

OLYMPUS

Database User Manual

OLYMPUS Stream [Ver.2-5]

IMAGING ANALYSIS SOFTWARE

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1. Overview

1.1. 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 purpose. Your software's database doesn't only save images, it also saves all other types of file, for example, text files or sheets.

1.1.1. Which software version supports which database?

The database functionality is available in all versions of your software except *OLYMPUS Stream Start*. There are different software packages for the database.

Stream Document Storage

By default, the software versions *OLYMPUS Stream Basic*, *OLYMPUS Stream Essential*, and *OLYMPUS Stream Motion* include the Solution *Stream Document Storage*. *Stream Document Storage* offers some basic database functions. You can, for example, define database fields.

Workgroup Database

The *Workgroup Database* solution is available as a solution for the following software versions: *OLYMPUS Stream Basic*, *OLYMPUS Stream Essentials*, and *OLYMPUS Stream Motion*. The *Workgroup Database* solution will replace the *Stream Document Storage* database version.

The *Workgroup Database* database version supports the following database management systems:

- Microsoft SQL Server 2017 Express
- Microsoft SQL Server 2016 Express
- Microsoft SQL Server 2014 Express
- Microsoft SQL Server 2012 Express
- Microsoft SQL Server 2008 R2 Express

Enterprise Database

The *Olympus Stream Enterprise* software version contains the *Enterprise Database* database version. The *Enterprise Database* solution is also available for the software version *OLYMPUS Stream Basic* and *OLYMPUS Stream Essentials*.

The *Enterprise Database* contains more functionality in comparison to the *Workgroup Database* version.

The following database management systems are additionally supported:

- Microsoft SQL Server 2017
- Microsoft SQL Server 2016
- Microsoft SQL Server 2014
- Microsoft SQL Server 2012
- Microsoft SQL Server 2008 R2
- Oracle 12
- Oracle 11g R2

1.1.2. Database manual

Prerequisite: The database manual is only available for the Workgroup database and the Enterprise database. The *Document Storage* solution is described in the online help.

How is the structure of 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.

Topics for 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.

Topics for database administrators

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

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1.2. Overview - Database functions

Saving documents in a database

You can insert not only images, but also documents which have another file format into a database. That enables you to store all manner of data that belongs together in one location. Search and filter functions make it quick and easy to locate documents.

Images will, by default, be saved in the TIF or VSI file format. When you save an acquired image in TIF format, a lot of important image information will be automatically saved with it, for example, data concerning the camera used, the exposure time, the resolution, the time of creation, and so on. This data is automatically entered in predefined database fields. You do not need to collect this data separately.

The database's user interface

The database will be displayed in the *Database* tool window. This tool window gives you access to all of the records that are in the database.

The layout of your database user interface is based on the tasks you want to undertake with your database. In the *Database* tool window, you can choose between different main views. In every view, the tool window for another task is optimized. All database views can be configured.

File storage in your database

The database supports two different document storage types for images and other documents: *File System* and *Secure File Repository* (only for the "Database Enterprise Edition").

Where the document storage in a file system is concerned, images and other documents will be saved in special document directories. When the Secure File Repository storage type is used, images and other documents are located on a server that has been set up for this purpose as a Secure File Repository (SFR).

User rights for your database

The database is designed to make it possible for numerous users to use your database in a network simultaneously. Each user has his own user profile which allows him to see, e.g., his own search definitions and database views.

If you are a database administrator, you can define user rights for your databases. The user rights determine the database functions each user can make use of.

Using databases in an Intranet and in the Internet

The database is a client server database. Numerous users can, therefore, simultaneously make use of the database from numerous PCs.

Should a user have the right to, he can use all of the databases that are on Microsoft SQL servers ("Olympus Stream Motion" and "Olympus Stream Enterprise") or on Oracle servers (only "Olympus Stream Enterprise"). The databases are normally integrated in a closed network (Intranet).

You can also release databases for use in the Internet. Then you can view the images and the data from every Internet browser.

Linking up with other databases (only for OLYMPUS Stream Enterprise)

You can open databases that were set up with the Olympus software, analySIS or aquinto a4i Docu, on a Microsoft SQL server or an Oracle server. You don't need to convert the databases into the Olympus Stream database format to do this. The databases will be opened write protected, and can't be changed. It is, however, possible to search for documents and to load them.

You can also link up with external databases. This enables you, when setting up a new record, to automatically adopt information from another database, or inversely to transfer data from your software to the external database. In this way, you avoid the necessity of taking care of the same data stock in different databases.

Exporting data

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.

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2. User Interface

2.1. Tool Window - Database

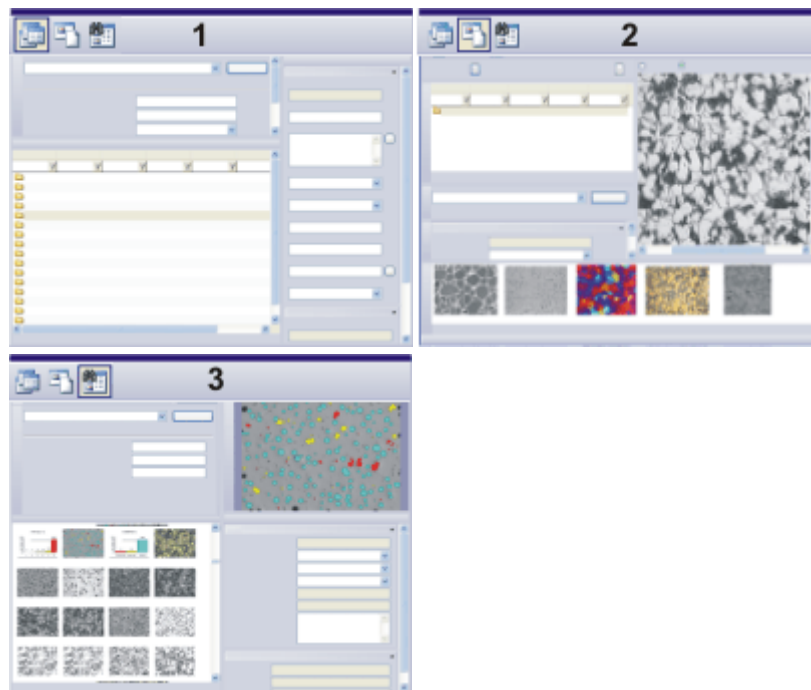
The database will be displayed in the *Database* tool window. This tool window provides you with access to all of the records contained in the database, and to numerous functions you can use to work with your database.

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

Main views in the database window

In the *Database* tool window, you can choose between different main views. The tool window is differently divided up in every view, and also displays different information.

Use the first buttons  on the *Database* tool window's lower toolbar to toggle between the main views. The button for the active view will appear clicked. You can recognize this status by the button's colored background.



The illustration shows the schematic structure of the *Database* tool window in the various main views (1 = Project View, 2 = Document View, 3 = Search Results View).

(1) Project View: In the Project View, you set up new projects or edit already existing ones. There, you select the project that you can view and work on in the Document View.









(2) Document View: In the Document View, you insert new samples and documents into a specific project. There, you can view, work on, or load, already existing documents.

(3) Search Results View: In the Search Results View, the results of a database search are displayed.









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.




	Insert Record	Click this button to insert a new record in the current database.
	Insert Open Documents	Use this command to insert documents into the database that have already been opened in your software.
	Insert From Files	Use this command to insert documents into the database that have already been saved as a file on a data medium.
	Load Documents	Use this command to load all selected documents from a database to your software.
	Confirm Changes	Click this button to confirm or abort changes made to an existing record.
	Abort Changes	
	Delete Record	Use this command to delete all of the selected records from the database.
	Recycle Bin	Click this button to see all records available in the database's recycle bin. You can restore or permanently delete records.



	Show Projects	Click this button to switch to the Project View.
	Show Documents	Click this button to switch to the Document View.
	Show Search Results	Click this button to switch to the Search Results View.
	Define Filter	Use this command to define a data filter.
	Remove Filter	Use this command to remove the active data filter.
	Define Search	Use this command to define search conditions for a database search.
	Show/Hide Search or Filter View	Click this button to show or hide the Search View or the Filter View.
	Find Text in Database	You can search for text directly in your database without first having to define a search definition.

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.

Empty database window

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.

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2.2. Layout - Database

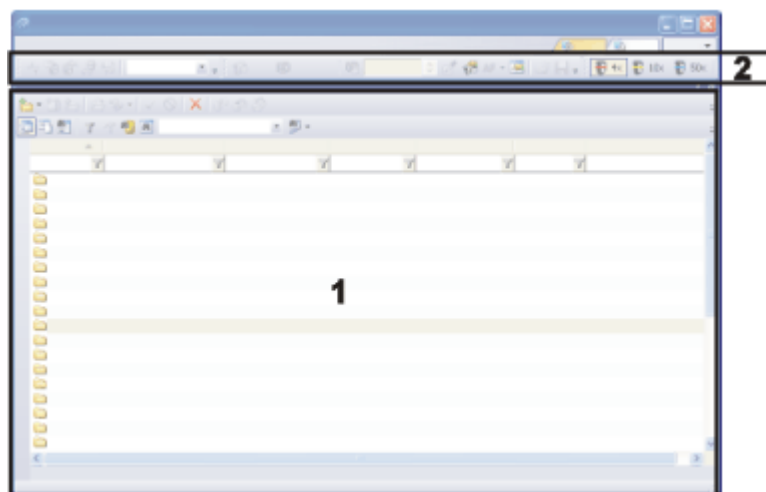
When you work with the database you switch to the *Database* layout.

Distinctive features of the "Database" layout

- Only in this layout is the *Database* tool window maximized by default. Maximizing the tool window has the advantage that you have a clearer overview of the database's records which helps you to use all of the functions for searching, grouping, or editing records optimally.
- Only in this layout will the document group not be displayed, since, as a rule, you won't need the document group when you are working with a database.
- In the *Database* layout, only those of your software's commands are available that you require when you are working with a database. Commands that are not available will be shown in gray. Should you want to use one of the commands shown in gray, simply switch to another layout.

Which elements of the user interface are displayed?

In the *Database* layout, you will be offered the following toolbars and tool windows by default.



(1) Tool windows

The *Database* tool window is maximized and therefore fills out your software's complete document group. 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.

(2) Toolbars

At the very top of the user interface, below the menu bar, several toolbars are on display. Use, e.g., the *Camera Control* toolbar to acquire images while you are working with your database.

Note: Some buttons on the toolbars that are on display will not be available as long as the *Database* tool window has been maximized.

For example, the *Camera Control* toolbar's buttons are only active, when you are in

your database's Document View. Since only there can you see the live-image and insert images.

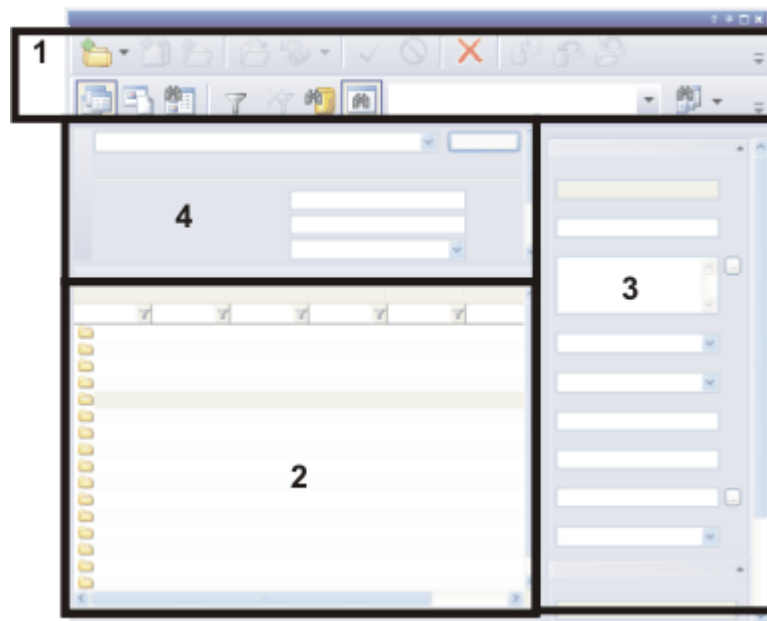
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2.3. Project View of the database

In the *Database* tool window, you can choose between different main views. The Project View is used to display the records on the topmost database level. When you adopt the predefined database structure, these are "Projects". It is, however, not essential that records on the topmost database level are called "Projects". Depending on the way your laboratory is organized, you can also set up a database in which, for example, "Orders" are on the topmost database level.

Structure of the tool window in the Project View

The *Database* tool window is divided into several areas. In each of these areas, a special database view is displayed. You can change the size of individual areas, by dragging the area boundary with your mouse button depressed.



The illustration shows the schematic construction of the *Database* tool window in the Project View.

The Project View contains two toolbars (1) with the most important functions you'll need when working with a database.

The tool window is divided up into the areas Project List View (2) and Project Info View (3). As well as that, you can also filter the projects in the Project Filter View (4) and by doing this, limit the number of projects on display.

Database views within the Project View

Each database view within the Project View shows different information and allows different actions.



Switching to the Project View

Click the *Show Projects* button to switch to the Project View. You can find this button on the *Database* tool window's lower toolbar. In the Project View this button appears clicked. You can recognize this status by the button's colored background.

Activities in the Project View

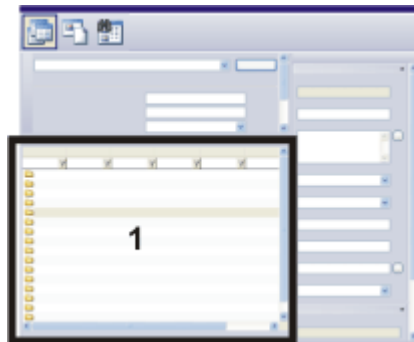
The following actions are possible in the Project View.

1. You set up a new project in the Project View. To do so, use the *Database > Insert > Project...* command.
2. Look for the project that you want to edit.
3. Filter your project list so that only the projects that currently interest you are displayed.
4. You can gain information on a project in the Project Info View. You can also change the entries for a project there.
5. Select the project that you can work on in the Document View. To do this, double click on the project.

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2.3.1. Project List View

In the Project List View, you can see the project folders that have already been inserted into the database. You will find this database view in your database's Project View.



The illustration shows the schematic construction of the *Database* tool window in the Project View.

You can find the project list (1) at the bottom left of the tool window.

Information in the project list

Project list

The project list shows all of the projects that are present in the database.

Information on the projects

The project list is organized as a table. The project list shows numerous database fields for each project. In every column, you can find the corresponding entries for

every project in the database field.

How you specify which database fields are to be displayed in the project list, you can find further below.

The amount of space in a sheet is, by its nature, limited. Use the Project Info View to display additional, and more detailed, information on the project.

Quick info on a project

When you move the mouse pointer over a project, an info window will open, in which you'll find information on this project. You can specify which information will be shown.


1. To do so, open the *Database > View > Customize Views* dialog box.
2. Select the *Tool Tip View* entry in the *View* list.
3. Select the *Project* entry in the *Record type* list.
4. Select the database fields that you want to see in the brief information.
5. Close the *Customize Views* dialog box.

Activities in the project list

Viewing data belonging to a project

Double click on the project when you want to view, load or edit, the data on this project. You will then automatically switch into the Document View.

Sorting a project list

You can sort the project list. As a sorting criterion you can use every database field that is displayed in the project list. To do this, click once on the header of the column with the database field you want to use, to have the project list sorted in an ascending or descending order, according to this database field. The column with the current sorting criterion will be identified by an arrow  next to the column header. Clicking it once more will reverse the sorting order. The arrow will show the current direction of sorting.

Grouping project list

In many cases, you will be able to group the records in the project list in such a way that you will be able to reach the records you're interested in with only a few clicks.

Right click on the header of the column by which you want to group. Use the *Group by this Field* command from the context menu.

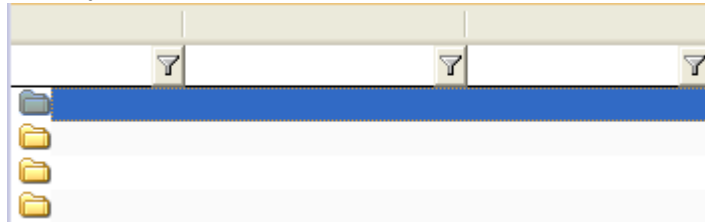
You can, for example, group the projects by client. That is to say, the list view changes into a tree view. All of the records have then be allocated the group criterion, e.g., the database field [Client]. Every field entry produces a superordinated entry in the tree view, e.g., "Client: Production". To expand the entries belonging to a particular criterion, click the small plus sign in front of the criterion.

Filtering the project list

You can filter the project list according to any criterion. This will make your search easier by limiting the number of projects that are displayed. If, in your database, the

database field [Project status] has been defined, you can, for example, have only the projects with the status "In progress" displayed.

In the column header, under all of the displayed database fields, you'll find an input field for the text, according to which you want to filter. Simply enter the text there, by which you want to filter.



Use the *Database > Set Default Project Filter* command to have the active data filter automatically used for the sample list, when your software is started.

Opening the context menu

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

Here, you can, for example, find the *Export to Workbook* command. Use this command from the Project List View's context menu export the project list to a workbook. You can, e.g., also save a workbook as an MS-Excel file. The project list will then be exported exactly as it is right now displayed in the *Database* tool window. If, e.g., a filter is active, only the projects that correspond to the filter criteria will be listed in the workbook.

Assigning database fields for the project list

Making database fields available for the project list

You can specify which database fields will be shown in the project list. To do so, use the *Customize Views* dialog box, and select the *Project List View* entry in the *View* list.

Fading database fields in and out.

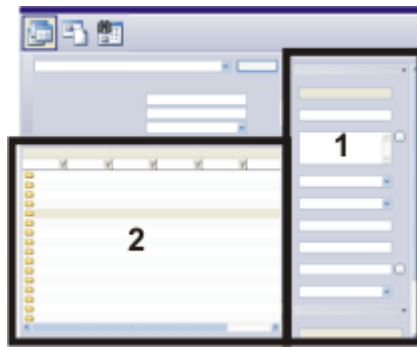
Once you have made database fields available for the project list, you can quickly fade them in or out. Right click the title line to open a list with all the available database fields. Select the database field you want. The database fields that are on display will be indicated by a check mark.

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.

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2.3.2. Project Info View

In the Project Info View, you can for every project, view the way the database fields have been filled out for this project. You will find this database view in your database's Project View.



The illustration shows the schematic construction of the *Database* tool window in the Project View. You can find the Project Info View (1) at right side of the tool window. There, you will find information on the project that has been selected in the project list (2).

Note: The Project Info View can't be displayed when the database window is very small. Enlarge the *Database* tool window correspondingly.

Customizing the appearance of the Project Info View

Adding or hiding database fields

You can specify which database fields will be shown. To provide you with a better overview, the database fields can also be distributed over several tabs. To do so, right click one of the database fields in the Project Info View. From the context menu, select the *Customize Views* command. In the *Customize Views* dialog box, the *Project Info View* entry will have already become active, and you can select the database fields you want.

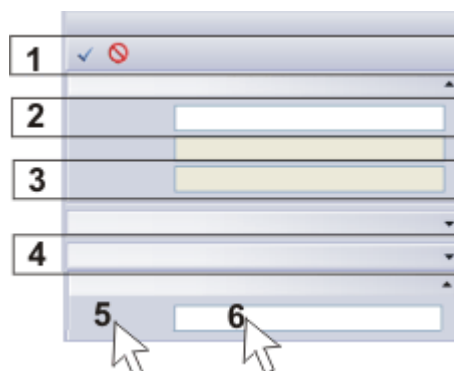
Activities in the Project Info View

Information in the Project Info View

Select a record in the Project List View. The Project Info View then shows you numerous database fields together with their field entries, for this record.

Editing entries in database fields

Use the Project Info 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.



You can edit existing entries in database fields. The illustration shows you various possibilities for working in the Project Info View. You'll find the explanations in the text.

Confirm Changes



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

You can also set up your database in such a way that entries in database fields can be changed without an inquiry being made. To do so, clear the *Ask before saving record changes* check box. You will find this check box in the *Tools > Options > Database > General* dialog box.

Expanding groups

To help you keep track of everything, you can assign the database fields to groups. You can reduce every group in the Project Info 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 Project Info 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.

Copying and inserting field entries

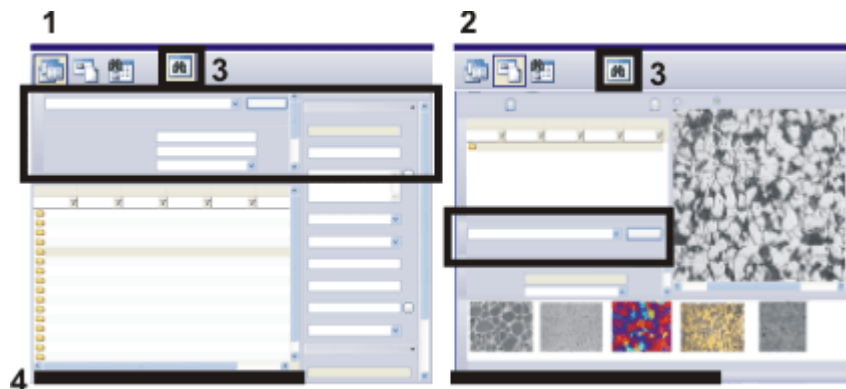
Your software offers a simple way of copying entries in database fields into the clipboard. To do so, right click the contents of the database field that you want to copy (6). From the context menu, use the *Copy* command to copy the complete entry in that database field into the clipboard. You can then insert the copied text into another database field, or also into another application program, such as, e.g., MS-Word. To do so, use the [Ctrl + V] shortcut.

