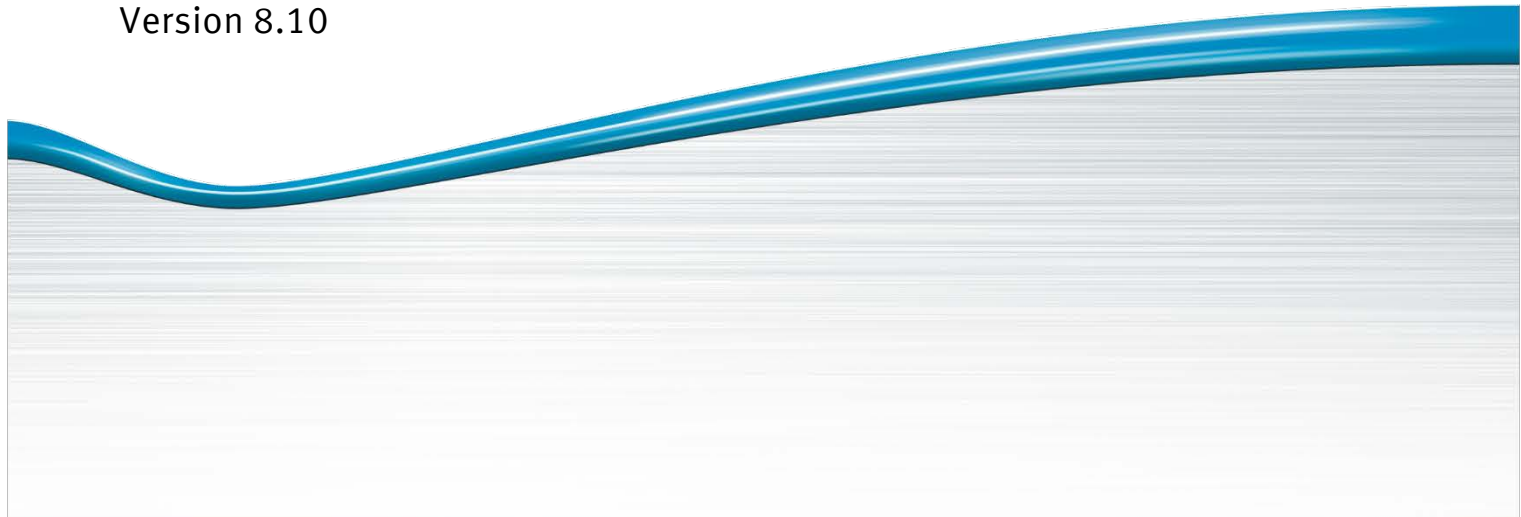


enaio[®]

Software Documentation

enaio[®] capture

Version 8.10



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Introduction

About the Manual

This manual is available as PDF file and as online help.

You can read the PDF file on the screen with Acrobat Reader, print it completely or in part, and search it quickly for terms.

By pressing **F1**, you can quickly open the online help tool on your desktop and search for the required topic.

All procedures described in the manual are based on mouse operation and use of the toolbar buttons. However, all operations can be performed with the keyboard as well. enaio® capture follows the conventions of MS Windows. Use **Alt** plus the underlined letters in the menu.

This manual is meant to guide two different groups of people through the work with enaio® capture:

- Employees who prepare the capture process and configure the procedures in enaio® capture. These employees are herein referred to as administrators.
- Employees who capture data with enaio® capture.

About enaio® capture

enaio® capture is a specialized workflow application for enaio® allowing for fast document capture, effective scanning and indexing of information stored on paper. Due to state-of-the-art methods and procedures, this modular application guarantees powerful processing of your documents. The application works with all common databases and LAN architectures. High-performance scanners enable huge quantities of documents to be processed. Barcode recognition and optical character recognition enable automatic indexing. Users are guided through the configured process steps and can validate captured data before it is imported into the archive. enaio® capture furthermore allows you to integrate individual validation programs.

Capture processes can be individually configured. For each document type, you configure a process in which the administrator defines an operational sequence and individual settings. For example, incoming invoices are processed using barcode recognition and accounting forms are automatically indexed using OCR. The administrator's task is to specify the process step order when defining a process configuration and to decide which operations will be run automatically.

Installation

The installation of enaio® capture must be exclusively performed by trained personnel, which means by an OPTIMAL SYSTEMS' service technician or a sales partner of OPTIMAL SYSTEMS. Therefore the basic installation conditions are explained in this handbook rather than the actual installation procedure.

The enaio® setup installs enaio® capture at the workstations.

The following conditions have to be fulfilled for a successful installation:

- Installation requires a running enaio® blue server. The following data must be entered during installation:
Name of the enaio® server,
Name of the enaio® server computer,
IP port of the service,
an ODBC source required for database access.
- enaio® capture requires valid licensing and a running enaio® server instance. Licenses are administered with enaio® blue enterprise-manager.
- After installation, the security system must be adjusted in enaio® administrator. This means that administrative and executive rights can be assigned to users of enaio® capture. The enaio® blue administrator handbook describes how to make such assignments.
- The validation component requires Kofax components. If no Kofax scanning hardware has been integrated, you must install the free Retrieval Engine. AXTWSCAN also needs at least the Retrieval Engine. In addition, make sure that after having installed the Retrieval Engine, the system variable PATH is set to ...\\Kofax\\imgctls\\BIN. If this is not the case, you must set this system variable.
- Scan and barcode components require installation and configuration of the respective versions of Kofax VirtualRescan or Adrenaline. If a Kofax engine is not installed, the integrated barcode scanner ZBar is used for barcode recognition.

When starting enaio® capture, the user name and password can be specified as command line parameters:

-uid User name
-pwd Password
-n do not show startup screen

After having started enaio® capture, users can change the password from the **ENAI0** menu and set the language and color scheme for the workspace.

Requirements

In order to work with enaio® capture without any problems, a user account has to fulfill at least the following prerequisites:

- Full access to the `asindex\AXINDEX.DAT` directory so that the `access.tmp` file can be created and deleted there.
- Read and write access to all CFG and INI files in the `asindex\AXINDEX.DAT` directory.
- Full access to the internal enaio® capture database.
- Full access to the `temp` directory of the user account and the local `etc` directory.
- COM components and controls of third-party components must be registered.

enaio® capture Components and LDAP Login

If login is done using LDAP, the import cannot be run. In this case a login sequence including LDAP and enaio® user administration is needed as a minimum. However, in this case the users in LDAP and the enaio® user administration must have identical passwords. For security reasons this usually is not the case.

Instead in the enaio® user administration you can set up a login pipe exception for the user who will run the import. This user has to be set up in both LDAP and the enaio® user administration; but the two passwords can differ.

Configuration is done in enaio® enterprise-manager. Further information can be found in the administration handbook.

As an alternative, please contact the OPTIMAL SYSTEMS consulting team.

The User Interface of enaio® capture

Overview

The user interface of enaio® capture consists of a title bar, a menu bar, a status bar in the outer main window, and an inner workspace.

In the title bar you will find the usual buttons such as **Minimize**, **Restore**, **Maximize**, and **Close**. A ribbon with tabs follows.

The ribbon contains the features that you will need most often when working with enaio® capture.

Ribbon

The ribbon contains the ribbon tabs. As usual, you can open them with a mouse click or with the shortcut key **Alt+LETTER**.

The **ENAIIO** ribbon tab is always displayed in the ribbon; the 'Start' and 'View' ribbon tabs are displayed on start-up by default. Users with corresponding system roles can adjust ribbon tabs in the settings.

ENAIIO Tab

- | | |
|------------------|---|
| Help | You can open information using enaio® capture, the desktop, and the online help. |
| Settings | You can specify different settings for configurations and batches (see 'Deletion Rights for Batches'). |
| Workspace | <p>You can choose a language for the names of the features and the color scheme.</p> <p>German is set by default.</p> <p>The default color scheme for enaio® capture is White. Alternatively, Blue, Silver, and Black are available.</p> |
| Exit | Exit enaio® capture. |

START Tab

Configurations



Create a new configuration (see 'Create Configurations').

Create



You can edit the selected configuration.

Edit



Delete the selected configuration (see 'Delete Configurations').

Delete



You can copy a selected configuration. It will be automatically added without a name. You must enter a new name.

Copy

Programs



Link a selected configuration to a subprogram (see 'Create Subprograms').

Insert



You can edit the parameters of a selected subprogram.

Edit



You can specify how the selected subprogram processes the data (see 'Configure Subprogram Types').

Configure



Delete the selected subprogram.

Delete

Batches



Create a new batch with the data to be transferred to the subprogram (see 'Creating, Starting and Deleting Batches').

Create



Edit the selected batch. The assigned subprogram will start.

Edit



Delete the selected batch.

Delete

Logs



Open the action log (see 'Action Log 'osaction'').

Action



Open the error log (see 'Error Log 'oserror'').

Error



Open the process log (see 'Process Log 'osflow').

Process

Release



Release

If two users edit a configuration at the same time, the configuration may be locked for all users. If this is the case, it has to be explicitly released with **Release** (see 'Error Handling').

View



Refresh the view area.

Refresh



Specify whether the configurations are displayed in a tree view.

Open tree



Autobatch

If this function is enabled, the batch ID is entered as the name when a new batch is created. The batch ID can be overwritten, though the batch name will always remain the same. This option is activated by default.

When this function is enabled, you can specify in the settings whether Autobatch names have to be confirmed.

Status Bar

The name or IP address and the port of the enaio® server to which enaio® capture is linked is displayed in the status bar at the bottom of the enaio® capture window.

Administer

Administer – Introduction

A process configuration consists of several subprograms that edit and forward data. Subprograms establish a connection between a subprogram type and a configuration program.

For the configuration process, you can define:

- which subprograms will be used in which order,
- which subprograms will be started in the automatic mode by enaio® capture,
- which user is entitled to edit configurations and delete data.

Within a configuration, the configuration programs of the single subprogram types are used to define how data is processed.

To create a process configuration, carry out the following steps:

- Set up a new configuration.
- Define the user rights for the configuration.
- Create subprograms, i.e. connect subprogram types with configuration programs.
- Assign subprograms to the configuration and specify parameters for subprogram execution.
- Configure how data is processed within the subprograms.

Subprograms of one configuration can be processed at different workstations. All process steps are logged.

Create Configurations

Configurations can be set up in the program window of enaio® capture. In this window, you will find the ribbon with tabs and the workspace. In the workspace, available configurations are displayed as a tree.

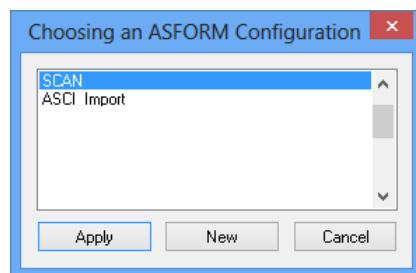
If you do not have the right to create configurations for enaio® capture, the necessary functions will not be displayed.

Create New Configurations

To set up a new configuration, perform the following steps:

1.  On the **START** tab, click **Create**.

The window **Choosing an ASFORM Configuration** will open.

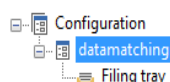


The list offers all enaio® capture configurations already created. These configurations cannot be applied. You can **Apply** and update only enaio® capture configurations which have been deleted, but whose directory structure and logs were kept.

2. Click on the **New** button.

A field to name the configuration will be displayed in the workspace.

3. Enter a name in the field provided. At most, 100 characters can be entered but no spaces or special characters. Only the underscore '_' is permitted as a special character. Names are not allowed to begin with a number.
4. Click outside the field on the workspace or press **Enter**.



The new configuration will be shown in the workspace. A filing tray icon will be added automatically.

Once a user adds a batch to any configuration, which will start a configuration's execution, the following directory will be created in the enaio®ASINDEX\AXINDEX.DAT directory:

\CONFIGURATION NAME\BATCH_ID

In this directory, all batch data is saved.

If you start enaio® capture with the command line parameter '/W' and a specified path, the AXINDEX.DAT batch data directory will be created at the specified path.

You can copy a selected configuration using the **Copy** entry of the context menu or the **START** tab. It will be automatically added without a name. You must enter a new name.


Defining user rights for a configuration

You can assign user groups to a configuration. The enaio® capture configuration will then be displayed only to members of assigned groups. By default, new configurations are visible to all user groups.

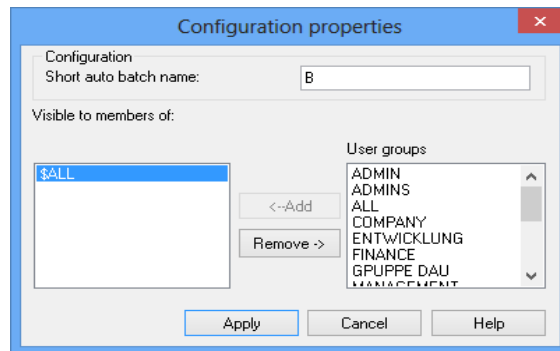
It is possible to define whether a user, who does not have the right to set up configurations, is allowed to delete assigned batches.

Assign User Groups

To assign user groups to a configuration, perform the following steps:

1.  Select a configuration and on the **START** tab click **Edit**.

The **Configuration properties** window will open.



By default, configurations are visible to **all** user groups.

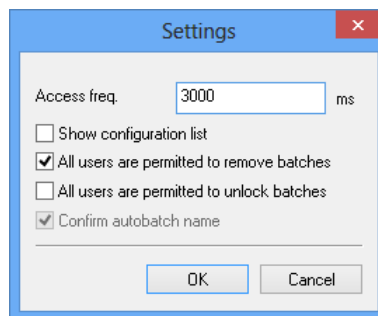
2. Select the **All** entry from the **Visible to members of** list and delete it from the list by clicking the **Remove** button.
3. Select the **User groups** which you want to be allowed to edit the configuration and add them to the **Visible to members of** list by clicking the **Add** button.
4. Click the **Apply** button.

The window will close and the user rights will be saved.

Deletion Rights for Batches

You can define whether a user who does not have the right to set up configurations, is allowed to delete assigned batches.

1. On the **File** tab click **Settings**.
The **Settings** window will open.



2. Select the **All users are permitted to remove batches** option or clear the option.
3. Confirm with **OK**.

The user rights will be saved as chosen.

The **Settings** window allows you to specify at what frequency enaio® capture updates changes made to configurations and batches. Select or clear the **Show configuration list** option to specify whether users can use the **Select configuration** list box on the toolbar of enaio® capture. You must restart enaio® capture for the settings to take effect.

Select the **All users are permitted to unlock batches** option if you wish to give this permission to all users.

Specify whether automatically generated batch names have to be confirmed using the **Confirm Autobatch names** option. The option is only available when the **Autobatch** function is enabled in the ribbon.

In the dialog, you can also define whether the content of the filing tray should be automatically deleted after a certain amount of time.

Delete Configurations

You cannot delete configurations that still contain unprocessed batches. Such batches must first be deleted. However, batches from the filing tray containing only logs do not have to be deleted beforehand.

How to delete configurations:



Select a configuration and click on **Delete** on the **START** tab.

You will be presented with a confirmation dialog and can then decide whether to keep or remove the directories created for the configuration. These directories contain the configuration's log files. If you do not wish to keep the directories, the logs will be deleted as well.


Create Subprograms

You can assign subprograms to a configuration. A subprogram is a subprogram type that is connected to a configuration program. When creating subprograms you must create such a connection. The configuration program is used to define how data is processed by the subprogram within a subprogram type (see 'Configure Subprogram Types').

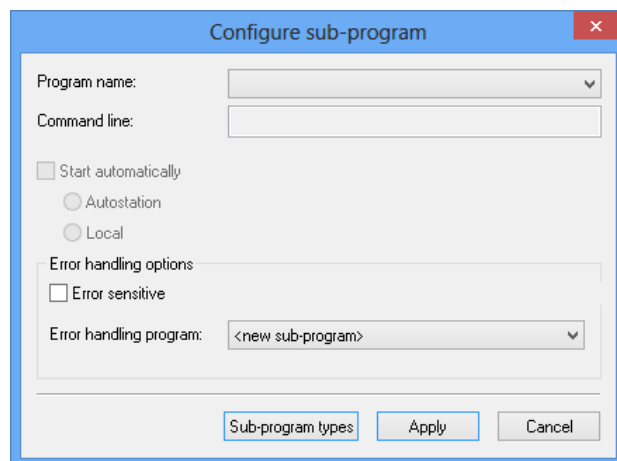
In a configuration, subprograms can be arranged in any desired order. For each subprogram, you can indicate an error handling program and specify whether the subprogram is run automatically.

Create and Edit Subprogram Types

To connect a subprogram type to a configuration program, perform the following steps:

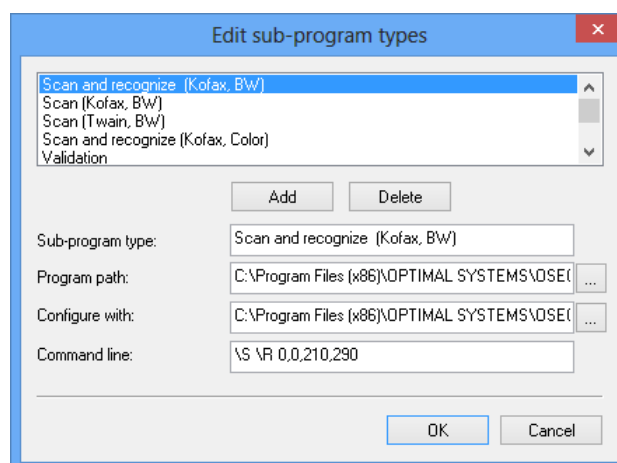
1.  Select a configuration and on the **START** tab click **Insert**.

The **Configure subprogram** window will open.



Next to the **Program name** field, a list presents the subprograms already set up.

2. Click the **Subprogram types** button. The **Edit subprogram types** window will open.



Subprograms that are already set up are listed. The first subprogram in the list is selected and ready for editing. All entries can be modified.

3. Click the **Add** button. All fields will be emptied, and you can create a new subprogram.

In the **Subprogram type** field enter any arbitrary name for the subprogram. Choose a reasonable name so a user can identify the subprogram's purpose.

In the **Program path** field enter the path to the subprogram type as well as its name. The button next to the field opens a file selection dialog. You may also manually enter the path and the program name, e.g. in UNC notation.

Subprogram types can be found in the directory ... \clients\asindex.


In the **Configuration program** field enter the path to the configuration program as well as its name (see 'Subprogram Types'). Some subprogram types need further specifications in the **Command line**.

4. Click the **Add** button. The new subprogram will be added to the list.

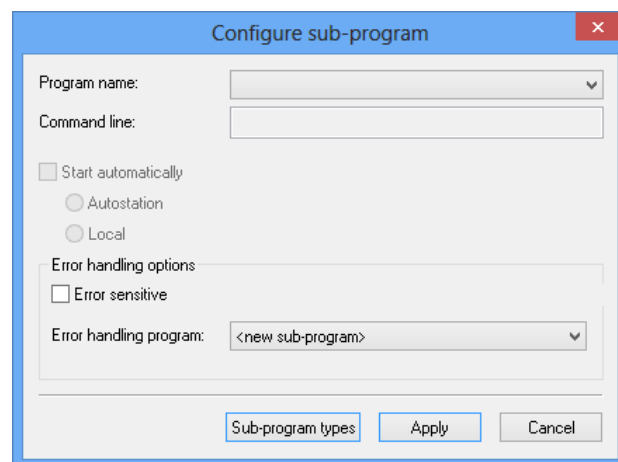
Confirm your entries with **OK**. Changes will be saved.

Assign Subprograms

From the subprograms list select those subprograms necessary for your configuration and specify execution parameters:

1.  Select a configuration and on the **START** tab click **Insert**.

The **Configure subprogram** window will open.



2. Select a subprogram from the drop-down list offered in the **Program name** field. All set up subprograms are listed.

3. If you want the subprogram to start automatically once a batch is added to it, select the ☒ **Start automatically** option (see 'Automatic Mode').

Subprograms can be started automatically, either by the enaio® capture in automatic mode **Autostation** (see Automatic Mode) or automatically only in enaio® capture **Local**, not in automatic mode.

They can start automatically on the local system only if the previously performed action has also run – whether automatically or not – on the local system.

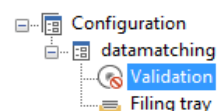
4. Select the options for error handling:


Error sensitive – The subprogram only runs as an error handling program of another subprogram. In the ordinary order of batch passing, it will be skipped.

Error handling program – Select another subprogram as an error handling program. In case of an error while processing the batch, the batch will be passed to the error handling program.

5. Click the **Apply** button.

The subprogram will be added to the configuration and the window will close.



In the workspace, an  icon indicates that the subprogram is locked. It will be unlocked as soon as it has been configured with its configuration program (see 'Configure Subprogram Types').

In case other subprograms exist in the configuration, the new subprogram will be set at the end of the list. If you first selected a configuration's subprogram instead of

a configuration, the new subprogram will be put in front of the selected subprogram.

