right mouse button and select the *Go To Record* command in the context menu.
 - In the Tree View, your software will then automatically switch to the database folder to which the selected record belongs.

Searching in the Search View

The *Database* tool window is divided into several areas. In each of these areas, a special database view is displayed. In the Search View you can select predefined search definitions with which you can carry out a database search.


In the step-by-step instructions that follow, it will be assumed that search definitions that have been saved already exist.



1. Make sure that the Search View is on display.
To do so, click the *Open Database Views Menu* button to open a list of all available database views. You can find this button on the *Database* tool window's upper toolbar. The icon in front of the *Search View* command, must appear clicked. You can recognize this status by the icon's background color.
2. Select the search definition you want from the list next to the *Search* button.
 - When you open a database that has been set up with the template, which is by default provided, numerous predefined search definitions will already be available. For instance, select the search definition *Find All Images* to search for all of the images contained in the database.
 - In the Search View, the search conditions will then appear.
3. Should the search definition you've chosen contain variable search conditions: Make the necessary entries for the variable search conditions. These are, as a rule, different for every database search.
 - The way you have to make the entries can also vary. You may be offered a picklist, or a calendar field will appear in which you can select a date. Should you be searching for a note, you may in certain cases have to enter the note you're looking for (or a part of it) manually.
4. Click the *Search* button.
 - The search will be carried out. The records that have been found will be displayed, e.g., in the database gallery.

Saving a search definition for the database search

1. Use the *Database > Define Search* command.
 - The *Define Search* dialog box opens.
2. Specify in the *Search for* group which type of record you want to look for. For example, select only the *Image* check box to search it only for images.
3. Define the first search condition in the first line of the *Conditions* group. Your search condition can, in this case, also contain a variable value. To do so, select the *(Variable)* entry from the *Value* list.

- As soon as you have completely defined the first search condition, an additional line appears for an additional search condition.
4. If necessary, define an additional search condition in the second line. In this case you will have to specify the logical link between the two search conditions. To do this, select one of the logical operators AND or OR in the line's first field.
 - With the logical operator AND, both of the search conditions must be fulfilled simultaneously, in order for a record to be found with this database search. With the logical operator OR, only one of the two search conditions has to be fulfilled in order for a record to be found.
 5.  Save the search definition. To do so, click the *Save Search Definition* button in the *Define Search* dialog box.
 - The *Save Search Definition* dialog box opens.
 6. Give it a descriptive name, so that you and other users will be able to easily recognize the search definition.
 7. Close the open dialog boxes.
 - For every search definition that has been saved, an individual entry will be automatically set up in the *Search Results* folder. In the Tree View, you will find the *Search Results* folder on the same hierarchy level as the database.
 - The database search will be carried out and the records that have been found will be displayed in the Gallery View.
 - You can now select the search definition in the Search View.

00312

3.4. Loading documents from a database

There are several ways in which you can load data from a database into your software:

- Use the *Database > Load Documents* command.
- Drag one or more documents, e.g., from the Gallery View by Drag&Drop into the document group.
- Double click on a document in the database to load the document into the document group.

This behavior depends on the current settings in the *Tools > Options > Database > General* dialog box.

Loading several documents from a database

This set of step-by-step instructions is only one example. There are several ways in which you can load documents.

You will find notes on this, e.g., in the descriptions of the various database views.

1. Make sure that both the [Tree View](#) and the [Gallery View](#) are on display.
2. In the Tree View, select the record that contains the documents you want to load.
 - In the Gallery View, you will now see all of the documents that are to be found under the selected record. Images will be shown as thumbnails, other

document types will be shown as icons.

- You can also load documents which are the results of a search. When, for example, you want to load all of the images that were acquired with a specific microscope, define a search definition using this microscope's name. The images found will be displayed in the Gallery View. There, you can select the images you want.
3. Select the thumbnails or the icons for the required documents, in the Gallery View. In the Gallery View, the standard MS-Windows conventions for Multiple Selection are valid.



4. Click the *Load Documents* button. You can find this button on the *Database* tool window's upper toolbar.
 - When your software can open a document, it will be displayed in the document group.
 - If your software can't open the document, the appropriate application program is opened and the selected document is loaded into this program. Should the appropriate application program not have been installed on your PC, you will receive a message.

00313

3.5. Processing the documents from a database

Changing and adding to entries in database fields

When you set up a record, you already have to make entries in the mandatory fields. You can supplement other entries later on.



1. Make sure that the *Record Details View* is on display. Click the *Open Database Views Menu* button to open a list of all available database views. Select the *Records Details View* entry.
2. In the *Tree View*, *Table View* or *Gallery View*, select the record to which you want to add information or change the existing information.
 - The Record Details View shows you the information that has already been collected for this record. If all of the fields that you want to edit aren't shown there, you can customize this view.
 - In the Record Details View, mandatory fields will be displayed in extra bold type. You can change the contents of these fields, but the fields must not remain empty. Fields whose content may not be changed (e.g., [Creation Time]) will be displayed with a gray background.
3. Add to or change the entries relating to the record. Which fields you can edit, and which you can't, depends on your database's structure.
 - As soon as you have changed an entry in a database field, the two buttons in the Record Details View's toolbar *Confirm Changes* and *Abort Changes* will become active.