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2.3.3. Project Filter View and Document Filter View

The *Database* tool window is divided into several areas. In each of these areas, a special database view is displayed.

In a filter view, you can select predefined data filters with which you can filter the records. You can find a filter view in your database's Project View and Document View.



The illustration shows the schematic construction of the *Database* tool window in the Project View (1) and in the Document View (2). The filter view is framed in black in both illustrations.

Please note that you can switch the filter view on and off by using this button (3). When a data filter is active, the information, how many records fulfill the filter criteria, appears at the bottom edge of the *Database* tool window (4). This information disappears as soon as all of the records are once more on display.



Showing or hiding the Filter View

To switch the filter view on in the *Database* tool window, click the *Show / Hide Filter View* button. You can find this button on the *Database* tool window's lower toolbar. When the filter view is on display, this button appears clicked. You can recognize this status by the icon's colored background. By clicking a button that appears clicked, you switch off the filter view.

Activities in the Filter View

Selecting the database view

Switch to the database view in which you want to filter records. In the Project View you can find the Project Filter View and in the Document View, the Document Filter View. Please note that the data filter is only in each case valid for the view in which you apply the data filter.

For example, switch to your database's Project View when you only want to have the projects displayed that currently interest you. With the data filter ([Creation date] >= '01.04.2007') will, for example, only the projects be displayed that were set up after the first of April 2007.

Switch to your database's Document View when you want to search for specific documents belonging to a project. Here, you can, e.g., have only the images displayed that belong to a project, and have all the other document types hidden.

List of all data filters

In the filter view, you can find a list with all of the data filters that have been defined for the active database, next to the *Apply* button.

To define a data filter, use the *Define Filter* dialog box. Data filters that you often use can be saved for your databases. Data filters are user dependent. Another user can therefore not see your data filters and vice versa.

As soon as you have selected a data filter, the filter criteria that have been defined in that data filter will be displayed in the filter view.

Data filters with variable conditions

When you define a data filter, you can either define a filter criterion completely, or assign it a variable value.

A completely defined data filter is, e.g., ([Client] equals "Production"). In this case you are filtering all of the records in which, in the database field [Client], the field content "Production" has been entered.

A variable filter criterion is, e.g., ([Client] equals "(Variable)"). Then, in the filter view, the database field [Client] will appear as the filter criterion. Later in the filter view, does the user then specify for precisely which client is to be searched.

Applying a data filter

In the Filter View, click the *Apply* button to apply the displayed data filter.

Then, in the *Database* tool window, only the records that comply with the filter criteria will still be shown. When the ([Client] equals "Production") data filter is active, the records of a specific client, for example, will still be displayed. All other records will be hidden.

When a data filter is active, the information, how many records fulfill the filter criteria, appears at the bottom edge of the *Database* tool window. This information disappears as soon as all of the records are once more on display.

Removing a data filter



When a data filter is active, the *Remove Filter* button will be available. You can find this button on the *Database* tool window's lower toolbar.

Click this button to remove the data filter and have all of the database's records displayed once more.

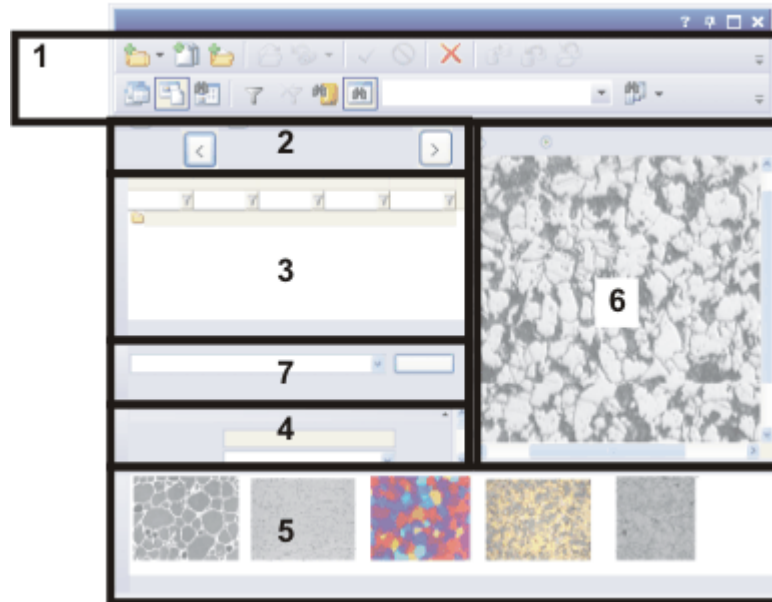
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2.4. Document View of the database

In the *Database* tool window, you can choose between different main views. The Document View will be the view in which you usually work with the database. In the Document View you can view, load or edit all of the data that belongs to a project. You can insert new data on a project in the Document View.

Structure of the tool window in the Document View

The *Database* tool window is divided into several areas. In each of these areas, a special database view is displayed. You can change the size of individual areas, by dragging the area boundary with your mouse button depressed.



The illustration shows the schematic construction of the *Database* tool window in the Document View.

The Document View contains two toolbars (1) with the most important functions you'll need when working with a database.

The tool window is divided up into the views Project Header View (2), Sample List View (3), Document Info View (4), Gallery View (5) and Document/Live-image View (6). As well as that, you can also filter the documents in the Document Filter View (7) and by doing this, have only the documents that interest you displayed.

Database views within the Document View

Each database view within the document view shows different information and allows different actions.

Switching to the Document View

There are several ways of switching to the Document View:



- In the Project View, double click on a project to switch to the Document View.
- Click the *Show Documents* button to switch to the Document View. You can find this button on the *Database* tool window's lower toolbar. In the Document View this button appears clicked. You can recognize this status by the button's colored background.

Activities in the Document View

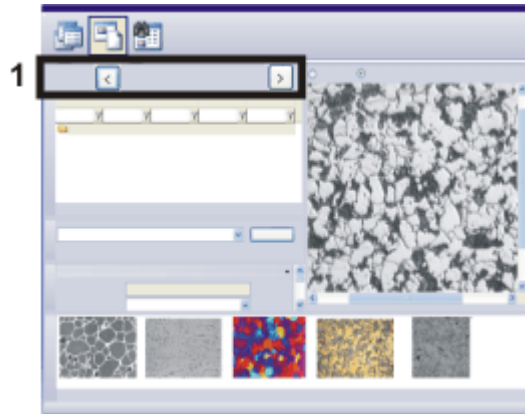
The following actions are possible in the Document View.

1. Set up a new sample folder in the Document View. To do so, use the *Database > Insert > Sample...* command.
2. Acquire an image with your software and insert the image into the database.
3. Load images or other documents which were inserted in a sample folder in the database.
4. Edit images that have already been saved in a database. For example, carry out another measurement on the image or improve the image contrast so that the image can be inserted into a report better.

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2.4.1. Project Header View

You can find the Project Header View in the *Database* tool window's Document View, immediately below the toolbar. Here will be shown, e.g., the name of the active project. Use the buttons in the Project Header View to change the active project without having to switch to the Project View.



The illustration shows the schematic construction of the *Database* tool window in the Document View.

The Project Header View (1) shows you which project you are in.

Activities in the Project Header View

Adapting the view

In the Project Header View, only one single database field will be shown. You can specify which database field is to be displayed in the Project Header View. Choose a database field that unambiguously characterizes the project, e.g., the project number, or the project description.

To do so, right click the Project Header View. From the context menu, select the *Customize Views* command. In the *Customize Views* dialog box, the *Project Header View* entry will already have become active, and you can select the database field 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.

Switching to other projects

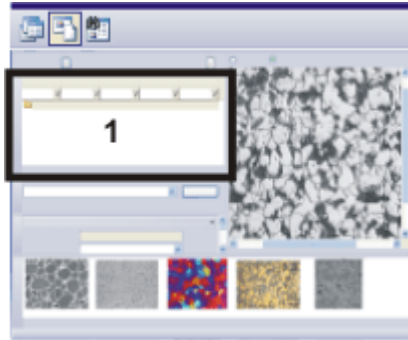
Click the [<] button to switch to the previous project. Click the [>] button to switch to the next project.

The projects are arranged according to the way they have been sorted in the Project List View.

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2.4.2. Sample List View

In the Sample List View, you can see the sample folders that have already been inserted into the database. You will find this database view in your database's Document View.



The illustration shows the schematic construction of the *Database* tool window in the Document View.

The sample list (1), you can find on the left-hand side of the tool window.

Information in the sample list

Sample list

The sample list shows all of the samples that belong to the active project. The database is structured hierarchically. "Samples" are there the only records that can be inserted immediately beneath the "Project" database level. These records need not necessarily be "Samples". Depending on the way your laboratory is organized, you can also structure your projects by other criteria, e.g., by acquisition methods.

Information on the samples

Numerous database fields will be listed for each sample. In every column you can find the corresponding entries for every sample in the database field.

The amount of space in a sheet is, by its nature, limited. Use the Document Info View to display additional, and more detailed information on the sample.

Activities in the sample list

Viewing documents that belong to a sample

Select an entry in the sample list. Then all of the documents belonging to this sample will be displayed in the database gallery. These can be images, but also other documents, such as, e.g., workbooks or even MS-Excel sheet.

Opening the context menu

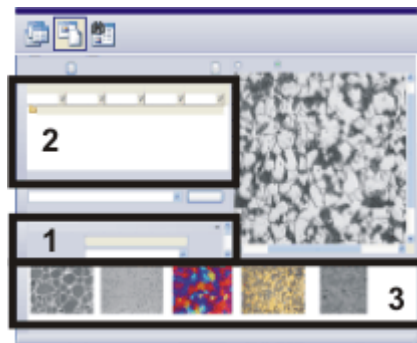
Select a record in the sample list and click with the right mouse button. By doing this you will open a context menu with a number of commands.

Choose, e.g., the *Display Gallery* command to have the sample folder displayed as a thumbnail, instead of as a list. When you do so, the sample folder will be displayed as an icon.

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2.4.3. Document Info View

In the Document Info View, you can for every document view the way the database fields have been filled out for this document. You will find this database view in your database's Document View.



The illustration shows the schematic construction of the *Database* tool window in the Document View.

You will find the Document Info View (1) at the left-hand side of the tool window. The information pertains to the record, that has been selected either in the sample list (2) or in the database gallery (3).

Select a record. You can select the record either in the sample list or in the database gallery.

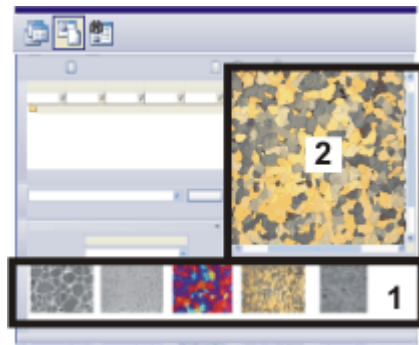
The Document Info View then shows you numerous database fields together with their field values, for the selected record.

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

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2.4.4. Database gallery

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



The illustration shows the schematic construction of the *Database* tool window in the Document View.

You will find the database gallery (1) at the bottom of the tool window. When you select an image, you can view that image more precisely in the Document/Live-image View (2).

Activities in the database's Gallery View

Loading documents into the Document/Live-image View with a simple click

In the Document/Live-image View (2) select the *Display current database image* option. When you then click once on a thumbnail in the Gallery View, the image will be loaded into the Document/Live-image View. The Document/Live-image View is an area in the *Database* tool window in which more room is available than in the database gallery, for displaying images.

If you want to view an image in still more detail, double click the image to switch to the "Full Screen Image" mode.

Loading documents into the "Full Screen Image" mode with a double click

When you double click on a thumbnail the document will, by default, be displayed in the "Full Screen Image" mode. The prerequisite for this is that your software is able to open the selected document type. The "Full Screen Image" mode displays the active document in the maximum size that your monitor allows. The user interface will be completely faded out.

Please note that in the "Full Screen Image" mode, both a scale bar and an info stamp can also be made to appear in an image.

To switch off the full screen mode and return to the "normal" user interface, use the [Esc] key, or click the *Exit* button.

With types of document that your software can't open (e.g., MS-Word files or MS-Excel files), the program that these types of document are assigned to under MS-Windows will be started.

Loading documents into the document group

When you want to load an image into the document group, e.g., to measure it, select the image in the database gallery, then use the *Load Documents* command in the context menu. You will then automatically switch into the *Processing* layout.

When you want to work with your database once more, use the *View > Layout > Database* command.

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. From the *When a document record is double-clicked* list, select the *Load the Document* entry. With this setting the documents will be loaded from the database gallery into the document group with a double click.

Changing the size of thumbnails

You have the choice between two sizes of thumbnail. Right click in the background of the database gallery, 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 database gallery.

Altering the thumbnails' labeling

You can set which database field is to be used for labeling the thumbnails. To do so, click your right mouse button in the database gallery'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.

For the Gallery View, choose a mandatory field from the *Record Fields* field table. By doing this, you'll make sure that there will be an entry in the database field for every single record, and in that way, ensure that the thumbnail can be labeled.

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.

Making information on documents appear

Select a document in the database gallery.

The Document Info View then shows you numerous database fields together with their field entries, for the selected record.

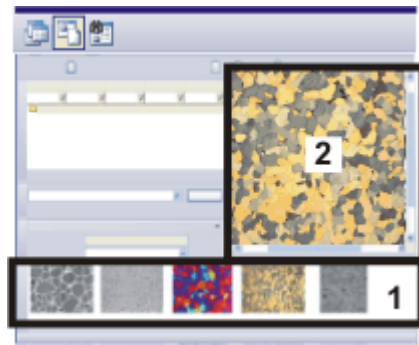
Quick info on the documents

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. Please note that you can set up different database fields for every record type, in the Tool Tip View.

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2.4.5. Document/Live-image View

The Document/Live-image View is used to display the live-image or to display the image that is currently selected in the database gallery.



The illustration shows the schematic construction of the *Database* tool window in the Document View.

The Document/Live-image View (2) is located at the top of the tool window. The database gallery (1), you can find at the bottom of the Document View of the tool window.

Displaying the live-image

If you are working at a workstation that you can use to acquire images, the Document/Live-image View will also be used to display the live-image. To do this, in the Document/Live-image View (2) select the *Display live image* option.

Toggling live mode



Click the *Live* button in the *Camera Control* toolbar to start the live mode.



Click the *Snapshot* button to stop the live-image and thus acquire a new image.

Display of the live status

The status of the live mode will be shown in the Document/Live-image View behind the *Display live image* control

The name of the *Display live image* option is *Display live image (active)* when your camera is in the live mode.

The name of the option is *Display live image (stopped)* when the live mode has been switched off.

Displaying the current database image

Select the *Display current database image* when you wish to closely examine an image from the database. To do this, select the required thumbnail in the database gallery.

Toggling between the live-image and a database image

When you view the current image in the database, you do not alter anything on the status of the live mode. You can also view an image in the database when the live mode is switched on.

Therefore, you can switch backwards and forwards between the live-image and an image from the database however you want to.

Activities in the Document/Live-image View

Changing the displayed image's zoom factor

There are several ways in which you can alter the zoom factor in the Document/Live-image View.

- When you move your mouse pointer on the Document/Live-image View, you can zoom into, or out of, an image, with the mouse wheel. With the left mouse button depressed, you can move the enlarged segment of an image and in this way have another part of the image displayed in this magnification.
- Use the commands of the context menu to adjust the zoom factor. You open the context menu by clicking with the right mouse button.
This possibility for changing the zoom factor via the context menu, doesn't exist for the live-image.

Viewing the image in detail in the Full screen mode

You can view an image that has already been saved as a record in the database, in its full resolution, on your monitor. Right click the image in the Document/Live-image View, then select the *Full Screen Preview* command from the context menu.

The full screen mode displays the active document in the maximum size that your monitor allows. The user interface will be completely faded out.

Note: To make it possible to view the image in Full screen mode, you must have already loaded it. That's to say, the image data has to be requested from the File Server and transferred to your database client. Depending on how quick your network connection is, on how large the image is, and which document storage type you use, loading an image can take quite some time.

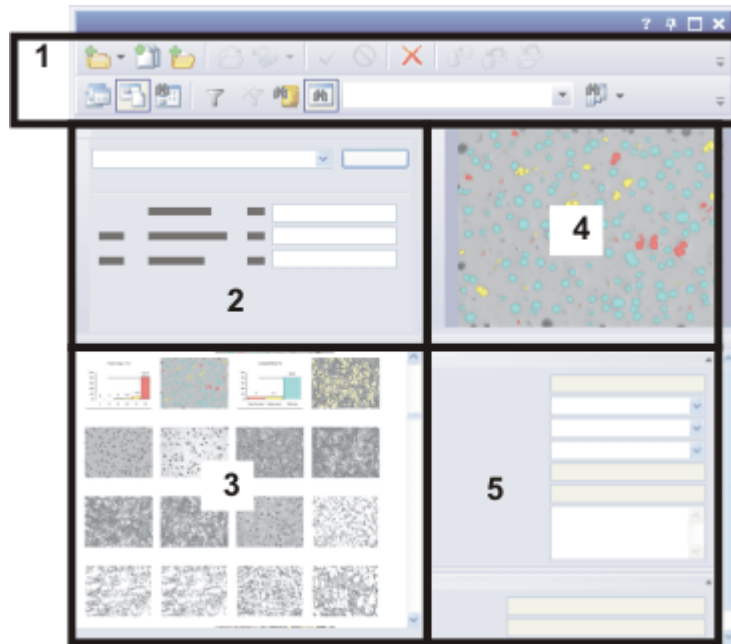
To switch off the full screen mode and return to the "normal" user interface, use the [Esc] key, or click the *Exit* button.

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2.5. Search Results View of the database

In the *Database* tool window, you can choose between different main views. In the Search Results View, all of the records that were found during the last database search, will be shown. The Search Results View is empty when you haven't yet made any database searches. The Search Results View will be automatically update every time you make a new database search.

Structure of the tool window in the Search Results View



The illustration shows the schematic construction of the *Database* tool window in the Search Results View.

The Search Results View contains two toolbars (**1**) with the most important functions you'll need when working with a database. In the Search View (**2**), you can view the search conditions for the current database search, and also start a new database search. The tool window is divided up into the views Search Results (Gallery View) (**3**), Image Preview (**4**), and Record Details View (**5**).

Database views within the Search Results View

Each database view within the Search Result View shows different information and allows different actions.

Displaying search results in a table

You can also have the search results displayed in a tabular form. Click the Search Results View's gallery with your right mouse button to open a context menu. Select the *Table View* command.

Exiting the Search Results View

There are several ways to leave the Search Results View.

1. Select a record in the gallery of the Search Results View.
Click your right mouse button and select the *Go To Record* command in the

context menu.

- Your software will then automatically display the sample or the project to which the record you've selected belongs. To do this, your software will automatically switch to the appropriate database view.



2. Click the *Show Projects* button to switch to the Project View of the database. You can find this button on the *Database* tool window's lower toolbar.



3. Click the *Show Documents* button to switch to the Document View of the database. You can find this button on the *Database* tool window's lower toolbar.

Activities in the Search Results View

The following actions are possible in the Search Results View.

1. Searching for more records.
2. You can gain information about the record in the Record Details View. You can also change the entries for a record there.
3. Navigate from a record you have found back to the superordinate database folder. To do so, use the *Go To Record* command in view (3)'s context menu.
4. View an image in full resolution. To do so, use the *Full Screen Preview* command in the Image Preview's context menu.

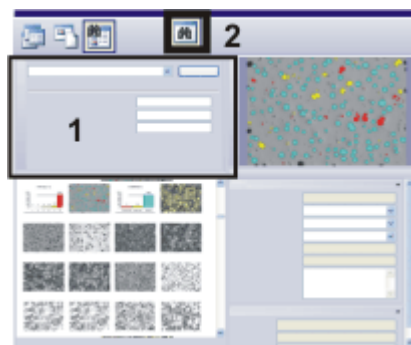
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2.5.1. Search View

You can find the Search View in the database's Search Results View.

Functions of the Search View

- Firstly, the Search View has a solely display function. In it, you can see the search conditions for the last database search. The documents on display there correspond to those search conditions.
- In addition to the solely display function, you can also load saved search definitions in the Search View, and carry out a new database search.



The illustration shows the schematic construction of the *Database* tool window in the Search Results View. You can find the Search View (1) on the top left-hand side. Please note that you can show and hide the Search View by using this button (2).



toggling Search View

To switch the Search View on in the *Database* tool window, click the *Show / Hide Search View* button. You can find this button on the *Database* tool window's lower toolbar. When the Search View is on display, this button appears clicked. You can recognize this status by the icon's colored background.

Click the button that appears clicked to hide the Search View if you need more room for the records on display.

Activities in the Search View

You can use the Search View to carry out a new database search.

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. You will also find the data filters there, since you can, at any time, also use a data filter for a database search.

As soon as you have selected a search definition, the search conditions defined there will be displayed in the Search View.

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

Using variable search conditions

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.

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

A variable search condition is, e.g., ([Client] equals '(Variable)'). Then in the Search View, the database field [Client] will appear as the search condition. First in the Search View, does the user then specify for precisely which client is to be searched.