You cannot edit a configuration if it still contains a batch with data. While editing a configuration, it is locked for other users.

Subprogram Types

The following subprogram types are available:

AXDSCAN	Scanning with Kofax Image Products®
AXTWSCAN	Scanning with TWAIN
AXICSCAN	Scanning and barcode recognition with Kofax®
AXIMGIMP	Import of image and PDF files
AXICSRV	Barcode recognition with Kofax® or ZBar
AXFINER	OCR/barcode recognition with FineReader®
AXNOOCR	Creation of a database table
AXVALID	Manual indexing
AXVBINAB	Data matching with an external database
AXIMPORT	Document separation and import
AXMAILDC	Document separation and sending of documents
AXIMPMDC	Document separation, import and sending of indexed values
AXPARTDC	Document separation and creation of a dBASE table

Assign configuration programs to subprogram types that have to be licensed to the processing workstation.

The following subprograms are preconfigured:

Scanning and recognition (Kofax, B&W)	AXICSCAN
Scanning (Kofax, B&W)	AXDSCAN
Scanning (Twain, SW)	AXTWSCAN
Scanning and recognition (Kofax, color)	AXICSCAN /G
Validation	AXVALID
Separation and import	AXIMPORT
Data and document provision (Singlepage)	AXPARTDC
Data and document provision (Multipage)	AXPARTDC /M
Data transfer from the database	AXVBINAB

Scan and Image Components

To scan or import color images, type the parameter '/G' into the **Command line** field of the **Edit subprogram types** dialog (see 'Assign Subprograms').

Only black-and-white or color images can be processed at any one time.

If you wish to scan or import both black-and-white and color images, you have to create two subprogram types for each component, one with and one without the parameter '/G', and configure them separately.

Barcode recognition is available for color images only, provided that your Kofax® Engine supports this function.

AXDSCAN

You can use AXDSCAN for scanning with Kofax Image Products®. Define the program AXRCCONF as configuration program. Running AXDSCAN in configuration mode allows you to specify a temporary directory to which scanned images are saved. The images will be filed by default into the following directory:

```
... \ASINDEX\AXINDEX.DAT\configuration name
```

Afterwards, a recognition program or AXNOOCR follows AXDSCAN.

Type the following parameters into the command line of the **Edit subprogram types** dialog (see 'Assign Subprograms'):

/G If you only want to scan color images, enter the parameter '/G'.

/A You can use the parameter '/A' if scanned pages are to be temporarily converted into uncompressed TIFF files, in order to use the automatic color recognition of Kofax VRS.

For the filing of scanned pages, black-and-white pages will be automatically converted into TIFF-G4 format, and grayscale as well as color pages will be converted into JPEG format.

If both the '/G' and '/A' parameters were defined, '/G' is ignored.

The SCA module has to be licensed at the processing workstations. In addition, an adequate Kofax Engine must be installed and configured.

Scan parameters and scan filters are set by the user (see 'Kofax Settings').

AXTWSCAN

AXTWSCAN is used for scanning with the TWAIN interface. Define the program AXRCCONF as configuration program. Running AXTWSCAN in the configuration mode allows you to specify a temporary directory into which scanned images are filed. The images will be filed by default into the following directory:

```
... \ASIndex\AXINDEX.DAT\configuration name
```

Afterwards, a recognition program or AXNOOCR follows AXTWSCAN.

The STW module has to be licensed at the processing workstations.

The TWAIN source and scan parameters are specified by the user (see 'TWAIN Settings').

AXICSCAN

AXICSCAN comprises scanning with Kofax® and barcode recognition. Define the program AXRCCONF as configuration program. Running AXICSCAN in

configuration mode allows you to specify a temporary directory into which scanned images are filed. The images will be filed by default into the following directory:

```
... \ASIndex\AXINDEX.DAT\configuration name
```

Furthermore, in AXRCCONF you can define index fields and specify a database source. Unlike in AXICSRV, barcode recognition in AXICSCAN is configured very precisely (see 'Settings for Barcode Recognition').

Afterwards, either the validation program AXVALID or a document separation and import program follows AXICSCAN.

Type the following parameters into the command line of the **Edit subprogram types** dialog (see 'Assign Subprograms'):

/G If you only want to scan color images, enter the parameter '/G'.

/A You can use the parameter '/A' if scanned pages are to be temporarily converted into uncompressed TIFF files, in order to use the automatic color recognition of Kofax VRS.

For the filing of scanned pages, black-and-white pages will be automatically converted into TIFF-G4 format, and grayscale as well as color pages will be converted into JPEG format.

If both the '/G' and '/A' parameters were defined, '/G' is ignored.

The SIC module has to be licensed at the processing workstations. In addition, an adequate Kofax Engine must be installed and configured.

Batch processing errors may occur due to the use of high-performance scanners and sophisticated barcode recognition. If this happens, allocate the process steps 'scanning' and 'recognition' to several subprograms and workstations.

AXIMGIMP

AXIMGIMP is used to import image files. As a prerequisite, such image files must have one of the following formats: JPEG, TIFF, BMP, PCX, TARGA, or GIF. PDF files can also be imported.

Define the program AXRCCONF as configuration program.

Type the following parameters into the command line of the **Edit subprogram types** dialog (see 'Assign Subprograms'):

/A Use the parameter '/A' to specify the shared import of black-and-white, grayscale, and color images. Black-and-white images are filed in TIF format, grayscale, and color images in JPEG format.

/G If you want to import only color or grayscale images, enter the parameter '/G'.

/S To specify paths to image files, enter the parameter '/S' plus the directory path.

/R The parameter '/R' is entered if you want the image files contained in subdirectories to be imported too.

- /M Type the parameter '/M' to have a file selection dialog opened from which you can select all image files to be imported.
Additionally enter the parameter '/S' and a path to define a root directory which will be displayed in the selection dialog.
- /O This parameter is used to have a file named `batch_name.LST` saved to the batch directory. This tab-delimited file contains the name of the source and the destination file.
- /D Type the parameter '/D' to have the image files deleted after import. Without entering this parameter, image files will be renamed by having the extension BAK added to their file names after import.
- /B By using the parameter '/B' and specifying the directory path, image files can be moved after a successful transfer.
If both the '/D' and '/B' parameters were defined, '/D' is ignored.
For each batch, a new directory named after the batch is created to which the images to be imported are moved.
If the '/R' parameter is also set, then the subdirectory structure with all images will be moved to the designated directory.
- /PDF Use the parameter '/PDF' if you want to import PDF files instead of image files.

Images are automatically generated from single PDF pages and can be displayed in the validation window. You can also specify the resolution in DPI of the images to be created, e.g. '/PDF300'. The default value of the resolution is 200 DPI. If a PDF page contains exactly one image, the image resolution is determined for the image generation. If it is not possible to determine the resolution, the default value is used.

The available filing formats are PDF and the enaio® format. In case of PDF, the individual pages of a PDF file will be saved in a single file. For an enaio® format, all individual images that were generated for display in the validation window will be stored in enaio®.

When generating PDF documents with hidden text using the FineReader recognition with the '/PDF' parameter, new PDF pages are only generated from the individual PDF pages if they don't contain text.

Example: Command line:

Provided that the parameter '/M' was entered, the user can select the directory containing the image files to be imported. All images available in the selected directory will be imported.

After AXIMGIMP there follows a recognition program or AXNOOCR.

The SFI module has to be licensed at the processing workstations.

AXICSRV

AXICSRV works with Kofax® or ZBar and recognizes barcodes. ZBar is integrated into enaio® capture.

For Kofax barcode recognition, an adequate Kofax Engine must be installed and configured. In no Kofax engine is installed, the barcodes are automatically recognized with ZBar.

With ZBar recognition, a barcode that appears several times on a single page is only recognized once.

ZBar supports the following barcode types:

- 3of9
- 2of5
- EAN
- UPC-E/A
- Code93
- Code128
- Codabar
- QR Code
- PDF417
- ISBN-10/13

The REK module must be licensed at the processing workstations.

In contrast to barcode recognition with AXICSCAN, standard settings can be used, thus barcode recognition does not have to be configured. To use the standard settings, define the program AXRCCONF as configuration program. Running AXICSRV in configuration mode enables you to define index fields and specify a database source.

If you define AXICSRV as configuration program, you can access Kofax filters and configure the barcode recognition in the configuration mode (see 'AXICSRV').

Type the following parameters into the command line of the **Edit subprogram types** dialog (see 'Assign Subprograms'):

/N Specify the parameter '/N' if you would like to use ZBar recognition despite having an installed Kofax Engine.

Afterwards, either the validation program AXVALID or a document separation and import program follow AXICSRV.

The program flow does not require user action.

AXFINER

AXFINER is based on FineReader and recognizes characters. Define the program AXRCCONF as configuration program and enter the parameter '/Z' to enable recognition. The recognized data will be used for the configured index fields.

The recognition speed can be controlled using the parameter '/F'. Set this parameter to enable the fast mode in FineReader. The recognition speed will then be twice as

fast but recognition results may be less accurate, depending on the document to be recognized.

The default language of the FineReader is German. To switch to another language or to specify several languages, customize the configuration file

...\clients\asindex\AXINDEX.CFG.

Example:

```
[GENERAL]
```

```
OCRLanguage=German,English,French
```

Running AXFINER in configuration mode allows you to define index fields and specify a database source.

This is followed either by the validation program AXVALID or a document separation and import program.

To specify the barcode types to be recognized, use AXFINER as configuration program and start it in configuration mode. You can then select one or more barcode types or choose automatic recognition. By default, the automatic recognition option is preselected. The command line parameter '/B' lets you run automatic barcode recognition even though you specified the barcode types to be recognized. Thus, this parameter can be used to switch automatic barcode recognition on and off without removing the specified barcode type setting.

The parameter '/S' is used to generate a text file containing the recognized text. If instead of a full page you want only a part of a page recognized, then add the parameter '/R' and define the page area to be recognized using data in the order indicated:

X position upper left corner of the horizontal recognition area in millimeters

Y position upper left corner of the vertical recognition area in millimeters

Width width of the recognition area in millimeters

Height height of the recognition area in millimeters

Example: Command line:

Type the parameter '/PDF' to save recognized data in PDF format. This function requires a FineReader license.

The parameters '/S' and '/PDF' can be combined to have the created files forwarded to a full text indexing component after import.

AXNOOCR

AXNOOCR is needed only if you do not integrate recognition subprograms.

AXNOOCR then creates the necessary database table. Define the program AXRCCONF as configuration program. Running AXNOOCR in configuration mode enables you to define index fields and specify a database source.

Afterwards, either the validation program AXVALID or a document separation and import program follows AXNOOCR.

AXNOOCR does not require any additional module to be licensed. The program flow does not require user action.

AXVALID

AXVALID is used to index both scanned and imported images. If a recognition program is run before, AXVALID allows you to check, correct and complete the extracted index data. What is more, it simplifies indexing while eliminating errors (see 'Validate'). Precheck and aftercheck programs can be integrated as well (see 'Precheck and Aftercheck Programs for AXVALID'). You can furthermore define the program AXVALID as a configuration program. Running AXVALID in the configuration mode allows you to specify a temporary directory into which scanned images are copied. From there, the image files will be presented for validation.

Afterwards, a document separation and import program follows AXVALID.

AXVALID also qualifies as an error handling program for document separation and import. If you want to use AXVALID only as an error handling program, select the **Error sensitive** option in its configuration dialog. Then, batches will be passed only if AXVALID is defined as an error handling program of another subprogram.

The VAL module has to be licensed at the processing workstations.

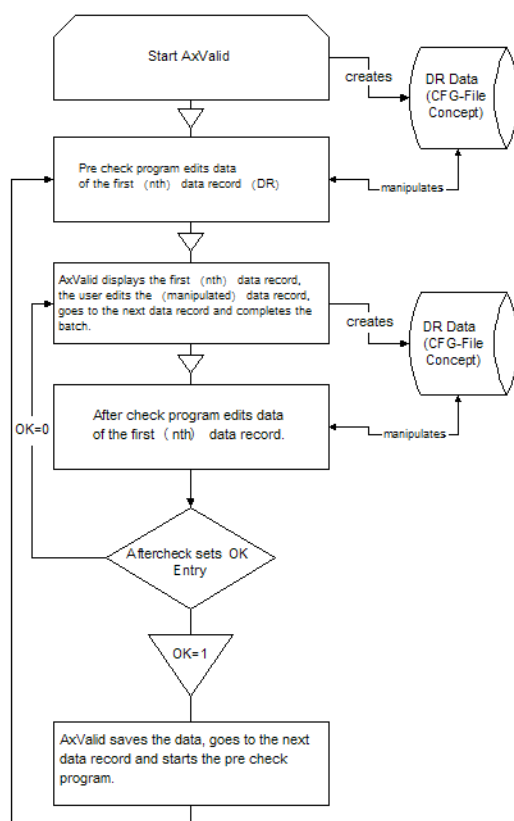
Precheck and Aftercheck Programs for AXVALID

Precheck and aftercheck programs allow for automatic filling and editing of a data record's index fields in a very simple way both before and after a document data record is processed.

Creating a precheck or aftercheck program is simple. You can either write individual programs or use VB scripts. If you use VB scripts, the files `axaddus.dll` and `oxvbs.dll` have to be located in the same directory as AXVALID. The modules VBX and VBE have to be licensed at the processing workstation. VB scripts are either obtained from OPTIMAL SYSTEMS or are created by you using the VB editor (see 'VB Editor').

Both precheck and aftercheck programs can manipulate and complete the data AXVALID has written to a CFG file.

The flowchart:



AXVALID creates a CFG file containing the field information of a given data record and saves it to the current temp directory. The path to the CFG file is passed as a command line parameter to the check program.

Structure of the CFG file:

```

[ DATA ]           //SECTION WITH FIELD CONTENTS, CREATED BY
                    AXVALID

{ FELD1 } = { <DATA> }
{ FELD2 } = { <DATA> }
...
{ FELDN } = { <DATA> }

[ RET ]           //RETURN VALUES TO AXVALID, CREATED BY THE
OK={ 0 , 1 }      AFTERCHECK PROGRAM
  
```

After completing the check program, AXVALID will fetch the data.

Precheck and aftercheck programs can address a special function of AXVALID which facilitates user navigation. If you have either of the two check programs add the @ character to the first position of a data entry field, AXVALID will not show this character, instead the editable field is highlighted in yellow. Thus, invalid index data can be made visible for the user. Once the user completes the data record, AXVALID saves the field entry without the @ character, even if the field entry has not been edited.

Precheck and aftercheck programs are integrated when configuring AXVALID. Open the dialog by selecting **Batch options** on the **File** tab. In the **Path** section, enter a path to the check program and its name.

AXVBINAB

AXVBINAB – enaio® capture_datamatching – is used to synchronize data of the enaio® capture database, where configured program flows are stored, with data from an external database. Consequently, the program flow for AXVBINAB requires the database to be set up and data to be entered beforehand. Provided that data has already been extracted with a recognition component and written to the database, in the program flow, AXVBINAB may either follow or be run before validation.

You can furthermore define the program AXVBINAB as configuration program.

The OCD module has to be licensed at the processing workstations. The program flow does not require user action.

AXIMPORT

AXIMPORT merges single pages into documents and imports the documents into enaio®. Define the program AXRCCONF as configuration program. Running AXIMPORT in configuration mode allows you to specify criteria for document separation, assign a document type of the archive to the documents and specify folders, registers or the filing tray as the filing location. If the document separation or the import fails, erroneous pages or documents will remain in the batch. Define AXVALID as error handling program if you want to have the batch passed to AXVALID. There, the indexing can be corrected and completed and the batch will be transferred to AXIMPORT afterwards. If the error is caused by an insufficient import assignment, the error can be corrected and the batch can then be processed again.

AXIMPORT is licensed over the AIE module at the processing workstations. The program flow does not require user action.

In the dialog **Edit subprogram types** (see 'Assign Subprograms') these parameters can be entered into the **command line**:

- /D With the parameter '/D', the temporary ASCII files containing import data will not be deleted. These data can help you to find errors or erroneous assignments.
- /B Use parameter '/B' to enter a backup directory. After importing, backup files of the ASCII files will be filed to this directory. These files contain IDs of the imported documents in the 'OSINDEX' column. If a document could not be imported, there will be no entry.
If the directory does not exist, the import will not be carried out.
- /M With the parameter '/M' multi-page TIFFs can be created for the import of black-and-white image files in TIFF format.
If images are not available in black and white TIFFs, errors will occur.

/OS PDF files are imported with an enaio®-specific file extension.

AXMAILDC

AXMAILDC merges single pages into documents. However, they will not be imported but sent as e-mail attachments. The e-mail details and the text can be taken from the indexing of the documents. AXMAILDC gets this information from a configuration file that is created by you. Define the program AXMAILDC as configuration program. If you start AXMAILDC in the configuration mode, you can indicate the path and the name in a configuration file which you have created (see 'The Configuration File'). In case document sending fails, the documents will remain in the batch. If the configuration file or the e-mail connection is erroneous, the batch can be processed again as soon as the error has been fixed. Set up AXVALID as error-handling program if the indexing is erroneous or insufficient. There, the indexing can be corrected and completed and the batch will be transferred to AXMAILDC afterwards.

AXMAILDC is licensed via the AMT module at the processing workstations. The program flow does not require user action.

The Configuration File

Enter sender, recipient, subject and e-mail message text in the configuration file for AXMAILDC. You can apply values from document indexing. The respective field names are parenthesized with percent signs '%'.
For example:

[MAIL]	Header of the CFG file
FROM=%from%	Sender
TO=Harold	Recipient
TO_CC=%CC%	Cc
TO_BCC=%BCC%	Bcc
SUBJECT=ASIndex of %date%	Subject
BODY1=Batch %BATCH_NA%	E-mail message text. A maximum of ten lines is allowed.
BODY2=...	
ATTACHMENTS=%BITMAPS%	The pictures are attached.

For this example, the fields 'From', 'CC', 'BCC' and 'Date' have to be set up. enaio® capture automatically presents the fields 'BATCH_NA' and 'BITMAPS' (see 'The Data Area').

You can create the file with any text editor. Enter CFG as file extension.

AXIMPMDC

Like AXIMPORT, AXIMPMDC merges single pages into documents and imports them. In addition, an e-mail containing the indexed values of the document will be sent. Define AXIMPMDC as the configuration program. If you start AXIMPMDC

in the configuration mode, you can indicate the path and the name of a configuration file which you have created (see 'The Configuration File').

For error correction, AXIMPMDC needs an index field with the name 'OSINDEX'. The field has to have 11 characters at least and the data type has to be 'alphanumeric'. The field should be neither indexed nor assigned to an enaio® index field. In this field an imported document will be automatically indexed with a unique database number.

In case document import or sending fails, the documents which were not imported or sent will remain in the batch. If the import assignment, the configuration file, or the e-mail connection is erroneous, the batch can be processed again as soon as the error has been fixed. Set up AXVALID as error-handling program if the indexing is erroneous or insufficient. There, the indexing can be corrected and completed and the batch will be transferred to AXIMPMDC afterwards.

AXIMPMDC is licensed via the modules AMT and AIE at the executing workstations. The program flow does not require user action.

The Configuration File

Enter sender, recipient, subject and e-mail message text in the configuration file for AXIMPMDC. You can apply values from document indexing. The respective field names are parenthesized with percent signs '%'.
For example:

[MAIL]	Header of the CFG file
FROM=%from%	Sender
TO=Harold	Recipient
TO_CC=%CC%	Cc
TO_BCC=%BCC%	Bcc
SUBJECT=ASIndex of %date%	Subject
BODY1=Batch %BATCH_NA%	E-mail message text. A maximum of ten lines is
BODY2=...	allowed.

For this example, the fields 'From', 'CC', 'BCC' and 'Date' have to be set up. enaio® capture automatically presents the field 'BATCH_NA' (see 'The Data Area').

You can create the file with any text editor. Enter CFG as file extension.

AXPARTDC

AXPARTDC merges single pages into documents and creates a dBASE table. Based on this table, documents can be imported later on or in another context through the automatic action 'Data/Document import'. Define AXRCCONF as a configuration program. Running AXPARTDC in configuration mode enables you to specify a directory for the dBASE table and the images.

If multiple black-and-white image files are assigned to a document in TIFF format and you specify the parameter '/M', these image files will be merged in a multi-page TIFF file.

Using the parameter '/OS', PDF files are imported with an enaio®-specific file extension.

AXPARTDC creates a dBASE table in the configured directory. Set up AXVALID as error handling program to save corrected data records in further dBASE tables.

Enter the parameter '/A' if you need a dBASE table with all data for import or further processing systems, which is usually the case. New data will be entered into the existing table. External components must not access the table simultaneously.

AXPARTDC is licensed over the AIE module at the performing workstations. The program flow does not require user action.

Configure Subprogram Types

In the configuration, specify for subprograms how data are passed (see 'Assign Subprograms'). You can configure data processing with the configuration program of a subprogram type.