4. Click the *Confirm Changes* button to have your changes adopted. Click the *Abort Changes* button to abort the changes.

- The record will be changed.

In any case, you must click on one of the buttons to confirm or discard your selection, since your software will wait for input here.

Processing the documents from a database

You can, at any time, load a document that has been saved in a database, then insert it back into the database.

1. For example, load an image from a database. To do so, e.g., double click on its thumbnail in the Gallery View.
 - The image will now be shown in the document group.
2. Process the image in your software. Your software offers you numerous possibilities for doing this. Here are a few examples:
 - For example, use the commands in the *Process* menu to optimize the image contrast.
 - Use the buttons in the *Drawing* toolbar to label the image.
 - Use the commands in the *Measure* menu to measure objects on the image.
3. When the processing is finished, close the image in the document group. To do this, use e.g. the [Ctrl + W] shortcut.
 - A dialog box offering several possibilities opens. You can replace the original document in the database, insert the processed document as a new record, or save it as a file in any directory you want.
4. From the dialog box's list, select, e.g., the *Paste* entry, then confirm this with *OK*.
 - The altered document will then be inserted into the database, and will replace the original document. When this is done, the original document will be overwritten.
 - The information from the database fields will be adopted from the original document without any inquiry being made.

00065

3.6. Moving documents within a database

Moving documents within the database hierarchy

Should you have inadvertently inserted documents into a false database folder, you can move them from there to the correct folder.

Moving documents by using commands from the context menu

1. Select the documents you require in the [Tree View](#), Table View or [Gallery View](#).
 - In the Gallery View, you can select several documents simultaneously. To do so, keep the [Ctrl] key pressed while you select the documents.
2. Click the right mouse button to open a context menu. From the context menu, select the *Cut* command.

3. Select the record into which you want to insert the document. You have to always select the record that is located one hierarchy level higher.
4. Click the right mouse button to open a context menu. Select the *Paste* command from the context menu.
 - The document is moved.

Moving documents by Drag&Drop


Alternatively, you can also move a document by Drag&Drop.

1. Select the documents you require, in the Tree View or in the Table View or Gallery View.
2. While keeping your left mouse button depressed, drag the document onto the record into which you want to insert it. You can also do this by dragging the document from the Gallery View to the Tree View.
 - The document is moved.

Moving documents into another document directory

At the end of the year, all of the records that were inserted into the database during the year 2010, are to be moved to a document directory of their own.

Defining a suitable search definition


1. Use the *Database > Define Search* command.
 - The *Define Search* dialog box opens.
2. Click the *Select All* button to find all of the records, irrespective of their record type.
3. Define the following search condition in the *Conditions* group.
 [Insertion date] >= '01.01.2010' AND [Insertion date] < '01.01.2011'
 - Now, all of the records that were inserted into the database during the year 2010 will be found.
-  4. Save the search definition. To do so, click the *Save Search Definition* button in the *Define Search* dialog box.
 - The *Save Search Definition* dialog box opens.
5. Enter "2010" in the *Name* field.
6. Close the open dialog boxes.

Selecting a search definition

7. Use the *Database > Administration > Move Files* command.
 - The *Move Files* dialog box opens.
8. Select the *From saved query '2010'* in the *Files to be moved'* list.
 - In the *Description* field, you'll now see the search condition. Check whether the search condition is correct.

Selecting a search definition

9. Click the *Settings* button.
10. Select the *Document Storage Type > File System* entry in the tree view.

11.  Click the *New Volume* button to integrate a new document directory into the database.
 - The *New Volume* dialog box opens.
12. Enter "2010" in the *Description* field.
13. Set up the path name for the document directory.
When you do this, please note that the document directory has to be available to all users when you want to continue to work with the database in the way you're used to.
14. Select the *Archive* entry in the *Media Type* list. By doing this, you indicate that the new document directory "2010" has been finalized. No additional records can then be inserted into this document directory anymore.
15. Close all open dialog boxes with *OK*.
 - Your software will then move all files belonging to the selected records, into the document directory "2010".
 - When the movement of these files has been successfully completed, a message appears.
 - Even when the records have been moved, you can still work with these records as usual within the database. The prerequisite for this is, of course, that the new document directory is available to all users.
 - You can now, for example, copy this directory onto a DVD.

00090

3.7. Importing and exporting data

Exporting a database's structure

It can make sense to export a database's structure in order to use the database export file (DBE file) that has been created as a template for a new database that is to have the same structure.

