

Software Documentation

enaio® import-export

Version 9.10

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Cicerostraße 26
D-10709 Berlin

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Introduction

Data Export/Data Import

Automatic actions are available for enaio®, which can export and import large amounts of data, or export and import data at regular intervals.

The 'Data and Document Export' automatic action is used to export data, especially the indexing of DMS objects and the document files associated with documents, for importation into other systems or further processing.

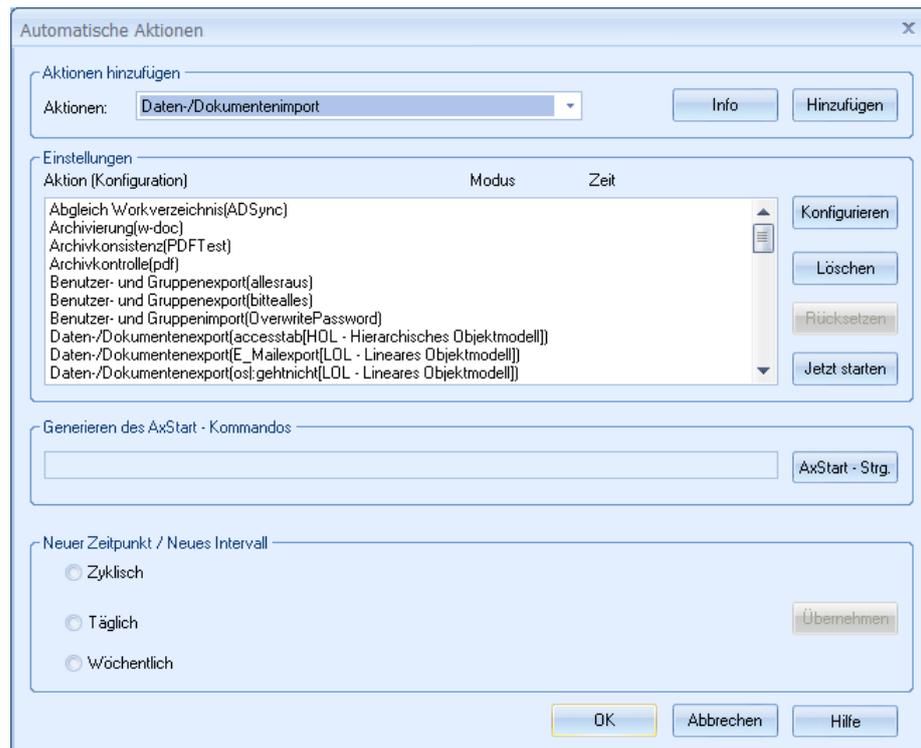
The 'Data and Document Import' automatic action is used to import data and files, for the purpose of creating DMS objects, updating the database, or creating shortcuts between DMS objects.

Configuration Procedure

With enaio® administrator you can configure the import and export of data.

First, include the export library `axacexp.dll` or the import library `axacimp.dll` from the **Whole System/Additions** tab.

Then open the configuration dialog for automatic actions, over the **Actions/Automatic Actions** menu item, or using the appropriate button on the toolbar.



The list contains all existing configurations for the automatic actions. You can edit or add configurations for automatic actions.

Details on the configuration of automatic actions are found in the 'Administration' handbook.

To export data, choose the export format and specify which data associated with folders, registers, and documents is to be exported.

For import, specify the import data, usually using example records, then assign these to DMS objects, which should be created or updated through the import.

Configurations are created with the help of a wizard, which guides you through the necessary configuration steps, dynamically based on context.

The configuration data are saved in the database, but can also be saved as XML data and exchanged between systems.

Please note that configurations can only be created and edited in the default language German.

Export and Import Procedure

Once you have created configurations, you can start the import and export of data from enaio® administrator.

For automatic actions, you can also enter a time at which the actions should be started automatically by enaio® start. enaio® start must be running at this time, or else the actions will not be executed.

enaio® start can be started by use of other applications, batch files, or the command line. Using configuration management in enaio® administrator, you can create a command line parameter for the timed start of an action.

Automatic actions log, like all components, using the configuration settings in the applications directory.

Users with accounts used for importing and exporting should close the area with the list of recently edited objects while executing import/export actions in enaio® client. Continuously refreshing this area would slow down the system.

Installation, Licensing, Security System

The components for data export and data import are installed as part of the administration components, during the normal installation.

The libraries `axacexp.dll` and `axacimp.dll` are copied into the `\clients\admin` directory, just like enaio® administrator, enaio® start, and all other automatic actions.

You need the 'ADM' license for enaio® administrator, the 'AIE' license for the configuration and execution of import and export functions, and the 'AXA' license for enaio® start.

In order to start enaio® administrator, configure automatic actions, execute automatic actions, and start enaio® start, users require the corresponding system roles in the security system. The security system is also configured using enaio® administrator.

Data Export

Export – Overview

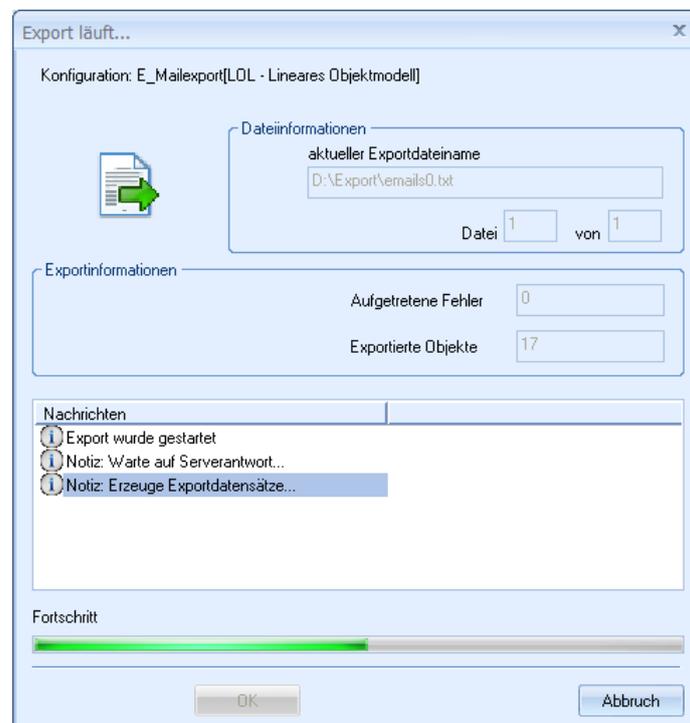
Data export is configured using enaio® administrator. As for all automatic actions, you first have to include the appropriate library from the **Complete systems/additions** tab, in this case `axacexp.dll`. The library is found in the `...\clients\admin` directory.

Follow these steps to configure a data export:

- Create a configuration for the **Data and Document Export** automatic action.
Click the **Automatic Actions** button to open the configuration dialog. Select the action **Data and Document Export** and add it. The export wizard will open.
You can also manage existing configurations, edit them, export them, and import them.
- Choose the file format and specify general parameters.
- Specify the DMS objects and the data associated with the objects which should be exported.

The export itself can be started from enaio® administrator or set on a timer using enaio® start.

When you start an export, an information window is shown.

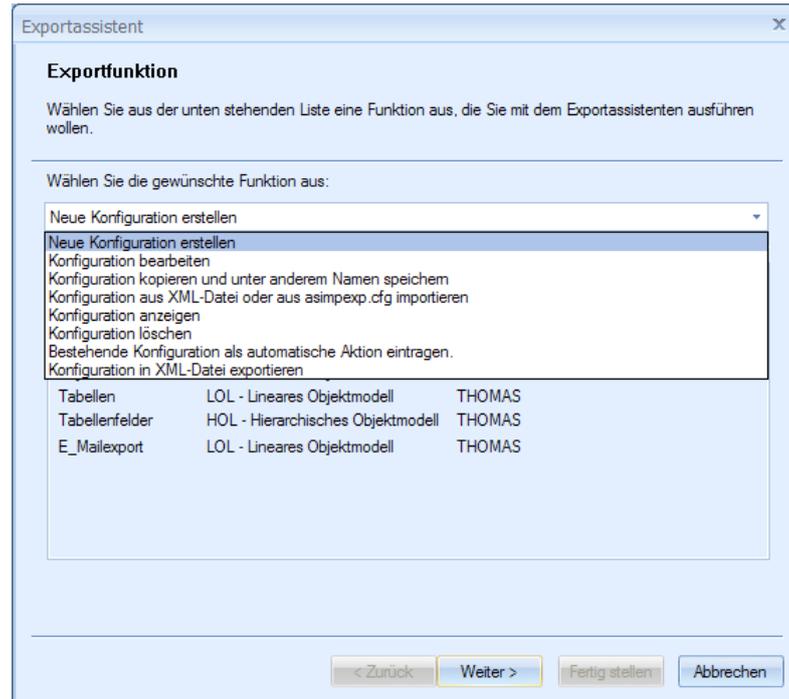


The window closes automatically after the export. Hold the **Ctrl** key, and the window remains open.

Export – Configuration Administration

The export wizard reads in existing configurations from the database at startup and lists them.

The following administrative functions are available:



- **Create new configuration**
In the next step enter a name for the configuration and specify file format and general parameters.
- **Edit configuration**
The data associated with the configuration which is selected in the list of existing configurations is read and can be edited in later steps. Changes to the chosen file-format are limited but possible, whereas the configuration name cannot be changed.
- **Edit configuration and save under different name**
The data associated with the configuration which is selected in the list of existing configurations are read in. You enter a new name and can edit the configuration in later steps, or save it without changing its data.
- **Import configuration from XML file or from asimpexp.cfg**
You can import configurations which are in the form of an XML file. The following steps let you edit the configuration data.
Up to Version 4.20, all configuration data were saved in a configuration file, `asimpexp.cfg`. You can open these data and store them in the database, in the current format (see Opening the Export Configuration from an Old Configuration File).
- **Show configuration**
First use the configuration data to create an HTML or XML file, which you can save and print.
- **Delete configuration**
Here you delete the selected configuration from the database.
You always receive a confirmation dialog before deleting a configuration. This deletion cannot be undone.
Configurations, which you can only delete from the **Automatic Actions** dialog, are not removed from the database; they are simply no longer displayed and can no longer be started.
- **Enter existing configuration as an automatic action**
Configurations which you have deleted in the **Automatic Actions** dialog, but not using the **Delete configuration** administrative functionality, are still in the database and can again be entered as automatic actions.
- **Export configuration to XML file.**

Export the data of the selected configuration to a XML file. The XML file can be imported at a later time or on another system.
 You can also export all configurations.

Opening the Export Configuration from an Old Configuration File

Up to Version 4.20, all export configuration data were saved in the a configuration file `asimpexp.cfg`. This file was administered by enaio® server in the `... \server\etc` directory, and when needed, sent to enaio® administrator.

If you execute the feature **Import configuration from XML file or from asimpexp.cfg**, all export configurations will automatically be listed if enaio® server is administering configurations from versions up to 4.20.

When you select a configuration, you can take further steps to edit the configuration and save the converted data in the database.

Configurations cannot be saved as as configuration files in the outdated format.

File Format and General Parameters

After configuration management, follow the steps to enter the file format and general parameters.

Possible file formats are divided into two types of object models:

- **Linear object models (LOL)**
 Linear object models only allow for the export of data from a cabinet. The data are exported in a simple tabular structure. If you export data associated with document types, for example, location data (folder and register data) can also be exported, although only register data from one register of a given register type, even if the document is stored in multiple registers of equal or different types.. The data associated with multiple fields cannot be exported.
- **Hierarchical object models (HOL)**
 Hierarchical object models allow for the export of data of multiple object types from differing cabinets. The data in multiple fields are also exported. The HOL format allows for the management of multiple tables in one file or, in XML format, the display of hierarchical structures with nested tags.

The following file formats are available:

| File formats | Object model |
|------------------|--------------|
| ASCII | LOL |
| dBase | LOL |
| Microsoft Access | LOL / HOL |
| Microsoft Excel | LOL / HOL |
| XML-common | LOL / HOL |

ASCII

Nested register structures cannot be displayed. Tables and the data associated with multiple fields cannot be exported.

Records in ASCII format are separated by line breaks. Within a line, data are separated with a user-specified separator or by using a fixed field length.

When working with the ASCII format using a separator character, this character should not be used in field contents. The export does not check, whether the separator is present in the fields. If this is the case for any records, the exported records will not match the format description.

The ASCII format with fixed field length uses the field length specified in the field definition in enaio® editor. If the content of a field is shorter than specified, '0' characters will be appended to numeric fields, while space characters will be appended to string fields.

For either of these ASCII formats, you can select whether the format description should be written to the header, the first line of the file, in a separate file, or not at all.

Once you have selected the format, take the next step and enter the file name (*.txt) and a directory for the document files in the **General Parameters** dialog (see General parameters). A counter will be appended to the file name. If you export the data for multiple object types, one export file per object type will be created.

From the same dialog in the Further Settings area, you can open the Output Options dialog using the button of the same name. There, you can configure the header.



The default option is **Write no header**.

If you choose the setting **Write a header file**, the format description will be written to a header file. This header file can be used for importing data using the 'Data/Document Import' automatic actions.

If you choose the **Write header in every file** option, the format description will be written to the first line of the ASCII file.

A header can only be written to the file when using ASCII format with a separator.

Field Names in Header

The header contains the format description for the exported data. In the sequence of data, field names are entered, with data type and field length. Every field name is by default the name of the object type. Basic parameters and system fields are marked with '_sys_', indexing fields with '_usr_'. The data types are 'Char' (C), 'Integer' (N), and 'Date' (D).

Example: Customer_usr_Location C(30)

The object type has the name 'Customer', the field has the name 'Location'. The field is of data type 'Char' (C) with a maximum length of 30 characters. The field is an indexing field.

Header File

A header file has the same name as the ASCII file, with the file extension 'cfg', and is written to the same directory as the ASCII file. A counter is appended to the name. If you export the data for multiple object types, one header file per object type will be created.

The file begins with the section name [ASIMPEXP]. A list of the exported fields follows. As in the field name in the header, every field name is by default the name of the object type. Basic parameter fields are marked with '_sys_', other fields with '_usr_'. Data type and field length are also specified.

Example:

```
[ASIMPEXP]
Feld00 = Customer_usr_Name C(30)
```

```
Feld01 = Customer_usr_Location C(30)
Feld02 = Contract_usr_Date D(TT.MM.JJJJ)
Feld03 = Contract_usr_Type C(30)
Field04 = Contract_usr_OrderNo N(10.0)
Field05 = Contract_sys_Creator C(30)
Field06 = Imagefilename C(255)
```

The last field Imagefilename C(255) is added automatically during the export of documents. It contains the path and the file name of the exported document files (see Document files).

dBase

Nested register structures cannot be displayed. Only the data associated with object types from one cabinet can be exported. Multiple fields and tables cannot be exported.

In the 'dBaseIII' format, column names have a maximum length of 11 characters, while a maximum of 255 characters are allowed in a cell. If you export longer data, they will be cropped to meet these requirements.

These export limitations are also applicable to the 'dBaseIV' and 'dBaseV' formats.

Because the column names are limited to 11 characters, for export, the following names for the columns are used instead of the field names:

- The database name is used instead of the field name.
The database name of a field is displayed in enaio® editor.
- The name of a folder file has 'A_' prepended to it, the name of register field 'B_', and the name of a document field 'C_'.
- If the name of a fixed field is longer than 9 characters, the string will be cropped. The name is prepended with 'C_', if document data are exported, 'B_', if no document data but register data are exported, and 'A_', if only folder data are exported.

The columns 'INDEX' and 'ERRCODE' are automatically created. enaio® capture manages using these fields and keeps track of COLD import data.

If you are exporting documents, the 'FILES' column will also be created. It contains the path and file name of the exported image file (see Document files).

Example:

| INDEX | ERRCODE | A_anleger | A_FELD0 | B_FELD1 | C_FELD0 | Files |
|-------|---------|------------------|--------------|----------------|----------------|-----------|
| | | Basic parameters | Folder field | Register field | Document field | File name |

A counter will be appended to the file name. If you export the data for multiple object types, one export file per object type will be created.

The OEM or ANSI encoding of dBase files is the same as the configured coding of the OLE DB provider.

This setting is managed using the following key:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Jet\4.0\Engines\Xbase
```

Microsoft Excel

In the 'Microsoft Excel' format, data can be exported in a linear or hierarchical object model.

Excel – Linear Object Model

The exported file receives the extension 'xsl'. The file contains a table named 'data'. If you export the data associated with multiple object types, multiple files are created. A counter is appended to the name.

The first row contains the column names. They are formed according to the following schema:

- Every field name is by default the name of the object type.
Non-alphanumeric characters in the name are replaced with '_'.
- Basic parameter fields are marked with '_sys_', other fields with '_usr_'.

If you export documents, the '@Image file name' column will also be created. It contains the path and file names of the exported document files (see Document files).

Example:

| | | | | |
|-----------------------|------------------|------------------|-------------------------|-----------------|
| Film_usr_WorkingTitle | Film_sys_created | Casting_usr_Role | Agreement_Tiff_usr_Type | Image file name |
|-----------------------|------------------|------------------|-------------------------|-----------------|

The column names for the linear formats 'ASCII', 'Microsoft Access' and 'Microsoft Excel' are formed in a similar manner.

Excel – Hierarchical Object Model

The exported file receives the extension 'xsl'. Exactly as in the 'Access' format, the file contains multiple tables:

- **Objects**
The table contains a list of all exported objects. The data include the ID, name of object type, object type number, ID of the parent object, name of the exported document file (see Document files).
- **Fields**
The table contains a list of all exported fields. The data include the object ID, field name, internal field name, database type, database size, and indexing value.
- **MultiFields**
The table contains a list of all multiple fields. The data comprise multiple field ID, object ID, name of the multiple field, and internal name of the multiple field.
- **MultiFieldValues**
The table contains a list of the values of the multiple fields. The data comprise multiple field ID, page number, database type, database length, and indexing value.
- **TableFields**
The table contains a list of all table fields. The data comprise table field ID, object ID, table field name, and the internal name of the table field.
- **TableFieldValues**
The table contains a list of the values of the table cells. The data comprise table field ID, row number, column name, database type, database length, and indexing value.

If you set up fixed fields, these fields are allocated to every exported object.

Microsoft Access

In 'Microsoft Access' format, data can be exported in a linear or hierarchical object model.

Access – Linear Object Model

The exported file receives the extension 'mdb'. The file contains a table named 'data'. If you export the data associated with multiple object types, multiple files are created. A counter is appended to the name.

The first row contains the column names. They are formed according to the following schema:

- Every field name is by default the name of the object type.
Non-alphanumeric characters in the name are replaced with '_'.
- Basic parameter fields are marked with '_sys_', other fields with '_usr_'.

If you export documents, the '@Image file name' column will also be created. It contains the path and file names of the exported document files (see Document files).

Example:

| | | | | |
|-----------------------|------------------|------------------|-------------------------|-----------------|
| Film_usr_WorkingTitle | Film_sys_created | Casting_usr_Role | Agreement_Tiff_usr_Type | Image file name |
|-----------------------|------------------|------------------|-------------------------|-----------------|

The column names for the linear formats 'ASCII', 'Microsoft Access' and 'Microsoft Excel' are formed in a similar manner.

Access – Hierarchical Object Model

The exported file receives the extension 'mdb'. Exactly as in the 'Excel' format, the file contains multiple tables:

- **Objects**
The table contains a list of all exported objects. The data include the ID, name of object type, object type number, ID of the parent object, name of the exported document files (see Document files).
- **Fields**
The table contains a list of all exported fields. The data include the object ID, field name, internal field name, database type, database size, and indexing value.
- **MultiFields**
The table contains a list of all multiple fields. The data comprise multiple field ID, object ID, name of the multiple field, and internal name of the multiple field.
- **MultiFieldValues**
The table contains a list of the values of the multiple fields. The data comprise multiple field ID, page number, database type, database length, and indexing value.
- **TableFields**
The table contains a list of all table fields. The data comprise table field ID, object ID, table field name, and the internal name of the table field.
- **TableFieldValues**
The table contains a list of the values of the table cells. The data comprise table field ID, row number, column name, database type, database length, and indexing value.

If you set up fixed fields, these fields are allocated to every exported object.

XML

In the 'XML' format, data can be exported in a linear or hierarchical object model.

XML – Linear Object Model

The exported file receives the extension 'xml'. The data are displayed in a tabular structure, made up of columns and rows.

The attributes of the columns comprise object type names, field names, database type, database length, and database name. For basic parameter fields, the 'system' attribute has the value '1'.

Example:

Two documents of type 'Photo' are being exported from cabinet 'Film'. In addition to the document's indexing data, the 'Film' folder's indexing data and the 'Casting' register's indexing data are also exported.

```

<?xml version="1.0" encoding="UTF8" ?>
  <DMSContent format="LOL">
    <Archive name="Film" ID="22" osguid="8FD65A2155D040B2914E8AFCFBE7B731">
      <ObjectType name="Photo" ID="196629"
        osguid="887BF5A03BFC49E3AF0A9A7370DFED80" type="DOCUMENT"
        module="COLOR">
        <Rowset>
          <Columns>
            <Column object="Film" name="Working title" type="TEXT" ostype="X" size="1000"
              dbname="field1" system="0" />
            <Column object="Casting" name="Role" type="TEXT" ostype="X" size="50"
              dbname="field5" system="0" />
            <Column object="Photo" name="created" type="DATE" ostype="D" size="0"
              dbname="created" system="1" />
            <Column object="Photo" name="Type" type="TEXT" ostype="X" size="50"
              dbname="field4" system="0" />
            <Column name="@FILES" type="text" ostype="X" size="255" system="0" />
          </Columns>
          <Rows>
            <Row ID="2558">
              <Value>Forest</Value>
              <Value>Protagonist</Value>
              <Value>03.02.2004</Value>
              <Value>Portrait</Value>
              <Value>D:\xml\jp4_2131BA664D194F65880B46379F1070A2.000</Value>
            </Row>
            <Row ID="2559">
              <Value>Forest</Value>
              <Value>Protagonist</Value>
              <Value>09.02.2004</Value>
              <Value>Portrait</Value>
              <Value>D:\xml\jp4_8C2743344D7A4ADD9CE7380D9D43685A.000</Value>
            </Row>
          </Rows>
        </Rowset>
      </ObjectType>
    </Archive>
  </DMSContent>

```

In the **Output Options** dialog, you can specify an XSL stylesheet, in which case the unformatted file will be written respectively to the output location.

XML – Hierarchical Object Model

The exported file receives the extension 'xml'. The data are written in the form of a nested list.

The list contains folder objects, which can contain registers, their 'child objects', while these registers can contain documents.

The following data for the objects are exported:

- 'Fields'- Indexing data and file name
- 'MultiFields' – Data of multi-fields
- 'TableFields'- Table field data

The data associated with table fields are written in a tabular structure, made up of columns and rows.

Example:

A document of type 'Photo' is being exported from cabinet 'Film'. In addition to the document's indexing data, the 'Film' folder's indexing data and the 'Casting' register's indexing data are also exported.

Data from the multiple field 'Version' and the table field 'Publications' are also exported.