Carrying out a search

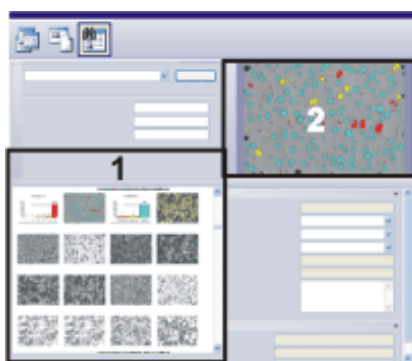
Click the *Search* button in the Search View to carry out the search.

When a database search has been carried out, the Search View will be updated. Only the records that fulfill the search conditions you've set will be displayed. When the ([Client] equals 'Production') search condition has been selected, only the records of a specific client, for example, will be displayed.

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2.5.2. Search Results (Gallery View)

In the Search Results View the results of a database search will be displayed. You will find this database view in your database's Search Results View.



The illustration shows the schematic construction of the *Database* tool window in the Search Results View.

In the Gallery View (1), you will see the thumbnails of all the images that have been found during the last database search. Other documents (texts, reports, MS-Excel sheets etc.) will be displayed as an icon.

You can find the Image Preview (2) on the top right-hand side.

Choosing between the Gallery View and the Table View

In the database's Search Results View, you can view the results of a database search either in the Gallery View as thumbnails, or as a results sheet. To output the results in a sheet, right click on the area (1) of the *Database* tool window. Select the *Display Gallery* command from the context menu.

Activities in the Search Results (Gallery View)

Loading documents into the Preview with a simple click

When you click once on a thumbnail in the Gallery View, the image will be loaded into the Preview. The Preview provides considerably more space on the screen for image display than the Gallery View.

Double clicking in order to go to the corresponding record

When you double click on a record, your software will automatically display the sample or the project to which the record you've selected belongs. To do this, your software will automatically switch to the appropriate database view.

Loading documents into the document group

If you want to load an image into the document group, e.g., to measure it, select the image in the Gallery View, then use the *Load Documents* command in the context menu. You will then automatically switch into the *Processing* layout.

When you want to work with your database once more, use the *View > Layout > Database* command.

Making information on records appear

Select a record in the Gallery View.

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

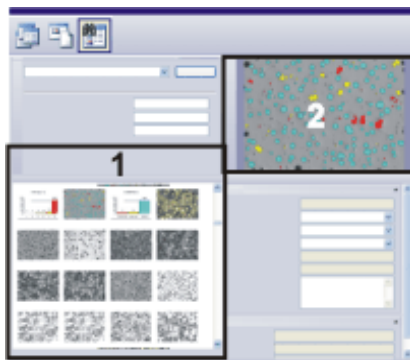
Quick info on the documents

When you move your mouse pointer over record in the Gallery View, 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.

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2.5.3. Image Preview

In the Search Results View, all of the records that were found during the last database search, will be shown. The Image Preview is there to show you an image that has just been found as the result of a database search.



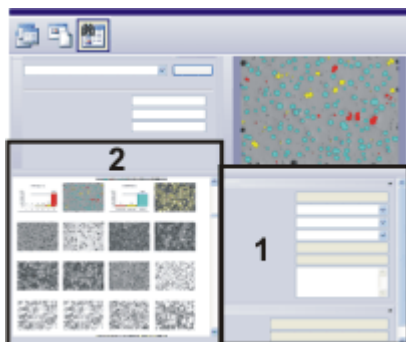
The illustration shows the schematic construction of the *Database* tool window in the Search Results View.

The Image Preview (2) is located on the top right of the tool window. You can find the Database Gallery (1) at the bottom-left.

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2.5.4. Record Details View

In the Search Results View, all of the records that were found during the last database search, will be shown. In the Record Details View, you can for every record, view the way the database fields have been filled out for this record. You can find this database view in your database's Search Results View.



The illustration shows the schematic construction of the *Database* tool window in the Search Results View. Information on the records found (1) can be found on the right-

hand side in the Record Details View. The information refers to the record that has been selected in the database gallery (2) or in the results sheet.

Determining the "Record Details" tool window's appearance

When you load a document from the database to edit it, or to make measurements, use the *Record Details* tool window to view the details that have been saved in a database for this document. The information displayed in the *Record Details* tool window, corresponds exactly to the information that you have displayed in the Record Details View of the *Database* tool window. That's to say, when you determine the appearance of the Record Details View, you also determine the appearance of the *Record Details* tool window.

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3. Working with a database

3.1. Opening the 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.

Prerequisite: 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:

1. Use the *Database > Open...* command.
2. Use the *File > Open > Image...* command.
3. 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. Select the *Database* entry from the context menu.
4. 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.
5. 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

If 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. Depending on the connection mode, you can either use a database connection file (Case 1), or you can enter the connection data manually (Case 2).

Case 1: 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. This text file has the file name extension DBC. 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.

Case 2: 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. Select the *Microsoft SQL Server* entry, for example, if you use the SQL Server as your database server.

User's details

When you open a database, you need to prove that you are allowed to open the database. To do so, you specify a user name and password. You need to be registered as a user in the database with this user name and password.

Single Sign On

In the *User > Authentication* list, choose the *Single Sign On* entry if you are logged on to the PC where your software runs, with your user name. The current log on data for the MS-Windows operating system will also be used for logging on to the database. In this case, you will neither need to enter a password nor a user name.

For *Single Sign On* authentication, there needs to be a user profile set up for you on the MS-Windows operating system. You also need to be registered as this user in the database.

Windows Login

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 Login* entry

in the *User > Authentication* list. As opposed to *Single Sign On* authentication, you need to explicitly enter your user name, password and domain.

This authentication allows you to open a database from a computer on which you are not logged on with your user name.

For *Windows Login* authentication, there needs to be a user profile set up for you on the MS-Windows operating system. You also need to be registered as this user in the database.

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. The user name and password will be assigned by the database administrator within the database management system, e.g., on an SQL server.

For the *SQL Authentication* option, there needs to be a user profile set up for you on the database management system. In this case, the log on data are completely independent of your MS-Windows log on data.

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.

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

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3.2. Inserting data into a database

3.2.1. Overview

All users who have the necessary permissions can insert records into a database. Here, records can mean structuring records such as project folders and sample folders, but also images, reports, charts and all other documents that you may want to save in your database.

While inserting records, the database fields you are to fill out correspond to the record type. This means that you can enter different information about images than about charts.

Important terms

What are 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.

Structuring records are, e.g., "Projects". They are displayed in the your database's Project View.

What exactly are 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.

What exactly are external documents?

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

Various ways of 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:

- Insert Open Documents
- Insert All Open Documents
- Insert From Files
- Insert structuring record

Buttons

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

Commands from the context menu

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.

- Project List View
- Sample List View

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

Drag a document from the MS-Windows Explorer into the database gallery.

To do this, switch to the database's Document View. Then select the record into which you want to insert the document, in the database. Then drag the document from the MS-Windows Explorer onto the database gallery.

Acquiring images

When a database has been opened, every image you acquire with your software will be automatically saved in the active database.

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.

Inserting documents that have been changed

When you load a document from a database into your software, and edit it there, then close the document again, there are a variety of ways in which your software can react. The database administrator can, e.g., specify that the existing document is to be replaced, or that the altered document can only be inserted into the database as a new record.

Moving images to another database folder

If you have accidentally inserted documents in the wrong place, you can move them to the correct database folder at a later time. To do so, use the *Cut* and *Paste* commands. You can find the commands in the context menu of the database window.

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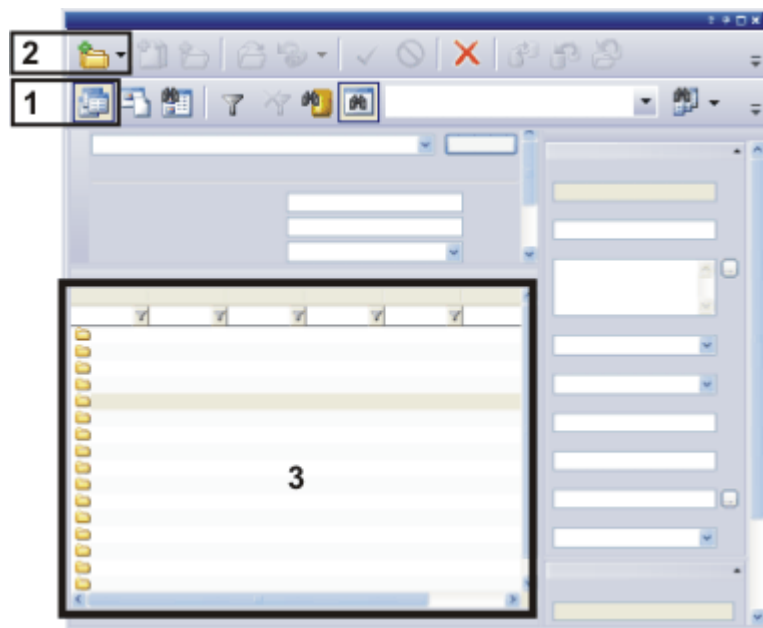
3.2.2. Inserting projects and samples into a database

The database is structured hierarchically. The database that you have been provided with has two main levels, namely "Project" and "Sample," on its topmost database levels.

Inserting a new project


Project folders can be found on the topmost database level that is shown in the Project View.

1. To do this, switch to your database's Project View. Only there can you set up projects.



The schematic illustration shows your database's Project View. In the Project View, the *Show Projects* button (1) appears clicked. Click the *Insert Record* button (2) to set up new projects. You will then find the new projects in the project list (3).



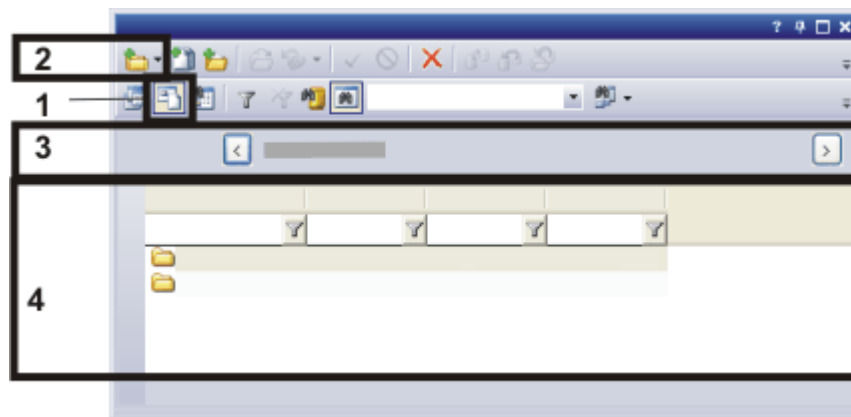
2. Click the *Insert Record* button. You can find this button on the *Database* tool window's toolbar.
 - A picklist opens.
3. Select the *Project...* entry.
 - The *Insert Project* dialog box opens. The dialog box contains input fields for a variety of database fields that relate to the project.
 - The database fields, that are to be filled out in the *Insert Project* dialog box, have been specified by the database's administrator.
 - You can still add to and edit many of the entries relating to the project, later on, in the Project Info View.
4. When you use the "Enterprise Edition" of the database, the *Permission Set* group will be displayed in the *Insert Project* dialog box. In this group, you specify who is allowed to look at, and alter this project.
 - By default, this entry is named *Everyone*. In this case, every database user is allowed to look at, and alter, the new project.
5. If you have changed the current permission set and want the new permission set to be the default from now on when you set up new projects, click the *Set as default permission set*  button.
 - The permission set used for this new record will then also be used for all child records that you create for this project. All documents saved under this record will also have the same permission set.
6. Fill out the other input fields, then click the *Insert* button to set up this project.
 - The new project will then be displayed in the database's Project List View.

- You can then set up sample folders for this project in the database, and insert both images and documents relating to this project there.

Inserting a new sample folder

Within the project folders located on the topmost database level, you can set up as many sample folders as you like. Sample folders are shown in the database's Document View. Sample folders are structuring records, exactly the same as project folders are. When you insert a sample, by doing so, you set up a database folder into which you can insert all of the documents belonging to this sample.

1. You can only insert a new sample folder into a project. Because of this, first select the project into which you want to insert the samples in the database.
2. Switch to your database's document view. Only there can you set up sample folders.



The illustration shows a part of your database's Document View. In the Document View, the *Show Documents* button (1) appears clicked. Click the *Insert Record* button (2) to set up new sample folders. The project, to which the inserted sample folders belong, is shown in the database window (3). You can find new sample folders in the Sample List View (4).

3. Click the *Insert Record* button. You can find this button on the *Database* tool window's toolbar.
 - A picklist opens.
4. Select the *Sample...* entry.
 - The *Insert Sample* dialog box opens. The dialog box contains input fields for a variety of database fields that relate to the sample.
5. Fill out the input fields, then click the *Insert* button to set up this sample.
 - The new sample will then be displayed in the database's Document View.
6. If you want to insert several samples that are similar into the database, you can save all the settings that you made for this sample to a special clipboard. To do this, click the *Copy* button. When you insert the next sample into the database, click the *Paste* button, located below the *Copy* button in the insertion dialog, to copy the contents of this special clipboard to the corresponding fields in the *Insert Sample* dialog box.

3.2.3. Automatically saving images that have been acquired in a database

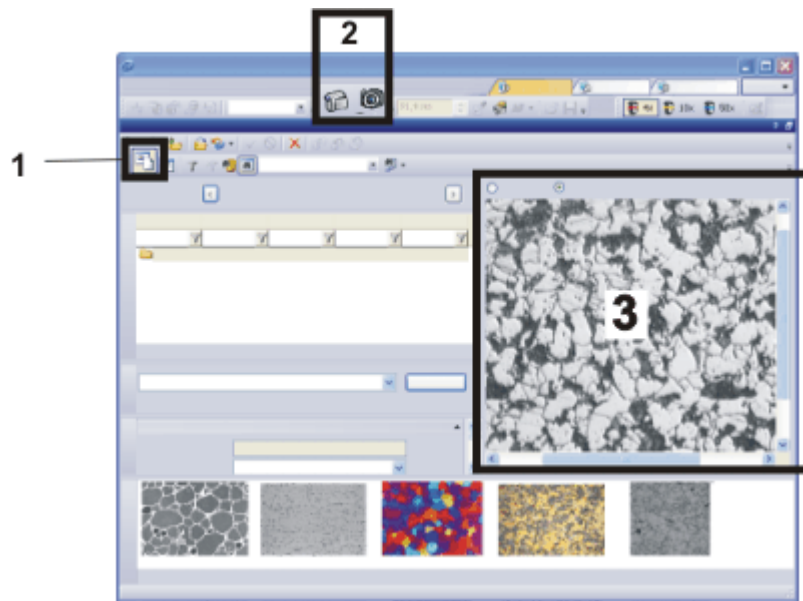
When a database has been opened, every image you acquire with your software will be automatically saved in the active database. You can, however, change this behavior.

1. Open the database with which you want to work.
2. In the database, select the record into which you want to insert the document.
 - When your database works according to the database template you were provided with, you should first select the project folder. Then switch to your database's Document View and select a sample folder.

Switch On Live display




3. Click the *Live* button on the *Camera Control* toolbar. In the *Database* layout, this toolbar is displayed above the database window.
 - The live-image is now switched on. It's possible that you can't yet see the live-image in the database.
4. Select the *Display live image (active)* option, located at the top right in the *Database* tool window's Document View.
 - The live-image will then be displayed in the database window.
5. Take a look at the live-image on the right-hand side in the Document View.
6. Bring the sample into focus, then select the exposure time you want.
7. On the *Microscope Control* toolbar, click the button with the objective that you use for the image acquisition. In the *Database* layout, this toolbar is displayed above the database window.




The illustration shows your database's Document View. In the Document View, the *Show Documents* button (1) appears clicked. In the *Database* layout, use the *Live* and *Snapshot* buttons (2) to switch on the live-image, and to save the acquired image in the database when the acquisition has been made. The live-image (3) will be displayed in the database's Document View.

Inserting the image into the database

8. Make sure that the correct project folder and sample folder have been chosen. You can now choose another database folder.
-  9. Click the *Snapshot* button on the *Camera Control* toolbar to end the live mode, to acquire the image, and to have it automatically inserted into the database.
 - The *Insert Image* dialog box opens.
10. Enter the required information on the image in the database fields.
11. Click the *Insert* button.

3.2.4. Switching off the automatic saving after image acquisition

When a database has been opened, every image you acquire with your software will be automatically saved in the active database. You can change this behavior.

-  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.
 - In the *Automatic save* group, the *Database* entry in the *Destination* list has been selected. Because of this, the image will be automatically saved in a database when it has been acquired.

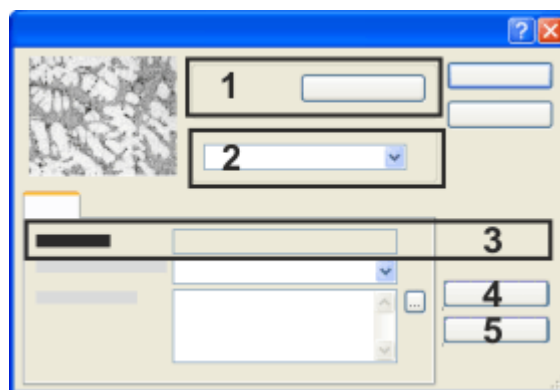
4. To change your software's behavior when images are acquired, select another entry in the *Destination* list, located in the *Automatic save* group. For example, select the *No automatic save* entry to switch off the automatic saving of images.
5. Close the *Acquisition Settings* dialog box with *OK*.

3.2.5. Inserting images into a database

All of the documents that you can create in your software or load into your software can be inserted 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 an image that has currently been opened in your software.

1. Open the database with which you want to work.
2. Load the image into your software that you want to insert into the current database. 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. Switch to the *Database* layout.
4. In the database, select the record into which you want to insert the document.
 - Please note that you cannot insert documents at every hierarchical database level.
 - When your database works according to the database template you were provided with, you should first select the project folder. Then switch to your database's Document View and select a sample folder.
 - You can find more information on the database's structure here.
5. Use the *Database > Insert > Open Documents...* command.
 - When more than one image has been loaded into the document group, the *Insert Open Documents* dialog box opens. Select the check box in front of the image you want to insert into the database, and confirm your selection with *OK*.
 - The *Insert Image* dialog box opens.
 - When you have acquired an image, the *Insert Image* dialog box will be automatically opened, when a database has been opened.



In the insertion dialog, the superordinated database folder (1) is displayed. Here (2), you specify who is allowed to view this image. In the insertion dialog box, enter all of the information that you want to save about this image in the database. The record name (3) is automatically assigned. There you can't make any entries.

Entering information on an image

6. Check whether the image is going to be inserted into the correct database folder. In the *Insert into* group (1) the name of the database folder into which the image is to be inserted, is shown.
Should you want to correct the database folder, click the *Browse...* button.
 - The *Insert Into* dialog box opens. The *Destination* field gives you access to a tree view. Browse to the correct database folder, then confirm this with *OK*.
7. If you use the "Enterprise Edition" of the database, the *Permission Set* group (2) is displayed in the insertion dialog. Here, you specify who is allowed to see this image. For example, if you select the *Everyone* entry, you will allow every user who can log onto the database to view the image.
8. Enter the required information on the image in the database fields. Database fields that are displayed in bold letters are mandatory fields and must be filled out.
 - Not every database has mandatory fields. Therefore, it's possible that in your database, none of the database fields are displayed in bold font.
 - The record name (3) is assigned automatically by the database, therefore you can't edit this field.
 - Many of the entries you make here can later be changed or added to, in the Record Details View.
9. If you want to insert several images that are similar into the database, you can save all the settings that you made for this image to a special clipboard. To do this, click the *Copy* button (4). When you insert the next image into the database, click the *Paste* button (5) to copy the contents of this special clipboard to the corresponding fields in the *Insert Image* dialog box.
10. Click the *Insert* button to save the current image in the database, together with the information displayed.

When the image has been inserted

- The image that has been inserted has now been saved in the database.
- When the image 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 image has already been saved as a file: During the insertion a copy of the image will be saved in the database. The data itself won't be changed during the insertion in a database.

3.2.6. Inserting several documents into a database at the same time

You can insert a number of documents simultaneously into a database. 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.
3. First, select the record in the database into which you want to insert the document.
 - When your database works according to the database template you were provided with, you should first select the project folder. Then switch to your database's Document View and select a sample folder.
4. Use the *Database > 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 open 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.
7. Enter the required information on the document in the database fields.

Case 1: Inserting information for every single document

8. 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.
9. Fill out the *Insert <document type>* dialog box for all of the documents.

Case 2: Inserting the same information for all documents

10. When 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.
 - The record name which is automatically assigned, is different for every record.

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3.2.7. Copy Record Fields




You can copy the field content from one database record to one or more existing database records. This is only possible if the records are of the same record type. In the *Copy Record Fields* dialog box, you can select the fields whose contents you want to copy.

Opening the dialog box

Preparation: Use the *Tools > Options...* command and select the *Database > General* entry in the tree view. Select the *Show Copy Record Fields dialog when copying database records* check box.

Then open a database and switch to the required database view. Select the record whose fields you want to copy. Right click and select the *Copy Record Fields* context menu command in order to open the dialog box.

Example: You just inserted 10 samples into your database. Now you want to add some additional information regarding these samples. For example, a sample comment and an information about how the sample was prepared. As this additional information is the same for all of the 10 samples that you inserted, you only need to enter the data for the first sample. Then you copy the data (using a special clipboard in your software) to the remaining 9 samples.