1. Open the database you want to export.
2. Use the *Database > Import/Export > Export Database* command.
 - The *Export Database* dialog box opens.
3. Assign the DBE file a name.
4. Specify the location at which the DBE file is to be saved.
5. In the *Options* group, select which data are to be exported from the database. Select, e.g., the *Export structure only (database template)* option when you want to create a template for a new database.
6. Click the *OK* button to start the export.
 - The *Logging* tool window will automatically appear. Here, you will see which data are currently being exported.
 - When the export has been completed, a message box will appear. Additionally, you'll see a corresponding notification at the end of the list.

- With that, the export has been completed. You can then carry on working with the current database as usual.
7. Use the *Database > Import/Export > Import Database* command when you want to set up a new database on the basis of the exported DBE file.

Importing data into a new database

You can import data from another database into your database. The prerequisite for this is that both databases have the same database structure.

1. Use the *Database > Import/Export > Import Database* command.
 - The dialog box opens.
2. Click the *Browse* button and navigate to the directory in which the DBE file (Database export file) is located.
3. Select the data you want to import.
 - Select e.g., the *Export structure, users, and structuring records* option. Now, the complete contents of the DBE file will be imported (that means, also documents, should the DBE file contain documents).
4. Click the *OK* button to start the import.
 - The *Logging* tool window will automatically appear. Here, you will see which data are currently being imported. The importing process can, when documents are also imported, take some time. Therefore, keep an eye on the information in this tool window. When the importing process has been completed, you will see a corresponding message at the end of the list.
 - You can then begin to work with this database.

Exporting documents from a database

You can export individual documents from a database. In this way, you can, e.g., make images available to users who have no access to the database. When you export a document, you make a copy of it. This means that the original documents in the database will be retained.

1. Select the records you want to export.
2. Use the *Database > Import/Export > Export Documents* command.
 - The *Export Documents* dialog box opens.
 - It is essential that you keep an eye on the display at the bottom of the dialog box. It shows you the amount of data that is going to be exported.
3. Make the required settings in this dialog box.
4. Select the *Reproduce database structure in file system* check box to maintain the record's hierarchical structure. A directory will be set up on the hard disk for every database folder in which there are files. This directory's name is also the name of the record.
5. Click the [...] button next to the *Destination path* field to choose the directory into which the data you export is to be saved.
6. Click the *OK* button to start the export.

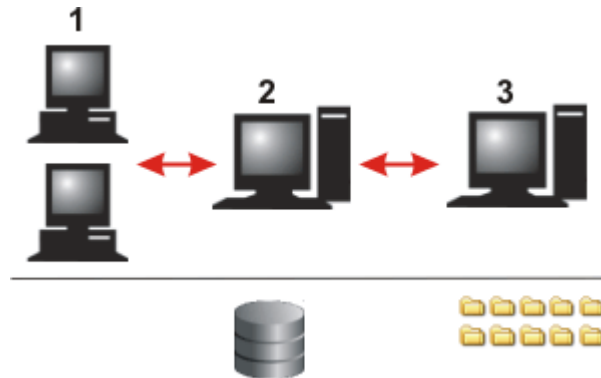
- The export begins. The documents in the database will be retained.

00320

4. Administrating the database

4.1. File storage in a database

When you set up a new database, you specify where the database files and the images, (and other documents) are to be saved. The data can be distributed as shown in the illustration.



(1) Database clients

The database clients are all PCs on which your software and an SQL client have been installed. Your software offers (among many other functions), the user interface that enables you to communicate with the database server.

For viewing or editing, the requested data will be transferred to the database client. This makes it possible for numerous database clients to have access to the database at the same time.

(2) Database server

On the database server, the database management system (DBMS) has been installed.

On the database server lies, first and foremost, the actual database file. When you, e.g., insert an image into the database, in doing so, you create a new record of the "Image" type in the database. This new record will then be saved and managed in the database. The database assigns this record an unambiguous name and saves all of the corresponding information belonging to it (e.g., the insertion date, the file size or a comment on the record). The management of these metadata by the database enables the user to search the database for records that meet the search criteria he has specified.

Note: Images (or other documents) will not be saved within the database. Otherwise the database file would become much too large. The database file contains only the reference to the place where the image has been saved.

(3) File Server

The images and other documents are located in special file directories.

Please note: The PC on which a database's documents are located must always be accessible. Should this not be the case, you will receive an error message when you try to load a document from the database.

The documents are usually located on a separate PC, the so called File Server. When you connect with the File Server you can view the document directory in MS-Windows Explorer.

You can also distribute your documents over different file servers. Use this possibility, for example, to increase the speed of data transfer when users access the database from different locations.

Use the *Settings > Document Storage Type > File System* dialog box to manage your database's document directories.

Please note: Always open all documents that have been saved in the database, via the database, and not via the MS-Windows Explorer! Also the deleting or renaming of documents that are located in the document directory must not be done via MS-Windows Explorer, since in this case the database will not become aware of these changes.