The configuration program AXRCCONF (see 'AXRCCONF') is assigned to most of the subprogram types.

AXIMGIMP, AXVALID, AXMAILDC, and AXIMPMDC are each used as both subprogram type and configuration program. To configure them, you only need to specify a path to a temporary directory or to the desired data if you start the subprograms in the configuration mode.

Start configuration programs as follows:



Select the subprogram and on the **START** tab click **Configure**.

The configuration program will start.

Specify the path to the images for AXIMGIMP in the **Edit subprogram types** dialog (see 'Assign Subprograms') with the parameter '/S' in the **Command line**.

AXIMGIMP does not have to be started in the configuration mode.

Example: Command line:

You can optionally specify a temporary image directory for AXVALID, e.g. a local directory for the workstation. When the program is started, the images are copied there and then presented for validation from this directory.

Specify the path to the required configuration file for AXMAILDC and AXIMPMDC.

Set up a database connection to an external database and specify value, search and alignment fields for AXVBINAB.

AXRCCONF

The configuration program AXRCCONF is assigned to the subprograms AXDSCAN, AXTWSCAN, AXICSCAN, AXFINER, AXNOOCR, and AXIMPORT.

AXRCCONF can be started by selecting **Configure** from the context menu of a subprogram. It does not matter which subprogram linked to AXRCCONF has been selected before. AXRCCONF administers configuration settings in a configuration file.

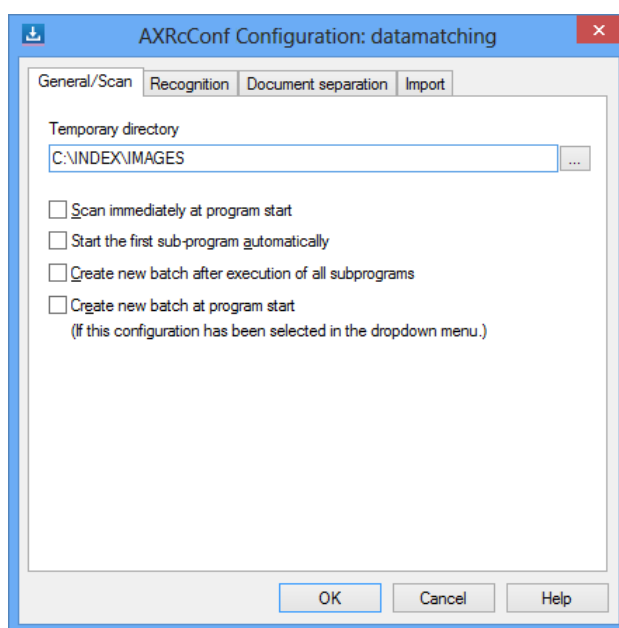
In the program window you can find the tabs assigned to process components:

- **General/Scan**
- **Recognition**
- **Document Separation**
- **Import**

General/Scan

Optionally enter a temporary directory for the images of scanned pages on the **General/Scan** tab, e.g. a local directory. After scanning, the images are moved from this temporary directory into the following directory:

...\ASIndex\AXINDEX.DAT\configuration name\BATCH_ID



With the **Start the first subprogram automatically** option, you can set the scan subprogram to start immediately at new batch creation and to then start scanning immediately and forwarding scanned pages and the batch.

Furthermore, there are two options available for automatic batch creation.

The **Create new batch after execution of all subprograms** option is used to specify that a new batch is automatically created as soon as all subprograms have been executed and the batch is moved into the filing tray.

If you activate the **Create new batch at program start** option, a new batch is automatically created every time enaio® capture is launched, provided that the configuration selection menu is shown (see 'Deletion Rights for Batche') and the respective configuration selected. Make sure that the first subprogram does not

contain a non-locked batch and the last subprogram is not run on an Autostation; otherwise both options will not be available.

Recognition

On the **Recognition** tab, there are further tabs:

- **Field Attributes**
Index fields are defined here.
- **Fixed-length field attributes**
Index fields that should receive constant values have to be defined here.
- **Field replacements**
According to the value, you can assign another value to automatically indexed fields.
- **Regex**
Working with text recognition, regular expressions can be specified to filter recognized text.

Field Attributes

On this tab you can define, edit or delete the index fields for the documents. For imports, it is also possible to assign index fields of enaio® objects (see 'Field Mapping') to these index fields.

A lot of fields and a lot of content may lead to errors during processing because SQL statements become too long. Please keep this in mind when specifying the number of fields and the data type.

The screenshot shows the 'AXRcConf Configuration: datamatching' dialog box with the 'Recognition' tab selected. Within this tab, the 'Field attributes' sub-tab is active. The dialog contains several input fields and checkboxes for defining index fields. The 'Field name' is set to 'Character', 'Data type' to 'Alphanumeric', 'Reference' to 'Relative page position', and 'OCR type' to 'Adjustment'. The 'List type' is set to an empty dropdown. The 'X position' is 0, 'Y position' is 0, 'Length' is 1, 'Line' is 0, and 'Page' is 0. The 'Width' and 'Height' are also 0. There are checkboxes for 'Key field' and 'Group field', both of which are unchecked. There is also a checkbox for 'Initially filled with last value' which is unchecked. The 'New' and 'Delete' buttons are visible next to the 'Field name' and 'Data type' dropdowns. The 'OK', 'Cancel', and 'Help' buttons are at the bottom.

You can set up new index fields with the **New** button and remove them with the **Delete** button. Choose the index fields which you want to edit from the **Field name** list.

Assign a **Data type** to index fields:

Data type	Format	Length
Alphanumeric	all characters	database-dependent number of characters
Numeric	{0...9}	max. 9 characters
Date	DD.MM.YYYY	10 characters
Decimal	XXXXXXXXXX.NN	10 characters before the decimal point, 2 characters after the decimal point.

For index fields filled by barcode recognition or OCR, you have to define a recognition area on the pages where barcodes or characters will be searched.

If you select **Reference: Relative page position**, you specify the area with coordinates.

Field	Description
X position	upper left corner of the horizontal recognition area in mm
Y position	upper left corner of the vertical recognition area in mm
Width	width of the recognition area in mm
Height	height of the recognition area in mm
Length	<p>Length of the indexing field (number of characters).</p> <p>If the data type is 'Decimal', enter the amount of characters before the decimal point. If the data type is 'Date', enter '10' as length.</p> <p>In addition to the length, you can set a minimum and a maximum value separated by commas. If the amount of recognized values is not part of this area, the value is classified as erroneous and will not be used.</p> <p>Example: 10,4,10</p> <p>Note: Enter '10,8,8' for a barcode date in the format 'DDMMYYYY'. The data type 'Date' requires '10' as its internal length, the date to be recognized has exactly 8 places.</p>
Line	Barcode line (if the OCR type is 'Barcode')
Page	not supported anymore

You can copy and insert the coordinates of an area with enaio® client into a filed sample document. To do so, select an area and copy the coordinates to the clipboard with **Alt+C**. Insert the data using the **Insert** key into one of the fields **X position**, **Y position**, **Width**, or **Height**.

Choose **Reference: Other Field** to read values from another index field, e.g. to allocate information from one barcode to several index fields. This referenced index field must not be a further reference to another index field.

Field	Description
Reference field	The index field to be read.
Start	The position of the first character in the index field that will be readout.
Length	The number of read characters.
Field length	The maximal number of characters that can be entered in the index field.

Choose an **OCR type** for an index field. Index fields referring to another index field do not need an OCR type.

OCR Type	Description
Barcode	Barcode recognition
Omnifont	OCR recognition of laser print pages
Omnifont numeric	OCR recognition of numbers. If other characters appear, recognition will fail.
Omnifont replacement	OCR recognition for which intelligent character replacement can be configured instead of complete field replacement.
Dotmatrix	OCR recognition of matrix printed pages
ICR	Recognition of handwritten characters
ICR Numeric	Recognition of handwritten, numeric characters
Adjustment	The index field is kept empty to be completed by a precheck or aftercheck program, for example. Choose this type even if the index field is filled in manually.
Selection	Recognition of 'black corners'. Black corners are blackened-out areas on document areas, which can very likely be recognized. This method is applied to improve the quality of document separation.
Accumulative adjustment	Fields of this type are completed by the user at validation start. The entered value will then be applied to all documents but can be overwritten when validating single documents.

With the **List type** field you can assign a catalog list to index fields which have been created in enaio® editor and assigned to a field. The properties of catalog lists, e.g. width and height of tree catalogs, depend on the individual catalog settings in

enaio® editor. In AXVALID, you can then select values from the catalog list with a catalog button.

You can assign the **Key fields** option to index fields. A recognized value is automatically taken over for the next pages, as long as no new value has been determined.

The automatically transferred value will not be depicted in AXVALID but applied to the following document separation and import steps. If a user enters a value into a key field of AXVALID, this value will also be used for document separation and import of the next pages as long as no new value has been determined or entered.

Key fields are not labeled specifically in AXVALID. Therefore, inform the user if you use this option.

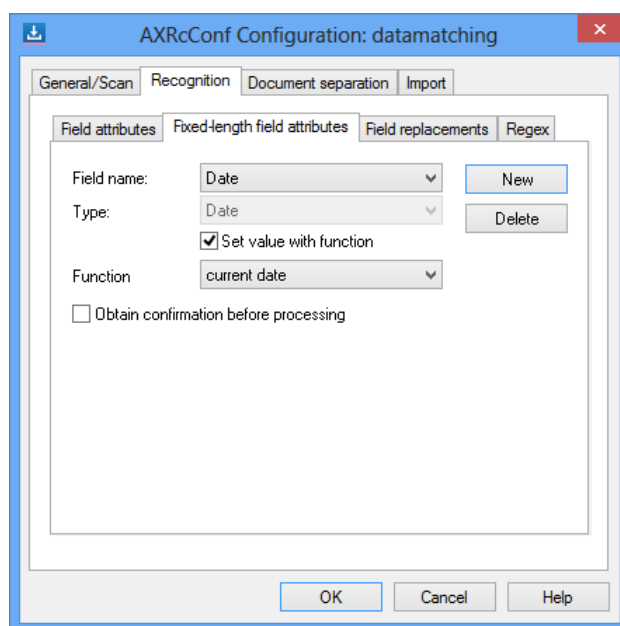
If you select several fields as **group fields**, it will be validated whether all group fields are filled out or whether all group fields are empty. If neither of these situations is the case, the user will be notified as soon as another document is selected.

If the **Initially filled with last value** option is selected, fields will automatically be filled with the last entered value and marked in color when displaying the page at validation. The value can be transferred.

If you select the **Obtain confirmation before processing** option, the user can globally change the fixed-length field for all pages in AXVALID.

Fixed-Length Field Attributes

With the **Fixed-length field attributes** tab you can define fixed-length fields: index fields with preset values.



You can set up new fixed-length fields with the **New** button and remove them with the **Delete** button. Choose the fixed-length fields you want to edit from the **Field name** list.

You have to assign a **Type** to fixed-length fields:

Data type	Format	Length
Alphanumeric	all characters	max. 248 characters
Numeric	{0..9}	max. 248 characters
Date	selectable with Function	

Enter the value for the fixed-length field in the **Value** field.

If you want to set up a field in which the user enters a value for all documents, you can create an **Accumulative adjustment** field type.

Select the **Set value with function** option to assign a function to the fixed-length field from the **Function** list. The respective data type is selected automatically.

Function	Data type
current date	Date
current year	Alphanumeric
current quarter	Alphanumeric
current YYYYMM	Numeric
current YYYYMMDD	Numeric
current month	Alphanumeric
current quarter or year	Alphanumeric

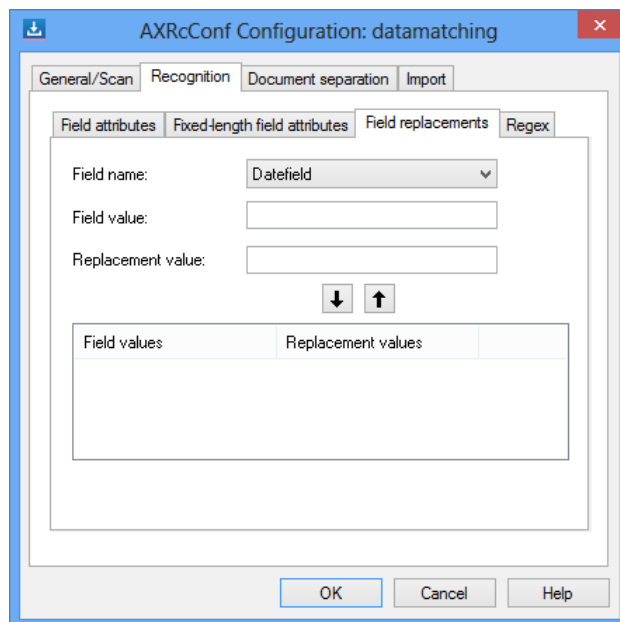
If you select the **Obtain confirmation before processing** option, the user can globally change the fixed-length field for all pages in AXVALID.

Single fixed-length fields are editable in AXVALID.

Fixed-length fields that are not important for validation and also do not have to be depicted, can also be set up with the import wizard (see 'The Import Wizard').

Field Replacements/Character Replacements

Depending on the value, you can assign another value to index fields on the **Field replacements** tab. The replacement value replaces only an entire field value.



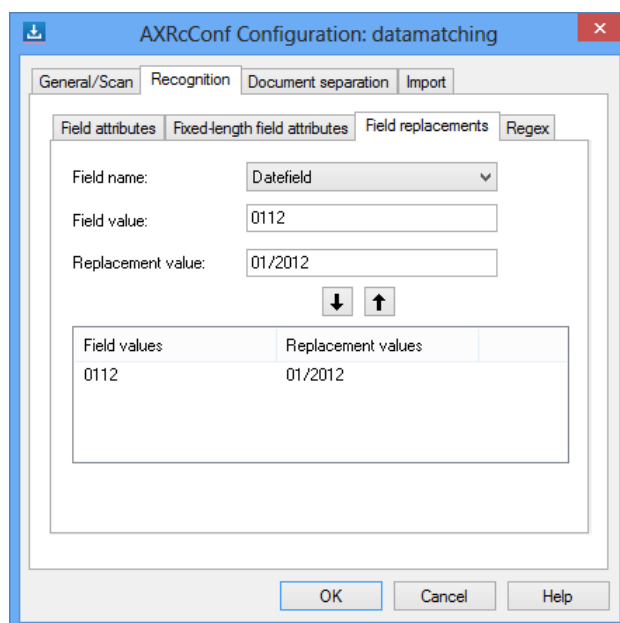
Choose an index field from the **Field name** list.

Enter the value to be replaced automatically in the **Field value** field.

Enter the value replacing the field value above in the **Replacement value** field.

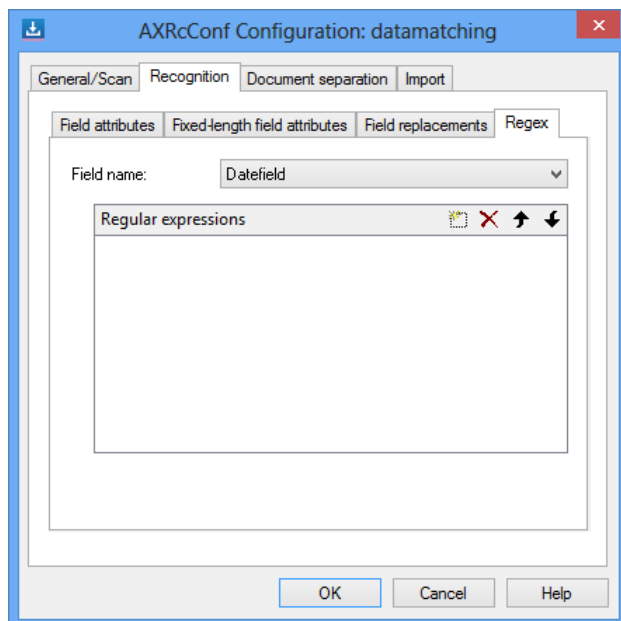
Use the arrow button to add the selected combination of a field value and a replacement value to the list in the area below. You can add further combinations. The area below cannot be edited. If you want to modify or delete combinations, select them and use the arrow button to delete them from the list.

In fields with the OCR type **Omnifont replacement**, strings within field values cannot be replaced. Strings and replacement values can be assigned more than once. Assignments are processed from top to bottom according to the list order.



Regex

Choose a field name and enter a regular expression. Text recognized by text recognition is filtered by this regular expression.



This function is only available together with text and barcode recognition.

Document Separation

On the **Document separation** tab, enter the criteria to specify how individually scanned pages are merged into documents.

Choose the following criteria from the **Separate** list:

- By number of pages
- Field value
- Value change

Specify the chosen criterion with the following fields.

Criteria for document separation cannot be combined.

Document Separation by Number of Pages

The screenshot shows the 'AXRcConf Configuration: datamatching' dialog box with the 'Document separation' tab selected. The 'Separate:' dropdown is set to 'By number of pages'. The 'Exclude page(s):' field contains '0'. The 'Number of pages' field contains '1'. The 'Required fields' section shows a list of fields: Name, Datefield, and Character. The 'OK', 'Cancel', and 'Help' buttons are at the bottom.

If all documents have the same number of pages, enter this value in the **Number of pages** field.

Enter the pages you do not want to apply to the new document in the **Exclude page(s)** field.

Example: 1 ; 4 ; 9 - 11

If a marked **Required field** is empty on a document, it will not be imported and it will remain in the batch.

Document Separation after Field Values

The screenshot shows the 'AXRcConf Configuration: datamatching' dialog box with the 'Document separation' tab selected. The 'Separate:' dropdown is set to 'Field value'. The 'Exclude page(s):' field contains '0'. The 'Field:' dropdown is set to 'Name'. The 'Logical operator:' dropdown is set to '='. The 'Value:' field is empty. The 'Required fields' section shows a list of fields: Name, Datefield, and Character. The 'Add' and 'Remove' buttons are next to the 'Field:' dropdown. The 'OK', 'Cancel', and 'Help' buttons are at the bottom.

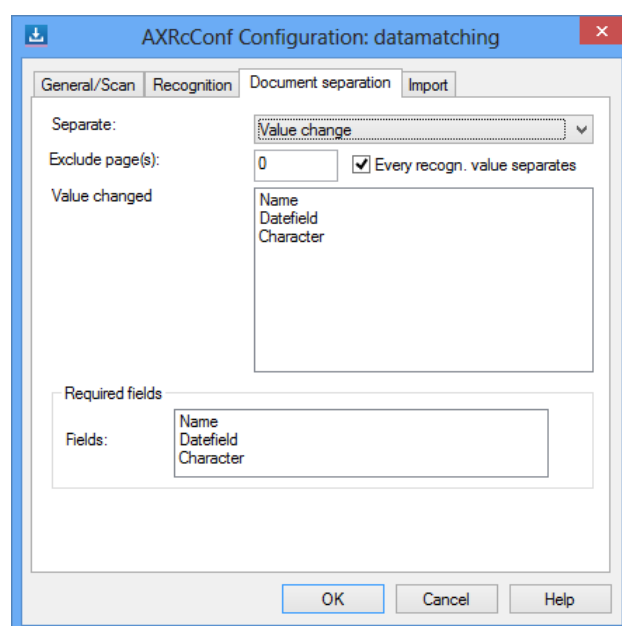
For separation according to a field value, you can enter conditions for index fields. If a condition has been fulfilled on a page, a new document will start with this page. All following pages will be assigned to the document until another or the same condition has been fulfilled. The first document starts with the first page.

A field value condition consists of a **Field**, a **Logical operator** ('=', '<', '<=', '>', '>=', 'IsNull', and 'IsNotNull'), and a **Value**. The entries in these fields can be transferred to the field value conditions list with the **Add** button. Several field value conditions are linked with the logical OR operator.

If you enter a value which is not equal to 0 in the **Exclude page(s)** field, the first n-pages of the document will not be passed to the new document.

If a marked **Required field** is empty on a document, it will not be imported and it will remain in the batch.

Document Separation after Value Changes



For separation following a value change, specify index fields where a value change marks the beginning of a new document. If an indexed field on a page is followed by an empty field on the next page, this page will always be assigned to a page with the last recognized value.

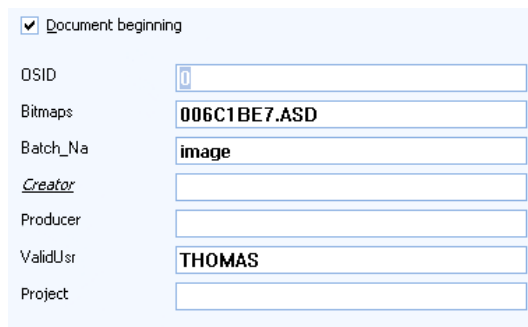
If you mark the option **Every recognized value separates**, no comparison with the content of the last value change field takes place and available information in the value change field will be taken as separation criteria. An empty field cannot be a recognized value.