1. Switch to the database view you want and select the record whose contents you want to copy.
-  2. Open the context menu and select the *Copy Record Fields* command.
 - The *Copy Record Fields* dialog box opens.
3. Select the fields whose contents you want to copy to the special clipboard in your software.
 - Not all of the fields can be selected. Fields whose contents cannot be copied are displayed with a little lock icon .
4. If fields are selected whose contents you don't want to copy, you can clear the selection.
5. Close the dialog box with *OK*.
6. In the current database view, select the record whose contents you want to copy to the special clipboard. You can also select several records. Make sure that the selected record is of the same type.
-  7. Open the context menu and select the *Paste Record Fields* command.
 - If the record fields into which you want to copy the information are not empty, you will receive a warning message that informs you that existing record fields will be overwritten.
 - If you close the warning message with Yes, the content of the special clipboard is copied into the selected fields.

Note: If you want to insert several records of the same type, you can copy the information that you entered for the first record and then paste it into the

corresponding fields when you insert the subsequent records. To do so, use the *Copy* and *Paste* buttons that are displayed in the *Insert <document type>* dialog box.

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3.3. **Sorting, filtering and grouping records**

There are several ways in which you can display records in the *Database* tool window's various views.

3.3.1. **Sorting records**

In many cases you can sort the records into a list view in such a way that the records that interest you are located at the top of the list and can therefore be easily found.

1. Switch to the view in which you want to sort your records. Sorting is possible in the Project List View, Sample List View, and Search Results (Table View).
 - The column headers show the database fields that will be displayed in the current list view.

Sorting records in ascending or descending order

2. Click the column header with the database field by which you want to sort.

For example: In the current list view, the database field [Orderer] is displayed. Click the column header to have all of the records sorted in alphabetical order by client's name.

- The sorting process will be set. If the database is large, it can take a while before all of the records have been sorted as you want.
 - The database window's status bar shows the current way in which the records are sorted.
Additionally, a small arrow in the column header indicates by which database field the list is currently sorted.
3. Left click once more on the column's header to reverse the sorting order (e.g., to sort numerical data in ascending order instead of descending order).
 - The small arrow in the column header shows the direction in which they are sorted.
 - The sorting order set will be saved. The next time you start the program, the same sorting order will be set.
 4. To cancel the sorting method, right click the column header with the current sorting criterion. Select the *No Sorting* command from the context menu.
 - The records will now be sorted either by their insertion order or manually.

Sorting records by their insertion order

1. Right click one of your database's list views. By doing this you will open a context menu with a number of commands.
 - The context menu always contains the commands *Sort Manually* and *Sort by Insertion Order*. Which commands the context menu additionally contains, depends on the current list view's configuration. The *Sort by <database field>*

command exists for every database field that is displayed.

- You not only have this possibility to sort records in the list view, but also in the Gallery View.
2. Choose the *Sorting* entry from the context menu to open a menu with several commands with which you can sort the lists.
 3. Select the *Sort by Insertion Order* command.
 - The records will now be sorted in such a way that the most current records are on the top.

Sorting records arbitrarily

For example: You are working with a certain sample folder that contains very many images. An overview image of your sample is also one of these images. You want to have this overview image positioned at the top left in the Gallery View.

1. Switch to your database's Document View and select the sample folder.
2. From the Gallery View's context menu, select the *Sorting > Sort Manually* command.
 - The manual sorting option is shown in the database window's status bar.
 - You can now use your mouse to move around the thumbnails however you want, by Drag&Drop.
3. Drag the overview image by Drag&Drop to the position you want.
 - Even when you choose another sorting method, your software makes a note of the manual sorting you've set up. As soon as you use the *Sort Manually* command again, the order of the records will be returned to the order you manually set up.

3.3.2. Filtering records

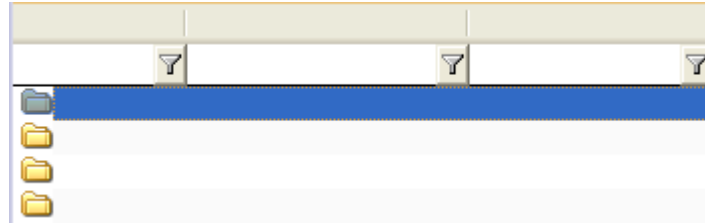
In the database views Project View and Document View, you can set a data filter to hide records that, at the moment, don't interest you. This will limit the records that are displayed to a reasonable number.




Filtering by certain database fields

For example: In the step-by-step instructions that follow, it is assumed that the database contains the [Project Status] database field. Filter for the [Project Status] database field to see only the projects that are currently in progress.

1. Switch to the database view in which you want to filter the records. Switch to the Project View if you want to filter the project list.
 - You can also filter in the Document View. You will then only see the sample folders of the current project, that corresponds to the filter criteria.
2. Check whether the database field by which you want to filter is on display in the Project List View, or not. Should it not be displayed, change the Project List View to include it.
 - In the column header, under all of the displayed database fields, you'll find an

input field for the text, according to which you want to filter.



3. Enter the text by which you want to filter, in the input field. For example, under the [Project Status] database field, enter the text "In Progress".
 - You don't have to enter the complete text. Your database will filter out all of the records whose entries in the corresponding database field, begin with the text entered. For example, simply enter "In". Your database will then filter out all of the records whose project status begin with "In", for example "In progress" or also "In process".
 - All of the records that don't correspond to the current filter criteria will be faded out.
 - When a data filter is active, you'll see a small filter icon on the bottom left-hand side, in the database window's status bar . There, the number of records that fulfill the current filter criteria will also be shown. The message "26 of 12000 records" means, for example in the Project View that the database contains a total of 12,000 projects of which 26 fulfill the filter criteria.
-  • When a data filter is active, the *Remove Filter* button will be available. You can find this button on the *Database* tool window's lower toolbar.
4. You can simultaneously filter according to the entries in several database fields. For example, in the input field under the [Employee] database field, enter additionally the name of the employee, e.g., "Miller".
 - Then only the projects with the project status "In Progress" which are at the same time being worked on by the employee "Miller" will be displayed.
-  5. Click the *Remove Filter* button to remove the data filter and have all of the database's records displayed once more.

Using the data filter automatically at startup

1. Choose a data filter so as to filter the project list. For example, filter by project status.
2. Use the *Database > Set Default Project Filter* command.
 - If you close your software now and restart, the chosen data filter will automatically be set. The data filter which is set when the software is closed does not influence this.

Working with complex data filters

Some data filters can't be put into practice via the predefined input fields that are displayed in the column header. For example, you can't formulate any OR conditions, or define data filters for documents that are contained in a sample folder. Complex data filters do not have these limitations.

For example: You only want to see the images in a sample folder, all other document types are to be hidden.


1. Switch to the Document View and select a sample folder, if you want to filter the documents in the database that apply to this sample.
2. Use the *Database > Define Filter...* command.
 - The *Define Filter* dialog box appears. You define the filter criteria here. It shows the data filter that was last applied.
3. Determine in the *Search for* group for which record type the data filter is to be valid. Here, select the *Image* check box only.
 - Which type of record will be offered depends on the current view. When you are in the Document View, for example, the record type *Project* won't be offered, since in the Document View, no projects are displayed.
4. When you simply only want to see all of the images in the sample folder, you don't need to make any further entries in the *Conditions* group.
You can, of course, additionally define one or more filter criteria in the *Conditions* group. You can, e.g., have only those images of the sample displayed that were acquired by a certain user.
5. Click the *Search* button to close the *Define Filter* dialog box and to apply the data filter.
 - In the Gallery View, now only the images that fulfill the filter criteria set will be displayed. All other types of document, e.g., workbooks, will be hidden.

Applying complex filter types once or repeatedly

There are several ways in which you can work with data filters.

1. If you need a data filter only once, use the *Database > Define Filter...* command to define the filter and apply it immediately.
2. If you want to use a data filter repeatedly, save the data filter and use it in the Project Filter View, or the Document Filter View.

Working with a filter view

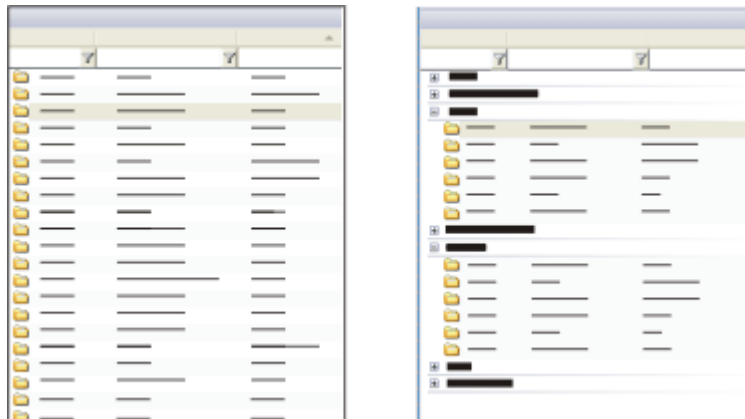
1. Use the *Database > Define Filter...* command.
2. You define the filter criteria in the *Conditions* group.
From the *Field* picklist, select, e.g., the [Project Status] database field.
In the *Compare* column, select the comparison operator. Select, e.g., the comparison operator "contains".
In the *Value* picklist, select the entry "(Variable)".
-  3. Save the data filter. To do so, click the *Save Filter Definition* button.
 - The *Save Filter Definition As* dialog box opens.
4. Give it a descriptive name, so that you and other users will be able to easily recognize the filter criterion. Give the new data filter the name "Project status" for example.
5. Close all dialog boxes with *OK*.
 - You have then saved a data filter that you can use in the Project Filter View.



6. Make sure that the project filter view is on display. That is the case when the *Show/Hide Filter View* button appears clicked. You can find this button on the *Database* tool window's lower toolbar.
7. Select the newly defined data filter from the list next to the *Search* button.
 - Then in the Project Filter View, all of the filter criteria will be displayed that have been defined for the selected data filter. In this example, the filter criterion "Project Status contains" has not yet been fully defined.
8. Complete a variable filter criterion by entering a value in the input field, e.g., "finished".
 - Then the filter has been completely defined.
9. Click the *Search* button.
 - The project list will then be filtered. Only the projects that fulfill the filter criteria you have set will be displayed.

3.3.3. Grouping records

In many cases, you will be able to group the records in the Project List View or in the Sample List View in such a way that you will be able to reach the records you're interested in with only a few clicks. For example, you can group the samples in a project by their method of investigation.



On the left-hand side, you'll see a list view of the database. All of the records will be arranged in the same way, one under the other. On the right-hand side you'll see the list view after the records have been grouped according to the criteria in a database field. The records are now assigned to a group that is displayed in a tree view. When you shut all of the groups, the display is, as a rule, more clearly laid out than it is without being grouped.

Grouping records

1. Switch to the view in which you want to group the records. It is possible to group records in the Project List View or in the Sample List View.
2. Right click on the header of the column by which you want to group.
 - A context menu opens.
 - You can group by any database field you wish. However, a grouping only then makes sense, when the database field doesn't allow too many different entries.

When for every record, another entry in a database field is made, as it is e.g., for the [Record Name] or the [Insertion date] database fields, grouping according to this database field doesn't lead to more clarity.

3. Select the *Group by this Field* command.
 - The grouping takes place. The records will then no longer be displayed in a list, but instead in a tree view.
All of the records have then been allocated a particular group criterion, e.g., the database field "Operator". Every field entry produces a superordinated entry in the tree view, e.g., "Operator: Mr. Smith". To expand the entries belonging to a particular criterion, click the small plus sign in front of the criterion.
 - The number of groups after the grouping has been carried out, corresponds to the number of different entries there are in the database field used for the grouping action. When you, for example, allow the three entries "In Progress," "Postponed" and "Finished" for the [Project Status] database field, three groups will be generated. Every record will, depending on the project status, be sorted into one of the groups.
4. If you want to, you can sort the grouped records in ascending or descending order.

Canceling a grouping that has been set

1. Switch to the view in which you want to cancel the grouping. It is possible to group records in the Project List View or in the Sample List View.
2. Right click on the header of the column by which records are currently being grouped.
If you don't know what records are currently being grouped by: The database field that is being used as group criterion will always be specified in the tree view.
 - A context menu opens. The *Group by this Field* command will be indicated by a check-mark when this database field is currently being used as the group criterion.
3. Select the *Group by this Field* command to remove this grouping.
 - The tree view will be canceled and the records once more displayed in a list.
4. You can also cancel all of the groupings simultaneously. To do so, right click on any column header and select the *Ungroup Table* command from the context menu.

Creating a multi-level grouping

1. Group the records. Choose as a group criterion, e.g., the database field [Operator].
2. Right click on the header of an additional column by which you want to group. Choose as a group criterion e.g., the database field [Method of investigation].
 - The records will then initially be grouped by the operator. All of the records that belong to the same operator will then be once more grouped by the method of investigation.

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3.3.4. Examples for data filters

Here, you will find examples for possible data filters. You can at any time also use a data filter for a database search.

The way to write it

A data filter contains one or more filter criteria. You formulate a filter criterion in the following manner:

([Database field] comparison operator 'Field entry')

Database fields are specified in square brackets, field values in inverted commas. As comparison operator, the operators that are specified in the *Define Filter* dialog box are used.

Please note that the data filters specified here are only examples. In your database other database fields may be defined.

Data filter	Filter results
[Preparation] equals 'thin section'	All of the records in which the term 'thin section' has been entered in the [Preparation] database field. Should the field entry not be 'thin section' but instead e.g., 'thin', the record will not be displayed with this data filter.
[Insertion date] >= '03.03.2007'	All of the records that have been inserted since the 3rd. of May 2007.
[Child Count] <> '0'	When you use this data filter in the database's Project View, all of the project folders to which additional data has already been added will be displayed. All project folders that are still empty will be hidden.
[Insertion date] >= '03.03.2007' AND [Insertion date] < '01.05.2007'	All of the records that have been inserted between the 3rd of March 2007 and 31st of May 2007.
[Comment] contains 'untreated'	All of the records that contain the word "untreated" in the image comment. The word "untreated" can be anywhere in the image comment. The complete image comment text will be browsed.
[User] equals 'Mr Smith' AND [Project] equals '340698'	All of the records that Mr Smith has inserted in the project 340698.
[User] equals 'Mr Smith' OR [User] equals 'Mr Jones'	All of the records that Mr Smith and Mr Jones have inserted in the database.
[Project] equals 'Project A' AND ([User] equals 'Ms Thompson' OR OR [User] equals 'Ms Richards')	All of the records concerning the project A that the users Ms Thompson and Ms Richards have inserted into the database. The brackets are essential in this case. Without the brackets, the system would show all of

	<p>the records that Ms Thompson has inserted into the database concerning project A, and additionally, all of the records user Ms Richards has inserted into the database, and not only those concerning project A. The reason for this is that, without brackets, the logical AND operator will be taken into account before the OR operator.</p>
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3.3.5. Database search / Data filter

As well as the possibility of searching for data in your database, you can also filter data in a specific database view. What is the difference between a database search and a data filter?

The database search differs from the application of a data filter in the following points.

	Database search	Data filter
Which data are affected?	A database search will always be conducted through the whole database.	A database filter always relates to the current database view.
Examples	<p>You want to view all of the images that are contained in two different projects.</p> <p>The <i>Database > Define Search...</i> command is available in every database view. This means that you can formulate the appropriate search definition in your database's Project View, and carry out the search.</p>	<p>In the Project View, a data filter always applies to the project folder on display. You can, e.g., have only the projects displayed that have the project status, "open".</p> <p>In the Document View, a data filter always applies to documents contained in the sample folder that has been selected.</p> <p>The <i>Database > Define Filter...</i> command isn't available when you're in your database's Search Results View.</p>
Where will the results be displayed?	You will find the results of a database search in a special database view, the Search Results View.	A database filter hides records in the current database view.
How do I cancel a database search or remove a data filter?	The data in the search results view will be automatically overwritten by a new database search.	Use the <i>Database > Remove Filter</i> command to remove the active data filter. Then all of the records

		will be displayed once more.
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3.4. Searching for records

You can search for data in your database at any time you want to. When you search through a database, please pay attention to the following points.

- You must define search conditions if you want to find records.
- You will find the results of a database search in a special database view, the Search Results View.
- Each new database search overwrites the results of the previous search.

Different search possibilities

There are always two ways to search for records.

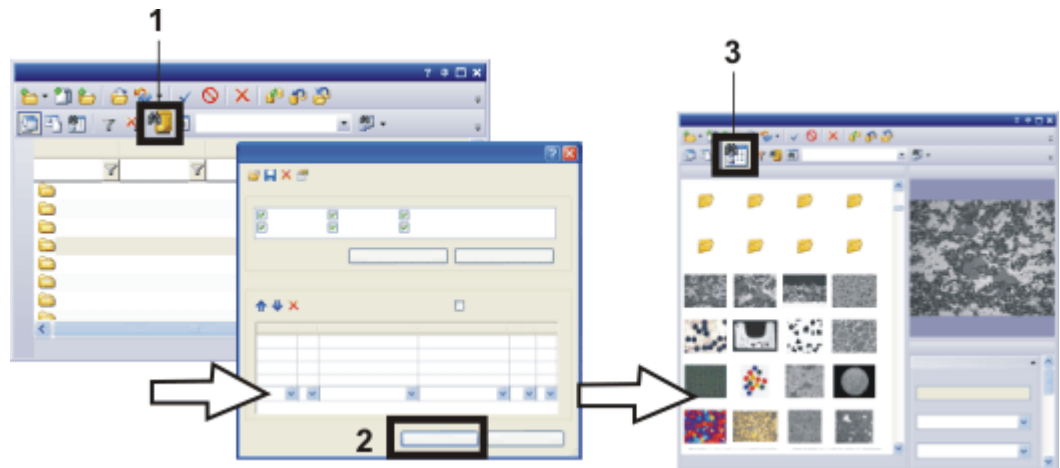
- [Searching directly for a record](#)
If you only need a search definition once, specify the search condition with the *Database > Define Search...* command, and apply it directly.
- [Searching in the Search View](#)
If you want to use the same search definition repeatedly, save the search definition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

Searching the entire database for text

You can search for text directly in your database without first having to define a search definition. In a full text search, all entries in all database fields with the data type *Text* or *Memo* will be searched.

3.4.1. Searching directly for a record

1. Use the *Database > Define Search...* command.
 - The *Define Search* dialog box opens. You define the search conditions here.
 - You can use the *Define Search* dialog box in every one of your database's views. That's to say, you can also search for images in the database's Project View, or inversely, search for projects in the Document View.
2. In the *Search for* group, you can limit the search to a few record types. You can, for instance, only search for images or for projects.
3. Define one or more search conditions in the *Conditions* group.
4. Click the *Search* button to start the database search.
 - Your software will switch automatically into the database's Search Results View. Here, only the records that fulfill the current search conditions will be displayed.



This is how you can search directly for records:
Open the *Define Search* dialog box. To do so, click, e.g., the *Define Search* button (1). In the *Define Search* dialog box, define the search conditions, then click the *Search* button (2) carry out the search.
The search results will be displayed in your database's Search Results View (3).

Exiting the Search Results View

There are several ways to leave the Search Results View.

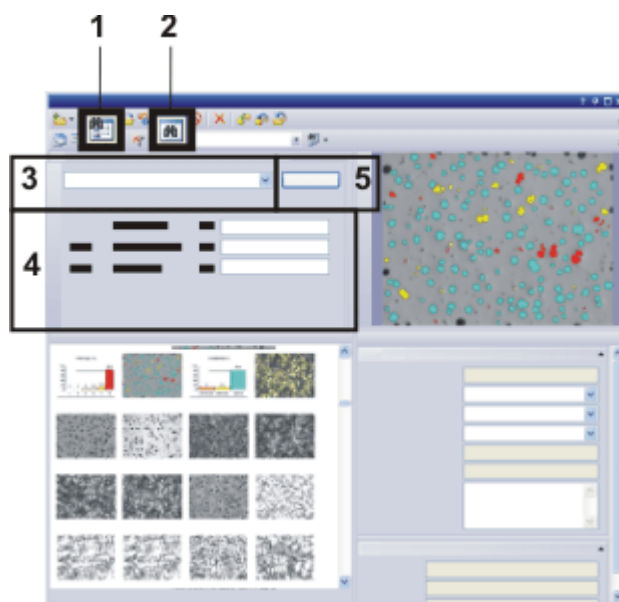
1. Select a record in the Search Results View.
Click your right mouse button and select the *Go To Record* command in the context menu.
 - Your software will then automatically display the sample or the project to which the record you've selected belongs. To do this, your software will automatically switch to the appropriate database view.
2. Click the *Show Projects* button to switch to the Project View of the database. You can find this button on the *Database* tool window's lower toolbar.
3. Click the *Show Documents* button to switch to the Document View of the database. You can find this button on the *Database* tool window's lower toolbar.

3.4.2. Searching in the Search View

In the step-by-step instructions that follow, it will be assumed that search definitions that have been saved already exist. Should this not be the case, you can find step-by-step instructions on how to create and save a search definition further below.


1. Click the *Show Search Results* button to switch to the Search Results View of the database. You can find this button on the *Database* tool window's lower toolbar.
2. Make sure that the Search View is on display. That is the case when the *Show/Hide Search View* button appears clicked. You can find this button on the *Database* tool window's lower toolbar.
3. Select the search definition you want from the list next to the *Search* button.
 - In the Search View, the search conditions will then appear.
4. 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.
5. Click the *Search* button.
 - The search will be carried out. As a result of the database search, all the records that fulfill the search conditions you've set will be displayed.
 - When a database search has been carried out, the number of records that have been found will be shown at the bottom left-hand side of the database window.