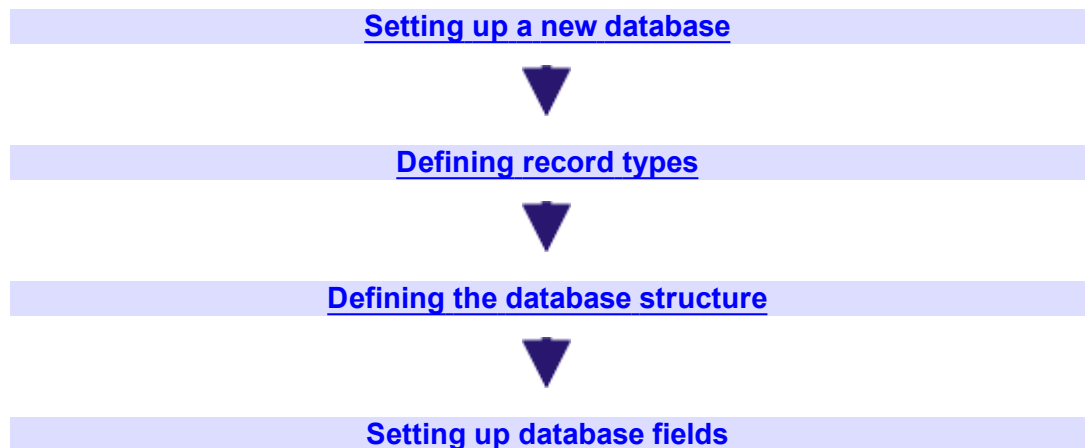
00328

4.2. Setting up a new database

Only the database administrator can set up a database.

Overview of the process flow when a database is set up

The following steps have to be taken when a new database is set up.



Setting up a new database

1. Select the *Database > New* command.
 - The *New Database* dialog box opens. This dialog box works in a similar

manner to a wizard. It guides you step-by-step through the setting up of a database.

Step 1: Selecting the database server

2. Specify in the *Database Server* field, on which database server the database is to be set up. If you have already set up a database on this server from your PC, you will find the required server in the picklist.
 - Alternatively, click the [...] button. The *Select Servers* dialog box opens. Here, select the server from the *Available database servers* list, then click the *Add >>* button. Click the *OK* button to close the dialog box, and to return to the *New Database* dialog box.
 - On the database server, the database file is located. The documents e.g., the images, can also be located on another PC, or even on several different PCs.
 - You can find more information on document storage in a database [here](#).
3. In the *User Authentication* group, you select the way you (and all future users) are to log on to this database.

Select the *Windows Authentication* entry. With Windows Authentication the data with which the user logs on to MS-Windows will also be used for logging on to the database.

 - Alternatively, you can also select the *SQL Authentication* entry. With the SQL Authentication the logging on data that have been defined for the Microsoft SQL Server will be used. Every user of your database must know these logging on data (they are supplied by the database administrator) and has to enter them in the *User Name* and *Password* fields to be able to open the database.
 - The first step in setting up a database has now been completed.
4. Click the *Next >* button.

Step 2: Entering the name of the database, and specifying the storage location for documents

5. Enter the name of the database in the *Database Name* field. The name must not be longer than 20 characters and must not contain any spaces or special characters. Under this name you'll find the database, in the *Open Database* dialog box.
6. If the new database is to become your standard database, select the *Use as standard database* check box. This option makes sense when you mostly work with the same database.
 - Later on you can then use the *Tools > Options > Database > Standard database* command to specify that the standard database will be automatically opened whenever you start your software.
7. Enter the directory in which the documents are to be stored. To do so, click the [...] button next to the *Document Storage Path* field, then browse to the directory you want to use.

Note: When several people are to work with the database, select a directory which is also available to other users of this database.

If you're the only user of the database, you can also choose a local directory on your own PC.

Note: To have your database with all of its documents regularly saved, make sure that both the database server, and the PC on which the documents are stored, are incorporated in an automatic data back-up process (e.g., every night).

8. When you work with several databases, enter a descriptive text for the new database, in the *Database Description* field. This text will later be displayed in the *Open Database* dialog box (if you use the *Use database connection file* connection mode).
9. Click the *Next >* button.

Step 3: Selecting a database template

10. In the *Template File Path* field, choose a database template. A database template has the file extension DBE.

A database template already contains a defined database structure. It may possibly also contain documents that you can incorporate in your database as well.

- Your software will have been supplied with a database template. During the software installation, the template is installed in the following directory:
 ..\Documents and Settings\All Users\Application Data\Olympus\OSIS\ <Name of your software>\Database\DBE
11. Select the *Create an empty database* option, if you only want to adopt the database structure from the database template.
 12. You can set up your database on the basis of a template that was provided, then modify the structure to suit your requirements.
 13. Click the *Next >* button.
 - The wizard's next dialog box shows you all of the options that you have set up for the new database.