If you enter a value which is not equal to 0 in the **Exclude page(s)** field, the first n-pages of the document will not be passed to the new document.

If a marked **Required field** is empty on a document, it will not be imported and it will remain in the batch.

The Check Box 'Beginning of document'

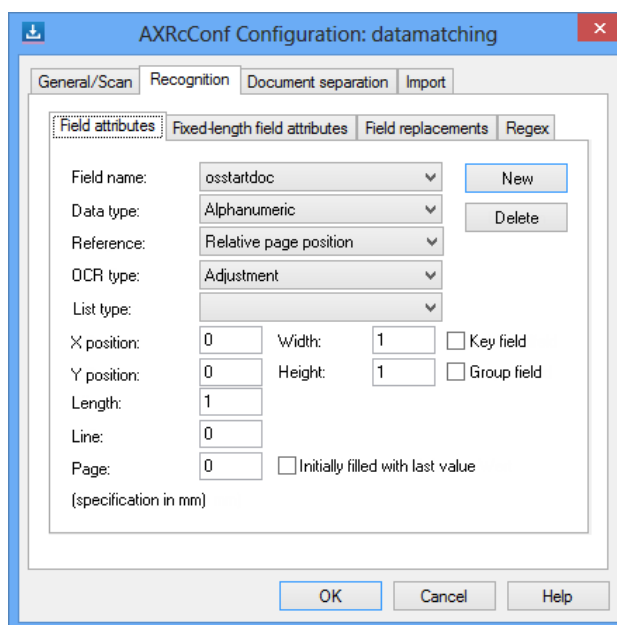
You can set up a check box for document separation which is marked during validation either manually or through a script and thus indicates the beginning of a document.



The **Beginning of document** check box will be depicted automatically at the top of the data area during validation.

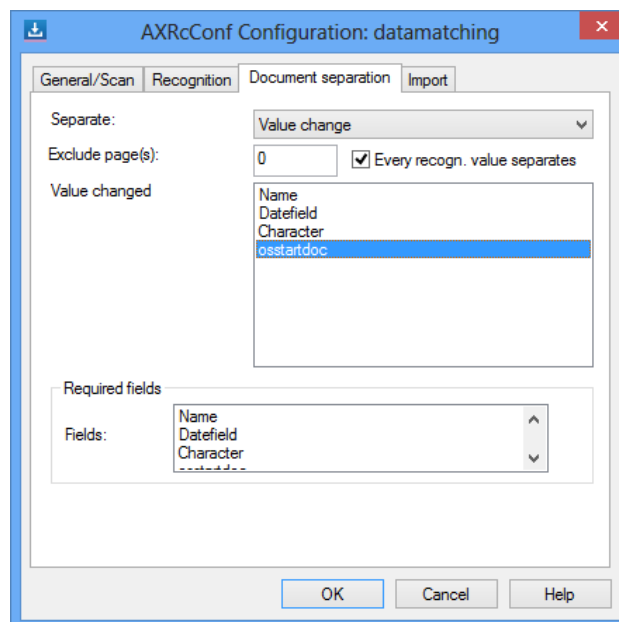
To do so, set up a field with the following attributes:

Field name osstartdoc,
Data type Alphanumeric,
OCR type Alignment,
Length 1.



Define this field as value change field on the **Document separation** tab:

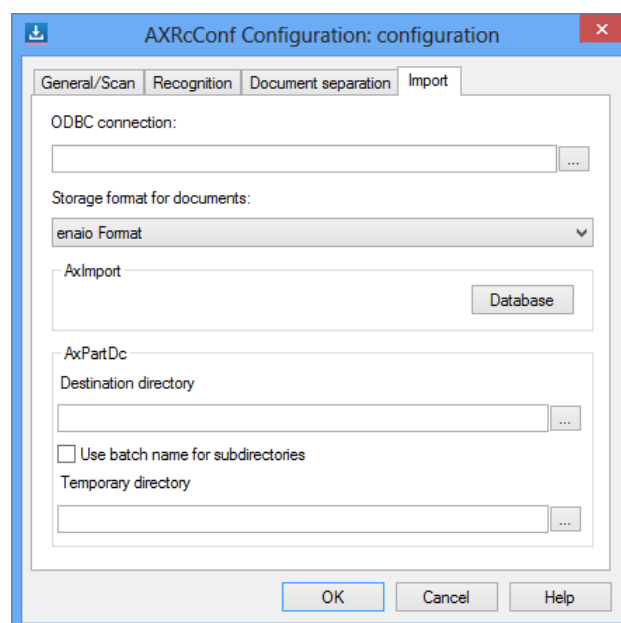
Separation after value change,
Value changed osstartdoc,
Additionally select the option **Every recognized value separates**.



Import

Enter a data source creating a database table for recognition in the field **ODBC connection** on the **Import** tab. Pages, index fields and index values are assigned to each other in the database table. The table directory has to be located in the ...\\ASINDEX\\AxIndex.dat\\directory.

The number of characters which an alphanumeric field can contain depends on which database is used (see 'Field Attributes').



Pages can be stored in enaio® format or as PDF files. Provided that FineReader was installed and licensed properly, PDF files are generated whose text can be highlighted and copied. Otherwise, PDF files will be image files with PDF headers.

If you choose enaio® format, pages will be filed in the module-specific standard file formats, but with archive-specific extensions.

In the area **AxPartDc**, a destination and a temporary directory can be entered for AXPARTDC (see 'AXPARTDC').

Inside the destination directory the data are saved in directories named after the batch ID. Batch names specified during the creation of batches can also be used for naming these directories. If data are saved by multiple workstations to a single directory, unique directory names are required.

With the **Database** button you open the import wizard with which you can assign enaio® document types to documents and define the archive location.

The Import Wizard

The import wizard offers many possibilities to import data into the archive. It is also used to configure automatic actions of the type 'Data/Document import'. Several options can be used for data import but not for file import. These options are not described in detail as documents are usually imported with enaio® capture. Information on these options and further details regarding the import wizard can be found in the 'enaio® import/export' handbook.

System ID

In the first dialog of the import wizard, you can enter a system ID for all documents. Documents with a system ID only consist of the index data in enaio®. The files themselves are located in another archive system. A link to this archive system will be set up with the system ID. You do not need a system ID to import image files.

Click **Next**.

Fixed Fields

You can set up further fixed fields via the second dialog. Fixed fields created with AXRCCONF (see 'Fixed-Length Field Attributes') can be depicted and edited at validation. Fixed fields set up with the import wizard are created at import.

Import wizard

Definition of fixed fields

Here you can define fixed fields. Fixed fields can be mapped to folder fields, register fields and document fields.

Fixed field name:

Fixed field type: ☐ Set value with function

Value:

Fixed fields

Fixed field name	Type	Function / value
------------------	------	------------------

When configuring fixed fields, you also specify a data type, a value, or a function.

Click **Next**.

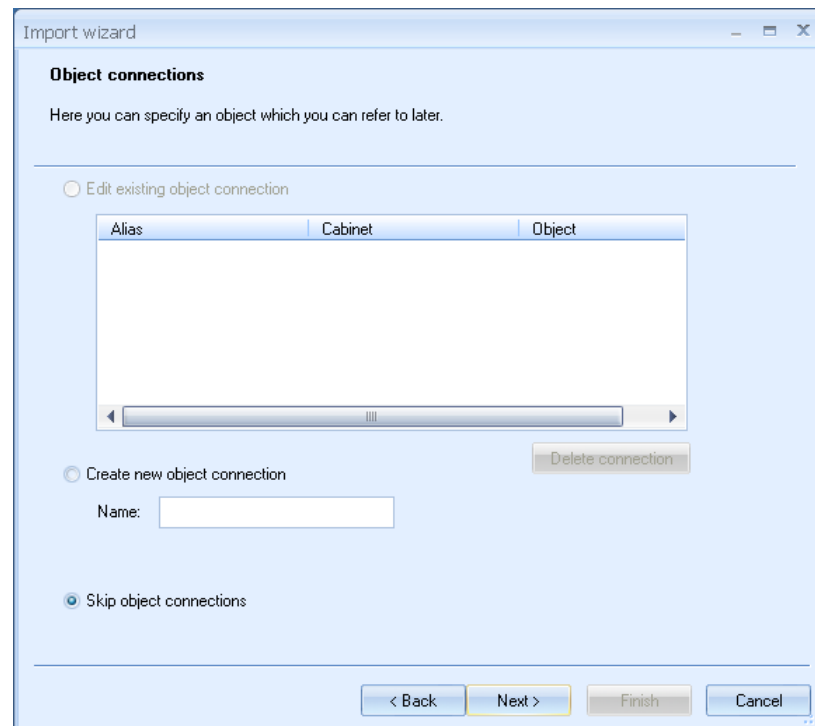
Object Connections and Relations

In enaio®, objects can be linked through relations and notes. If you use relational connections in the archive, you will be able to use created data to connect existing objects through relations but you cannot import any documents.

If you use note connections in the archive, you can also connect documents you want to import with other objects through notes.

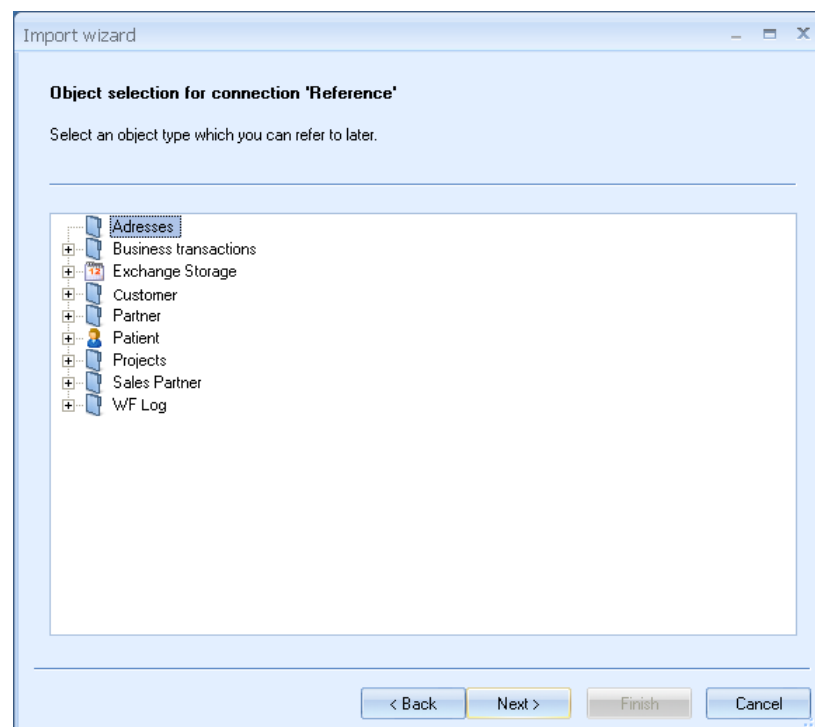
Object connections are created as follows:

1. Select the **Create new object connection** option and enter a **Name** for the object connection.



Click **Next**.

2. Select the object type to which you would like to refer through the notes of the imported documents.

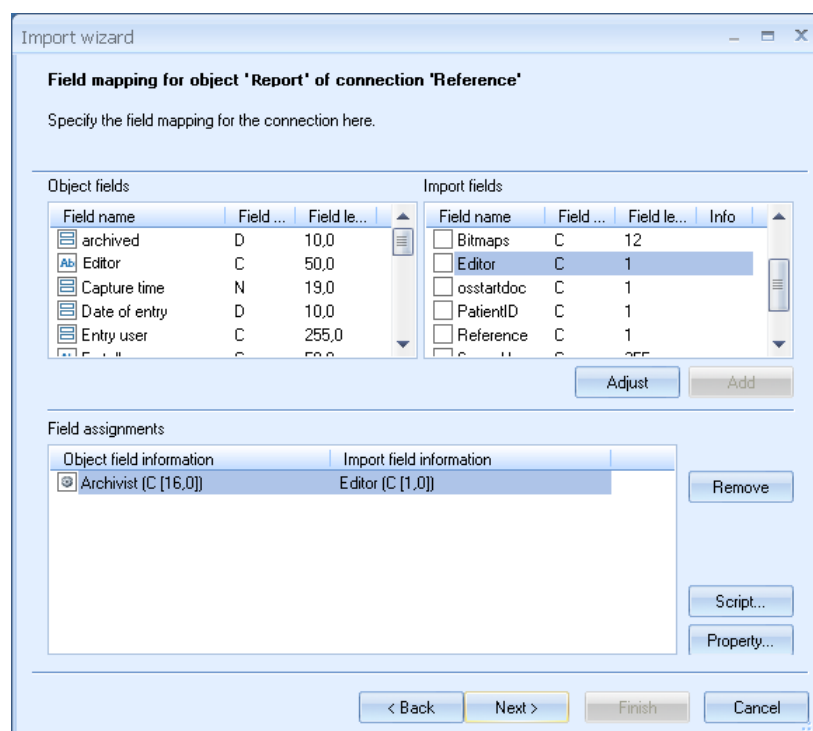


Click **Next**.

3. Create one or more field mappings.

Use field mappings to specify import field data for searches in object fields of objects of the selected type. You can then use the notes of the imported

documents to refer to the objects retrieved this way.

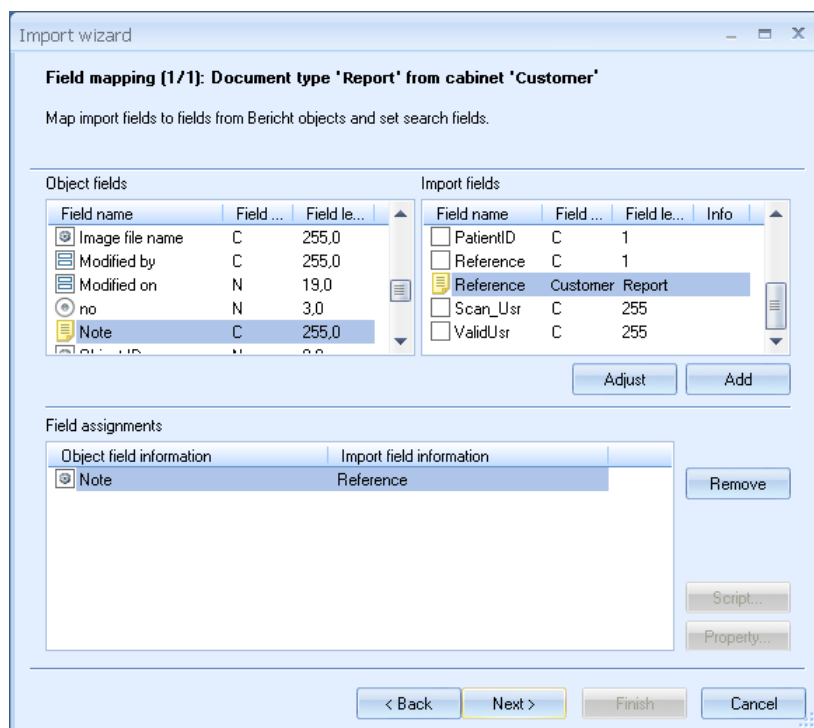


Click **Next**.

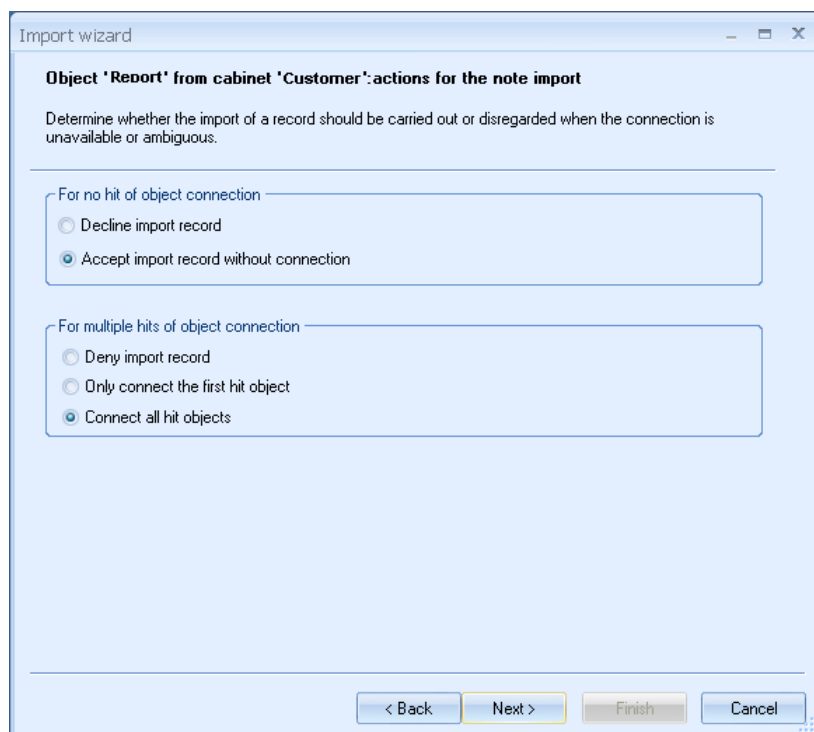
The **Object connections** dialog is displayed again, now with a list of the configured object connections. You can create further object connections. If you do not require further object connections, select the

◆&X□ □QerM,η◆ η□■M,η◆X□■◆ option and click **Next**.

In the import wizard's subsequent dialog, map the 'Note' object field to the created object connection.

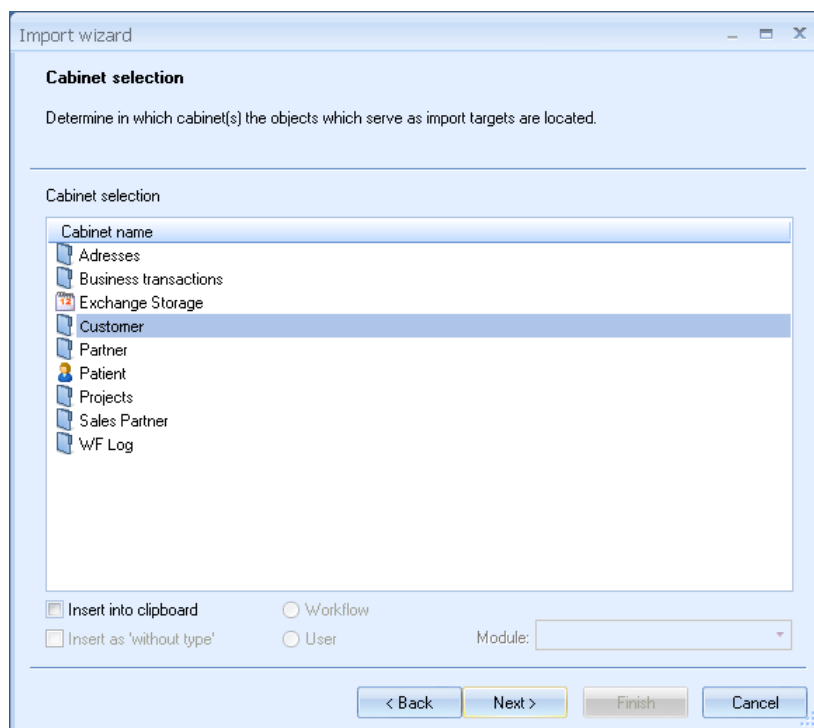


You also need to specify how the import is to take place, in case the object search for the note connection results in either zero hits or more than one hit.



Object Selection

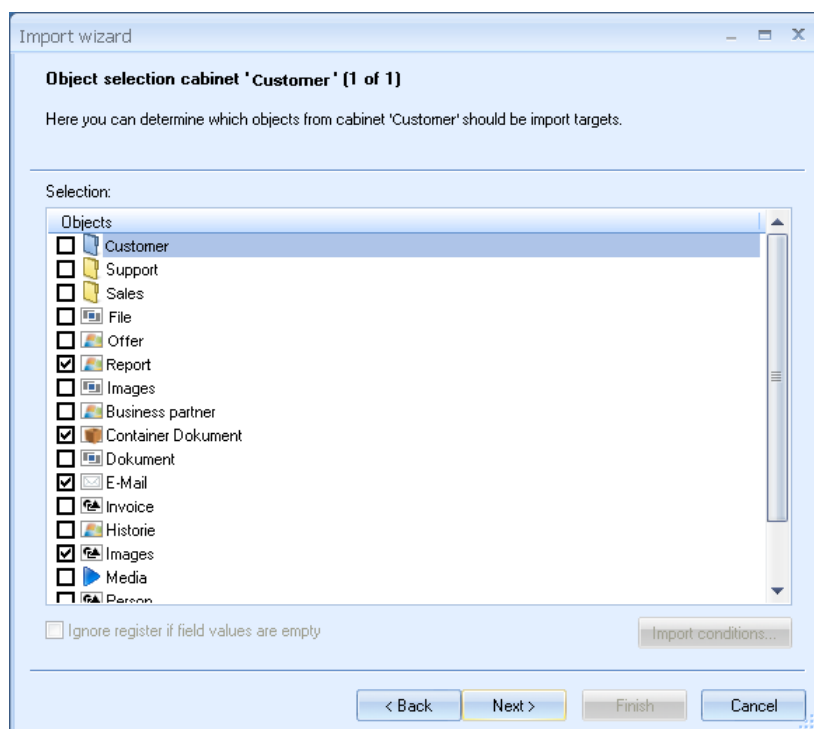
The **Cabinet selection** follows on the object connections.