```

<?xml version="1.0" encoding="UTF-8" ?>
  <DMSContent format="HOL">
    <Archive name="Film" ID="22" osguid="8FD65A2155D040B2914E8AFCFBE7B731">

```

```

<ObjectType ID="22" name="Film" osguid="8FD65A2155D040B2914E8AFCFBE7B731"
  type="FOLDER" module="">
  <ObjectList>
    <Object ID="2557">
      <Fields>
        <Field name="Working title" system="0" internal_name="" datatype="TEXT"
          size="1000" dbname="field1">Forest</Field>
      </Fields>
      <ChildObjects>
        <ObjectType id="6488064" name="Casting"
          osguid="CA6222CB51C546049F71A268BC14936C" type="REGISTER" module="">
          <ObjectList>
            <Object ID="2562">
              <Fields>
                <Field name="Role" system="0" internal_name="" datatype="TEXT"
                  size="50" dbname="field5">Protagonist</Field>
              </Fields>
              <ChildObjects>
                <ObjectType ID="196629" name="Photo"
                  osguid="887BF5A03BFC49E3AF0A9A7370DFED80" type="DOCUMENT"
                  module="COLOR">
                  <ObjectList>
                    <Object ID="2561">
                      <Fields>
                        <Field name="created" system="1" internal_name="" datatype="DATE"
                          size="0" dbname="created">03.02.2004</Field>
                        <Field name="Type" system="0" internal_name="" datatype="TEXT"
                          size="50" dbname="feld4">Portrait</Field>
                        <Field name="FILES" internal_name="" datatype="text" size="10" dbname="">
                          D:\xml\jp4_5DA8E8A02F654FFF8B3A42F78B44D5CE.000</Field>
                      </Fields>
                      <MultiFields>
                        <MultiField name="Version" internal_name="" datatype="TEXT" size="50">
                          <Page ID="1">
                            <Value>Original</Value>
                          </Page>
                          <Page ID="2">
                            <Value>Edited</Value>
                            <Value>Color correction</Value>
                          </Page>
                          <Page ID="3">
                            <Value>Edited</Value>
                            <Value>Light correction</Value>
                          </Page>
                        </MultiField>
                      </MultiFields>
                      <TableFields>
                        <Field name="Publications" internal_name="">
                          <Columns>
                            <Column name="published in" datatype="TEXT" size="50">
                              published in
                            </Column>
                            <Column name="published by" datatype="TEXT" size="50">
                              published by
                            </Column>
                            <Column name="Date" datatype="DATE" size="10">
                              Date
                            </Column>
                          </Columns>
                          <Field ID="1">
                            <Value>Internal</Value>
                            <Value>Maier</Value>
                            <Value>22.05.2004</Value>
                          </Field>
                          <Field ID="2">
                            <Value>Flyer</Value>
                            <Value>Schulz</Value>
                            <Value>01.06.2004</Value>
                          </Field>
                        </Field>
                      </TableFields>
                    </Object>
                  </ObjectList>
                </ChildObjects>
              </ChildObjects>
            </Object>
          </ObjectList>
        </ChildObjects>
      </ChildObjects>
    </Object>
  </ObjectList>
</ObjectType>

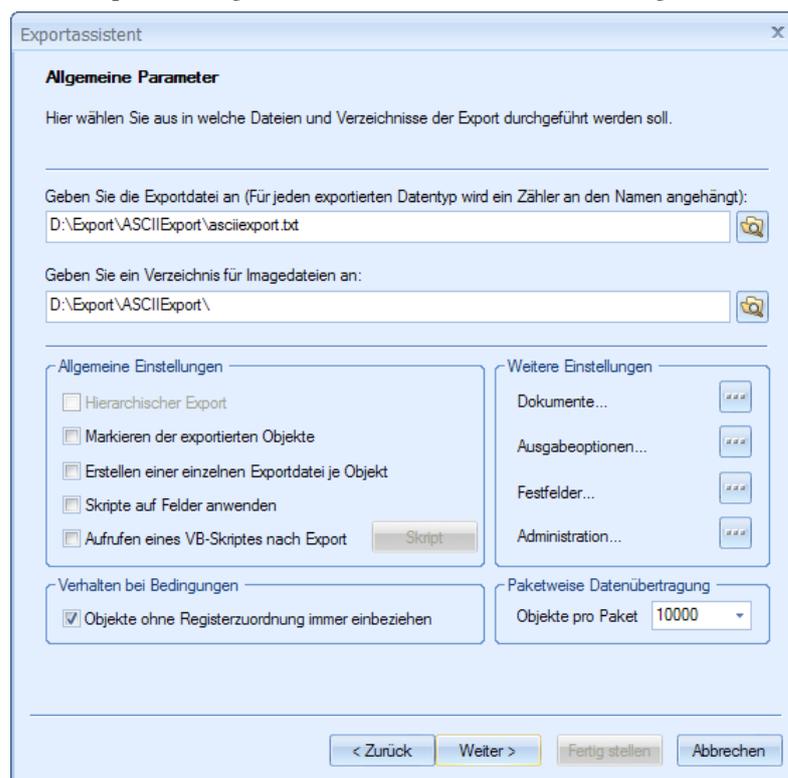
```

```

</Object>
</ObjectList>
</ObjectType>
</ChildObjects>
</Object>
</ObjectList>
</ObjectType>
</ChildObjects>
</Object>
</ObjectList>
</ObjectType>
</Archive>
</DMSContent>
    
```

General parameters

After choosing a format, enter the path and name for the export file, as well as a directory for the exported image files, in the **General Parameters** dialog.



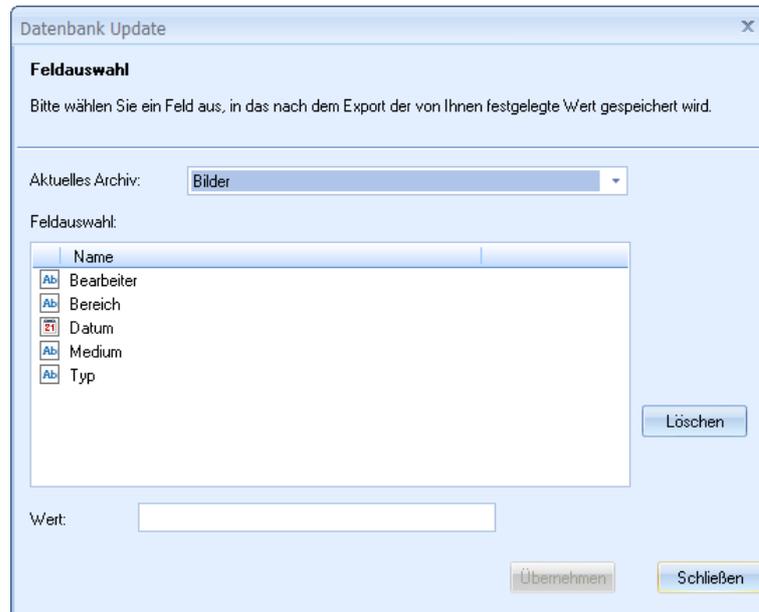
There are other settings at your disposal.

General settings

These availability of these settings is dependent on selected format.

Selection of the exported objects

The indexing of the exported objects in the DMS can be edited. If you activate this option, you can use the DB update button to open a dialog, from which you can choose fields and values for them.



Fields are marked as follows:

- Text fields
- Date fields
- Digits
- Decimals
- Radio buttons
- Check box

The wizard does not check, whether the specified values, which are to be entered in the fields, match the database properties or are compatible with other database properties. These options may therefore lead to inconsistencies in the database.

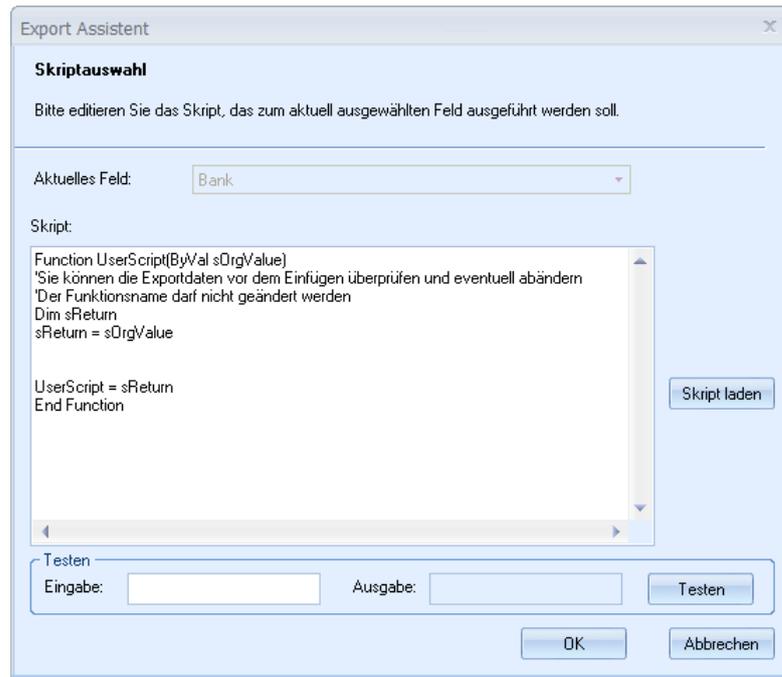
Creation of a single export file for every object

This option is only available for the 'ASCII' and 'dBase' formats. One export file per object is created.

Apply scripts to fields

For every field, you can include a VBScript that will modify data during export.

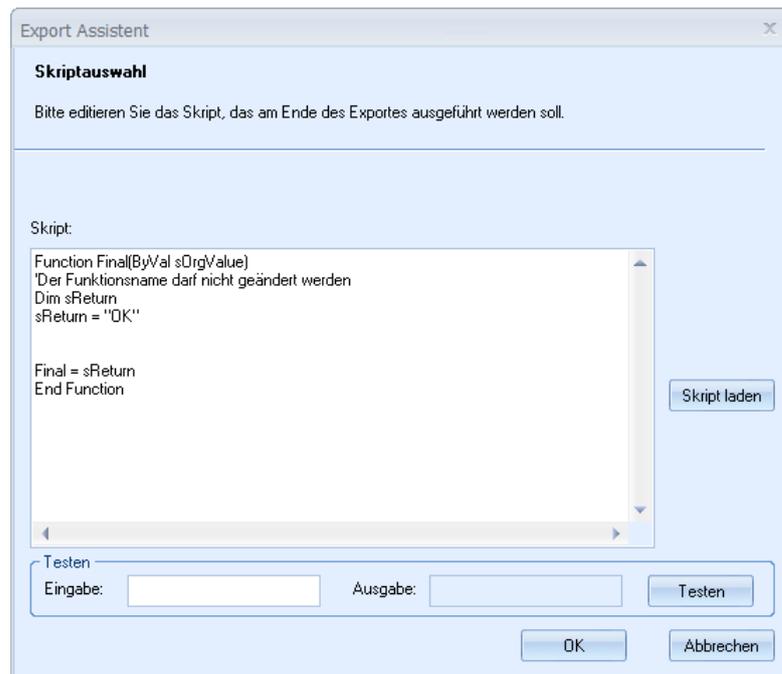
If you select this option, you can open the **Script selection** dialog during field selection (see Field selection).



This option is not available for the 'XML' format. Analogous functionality is available through XSL style sheets.

Call VBScript after export

You can integrate a VB Script to be started after export. If you select this option, you can open the script selection dialog over the **Script** button.



Behavior for conditions

If you select the option **Always include objects without register assignment**, objects which are not located in a register are also exported, whenever conditions on registers are specified.

Packet Data Transfer

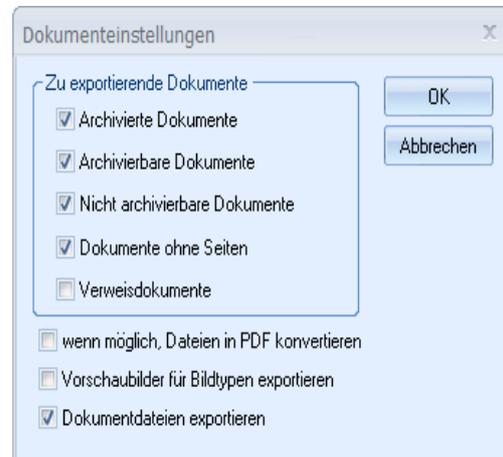
If a very large number of objects should be exported, it may be reasonable to send them in smaller packets, which is the default setting.

If, for example, 1000 documents are exported with a setting of 100 objects per packet, a total of 10 server queries will be started to export the total data. The user can choose among various predefined settings or enter a number directly. If '-1' is chosen, the function is deactivated during document export. In this case, all documents are retrieved in a single server query.

Using this option carefully, you can reduce the great amount of memory required when exporting large data sets. This feature for data transfer is only possible for LOL exports.

Settings – Documents

Click on the **Documents** settings button to open the dialog:



You can select whether, in addition to indexing data, document files should also be exported, and can choose to limit export to document with specific properties.

Reference documents are documents with files assigned to a different document type or another archiving system.

If you do not export any document data, this dialog will not be evaluated.

Documents in TIFF G4 format can be converted into PDF files during export. If you have integrated an OpenOffice installation using enaio® enterprise-manager, W-Documents which can be edited with OpenOffice can also be converted into PDF files during export. Please contact consulting if you want to convert other file formats during export.

Preview images of image documents for the Quicklook view can be managed. These images can be included in an export.

Documents containing errors

Errors will cause the export to stop if you do not select the option **Skip failed documents**.

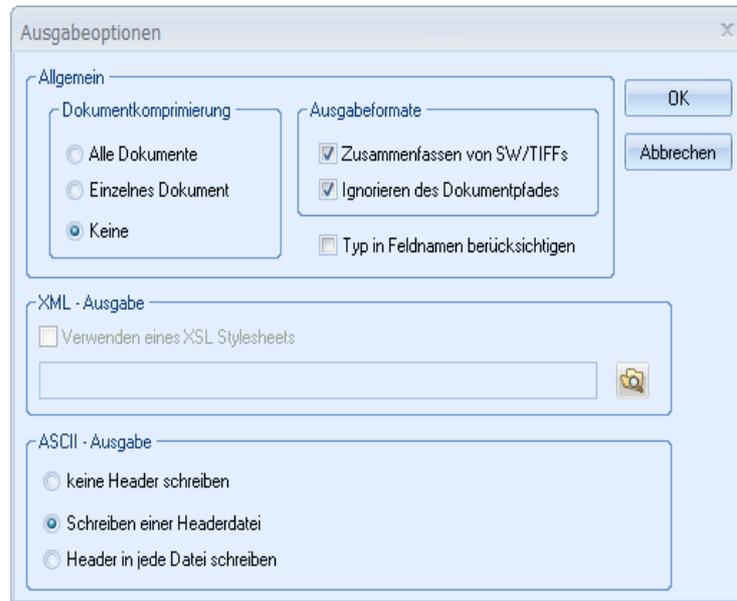
If the option is activated, a log file will be created for errors, but the export will continue with the next document.

The log file is created in the export directory and is named 'configuration name.err'. The file is a semicolon-separated list with the following information about each error: Document ID, Object Type ID, Object Type Name.

Before executing every export action, an existing log file will be deleted, regardless of the **Skip failed documents** option.

Settings – Output Options

Click on the **output options** button to open the dialog:



Enter settings for document compression: for all export formats:

The document files can all be compressed into a ZIP archive, individually into ZIP archives, or uncompressed.

For black & white documents managed in 'TIFF' format, you can specify that multiple pages of a document should be exported as a multi-page TIFF.

For all export formats, you can specify that the path to the exported document files should not be included in the exported records.

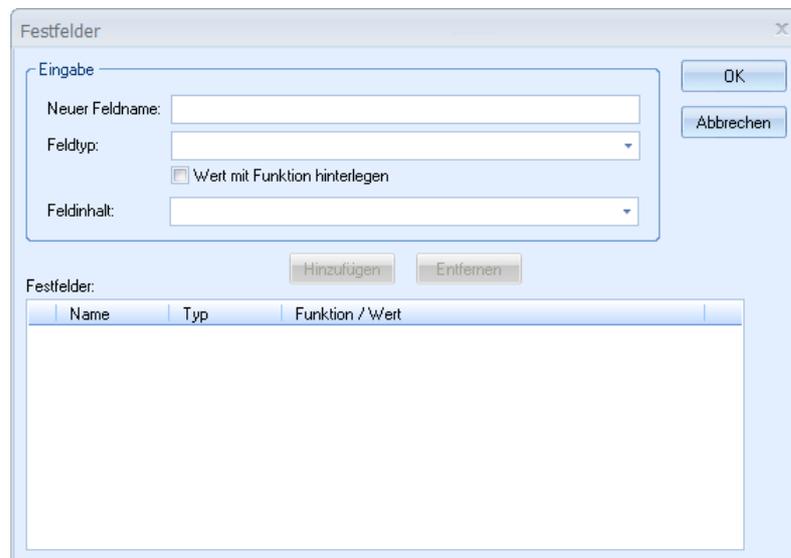
The object type (folder, register or document) having its data exported can be included into the field names of columns headings or tags. For example therewith, you can distinguish equally named folder and documents with the export data.

You can enter an XSL stylesheet for the XML format.

For ASCII exports, you can specify the header settings here (see ASCII).

Settings – Fixed Fields

Click on the **Fixed fields** button to open the dialog:



Fixed fields are data which are added to every exported record.

Enter the field name, type, and contents. You can use functions with which contents are generated. Click the **Add** button to transfer the data into the list of fixed fields.

Settings – Administration

Click on the **Administration** button to open the dialog:



You can activate e-mail notification for export errors.

The text of the e-mail contains the configuration name, date, user, server, and an error list. E-mails can be sent via MAPI or the server.

Document files

When you export document files, the files are written to the specified export directory. The output options let you specify whether the document files are compressed, whether TIFFs are joined into MultiPageTIFFs, and whether the path is included in the exported records.

The name of the document file is automatically generated. Document files from W-document types and e-mail messages have application-specific endings.

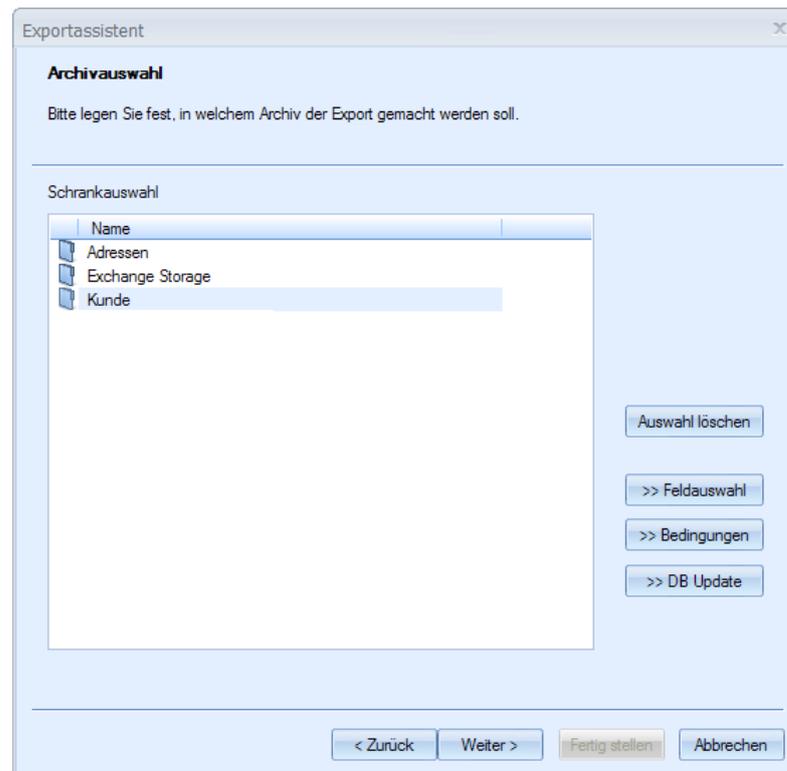
Document files of image documents have the suffix '000'. If several image files are assigned to a document, the hexadecimal suffixes will be incremented. In the exported data sets, only the first document file ends with '000'. If you select the system field 'page count' in the field selection (see Field selection), the number of fields is included in the output.

If Quicklooks – preview files – are administered in the DMS, they will also be exported. They are given the file extension 'dia'.

Annotations on layer are not exported.

Selecting DMS Objects and Data

Besides the choice of export format and parameters, you select the objects and their data.



Select a cabinet and optionally register and document types.

For linear export formats, you select at most one register type and one document type.

If you choose a register type and a document type, all documents located in a register of this type will be exported regardless of whether or not this register is located in any other register. All documents which are not in a register will also be exported.

If you do not select a register type, all documents will be exported, whether or not they are in a register.

In hierarchical export formats, you can select multiple register types and document types. All documents which have one of the selected document types and are in one of the selected register types will be exported, regardless of whether the register is contained in any other register. All documents which are not in a register will also be exported.

If you select no register, all documents of the selected document type will be exported, as long as they are not in a register.

For every object, you can use the **Field selection** button to determine which index data are exported.

Using the **Conditions** button, you can limit export to data of objects which fulfill the conditions you have formulated.

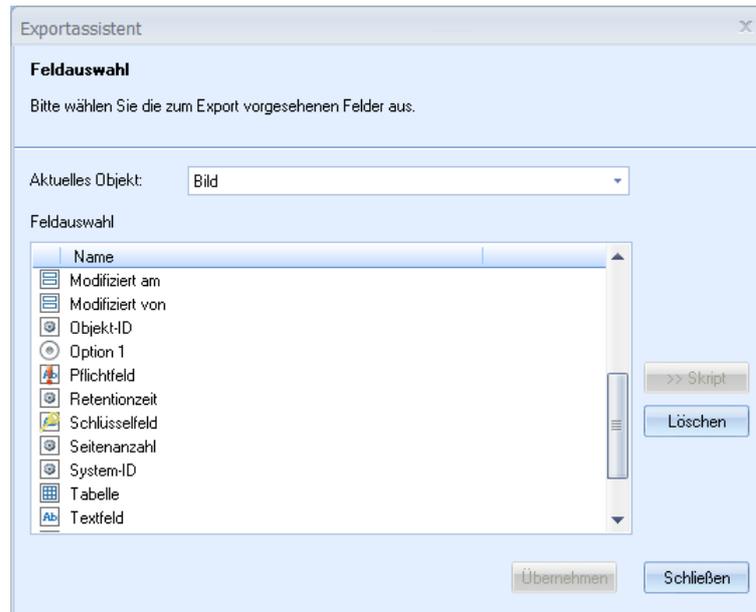
If you have activated the option **Select exported objects** in the **General parameters** dialog, open a dialog using the **DB Update** button, where you can specify how the indexing of the exported objects should be changed in the DMS.

If you export W-Documents with variant administration, the current variant will be exported.

Field selection

You can select the object type fields from which data should be exported.

If you have activated the option **Apply scripts to fields** (see General settings) in the **General Parameters** dialog, you can use the **Script** button to open a dialog with which you can load or edit a script.



Fields are marked as follows:

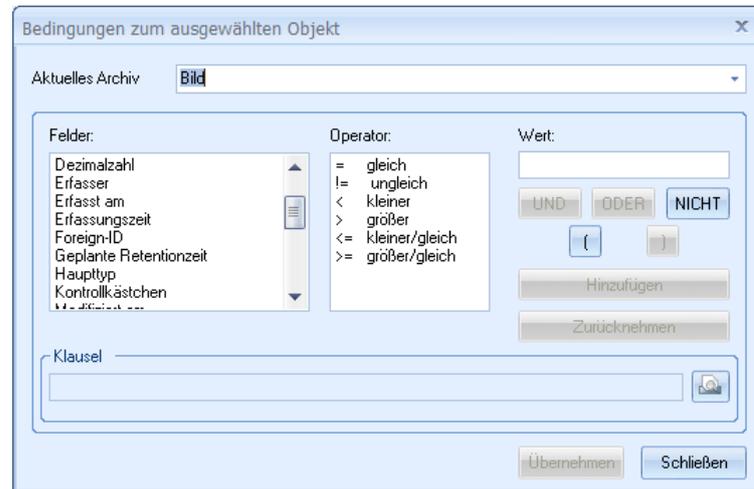
- Text fields
- Date fields
- Digits
- Decimals
- Radio buttons
- Check box
- Table
- Base parameter fields
- System Fields
- Compulsory fields are additionally flagged with a red exclamation mark.
- Key fields are additionally flagged with a yellow key. If the key field is also a required field, the key is red.

The **Delete** button can be used to remove all selections and the script.

In linear export formats, fields of type 'table' and multiple fields are not listed.

Conditions

You can formulate conditions for the selected object type. Only objects which fulfill the conditions will be exported.



In the **Fields** area, you will find the indexing fields, the basic parameters, and the system fields of the selected object type. Select the field for which you would like to create an expression.

In the **Operator** area, the operators you can use are listed. Select an operator.

Enter a value for the selected field into the **Value** area.

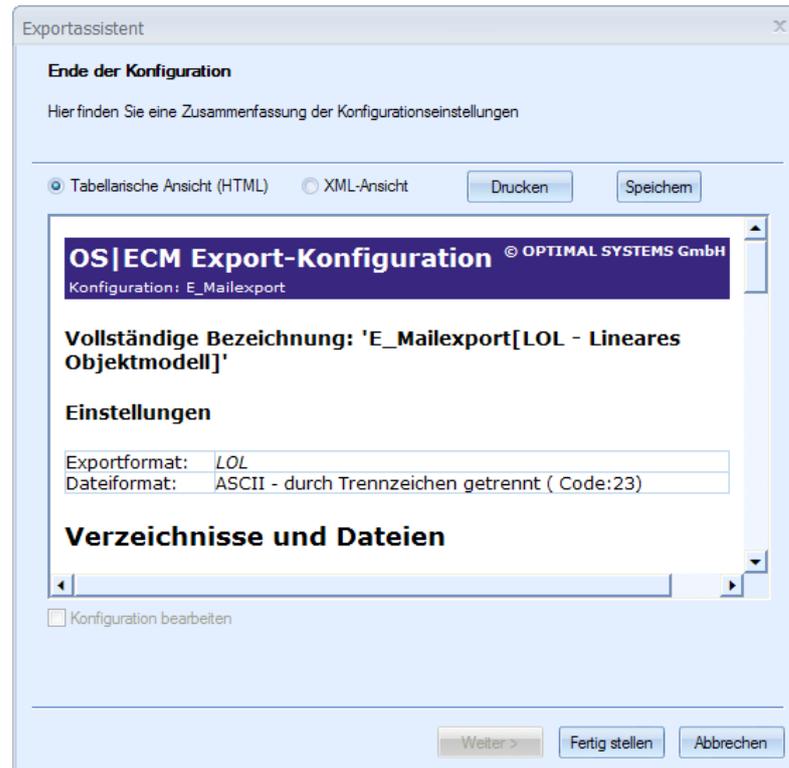
An asterisk ('*') can be used as a wildcard for any string of characters and a question mark ('?') can be used as a wildcard for any single character.

Click the **Add** button.

By combining the field, the operator and the value, you have formed a condition. This condition can furthermore be logically combined with other conditions. The complete condition is shown in the **Clause** field. If the condition becomes too long to fit in the field, you can enlarge the view by clicking on the magnifying glass button. You cannot edit the entries in the **Expression** field. If you want to delete or correct entries, press the **Undo** button.

Completing the Configuration

After selection of the DMS objects and data, configuration has been completed. The wizard displays a summary.



You can print the data and save it to a file.

When you click on the **Complete** button, the configuration is saved, the wizard ends, and the configuration is shown in the list of automatic actions.

Data Import

Import – Overview

A data import is configured using enaio® administrator. As with all automatic actions, you must first include the appropriate library from the **Complete system/Additions** tab, in this case `axacimp.dll`. The library is found in the `...\clients\admin` directory.

Follow these steps to configure a data import:

- Create a configuration for the automatic action **Data/Document Import**.
Click the **Automatic Actions** button to open the configuration dialog. Select the action **Data/Document Export** and add it. The import wizard opens.
You can also manage existing configurations, edit them, export them, and import them.
- Describe the import data.
- Specify the DMS objects which should be produced by the import data.

The import itself can be started from enaio® administrator or set on a timer using enaio® start.

When you start an import the information window is displayed.

The window closes automatically after the import. Hold the **Ctrl** key, and the window remains open.

Import 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. However, the users in LDAP and the enaio® user administration must have identical passwords. For security reasons this usually is not the case.

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

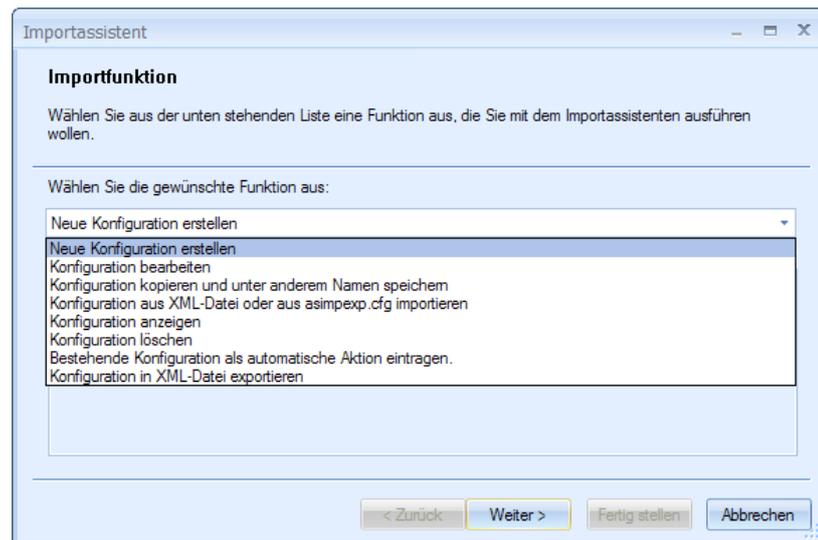
Configuration is done in enaio® enterprise-manager. Further information can be found in the administration handbook.

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

Import – Configuration Administration

The import wizard reads in existing configurations from the database at startup and lists them.

The following functions are available and resemble those used for an export.



- **Create new configuration**
In the next step you give the configuration a name and describe the import data.
- **Edit configuration**
The data associated with the configuration which is selected in the list of existing configurations is read and can be edited in later steps.
- **Edit configuration and save under different name**
The data associated with the configuration which is selected in the list of existing configurations are read in. You enter a new name and can edit the configuration in later steps, or save it without changing its data.
- **Import configuration from XML file or from asimpexp.cfg**
You can import configurations which are in the form of an XML file. The following steps let you edit the configuration data.
Up to Version 3.60, all import configuration data were saved in a configuration file `asimpexp.cfg`. You can open these data and store them in the database, in the current format (see Opening the Import Configuration from an Old Configuration File).
- **Show configuration**
First use the configuration data to create an HTML or XML file, which you can save and print.
- **Delete configuration**
Here you delete the selected configuration from the database.
You always receive a confirmation dialog before deleting a configuration. This deletion cannot be undone. You should also delete the configuration in the **Automatic Actions** dialog.
Configurations, which you can only delete from the **Automatic Actions** dialog, are not removed from the database; they are simply no longer displayed and can no longer be started.
- **Enter existing configuration as an automatic action**
Configurations which you have deleted in the **Automatic Actions** dialog, but not using the **Delete configuration** administrative functionality, are still in the database and can again be entered as automatic actions.
- **Export configuration to XML file.**
Export the data of the selected configuration to a XML file. The name of the configuration is assigned to the file as a label. Characters that are not allowed in the file name are replaced with '_'.
The XML file can be imported at a later time or on another system.
You can also export all configurations.

Opening the Import Configuration from an Old Configuration File

Up to Version 3.60, all import configuration data were saved in a configuration file, `asimpexp.cfg`. This file was administered by enaio® server in the `... \server\etc` directory, and when needed, sent to enaio® administrator.

If you execute the function **Import configuration from XML file or from `asimpexp.cfg`**, all import configurations will automatically be listed, if enaio® server is administering configurations from versions up to 3.60.

When you select a configuration, you can take further steps to edit the configuration and save the converted data in the database.

Configurations cannot be saved as as configuration files in the outdated format.

You can also have import configurations converted after an update, using `axcnvimp.exe`. The application is found in the `... \clients\admin` directory.

The program lists all configuration which are saved in the old format. You can select the configurations to be converted.

If errors occur during conversion, these errors will be listed.

In this case, please contact the support department of OPTIMAL SYSTEMS GmbH!

Describing Import Data

After configuration, take the following steps to describe the import data.

Enter a name for the configuration and select the file format of the import data.

The following file formats are possible:

- ASCII
separated by separator or with a fixed field length
- dBase
dBaseIII, dBaseIV or dBaseV
- Microsoft Access MDB files or Microsoft Access 2007
- Microsoft Excel
Microsoft 3.0, 4.0, 5.0, 8.0 (97) or 2007 and later (xlsx)
- XML

Data for multiple fields can only be imported using the 'ASCII' file format, data for the 'Table' dialog element only using 'XML'.

ASCII

ASCII import involves importing data from ASCII files. These data need to be made available in a structure that you can easily create.

ASCII import requires a format description. This is used to specify which columns are contained in the data section and which database type the data and individual columns come from. The columns are mapped to object fields in the configuration. The format description may be placed in a field information file.

The data section must comprise a tabular structure. The columns are either separated by a separator which you have specified in the configuration or have a fixed length specified in the format description.

Example of a format description in a field information file:

```
[ASIMPEXP]
FIELD00=PatientNo N(8,0)
FIELD01=Name C(10)
FIELD02=DateOfBirth D(YYYYMMDD)
FIELD03=Image C(12)
```

The field information file begins with the section name [ASIMPEXP].

The first column (FIELD00) is named 'PatientNo', the database type is 'N', the length, including the separator, is eight characters. The value has no places ('0') after the decimal point.

The second column (FIELD01) is named 'Name', the database type is 'C', and the length is ten characters.

The third column (FIELD02) is named 'DateOfBirth', the database type is 'D', and the format of the date is described with placeholders.

The fourth column (FIELD03) is named 'Image', the database type is 'C', the length is 12 characters, 8 for the file name and hte period, and 3 for the file extension.

Names cannot contain space characters.

The following database types are possible:

| Charact ers | Database Type | allowed characters |
|----------------|------------------|--|
| C | Character | ASCII- characters, max. 256 |
| N | Numeric | Numbers For lengths, always include '1' for the separator. The number of spaces after the decimal must be specified. If there are none, enter '0'. |
| D | Date | The structure of a date is specified using the characters Y (Year), M (Month), D (Day). |

The field information file has the same name as the ASCII data file, but with the extension 'cfg'.

The entries in the ASCII data file are either separated by a separator and line breaks or have the specified fixed length.

Example of a file with entries separated by semicolons as separators and line breaks.

```
1234567;Paulson;19671023;00001234.00¶
2345678;Peterson;19590509;00002345.00¶
```

Example of a file with entries having fixed lengths:

```
1234567Paulson 1967102300001234.00¶
2345678Peterson 1959050900002345.00¶
```

Rather than specifying the format description in a field information file, you can include one in the first line of every data file.

Example:

```
PatientNo N(8,0);Name C(10);DateOfBirth D(YYYYMMDD)¶
1234567;Paulson;19671023¶
2345678;Peterson;19590509¶
```

In a format description in the first line of data files with fixed lengths, use the semicolon character as separator.

The last lines of the files/data-files must end with a line-break character. An ASCII file is also considered ended when containing an CTRL-Z, which corresponds to the ASCII character 0x1A.

When configuring ASCII imports with separators, specify the separator. This character may not be present in any of the import values, which would lead to false mapping.

Data of Multi-Fields

Using multi-fields, image documents are indexed page by page. Only using the 'ASCII' format is the import of data from multi-fields possible.

Indexing data for each multi-field must be stored in their own file. The file must have the same format as the data files. If the data in the data files are separated by separators, the data in the multi-field file must be separated by the same separator. If the data in the data file have a fixed field-length, the data in the multi-field files must also have a fixed field-length. If the format description is located on the first line of the data file, write the format descriptions for the multi-field files on the first lines of these files. If you are using a field information file, write the format description for the multi-field file in the same field information file.

A multi-field file is made up of two columns. In the first column a page-number is specified, in the second an index entry for this page.

Specify in the data file the line of the multi-field file from which the data should be read, and how many lines, starting with this one, should be read in total. These entries, line-number and number of lines, are separated by a comma.

Example:

| Data file | Multi-field file |
|---------------------|-------------------|
| Scene image; 0.1 | 1;Original |
| Portrait; 1.4 | 2;LightCorrection |
| | 3;ColorCorrection |
| | 4;Scaled |
| | 4;Cropped |
| | 1;Film/digitized |

The first record of the data file refers to line 0 and specifies that a line should be read. Line 0 is the first line of the multi-field file, so that the numbering starts with 0.

The second record of the data file refers to line 1 and specifies that this line and the following three lines should be read, four lines in total.

To ensure that the import recognizes that the data in the data file refer to a multi-field file, the column in the format description must be named Multi00. For more than one multi-field, the numbers are increased in hexadecimal notation, so that a second column containing data for a multi-field must be named Multi01.

The multi-field files must have the same name as the data files and be placed in the same directory. Their file extensions must be the number in their name.

Example:

```
imageimport.txt      imageimport.00
                    imageimport.01
```

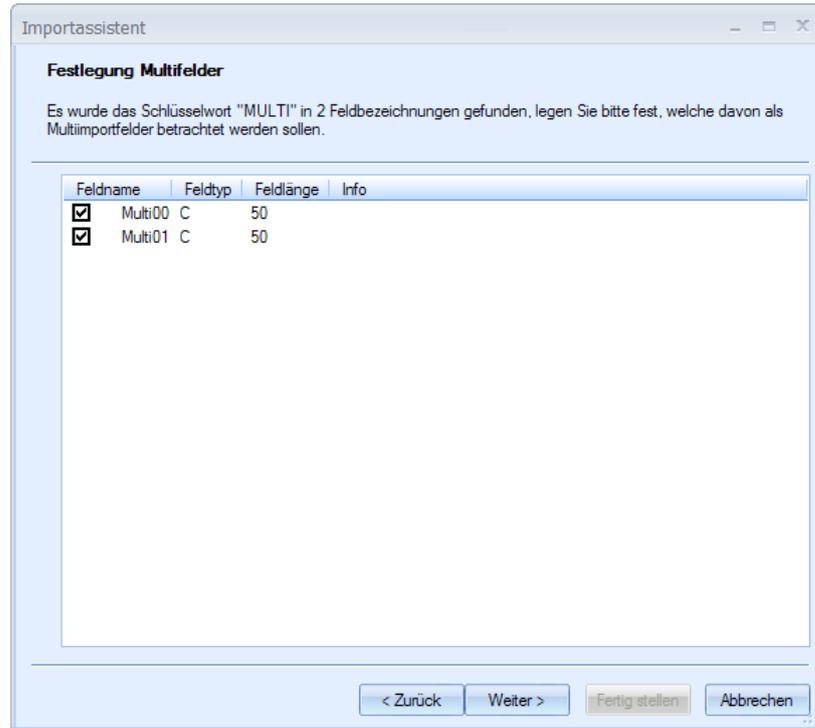
In field information files, multi-fields receive their own sections:

```
[ASIMPEXP]
FIELD00=Theme C(50)
FIELD01=Date D(YYYYMMDD)
FIELD02=Multi00 C(20)
FIELD03=Multi01 C(20)

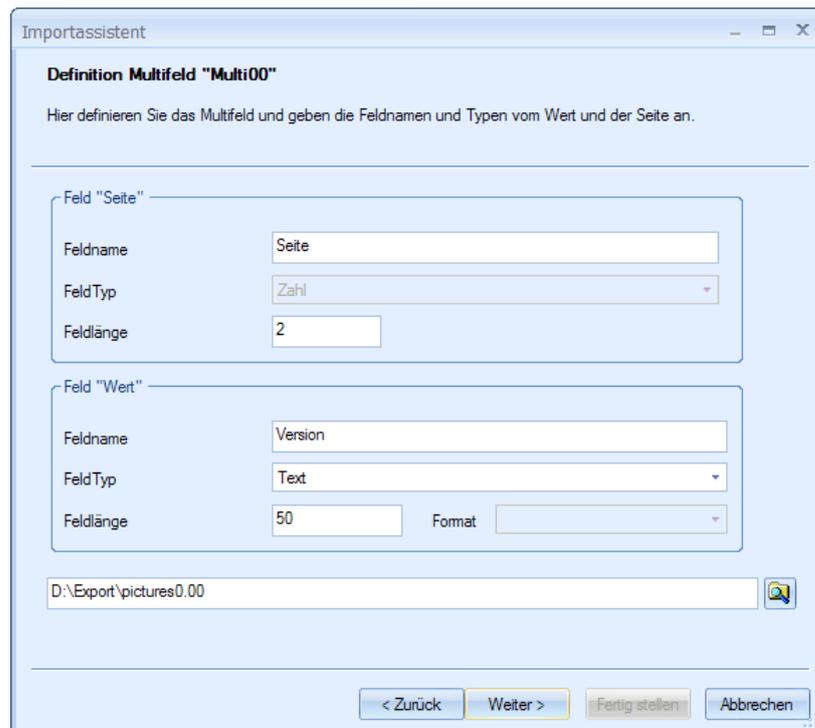
[Multi00]
Field00=Page C(2)
Field01=Version C(20)
[Multi01]
Field00=Page C(2)
Field01=Version C(20)
```

Multi-Fields – Import Dialogs

If the import wizard finds a column named 'Multi', you will have to confirm through a dialog, that the column contains data for multi-fields.



For every field which you have marked as a multi-field, the format description of the multi-field file is read. The data can be corrected.



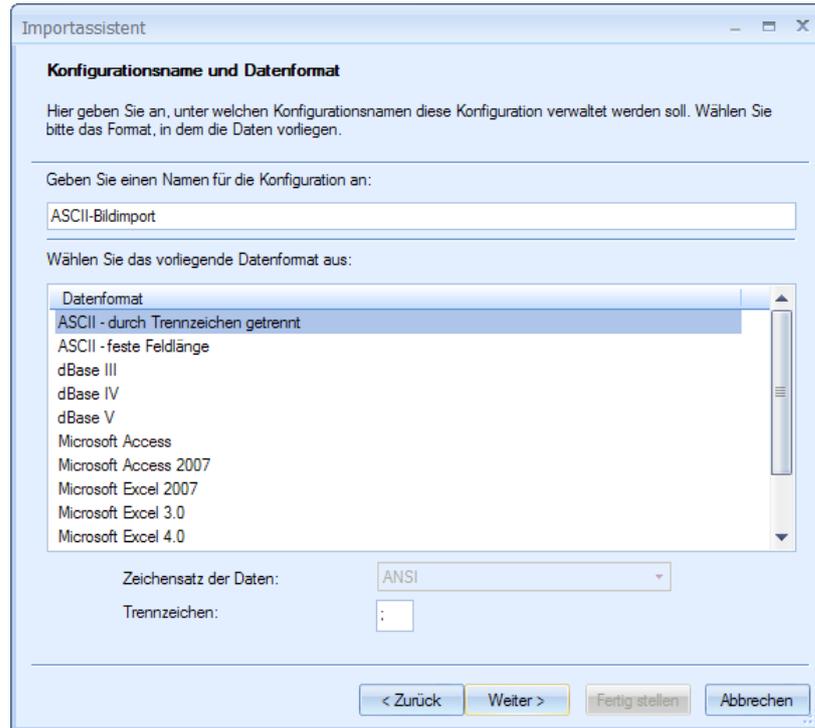
The mapping of the multi-fields in the import data to the multi-fields of a document type is specified in a dialog just for this purpose.

ASCII Import Dialogs

In the **Configuration name and data format** dialog, enter a name for the configuration and select the data format.

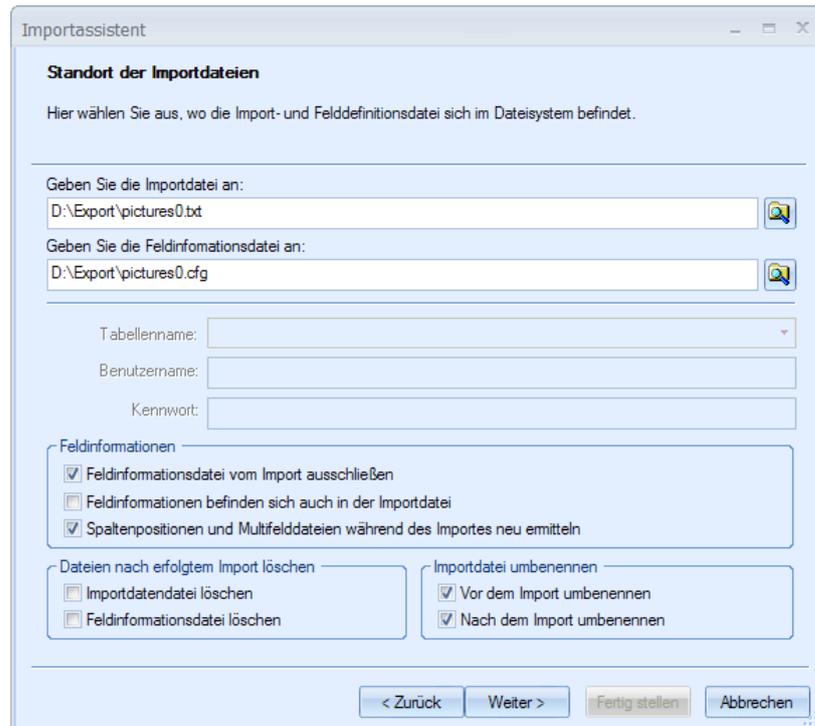
If you select **ASCII separated by separator character**, you must also specify the separator character and the character set: ANSI or OEM.

If you select **ASCII fixed field length**, you only specify the character set.



In the next step, specify the import file. If there is more than one import file in the directory from which you would like to import data, use the '*' wildcard for any string to specify the files.

If you are using a field information file, also specify it.



The following additional specifications can also be made.

- **Exclude field information file from import**

If the field information file matches the schema which you have entered using wildcards, this option must be activated.

- **Field information is also in the import file**

This setting is chosen if the field information is contained in the import file.

- **Re-calculate column position and multi-field files during import**

If the data and field information contain additional columns, or columns are missing or in an order different from that specified in the configuration, activate this option. The data will be checked before import. All columns which are referred to in the configuration, however, must be contained in the file.

- **Rename import files before import**

Before the import is executed, the import data files are renamed. They receive the file extension 'bak'. This excludes them from the next import.

- **Delete import files after import**

Import data files can be deleted automatically after a successful import. This is recommended in combination with log settings with which you can log successfully-imported records separately from records containing errors.

- **Delete field information file after import**

You can have field information files automatically deleted after a successful import.

- **Rename import files before import**

Before the import is executed, the import data files are renamed. They receive the file extension 'bak'. This excludes them from the next import.

- **Rename import data files after import**

After the import is executed, the import data files are renamed. They receive the file extension 'bak'.

dBase

When using the 'dBase' format, you import data from a dBase III table.

During configuration you enter a configuration name and select among the 'dBase III', 'dBase IV', or 'dBase V' formats.

Then, you specify the location of the import data.

Specify the directory containing the file. If more than one table is present, select the required table using the **Table names** field. If multiple files with identical table structures are present, select 'all tables'.

The following additional specifications can also be made.

- **Rename import files before import**

Before import, the import file is renamed. It receives the file extension 'bak'. This excludes it from the next import.

- **Delete import files after import**

Import data files can be deleted automatically after a successful import. This is recommended in combination with log settings with which you can log successfully-imported records separately from records containing errors.

The OEM or ANSI encoding of the dBase files must match the encoding of the OLE DB provider, or else special characters will be displayed incorrectly.

This setting is managed using the following key:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Jet\4.0\Engines\Xbase
```

Microsoft Excel

Using the 'Microsoft Excel' format, you can import data from an Excel table. The import wizard looks for the column names in the first row. These data are not automatically included in the import.