Step 4: Checking the options for the new database

14. Check the options for the new database.
 If you want to correct a setting, click the underlined terms. For example, click the term "Database Name", if you want to change the name you've entered.
 - Should you want to change an option, your software will jump back to the *New Database* wizard's corresponding dialog box.
16. Click the *Finish* button to have the database set up.
 - The *Logging* tool window will automatically appear. In it you can follow the setting up of the new data.
 - When a database is set up, a database export file (DBE file) will be automatically created. You can use this DBE file as a template for your next database.
 - When a database is set up, a database connection file (DBC file) will be automatically created too. The database connection file makes it possible for you to quickly log on to this database in the future. You can find the DBC file in the following directory:
 ...\Documents and Settings\All Users\Application Data\Olympus\OSIS\

<Name of the software>

- The database will be set up and opened. You can see the database in the *Database* tool window.

17. You now have to configure the new database.

Defining record types

The database is structured hierarchically. Structuring Records are records on the highest hierarchy level, they are displayed in the structure view with a folder icon. Structuring records aren't referenced to documents, they contain only the information that has been entered in database fields.

When your database is based on the provided database template, it will contain just one structured record type, with the name "Folder".

Example: You want to always assign the data in your database to a specific experiment. Create the new record type, "Experiment".

1. Use the *Database > Administration > Define Record Types* command.
 - When you define record types, you change the database structure. That is only possible when the database has been opened in the exclusive mode. When the database hasn't been opened in the exclusive mode, a message box, in which you can activate the exclusive mode, will open.
 - To the left of the *Define Record Types* dialog box, you can find a list of all record types that have been defined in the current database.
 - One or more field tables have been assigned to each record type. A field table is a group of database fields that characterize the record type in detail.

Setting up a new record type.



2. Click the *New Record Type* button.
 - A new entry will be attached to the list of record types.
3. Enter the name of the new record type, in this example, "Experiment", and confirm this with the [Enter] key.
 - To the new record type "Experiment" the field tables, "Record Fields" and "Folder Fields" will be automatically assigned. The "Record Fields" field table contains general database fields, that are valid, irregardless of the record type, for every record. To these records belong, the record name, the setting up time (i.e. the time a record was inserted into the database), and also a field for comments.

Defining database fields for the new database

4. Click the *Fields* button.
 - The *Define Fields* dialog box lists, on the left, all of the field tables that have been defined in the current database. You'll also find the new field table "Experiment Fields" there.
5. Select the "Experiment Fields" field table.
 - The "Experiment Fields" field table contains only one single database field, the "Experiment Name" database field:

6. Double click the "Experiment Name" database field. Set up all of the required options for this database field, in the *Edit Field* dialog box. You can, e.g. define a picklist.
7. Define additional database fields in the "Experiment Fields" field table, e.g., [Sample], [Client].
 - You can find step-by-step instructions on how to define new fields [here](#).
8. Close all open dialog boxes.

Assigning user groups

- The *Assign Configuration to Users* dialog box opens.
9. Decide whether all of the database's users are going to be allowed to use the new record.

Since in this case, every record is to be assigned to an experiment, select the user *Everyone* then close the dialog box with *OK*.

 - Your database now contains the structuring record type "Experiment".
 - In the *Database > Insert* menu, you'll now find the *Experiment* command. Use this command to set up a new database folder for the data of an experiment.

Using a new record type

10. Use the *Database > Insert > Experiment* command
 - The insertion dialog now contains all of the database fields that you have defined for the "Experiment Fields" field table.
 - As your next step, you should change the other database's views. To do so, use the *Database > Views > Customize Views* command. Then specify for each record type, and for each view, which fields are to be displayed.
 - You can find a step-by-step instruction for doing this [here](#).

Defining the database structure


When you define the database structure, you specify which data you can insert under specific record types.

Example: Define a database structure with precisely two hierarchy levels. Prerequisite for this is, that you have defined two structuring record types, e.g., "Project" (1) and "Operator" (2). In this case, you can insert all of the data on a project into the project folder. Each operator must, within the project folder, set up his own folder, into which he inserts his project data.



1. Open the database in the exclusive mode.
2. Use the *Database > Administration > Define Database Structure* command.
 - The *Define Database Structure* dialog box will appear.

You always make the definition of the database structure in the right-hand half of the dialog box. The left-hand side shows the current database structure, you can't change anything there.
3. Specify for every record type, which record types are allowed to be underneath it.

 First, select the *Database* entry from the *Record type* list. This entry stands for the topmost hierarchy level in every database.
4. In the *Accept as child record* list, select which records are allowed to be underneath the topmost hierarchy level.

In this example, only the structuring record type "Project" is to be found underneath the database icon (1).
To do this, select the check box in front of the record type "Project", and clear all of the others.
5. Now select the next record type in the *Record type* list. In this case, select the record type "Project".


Then specify again in the *Accept as child records* group, which record type is allowed to be underneath it, and clear all of the others. In this case, only the record type "Operator" (2) is allowed.
6. Now select the next record type in the *Record type* list. In this case, select the record type "Operator".