Documents can also be imported into a filing tray instead of a cabinet. Documents can also be imported into a filing tray instead of a cabinet. The user can move it from there to the desired location in enaio® client.

You can select multiple cabinets.

The **Object selection** follows after cabinet selection.

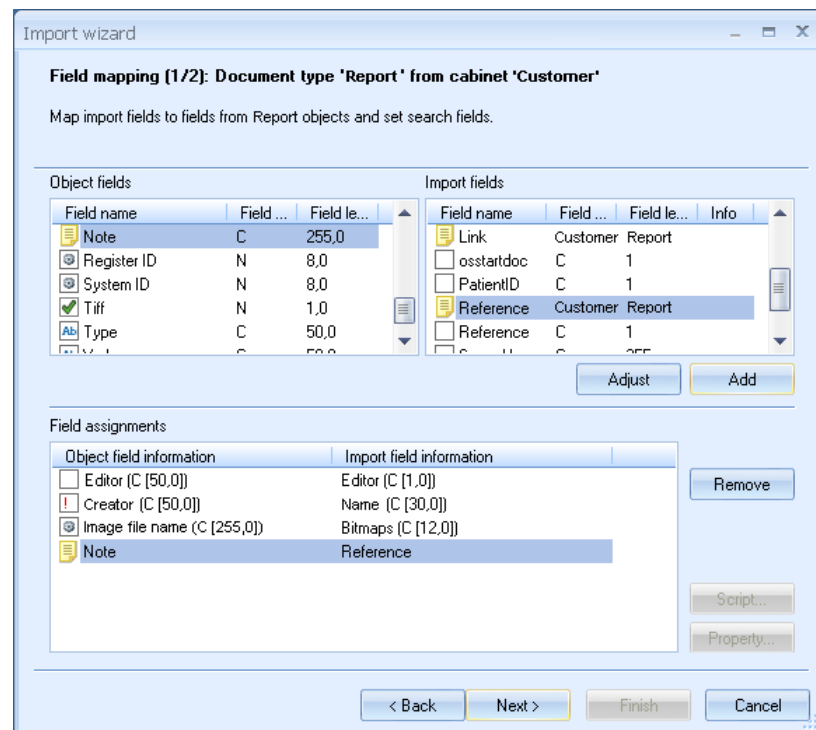


For every cabinet, choose the document type for which you want to create documents using import data and optionally choose register types and the folder type.

If you neither choose register types nor the folder type, documents of the selected document type are needed in the archive to define the import document location based on their location.

Field Mapping

Afterwards, create field mappings for all selected objects.



Map fields from the object definition of selected object types to the import fields you created. Create field mappings for each selected object type. For the image file, map the **Image file name** object field to the **Bitmaps** import field.

Objects are thus created with import field data and they are indexed in the object fields.

If you do not define any field mappings as search fields, new objects will always be created. Define field mappings as search fields to start a search against the mapping. New objects can be stored relative to the location of found objects or import data can update found objects. The action can be set with the following **Object action** dialog.

Use the context menu or the **Properties** dialog to set the field mapping as a search field. The dialog can be opened with the respective button.

Object Action

When setting search fields, specify the actions to be performed in case of one, multiple, or no hits in the **Object actions** dialog.

For one hit:

- **Update index data**
The index data for the retrieved objects are updated using the import data.
- **Do not update index data**
Index data of the retrieved object will not be updated.
- **Execute master insert**
If the found object is a document without pages, index data will be updated and the image assigned.
If the retrieved object is a document with pages, a new document is created at the appropriate location.
- **Create new index record**
At the retrieved location, a new object with the indexing of the import record is created.

For more than one hit:

- **Do not import active data records to this cabinet**
Neither a new object will be created, nor will an existing object be updated in this cabinet.
- **Execute action "When there is one hit or a known location" with first hit**
The first hit will be taken and the action specified there will be executed.
- **Update index data of the first hit**

The first hit's index data will be updated with the import data.

- **Execute no action**

No action will be executed for this object type.

- **Delete copies**

This option assumes that more than one identical and empty folders or documents without pages were found. Then, only one object will be retained.

- **Create new index data record (location of first hit object)**

At the location of the first hit object, a new object with data from the import record is created.

For no hits:

- **Do not import active data records to this cabinet**

Neither a new object will be created, nor will an existing object be updated.

- **Create error message**

The data record will be marked as erroneous. The import will continue with the next data record.

- **Execute no action**

No action will be executed for this object type.

- **Create new index record**

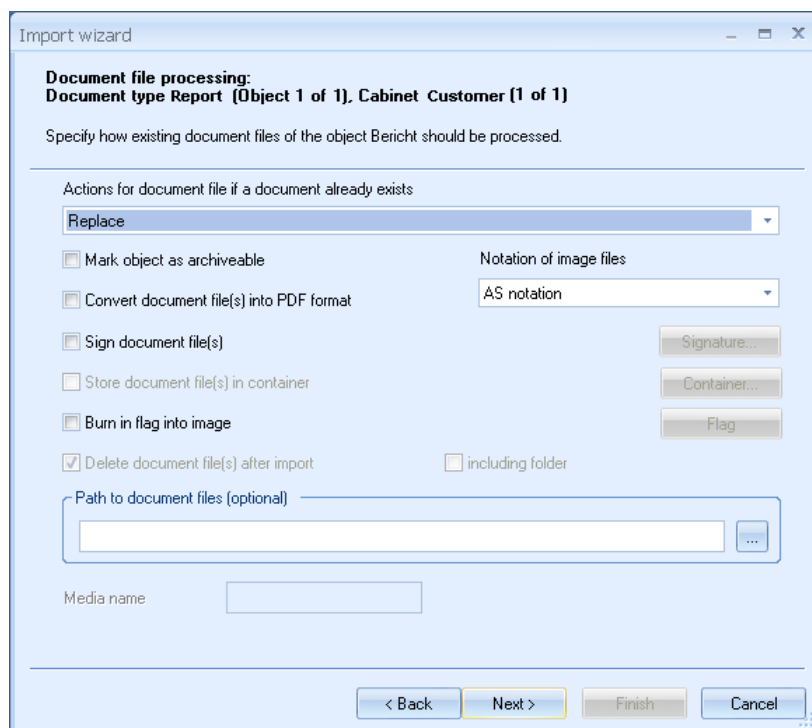
A new object with indexing of the import record is created. The location will also be specified by the data from the index record.

For each case it has to be defined whether or not to **Execute next action**. The next action would be the data import into another cabinet.

Also specify whether to **Include search fields in actions**. If search fields are included, the index data of search fields will also be updated.

Document File Processing

You can define how document files will be processed in case documents do already exist. Specify whether existing document files will be replaced or retained, or if new document files will be attached to the old ones.



The notation is always 'AS notation' and you do not need to enter a path to document files.

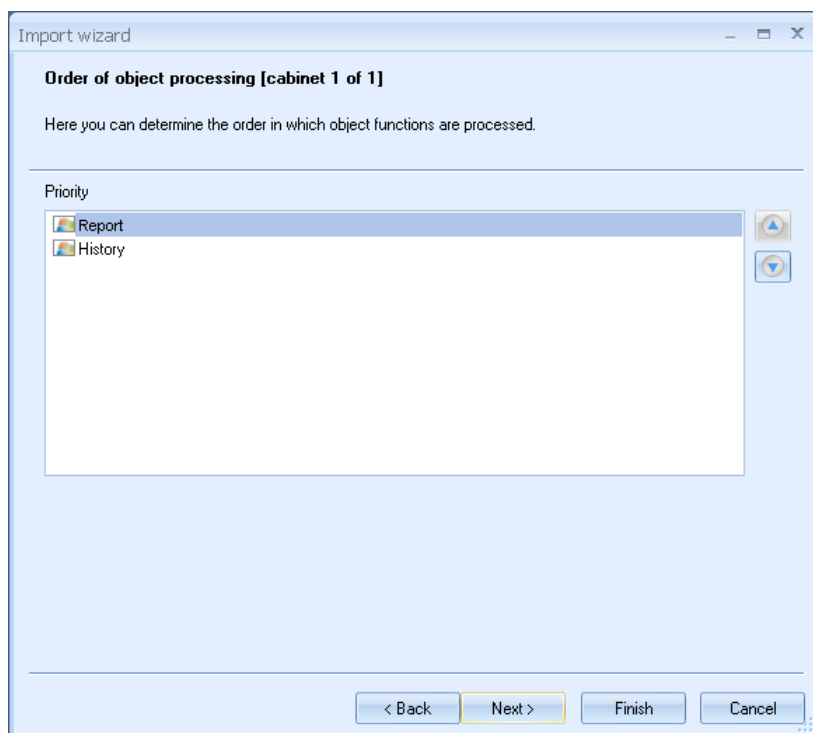
When working with container documents, use the **Container** button to open the Container Properties dialog and specify the properties, as you would when creating a new container document in enaio® client. The container is administered as a ZIP archive and can contain any file formats.

Document files can be signed if you have access to an appropriate signature system. Signature takes place using AutoSigner by Mentana which can run locally at the workstation or as a web service.

Documents available in TIFF, JPEG or PDF format may be specially labeled. To do so, select the according option, click **Flag** to open a dialog where you can set flag properties.

Sequence

If you configure search fields and object actions for multiple object types, you can also specify the order in which objects and search fields will be searched and the object actions processed.



If you select the order folder/register/document, first folders will be searched and folder object actions processed, next registers relative to folders, and then objects relative to registers or folders.

If you specify another priority, object actions will not be processed relative to each other.

Add a Workflow Process

You can add a workflow process start to any data import. The import data transfer will then start the workflow process. References of the objects created through data import can be inserted into the workflow file. You can find further information in the 'enaio® import/export' handbook.

The screenshot shows the 'Import wizard' dialog box with the 'Workflow configurations' step selected. The dialog has a title bar with standard window controls. The main area contains the following elements:

- Workflow configurations** (Section Header)
- Text: "After every imported record one or more workflow processes can be started to which objects can be assigned and whose workflow variables can be filled."
- Radio button: ☐ Edit existing workflow configuration
- Table with 2 columns: Name, Workflow model (currently empty)
- Radio button: ☐ Create new workflow configuration
- Text: "Delete workflow configuration" (button)
- Text: Name: [text input field]
- Text: Workflow model: [dropdown menu]
- Radio button: ☒ Skip workflow configuration
- Navigation buttons: < Back, Next >, Finish, Cancel

VB Scripts

After the import of single or multiple data records you can perform a script.

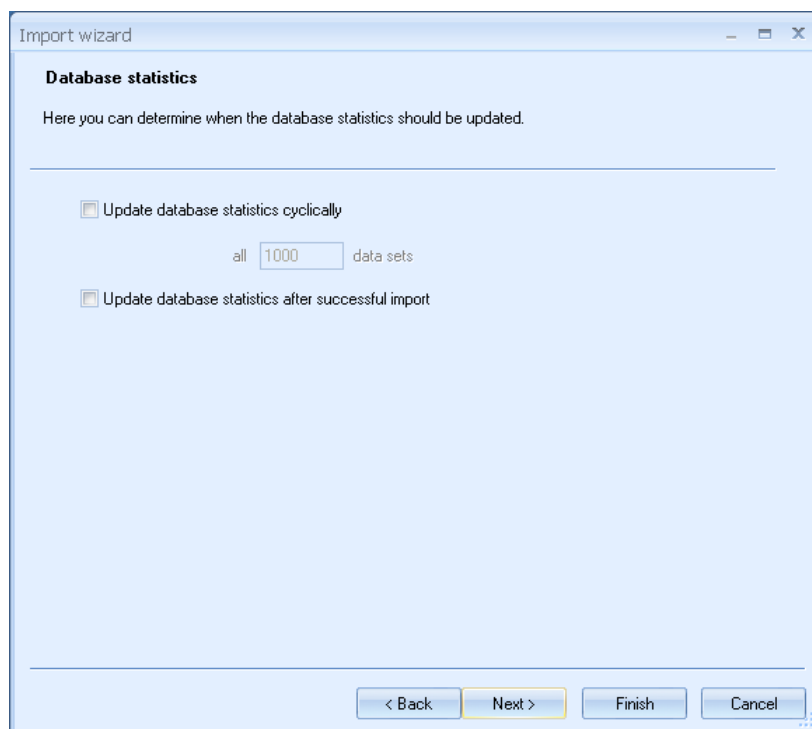
To do so, you can upload a present script or paste it from the clipboard into the script area for editing.

The screenshot shows the 'Import wizard' dialog box with the 'VB script' step selected. The dialog has a title bar with standard window controls. The main area contains the following elements:

- VB script** (Section Header)
- Text: "After every imported record, it is possible to start a VB script to perform user-defined actions."
- Check box: ☒ Start VB script after each record
- Text: VB script: [text area]
- Text: Load script (button)
- Navigation buttons: < Back, Next >, Finish, Cancel

Database Statistics

Here, you can define if and how database statistics will be updated. Database statistics have a great influence on the database performance.



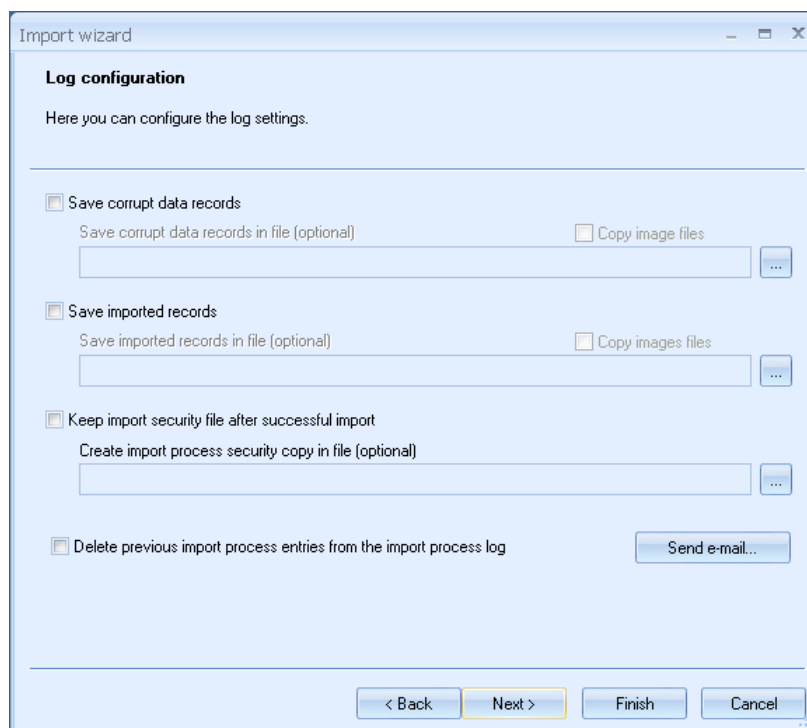
You can set up the following options:

- **Update database statistics cyclically**
Please enter in the **all ...data records** field, how many data records you want to be updated.
- **Update database statistics after successful import**
After import, an update will be processed.

Log Configuration

Independent of logging in the enaio® system, every import process will be logged into the file `osimplog.xml` located in the import directory. If it is not possible to write in the import directory, the file will be created in the working directory. In addition, the style sheet `osimplog.xslt` with which the log file can be displayed as HTML file, will be created automatically.

In case an import process is canceled due to errors, it can be restarted after data correction and continued at the point where it was aborted based on the log file information and the import process security copy (see below).



The following settings are possible:

- **Save corrupt data records**

Corrupt records will be saved. The file will be written in the batch directory and named `name_err`.

Corrupt records have a database format that is incompatible with the settings.

In the **Save corrupt records** field, a file can be specified where corrupt records will be saved and copies of the image files can be created.

- **Save imported records**

Correctly imported records will be saved. The file will be written in the batch directory.

In the **Save imported records** field, a file can be specified where corrupt records will be saved and copies of the image files can be created.

- **Create import process security copy**

A process security file will be created. It will have binary format and will be written to the batch directory.

In the **Create import process security copy** field, a file can be specified where data will be saved.

- **Delete previous import process entries from the import process log**

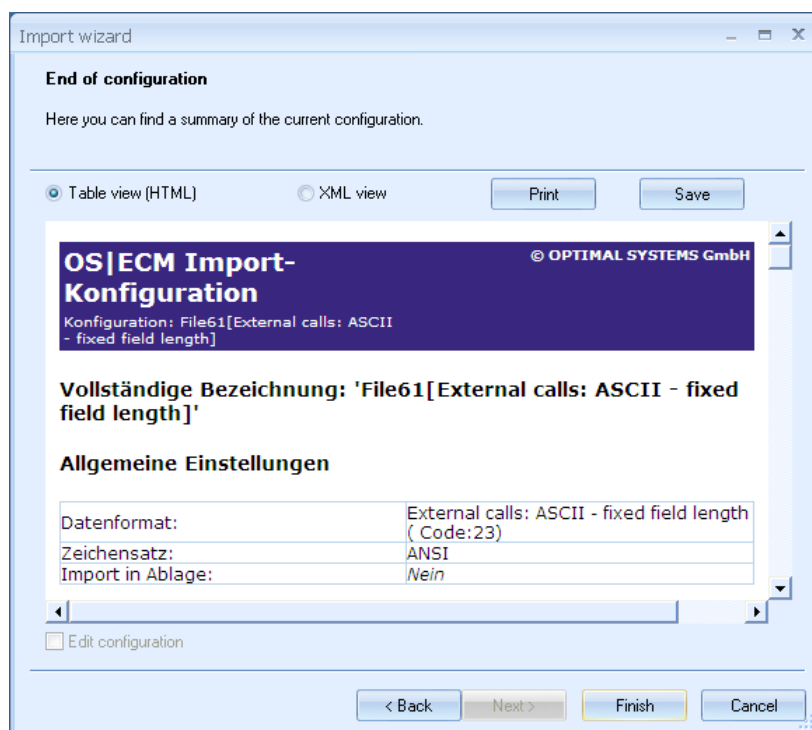
If you select this option, the log file `osImpLog.xml` will not be continually extended; rather, for every import only the last import summary will be saved.

Optionally, you can use **Send e-mail** to be notified about import errors.

Summary

Finally a summary of your import settings will be displayed.

You can choose between a tabular and an XML view, and between saving and printing the files.



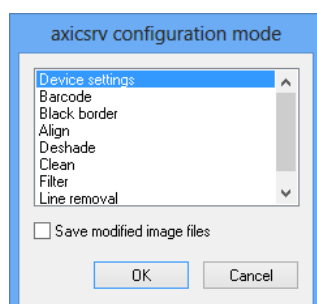
If you click **Finish**, the configuration will be saved.

AXICSRV

If the Kofax Engine has been installed and configured and you have defined AXICSRV as the configuration program of AXICSRV, you can access the Kofax filter and enter the barcode properties.

No configuration options are offered without the Kofax Engine.

Start AXICSRV in the configuration mode to open the following window:



The listed filters can be used before recognition. If you select the **Save modified image files** check box, the image files will be saved according to the filter settings.

Double-click a list entry to choose and configure a filter.

With the **Barcode** button you can specify barcode properties (see 'Settings for Barcode Recognition').

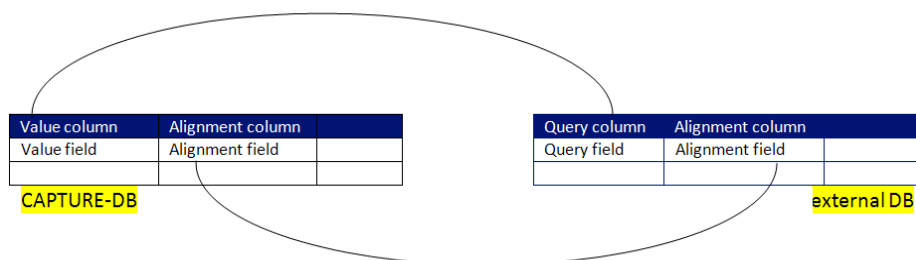
The filters are the same as those in the Kofax scan dialog (see 'Filter Settings').

The selected settings are saved for this configuration.

AXVBINAB

With AXVBINAB, data records of the enaio® capture database can be synchronized with data from an external database.

Schema:



Define AXVBINAB as configuration program for AXVBINAB. You need to enter the connection data to the database as well as query fields and alignment fields for the alignment.

Connection Data

If you start AXVBINAB in the configuration mode, the **Select external data source** dialog will open.