During configuration you enter a configuration name and select among the 'Excel 3.0', 'Excel 4.0', 'Excel 5.0', 'Excel 8.0' (97), or 'Excel 2007' formats.

With the 'Excel 8' and 'Excel 2007' formats, the installation of an OLEDB provider at the workstation where enaio® administrator is running is necessary. The corresponding Microsoft setup can be found in the enaio® installation data in the following directory:

```
... \Disk1\components\Access2007_DBEEngine\
```

When analyzing an import file, only the first eight lines are read as standard. If the content of a column in the first eight rows has no value longer than 255 characters, then the column is set as CHAR(255). If the following cells of the column have more than 255 characters, these are truncated during import. If necessary, adjust the import file or change the analysis function of Excel files via a registry entry:

Excel 8.0 (97):

```
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Jet\3.5\Engines\Excel
```

Excel 2007:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Jet\4.0\Engines\Excel
```

Modify the value of 'TypeGuessRows' to the value '0'. As a result, all lines will be analyzed. A basic analysis of all lines can be time-consuming.

Then, you specify the location of the import data.

Specify the file. If the file contains more than one table, select the required table via the **Table names** field.

Table names containing space characters are not correctly processed.

The following additional specifications can also be made.

- **Rename import files before import**
Before import, the import file is renamed. It receives the file extension 'bak'. This excludes it from the next import.
- **Delete import files after import**
Import data files can be deleted automatically after a successful import. This is recommended in combination with log settings with which you can log successfully-imported records separately from records containing errors.

Microsoft Access

Using the 'Microsoft Access' format, data are imported from an Access MDB file.

During configuration enter a configuration name and select the format 'Microsoft Access' or Access '2007'.

With the 'Access 2007' format, the installation of an OLEDB provider at the workstation where enaio® administrator is running is necessary. The corresponding Microsoft setup can be found in the enaio® installation data in the following directory:

```
... \Disk1\components\Access2007_DBEngine\
```

Then, you specify the location of the import data.

You specify the file and select the table with the data via the **Table names** field.

Table names containing space characters are not correctly processed.

The following additional specifications can also be made.

- **Rename import files before import**
Before import, the import file is renamed. It receives the file extension 'bak'. This excludes it from the next import.
- **Delete import files after import**
Import data files can be deleted automatically after a successful import. This is recommended in combination with log settings with which you can log successfully-imported records separately from records containing errors.
Using the **Document file processing** dialog (see Document files), you can specify whether document files should be deleted or not.

XML

The data in the XML files which you are importing must fulfill two criteria.

- A root node must exist. This node contains all records.
- Import nodes must contain a number of sub-nodes which correspond to indexing fields. The values of these subnodes can be imported. The first import node must contain all subnodes. It is not necessary for every import node to contain all subnodes or values.

XML namespaces are not allowed.

Example of an XML file:

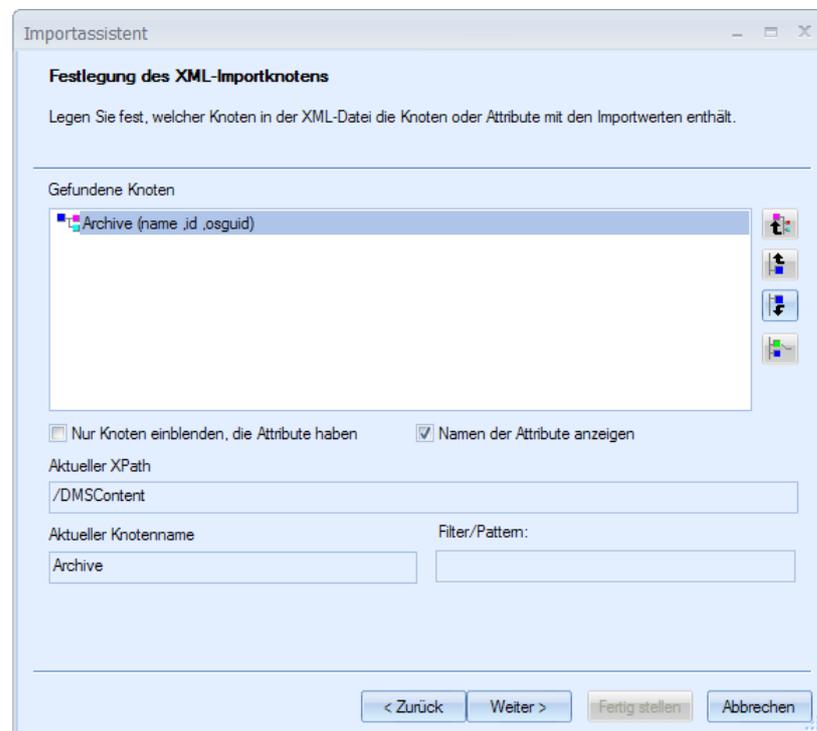
```
<patients>
<date>11.05.2004</date>
<patient>
  <name> Schmidt </name>
  <first name> Johanna </first name>
  <birthdate> 01.01.1965 </date of birth>
</patient>
<patient>
  <name> Bellhausen </name>
  <first name> Klaus </first name>
  <birthdate> 08.11.1945 </date of birth>
</patient>
</patients>
```

The <patients></patients> node is a root node. The <patient></patient> node is an import node and contains the sub-nodes <birthdate></birthdate>, <firstname></firstname>, and <name></name>, which contain the field values which are to be imported.

The 'XML Tag Extraction' automatic action converts XML data into ASCII data, the 'XML transformation' action converts XML data using an XSLT style sheet. Use these actions when your XML data cannot be imported directly.

During configuration you enter a configuration name and select the 'XML' format.

Then, you specify the location of the import data. The import wizard reads the file and displays the nodes in the import file in the dialog named **Specification of the XML import node**.



The nodes which have been found are portrayed as follows:

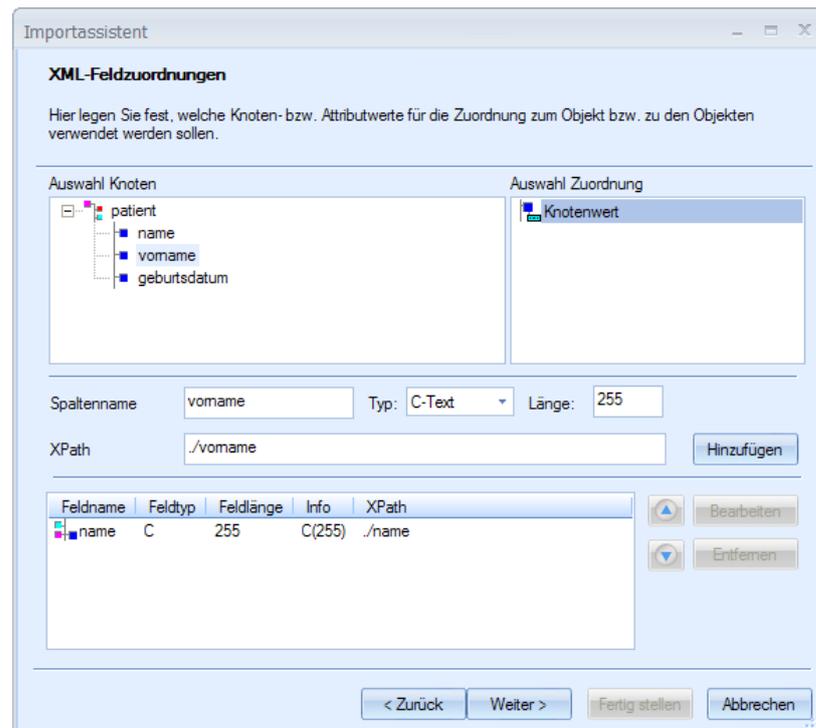
-  Nodes which are present more than once and have sub-nodes.
-  Nodes which are present exactly once and have sub-nodes.
-  Single nodes without sub-nodes.

Nodes which could not be identified clearly are flagged with a red question mark.

Select the import node which contains the sub-nodes with the import data in the **Specification of the XML import node** dialog.

The following dialog, **XML field mapping**, displays the sub-nodes of the selected import node.

Assign a column name, a database type, and a length to each sub-node containing the import data.



- Select a subnode.
- Enter a name in the **Column name** field.
- Select a database type from the **Type** list.
Type 'W-Table' is used for importing data into the 'Table' dialog element.
- Specify the **length**.
- Click the **Add** button.

The sub-node is placed in the list of configured fields. Later, you will assign these fields to the enaio® object fields.

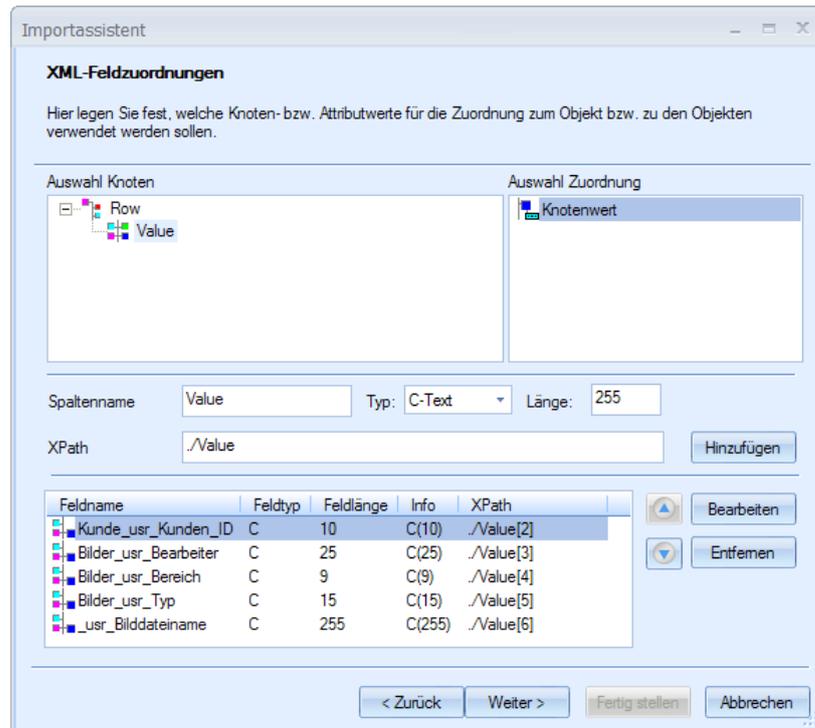
Import of Exported XML Data

Data which you have exported in the 'linear XML' format, using the 'data and document export' automatic action do not conform to the above-described XML structure, but can, in any case, be imported.

Records have the form of a table, the values are kept in a list.

```
<columns>
<column></column>
<column></column>
...
</columns>
<row>
<value></value>
<value></value>
...
</row>
```

If you select the node `Row` as the import node, all exported data is automatically pre-configured as fields in the **XML field mapping** dialog.



If you do not want to import data, remove the fields again.

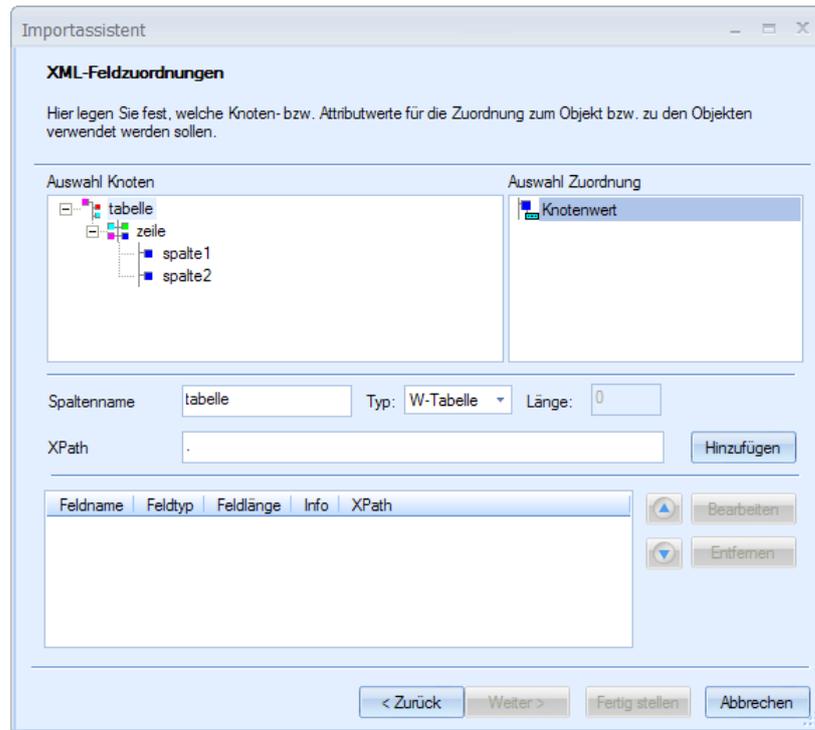
Data Import for the 'Table' Dialog Element

Data for the 'table' dialog element cannot be imported using the 'XML' format. If you export data from the 'table' dialog element, these data can be imported as explained below:

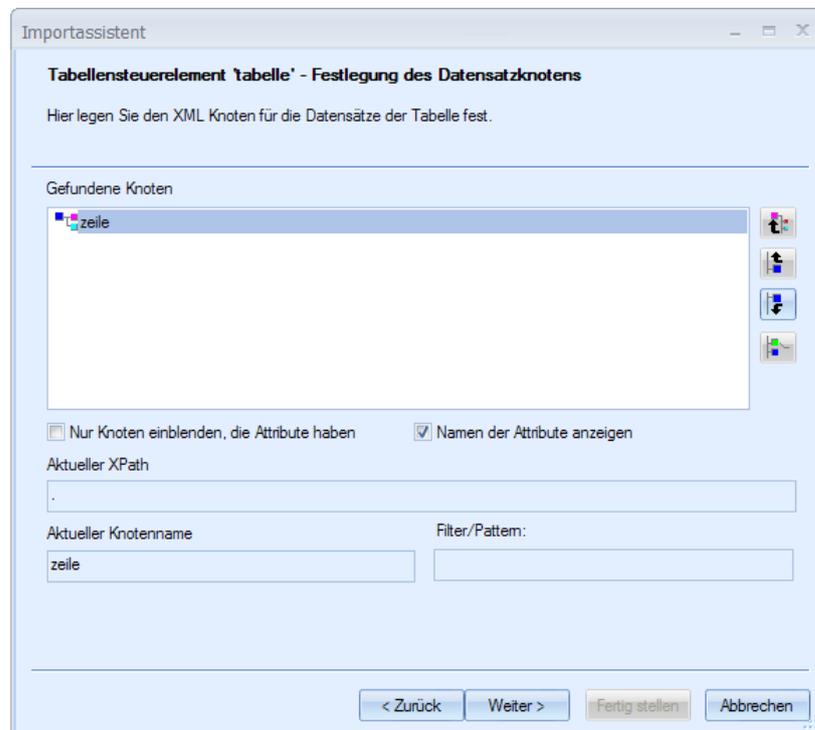
The data for the dialog element require the following structure:

```
<table>
<line>
<col1>value</col1 >
<col2>value</col2>
</line>
<line>
<col1>value</col1 >
<col2>value</col2>
</line>
</table>
```

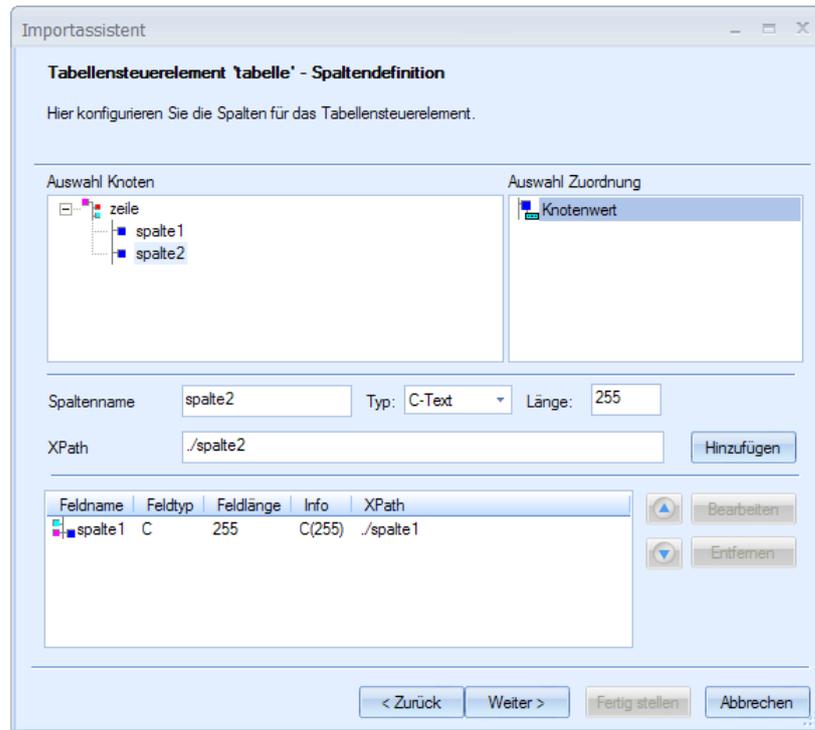
In the **XML field mapping** dialog, select the sub-node 'table' and enter the **type** 'W-Table'.



In the following dialog, **Table control element – Records node**, select the 'row' sub-node.

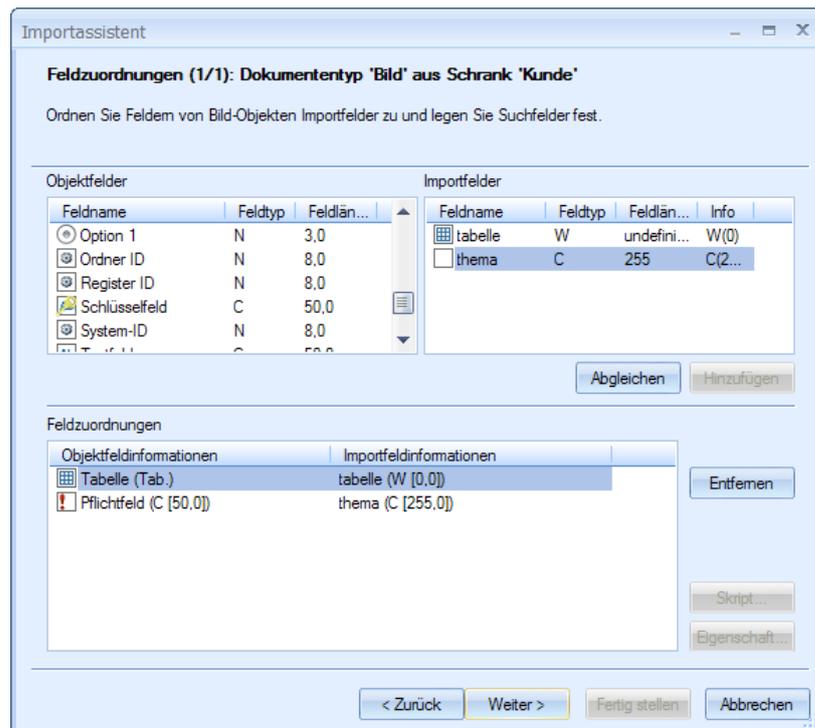


In the next dialog, Table control element - Column definition, specify the tags containing the values for the columns as well as a database type and length.

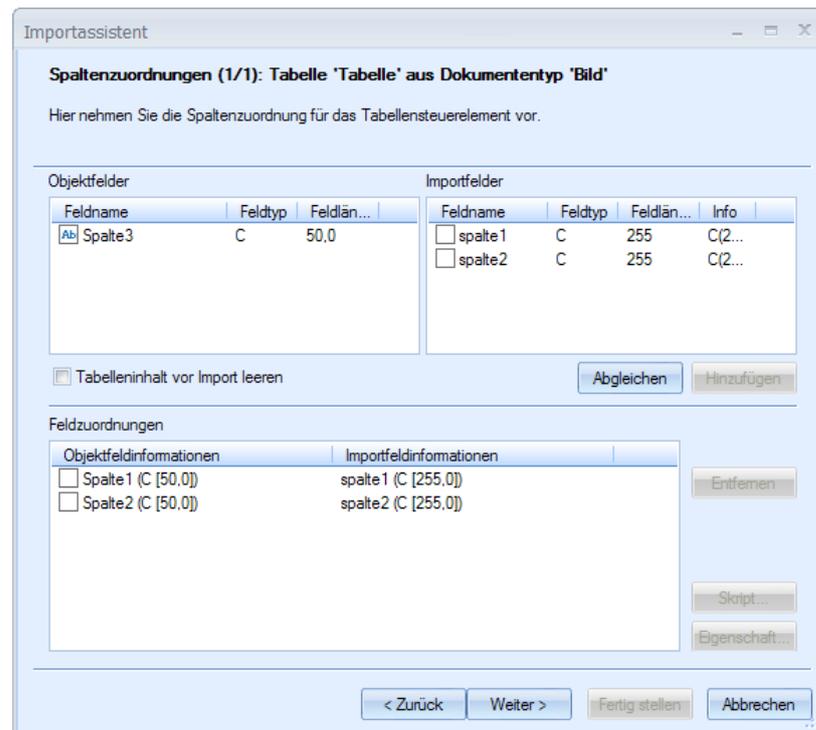


Doing so sufficiently identifies the import data, which can then be configured for the import target in the dialogs for field mapping.

Assign the 'table' object field to the 'table' import field. Both are displayed with their respective table icons.



Finally, you assign the columns of the 'table' object field to the columns of the import fields in the **Table control element – Column definition** dialog.



New data is always added to tables. If you don't want data added, select the option `Clear table content before import`.

The table must not be flagged as a search field.

Document files

When you import document files, the import data must contain their file names. To do so, the following possibilities are at your disposal.

- The import file contains the file name and the path.
- The import file contains only the file name, and the files are all in the same folder. The path to the folder is entered here during configuration.
- The import file contains only the file name, the files are in the same folder as the import file. The path to the folder need not be entered again during configuration.
- The import file contains the file name and a path relative to the folder which you specify here in the configuration.

The path in the configuration field ends with an '\', and the path in the import file must begin with a '\'.

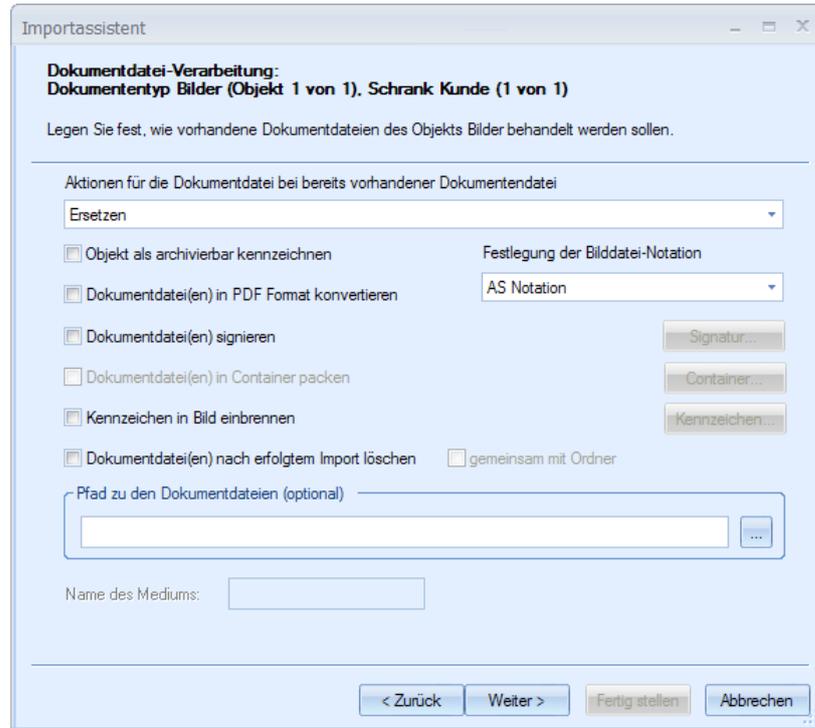
When importing image files for black & white, grayscale, or color document types, multiple image files can be assigned to any given document. Then, you specify whether the individual image file names in the appropriate field are separated by space characters or semicolons, or conform to AS notation.

AS notation corresponds to the notation used from the automatic action 'Data and Document Export' to export image files. Only the first image file is specified in the record and receives the extension 000. If there are files with similar file names and an incrementing hexadecimal number as file extension in a directory, these files will be imported as well.

A maximum of 4096 document files can be assigned to one image document.

This is specified in the **Document file processing** dialog after fields have been mapped to a document type.

Specify the notation and enter a path, if the import data contain only the file name and all are located in the same folder, but not in the folder containing the import file.



For the import, specify whether existing document files should be replaced, existing document files should be retained, or new document files attached to or put in front of the old ones.

Attachment is only possible when working with grayscale, color, or black & white images.

If black and white images are managed in multi-page TIFF format, attachment will lead to display errors in enaio® client. In this case, the option cannot be chosen.

When importing document files, neither the import process nor the enaio® server to which the data are handed over checks whether the document files are corrupt or whether they have been assigned to a document type which can process the file format. Errors caused by corrupt files or false assignments are not displayed until a user tries to open the document in enaio® client.

If version administration is turned on for the document type which serves as the import target, replaced document files are retained and can be viewed and restored using the editing history feature.

The following mappings of file formats to document types are possible:

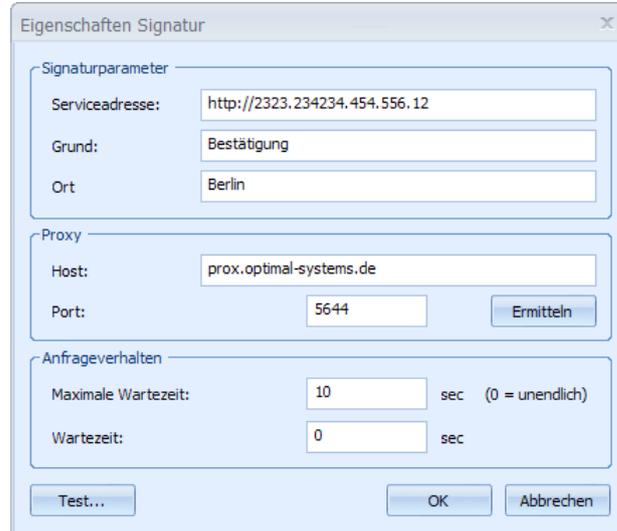
| Document type | Format | Main type |
|--------------------|------------------------------------|-----------|
| Grayscale images | JPEG / PDF | 1 |
| Black&White images | TIFF G4 / PDF | 2 |
| Color images | JPEG / PDF | 3 |
| Windows document | Format of the assigned application | 4 |
| Video | MPEG oder AVI | 5 |
| E-mail | MAPI or Message | 6 |
| XML Document | XML | 7 |

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. A ZIP archive, however, cannot exceed 2 GB in size.

If you select the option **Convert document files to PDF format**, the image files are converted to 'PDF' format. This option is only possible when mapping to windows or image document types. The configuration of this conversion is documented in the administration handbook.

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

The **Signature** button opens the configuration dialog:

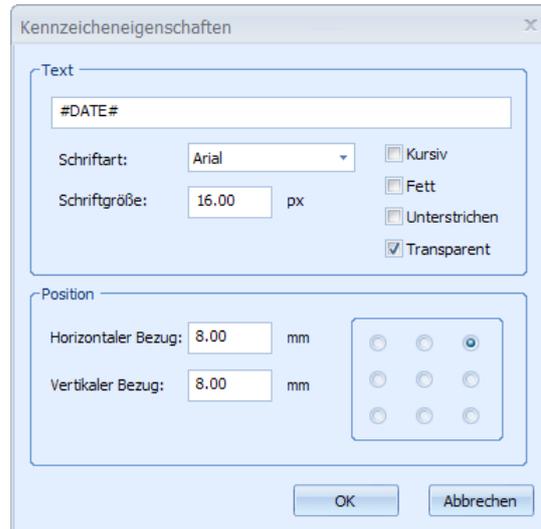


As you know from enaio® client, PDF files are signed and for other files a signature file is created.

You can give the produced documents the 'archivable' property and have the document files including their folders deleted after a successful import. Only those folders which are empty after a document file has been deleted from them will be deleted.

Documents available in TIFF, JPEG or PDF format may be specially labeled.

To use this feature, select the corresponding option and use the button to open the dialog titled **Flag properties**.



Enter the required text into the **Text** field. You can use the current import date (#Date#) and the current import time (#Time#) as a label.

Then set the font properties and the position. The position is specified graphically: left-aligned, right-aligned, or centered. You can have the label moved a specified number of millimeters from a selected position on the frame towards the center of the image.

Before every further import action, the label is burnt into a copy of each import data file.

Module-spanning document types are document types in which the user selects the module when creating a new document. If you create documents of this type through import, you must fill in the 'main type' system field with the number of the module in question. If you replace document files of existing documents with document files assigned to another module, you must also change the 'main type' system field accordingly.

If you change the main type of a document, cross-type references to this document will lead to errors. If multiple versions of a document exist, and this document's main type is changed, the opening and restoring of versions will also cause errors.

References to Document Files Using a System ID

Import data can be used to create documents to which no document files are assigned, but rather, references to the locations of document files.

The location can either be in an integrated third-party system, or a location in the DMS, where the document files are associated with another document type.

You can open such documents as read-only but cannot edit it.

These references are configured according to the specified location in the **System ID** dialog.

For cross-context references to document files in enaio®, enter 0 as system ID; for references to document files in another server family or an integrated third-party system, enter the system ID which was automatically assigned when setting up the virtual driver for this system.

Additionally, the import data need to contain the unambiguous ID of the document in the integrated system. Assign this ID to the 'Foreign ID' object field during field assignment. Using the system ID and the foreign ID, document files can be unambiguously located.

You can also create cross-type reference documents, by transferring the system ID from import records and mapping the 'System-ID' object field.

Cross-type reference documents and the reference target must be assigned to the same module. If a cross-type reference links to a document which has been assigned to another module by an import or through variant administration, the reference will lead to an error.

Fixed sections

With fixed fields, you specify data which should be included in every record and mapped to an object field during import.

Fixed fields can contain functions, for example, the current date.

The **Fixed fields** dialog comes after the **System ID** dialog.

Importassistent

Definition von Festfeldern

Hier können Sie Festfelder definieren. Festfelder können Sie Ordner-, Register- und Dokumentenfeldern zuordnen.

Festfeldname:

Festfeldtyp:

Wert mit Funktion hinterlegen

Funktion:

| Festfeldname | Typ | Funktion / Wert |
|--|---------|------------------------------------|
| fx zaehler | N (9,0) | Importdatensatzzähler (pro Import) |

They are used to specify a **fixed field name**, a **type**, and a **value**. The value can be determined by a **feature**.

The following features are available:

- **Date functions**
The current date at the time of import can be entered into an object field in various formats.
- **Import data counter**
You can use a counter. A number is entered into the specified object field; this number is incremented during the import sequence. Numeration begins at 1 again with every new import.
- **User/station number**
The current user who executes the import or the current number of the station on which the import is executed can be entered into an object field.
- **Object ID**
The unambiguous object ID which every object receives during import can be entered into an object field.
- **Current import file name**
The name of the import file. If you assign this function to the 'image file name' object field during field mapping, the import field itself will be mapped to the document. If it is mapped to another field, the name including path and file extension will be entered. If you have the name of the import file changed before import, this modified name including path and file extension will be entered.
This mapping is only allowed for the ASCII and XML formats.

Fixed fields are included in the list of import fields in the field mapping dialogs and can be mapped to object fields.

They are marked with a special symbol.

Fixed field with value

 Fixed field with function

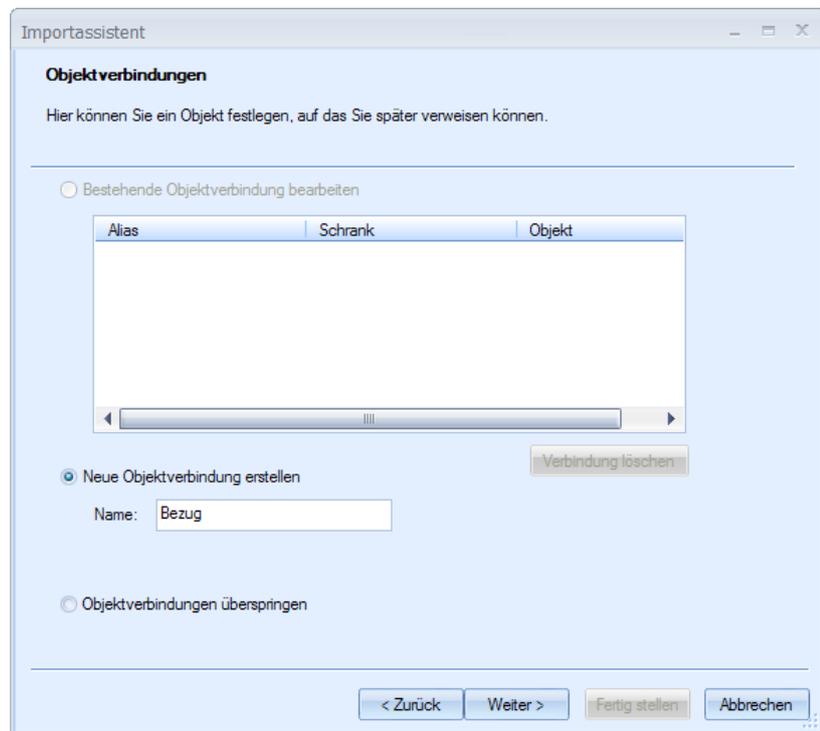
Notes

In enaio® you can connect objects you want to import with a note with other objects. The **Object connections** dialog comes after the **Fixed fields** dialog.

Object connections using notes

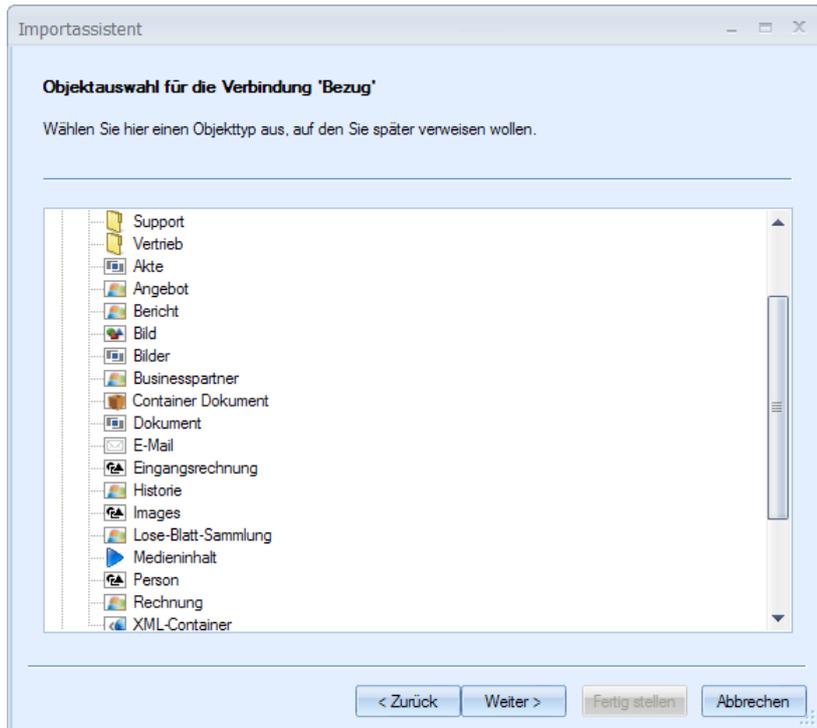
Object connections using notes are created as follows:

1. Select the option **Create new object connection** and enter an object connection **name**.



Click **Next**.

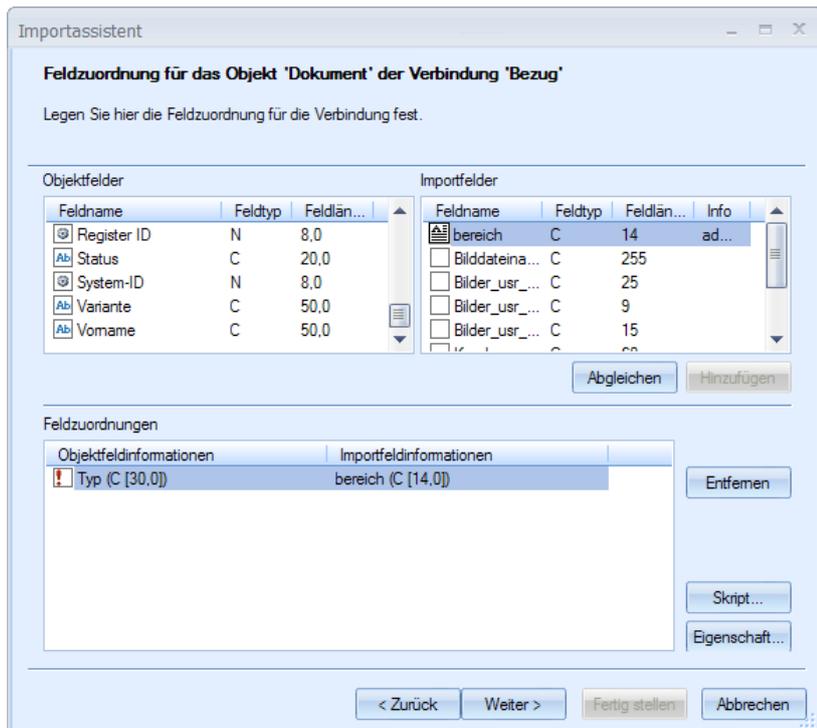
2. Select the object type to which you would like to refer through the notes of the imported documents.



Click **Next**.

3. Create one or more field mappings.

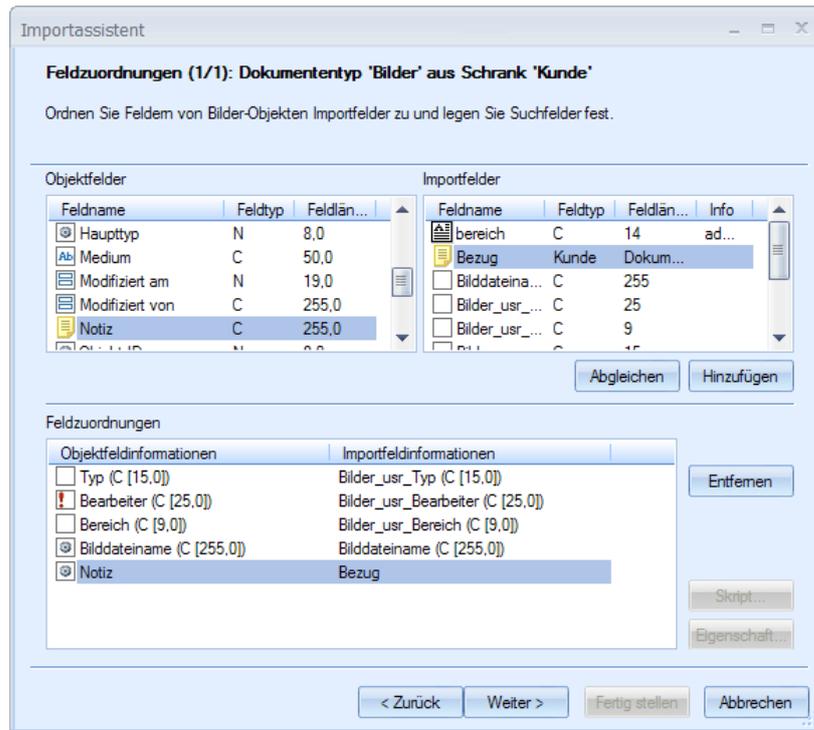
Use field mappings to specify import field data for searches in object fields of objects of the selected type. You can then use the notes of the imported documents to refer to the objects retrieved this way.



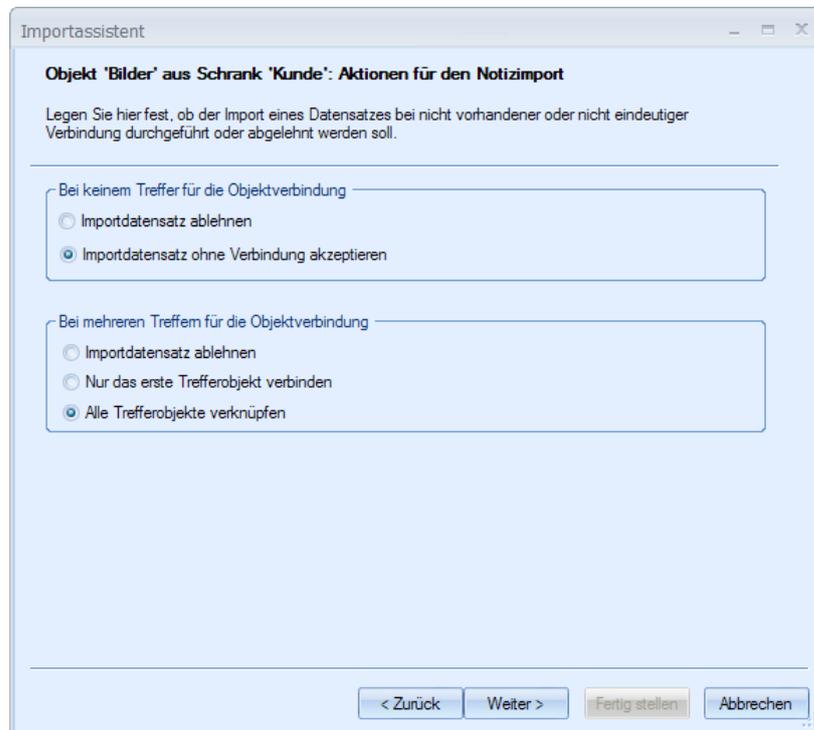
Click **Next**.

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 **Skip object connections** option and click **Next**.

In the import wizard's subsequent dialogs, map the 'Note' object field to the created object connection. Both are then flagged with a note icon.



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



DMS Objects and Field Mappings

After configuration administration and the specification of the import data, choose the objects which should be updated or created, and assign data from the object fields of the import records to the indexing.

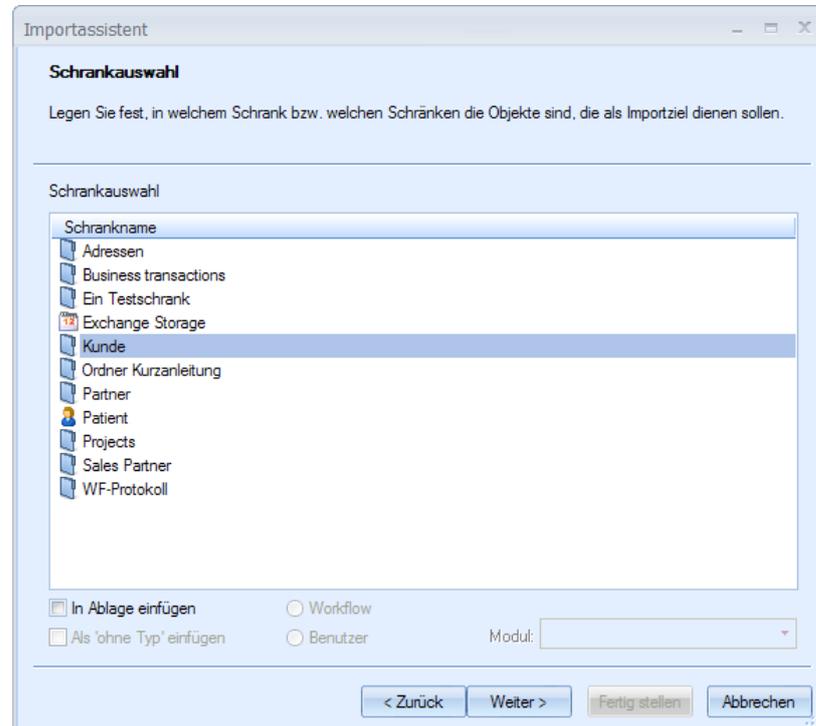
If you create registers and documents, you require a mapping with which locations for the objects can be determined or searched for. If you search for locations or objects which

should be updated, specify for each of these cases which object relations should be executed, if multiple or no hits are returned.

Documents can also be imported into a user's filing tray.

Object Selection

Object selection begins with the **Cabinet selection** dialog, in which you specify one or more cabinets into which created objects are to be placed.

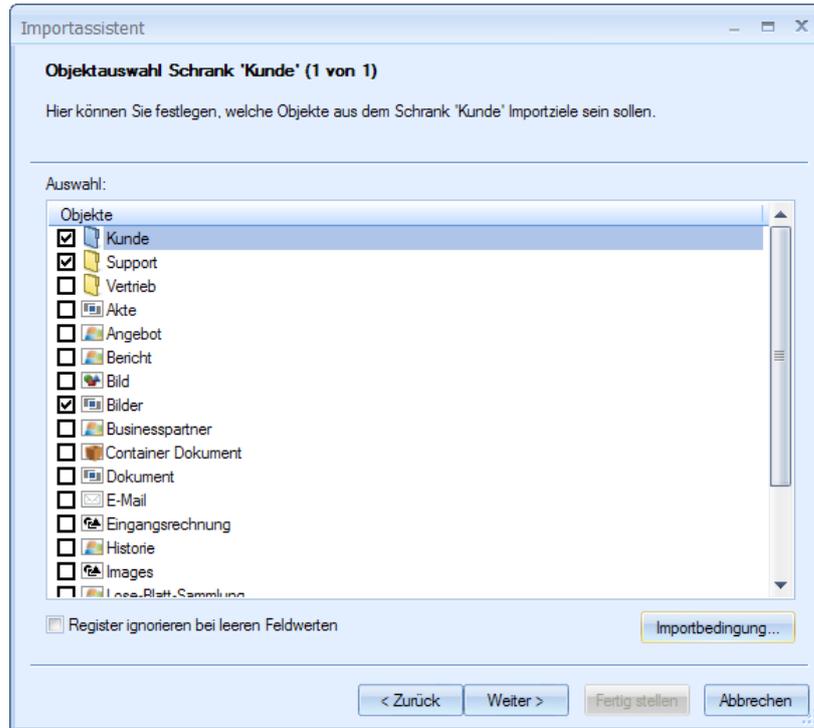


If you create documents, these can be inserted into a user's **filing tray**. In the following dialog, you select the standard user. The documents will be imported into the standard user's filing tray whenever no record field has been mapped to the object field 'User' or 'User ID'.

Create documents for the filing tray **without type** and specify the **module**.

If you want to import documents into the filing tray of a **workflow**, create new objects from the import data and assign import data to the variables of a workflow process. The new objects will be sent to the workflow file of the started workflow process. You can also configure any import to start a workflow process upon its completion.

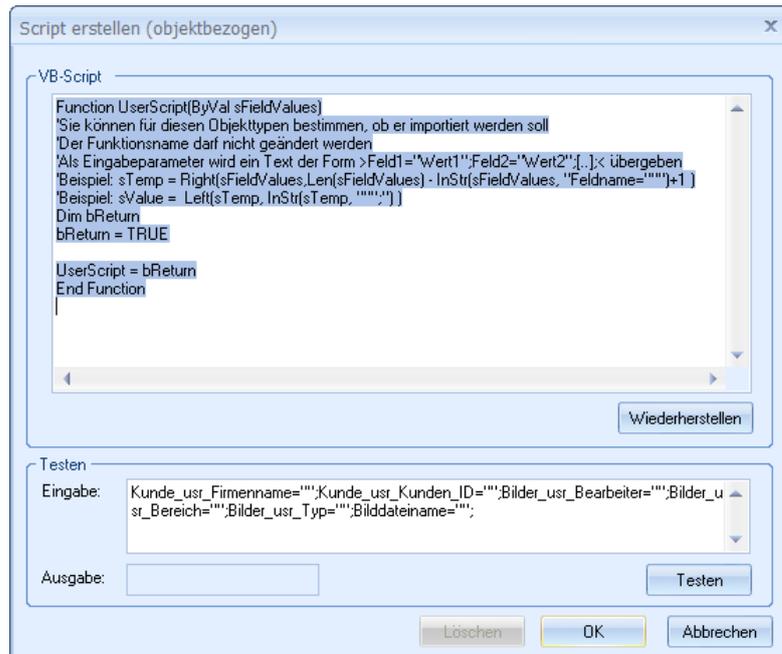
After cabinet selection, the Object selection dialog opens. Specify both the object types with which you would like to create objects and the object types with which you would like to search for a location.



If you enter, for example, only one document type, you will require the ID of a folder or a register, in which the documents are to be placed; or, you can configure a search, using search fields, which will find a document of the same place and automatically select its location.

If you select the option **Ignore register if field values are empty**, documents for which there are no register data will not be placed into an unindexed register, but into the parent folder.

Using the **Import conditions** button, you can include a script with import conditions for the selected object type.



This script can check whether the import data are convenient for this object type or not. Only if the return value is 'TRUE', the assignment will be further processed between import data and object type. Each data set will be checked by all scripts.

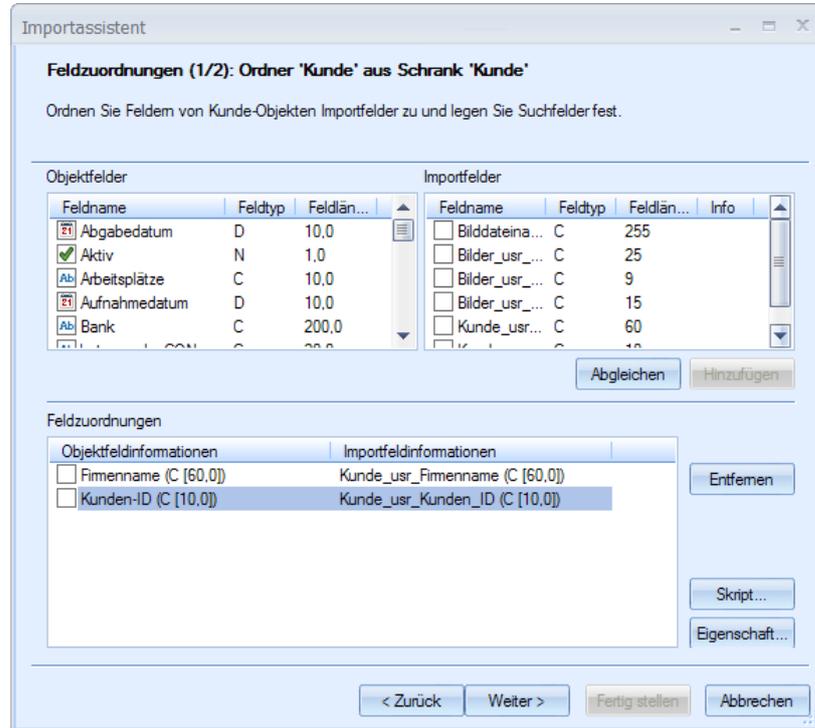
Using these scripts with import condition, heterogeneous data sets in an import file can be distributed among different object types.

If there is a script assigned to an object, the object icon will be flagged with an 's'.

For every object type which you specify in the **Object selection** dialog, an assignment dialog will later appear, in which you assign object fields to import data, either for searches alone, indexing alone, or both searching and indexing.

Field mappings

The **Field mapping** dialog lists the **object fields** for every selected object type and the **import fields** from the import records.



Both field type and field length are listed.

Fixed fields (see Fixed sections) and object connection fields (see Object connections using notes) are specially marked in the import fields.