In the *Accept as child records* group, select the check boxes *Chart, File, Image* and *Workbook*, and clear all the others.
By doing this, you specify that documents can be inserted underneath a record of the "Operator" record type.
7. Check whether the database hierarchy in the left-hand area of the dialog box is correct.
8. Close the *Define Database Structure* dialog box with *OK*.
 - You will be asked if you want to leave the exclusive mode. You can answer this question with yes, since the definition of the database has been completed.
9. Check the database structure. To do this, insert an example of each of the record types you have defined into the database.
 - When you are satisfied with the database structure, you can begin working with this database. Alternatively, you can now, or at a later point in time, change the database structure.
 - Consider whether you want to export this database structure as a template, to be able to use it again later on. To do so, use the *Database > Import/Export > Export Database* command.

Setting up database fields

You can define which ever database fields you want that the database user can fill out, or must fill out, when he sets up a record in the database.

Example: You want to make it possible to enter the laboratory name as well, when an image is inserted. To do so, set up the database field [Laboratory No].

1. Open the database in the exclusive mode.
2. Use the *Database > Administration > Define Fields* command.
 - The *Define Fields* dialog box opens. There, you will find all of the database fields that are already defined in your database. Every database field it contains is allocated to a group, and a group of database fields is called a "field table".
3. From the *Field tables* list, located in the *Define Fields* dialog box, select the field table to which, according to its contents, the new database field belongs. In this example, you're only interested in images. Therefore, select the *Image Fields* entry. When you want to enter the laboratory designation for all of the records, you'll have to select the *Record Fields* field table.
 - In the *Fields* list, all of the database fields will then be listed that belong to the *Image Fields* field table. This field table contains database fields that are especially related to images.
-  4. Click the *New Field* button. You'll find this button above the table with the database fields.
 - The *New Field* dialog box opens.
5. In the *Name* field, enter a name for the new database field. Enter, for example *Laboratory No* if you want the laboratory name to be entered and saved for every image.
6. In the *Data type* list, select the *Text* entry for the new database field.
7. Enter the maximum number of characters that can be used in the database field, in the *Size* field.
For example, enter 10 when your laboratory name is to be made up of a maximum of ten characters.
8. In the *Default* group, you determine how the field is to behave when a new record is inserted.
For example, select the first option and leave the field empty to define no default value. The database field will then be empty every time you make an insertion, and will have to be filled out.
9. Clear the *Input required* check box.
This will mean that the field can also remain empty when a record is inserted. When you select this check box, no image can be inserted into the database, unless the laboratory designation has been entered.
10. Select the *Editable* check box. Otherwise you will have to define a picklist.
11. Click the *OK* button to adopt your settings and to return to the *Define Fields* dialog box.
 - The new database field will now be shown in the *Fields* list, under the *Image Fields* field table's already defined database fields.
12. Close the *Define Fields* dialog box with *OK*.
 - You will then receive the query whether you want to make the changed database views available to all of the database users, or not.

13. Confirm the message with *Yes*.
 - The *Assign Configuration to Users* dialog box opens. When all of the database's users are to be able to view the new database field in the insertion dialog, select the check box in front of the *Everybody* entry, then confirm this with *OK*.
14. Insert an image into the database.
 - The new database field will appear in the Insertion dialog box.
 - As your next step, you should change the other database's views. To do so, use the *Database > Views > Customize Views* command. Then specify for each record type, and for each view, whether the new database field is to be displayed or not. You can make the database field appear, e.g., in the Record Details View, to be able to immediately see the operator for every record.
 - You can find a step-by-step instruction for doing this [here](#).

00097

4.3. Changing the database view

The *Database* tool window is divided into several areas. In each of these areas, a special database view is displayed. In the following, you can find a description of the procedure for changing a database view.

When you change a database view, these settings are only valid for you. With other users, the database views will not be changed.

Changing the database view

1. Use the *Database > Views > Customize Views* command.
 - The *Customize Views* dialog box opens. A detailed explanation of this dialog box can be found [here](#).
2. Select the database view and the record type you want to change, in the *Selection of views and record types* group.
3. Make the required changes. You have the possibilities that are given below. Not every possibility is available for every database view.
 - Adding additional database fields to the database view
 - Hiding database fields that are present in a database view
 - Changing the order in which the database fields are displayed
 - Grouping database fields
 - Deleting a group
 - Changing the group's name
4. To adopt your changes, click the *OK* button.
 - The changed database view will be displayed.

Adding additional database fields to the database view

1. When the *Selected fields* list contains several groups: First, select the group to which the database field is to be added.



- In the dialog box, a group is indicated by a directory icon (1).
In the example shown, two groups, each with three database fields, are on display in the database view that has been chosen (2).
2. In the *Available fields* group, specify how the database fields are to be displayed in the *Customize Views* dialog box.