The screenshot shows the 'OS|CAPTURE_datamatching' dialog box. The title bar includes a close button. The main area is titled 'Externe Datenquelle wählen' and contains the text: 'Mit welcher externen Datenquelle sollen die Daten der Indexdatenbank abgeglichen werden? Bitte wählen Sie die Verbindungszeichenfolge zur externen Datenquelle.' Below this are input fields for 'Verbindungszeichenfolge:' and 'Passwort:'. A section titled 'Datenbank-Informationen:' contains a table with columns 'Eigenschaft' and 'Wert'. At the bottom, there is a checkbox labeled 'Unterstützung von Leerzeichen in Tabellennamen aktivieren' and three buttons: '< Zurück', 'Weiter >', and 'Abbrechen'.

Click  **Select data connection** button to specify an external database.

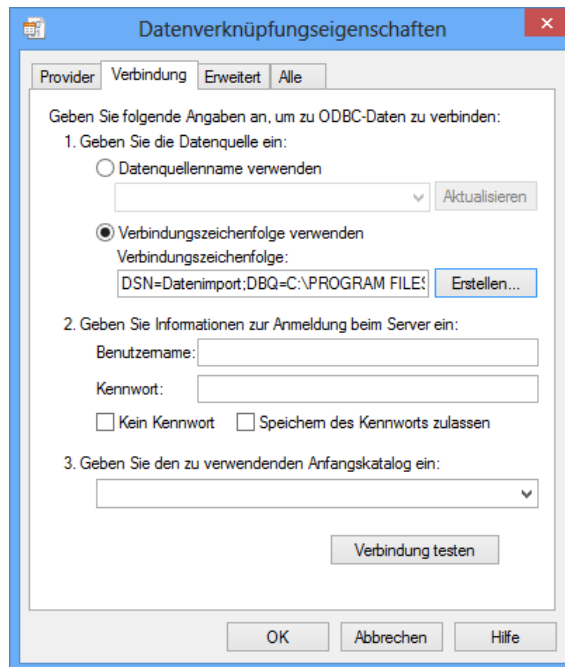
The **Data connection properties** dialog will open with the following tabs.

'Provider' Tab

INCLUDEPICTURE "bilder/datenverknuepfungseigenschaften_24x24-32.png"

Choose the provider according to the external database that contains your matching data.

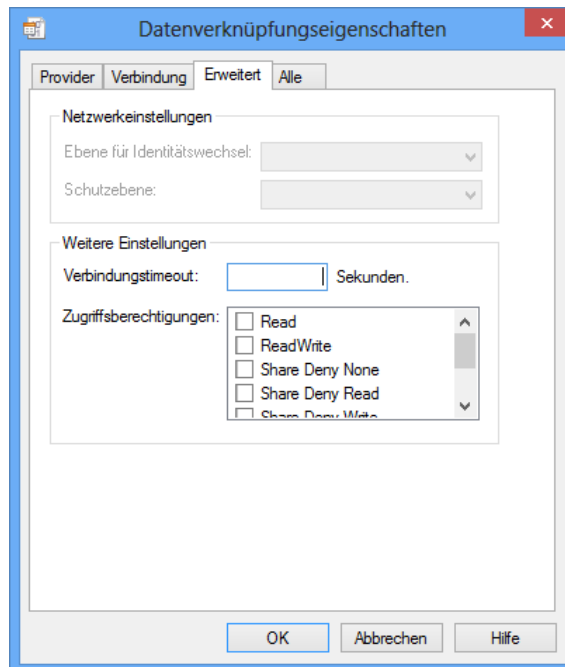
'Connection' Tab



Specify the connection data. You can test the connection.

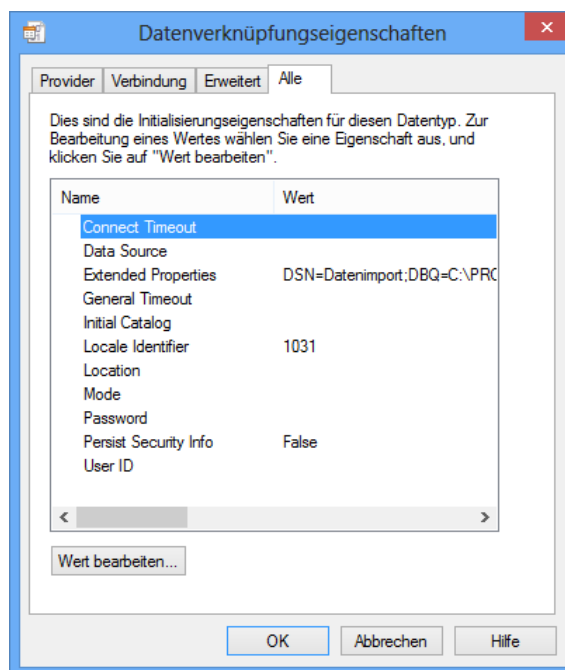
'Advanced' Tab

Define network settings and timeout.



'All' Tab

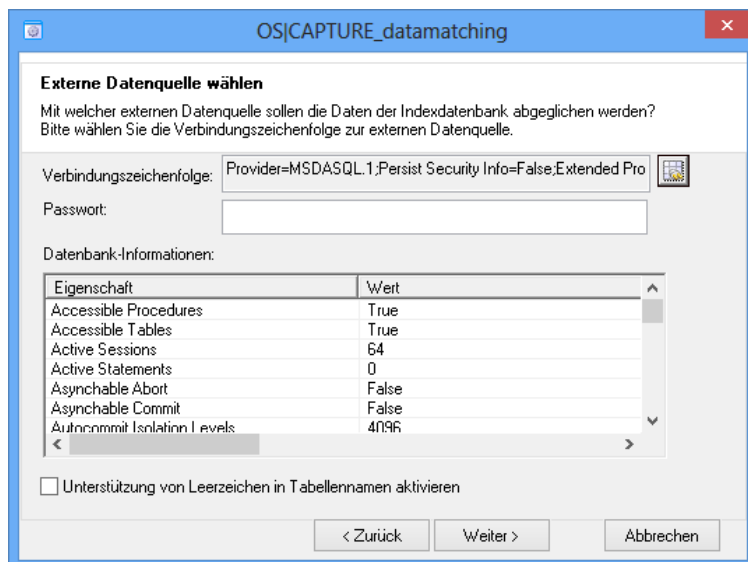
All data are summarized on this tab.



You can select entries and edit the values.

Query and Synchronization Fields

Confirm the connection data with **OK** and the database information will be shown.



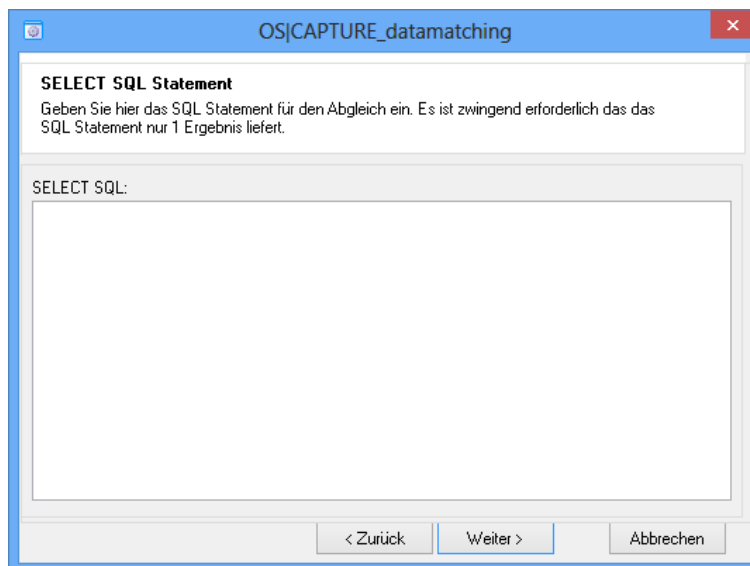
Click **Next**. Then select the mode: Expert or Wizard.

In expert mode you specify an SQL statement for synchronization.

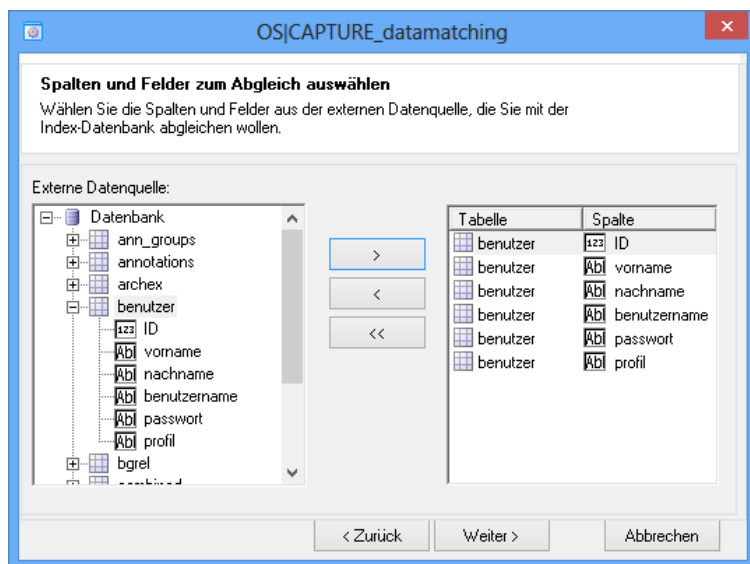
In wizard mode, columns and fields are selected for synchronization.



If you select expert mode, enter an SQL statement for synchronization in the following dialog and then create the update instruction.



If you select wizard mode, you must specify in the next step which table columns in the external data source are to be used for data synchronization:



On the left side, select intended table columns of the external data source and use the arrow button to add them to the list on the right-hand side.

You will need at least one table column queried with a value by the enaio® capture database and at least one column containing the value to be imported into the synchronization column of the enaio® capture database.

Click **Next** to enter conditions:

Erstellen der WHERE-Bedingungen
Wählen Sie hier die Bedingungen, mit denen Sie ein möglichst eindeutiges Ergebnissfeld aus der externen Datenquelle zum Abgleich mit der Index-Datenquelle erzielen.

externe Datenquelle: Operator: Datenfeld: logische Verknüpfung:

SQL-Statement:

```
SELECT * FROM benutzer WHERE
benutzer.benutzername = [BATCH].Bearbeiter
```

Hinzufügen
Ersetzen
Entfernen
Alle zurücksetzen

< Zurück Weiter > Abbrechen

Specify here against which value to issue a query for which column of the external database. Multiple queries can be logically connected.

The first hit finishes an executed query.

Click **Next** to specify the column of the external data source containing the required value and the column of the enaio® capture database that this value will be passed to.

Erstellen der UPDATE-Anweisung
Wählen Sie hier die Felder aus der externen Datenquelle, die Sie während des Abgleiches der Index-Datenquelle zuordnen möchten.

externe Datenquelle: Index-Datenquelle:

UPDATE-Statement:

```
UPDATE [BATCH] SET
[BATCH].PatientID = benutzer.ID
```

Hinzufügen
Ersetzen
Entfernen


< Zurück Weiter > Abbrechen


Click **Next**. The following dialog will display a summary. Click **Finish** to save the configuration.


Logging

Batch processing is extensively logged.

Three different logs are created for component logging from the application directory \asindex:

 Action Log (osaction.evn),

 Error Log (oserror.evn),

 Process Log (osflow.evn).

You can open these logs with the log buttons on the **START** tab.

A log will be created for each batch. Select a batch to open the respective batch logs.
Mark a configuration to open the configuration logs.

Batch logs will be placed in the batch directory:

```
..\ASINDEX\AxIndex.dat\Configuration name\Batch_ID
```

The configuration logs will be filed in the directory `..\ASINDEX\AxIndex.dat`.

You can open these logs in the enaio® log viewer using the log buttons.

Details regarding internal logging and the enaio® log viewer can be found in the administrator handbook.

Action Log 'osaction'

Each entry corresponds to an action. An action, for example, can consist of a document import into enaio®. This action can include further sub-actions such as pasting a data record into the database and reading configuration data. However, these sub-actions will not be logged at this position.

At the end of an action the log entry will be written. Thereby, logging does not depend on the success of an action. Import example: the action log will be created after all data records and images have been imported successfully, but also if some data records and images could not be imported due to erroneous indexing. This is not the case if the action could not be processed at all. In such a case the action log will not receive any entry, however, the error that occurred will be entered in the error log if possible.

Error Log 'oserror'

During the processing of an action and especially while initializing a module, errors leading to abortion of the process will be logged here.

Process Log 'osflow'


The process log is similar to the action log, but the information it contains is more detailed. The entries are partly internal debug messages.

Error Handling

enaio® capture can only be executed if enaio® server and the database are running.

enaio® blue capture and the used subprograms have to be licensed at the workstations. A user processing batches has to have the right to start enaio®

capture. A user creating configurations has to have the respective right. Further information can be found in the Administration handbook.

Configurations being edited are  locked. If two users access a configuration simultaneously, the configuration can be locked for all users. If this is the case, it has to be explicitly released by selecting **Release** on the **START** tab.

If errors occur during batch processing, the logs will contain all information on the cause of the error (see 'Logging').

Scanning errors occur if the scanner was not configured properly. Recognition errors occur if the data source or the ODBC connection has not been configured properly. Import errors occur if no archive location has been assigned to documents. The error batch will then only contain the documents that could not be imported due to errors. You can change assignments or define AXVALID (see 'AXVALID') as an error handling program.

A user can restart the batch as soon as the errors have been fixed.

Execute

Execute – Introduction

With enaio® capture, data are captured with a configured process. A process, for example, can consist of the following steps:

- Scan
Document pages in paper form are scanned.
- Recognition
Barcodes or characters on scanned pages are recognized and assigned to index fields.
- Validate
The assignments of recognized barcodes or characters to index fields are checked, corrected and completed.
- Separation and Import
The pages are merged into documents according to specifications in the configuration. Documents are imported into enaio®.

Configurations can differ considerably. The administrator who has created the configuration can inform you about the details. If you have administrative rights, you can create and change configurations (see 'Administer').

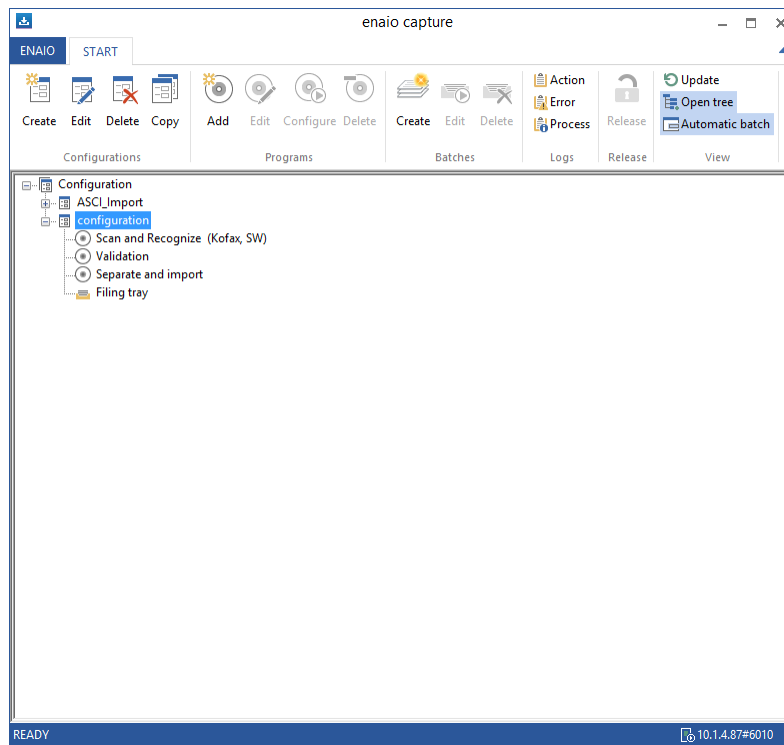
Process steps of one configuration can be processed at different workstations.

You as an editor can start a process step as soon as data is available for this process step. Certain process steps do not require any user entry. You only need to start the assigned subprogram. The data is processed and transferred to the following process step and the subprogram closed.

enaio® capture can be started in an automatic mode (see 'Automatic Mode'). If so, enaio® capture then automatically starts subprograms defined as automatically executable in the configuration as soon as data have been transferred.

Process Control

Start enaio® capture and the following window will open.



In the window, a list of all configurations can be found. With the **Open tree** option in the **View** group, you specify whether the configurations are displayed in a tree view.

When creating a configuration, access can be limited to single enaio® user groups so you may only see the configuration to be processed by you.



Subprograms are assigned to a configuration, and batches to subprograms.

A batch contains all data to be transferred to the subprogram. A subprogram can be started via the assigned batch. After the batch has been edited, it will be assigned to the next subprogram. Finally, it ends up in the filing tray.

Configurations, subprograms or batches can be locked if you are working at another workstation. You cannot process subprograms that are not licensed at your workstation.

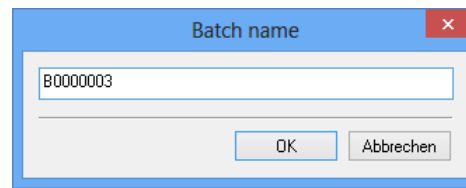
Creating, Starting and Deleting Batches

Create a batch to start a business process:

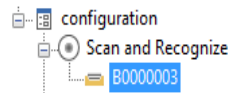
1.  Select a configuration.
2.  On the **START** tab in the **Batches** group, click **Create**.

The **Batch name** window will open. Enter a batch name. The preset name is a numeric batch name which increments automatically. Along with the

entered name, the automatically created name will be indicated in the log.



3. Confirm with **OK**.



The new batch will be created and assigned to the first subprogram.

Start a selected batch by double-clicking, by using the **Edit** button, or the **Edit** entry in the context menu. The assigned subprogram will start.

A selected batch can be deleted with the **Del** key, the **Delete** button in the **Batches** group, or the **Delete** entry in the context menu. A confirmation dialog will appear. If you delete a batch from the filing tray, logs will be deleted as well.

Error While Starting Batches

Batches which are edited at a workstation will be locked for other users and cannot be processed. Configurations being edited are also locked.

You cannot start batches assigned to subprograms, which are not licensed at your workstation.

When you start a batch and receive an error message, the batch will only be transferred to another subprogram if this was indicated in the configuration as an error correction program. If this is not the case, the batch will not be transferred but flagged.

The reason for the error can be found in the logs (see 'Logging'). After the error has been fixed the batch can be processed again.

Scanning errors occur if the scanner was not configured properly. Recognition errors occur if the data source or the ODBC connection has not been configured properly. Please contact your system administrator.

Import errors also occur if no archive position has been assigned to documents. The error batch then only contains the corrupt documents: other documents will be imported. A user with the right to edit configurations can change assignments or define AXVALID (see 'Validate') as an error handling program. The batch can then be started again.

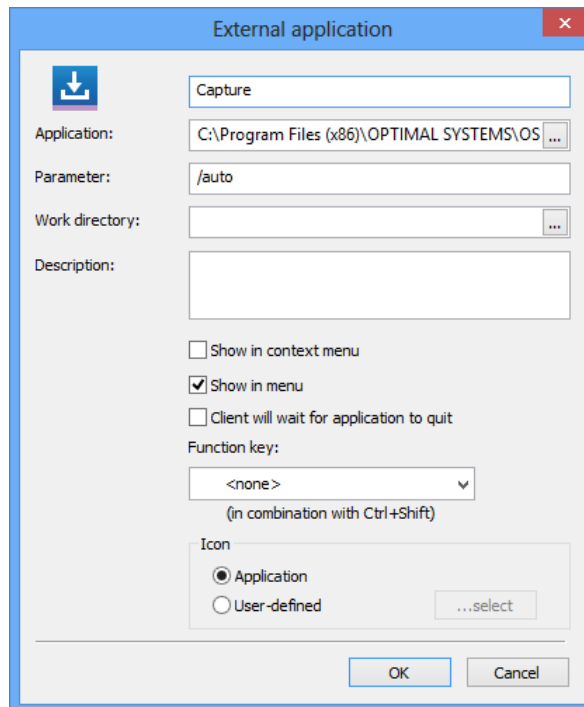
Automatic Mode

If you start enaio® capture in the automatic mode, the subprograms which are defined as automatically executable in the configuration and to whom data have been transferred to, will start automatically.

To start enaio® capture in the automatic mode, the parameter `' /auto '` has to be entered at the start.

Start Parameter

For example, you can create a link to enaio® capture for the toolbar or the workspace of your enaio® client application and enter `' /auto '` as start parameter.