The message "26 of 12000 records" means, for example, in the Project View, that the database contains a total of 12,000 projects, of which 26 fulfill the search conditions.



Use variable search conditions to search for records in your database's Search Results View (1). Display the Search View (2). Choose the search definition (3), define the search condition (4), then carry out the search (5).

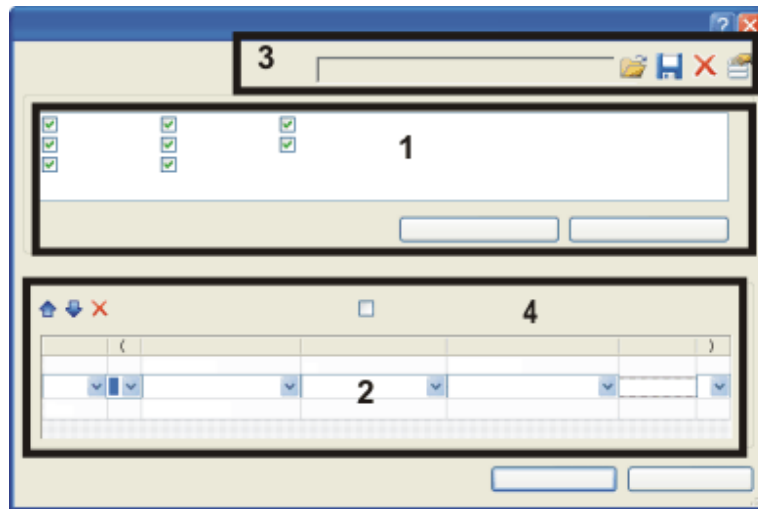
3.4.3. Specifying the search conditions for a database search

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.
3. Define the first search condition in the first line of the *Conditions* group.
 - As soon as you have completely defined the first search condition, an additional line appears for an additional search condition.
 - When you want to use the search definition in the Search View, you should, if possible, use variable search conditions. For example, specify the following search condition:
[Record Name] contains "(variable)".
Then you can very easily search for whichever record names you want in the Search View.
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.
 - The *Save Search Definition As* 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. Click the *Save* button to save the search definition.
 - The *Save Search Definition As* dialog box will be closed, and you'll return to the *Define Search* dialog box.
8. Close the *Define Search* dialog box.
9. Switch to the Search View and try out the database search.

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3.4.4. Dialog box - Define Search

Use the *Database > Define Search...* command to define search conditions for a database search.



- (1) Limiting your database search to certain types of record
- (2) Defining search conditions
- (3) Saving, loading and deleting search definitions
- (4) Finding child records

(1) Limiting your database search to certain types of record

You can selectively search for specific types of record. In the *Search for* group, all of the record types that have been defined in the current database will be listed. This means that, depending on the database, you can find different entries there. Select the check box in front of every type of record that is to be taken into consideration during the database search.

Searching solely for images

For example: You are looking for a specific image. You know that the image was inserted into the database after the 1st July 2013.

1. Use the *Database > Define Search...* command.
 - The *Define Search* dialog box opens.
2. Click the *Deselect All* button in the *Search for* group.
 - All of the check boxes in the *Search for* group will be cleared.
3. Select the *Images* check box.
4. Define the following search condition in the *Conditions* group.
[Creation Time] >= '1.7.2013 00:00'
 - Note: You can only enter search conditions when at least one record type has been selected in the *Search for* group.
5. Click the *Search* button to start the database search.
 - Your software will switch automatically into the database's Search Results View. There, you can find all of the images that were inserted into the database after the 1st July 2013.

- Only images will be searched for. The database search finds no other types of record, for example no workbooks, database folders or report instructions.

(2) Defining search conditions

You define the search conditions for a database search in the *Conditions* group. There you can formulate very simple search definitions with only one search condition, as well as very complex search definitions that are made up of several search conditions.

Defining a simple search condition

You define a simple search condition in the following manner:

([Database field] Comparison operator 'Field value')

To define the search condition, you have to fill in the fields *Field*, *Compare*, *Value* and *Unit*. To do this, in the *Define Search* dialog box, click in the appropriate field, in the table in the *Conditions* group. As soon as you have clicked on one of the fields, a picklist with a range of possible entries for this field opens.

Field	Compare	Value	Unit

Field

The *Field* picklist contains all of the database fields that have been defined for the type of record you have selected. Select a database field to search for entries in this database field.

The database fields in the *Field* picklist are arranged in alphabetical order. You can make the search easier: To do so, click in the field and enter the initial letter of the database field you are searching for. Then the first database field with a name beginning with this letter will automatically be displayed.

Then use your keyboard's arrow keys to browse through the database fields. You begin with the database field that is on display.

Example: Select the [Creation Time] database field when you're interested in images that were acquired before or after a specific date.

Compare

The *Compare* picklist contains comparison operators for search conditions. Which comparison operators will be offered, depends on the data type of the database field that has been selected.

Example: A database field of the *Integer* data type offers the comparison operator <>. The comparison operator [<>] stands here for "not equal to".

Limit your search to the *Image* record type. The search condition ([Bit Depth] <> '8') searches for all of the images with another bit depth than 8 bit, e.g., for 24-bit true-color images.

Restrict the search to the record type *Project*. The ([Child Count] <> '0') search

condition will then look for all of the projects for which samples have already been inserted. Since only for these projects is the child count not equal to 0.

Value

Enter the concrete field value that is to be used in the database search, in the *Value* field. Should a picklist have been defined for the selected database field, you can find all of the entries of this picklist in the *Value* list.

In the *Value* field you will also find the options (*Blank*) and (*Variable*). You can find more information further below.

For example: In the database, the database field [Preparation] has been defined. When a record is inserted, you enter which preparation has been used, and in this way specify the value for the database.

The search condition ([Preparation] equals 'thin section') then searches for only the samples that have been prepared as a "thin section".

Unit

The *Unit* field will be automatically filled out when a unit has been defined for the database field that has been selected.

For example: For the [t Spacing] database field, a unit of time e.g., seconds, will always be defined. The database field shows, where a time stack is concerned, the time interval between two frames.

Defining a variable search condition

You define a simple search condition in the following manner:

([Database field] Comparison operator 'Field value')

What is a variable search condition?

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.

How do you define a variable search condition?

You define a search definition in the *Define Search* dialog box, in the *Conditions* group. If you don't make a concrete entry in the *Value* field, or select one from the picklist, but instead, select one of the entries (*Blank*) or (*Variable*), you will have defined a variable search condition.

How do you use a variable search condition?

A variable search condition can, just as every other search condition, be used in the *Database* tool window's Search View.

When do you apply variable search conditions?

Generally speaking, it makes sense to use variable search conditions when you want to use a database search repeatedly.

Example:

Let's suppose that in your database, the database field [Project Status] has been defined. When you use variable search conditions, you need only once define a search condition if you want to make a quick search for projects with an arbitrary status. This search condition reads:

([Project Status] equals '(Variable)')

If you don't use a variable search condition, you will have to define an individual database search for each and every project status, that's to say, ([Project Status] equals 'closed'), ([Project Status] equals 'running') etc In this case you'll need at least 3 saved search conditions, if not more.

Defining a database search with several search conditions

In the *Define Search* dialog box, you can formulate very complex search definitions for a database search.

How do you define several search conditions?

As soon as you have completely defined the first search condition, an additional line will appear in the dialog box, for a new search condition.

A search definition that contains two search conditions is defined as follows:

([database field1] comparison operator 'field contents1') <logical operator> ([database field2] comparison operator 'field contents2')

Using the logical operators AND and OR

Two search conditions will be linked by either the logical operator AND, or by the logical operator OR.

Select the logical operator you want in a line's first field.

Select the logical operator AND to search for all of the records that simultaneously fulfill all of the search conditions.

Example: You are looking for records that Ms. Miller inserted into the database in 2012. Define the following search condition:

([user] equals 'Miller' AND [insertion date] > '31.12.2011' AND [insertion date] < '1.1.2013')

Select the logical operator OR to search for all of the records that fulfill at least one of the search conditions.

Example: You are looking for all Z-stacks or time stacks. Define the following search condition:

([number t-layers] > '1' OR [number Z-layers] > '1')

Using brackets

When you use several search conditions you may, in certain cases, need to use brackets. Set the brackets around the two search conditions that are first to be evaluated. Without brackets, the logical AND operator will be taken into account

before the OR operator.



Deleting individual search conditions

In the *Conditions* group, select the search condition you want to delete. Click the *Delete Condition* button in the *Conditions* group to delete the line with the selected search condition from the search definition.

Should you want to delete all of the search conditions, in order to begin defining the database search from scratch, click the *Delete All Conditions* button, located at the top of the dialog box, immediately below the title.

(4) Saving, loading and deleting search definitions

Use the zoom buttons in the dialog box to save, load, delete or manage search conditions.

(4) Finding child records

Select the *Find child records* check box, to search for records within specific database folders. To do so, define a search condition for the database folder to receive all records within the found database folder in your search results.

This enables you to e.g., implement the following search conditions in your database:

For example: Let's suppose that your database contains the structuring record type *Project*. You now want to find all of the images that have been inserted into the database and belong to the projects "P01_2011", and "P02_2011".

1. In the *Search for* group, select only the *Image* check box, so that only images will be found.
2. Select the *Find child records* check box.
 - Your software will automatically delete all currently defined search conditions.
3. Define the following search condition:
[Record name (Project)] equals "P01_2010"
OR [Record name (Project)] equals "P02_2011"
 - The search results contain all of the images which have been inserted to the project "P01_2010".
The projects themselves are not contained in the search results.

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3.4.5. Find Text in Database

You can search for text directly in your database without first having to define a search definition. In a full text search, all entries in all database fields with the data type *Text* or *Memo* will be searched.

You can find the full text search functions in the lower toolbar in the *Database* tool window.



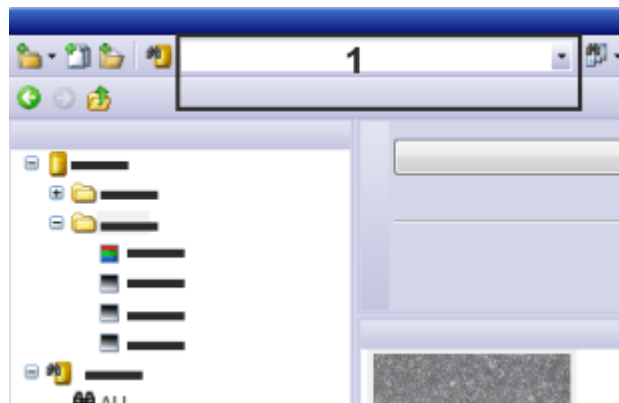
Entering search terms

When entering search terms, note the following points:

- You can enter more than one word. In that case, the database searches for all records where both terms are used.
- You don't have to enter the complete word. For example, enter the text "chemi". Your database will now find all records in which the words "chemical" or "chemistry" are used.
In this way, the entry "alumin" is sufficient to find "aluminium".
- The full text search isn't case sensitive.
- Avoid using special characters, for example # or &.

Example: You want to find all records with the key word "Aluminium oxide" used within any of the database fields.

1. Make the *Database* tool window appear.
 - There is a field (1) where you can enter text in the tool window's toolbar. If you have not yet searched for any text, *Enter text here* will appear in the field.



Entering search terms

2. Enter the search terms into the search field (1). In this example, enter "Alumin".

Limiting your full text search to certain types of record

3. You can limit the full text search to certain record types. You can, e.g., only search for images. Click the small arrow next to the *Find Text in Database* button to open a menu with commands you can use with full text search.
4. Select the *Select Record Types...* command.
 - The *Select Record Types* dialog box appears. Here, all of the record types that

have been defined in the current database are listed. This means that, depending on the database, you can find different entries there.

5. Select the check box in front of every record type that is to be taken into consideration during the full text search.
Clear the check box in front of every record type that is to be ignored during the full text search.
 6. Close the dialog box with *OK*.
- When you excluded several record types, the appearance of the *Find Text in Database* button changes. Then the button will look like this:



Starting the full text search

7. Click the *Find Text in Database* button to start the full text search.
 - Before the full text search begins, your software automatically checks whether the full text search has been activated on the database server. If the full text search hasn't been activated on the database server, the search may take a long time. In this case a message appears and you can still cancel the full text search.
 - The full text search is carried out. The search will return all records in which the word "aluminium" appears in any database field of the data types *Text* and *Memo*.
 - The search results are shown in the Search Results View.

Note: You won't be shown in which database field the searched term was found. Because it is searched in every database field, it is possible that the database field with the searched text is not shown in the current database view.

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3.5. Selecting records

Before you can load, move, or delete records from the database, you have to select the records you want in the database.

Selecting database folders

In some database views, database folders are displayed. There are, as a rule, several records in a database folder. In your database's Project View, you'll find, for example, project folders that contain sample folders with images and other documents. All of the records that are below the selected database folder are also selected when you select a database folder.

Please note: When you select a record below which a large number of other records are arranged, then subsequently use, e.g., the *Delete Record* command, all of the documents below the selected database folder will be deleted.

Selecting several records

In most of the database views, you can select several records simultaneously.

For the selection the standard MS-Windows conventions for multiple selection are valid.

- You can select individual records that aren't arranged consecutively. To do so, hold the [Ctrl] key depressed and click the records you want.
- You can select a row of records. To do so, hold the [Shift] key depressed and click on the first and last record that you want to select.

Selecting several records out of the results of a search.

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.

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3.6. Loading documents

3.6.1. Overview

To load documents out of a database into your software, use the *Load Documents* command. A document can be an image, but also a report instruction, a chart, or another document.

Before using the command

Switch to your database's document view. Select the documents you want to load in the database gallery.

Accessing the command

There are several ways of accessing this command:



- Click the *Load Documents* button. You can find this button on the *Database* tool window's upper toolbar.
- Use the *Database > Load Documents* command.
- You can also find the *Load Documents* command in the context menu for the database gallery.

What will happen...

- Your software will switch automatically from the "Database" layout into the "Processing" layout.
- Should your software be able to load the selected documents, they will be loaded into the document group. Every document will be allocated its own window in the document group. Click the title of a document to have that document displayed.
- To load an image, the image data has to be requested from the File Server and transferred to your database client. Depending on how quick your network connection is, on how large the image is, and which document storage type you use, loading an image can take quite some time.

When do you have to load documents?

- Your software supports a variety of image types. Please note that the image preview doesn't allow you access to all of the image information. For example, you won't be able to view the individual frames within a time stack separately. If you want to view the image in more detail, load it into the document group.
- You will need to load an image from the database when you want to process an image from a database. Typical processing includes measuring or using filters.

You can also view images in their full resolution in the *Database* tool window. To do so, you don't have to load them separately in the document group. To do so, use the Document/Live-image View.

Loading document types that are not supported

Some documents can't be viewed in the database. For example, reports or files from other application programs such as, e.g., DOC and XLS files, will be displayed as an icon in the database gallery. These documents will have to be loaded if you want to view them.

If you load these files, the respective application program e.g. MS-Word or MS-Excel, will automatically open, should the application program have been installed on your PC.

Should the appropriate application program not have been installed on your PC, you will receive a message to this effect.

In this case, select the document in the Gallery View, then right click and use the *Open With* command from the context menu. Your program will offer you all of the programs with which the document type can be opened.

Alternatively, you can export the document and view it on another PC on which the corresponding application program has been installed.

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3.6.2. 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. You can only use this possibility when the database window hasn't been maximized, and the document group and database window are opened at the same time.
- You can set up your software so that you can also load the documents by double clicking in the document group. To do this, open the *Tools > Options > Database > General* dialog box. From the *When a document record is double-clicked* list, select the *Load the Document* entry.

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. Switch to your database's Document View, and select a sample folder.
 - 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.

2. Select the thumbnails or icons for all of the documents you want to load.



3. 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.
- Your software will switch to the *Processing* layout.
- 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.

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3.7. Editing records in a database

There are several ways in which you can edit records after you have inserted them into the database.

Note: If you have the software version "Olympus Stream Enterprise", not every user has the right to edit records. Apply to your database administrator when you want to change your user rights.

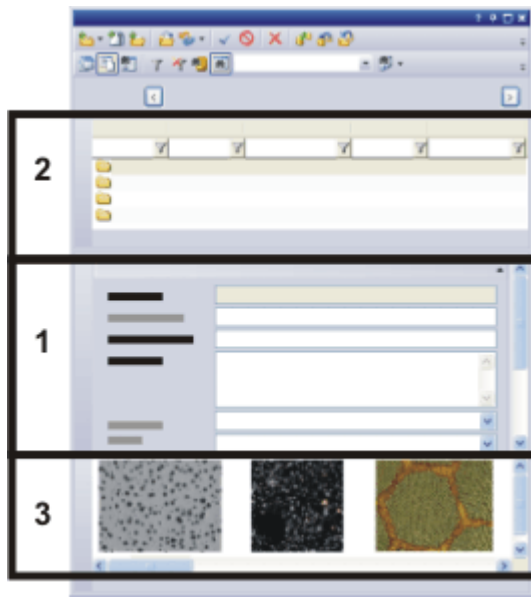
Changing and adding to entries in database fields

When you set up a record, you already have to make entries in the mandatory fields. You can change, or add to entries in the database fields at any time.

An exception to this rule are the database fields that are automatically filled out, such as the record name. These database fields can't be edited.

1. Select the record you want to edit or to add to the contents of its database fields.

You can select records in the Project View or in the Document View. In the Document View you select either a sample folder in the Sample List View, or a document in the Gallery View.



In your database's Document View you have access to sample folders and documents. Select a sample folder in the Project List View (2). The Document Info View (1) will then show you the information that has already been entered in the database fields for this sample. Select a document in the database gallery (3). You will now see the information related to the selected document in the Document Info View.

- The Project Info View or the Document Info 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.
 - 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.
2. 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.



3. Click the *Confirm Changes* button to have your changes adopted. Click the *Abort Changes* button if you decide not to make the changes in the contents of the database fields.
 - The record will be changed when you have confirmed the changes.

Changing entries in database fields without an inquiry

1. Add to or change the entries relating to the record.
2. Finalize the editing of the database fields for this record. To do this, select, for example, the next record.

- Your software will then open a dialog box with the inquiry whether or not the changed values are to be adopted.
In this dialog box, you'll find the *Don't ask me again* check box.
3. Select the *Don't ask me again* check box.
 - You can then change entries in database fields without having to confirm these changes. Altered entries will then be automatically saved in the database, as soon as you, e.g., select another record.
 4. You can switch this inquiry back on. To do this, use the *Tools > Options...* command. Select the *Database > General* entry in the tree view. Select the *Ask before saving record changes* check box.

Processing the documents from a database

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

Note: The following step-by-step instructions don't apply to external documents. External documents are documents of a type that can't be loaded into your software, e.g., MS-Excel documents.

Specifying how your database is to behave when changes are made to documents

1. Use the *Tools > Options...* command. Select the *Database > General* entry in the tree view.
 - In the *Saving loaded document* group, you specify how your software is to behave when you have changed a document that has already been saved in a database.
2. Choose the *Always ask what to do* option.

Editing a document from a database and reinserting it

3. Load an image from a database. To do this, select the image and use the *Database > Load Documents* command.
 - The image will now be shown in the document group.
 - Your database will then automatically switch into the "Processing" layout.
4. 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.
5. 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.

6. 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.
 - Your software retains the information that the document was loaded from a database, even if this database was then closed after the loading of the document was completed. In this case, your software will automatically open the *Open Database* dialog box.

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3.8. Moving records within a database

You can move existing records within your database.

When you move images or other documents, there are two very different tasks that are related to the moving.

- You can move images and documents into another database folder. By doing this, you change the actual contents of some database fields that are linked to the record. Images and documents that have been moved will be displayed at another position in the user interface. The actual document files won't be changed in this process.
- The database administrator can move images and documents to another document directory. This also changes the storage location for the documents.

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

Moving documents by using commands from the context menu

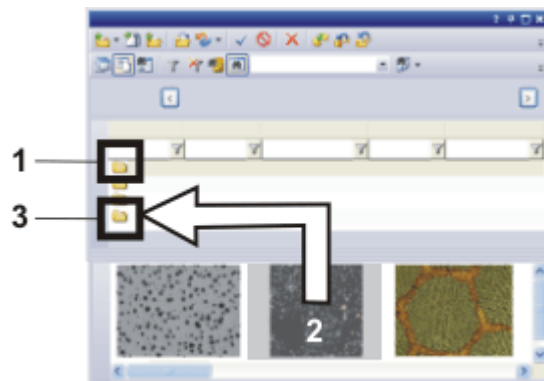
1. Select the records you want to move.
 - You can select the records in different database views.
Switch to your database's Document View and select the documents in the database gallery.
Alternatively, you can also search for the documents that you want to move. Then select the documents in the Search Results View's 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.
 - When your database is based on the database template that is provided, you can only insert images and documents into a sample folder.
4. Click the right mouse button to open a context menu. Select the *Paste* command from the context menu.
 - The record is moved.

Note: Use the *Paste* and *Cut* commands from the context menu as well to move sample folders to another project folder.

Moving records by Drag&Drop

Alternatively, you can also move a record by Drag&Drop. Let's assume that several sample folders belong to a project. You want to move one image from one sample folder to another.

1. In your database's Project View, doubleclick the sample folder.
 - Your software will switch to the Document View. There, you can see the sample folders that belong to the chosen project.
2. Select the sample folder that contains the documents you want to move.
3. Select the documents you want in the Gallery View.
4. While keeping your left mouse button depressed, drag the document onto the sample folder into which you want to insert it.