The fields of the DMS objects are displayed as follows:

- TEXT BOX
- Number fields
- Decimal number fields
- Date field
- Check box
- Radio button
- Required field
- Key Field
- Note field
- Base parameter field
- System field
- User field for filing tray

You create field mappings by selecting one or more import fields, selecting an object field, and then clicking the **Add** button. The assignment will be listed in the **Field** mapping area.

If there are import fields and object fields with the same name which should be assigned to one another, you can use the **Synchronize** button to automatically create the corresponding assignment. If the name of an object field matches the syntax with which an export action is created, these object fields are assigned to import fields which match the field names of the exported fields.

If you are importing document files, assign the import field containing the file name (see Document files) to the 'image file name' object field.

When importing XML or ASCII data in which each file contains exactly one record, which should additionally be imported as a file, you can configure a fixed field with the 'Current import file name' function and assign this file to the 'image file name' object field. This file will then be imported.

If you assign a file name to the 'full text file name' object field, this file will be sent to the server for the full text indexing of the document.

The import wizard does not check, whether the assignment is inconsistent because of field types or field lengths. False data types may lead to import errors. Field values which are too long will be cut off during import. The import may lead to the creation of objects not containing any data in required fields or identical values in key fields.

Properties of Field Mappings

A selected field assignment can be further configured using the **Property** button.

You can specify that during an update already-indexed fields are not overwritten with empty import data.

If you have mapped an object field to multiple import fields, you can specify an **order** and a **separator** character. For fields with multiple lines a line-break can be used as a separator.

You can convert the text type of the import data to **upper-case** or **lower-case**.

If during, for example, an ASCII import with fixed field lengths, import data receive leading zeros, or space characters to the left or right, you can specify that these should be removed.

You can configure field replacements. To do so you enter a search text which, if contained in the import data, will be replaced by another value.

A field replacement is configured using the **Add** button.

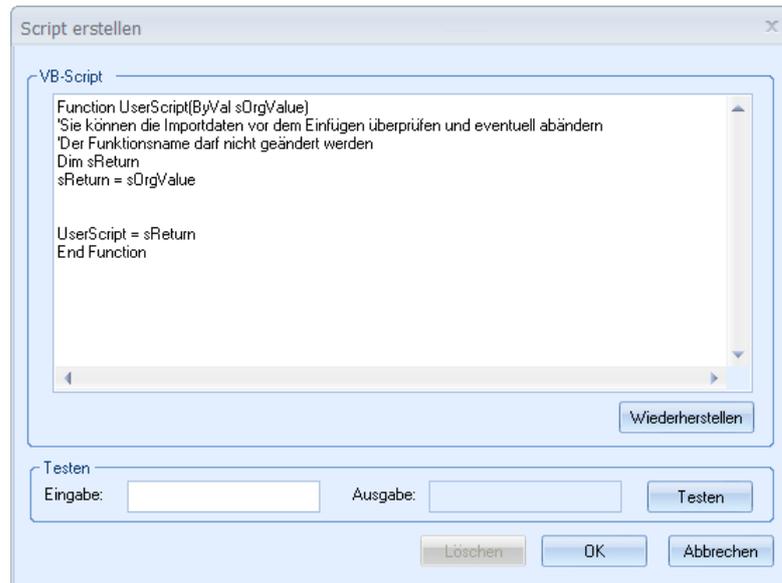
Place holders cannot be used for the search text, and substrings are not compared.

The configured field replacements are listed in the dialog.

Script

For every field, you can include a VBScript that will modify data during import.

To do so, open the **Script selection** dialog using the **Script** button during field mapping.



You can input the script yourself or load an existing script.

Field mappings to which a script has been mapped are flagged with an 's' in the **Field Mappings** dialog.

Search fields

Generally, search fields are required for an import. Using search fields

- enables you to search for an import location for objects,
- search for objects with data that need to be updated,
- check whether or not objects with the same index data do already exist.

Search fields are field mappings between import fields and object fields. The import field data are used to search over object fields. The results are displayed in a hit list. For every object type with search fields, a dialog is shown in which you specify the object relations to be executed in case exactly one hit, multiple hits, or no hit was found.

Field mappings which are created from the **Field Mappings** dialog can be set as search field using the context menu or the **Properties of Field Mappings** dialog.

Search fields are flagged with a red exclamation point.

If you set multiple field mappings of an object type as search fields, the searches will be connected with logical AND.

Field mappings between the key field of an object type and an import field are automatically set as search fields, although you can remove this property yourself.

Object Actions and Order

For every object type with search fields, you can specify the object relations to be executed in case exactly one hit, multiple hits, or no hit was found.

If you configure multiple object types with search fields, specify in which order objects will be searched.

New index records, and thus new objects, are created without search fields.

If versions administration is turned on for those object types which serve as the import target, the data replaced during an update are retained, and can be viewed or restored using the editing history.

Object actions

Object actions dialogs follow every mapping dialog, in which you have configured search fields.

Objektaktionen: Ordner 'Kunde' aus Schrank 'Kunde'

Hier legen Sie die Aktionen zu dem Objekt (Kunde) fest, die während des Imports ausgeführt werden sollen.

Aktionen festlegen

Bei einem Treffer oder bekanntem Standort

Indexdaten aktualisieren

nächste Aktion ausführen

Bei mehreren Treffern

Erstes Trefferobjekt nehmen und Aktion "Bei einem Treffer oder bekanntem Standort" ausführen

nächste Aktion ausführen

Bei keinem Treffer

Neuen Indexdatensatz anlegen

nächste Aktion ausführen

Suchfelder bei den Aktionen einschließen

< Zurück Weiter > Fertig stellen Abbrechen

Action when there is one hit:

- **Do not import active data records to this cabinet**
In the current cabinet, no objects are created or updated by the current data set.
- **Insert a new active variant of the hit**
The new document is stored as an active variant of the retrieved document. This option is only available for W-documents or module-spanning W-documents.
- **Insert as a new inactive variant of the hit**
The new document is stored as an inactive variant of the retrieved document. This option is only available for W-documents or module-spanning W-documents.
- **Update index data**
The index data for the retrieved objects are updated using the import data.
- **Do not update object data**
For the found object, neither index data nor document files are 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**
An the retrieved location, a new object with the indexing of the import record is created.
- **Create error message**
No hit is used and an error message is produced.

Action when there are multiple hits.

- **Do not import active data records to this cabinet**
In the current cabinet, no objects are created or updated by the current data set.
- **Update all hit objects**
All hits are updated.
- **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.
- **Create error message**

No hit is used and an error message is produced.

- **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.

Action when no hit is returned:

- **Do not import active data records to this cabinet**
Neither a new object will be created, nor will an existing object be updated.
- **Link first different hit to the current location**
This action applies when you want to import documents and a new location has already been determined at which there is a document of the same type and indexing. Then, a reference copy is created at the current location. Reference copies are documents with identical indexing and the same document file, and have different filing locations from which they can be edited equally.
- **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 the indexing of the import record will be created. The location will also be specified by the data from the index record.

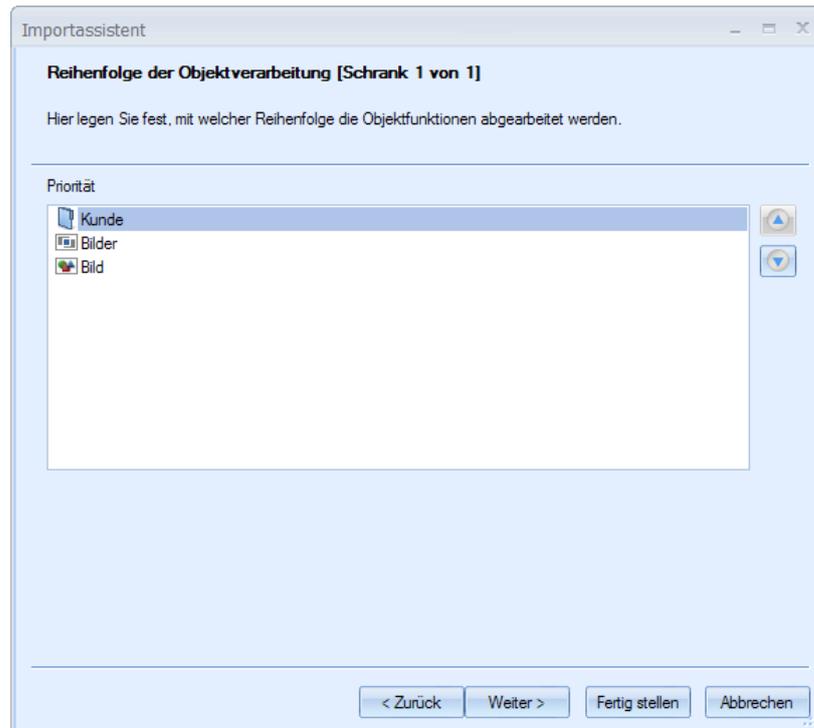
For each case it has to be defined whether or not to **Execute next action**. The next action is the search for objects in the order of object processing within a cabinet.

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

Order of Object Processing

If you configure multiple objects types with search fields, you specify an action for each object type, and also enter the order in which the searches and the evaluation of the assigned object relations take place.

If you configure multiple object types with search fields in multiple cabinets, enter for every cabinet the order of object processing.



The object actions for the objects which are in the first places on the list are executed first.

In an ordering, the object action is formed by combining searches in the form 'folder/register/document'. If, for example, a folder is found, the following register search is limited to the root level of this folder. Similarly, if a register is found, the following document search will be limited to the root level of this register.

If the order is formed as 'folder/registerA/registerB/document', after the folder search, register 'A' is searched then register 'B'. If register 'B' is found, the corresponding object action has higher priority than the object action associated with register 'A'. Searches for register 'A' and register 'B' thus are not combined, that is, no search for register 'B' in register 'A' takes place.

If the order is formed as 'document/folder', first documents are searched and the appropriate object action executed. If there you have specified for 'No hit' 'Create new index record' and no hit was returned, the location of the document is determined by the folder object action. If a hit was returned, the following folder action can be used to update the indexing of the folder in which the document lies.

Workflow Import

The data import can be used to start a new workflow process in two ways:

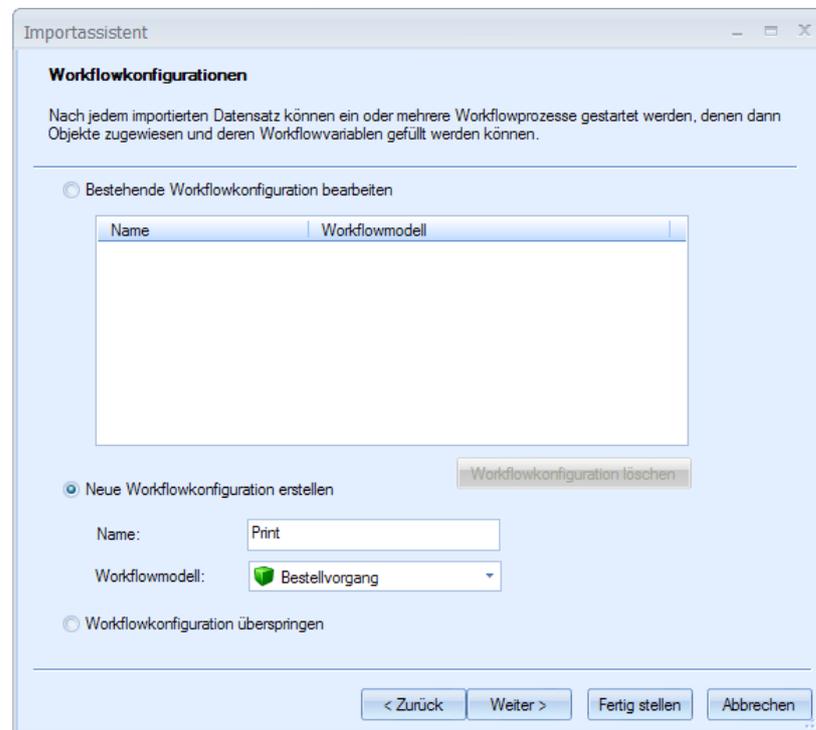
- You can take any data process and bind the configuration of a workflow process to it. The workflow process is then started, with import data mapped to the entry variables of a workflow process. Into the appropriate workflow file, references to objects created by the import data can be transferred.
- Select the workflow tray as import target, create documents from import data, and assign the entry variables of a workflow process to import data with which a workflow is started.

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.

The user whose account is used to integrate the workflow process into an import must be defined in the workflow model as the user who is allowed to start the workflow.

References of the objects created through data import can be inserted into the workflow file. After configuration of a data import, including mapping and the configuring of object actions, the **Workflow configuration** dialog appears.



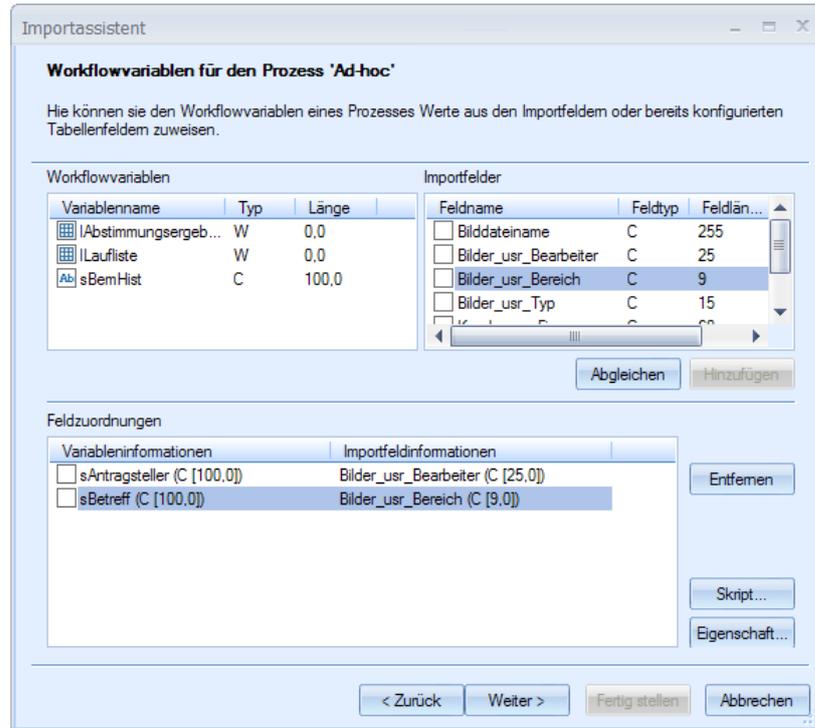
If you do not want to bind a workflow, select the **Skip workflow configuration** option.

You can create multiple workflow configurations. Those which have already been created are listed and can be edited.

If you want to bind a workflow, create a workflow configuration:

- Select the appropriate option.
- Give the configuration a name.
- Select a workflow model from the list of available workflow models.

In the following dialog, titled **Workflow variables**, the entry variables of the selected workflow model are listed, as well as the import fields.

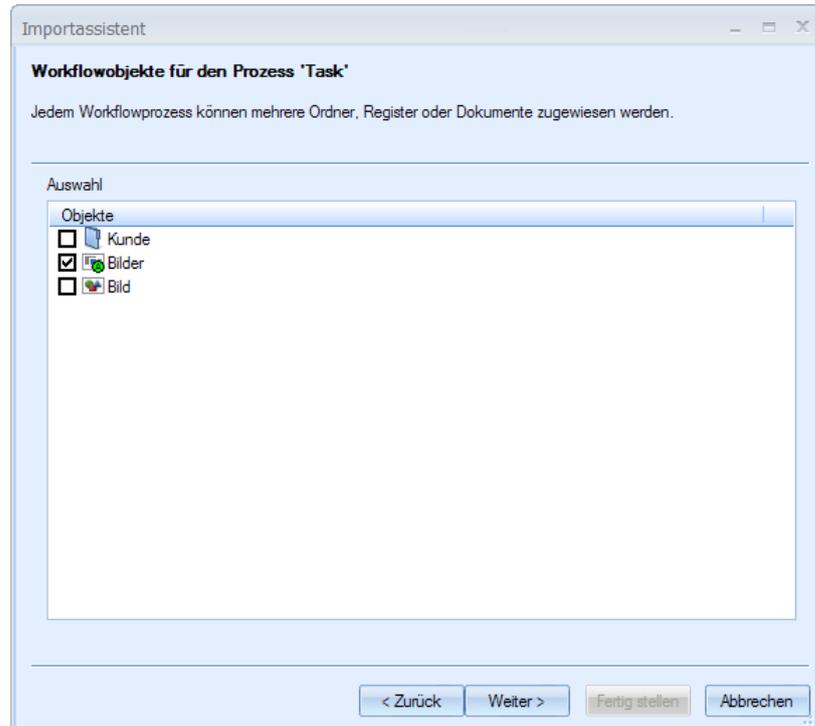


In a process similar to the field mapping (see Field mappings), you assign workflow variables to import fields.

You can assign a **script** with a field mapping, and from the Properties dialog of a field mapping, you can edit the contents of import fields.

In an XML data import, you can assign tabular data (see Data Import for the 'Table' Dialog Element) to a workflow variable of type 'List[Record]'.

Finally, specify whether references to objects created by the import of records should be placed in the file of the associated workflow process.



A record has one  workspace and one  information area. This area is specified using the context menu of an object.

Using the **Continue** button, you arrive again at the **Workflow configurations** dialog. There you can create additional workflow configurations or continue to the end of the configuration.

Workflow Filing Tray as Import Target

If you select the workflow filing tray (see Object Selection) as import target during object selection, you can use import data to create documents for the workflow file of a workflow process that is started upon transfer of import data.

For the workflow file, you can create documents of a document type with or without files or documents without type which consist only in a file and a module assignment.

Folders and registers always require a DMS location and can therefore not be created solely for the workflow file.

Workflow File: Documents without Type

If you create documents without type for the workflow file, also specify the image module in the **Object selection** dialog: black & white, grayscale, or color.

In the following **Field Mapping** dialog you can assign the import field containing the image file name to the **Image file name** object field. Further assignments of import fields to object fields for basic parameters are possible.

Afterwards, enter the necessary data for processing document files (see Document files).

The workflow configuration is carried out in just the same fashion a workflow process is bound to a data import.

Workflow File: Documents with Type

When you create documents without type for the workflow file, you can select the object type during the cabinet and object selection. During field mapping you assign object fields of the document type to import fields.

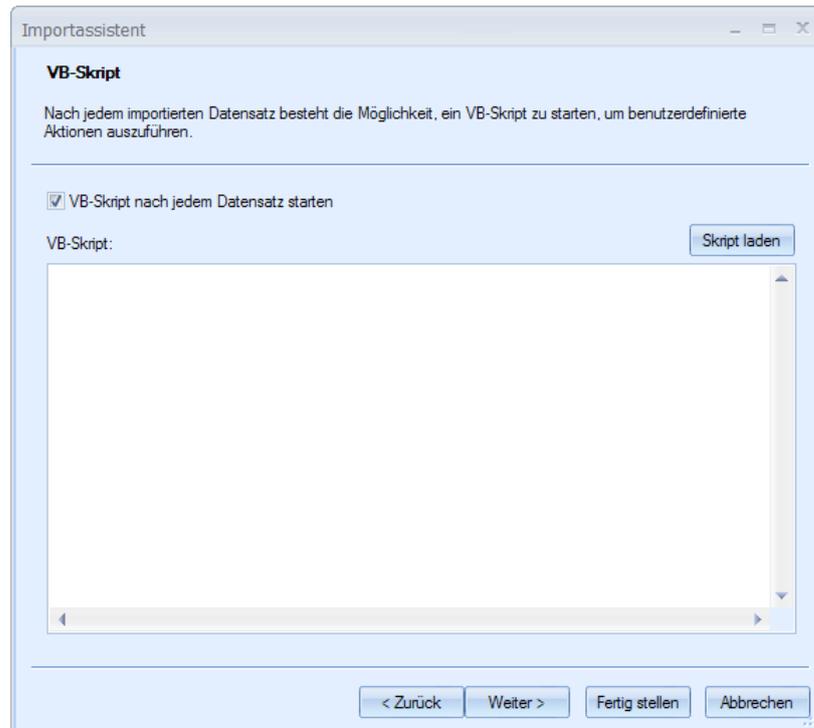
Afterwards, enter the necessary data for processing document files (see Document files).

The workflow configuration is carried out in just the same fashion a workflow process is bound to a data import.

VB Scripts

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

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



Record scripts can change the value of the variable 'RecordInvalid' from import data into 'true' in order to define the respective data set as corrupt (see Log Configuration).

Within data set scripts, the variable 'strFieldValues' allows you to access the field and fixed field values of the import file. According to the value content of fields and fixed fields, after import additional actions can be performed. For example, objects can be modified or linked to other objects.

The script offers global data as follows:

Variable: arrObject

Data type: array

Feature:

Informs about all DMS objects affected by this data set. The number of elements in the array is defined through the number of previously selected DMS objects. The first array element so indicates information on folder processing (usually, if object processing order was not changed), the second on register details (if registers are used).

Each array entry corresponds to an import objects and looks like this:

```
<folder type>#<folderID>/<register type>#<RegisterID>/<object type>#<object ID>:<action>
```

The action can contain these values:

0=no action, 1=update, 2=insert, 3=delete, 4=error

Examples:

- Example 1: folder: 1#123/0#0/1#123:1
- Example 2: register: 1#123/6488065#20/6488065#20:2
- Example 3: document in register: 1#123/6488065#20/65537#1024:2
- Example 4: document directly in folder: 1#123/0#0/65537#1024:2
- Example 5: document in WF tray: 0#0/0#0/65537#1024:2
- Example 6: typeless document in WF tray: 0#0/0#0/19660800#1024:2

The array with the above example details receives the following values if an imported data set includes a folder, a register, and a document:

```
arrObjects(0) = 1#123/0#-1/1#123:1
```

```
arrObjects(1) = 1#123/6488065#20/6488065#20:2
```

```
arrObjects(2) = 1#123/6488065#20/65537#1024:2
```

Variable: strFieldValues

Data type: string

Feature:

Field values of the data set, format:

```
<Field1Name>=<Field1Value>"<Field2Name>=<Field2Value"<...>;
```

Example:

```
ProjectNo="1234";responsible="James Smith";image file="c:\import\file1.tif";
```

If a field value includes the double quote, a second double quote will be added to it in front.

Variable: RecordInvalid

Data type: Boolean

Feature:

The return value controls whether a data set should be considered as successful or erroneous (default: FALSE).

Example for a data set script:

This script sets an imported document as 'archivable'.

```
Set server = CreateObject("OxSvrSpt.server")
Set session = server.Login("<login>", "<password>", "<ip-address>", "4000",
pwNotEncrypted)

'Browse all objects
For i=lbound(arrObjects) to ubound(arrObjects)-1

    sFullObjectActionInfo = arrObjects(i)

    'Separate action
    vArray=split(sFullObjectActionInfo,":")
    sFullObjectInfo = vArray(0)
    sAction = vArray(1)

    'Separate document
    vArray=split(sFullObjectInfo, "/")
    sObjectInfo = vArray(2)

    'Separate object ID and type
    vArray=split(sObjectInfo, "#")
    sObjectType = vArray(0)
    sObjectID = vArray(1)