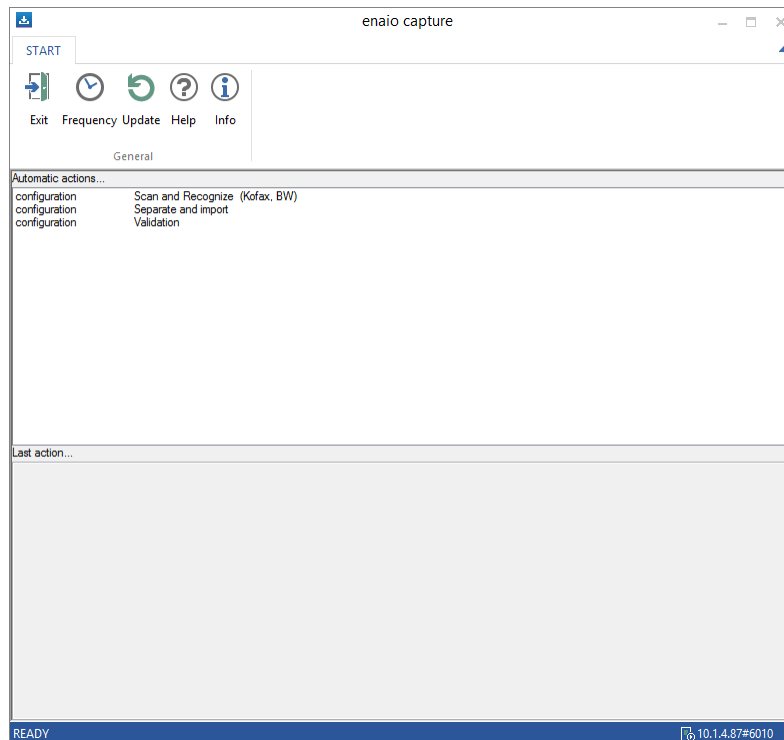


Further information can be found in the enaio® client handbook.

You can also create a link on the computer desktop with `' /auto '` as a start parameter. Further information can be found in the Windows help.

The Window of enaio® capture in Automatic Mode

If you start enaio® capture in automatic mode the following window will open:



In the **Automatic actions** list, you can find the configurations and subprograms which are defined as automatically executable in the configuration. When a batch has been transferred to one of these subprograms, enaio® capture will start the subprogram. In the **Last action** area, a short log about the last action can be found.

enaio® capture will automatically update the information on which batches were transferred to which subprograms. This information can be updated by clicking **Refresh** or pressing the **F5** key. The frequency with which enaio® capture queries information in the automatic mode can be set in the **Execution frequency** dialog by clicking **Frequency**.

You can exit enaio® capture using **Exit** or by pressing the shortcut key **Alt+F4**. While an action is being processed, the program will not react to exit commands. For that reason, the auto-mode stopper `axiastop.exe` will start automatically. It will be added to the taskbar. The corresponding context menu offers the function **Stop and exit all enaio® capture instances in auto-mode**. All enaio® capture instances can be exited with this function after the current job has been finished.

Scan

When starting a batch which is assigned to a scan subprogram by double-clicking or selecting **Edit** from the context menu, the scan window will open.

Scan windows of scan subprograms based on Kofax Image Products technologies differ from those using the TWAIN interface: scan parameter settings are administered differently.

Scanning and display options are identical.

Instead of scanning templates, the first step of a configuration can consist of an image file import (see 'Import Images').

Kofax Settings

If you use a scan subprogram based on Kofax Image Products technologies, you can change the scan parameter settings and the Kofax filter settings in separate configurations. The configuration name is displayed in the **Settings** list box.

Configurations will be saved user- and workstation-specifically. Thus, configurations will not be available at other workstations.

To set up a new configuration, perform the following steps:

- On the **START** tab, select **Settings > New**.
- Name the configuration in the **Create settings** window.
The name must not have more than 8 characters. Use only characters, numbers and the underscore (_) for the name.
If you name a configuration with numbers from '0' to '9' in the front, buttons will be automatically created on the toolbar. You can select a configuration with these buttons or via the respective number on the keyboard. The same applies for configurations with the names 'CTRL_0' to 'CTRL_9'. These configurations can be selected with the shortcut key **Ctrl+Number**.
- Confirm with **OK**.

The new configuration is displayed in the **Settings** list box. Adjust the scan parameter and the Kofax filter settings which will then be saved in the configuration.

Scan parameters can be set in the device-specific settings dialog. To do so, select **Settings > Scan parameter** on the **START** tab. For example, a scan resolution value can be entered there.

The Kofax filter settings are also saved in a configuration. The settings dialogs for the filters (see 'Filter Settings') are opened via the relevant entries under **Settings**. There, the following filters can be found:

- **Black border**
This filter is used to remove black margins which result from scanning.
- **Align**
This filter corrects scanned pages which, for example, have been skewed.
- **Deshade**
With this filter you can remove gray areas or shading on scanned pages.
- **Clean**

With this filter you can remove dirt traces on scanned pages.

- **Filter**

This menu item provides you with different editing filters for the scanned pages.

- **Line removal**

With this filter you can remove lines on scanned pages.

Filters can extend the runtime considerably. Incorrectly selected and configured filters may delete information from scanned pages.

If you are scanning with the scan subprogram AXICSCAN, in which scanning and barcode recognition are integrated, you will find the **Barcode** entry in **Settings** on the **START** tab. This entry will open the hardware settings dialog for barcode recognition (see 'Settings for Barcode Recognition'). Details on settings can be found in the Kofax handbooks.

The following entries can be found in the **Devices** menu:

- **Scanner selection**

Select a scanner.

- **File processing**

Select a device for file import.

- **Reset device**

The selected device will be reset.

Your system administrator will provide you with information on these items.

Filter Settings

Both scan subprograms AXDSCAN and AXICSCAN provide you with filters that you can use for scanning. These filters are also available for the configuration of AXICSRV.

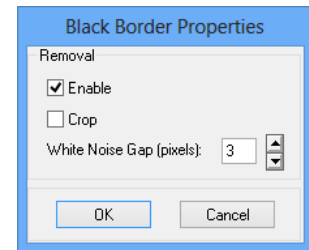
Filters can extend the runtime considerably. Incorrectly selected and configured filters may delete information from scanned pages.

Filter settings dialogs can be opened on the **START** tab by selecting **Settings > Filter**. The filter settings will be saved for the configuration displayed in the **Settings** list box user- and workstation-specifically.

Black border

If you enable this filter (**Enable**) a black border on the picture will be whitened. Height and width of the picture do not change. Select the **Crop** option to adjust the picture's size (height and width) after removing the black borders.

A black border always contains small white areas. With the **White Noise Gap** value you can enter a maximum value for width and height of these white areas, which are still considered to belong to the black border.

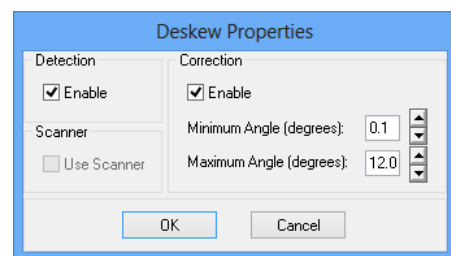


Align

If this filter is enabled (**Detection enable** and **Correction enable**) a tilted picture will be corrected.

A **Minimum Angle** must be entered. Less tilted pictures will not be straightened.

A **Maximum Angle** must be entered. More tilted pictures will not be straightened.



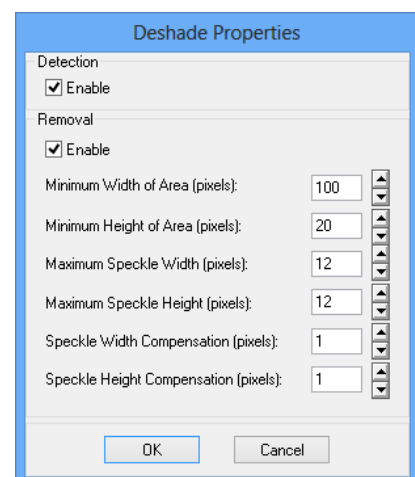
Deshade

If this filter is enabled (**Detection enable** and **Removal enable**), gray areas in a picture such as a gray background in columns will be removed.

With the **Minimum Width of Area** and **Minimum Height of Area** values you can specify the minimum width and height for an area which has to be considered gray.

With the **Maximum Speckle Width** and **Maximum Speckle Height** values you can specify the maximum size of the black speckles which form the gray area.

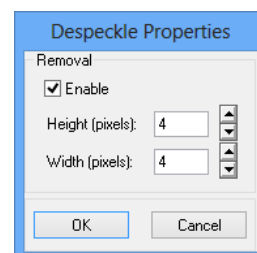
With the **Speckle Width Compensation** and the **Speckle Height Compensation** values you can specify a positive or negative horizontal adjustment value for the size of the black speckles which form the gray area.



Clean

If you enable this filter (**RemovalEnable**) small speckles in a picture will be removed.

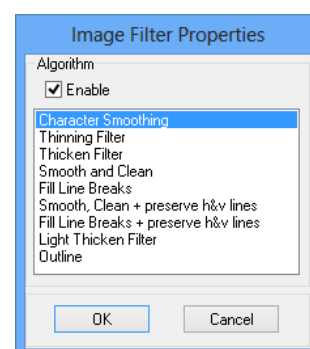
With the **Width** and **Height** values you can specify the maximum width and height in pixels for a black area to be removed.



Filters

The filters described here are less exact than configurable filters. Anyway, they usually are exact enough if you only enhance the readability of scanned pages but do not want to improve barcode or character recognition.

Filters can be enabled with the **Enable** option. Then select the filters from the list in the **Image Filter Properties** window.



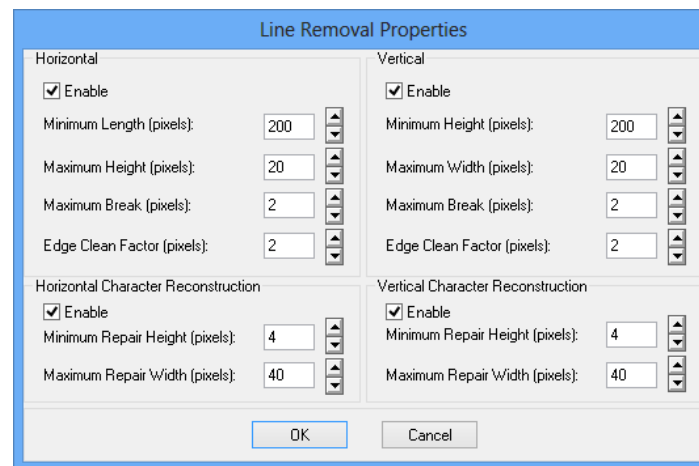
The following images illustrate the effects of the different filters.

Filters	Before	After
Character smoothing		
Smooth and clean		
Smooth, clean and preserve horizontal and vertical lines		
Thinning Filter		
Light Thickening Filter		
Thickening Filter		
Fill line breaks		
Fill line breaks and preserve horizontal and vertical lines		
Outline		

Line Removal

This filter removes horizontal and vertical lines after scanning as well as lines, such as boundary lines in tables. Afterwards, affected characters can be restored.

The filter for horizontal lines can be enabled with the **HorizontalEnable** option. Enter the **Minimum Length** and **Maximum Height** of the horizontal line to be removed.



There may be white pixels within lines. You can determine a **Maximum Break** value within a line.

Lines can have irregular borders. You can enter a value to define the maximum number of pixels which directly adjoins the line and which will be added to the number for the line to be removed.

After removing a line that has crossed other characters, you can fully restore removed parts of these characters. Enable the filter for character restoring with the **Horizontal Character ReconstructionEnable** option. Define the minimum height of a structure considered a character (**Minimum Repair Height**) and the maximum width of a structure considered a character (**Maximum Repair Width**).

The filter for vertical lines can be configured in the same way in the **Vertical Character Reconstruction** area.

Settings for Barcode Recognition

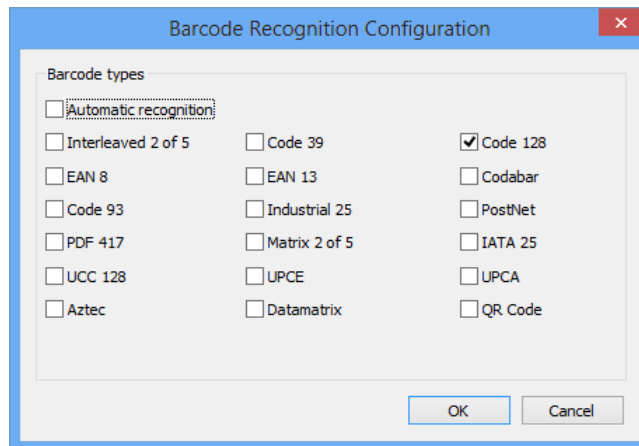
AXFINER

In the AXFINER subprogram for barcode recognition with FineReader you can specify the barcode types to be recognized, thus reducing recognition time significantly.

As a prerequisite, FineReader must be installed at the workstations where AXFINER is configured and executed. The version must be the same on all workstations.

When configuring the AXFINER subprogram also define AXFINER as configuration program and run it in configuration mode.

The configuration dialog will open.



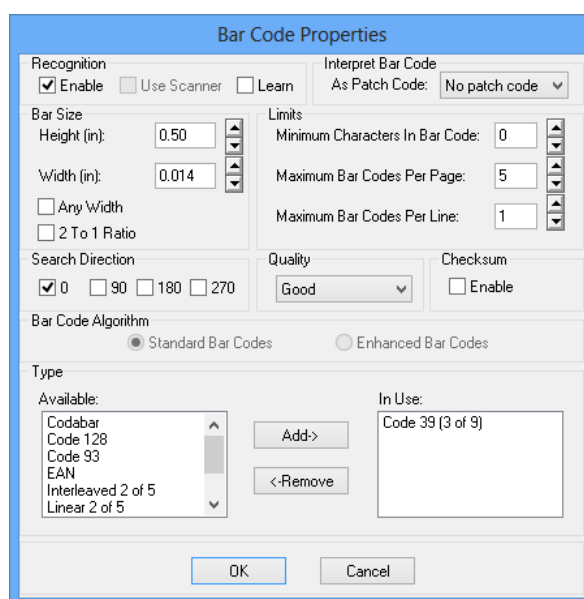
Specify all of the barcode types to be recognized or select the **Automatic recognition** option. By default, the automatic recognition option is preselected.

If you specify the '/B' command line parameter during subprogram configuration, an automatic barcode recognition is run regardless of the specified barcode types. Thus, this parameter can be used to switch automatic barcode recognition on and off without removing the specified barcode type setting.

AXICSCAN

In the subprogram AXICSCAN in which scanning and recognition are integrated, barcode recognition can be configured. Open the settings dialog on the **START** tab by selecting **Settings > Barcode**. All settings will be saved for the displayed configuration user- and workstation-specifically in the **Settings** list box.

Erroneous or imprecise settings can cause unrecognizable barcodes and a runtime extension.



Recognition

In the **Recognition** area barcode recognition is enabled with the **Enable** option.

If you additionally select the **Learn** option, the optimal settings for height, width, proportion, and quality of the barcode are tried to be found. These settings are then entered in the settings dialog. The **Learn** option is useful if you use the same scanner with the same scan settings for identically structured scan templates. This option should be disabled after several test scans, as it considerably lowers the processing speed. The determined settings will be kept.

Bar Size

In the **Bar Size** area you can enter values for barcode width and height. The **Height** value should correspond to the barcode height. Exact values enhance the processing speed. Higher or less high barcodes will be recognized anyway.

The **Width** value defines the width of the narrowest barcode line. Exact values enhance the processing speed. You need to choose the **Any Width** option if you cannot enter the exact value, otherwise the quality of the scans will not be very high.

With the **2 to 1 Ratio** option proportions are defined. **2 to 1 Ratio** means the broadest barcode line is twice as wide as the narrowest line. If this option is not selected, barcodes will also be recognized if their lines are three times as wide as the narrowest line.

If you use the same scanner with the same scan settings for identically structured scan templates, you can determine the value for height, width and proportion with the **Learn** option in the **Recognition** area.

Search Direction

Use the options in the **Search Direction** area to define the orientation barcodes can have. **0** represents the horizontal orientation from left to right, **90** represents the vertical orientation top down, **180** represents the horizontal orientation from right to left, **270** represents the vertical orientation bottom up. Using multiple options significantly increases runtime.

Interpret Barcode

Functions for patch code recognition will be ignored. Keep the **No Patch Code** setting.

Limits

In the **Limits** area, you can enter values for a barcode's minimum length and the number of barcodes.

If you enter a value for **Minimum Characters in Bar Code**, barcodes with less characters will be ignored.

If you enter a value for **Maximum Bar Codes Per Page**, barcodes will only be searched in a page until the value is reached.

If you enter a value for **Maximum Bar Codes Per Line**, barcodes will only be searched in a line until the value is reached.

Quality

The **Quality** area offers the entries **Good** and **Normal** for good and less good scan templates, respectively. The processing speed with **Normal** entry selected turns out to be considerably lower, but fuzzy barcodes will be recognized better.

Checksum

The last character of the barcode types 'Code 39', 'Interleaved 2 of 5' and 'Linear 2 of 5' may be a check code. Selecting the **ChecksumEnable** option will check whether recognized characters and the check code correspond to each other. If they do not correspond, the barcode will be considered as not recognized. If you have not selected the **Enable** option, even though a check code is available, the check code character will be considered as a regular barcode character.

Type

The **Type** area offers a list containing supported barcode types. Select the barcode types to be recognized in scan templates in the **Available** list. Click **Add** to add the selected barcode types to the list of used barcode types (**In Use**). Use the **Remove** button to delete list entries. In case multiple barcode types are selected, width settings (**Width** in the **Bar Size** area) will be ignored.

Do not select barcode types which are unavailable in the scan template, otherwise the runtime will be unnecessarily increased.

TWAIN Settings

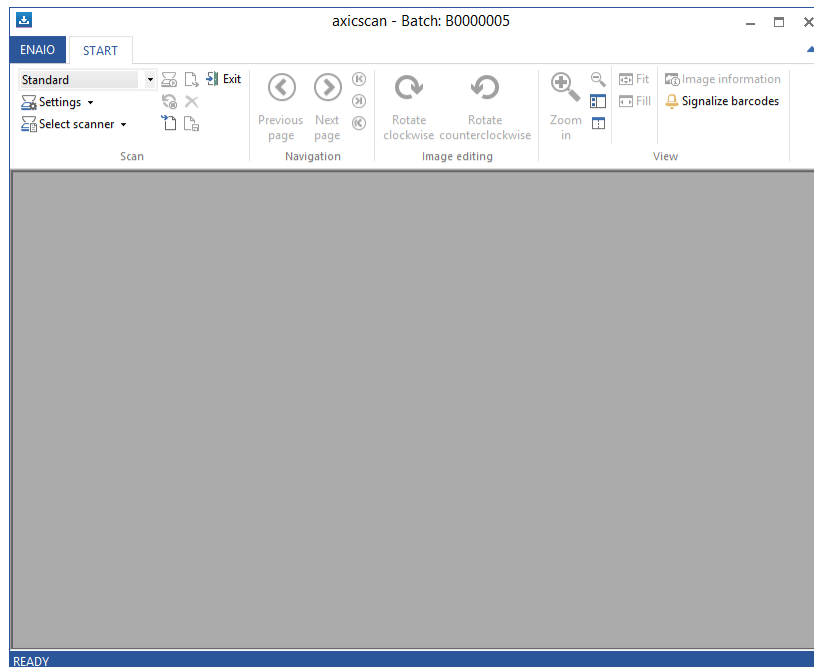
The scan subprogram AXTWSCAN uses the TWAIN interface so you will need to specify the TWAIN scanner driver on the **START** tab with the **Select scanner** button. The last used driver is preselected.

In the device-specific settings dialog, enter the scan parameters, such as the scan resolution value. The dialog will open when you click the **Scan button** on the **START** tab. Settings will be saved on a user and workstation-specific basis and re-entered the next time the settings dialog is opened.

As with the Kofax settings (see 'Kofax Settings'), you can save the settings under a name by selecting **Settings > New**.

The Scan Window

When starting a batch which is assigned to a scan subprogram by clicking the **Edit** button or from the context menu, the scan window will open.



It offers:

- the ribbon with the **ENAIQ** and **START** tabs, offering most of the functions,
- the workspace on which scanned pages are displayed,
- the status bar in which information on actions, page number, resolution, and image size is displayed.

The 'Start' Ribbon Tab

You can find these functions on the **Start** tab:

Standard

This list box offers saved settings for scanning. The most recent settings are saved for each individual user.



Sets scan parameters for scanning.



Starts scanning with Kofax. In case where pages have already been scanned, new pages will be attached according to the settings in the **Options** menu.



Optional buttons opening saved settings.



Allows you to choose a TWAIN source for scanning with the TWAIN interface.



Starts scanning with the TWAIN interface. In case where pages have already been scanned, new pages will be attached according to the settings in the **Options** menu.



Cancels scanning.



Opens image files.

The image files must be available as black and white bitmaps in TIFF, BMP, PCX, or GIF.

You can also open the PDF files. All pages in the PDF file are shown as individual pages. With the PDF as the filing format, the pages are also merged into PDF files.



Exports scanned pictures.

These images can be exported as TIFF, G4, BMP, or PCX.