The illustration shows the *Database* tool window in the Document View. The sample folder (1) has been selected, and the Gallery View shows the documents that are in that sample folder. To move the image, drag it, while keeping your left mouse button depressed, (2) onto the sample folder (3).

- Your software opens a dialog box with an inquiry.
5. Confirm the request.
 - The document is moved. The document disappears from the Gallery View.
 6. Select the sample folder into which you have moved the document.
 - Then you'll see the document you've moved in the Gallery View of its new sample folder.

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3.9. 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 whose data structure you want to export.
2. Select a layout in which you will be able to display several tool windows. Use, e.g., the *View > Layout > Processing* command to switch to the *Processing* layout.
3. Use the *Database > Import/Export > Export Database...* command.
4. Assign the DBE file a name.
5. Specify the location at which the DBE file is to be saved.
6. 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.
7. 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 can see a corresponding message at the end of the list, located in the *Logging* tool window.
8. Close the message box.
 - With that, the export has been completed. You can then carry on working with the current database as usual.
9. Use the *Database > New...* command when you want to set up a new database on the basis of the exported DBE file.
 - You can find more information on setting up a new database here.

Importing a database 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 *Import Database* 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 located in the *Logging* tool window.
 - The current database now also contains all records from the imported database.

5. Use the *View > Layout > Reset Current Layout* command in order to display only toolbars which are normally shown in the database layout.
 - You can then continue 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.
 - 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. The grayed out functions don't apply to your database version.
 - 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.
 - Click the [...] button next to the *Destination path* field to choose the directory into which the data you export is to be saved.
4. Click the *OK* button to start the export.
 - The export begins.
 - When the export has been completed, a message box appears.
 - You will find the exported data in the specified destination directory.
 - The exported documents in the database remain unchanged.

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3.10. Delete Record

Use the *Database > Delete Record* command to delete all records you have selected from the database. The records will then be moved to the recycle bin of the database. You will receive a corresponding warning message.

Before using the command

Select one or several records.

Accessing the command

There are several ways of accessing this command:



- Click the *Delete Record* button. You can find this button on the *Database* tool window's toolbar.

- Right click the database view that you have selected the records in. Select the *Delete* command from the context menu.
- Use the *Database > Delete Record* menu command.

What is then deleted?

When you delete a record, you will also lose all of the information that has been entered on this record in the database.

When it is deleted, all of the documents belonging to this record will be automatically deleted, too. That's to say, when you delete a database folder with images and documents, all of the images and documents in the database folder are also deleted.

No deletion of loaded documents is possible

You can't delete a document that you've loaded into the document group from the database. You receive a message when you try to delete the document.

First, close the document window in the document group, before you use the *Delete Record* command.

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Recycle bin of the database

Use the *Recycle Bin* command to see all records available in the database's recycle bin.

Accessing the command

There are several ways of accessing this command:



- Click the *Recycle Bin* button. You can find this button on the *Database* tool window's toolbar.
- Use the *Database > Recycle Bin...* menu command.



The *Recycle Bin* dialog box shows all records that have been deleted in the database.



For the currently selected record, you see all information that has been entered for this record. With image records, a preview is displayed as well, which allows you to zoom into the image.

In the *Recycle Bin* dialog box, you can either restore or permanently delete all deleted records.

Toolbar in the dialog box

The following table lists the buttons which are available by default on the toolbar.

	<i>Restore selected database records</i>	Click this button, for example, when you want to restore records that have been deleted accidentally. You will receive a corresponding warning message.
	<i>Permanently delete selected database records</i>	Click this button to permanently delete all records that are currently selected in the <i>Recycle Bin</i> dialog box. You will receive a corresponding warning message.

	<i>Permanently delete all database records from the recycle bin</i>	Click this button to permanently delete all of the records that are available in your database's recycle bin. You will receive a corresponding warning message.
	<i>Toggle between gallery view and table view</i>	Click this button to switch from the gallery view to the table view and vice versa. In the gallery view, a thumbnail is shown for every image.

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3.11. Close Database

Use the *Database > Close* command when you've completed the work you wanted to do with the current database. You will then no longer be able to make use of the data in this database, nor insert any new data in it.

The following actions will close the database automatically.

- When you close your software, a database that has been opened will be automatically closed.
- Since only one database can be open at a time, the currently open database will be automatically closed when you open another one.

Please note though, that you do not close the database when you close the *Database* tool window. You can, at any time, make the tool window reappear with the database. To do this, use, e.g., the *View > Tool Windows > Database* command.

Software functions

Your software stays open after the database has been closed, enabling you to continue working with its functions. This means that, for example, you can load images from your hard disk and process them.

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4. Administrating the database

Which tasks are the responsibility of a database administrator?

Many of the tasks that have to do with the administration of a database can only be made by the database administrator. For example, only the database administrator can set up a database, assign user rights, or change the structure of a database.

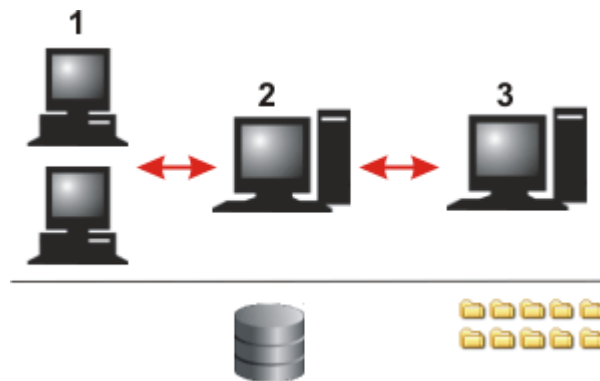
Who can be a database administrator?

A database administrator must, on the SQL server, have the right to set up a database. When this prerequisite has been fulfilled, every user of your software can take on the role of the database administrator. When you installed the Microsoft SQL server, during the installation of your software, then you'll automatically have the corresponding rights. Should you not have the necessary rights on the SQL server, apply to the SQL server administrator.

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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 database supports two different document storage types for images and other documents: *File System* and *Secure File Repository*. If you use the *File System* document storage type, you may end up with a data distribution as shown in the figure:



Your software is installed on the database clients (1). The database clients communicate with the database server.

The database and the database management system (DBMS) can be found on the database server (2). Whenever documents are inserted into the database or loaded from the database, the database server communicates with the file server.

The document directories with images and other documents can be found on the data server (3). On the database server, only a link to the document is saved.

Database clients, database servers, and file servers can also be located on one PC.

4.1.1. Database clients

The database clients are all of the PCs on which your software and an SQL-Client, or Oracle-Client, have been installed. Your software offers (among many other

functions), the user interface that enables you to communicate with the database server. From the database client, you can set up new databases and access existing databases.

For viewing, editing, or loading 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.

4.1.2. Database server

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

Database file

On the database server lies, first and foremost, the actual database file. The database file contains all of the information about the database structure, such as field tables and saved search definitions.

Also, all records are contained in the 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.

4.1.3. File Server / Server for Secure File Repository

The database supports two different document storage types for images and other documents: *File System* and *Secure File Repository*.

Where the document storage in a file system is concerned, images and other documents will be saved in special document directories. When the Secure File Repository storage type is used, images and other documents are located on a server that has been set up for this purpose as a Secure File Repository (SRF).

You determine the document storage type when you set up a new database. This can't be retroactively changed. It is, however, possible to work with several databases that use different document storage types.

Checking access to documents

No matter what document storage type you have, it is important to make sure that the PC where the documents in a database are stored, is always accessible. Should this not be the case, you will receive an error message when you try to load a document from the database.

Document storage type "File System"

Where the document storage in a file system is concerned, images and other documents will be saved in special document directories.

There are no particular requirements for the location of a document directory. They can be located practically anywhere on the network. For example, the document directory could be located on the database server itself. Of course, it is also possible to set up a specific PC as a file server where all documents from the database are stored.

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.

An alternative use is to set up a document directory for documents that are no longer used very often. By doing this, you can integrate especially safe, but slow, storage media into your database to archive documents, e.g., streamers or magnetic tapes.

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

Please note: When you connect with the File Server you can view the document directory in MS-Windows Explorer. 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.

Document storage type "Secure File Repository"

Should you wish to save your documents especially safely and protected from unauthorized access, you can acquire an additional software package that will provide you with a Secure File Repository. This will be installed on the server for Secure File Repository.

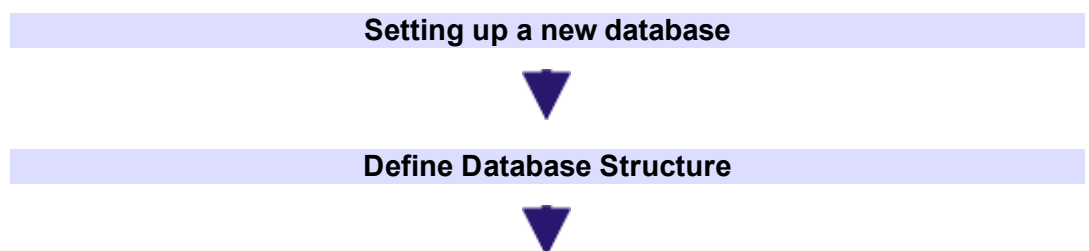
The software package is called SFR (Secure File Repository). This software package ensures that all of the database's documents can only be opened and viewed via a database client. There is no possible way for users without an authorization to open the database. In MS-Windows Explorer, directories that have been set up on the server for Secure File Repository will not be displayed.

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4.2. Setting up a new 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.



Define Record Types



Setting up database fields

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4.2.1. New Database

Use the *Database > New...* command to set up a new database.

The *New Database* dialog box works in a similar manner to a wizard. It guides you step-by-step through the setting up of a database.

Steps for setting up a new database

- (1) Selecting a database server
- (2) Entering the database name
- (3) Selecting a database template
- (4) Setting up a consolidated report and database

Before you set up a new database

To be able to set up a new database, you will have to comply with the following prerequisites:

- You must have been logged on to a database client.
- The database server and the file server, i.e., the server for the Secure File Depository, have to be available.
A separate file server is only needed if you want to save documents on a separate PC. You can use any folder either on your PC or on a network drive for data storage.
You don't necessarily need your own database server. It is also possible to install the database management system on the PC where your software is installed.
- If you know that the new database is going to become very large, you should make sure in advance that there is enough free storage capacity available on your servers.
- To be able to set up a database which requires an SQL authentication, you will have to utilize a user name and password that are both already known in the Database Management System (DBMS). If they aren't, you will receive an error message and won't be able set up the database. In this case, ask the DBMS administrator for help.

(1) Selecting a database server

Database Server

Enter the name of the database server in the *Database Server* field. If you have already set up a database on this server from your PC, you will find the required server in the picklist.

If it's an SQL server, click alternatively the button with the three points. Select the database server in the *Select Servers* dialog box.

The name of the database server is, by default, <Name of the PC>\OSIS_MSSQLSRV.

If the SQL server has been installed on the PC on which your software also runs, the name of the database server contains the add-on "(local)".

If you want to work using Oracle, click on the words *Microsoft SQL Server* you can find in the text above the *Database Server* field. In the *Options* dialog box, select the *Oracle* entry from the *Database system* list.

User Authentication

You need to prove that you have permission to set up a database before you are allowed to. You can do so in the *User Authentication* group.

In the *Type* list, choose the *Single Sign On* entry if you are logged on with your user name to the PC which runs the software. The current log on data for the MS-Windows operating system will also be used for logging on to the database server. In this case, you will neither need to enter a password nor a user name.

For *Single Sign On* authentication, there needs to be a user profile set up for you on the MS-Windows operating system. You also need to be registered under this user profile in the database management system.

Windows Login

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 Login* entry in the *Type* list. As opposed to *Single Sign On* authentication, you need to explicitly enter your user name, password and domain.

This authentication allows you to set up a new database from a computer on which you are not logged on with your user name.

For *Windows Login* authentication, there needs to be a user profile set up for you on the MS-Windows operating system. You also need to be registered under this user profile in the database management system.

SQL Authentication

Select the *SQL Authentication* entry from the *Type* list if you want to use log on data specific to the database. In this case, you need to enter your user name and password again each time that you want to change anything in the database. The user name and password will be assigned by the database administrator within the database management system, e.g., on an SQL server.

For the *SQL Authentication* option, there needs to be a user profile set up for you on the database management system. In this case, the log on data are completely independent of your MS-Windows log on data.

Note: This type of authentication is necessary if you intend to also publish your database in the Internet at a later date.

(2) Entering the database name

Specifying the database name

Enter a name for the new database in the *Database Name* field. The name must not be longer than 20 characters and must not contain any spaces or special characters.

Specifying the standard database

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.

Specifying the document storage path

When you set up a new database, you specify where the database files and the images, (and other documents) are to be saved. The actual database files, such as the database structure and the entries from the individual database fields, always lie in the database server. The images and documents to be inserted into the database take up significantly more storage capacity than the database files. For this reason, define a separate storage location for images and documents.

Enter the directory in which the documents are to be stored. To do this, click the button with three points, then browse to the required directory.

Please pay attention to the information that follows, before you decide at which location you want to have the database's documents saved. When, for example, you choose a local directory on your own PC that will have the disadvantage that other users of the database will not have access to these documents. You should therefore only choose this possibility if you are the only user of this database. In all other cases, you should choose a directory to which the other users of this database also have access (provided they are authorized to do this).

Note: Where you decide which location you're going to choose for saving your database's documents, the question of data backup plays an important role. To have your database with all of its documents regularly saved, make sure that both the database server, and the server on which the documents are stored, are incorporated in an automatic data back-up process (e.g., every night).

Entering the description of the database

Enter a descriptive text for the new database (optional). This text will later be displayed in the *Open Database* dialog box (if you use the *Use database connection file* connection mode). The descriptive text helps users to recognize which database it is (in case they have not set it up themselves).

(3) Selecting a database template

When setting up a new database, you can either base it on a database template or define the database structure from scratch. A database template already contains a

defined database structure. It may possibly also contain documents that you can incorporate in your database as well.

If you have a suitable database template, it makes sense to use it. Then you won't need to set up the database structure anew. A template has the file format DBE. This file extension stands for database export file.

Note: Your software will have been supplied with some database templates. When your software was installed, these will have been installed in the following directory: ..\<Directory for saving the application program data>\Olympus\OSIS\<name of the software>\Database\DBE.

The exact name of the directory for saving application data depends on your operating system. For the MS-Windows 10 operating system, for example, the directory is called ..\ProgramData in English.

Using a database template

Select the template you want to use. To do so, click the button with the three points, located at the right side of the *Template File Path* field, then browse to the directory you want to use.

A database template has the file extension DBE.

Select the *Create an empty database* option if you only want to adopt the database structure from the database template, and no documents.

The database structure includes record types and the definition of the database's hierarchy. You can find more information on the database's structure here.

Select the *Import also records and documents (if available)* option if, as well as the database structure, you want to also adopt documents in your new database.

If search templates have been defined in the database template these search templates are also imported when you choose this option.

When you open a database that has been set up with the template which is by default provided, e.g., the search template *Images* will be available. This search template contains a good preselection of database fields that will enable you to search for images.

Using no database template

Select the *Create an empty database* option when you want to set up a database that doesn't yet have a structure, or when no DBE file is available. In this case, when you open the new database for the first time, you will have to begin by defining the database structure, before you can start inserting documents. This possibility is especially suitable for experienced users.

Note: Because the database views are closely connected with the predefined database structure, you should keep the predefined database structure. You can only work well in the *Database* tool window if you do it like this.

(4) Setting up a consolidated record and database

The last of the *New Database* wizard's dialog boxes, once more lists all of the settings you've chosen in the summary report. 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, again.

When you change a setting, your software jumps back to the *New Database* wizard's corresponding dialog box.

Setting up a database

Click the *Finish* button to create the database.

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4.3. Defining the database structure

Use the *Database > Administration > Define Database Structure...* command to specify the structure for the active database.

Note: When you want to make changes in a database's database structure, the database must have been opened exclusively.

What is a database structure?

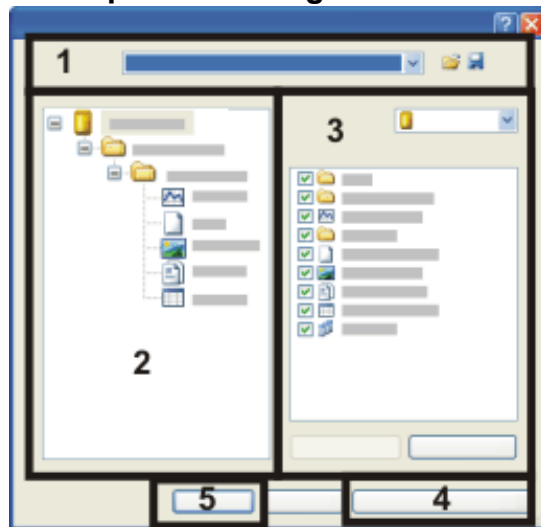
You can insert very different types of data into your database. Examples for record types are *Folder* or *Image*. When you define the database structure, you specify which data you can insert under specific record types. In this way, you can e.g., define a hierarchic database structure, in which you can only insert data under a record of the type *Folder*.

Please note: Define the database structure when you set the database up, and the database still doesn't contain any documents. You should only change an existing database's structure in exceptional cases.

Predefined database structure

When your database is based on the provided database template, once you have set up the database, the database structure will already be defined. Because the database views are closely connected with the predefined database structure, you should keep the predefined database structure. You can only work well in the *Database* tool window if you do it like this.

Description of dialog box



- (1) Loading or saving a database template
- (2) Viewing the current database structure
- (3) Changing the database structure
- (4) Defining record types
- (5) Adopting a database structure for the current database

(1) Loading or saving a database template

The *Define Database Structure* dialog box, always shows you the structure of the current database. The *Name* field therefore always shows the name of the current database when the dialog box is opened.



Loading a database structure from a template

You can load the database structure of a database that already exists, as a comparison. To do so, click this button to open the *Select Database Template File* dialog box. A database template has the file extension DBE.

The database structure of the comparison database, is now shown in the dialog box. In the *Name* list, select your database to view the current database's structure again, in the dialog box.

Please note:

The database template you've loaded can contain record types that have not been defined in your database. When you want to adopt such a database template, you have to click the *Define Record Types...* button and set up the record types in your database.

When the two database structures differ greatly, you can better select the database template immediately, when you set up a new database.



Saving a database structure as a template

Click this button to set up a new database template. Use this possibility when you want to use the database structure as a template for other databases.

A database template can contain a great variety of information. When you save a database template from the *Define Database Structure* dialog box, the database template will only contain the database structure. If you want to adopt additional information from the current database in the new database template, use the *Database > Import/Export > Export Database...* command.

(2) Viewing the current database structure

In the *Database structure* group, the database's current structure will be shown on the left. In a tree view, you can see which record types can be arranged under one another. This display will be automatically updated, as soon as you change something in the database structure.

Structure of the database template provided

Example: The database template that is provided will be described in more detail in what follows.




If you adopt the predefined database structure, only records with the *Project* record type will lie on the topmost database level (1). These records are database folders which contain all of the data belonging to one project. Because a separate record type was defined for projects, projects have their own database fields which only contain information relevant to the entire project. All projects in the database will be shown in one of the database views in the *Database* tool window. You also use this Project View to add or edit projects.

Below the project you can only insert a record of the record type *Sample* (2). These records are also database folders, but they have other database fields defined as those for projects. There is also a database view just for samples.

The documents are added to a sample folder (3). Here, documents refer to images, charts, workbooks, reports and other documents.

Records cannot be inserted into the database below the documents. So, the database contains three hierarchy levels in total.

(3) Changing the database structure

The *Record type* list, lists all database types that have been defined in the current database. Additionally, you'll also find the *Database*  entry.

First, select the *Database* entry from the list, or select it in the preview of the database structure, on the left, in the dialog box. The *Database* entry stands for the topmost hierarchy level in every database. In the *Accept as child record* list, you can now see which record types can be directly inserted into the topmost hierarchy level. The check box in front of every record type that is allowed, has been selected.

Check the setting and select or clear the required check box. You can, e.g., specify

that in the topmost hierarchy, only structured record types, that are indicated by a folder icon, can be inserted.

Then select, one after the other, every record type from the *Record type* list, and specify which records are allowed to be inserted below these record types. You can, e.g., specify that workbooks and charts can be inserted under images. This will make it possible, e.g., to store measurement results under images.

Note: When your database works according to the database template you were provided with, a maximum of three hierarchy levels are possible.

(4) Defining record types

Click the *Define Record Types* button to define new structuring record types.

(5) Adopting a database structure for the current database

Click the *OK* button to adopt the defined database structure for the current database.

Please note the following points:

- The new database structure can't be effective until the next time the database is opened.
Use the *Database > Close* command. Closing the database window alone isn't sufficient to close the database. The next time you open the database, the new database structure will be effective.
- Data that is already in the database won't be changed by a new database structure.
For example: You have up till now, inserted images under images in your database. You can forbid the insertion of data under images, in the new database structure. The insertion of images under images is now no longer possible.

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4.4. Record type

4.4.1. What is a record type?

You can insert very different types of data into your database.

You can insert all of the document types that you create in your software, or can load into it, e.g., images or diagrams. As well as that, you can also insert structuring records that aren't referenced to a document. Or, you can insert any other file that has already been saved on a data medium.

All of these different sorts of data have different record types. An MS-Word document has, e.g., the record type *File*, an image has the record type *Image*.

Properties of record types

Numerous database fields are only relevant for certain record types. For this reason, database fields are consolidated into field tables. Every record type can be assigned a variety of field tables.