- If your database doesn't have too many fields, click the *Flat View* button to have all of the database fields listed, one under the other.
3. Select one or several database fields in the *Available fields* list. The standard MS-Windows conventions for multiple selection apply.
 - The *Select >>* button will become active.
 4. Click the *Select >>* button.
 - The database fields you've selected are added to the bottom of the *Selected fields* list.
 5. Should you want to, you can move the database fields you've added, by Drag&Drop, to another position within the group.

Hiding database fields that are present in a database view

1. Select the database field in the *Selected fields* list.
2. Click the *<< Remove* button.
 - The database field will be moved into the *Available fields* list. From then on, it won't appear in the selected database view.
 - The database field will only be removed from that view. The database field, and all of the entries in this database field, will be retained.

Changing the order in which the database fields are displayed

1. Select the database field in the *Selected fields* list.
2. Click the buttons with an arrow on it. With one mouse click you will move the database field by one line upwards or downwards.
Alternatively, you can also move the database fields by Drag&Drop.

Grouping database fields

You can decide whether all of the database fields that have been selected in a database view for a certain record type, are to be displayed in one group, or in several groups.



1. To group database fields, set up a number of folders in the *Selected fields* list. To do this, click the *New Group* button.
 - The new group is set up in the *Selected fields* list. You can enter the name directly when you set it up. However, you can change it later whenever you want to.
2. Move the required database fields into the new group by Drag&Drop.
3. Should you want to add database fields that have not yet been displayed to the group, select them in the *Available fields* list, then click the *Select* button.
4. Close the *Customize Views* dialog box with *OK*.
 - When several groups have been defined, you can, for example, minimize one group, and in this way gain more room on your screen. Distributing the database fields over several groups is especially advantageous where images are concerned, since there, a very large number of database fields may be displayed.

Deleting a group



1. Should there be database fields in the group that is to be deleted, that you want to continue to display, simply move them by Drag&Drop into another group first.
2. Then select the group, and click the *Delete Group* button.
 - All of the database fields belonging to the deleted group will be moved back into the *Available fields* list.
3. Close the *Customize Views* dialog box with *OK*.

Changing the group's name

1. To do this, click once on the group to select it.
 - The group's name will then be highlighted in blue.
2. Click on the group once more.
 - Now, the name will be editable. You will recognize this by the black frame around the group's name and by the form of the cursor.
3. Enter the new name, then press the [Enter] key.
 - The new name will be displayed.

00319

4.4. Managing user rights

When you set up a new user for a database, you can assign him one or more roles. When the user has more than one role, either one role will be assigned as default role, or, whenever he logs on to the database, he will be asked which role he wants to use.

The role he chooses determines which rights the user has to view or change data in the database. The functions that are linked to each role are predefined and cannot be changed.

Which roles are there?

Guest

Guests can read the records that have been assigned to the *Everyone* group. They can neither change the database nor manage user rights.

User

Users can by default read and update their own group's records, insert new records into this group, and delete records. They aren't allowed to view or change any other records. They can neither change the database structure nor manage user rights.

Power User

Power Users are allowed to do everything that users are allowed to do. Additionally they are allowed to change the database structure. However, as Power User they can't change user rights. The moving of records is also only possible as database administrator.

Administrator

Administrators have full access to the database. As well as that, they are allowed to manage the database's user rights.

The administrator for your database need not be the administrator for your operating system or your software.

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User Accounts

Use the *Database > Administration > User Accounts* command to define user profiles and user groups for the current database.

Prerequisites for setting up of new users or user groups

You can set up user profiles and user groups in the database. To make this possible, both of the following prerequisites must be fulfilled.

- You must have administrator rights for the database. If it was you who set up the database, you will automatically have administrator rights.
- All of the users who you want to add to the database must have already been registered with the DBMS (Database Management System, e.g., Microsoft SQL-Server 2017 Express). This is a task for the DBMS administrator. Should you be the DBMS-Administrator yourself, you can set up a new database user in the DBMS via your software. If you have installed the Microsoft SQL server together with your software, then you'll automatically be the DBMS administrator.

Which users and user groups does a new database have?

By default, a newly set up database will always have at least one user, namely the person who set it up. This user will have Administrator rights. By default, the *Everyone*

user group will also be set up. This user group can't be deleted or manually edited. The *Everyone* user group will be automatically updated when new users are added or users are deleted. This procedure will ensure that a user group that incorporates all of the database's users always exists.

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Setting up a new database user

Let's assume that your company has employed a new employee who is to have access to the database. Before this person can open the database, the database administrator must register the new employee in the database.

1. Use the *Database > Administration > User Accounts* command.
 - In a newly set up database, there will always be at least one user, namely the person who set it up. Additionally, the *Everyone* user group will always be set up.
 - In the *User Accounts* dialog box, all of the existing users and user groups will be listed.