In case multiple images are exported, a three-digit continuous number will be added to the image name.



Deletes scanned pages according to the **Options** settings.

You can also delete with the **Del** key.



Files scanned pages. Pages will be filed as assigned to the next subprogram. The enaio® capture program window will reopen.



Exits the scan subprogram. If pages have been scanned but not filed, a confirmation dialog will appear. The enaio® capture program window will reopen afterwards.



Flips between scanned pages.



Additionally keep the **Ctrl** button pressed to flip to the first or last page.

Additionally keep the **Alt** button pressed to flip two pages back or forth.

Arrow keys on the keyboard can also be used together with the **Ctrl** or **Alt** keys.



With the page number you can select a specific scanned page.



Rotates scanned pages 90 degrees to the left or right.



Note: Pages do not only rotate in the display but will be saved in this position.



You can select enlargement or reduction mode. Then click on the scanned page to zoom in or out. In enlargement mode you can drag a rectangle with the mouse to enlarge the area to the size of the window.



A right-click sets the display to 100%.

The numeric plus + and minus – keys also enlarge or reduce the display.

If neither enlargement nor reduction mode was selected, left-click and hold to move the displayed image section.

Scaling is displayed in the status bar.



Shows/hides the preview area with all pages of the batch.



The workspace can be split into two windows. Both windows show a scanned page. The active page is highlighted with a black

frame. The frame color can be modified using the keyboard shortcuts CTRL+ALT+R (Red), CTRL+ALT+G (Green), CTRL+ALT+B (Blue).



A scanned page will be displayed as wide as possible in the display window.



A scanned page will be completely displayed as high as possible in the display window.



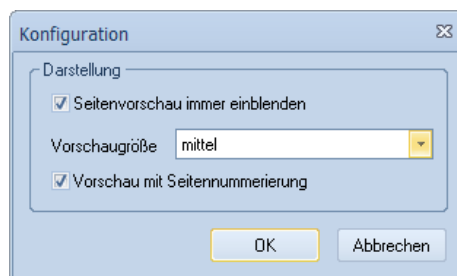
Shows image information for the current page.

The 'File' Ribbon Tab

On the **File** tab you will find the following features:



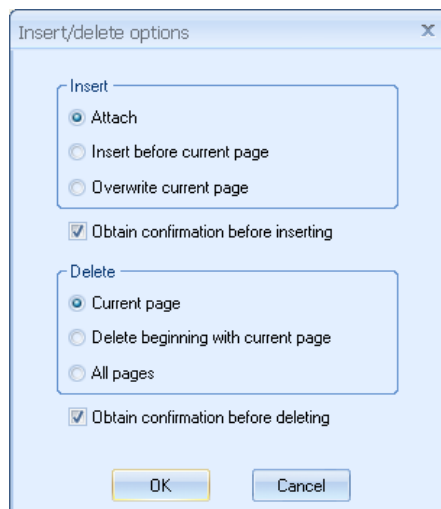
Basic settings for page preview configuration.



Set up options for insertion and deletion.

With the **Insert** option you can select how scanned pages will be inserted.

With the **Delete** option you can select all pages to be removed.



Exits the scan subprogram. If pages have been scanned but not filed, a confirmation dialog will appear. The enaio® capture program window will reopen afterwards.



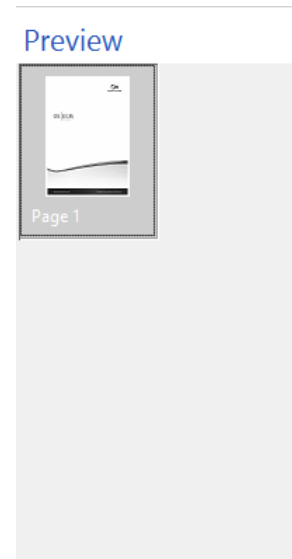
Opens the online help. Alternatively, press **F1** to open the online help.

Preview Area of the Scan Window

The preview area previews all scanned pages of the batch. The preview size can be set in the **Configuration** dialog. To open the dialog, click **Basic settings** in the context menu of the workspace.

You can dock the preview area to any side of the program window.

In the preview area, you can move pages per drag and drop. If multiple pages are selected using **Ctrl**, or a page range is selected using **Shift**, the pages can be edited together, i.e. rotated, moved, or deleted.



Import Images

In case image or PDF files were already scanned or image files of other applications exist, a business process can start with the import of images. To do so, the subprogram AXIMGIMP is used (see 'AXIMGIMP'). The image path will be entered during configuration.

Image files will be imported once a batch assigned to the subprogram AXIMGIMP is started. Original files will be renamed and receive the extension 'BAK'.

The batch will then be assigned to the next subprogram.

Recognition

Recognition subprograms recognize barcodes or characters (OCR) and create a database table. The database table contains the assignments of recognized barcodes or characters to images and to index fields which have been created during configuration. Even if no barcode or character recognition is performed, a database table has to be created through a subprogram.

Recognition always runs automatically regardless of the subprogram used. The program flow does not require user action.

Start a batch which is assigned to a recognition subprogram by double-clicking, from the context menu, or by selecting **Edit** on the **START** tab. The subprogram will start and the batch will then be assigned to the next subprogram.

If you use the subprogram AXICSCAN for scanning, scan and recognition processes are combined there. The database table is also set up. The batch can instantly be forwarded from scanning to checking.

Validate

The subprogram AXVALID for validation is used to validate imported or scanned pages:

- is used for manual indexing,
- to verify, correct or complete automatic indexing with a recognition subprogram,
- or if indexing caused document separation and import failure, it is used as an error handling program.

Start a batch which is assigned to the validation subprogram by double-clicking, pressing Enter, clicking the **Edit** button in the **Batches** group, or by selecting **Edit** from the context menu. The subprogram AXVALID will be started.

AXVALID Window

In the AXVALID window you will find:

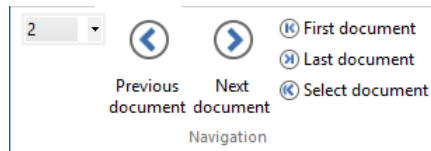
- the workspace
where the pages are displayed.
- the navigation panel,
with buttons for browsing between pages and documents. The panel will be displayed at the top in the data area and can be hidden. On the **START** tab you will find the following features:
- the data area
with index and information fields.
- the preview area
with a preview of all batch pages. By selecting **Preview** on the **START** tab, you can enable or disable this pane.
- the ribbon with the **ENAIO** and **START** tabs,
with all functions for the operation of AXVALID.

The Workspace

Pages are shown in the workspace. On the **START** tab you will find features to adjust the page display.

You can drag a rectangle with the mouse and the content will then be enlarged to the size of the window. By pressing **Alt** and the **plus** or **minus** key of the numeric keyboard you can zoom in or out, respectively. A page can be moved up and down with the **Page Up**↓ and **Page Down**↑ keys. Use the **F3** key to return to the overview.

The Navigation Panel



The navigation panel offers buttons for browsing pages back and forth, deleting pages, and choosing a mode. The panel will be displayed at the top in the data area and can be hidden. On the **START** tab you will find the following features:

The Data Area

The following enaio® capture fields can be found in the data area by default:

OSID	number of the page in the batch
BITMAPS	name of the corresponding image file
BATCH_NA	the batch name given
BATCH_ID	automatically created batch number (serial)
BATCH_NR	internal batch number
SCAN_USR	user of the scan component
VALIDUSR	active user

You cannot edit these fields. They only provide information. The fields can be hidden.

Further fields have been set up during indexing configuration. If barcode or character recognition has been applied, recognized values will be entered there. You can select entries to change the values. Created fixed fields which always contain the same values can also be edited.

Fields may be key fields. If no value has been entered in a key field, the last value entered on a page will be transferred to but not depicted in the indexing. If you enter a value in a key field, this value will also be transferred to the indexing of the following pages with empty fields but it will not be depicted. Key fields are not labeled specifically in AXVALID.

If the **Initially filled with last value** option is selected, fields will be filled only if the respective page is displayed.

With catalogs, you can select list entries. The catalog types correspond to those in enaio® client. However, in all catalog types you can also enter values independently of the catalog lists.

Move your cursor to an editable field and this page area including the information will be highlighted.

Additional programs check and highlight editable fields in yellow in order to spotlight false values, for example. Change false values and exit the data record. Contact your administrator in case you cannot exit the data record as you do not know the correct values.

With the navigation pane or adjustable keys you can switch to the next page.

In the **Batch options** dialog you can specify options facilitating indexing or correction.

The Preview Area

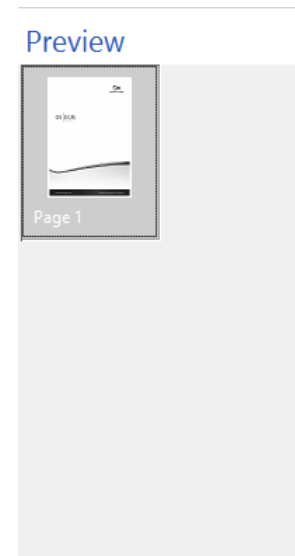
The preview area previews all pages of the batch.

The preview size can be set in the **Operation Settings** dialog.

Three frame colors can also be chosen there. Pages belonging to a document according to the document separation criteria will be highlighted with the same frame color and can be grouped together.

In the preview area, you can move pages per drag and drop. If multiple pages are selected using **Ctrl** or a page range is selected using **Shift** in the selection mode, the pages can be edited together, i.e. rotated, moved, or deleted.

Just like the data area, you can dock the preview area to any side of the program window.



The Ribbon

The ribbon contains the **ENAIO** and **START** tabs on which the features are organized in groups.

'ENAIO' tab

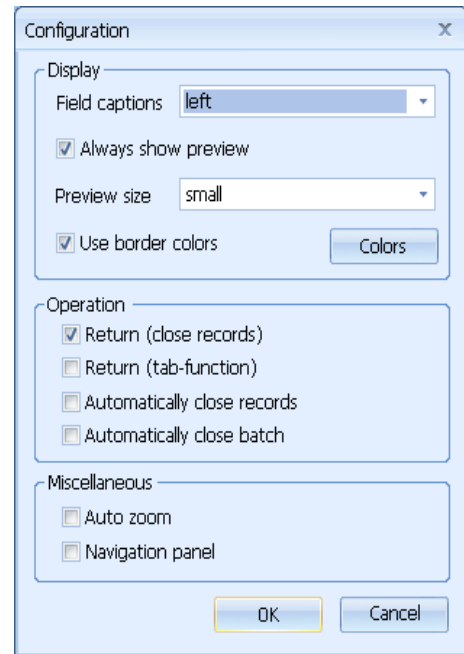
Operation Settings

The **Operation Settings** dialog will open.

In the **Display** area you choose on which side of the fields field labeling should be depicted. You can also specify if a page preview is displayed, in which size, and whether page numbers are displayed.

Frame colors indicate the pages assigned to each other in the page preview. Pages belonging to a document according to the document separation criteria have the same frame colors and can be grouped together.

In the **Operation** area you can choose whether to switch to the next data record (**Close records**) or to the next field (**tab function**) with the **Return** key.



With the **Automatically close records** option, you can navigate with the tab key or the **tab function** from the last field of a page to the next page. With the **Automatically close batch** option you can file a batch from the last field of the last page using the tab key or the **tab function**.

If you choose the **Auto zoom** option, the area on this page containing indexing information will be automatically enlarged as soon as the cursor is moved to an editable field. The **Navigation panel** can be shown and hidden.

Entries in the **Operation Settings** dialog will be saved separately at each workstation.

Batch Options

The **Batch options** dialog will open.

In the **Column selection** area, you can choose the enaio® capture fields (fixed fields or index fields) to be depicted in the data area. Move the required fields with the arrow buttons to the **Selected Fields** or the **Unselected Fields** list.

The **Review mode** can be enabled in the **Options** area. This mode hides already indexed values meaning you have to transfer the information directly from the page. When changing to the next data record, AXVALID compares already existing values to those you have entered. If they do not match, one of the two versions displayed can be chosen. Index fields can be minimized in the review mode.

Select the **Query fixed fields** option to modify fixed field values consistently at program start. If you enable the **Required field checking** option, required fields will have to be indexed. As in enaio® client, required fields are underlined. If you enable the **Save last position** option, the program memorizes the last viewed page of a batch for each configuration and validation step. This applies only if the batch processing was stopped, i.e. the batch was neither finished nor moved to the next subprogram or to the filing tray. When reopening a batch, the last viewed page will be displayed and you can proceed with the validation.

Logical expressions concerning visibility can be entered in the **Visibility** area. Only pages with an indexing corresponding to this logical expression will then be depicted. A logical expression concerning visibility can consist of a **Field**, an **Operator**, and a field **Value**. With the arrow button, you can add the logical expression to the right area. There, it cannot be edited anymore but deleted with the arrow button. Multiple logical expressions can be combined. Logical expressions are linked with the logical OR operator.

Example: In the image above the **Author** field is connected to the **IsNull** operator. A value is not required. Only pages with an empty **Author** field will be depicted: this field has not been indexed.

Enter precheck and aftercheck programs in the **Path** area (see 'Precheck and Aftercheck Programs for AXVALID'). Use the **Script editor** button to open the VB editor (see 'VB Editor').

Each field can be assigned to a before and after script in the **Field events** area. The before script will run when the user sets the cursor with the tab key into the respective field, the after script will run as soon as the field is exited using the tab key.

Scripts can be created with the script editor (see 'VB Editor').

The script editor encrypts and then saves scripts; only scripts encrypted this way are run.

In the **Regular Expressions** area, a regular expression can be assigned to each index field. If the data in a field do not match the regular expression, the field will be marked. The regular expression is shown as a field tooltip when validating.

Exiting a batch cannot be prevented with this feature.

Entries in the **Batch options** dialog will be saved user-, workstation- and configuration-specifically.

Finish Batch

The batch will be finished and assigned to the next subprogram. A confirmation dialog will appear.

Exit

AXVALID will exit without finishing the batch. Entered index field values will not be saved. A confirmation dialog will appear.

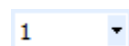
Info

You can call up information on the application and online help. Alternatively, press **F1** to open the online help.

'START' Tab

This tab contains the basic features organized in groups.

'Navigation' Group



Chooses a page with the page number.



Browses to the first, previous, next, or last document.



Opens a dialog in which you can select a document using the document

number.

'Image Editing' Group



Rotates pages by 90 degrees to the left or right.



Deletes the current page.

'View' Group



Zooms in to or out of the document in the display window.



Shows/hides the preview area with all pages of the batch.



The selected zoom level will be applied to the following pages.



If this option is enabled, changed settings are saved automatically when exiting AXVALID.



Adjusts the page view to the height of the display window.



Adjusts the page view to the width of the display window.



Adjusts the page view to the width and height of the display window.

'Validation' Group



Enables or disables document separation. With enabled document separation, you do not browse from page to page but from document to document.



Enables/disables required field checking. If enabled, only those pages are displayed for which required fields were set up that were not completed. If you disable required field checking, all pages will be shown.



Activates the OCR mode.

In OCR mode, you are then able to pass a displayed page or an excerpt with text to optical character recognition. Drag a rectangle over the desired area. The identified text will be inserted into the index field where the cursor was positioned before.

Barcode recognition is also possible. To do so, use Ctrl-click to draw a rectangle around a barcode on the page. The identified barcode will be inserted automatically into the index field where the cursor was positioned before.

Optical character recognition must be installed.



Enables/disables the selection mode. In this mode you can select multiple pages in the preview area by holding the Shift or Ctrl key and then rotate, move, or delete the pages.

The selection mode can be enabled only if document separation is disabled.



Exits and forwards a batch.



Exits a batch without forwarding it.

The batch can be edited later. Changes will be saved.

Keyboard Layout

Key assignment for validation:

ALT+NUMPAD +	Zoom in
ALT+NUMPAD -	Zoom out
SHIFT+NUMPAD -	Fit
CTRL+DEL	Delete page
ALT+Q	Delete page
ALT+DEL	Delete page
CTRL+HOME	go to first page
CTRL+END	go to last page
CTRL ←	previous page
CTRL+TAB	previous page
CTRL →	next page
F2	OCR results for the current page are opened in Notepad (if the pages were recognized prior to validation).
SHIFT+PAGE↓	scroll right
SHIFT+PAGE↑	scroll left
PAGE ↓	scroll down
PAGE ↑	scroll up
SHIFT+CTRL+HOME	scroll to the beginning
SHIFT+CTRL+END	scroll to the end
ALT+T	separation on/off
ALT+O	OCR mode on/off
ALT+P	required field checking on/off
F3	zoom to field area
ALT+F4	Complete batch and assign it to the next subprogram with a confirmation dialog.
CTRL+Q or F12	Complete batch and assign it to the next subprogram without a confirmation dialog.

Separation and Import

Subprograms for separation and import always run automatically. The program flow does not require user action.

Start a batch which is assigned to a separation and import subprogram by double-clicking, from the context menu, or by selecting **Edit** on the **START** tab. The subprogram will be started and the batch will then be filed in the filing tray.

In the configuration AXVALID can be specified as error handling program. If errors occur during separation or import, the batch will be transferred to AXVALID (see 'Validate').

Subprograms for separation and import fulfill the following tasks:

- AXIMPORT Pages are separated into documents and documents are imported into enaio®.
- AXIMPMDC Pages are separated into documents and documents are imported into enaio®. Additionally, e-mail messages containing information on the imported data are created and sent.
- AXMAILDC Pages are separated into documents; they are not imported but sent as e-mail message attachments.
- AXPARTDC Pages are separated into documents and all data are written to a dBASE table. The dBASE table can be edited. Documents can later be imported to enaio® with enaio® administrator.

Filing

As soon as a batch has passed through all subprograms it will be filed in the filing tray. The content of the filing tray is only visible to users with the 'Capture: Configure' system role. The action and error log as well as the optional process log can be viewed (see 'Logging').

When removing the batch with the **Delete the batch** button, logs and directories created for batch files will be removed as well.

Administrators can specify whether the content of the filing tray should be deleted after a certain amount of time in the **Settings** area.

If you do not have the right to create configurations, your administrator can deny you the right to delete batches.

Appendix

VB Editor

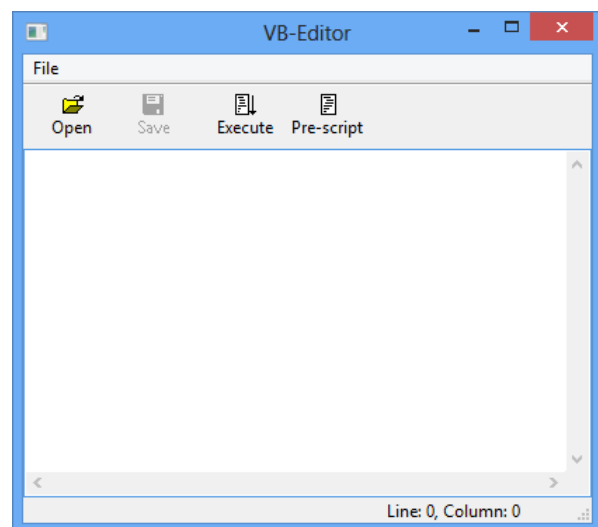
VB scripts can be used in AXVALID as precheck or aftercheck programs (see 'Precheck and Aftercheck Programs for AXVALID').

In VB Editor, scripts can be created or available scripts imported. Scripts which have not been provided by OPTIMAL SYSTEMS GmbH are to be created or imported and saved in VB Editor. They are encrypted while saving and can only be executed in code. Scripts can be saved with a password and require additional licensing.

The processing of a script must be licensed over the module 'VBX'; and the VB Editor requires the module VBE. For the VB Editor, the user requires the system role 'EDITOR: Start'.

The VB Editor is opened using the **Script editor** button in the **Batch options** dialog in AXVALID.

In the VB editor, the library `oxactive.dll` provides the variable `oxhelp` and the constant `OSFile` to enable access to enaio® index fields. This expands the possibilities for script control enormously.



The constant `OSFile` enables access to the transfer file.

The file has the following structure:

[DATA]

Object= name of the object (cabinet) connected to the AddOn

Flags= various flags, which can be set with the Editor

Index= a DB index

Field00 to FieldXX= names and field contents of the connected OS index fields

EXTRA00 to EXTRAXX= extra entries from the file `aslisten.dat`

The variable `oxhelp` makes the following functions available:

```
GetProfString(section, key, default return string, return string,  
file name)
```

This feature resembles the Windows API feature 'GetPrivateProfileString'.

Example:

```
dim b, a  
set b = CreateObject("oxactive.COxHelp.1")  
b.GetProfString "section", "key", "", a, "d:\\temp\\test.cfg"
```

```
WriteProfString(section, key, value, file name)
```

This feature resembles the Windows API feature 'WritePrivateProfileString'.

```
WinExec(file, parameter)
```

With this feature you can execute a Windows application.

```
ExtractString(string, field name, field value)
```

This feature is used to separate the field name and field values from the transfer file.

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