Example: There are numerous database fields that are only relevant for images. Among these are, e.g., the camera settings with which the image was acquired. A

table that contains measurement results belongs to the record type "*Workbook*". For measurement results, naturally, no camera settings are available. All of the database fields that contain camera settings are therefore, consolidated into the field table "Camera fields". This field table is only assigned to the record type for which it makes sense, namely the record type *Image*.

Predefined record types

The record types *Image*, *Workbook* etc. are predefined. They stand for specific document types. Your software recognizes a document's record type automatically, when it is inserted, and therefore, in the insertion dialog box, offers you only the database fields that you have defined for this document type.

You can't set up any new record type in your database, that is referenced to a document.

Setting up structuring record types

There are record types that within your database are displayed as a folder icon. A record type of this category isn't referenced to a document, but instead contains only the information that is entered in the database fields. In your database, you can define this category of record type yourself.

Use record types that you've defined yourself, to structure your database.

1. Create, e.g., the record type "Experiment", when you want to have the data in your database assigned to an experiment.
2. Define a field table with database fields that describe the experiment, and allocate this field table to the record type "Experiment".
3. Check the database structure. Specify which record types are allowed to be arranged under the experiment.
4. Insert all of the images and reports that belong to this experiment, under this record.

You can also create a record type called "Laboratory" depending on how you want to organize your database. It's also possible to define several structuring record types.

4.4.2. Using record types

Database structure

When you define the database structure, you use record types. You specify how the different record types are to be hierarchically arranged. In this way, you can e.g., specify that you can only insert documents under the record type "Folder".

Record name

The record name is different for every record type.

Every record you insert into your database has a record name. The record name is a mandatory field that has to be filled out when an insertion is made. Depending on the record type, another record name will be suggested.

For images, for example, the image name will be suggested by default.

Database views

Some database fields contain information that is not relevant for all record types. For example, there are numerous database fields such as [X-resolution] that only make sense where images are concerned. For this reason you can define several database views for each type of record individually and in this way fade out superfluous information.

Database views

You can selectively search for specific types of record. In the *Search for* group, located in the *Define Search* dialog box, all of the record types that have been defined in the current database will be listed. In this dialog box, select the check box in front of every type of record that is to be taken into consideration during the database search.

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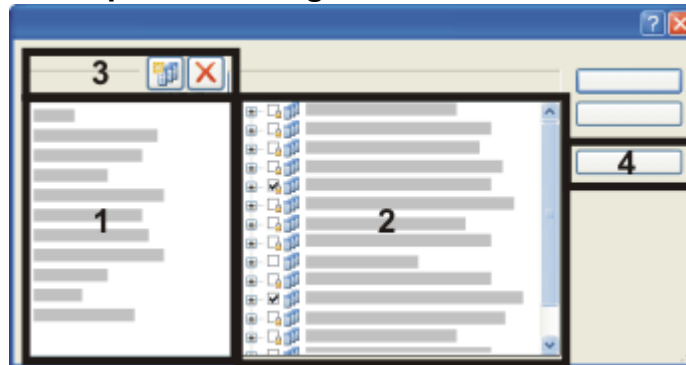
4.4.3. Define Record Types

Use the *Database > Administration > Define Record Types...* command to specify the record types for the active database.

Prerequisite: Only the database administrator can use this command.

Note: When you want to make changes in a database's database structure, the database must have been opened exclusively.

Description of dialog box



- (1) Record types
- (2) Field tables
- (3) Creating and deleting record types
- (4) Defining fields

(1) Record types

The *Record types* group lists all database types that have been defined in the current database.

Predefined record types

Some record types are predefined. For instance, every document type that your software supports has its own record type. Although you can rename these record

types, you can't delete them.

Record type	Description	Selection of the predefined database fields
Workbook	A workbook is a document that contains one or more results sheets. As a rule these are measurement results.	Number of Sheets Workbook Name
Report	Reports are used to document results in a standardized form. A report is an MS-Word document. You can create one with your software.	Report Name Page Count
Image	<p>With your software you acquire a variety of images types. All of these image types, e.g., individual images, Z-stacks, or multi-layer images, belong to the record type <i>Image</i>.</p> <p>Also, all image file formats that your software can load, e.g., VSI, TIF, JPG etc., belong to the record type <i>Image</i>.</p>	<p>Image Fields field table: This field table contains, e.g., the image name and the number of layers.</p> <p>Layer Fields field table: This field table contains numerous image properties, e.g., bit depth, the resolution, and the number of channels. All of these properties apply to one image level.</p> <p>Camera Fields field table: This field table contains the camera settings, at the time of the image acquisition. These fields will naturally only be automatically filled out when images you have acquired with your software are concerned.</p> <p>Microscope Fields field table: This field table contains the microscope settings at the time of the image acquisition.</p>
File	You can also insert document types into your database that are not supported by your software, e.g., MS-Word documents with the file extension DOC. All of these documents automatically have the record type <i>File</i> .	<p>File Fields field table: This field table contains all of the information on the operating system, that your database can automatically read out via a file. That includes, e.g., the file creation time, the file name, and the file name extension.</p> <p>This field table is also available for all other records linked with documents.</p>
Chart	Your software has its own chart document in which, e.g., measurement results can be visualized.	Chart Name Chart Type ID
Sample	When your database is based on the provided database template, it will contain one structured record type, with the name <i>Sample</i> .	Record Fields field table: This field table contains a variety of common information which should be saved together with the sample. For example, the database fields

	Samples are database folders which can be inserted below projects. They contain the documents which are related to the sample.	[Inspection order] and [Sample ID].
Project	When your database is based on the provided database template, it will contain one structured record type, with the name <i>Project</i> . Projects are database folders which contain all of the data belonging to one project.	Project fields field table: This field table contains a variety of common information which should be saved together with a project. For example, the database fields [Cost center] and [Deadline].
<Folder>	When your database is based on the provided database template, it will contain one structured record type, with the name <i>Folder</i> . This record type is not used in the database structure of the database you have been provided with.	Folder Name
All record types		Record Fields field table: This field table contains some basic database fields that are relevant for all record types, e.g., the creation time of a record, the record name or the record ID number. This field table always includes a comment field of the <i>Memo</i> data type. Use this field to enter even a very long text.


Self defined record types

There are record types that within your database are displayed as a folder icon. A record type of this category isn't referenced to a document, but instead contains only the information that is entered in the database fields. In your database, you can define this category of record type yourself.

(2) Field tables

The *Field tables* group lists all database fields that have been defined in the current database. Every database field in it is assigned to a field table. In this way you can assign several database fields to a record type simultaneously.

Predefined field tables

Every database already contains a number of predefined field tables. These field tables are indicated by a small lock icon .

Gaining access to the database fields in the field tables

Click the plus sign in front of the field table, to view the database fields that belong to this field table.

Assigning field tables to a record type

Select a record type in the *Record types* list. Then select the check box in front of the field table that you want to assign to this record type.

For example: In your database you have defined the record type "Experiment Type A". For every project, information on the actual project is to be entered. Additionally, however, you want to save information on the client, together with information on the project. In this case, define two field tables "Experiment Type A fields" and "Client information". Assign both of the field tables to the record type "Experiment Type A". When you now create an additional record type "Experiment Type B", you can use the client information once more.

The predefined field tables are already assigned to individual record types. This assignment is permanently preset. You can neither assign a predefined field table to another record type, nor dispense with the specified assignment.

(3) Creating and deleting record types



Creating a new record type

Click the *New Record Type* button to set up a new record type in the current database. A self-defined record is always a structuring record type, that within the database is indicated by a folder icon. A record type of this category isn't referenced to a document, but instead contains only the information that is entered in the database fields.

Field tables for the new record type

When you set up a new record, a new field table that belongs to this record, will automatically also be created. The field table has the same name as the newly set up record type (with the extension "Fields"). So, if you set up a record type "Experiment", the field table "Experiment Fields" will also be created. This field table already contains the database field [Experiment Name], that will also be used as the record name. The automatically created field table, at first contains only one database field. Subsequently define new database fields for the field table and the new record type.

The "Record Fields" field table will be assigned to every record type. It 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.



Deleting a record type

Click the *Delete Record Type* button to delete a record type that already exists. You will receive a query whether you want to delete the record type or not.

Note: You can only delete a record type when there is no record at all in the database that belongs to this record type.

The predefined record types, e.g., *Image* can't be deleted. You can only rename these record types, further changes are not possible.

Renaming a record type

In the list, select the record type you want to rename. Press the [F2] key on your keyboard. Overwrite the record type's name and click the left mouse button.

(4) Defining fields

Click the *Fields...* button to open the *Define Fields* dialog box. In it, you can define the new database fields and field tables.

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4.5. Database Fields and Field Tables

4.5.1. Overview

Database fields

What exactly, are database fields?

For every record, information will be saved in a database. Which types of information these are is specified by the database fields.

For example: Should you wish to save the name of the person who acquired an image together with the image itself, then you would set up a database field with the name [Staff member]. Then, when you insert an image into the database, you can enter the name of the staff member in this field.

Which name you assign to the database field is unimportant in this case, it could be [User] instead of [Staff member].

Predefined database fields

Before you set up new database fields for your record type, check first whether the existing database fields are already sufficient, or not. For example, if you wish that when a record of the new record type is inserted into the database, only details about its name, its creation time, and a comment, are to be entered, you don't need to define any new database fields.

Field tables

What exactly, are field tables?

Some database fields contain information that is not relevant for all record types. For example, there are numerous database fields such as [X-resolution] that only make sense where images are concerned. For this reason, database fields will be consolidated into field tables. A field table is then, simply a group of database fields.

Properties of field tables

- A field table can contain any number of database fields.
- You can't assign the same name to two database fields. That's to say, the database field [Comment] can't be defined in more than one field table, instead you'll have to assign the [Comment] field to one specific field table.

- Every database field is assigned to a field table.
- You can use field tables that you've defined yourself, for several record types.

Predefined field tables

Every database already contains a number of predefined field tables. You can view the predefined field tables in the *Define Fields* dialog box.

Predefined field tables can't be deleted. You can, however, add your own database fields to a predefined field table. To do so, use the *Database > Administration > Define Fields* dialog box.

Defining field tables

When you set up a new record, a new field table that belongs to this record, will automatically also be created. The field table has the same name as the newly set up record type (with the extension "Fields"). So, if you set up a record type "Experiment", the field table "Experiment Fields" will also be created. This field table already contains the database field "Experiment Name", that will also be used as the record name.

When you want to set up additional field tables, use the *Database > Administration > Define Fields* dialog box. From this dialog box, you can also fill the new field table with database fields.

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4.5.2. 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.

1. Use the *Database > Administration > Define Fields...* command.
 - When you define a database field, 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.
 - 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".
2. In the *Define Fields* dialog box, select the *Image Fields* entry from the *Field tables* list.
 - In the *Fields* list, all of the database fields that belong to the *Image Fields* field table will then be listed. This field table contains database fields that are especially related to images.
3. Click the *New Field* button.
4. 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.

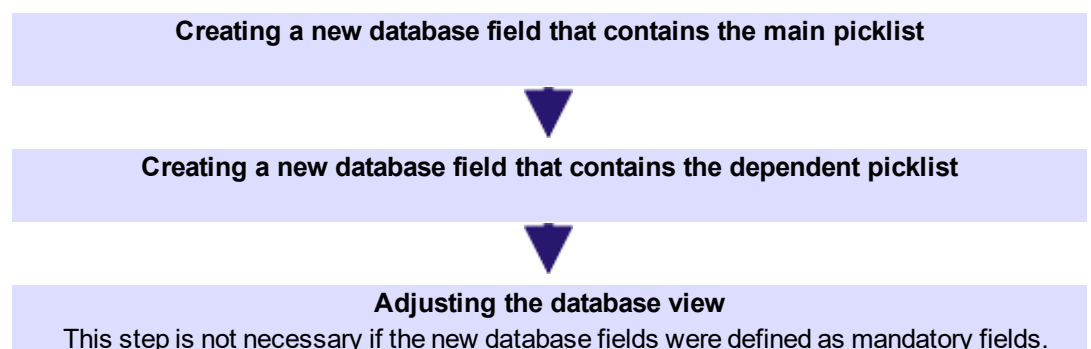
5. In the *Data type* list, select the *Text* entry for the new database field.
6. Enter the maximum number of characters that can be used in the database field, in the *Size* field.
For example, enter "10" when your laboratory name is to be made up of a maximum of 10 characters.
7. In the *Default Value* 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.
8. Clear the *Input required* check box.
This will mean that the field can also remain empty when a record is inserted.
9. Select the *Editable* check box. Otherwise you will have to define a picklist.
10. Click the *OK* button to adopt your settings and to return to the *Define Fields* dialog box.
 - The new database field will then be displayed in the *Fields* list.
 - The new database field will automatically appear in the insertion dialog box.
11. 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.
12. Confirm the message with *Yes*, if all of the database's users are to be able to see the new database field in the insertion dialog box.
13. Insert an image into the database.
 - The new database field will appear in the Insertion dialog box.

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4.5.3. Defining a dependent picklist

You can define a dependent picklist. With a dependent picklist, in contrast to a "normal" picklist, the user doesn't see all the entries in the picklist, but only some of the entries. Which entries appear is determined by the value that is currently selected in a different picklist, the main picklist.

The definition of a dependent picklist involves the following steps.



Example: You work in the quality control department of a car accessories company. For all images that are added to the database, you now want additional fields, [Manufacturer] and [Vehicle Model], to be filled out as well. So that the *Vehicle Model* pick list isn't too long, you make the entries that appear in this pick list dependent on the manufacturer that is selected in the main *Manufacturer* pick list. Then, if the user wants to add an image to the database and selects "Audi" as the manufacturer, the *Vehicle Model* pick list will only contain Audi models. If the user selects "Mercedes" as the manufacturer, the *Vehicle Model* pick list will only contain Mercedes models.

Prerequisite: You are the [database administrator](#) and have opened the database in which you want to define a dependent picklist in exclusive mode.


Step 1: Creating a new database field that contains the main picklist





1. Use the *Database > Administration > Define Fields...* command.
2. In the *Define Fields* dialog box, select the field table you want from the *Field tables* list. In the above example, select the *Image Fields* field table.
3. Click the *New Field* button.
 - The *New Field* dialog box will open.
4. In the *Name* field, enter a name for the new database field. In the above example, enter "Manufacturer".
5. In the *Data type* list, select the *Text* entry for the new database field.
6. Enter the maximum number of characters that can be used in the database field, in the *Size* field.
7. In the *Options* group, select the *Input required* check box to define the field as a mandatory field.
 - This database field will be formatted in bold in the dialog boxes when a record is inserted or edited.
8. Select the *Editable* and *Enable picklist* check boxes.
 - The *Pick list* group becomes active. In the right hand side of this group under the *Options* field, you can now make various settings which affect the behavior of the picklist. In the above example, leave these check boxes clear.
9. Click the *Edit...* button.
 - The *Pick List* dialog box opens.
10. Enter the manufacturer "Audi" in the *Value* field and click the *Add* button.
11. Enter the manufacturer "Mercedes" in the *Value* field and click the *Add* button.
12. Close the *Pick List* dialog box with *OK*.
13. Close the *New Field* dialog box with *OK*.
 - Now the new database field that contains the main picklist is defined. You will then see the *Define fields...* dialog box again. Proceed to the next step.

Step 2: Creating a new database field that contains the dependent picklist



1. If the field table you want isn't already selected: In the *Define Fields* dialog box, select the field table you want from the *Field tables* list. In the above example, select the *Image Fields* field table.
2. Click the *New Field* button.
 - The *New Field* dialog box will open.
3. In the *Name* field, enter a name for the new database field. In the above example, enter "Vehicle Model".
4. In the *Data type* list, select the *Text* entry for the new database field.
5. Enter the maximum number of characters that can be used in the database field, in the *Size* field.
6. In the *Options* group, select the *Input required* check box to define the field as a mandatory field.
7. Select the *Editable* and *Enable picklist* check boxes.
 - The *Pick list* group becomes active. In the right hand side of this group under the *Options* field, you can now make various settings which affect the behavior of the picklist.
8. Now select the *Dependent on other field value* check box to create a dependent picklist. In the above example, leave the other check boxes under the *Options* field clear.
9. Click the *Edit...* button.
 - The *Dependent Pick List* dialog box opens. In this dialog box, you can make all the required settings for the dependent picklist.
10. In the *Dependent on other field* group, select the database field that contains the main picklist from the *Field name* field. In the above example, this is the "Manufacturer" field.
 - In the *Value of <Name of main database field>* field, all the entries that were defined in the main picklist are now displayed. In the above example, these are the "Audi" and "Mercedes" entries.
 - There is a yellow warning sign  next to these entries, indicating that these entries have not yet been allocated to the entries in the dependent picklist.
11. In the *Pick list configuration for <Name of dependent database field>* group, enter all entries that should be contained in the dependent picklist in the *Value* field. In the above example, enter all the vehicle models, "A1", "A3", "A5", "A-class" and "S-class" for example. Click the *Add* button after each entry.
 - The new entries appear in the *Pick list entries for '...'* list. You can still edit and rearrange them. To do this, use the buttons to the right of this field.
12. Now allocate the entries in the dependent picklist to the entries in the main picklist. In the above example, specify which vehicle models belong to which manufacturers. To do this, select the manufacturer "Audi" from the *Value of 'Manufacturer'* table, and then select the vehicle models "A1", "A3" and "A5" in the *Pick list entries for '...'* list. Next, select the manufacturer "Mercedes" and select

the vehicle models "A-class" and "S-class" from the *Picklist entries for '...'* list.

- The yellow warning signs  in the *Value of <Name of main database field>* field are replaced with blue checks . The checks indicate that the allocation of the entries in the main picklist to the entries in the dependent picklist has taken place.
13. Close the *Dependent Pick List* dialog box with *OK*.
 14. Close the *New Field* dialog box with *OK*.
 15. 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.
 16. Click the *No* button because the changes should initially only apply for you. You can transfer the changed view to all users of the database at a later point in time. To do this, use the *Assign Configuration to...* command in the *Customize Views* dialog box.
 - The dependent picklist has now been defined.
 - If you have defined the two new database fields as mandatory fields, as described above, they will automatically be displayed in the insertion dialog.
 17. As a test, insert an image into the database and check whether the entries in the dependent picklist really do correspond to the value that is currently selected in the main picklist.
 - The new database fields should now be displayed at the very bottom of the insertion dialog. In the above example, these are the [Manufacturer] and [Vehicle Model] fields. Select the "Audi" and "Mercedes" entries one after the other in the [Manufacturer] field and check whether the picklist in the [Vehicle Model] field displays only the models that you have defined for the manufacturer that is currently selected.

Step 3: Adjusting the database view

Note: If you **did not** define the two new database fields as mandatory fields, you now have to adjust the database view for the insertion dialog. This step is also required if you want the new database fields to be in a different position in the insertion dialog. To do so, proceed as follows:

1. Use the *Database > Views > Customize Views...* command.
 - The *Customize Views* dialog box will open.
2. Select the database view that you want to adjust, in the *Selection of views and record types* group. In the above example, select the *Insertion Dialog* view. The *Image* record type is set by default.
3. If the database fields that are now displayed in the *Insertion Dialog* view weren't defined as mandatory fields, they will not be displayed in the *Selected fields* list yet. Select them from the *Available fields* list, then click the *Add >>* button.
 - The database fields you've selected are added to the bottom of the *Selected fields* list.

4. If required, move the new database fields to a different position. To do this, select the database field in the *Selected fields* list, and click the button with the arrow .

Note: When changing the position of the database fields, make sure that the new database fields are displayed in the correct order. The database field that contains the main picklist must be filled out **before** the database field that contains the dependent picklist. In the above example, the [Manufacturer] field must come before the [Vehicle Model] field in the insertion dialog.

- You can also move the database fields to a new group. This new group is then displayed as a separate tab in the insertion dialog.
5. Close the *Customize Views* dialog box with *OK*.
6. As a test, insert an image into the database and check the view in the insertion dialog.
- The fields you want should now be displayed in the insertion dialog at the position you defined.

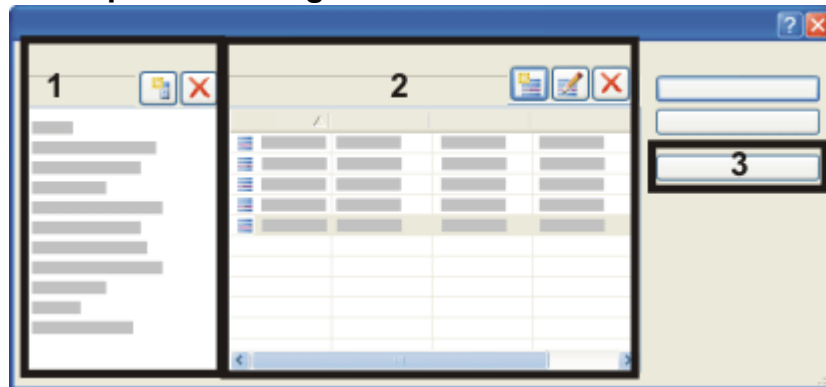
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4.5.4. Dialog box - Define Fields

Use the *Database > Administration > Define Fields...* command to add database fields to the active database or to change existing ones.

Note: When you want to make changes in a database's database structure, the database must have been opened exclusively. You can find more information on the exclusive mode [here](#).

Description of dialog box



- (1) Field tables
- (2) Database fields
- (3) Record name

(1) Field tables

All of the active database's field tables are listed in the *Field tables* group.

Which database fields have been assigned to a specific field table?