Adding users

2. Click the *Add User* button.
 - The *Add User* dialog box opens.
3. Click the *Browse* button.
 - The *Select Database Server User* dialog box appears. Here, all of the users who are registered in the DBMS are listed. Should you be the DBMS administrator, you can also register a new user in the DBMS there. To do this, click the *New* button.
 - Should the user you want not be listed there, and you are not the DBMS administrator, apply to the DBMS administrator.
 - If you know which users are registered with the DBMS (e.g., because the DBMS administrator has given you a list), enter the user's name in the *User name* field, then click the *Next >* button.
Then continue with the "Assigning user properties" step.
4. In the *Select Database Server User* dialog box, select the required user, then click the *OK* button.
 - You will then see the *Add User* dialog box once more.
5. If you want to, enter a description of the new user in the *Add User* dialog box, then click the *Next >* button.
This description appears in the *User Accounts* dialog box, and can help you to keep track of all of the users.
 - The *User Properties* dialog box will appear. In it, you will see that the new user has been automatically assigned to the *Everyone* user group.

Assigning user properties

6. Should you want to, assign the user to additional user groups, then click the *Next >* button.
 - The next dialog box shows the possible roles the new user can be assigned. A user has to be assigned at least one role. This determines which rights he has to view certain database records.
7. Select the role the user is to be assigned. You can also assign a user several roles.
 - You can find a description of the possible roles [here](#).
8. If you assign the user more than one role, select the *Prompt for role selection at login* check box. Only in this case will the user be asked which role he is going to use when he logs on to the database.
If this check box hasn't been selected, the user can't choose his role, but always starts with the role that has been defined as the default role. Only the administrator can assign this user another default role.
9. Click the *Finish* button.
 - The *User Accounts* dialog box appears again. The new user is now shown in the user list.
10. If required, add more users to the database, or close the dialog box with *OK*.

Informing the user

11. Then inform the user.
 - Inform the newly added user that he now has the right to open this database.
 - Send him a link to the DBC file.
 - Should you have newly set up the user in the DBMS, inform him which user name and which password (including the case sensitivity used) he is to use when he logs on to the database (when it's a database with SQL authentication).
Whether the user will be able to change this password later on depends on the options offered by the DBMS. In certain cases, passwords can only be changed by the DBMS administrator.

Setting up a new database user in the database and the DBMS simultaneously

If you are yourself the DBMS administrator, and have logged on to the database with the administrator password, you can set up a new database user in the DBMS via your software.

1. Use the *Database > Administration > User Accounts* command.
2. Click the *Add User* button.
3. Click the *Browse* button.
 - The *Select Database Server User* dialog box opens. The required user does not appear in the *List of Users* field.

4. Click the *New* button.
 - The *Add New Database Server User* dialog box opens.
5. Enter the user name and assign a password for him. Select the authentication *SQL Authentication*.
6. Click the *OK* button.
 - The newly set up user will then appear in the user list.

Changing the rights of an existing user in the DBMS

Prerequisite: You are the DBMS administrator and are logged in to the currently opened database with the administrator password.

You can edit the DBMS rights of an existing database user with your software. You can permit a user to set up new databases and/or to define new users in the DBMS. These rights apply for the DBMS and are not effected by which database is currently opened or which of your software's work stations is being used.

1. Use the *Database > Administration > User Accounts* command.
 - In the *User Accounts* dialog box. all of the existing users and user groups will be listed.

Selecting a user

2. Select the user whose rights you want to change in the DBMS.
3. Click the *Properties* button.
 - The *<Name of user> Properties* dialog box opens.

Changing user rights on the database server

4. In the *<Name of user> Properties* dialog box, activate the *General* tab.
5. Click the *Server* button.
 - The *Add New Database Server User* dialog box opens.
6. Change the current user rights in the DBMS. To do this, select or clear the *Allow user to create new users* and/or the *Allow user to create new databases* check box.
7. Close all open dialog boxes with *OK*.

Setting up and editing a user group in a database

Setting up a new user group in a database

1. Use the *Database > Administration > User Accounts* command.
 - The *User Accounts* dialog box opens.
2. Click the *Add Group* button.
 - The *New User Group* dialog box opens.
3. On the *General* tab, enter the name of the user group and, if required, a description.

4. Go to the *Members* tab. Since the new user group doesn't yet have any members, click the *Add* button.
5. In the *Add User* dialog box, select a user who is to belong to the new user group, then click the *Add* button.
 - The user you've added will appear on the *Members* tab.
6. If required, click the *Add* button again, then select another user who is to belong to the new user group in the *Add User* dialog box.

Note: Since you are the database administrator, we recommend that you also add yourself to all of the user groups you set up. Only in this way can you be certain that you'll always be shown all of the records that the database contains.

7. Click the *OK* button to finalize the definition of the new user group, and to close the *User Accounts* dialog box.

Changing the members of a user group at a later point in time

1. Use the *Database > Administration > User Accounts* command.
2. Select the user group you want to change, then click the *Properties* button.
3. Switch to the *Group Membership* tab and make the required changes there.

00326

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