Click one of the listed field tables. In the *Fields* table, all of the database fields will then be listed which have been assigned to this field table.



New Field Table

Click the *New Field Table* button to set up a new field table in the current database. Initially, a new field table will contain no database fields. You subsequently define new database fields for this field table.



Delete Field Table

Click the *Delete Field Table* button to delete a field table that already exists. You will be asked whether you want to delete the field table or not.

Note: If you delete a field table, you will automatically also delete all of the database fields that were assigned to this field table. You will also lose all of the information that was earlier entered in these database fields.

Some field tables can't be deleted. These field tables contain database fields that the database structure requires ("System fields"). You can only rename these field tables, further changes are not possible.

Renaming field tables

In the list, select the field table you would like to rename. Press the [F2] key on your keyboard. Overwrite the field table's name and click the left mouse button.

Translating field tables

The database can be used by different users and also from different PCs. You can simplify the use of the database for users who speak different languages by translating the field tables.

(2) Database fields

In the *Fields* table, all of the database fields will then be listed which have been assigned to the active field table. You can find more information on database fields and field tables [here](#).



Setting up a new database field

Click the *New Field* button to set up a new database field in the active field table. The *New Field* dialog box opens.



Editing an existing database field

Click the *Edit Field* button to change the properties of an existing database field. The *Edit Field* dialog box opens.



Deleting a database field

Click the *Delete Field* button to delete an existing database field. You will receive a query whether you want to delete the database field or not.

Note: When you delete database fields, you will also lose all of the information that was earlier entered in these database fields.

Translating the names of database fields

The database can be used by different users and also from different PCs. You can simplify the use of the database for users who speak different languages by translating the database fields.

(3) Record name

What exactly is the record name?

Every new record that is added to the database needs to have the [Record Name] database field completed. This database field is automatically defined in every database that you set up with your software.

The [Record name] database field will automatically be completed when any record is inserted. It differs from other database fields as nothing is explicitly entered into this field. Instead of entering new information, the content of another database field is used.

You can, e.g., where an image is concerned, always use the image name as the record name.

Specifying the record name

Click the *Record Name...* button to view which database field will be automatically used as the record name. For a database's different record types, different database fields are available, since a database field such as [Image Name] can never be available for the record type *Workbook*.

In the *Record Name* dialog box, you can also change the default settings.

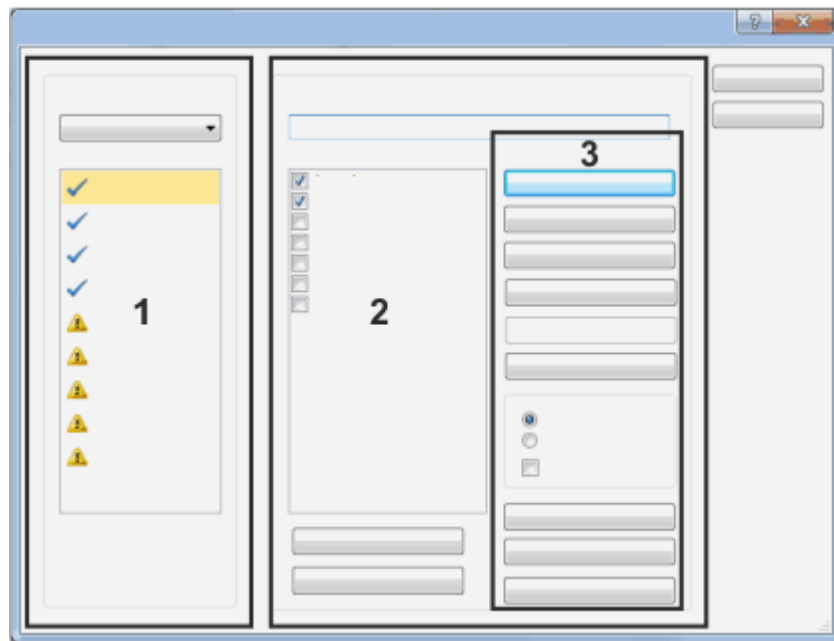
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4.5.5. Dialog box - Dependent Pick List

Use the *Dependent Pick List* dialog box to set up a list of possible entries for a database field, and to edit them.

The entries available in the dependent picklist are "filtered" according to the current value in the main picklist.

To open the dialog box, select the *Dependent on other field value* check box in the *New Field* or *Edit Field* dialog box and click the *Edit...* button.





Description of the function groups

- (1) Dependent on other field
- (2) Pick list configuration for <Name of the dependent database field>
- (3) Edit dependent pick list

(1) Dependent on other field

Select the database field that contains the main picklist from the *Field name* field. Then all the entries that were defined in the main picklist are displayed in the *Value of <Name of main database field>* field.

If these entries have not yet been allocated to the entries in the dependent picklist, there is a yellow warning sign  next to each entry.

If these entries have already been allocated to the entries in the dependent picklist, there is a blue check  next to each entry.

Note: If you select a different database field in the *Field name* field, the allocation to the entries in the dependent picklist is lost. If you select a different field in the *Field name* field as a test for example, and then switch back to the original field, you have to do the allocation to the entries in the dependent picklist again. As a precaution, you receive an error message when you select a different database field in the *Field name* field.

(2) Pick list configuration for <Name of the dependent database field>

Enter all entries that should be contained in the dependent picklist in the *Value* field. Click the *Add* button after each entry. The new entries appear in the *Pick list entries for '...'*

Note: Allocate all entries in the *Pick list entries for '...'* list to one or more entries in the main picklist. If you have an entry in the *Pick list entries for '...'* list that is not allocated to any entry in the main picklist, this unallocated entry will always be shown (for example every time you add a record to the database).

Then allocate the entries in the dependent picklist to the entries in the main picklist.

To do this, first select an entry in the *Value of <Name of main database field>* field and then select all entries in the *Pick list entries for '...'* list that you want to allocate to this selected entry.

If the dependent picklist is very long, use the *Select All* or *Clear All* buttons to select or deselect all entries in the picklist at once.

Note: The *Clear All* button doesn't delete any entries from the picklist, it just deselects them.

(3) Edit dependent pick list

Editing entries

Click the *Add* button to add this entry to the picklist.

Click the *Change* button to have an entry you have selected in the picklist replaced by the entry in the *Value* field.

Click the *Delete* button to remove an entry you have selected from the picklist.

Click the *Up* button to have the entry you have selected in the list moved up one position.

Click the *Down* button to have the entry you have selected in the list moved down one position.

Sorting entries

Click the *Sort* button to have the entries in the picklist ordered as preset in the *Sort* group.

Select the *Ascending* option to have entries of the *Text* data type sorted alphabetically from A to Z. Entries of the *Integer* or *Double* data type will be sorted by their magnitude, with the lowest number at the top of the list. Entries of the *Date/Time* data type will be sorted so that the oldest date is at the top of the list, the 01.01.2010 will come before the 01.01.2020.

Select the *Descending* option to have entries of the *Text* data type sorted alphabetically from Z to A. Entries of the *Integer* or *Double* data type will be sorted by their magnitude, with the highest number at the top of the list. Entries of the *Date/Time* data type will be sorted so that the most recent date is at the top of the list, the 01.01.1998 will come before the 01.01.1923.

Select the *Automatic* check box to have new entries immediately sorted according to the entry that has been selected.

Note: In this case you can no longer manually sort the picklist, since the manual sorting will immediately be reset as soon as you add another entry to the picklist.

Exporting and importing a picklist

Click the *Export ...* button to save the picklist in a file. The file extension for this sort of file is DPL. The DPL file contains precisely the field values displayed at that moment, in the *Edit Pick List* dialog box.

In this way, you can easily use one picklist for several database fields. An example is a list of employees that can be assigned both to the [Operator] database field, and also to the [Responsible Person] database field.

You can also use the export function for a picklist to document the specific state of a picklist. You can then restore the picklist to this state at a later point in time.

Click the *Import...* button to load a list of field values that you had previously exported, into the *Pick List* dialog box.

A list of field values must have the file extension DPL. The field values will be added to the entries that are, at that moment, specified in the *Edit Pick List* dialog box.

Click the *Delete List* button to delete all of the entries in the picklist. Then no picklist will any longer be available to you when you insert records.

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4.6. 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 will find a description of the procedure for changing a database view.

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

4.6.1. Changing the database view

1. Use the *Database > Views > Customize Views...* command.
 - The *Customize Views* dialog box will open.
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.

4.6.2. Adding additional database fields to the database view

1. Open the *Customize Views* dialog box.
2. From the *View* list, select the database view you want to adjust.
3. When the *Selected fields* list contains several groups: First, select the group to which the database field is to be added.



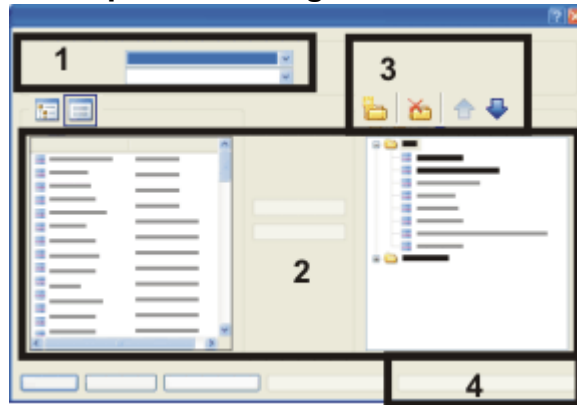
- In the dialog box, a group is indicated by a directory icon (1). In the example shown, two groups, each with three database fields, are on display in the database view that has been chosen (2).
4. In the *Available fields* group, specify how the database fields are to be displayed in the *Customize Views* dialog box.
 - If your database doesn't have too many fields, click the *Flat View* button to have all of the databases listed, one under the other.
 5. Select one or several database fields in the *Available fields* list.
 - The *Select >>* button will become active.
 6. Click the *Select >>* button.
 - The database fields you've selected are added to the bottom of the *Selected fields* list.
 7. Should you want to, you can move the database fields you've added, by Drag&Drop, to another position within the group.

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4.6.3. Dialog box - Customize Views

Note: A change you make in the view configuration is only valid for you. With other users, the database views will not be changed.

Description of dialog box



- (1) Selecting the view and record type
- (2) Assigning database fields to a view
- (3) Grouping database fields in a view
- (4) Assigning the configuration

(1) Selecting the view and record type

From the *View* list, select the database view you want to configure. In the *Customize Views* dialog box, you determine which database fields are to be displayed in this view.

Some database fields contain information that is not relevant for all record types. For example, there are numerous database fields such as [X-resolution] that only make sense where images are concerned. For this reason you can define several views for each type of record individually and, in this way, hide superfluous information. From the *Record type* list, select the type of record for which you want to customize the view you've selected.

(2) Assigning database fields to a view

Available database fields

In the *Available fields* list, you can find all of the database fields that are available in the selected view for the selected record type.

Assigning database fields to the chosen view

Select one or more database fields and click the *Select >>* button to have them displayed in the database view you have selected.

Please note that in the database gallery and in the Project Header View only one single database field can be displayed. In this case, the current database field will be automatically replaced by the database field you have selected.

Selected database fields

The *Selected fields* list contains all of the database fields that will be displayed in the selected view.

You can change the order in which the fields appear in the view by selecting a field and shifting it upwards or downwards with the arrow buttons



Select a database field in the *Selected fields* list and click the *<< Remove* button to remove it from this view.

The database field and the corresponding field contents will be retained. They will simply be no longer displayed in the database view.

Returning database views to their default settings

Click the *Reset View* button to return the database view you have selected to its default settings.

Click the *Reset All Views* button to return all of the database views to their default settings.



This button is only available if you used the *Customize Views...* command from the *Database > Views* menu to open the dialog box. If you open the dialog box from one of the context menus, this button is grayed. You cannot use it then.

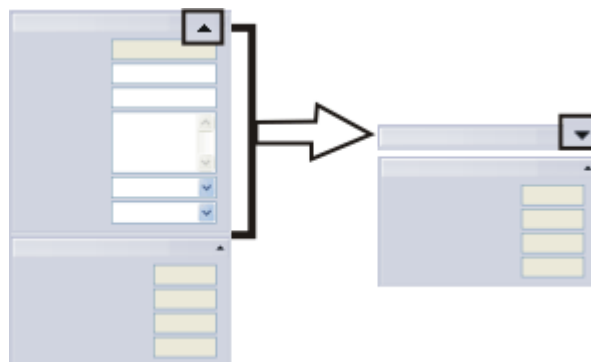
The database views determine the appearance of the *Database* tool window. These are completely independent of the user interface's layout. The *View > Layout > Reset Current Layout* command has, therefore, no influence over the database view.

(3) Grouping database fields in a view

Grouping database fields

In some database views, e.g., the Record Details View, a large number of database fields may well be displayed. Use the possibility of grouping database fields to present the information more clearly in a number of groups. You can later on, in the database window, reduce the content of a group to just the group's name and in this way fade out information that doesn't interest you at the moment.

Click the small arrow next to the group name  to reduce the group's size. Click this arrow  to expand the group.



On the left, you see one of the info views, which contains two groups of database fields. On the left, the upper group has been reduced, so that only the group's name will be displayed.

To group database fields, set up a number of folders in the *Selected fields* list. All of the database fields under a folder will later be displayed in their own group in the *Database* tool window. This group gets its name from the name the folder has in the *Selected fields* list.



Setting up a new group

Click the *New Group* button to set up a new group folder in the *Selected fields* list. You can give the group folder its name directly when you set it up. You can change this name subsequently whenever you want to.


To move database fields into a group folder, you must first select the group folder in the *Selected fields* list. Then you select the database fields in the *Available fields* list, and click the *Add >>* button. Within the *Selected fields* list you can alter the allocation of the database fields to the group folders however you want to by Drag&Drop. Simply drag a database field with your left mouse button depressed, from one group folder into another.



Deleting a group

Select a group folder and click the *Delete Group Header* button to delete the selected group from the *Selected fields* list. All of the database fields belonging to the deleted group will be moved into the *Available fields* list and will, therefore, no longer be displayed in the view you have selected.

Changing the order of the displayed groups

You can change the order in which the groups appear in the view by selecting a group folder and shifting it upwards or downwards with the arrow buttons .

(4) Assigning the configuration

The *Assign Configuration to...* button is only available for database administrators. With it, they can have the changes they have made to the database views transferred to all users of the database.

Note: This button is only available if you have used the *Database > Views > Customize Views...* menu command to open the dialog box. If you open the dialog box via one of the context menus, the button is displayed in gray.

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4.7. Exclusive Mode

To be able to carry out changes in the database structure, you have to open a database in the Exclusive Mode.

To be able to switch the exclusive mode on, you must possess either the "Administrator" or the "Power User" user rights.

What exactly, is the Exclusive Mode?

At any given time, only one user can be in this mode for a given database. Other users of the database can't have opened the database during the Exclusive Mode, and also can't open it.

Why use the Exclusive Mode?

The Exclusive Mode ensures that you can make changes that become necessary in the database, in the certain knowledge that no other user will be able to work with the

database while you are doing this. This ensures that no loss of data can possibly take place.

Opening a database in the Exclusive Mode

Should you want to open a database in the Exclusive Mode, onto which other users are already logged on, you will first have to request them to let you use the Exclusive Mode. This means that the other users will receive a request to close this database. Also users who want to open this database while the Exclusive Mode, has been requested or activated, will receive the demand to close the database again. You can only open the database in exclusive mode once all other users have closed the database.

Switching on the Exclusive Mode

Open the required database. Select one of these possibilities to switch on the Exclusive Mode:

1. Open the *Manage Exclusive Mode* dialog box to provide yourself with an overview of how many users are currently logged onto the database. To do so, use the *Database > Administration > Manage Exclusive Mode...* command. If you are the only user, the *Activate* button will be active. Click this button.
2. Use the *Database > Administration > Exclusive Mode* command.
3. Select one of the commands in the *Database > Administration* menu, that requests the Exclusive Mode. A corresponding message box will then be displayed, in which you can switch on the Exclusive Mode.

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4.8. Database user rights

4.8.1. Overview

You can define user rights for your database.

Note: What follows only refers to user rights for databases. Irrespectively of this, your software also has its own user rights. You define these when you use the *User Rights...* command in the *Tools* menu. A database's user management is completely independent from the management of user rights for your software.

What purpose do user rights serve?

Use the user rights to, for example, limit the access to data in the database to a specific circle of people.

How do I manage user rights?

Use the *Database > Administration > User Accounts...* command to register new users with the database. A user profile is always also linked to a user role. Which rights the user has in the database is specified in this role.

Users can be combined into groups. A user group is always linked to a permission set.

Which user roles are defined?

Every database user can assume one or more roles, e.g., *Administrator* or *Power User*. Each of these roles can in each case use different database functions. The functions that are linked to each role are predefined and cannot be changed.

Specifying access rights for user groups

When you set up a new user group you will automatically also set up a so-called permission set with exactly the same name as the user group. When the user later on, for example, inserts a document into the database, he will have to select a permission set to do this. When he does so, the *Everyone* permission set will always be suggested, and, when available, the permission set of the group he is a member of.

When the user selects the *Everyone* permission set, all of the database's users are allowed to view the document. When he instead, uses his user group's permission set, only the members of his user group are allowed to view the document. Members of other user groups will, in this case, not see the document, and that neither in the gallery, nor when search results are displayed. The selection of the permission set during the insertion of documents, therefore controls which people will be allowed to view the document.

You not only select a permission set for each document that you insert into the database, you also do so for every structuring record (e.g., projects, samples, institutions, departments etc.), that you set up. Users of the software who do not belong to your user group will then not be able to see all of the folders, including all of the documents that are in them.

Note: Theoretically you can, for every single document, also precisely control, who is allowed to open, view, change or delete, this record. To do this, select the record, open the context menu and select the *Permissions...* entry. However, we recommend that you only work with permission sets, since this simplifies what you do, and is easier to control.

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4.8.2. 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 *Browse for Database Server Users* dialog box opens. 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 *Browse for Database Server Users* 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.
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.

4.8.3. 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 the software.

1. Use the *Database > Administration > User Accounts...* command.

Adding users

2. Click the *Add User...* button.
3. Click the *Browse...* button.
 - The *Browse for Database Instance Users* dialog box appears. 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.

4.8.4. 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.


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4.9. Archiving documents

To archive them, you can move images and documents to another document directory.

Example: 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 As* dialog box opens.
5. Enter "2010" in the *Name* field.
6. Close the open dialog boxes.

Selecting a search definition for the moving of files

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 new document directory


9. Click the *Settings...* button.
 - The *Settings > Document Storage Type > File System* dialog box opens.
-  10. Click the *New Volume* button to integrate a new document directory into the database.
 - The *New Volume* dialog box opens.
11. Enter "2010" in the *Description* field.
12. 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.
13. 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.
14. Close all open dialog boxes with *OK*.
 - Your software will then move all files that are found with the selected search definition, into the document directory "2010".
 - When the movement of these files has been successfully completed, you'll receive a message.
 - 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, and by doing so, set up a backup copy.

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4.10. Delete Database

Use the *Database > Administration > Delete Database...* command to delete the active database.

 Please note: You cannot restore a database once you have deleted it. Therefore, you should only delete databases when you're absolutely certain you won't need the data anymore. You will receive a warning message before the database is deleted.

Creating a data backup before the deletion

In certain cases, it might make sense to export the database with all of its documents into a Database Export File (DBE file), before you delete it. Then you can create a new database on the basis of this DBE file at any time you want to.

Before you can delete a database

- Before a database can be deleted it must have been closed.
- Should several users have access to this database, you will also have to make certain that none of these users has opened the database at the time you delete it.

Should you want to delete a database that another user still has open, you will receive an error message, and the deletion process will be canceled.

- Should not know for certain whether another user has opened the database you want to delete, you can check this out before you make the deletion. To do so, open the database you want to delete, then open the *Manage Exclusive Mode* dialog box, by using the *Database > Administration > Manage Exclusive Mode* command.

Delete Database

1. Make certain that the database you want to delete has been closed by yourself and by all other users.
2. Use the *Database > Administration > Delete Database...* command.
 - The *Delete Database* dialog box opens.
3. In the *Database connection file* group, select the DBC file of the database you want to delete. Should the DBC file not be contained in the picklist, click the [...] button, then browse to the location where it has been stored. Don't proceed until you have once more made certain that the correct DBC file has been selected.
4. Should you no longer have the DBC file, you will first have to alter the connection mode, before you can delete the database. To do so, proceed as follows: Click the *Options...* button, then select the *Enter connection data manually* connection mode in the *Options* dialog box. Close the dialog box with *OK*.
 - You will then once more see the *Delete Database* dialog box. The upper part of this dialog box will have changed. Now, the *Database* group will be on display. Enter the connection data of the database you want to delete there.
5. Should the database that is to be deleted have an SQL authentication, you will need to enter your name and the password. Where a database with Windows Authentication is concerned, you will not need to make an entry in the *User* group.
6. Click the *OK* button.
 - You will receive a warning message, whether you really want to delete the selected database.
7. Check once again whether the database that has been suggested really is the one you want to delete. If this is so, click the *Yes* button.
 - The database will then be irrevocably deleted.
 - The DBC file will also be automatically deleted.
 - Should the database that is to be deleted be of the *File System* document storage type, all of the files that are in the specified document directory will be deleted. The directory itself can't be automatically deleted, so please delete it in MS-Windows Explorer.
 - Should the database you want to delete have the *Secure File Repository* document storage type, the data on the server for the Secure File Repository will be deleted with a time delay (approx. 20 minutes).

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