    'Test for object type
    If sObjectType = "<object-type-id>" then

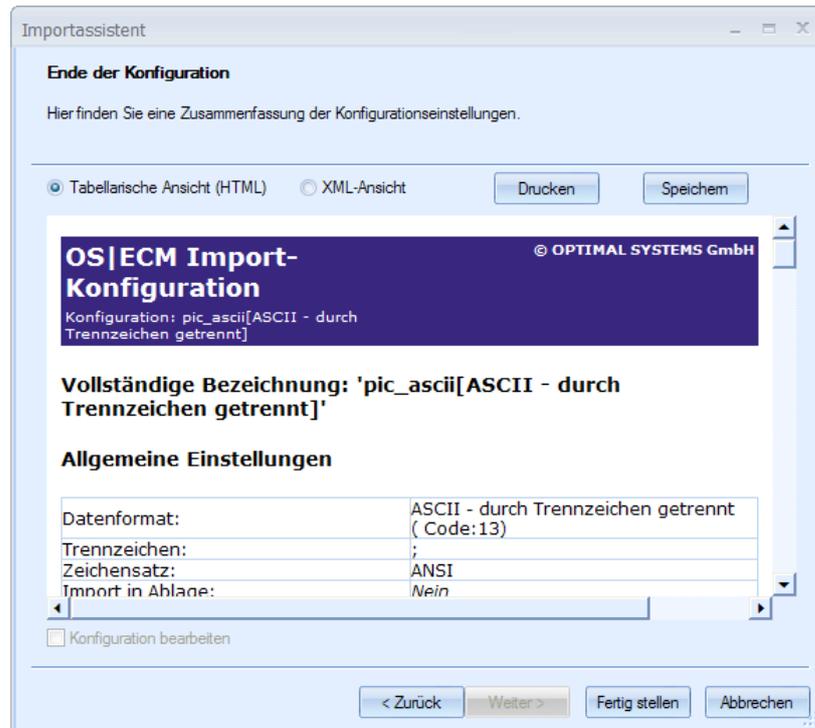
        'Set object to archivable
        Set job = session.NewJob ("dms.XMLUpdate")
        strXML = "<DMSData><Archive><ObjectType id="" & sObjectType &""><Object
object_id="" & sObjectID & ""></Object></ObjectType></Archive></DMSData>"
        job.InputParameters.AddNewStringParameter "XML", strXML
        job.InputParameters.AddNewIntegerParameter "Flags", 0
        job.InputParameters.AddNewStringParameter "Options", "Archivable=1"
        job.Execute
    End If
Next
```

'login', 'password', 'ip-address' and 'object-type-id' are configuration-specific data.

Completing the Configuration

With the configuration of the assignments and object actions, you have provided all necessary data. You can complete the configuration or make settings concerning the log and database statistics.

Finally, a summary of the configuration settings is always displayed.



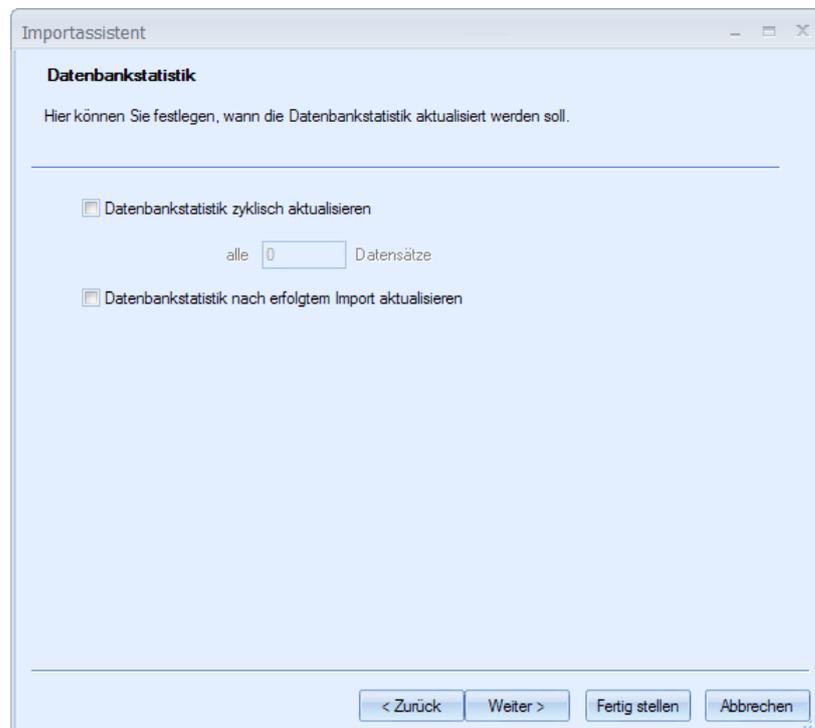
You can choose between a tabular and an XML view, and between saving and printing the summary.

When you click on the **Complete** button, the configuration is saved, the wizard ends, and the configuration is shown in the list of automatic actions.

Database Statistics

Database statistics have great influence on the performance of the database and thus the speed of the search.

Especially when the number of records is large, the database statistics should be updated at regular time intervals or after importing.



Log Configuration

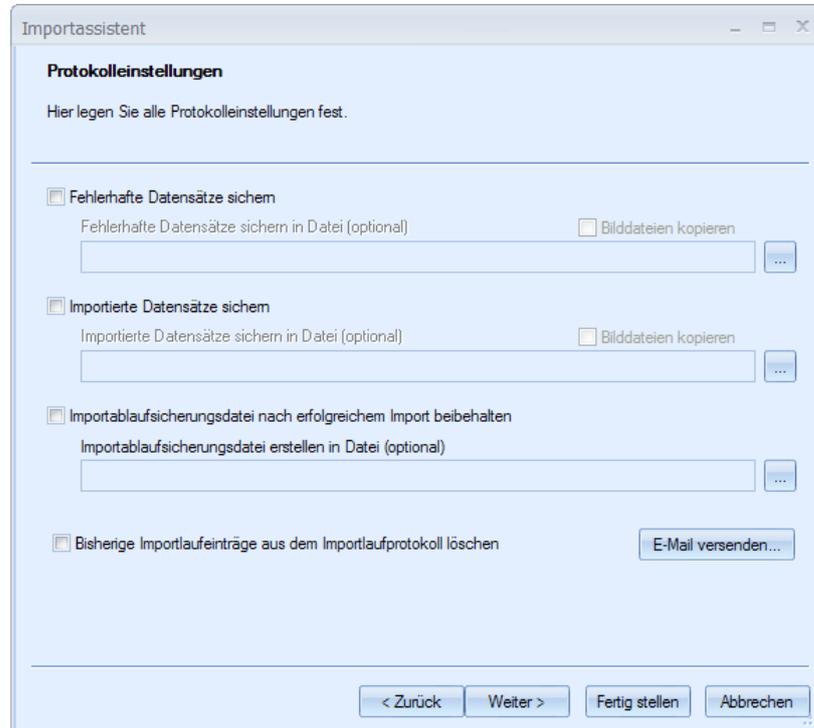
The automatic action 'Data/document import' logs, as in every component, according to the configuration settings from the application directory.

Likewise, the log file `osImpLog.xml` is written to the import data directory. Summaries for every import are written to this file.

If this directory is write protected, the log file will be placed in the cache area of the client:

`...\Documents and Settings\User\Local Settings\Temp\OSTEMP`

Additionally, records can be logged - however, only for ASCII imports.



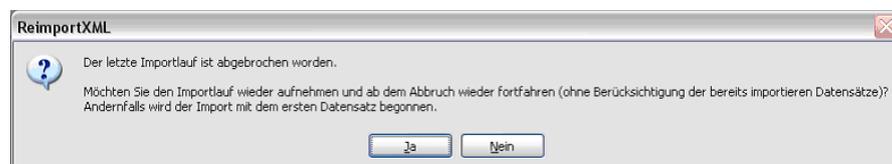
Erroneous records are written to the file named 'Importdateibezeichnung_err'. The file is saved to the same folder as the import data. It has the same format and file extension as the file with the import data. Copies of image files can also be created. Optionally, you can provide a path.

Correctly imported records are written to the file named 'Importdateibezeichnung_ok'. The file is saved to the same folder as the import data. It has the same format and file extension as the file with the import data. Copies of image files can also be created. You can also specify a path for these data.

You can have a process-backup file created. The file named 'Import_file_name_#.dat' is created in binary format and saved in the same folder as the import data. '#' stands for consecutive numbering. Using the XML log file and the process-backup file, an import which has aborted due to errors can again be continued at the point at which it aborted.

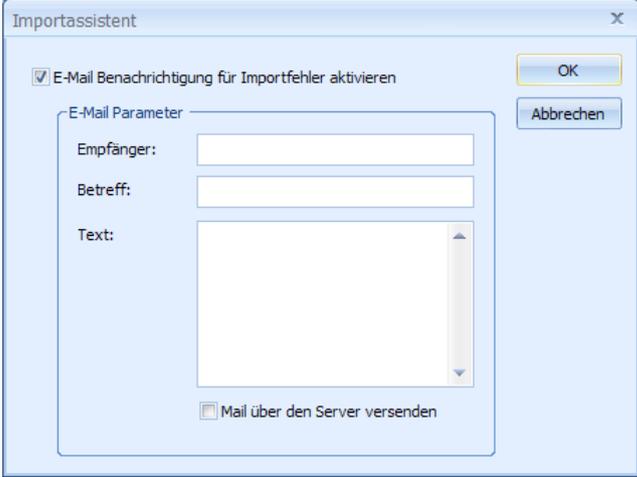
If you correct the erroneous data and start the import again, you can attempt to continue the import from the first erroneous record. Thus, records which have already been correctly imported are not imported again.

A confirmation dialog is displayed, in which you can choose whether to continue at the point at which the import was canceled or from the first record.



If you select the option **Delete previous import entries from import logging**, the log file, `osImpLog.xml`, will not be continually extended; rather, for every import only the last import summary will be saved.

Besides error logging, an e-mail message can be sent when an error arises.



Simply specify the recipient, subject, and body of the message.

E-mails can be sent via MAPI or the server.

XML Tag Extraction

With the 'XML Tag Extraction' automatic action, you can convert XML data into ASCII data. This action can be used, for example, when your XML data cannot be sufficiently configured for the XML import. The ASCII data which are created can be imported seamlessly.

For XML tag extraction, include the library `axacxmle.dll` in enaio® administrator on the **Complete system/Additions** tab, and create a configuration for the automatic action.

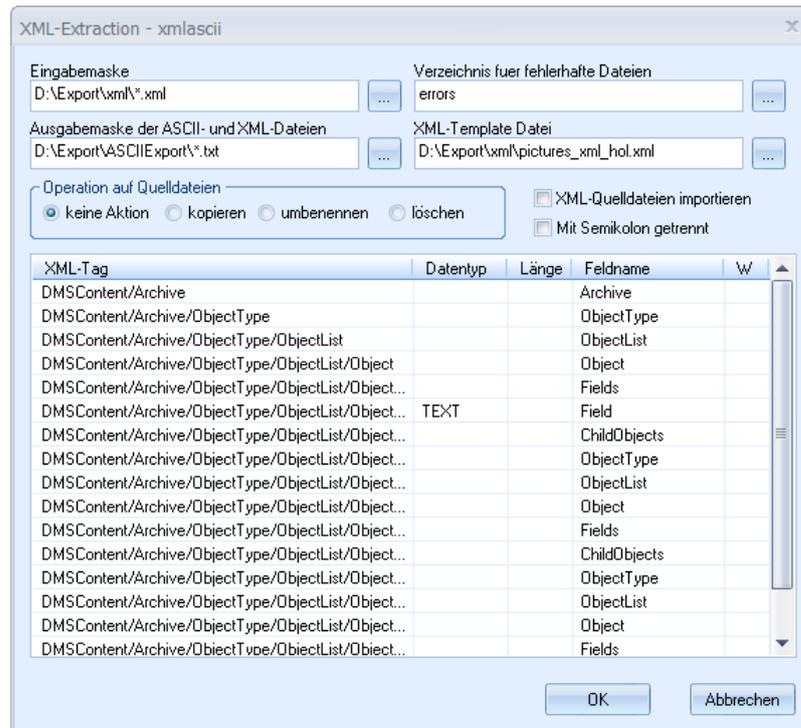
The configured action can be started like the other automatic actions using enaio® administrator or enaio® start.

You can include this action in an action sequence along with the XML import.

No additional license is required for the XML tag extraction.

Configuration of the XML Tag Extraction

The action is configured using the following dialog:



In the **Input form** field, specify the XML file which should be converted. You can use the wildcard character '*' if you want to convert more than one file.

In the **Output form** field, specify the path and the file name of the ASCII file which will be created. If you enter the wildcard character '*' for the file name, the name of the converted XML file will be used. If you also import XML source files, these will also be saved here.

The XML files which could not be converted are copied to the directory specified in the field **Directory for corrupt files**. The default value is errors, a directory which is created within the directory from the 'Input form' field.

In the **Operation on source files** field, specify how the source files should be processed. You can leave these data unchanged, copy them to the output directory, rename (*.bak) them, or delete them.

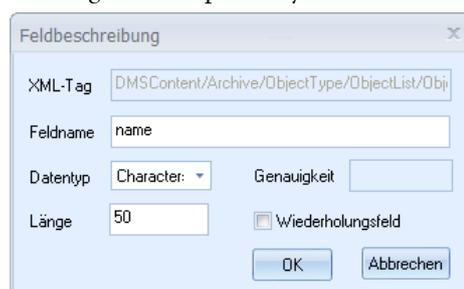
If you select the option labeled **Import XML source data**, a column is created in the ASCII file, (FileName C(255)) with the name of the source file.

If you select the option **Separated by semicolons**, the data in the ASCII file will be separated by semicolons. If you do not select this option, the data are converted with a fixed field-length. A header with the field name is always created. In the header, the field names are always separated by semicolons.

In the **XML template file** field, enter a file to be included in the import: either a sample file containing all tags, or an existing XML import file with the first record containing all tags.

The XML tags in this file are listed. For every tag, which should be evaluated for the ASCII file, specify a data type and length.

Related dialogs can be opened by double-clicking on the rows:



- XML TAG displays the tag name.
- FIELD NAME: here, you specify the name of the target field in the ASCII export file. The last part of the XML tag name is entered by default.

- **DATA TYPE** is a list, in which you determine the data type. Select between **CHARACTER**, **DATE**, and **NUMERIC**.
- **LENGTH**: for the **CHARACTER** or **NUMERIC** types, enter a field length. **DATE** allows only date values with fixed lengths.
- **PRECISION**: for **NUMERIC** fields, enter the number of places after the decimal.

XML transformation

With the 'XML transformations' automatic action, you can transform XML with the aide of an XSLT file. This action can be used, for example, when your XML data cannot be sufficiently configured for the XML import. The resulting XML data can then be imported or converted into ASCII data using the 'XML tag extraction' action.

To execute an XML transformation, include the library `axacxmlc.dll` in enaio® administrator in the **Complete system/Additions** tab, then create a configuration for the automatic action.

The configured action can be started like the other automatic actions using enaio® administrator or enaio® start.

You can include this action in an action sequence along with the XML import.

No additional license is required to use XML transformations.

Configuration of an XML Transformation

The action is configured using the following dialog:

In the **Input form** field, specify the XML file which should be transformed. You can use the wildcard character '*' if you want to transform more than one file.

In the **Output form** field, specify the path and file name of the output data. If you enter the '*' wildcard for the file name, the name of the transformed XML file will be used.

In the directory specified in the **Directory for corrupt files** field, the XML files which could not be transformed are copied. The default value is `errors`, a directory which is created within the directory from the 'Input form' field.

In the **Operation on source files** field, specify how the source files should be processed. You can have them left unmodified, renamed (*.bak), or deleted.

Finally, specify the XSLT style sheet with which the XML source files will be transformed.

If the action finds no XML files, an error is logged. The option **Ignore empty directories** prevents this.

COLD import

COLD Import – Overview

COLD data are imported using the 'ASCOLD Import' automatic action. For the COLD Import, describe the COLD data in the configuration, determine which data should be used for indexing and specify whether a document file should be produced.

Document files can be saved in 'TIFF G4' format, as a PDF or as an ASCII COLD file. An ASCII COLD file consists of an ASCII file with the COLD data, a file with position data for the COLD data, and optionally, background images. These data are combined into an image file when displayed in enaio® client.

Using the import wizard you can specify the object selection, field mappings, and object actions.

For the COLD import, you must include the library `axcold.dll` in enaio® administrator on the **Complete system/Additions** tab, and create a configuration for the automatic action.

The configured action can be started like the other automatic actions using enaio® administrator or enaio® start.

You require a 'COL' licence for COLD imports.

COLD Import – Configuration

The 'ASCOLD Import' automatic action is configured in the following dialog:

The dialog is divided into five areas:

- Environment
Specify the source file, determine what will happen after editing, and specify a temporary path.

- Document structure
Specify the composition of the source document, with the possibility of defining a file header and the way in which multiple documents are separated in the source file.
- Page separation
Define at which point, in a document to be read in, new pages begin.
- Page Composition
Determine the basic data for page composition. You specify how many columns and lines are in a page and which areas can be ignored.
- Storage
Configure the template type for the data, the layout for document files, and the fields to be produced. These import fields are then assigned to DMS objects using the import wizard.

The configuration can be created with the help of a sample file. Using this file, you can test whether the file is properly divided into documents and pages and if the fields were properly identified.

Environment

In the **Environment** area, specify the path and file name of the **source file** for the COLD import. If the data to be processed are not in a single but in multiple files, you can use the wildcard character ('*') when specifying the source file. In this way one configuration can process an entire directory.

You also have the possibility of specifying what should be done with the source file after processing finishes:

- Delete source file after processing
- Rename source file after processing
- Keep source file after editing

Renaming or deleting the source file after the COLD import may be useful to avoid importing the same source file twice. This is likely to arise during cyclically-started actions.

A source file, which contains many documents, so that the COLD transfer requires several hours and may need to be interrupted in certain circumstances, should be prospectively retained, until the action is securely completed.

A **Status file** can be used for the coordination of processes. The import inserts one of the following numbers into the status file.

- 0 Ready
- 1 in progress
- 2 Error during processing

The specification of a status file is optional.

A **temp path** must be specified. In the temporary path, imported data are temporarily cached.

For COLD data which – due to their complexity or special preparations for a specific kind of printer – cannot be processed using other configuration possibilities of the COLD import, a DLL interface can be run at this point, allowing external functions for the conversion of the spool file to be executed before the COLD import. Select the converter DLL, which OPTIMAL SYSTEMS can create for you, using the file selection button on the right border of the input field. A **converter** which has been specified here will always be used before the COLD transfer starts.

Document structure

Dokumentaufbau
 Header Bytes
 Trennung
 Seitennummerierung
 Spalte:
 Zeile:
 Länge:

In the **Document structure** area, you can enter the length of the file header in bytes; this amount of data will be cropped.

If the source file contains more documents, specify how the documents should be separated.

Separation may take place based on one of the following criteria:

- **Pages**

Specifies that the separation of documents occurs every x pages. "X" is a natural number that you enter in the **Pages per document** field.

Dokumentaufbau
 Header Bytes
 Trennung
 Seiten
 Seiten pro Dokument:

- **Page numbering**

Specifies that the criterion for separation should be the page numbering. In this case, a new document begins exactly when the value of page numbering is less than or equal to the previous value. Specify the position and length of the page numbering within a page using the Column, Line, and Length fields.

Dokumentaufbau
 Header Bytes
 Trennung
 Seitennummerierung
 Spalte:
 Zeile:
 Länge:

- **Empty pages**

Specifies, that after an empty page a new document begins. The empty pages are removed during import.

Dokumentaufbau
 Header Bytes
 Trennung
 Leerseiten

- **Key fields**

Specifies that a new document begins exactly at the point where a key field is found. Key fields are handled separately during import, so that the last value of this field can be saved and later used for comparison. You can thus control the import based on the values of certain fields. The key field must be set as such in the Tray area using the Fields function.

Dokumentaufbau
 Header Bytes
 Trennung
 Schlüsselfelder

- **Key word**

You can also use a keyword, which appears at the beginning of a new document, as a criterium for separation. Enter the keyword which should be searched for in the Name text field, keeping the capitalization used in the source text in mind. The Y Position specifies the line of the source document, at which the keyword can be found. The rows are numbered according to the entries in the Page composition area. The entry in the X Position, a column, is not evaluated.

Dokumentaufbau

Header Bytes

Trennung

Name:

X-Position:

Y-Position:

Page separation

Seitentrennung

Zeilenummern

Typ:

Bezug:

Spalte:

Länge:

In the **Page separation** area, specify the criteria used to decide where the pages in a document are separated.

- **Automatic**

The page separation takes place according to the entries in the **Page composition** area (lines per page), or through a control character for a page-break in the source document – ASCII code 12 for a form feed.

- **Line Numbers**

This specifies that the page separation is based on the number of lines per page. Required is some kind of line numbering within the source document. A new page begins when the value of a line number is smaller or equal to the value of the previous line number.

In the **Type** area, you can select the type of line numbering. Numeric means, that the line numbering is read as numbers.. Alphanumeric means that the value of a line number is interpreted as text. Besides numerals, letters may also be included in line-numbering. When using the alphanumeric type, keep in mind that line numbers with more than one decimal place are sorted based on the value of the first-read numeral; thus, leading zeros must be used to make sure, for example, that 11 comes before 2.

The **reference** determines when the next data row in an image begins. **Absolute** means that the line number in the source document is identical to the line number in the image. That means, that at line number 1 in the source document corresponds to the first row of the image. If the next line number in the source document is 3, an empty row will be inserted into the image, and a row 3 will be filled with data.

If the reference is set as **Next relative line**, the line numbers in the source document are used to jump around the image. Thus, if a 1 is present in the first line of a source document, this will be interpreted as the first row. If there is a 4 in the next line, this line will be interpreted as row 5 (1+4). The rows between them (in this case, rows 2 and 3) will be inserted as empty rows.

Column and **length** specify the position of the line numbering in the source document.

- **Key Field**

You can provide a key field for the page-separation characteristic. When this key field is found in the text, a new page begins.

In the **Name** field, enter the value of the key field, that is, the text in the source document. The **X Position** and **Y Position** fields determine the beginning of the new pages relative to the key field. Only positive whole numbers are possible.

Example: if you enter a 4 for the X position and a 10 for the Y position, the new page will begin four columns and ten lines before this key field. For this calculation, the column and line numbers refer to the source document.

Page Composition

| | |
|---|------|
| Header | 0 |
| Links ignorieren: | 0 |
| Rechts ignorieren: | 0 |
| Spalten pro Zeile: | 80 |
| Zeilen pro Seite: | 60 |
| Tabgröße: | 1 |
| Zeichensatz: | ANSI |
| <input checked="" type="checkbox"/> Daten mit Zeilenumbrüchen | |

In the **Page Composition** area, you can specify the key data for page composition. You specify how many columns and lines are in a page and which areas can be ignored.

- **Header**

In the **Header** input field, specify the length of the page header in bytes; this amount of data will be cropped. The size of a line break is 2 bytes (CR and LF).

- **Ignore left**

Determine, how many columns should be ignored on the left border of a line. The data in this ignored space in the source document (control data such as row numbers) will not become part of the bitmap.

- **Ignore right**

Defines how many columns are to be ignored on the right border of the line.

- **Columns per row**

Determines the maximum number of columns per line.

- **Rows per page**

Determines the maximum number of lines per page.

- **Tab size**

Determines tabs size. Columns are used as the unit, and tab control characters in the source document are converted into the appropriate number of empty spaces.

- **Character set**

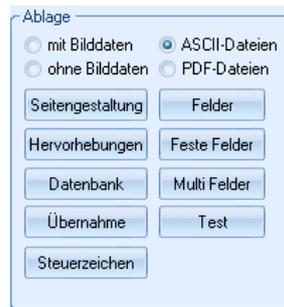
Determines which character set is used in the source document. The selection comprises:

- ANSI
- OEM
- CTM
- EBCDIC

- **Data with line breaks**

Determines that control characters for line breaks (LF) are used in the source document.

Storage



In the **Storage** area, define the storage type for the data, the layout of document files and the fields which are created for the purpose of being indexed.

Storage types

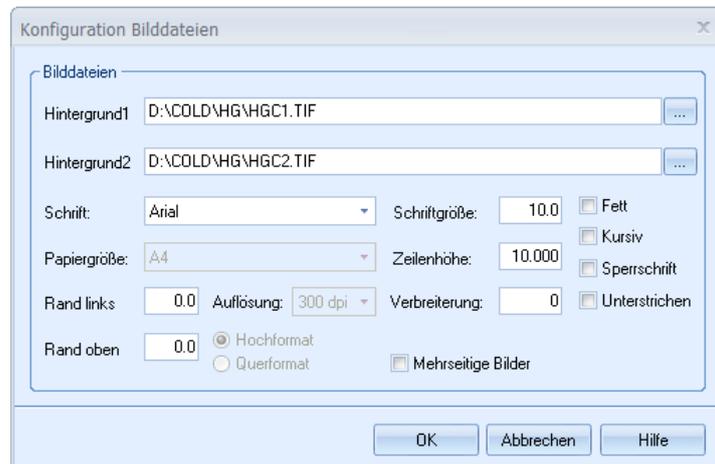
The storage type is chosen using the following options:

- **with image files**
The DMS objects created by the COLD import are given indexing and document files. The generated document files are stored as image files in the "TIFF G4" format.
- **without image files**
The DMS objects created by the COLD import are given indexing but no document files. Thus, folders, registers or documents without pages may be produced.
- **ASCII files**
The documents created by the COLD import consist of two files, an ASCII file with the COLD data and a file with the positional data.
In the object information of an ASCII COLD document, the page count always appears as '2' in enaio® client.
If an ASCII COLD document in enaio® client is edited, it will be saved in 'TIFF G4' format.
When archiving an ASCII COLD document, the ASCII file and the file with the positional information are archived, but not the optional background files.
- **PDF files**
Instead of using 'TIFF G4' format, image files can be stored in PDF format. PDF documents must be assigned a Windows document type upon import.

PDF document with a maximum of 50000 pages can be generated. For documents of this size a computer with at least 1 GB of RAM is required.

Page layout

The **Page layout** button opens the **Image file configuration** dialog.



In this dialog, you determine the layout of the image files to be generated. You also name the background images and set the font and size. The following specific settings can be made:

In the **Background1** field, specify the image file which should be used as the background image of the first page. If you do not specify a background image, the background of the image will be automatically shown as white. **Background2** determines the image file used as the background image for the second and all following pages.

Once you have selected one of the background images, the page format will set automatically, based on this image, to **portrait** or **landscape** orientation. When doing so, please keep in mind that the page format of **Background1** takes precedence over the page format of **Background2**.

In the **Font** and **Font size** fields, you determine the layout of the text for the image files which will be created. Using the **Line height** field, you can specify a separate line height. Please keep in mind, that the line height should never be smaller than the font size. Additionally, you have the possibility of entering a value into the **Broadening** field, which offsets the character spacing by this value. The text height remains unmodified. All three entries are specified in points. By clicking in the checkbox for the text attributes **Bold**, **Italics**, **Spaced type**, and **Underlined**, you can assign the corresponding attribute to the selected font.

If you have selected no background image, you have to specify the **paper size** for the image file. If you have selected a background image, the field is automatically filled with the appropriate dimension of the background image. The field, then, is not editable. The same applies to the **Resolution** field. In this field too, you can only specify image resolution (between 50 and 600 dpi) if no background image has been selected. You can also determine the values for **Left border** and **Top border**. These data are specified in millimeters.

If you select **Multipage Images**, all pages of a document will be combined into one file in the 'Multipage TIFF' format.

Background images for ASCII COLD files

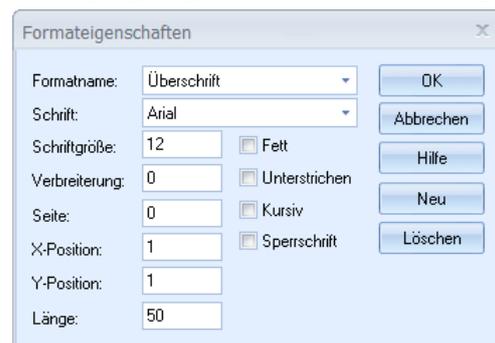
In OS:4.0 SPI and later, background images specified for ASCII COLD files will be copied to the directory `... \server\etc\ASCII-Cold\` and receive the name 'Configuration name'-'file name'. This name is saved in the file for positional data.

When working with ASCII COLD files which were created with versions earlier than OS:4.0 SPI, the first time a file is opened, the background image is transferred to enaio® server and copied to the directory `... \server\etc\ASCII-Cold\`. The name is created using the path and the name of the file. In doing so, drive letters, colons, and all front-slashes and back-slashes are removed.

If you change the background images for ASCII COLD configurations, the images must be saved under another name. Otherwise, existing ASCII COLD documents will be displayed with the new background image in enaio® client.

Highlighting

The **Highlighting** button opens the **Format properties** dialog.



You can define text formats for areas of the image file which will be created.

In the **Format name** field, select an existing configuration with settings to be changed, or enter a name for a new configuration by pressing the **New** button. In the **Font** list box, any of the fonts installed on your system can be selected. The **font size** is specified in points. In the **Broadening** field, the character spacing can be set independently. This value is also measured in points. Under **Page**, specify the page of the image file to which this format should apply. The following special codes are used:

- Page = 0 on every page
- Page = -1 on the last page of the document

All other values specify the exact page of the document. The position of the format area is defined by entering values for the **X** and **Y Position** (in columns and lines). With the **length**, you specify the number of columns to which the format should apply.

If you use highlighting, you cannot use any control characters.

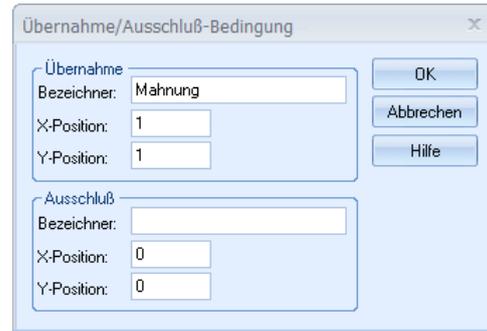
Acquisition

When you use source files which contain distinct documents, you are able to have them separated by defining an identifier which distinguishes the documents from one another.

For example: you have a source file which contains both account statements and collection letters. To only import the collection letters, enter the term 'collection' in the **Identifier** field, and this will be used as an acceptance condition.

On the other hand, you can also use an identifier to exclude documents from being imported.

Using the **Acceptance** button, open the **Acceptance/Exclusion** dialog.



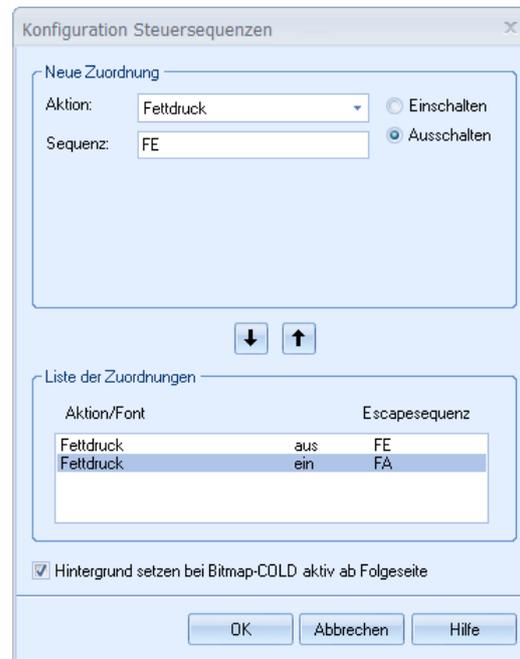
There, fill in the identifier field with the terms which should serve as an acceptance or exclusion criterion. With **X** and **Y Position**, you specify the position of the identifier with respect to the first page of the document.

If both fields contain the value 0, the entire first page of every document in the source file will be searched.

Control characters

Using the **Control characters** button, open the dialog for the definition of escape sequences. Using escape sequences in the COLD data, formatting can be transferred. Escape sequences are made up of escape characters (ASCII code 27) followed by an arbitrary number of arbitrary characters.

If you use highlighting, you cannot use control characters. Underlines cause layout errors in the 'PDF file' filing type. If underlines are required, you can select the filing type 'with image data' and convert the file into PDF format when importing.



Select the action, which should be triggered by the escape sequence, whether this action should be turned on or turned off, and the characters which follow the escape character.

The arrow button is then used to add the assignment to the list.

You can choose from among the following actions:

- **Bold print**
- **Italic print**
- **Underlining**
- **Double print**

- **Broad print**
- **Narrow print**
- **Ignore sequence**

This action should be chosen when the document contains COLD data escape-sequences which you do not want to use for formatting. Escape-sequences which are thus defined are deleted from the COLD data. Give the action the property 'turn on'.

- **Font**

If you choose 'Font' as the action, specify a font property.

- **Set standard values**

With this action, all formatting caused by escape sequences are returned to the standard values. Give the action the property 'turn on'.

- **Set background**

This action determines the background image for the current page of the document and for all following pages. Give the action the property 'turn on'. If you configure the action without specifying a background image, the action will cause reversion to the standard background image. At the beginning of a new document, the program automatically reverts to the standard background image.

If you want the background image applied starting at the following page, checkmark the appropriate option on the dialog.

This action is not possible for ASCII COLD files.

- **Rows per inch**

Specify the number of lines per inch.

- **Characters per inch**

Specify the number of characters per inch.

Fields

By defining fields, you can specify which COLD data in a document should be used for indexing. These fields are assigned to DMS object fields using the import wizard. When the data are imported, DMS objects are created and indexed with the values of these fields.

Using the **Fields** button, open the **Field properties** dialog.

Using the selection list of the **Field name** field, you can select fields which are already set up and edit them. The **New** button is for the creation of new fields.

Fields can be set up as key fields. Key fields have a special function during document composition and page separation.

Enter the following data:

- **Field name**

A maximum of 128 characters (letters and numerals) can be used for field names.

When choosing the name you may wish to refer to the name of the field in the enaio® object definition, with which this field will be associated.

- **Type**

Using the **Type** list box, define the data type of the field (**alphanumeric**, **numeric**, **date**, or **decimal**).

- **Defaults**

The value which you enter in the **Default** field is used when no field value is found in the document. The value you enter must match the data type.

- **Start name**

Under **Start name**, you can execute a string of the source file which will be searched for to identify the field value. The following positional data are relative to the location of the first character of the string where it is found.

Multiple start names are separated by the pipe icon (|).

- **Page**

In the **Page** field, specify the page of the source document on which the field is found. The following special codes are used:

Page 0 on every page

Page -1 on the last page of the document

- **X Position/Y Position**

Specify the position at which the field begins, in columns and rows.

- **Length/height**

The length specifies the number of characters in a row which should be taken as a field value. The height specifies the number of rows from which characters should be taken.

- **Field length**

The field length is the maximum length of the field. This value can be greater than the value determined by the specified length and height. If it is smaller, some characters will be truncated.

Fixed fields

Create fixed fields using the **Fixed fields** button. Fixed fields can also be created with the help of the import wizard.

Specify a field name, the data type (**alphanumeric**, **numeric**, **date**, or **decimal**), and the value. If you select the **Set value with function** option, date functions are available for the field value.

The **Import file name** feature returns the name of the source file including its extension. In this function, the path does not form part of the file name.

The **Page number** feature returns the page count.

If you set up a fixed field with the **Full-text file name** feature, the import produces a text file with the content of each document which can then be used for full-text indexing. In the import wizard you can assign this fixed field ('full text file name') to the object field with the same name (see Field mappings). During import, the generated text file will be forwarded from enaio® server to the integrated full-text server for indexing.

Multi-Fields

The **Multi-Fields** button lets you set up multiple fields. Multiple fields allow for the indexing of individual pages of image documents in the DMS.

As in other field definitions, you have the various field types at your disposal (alphanumeric, numeric, date and decimal). The **Rows** value is used to specify how often the multi-field appears on one page. If you enter the value '0', the area over which the field search is carried out will be expanded to the end of the page.

The value for **reference** determines how the multi-field is to be found in the source document. There are four possible references.

Reference: Relative Page Position

Using this option, the values of **X Position** and **Y Position** (in columns and rows) specify the exact position of the multi-field within the source document.

Length (in columns) indicates how many characters, starting at the X/Y position, should be read as a value for the multi-field. In the **Page** field, you can specify the page number within a source document; page 0 means that the field should be searched for on all pages.

The **Start name** field has no effect on this reference.

Reference: Start Name for Every Occurrence

By using this reference you specify that a certain start name should be used for finding the multiple field within the source document. Values of the multiple field are read in every time the start name appears.

The multi-field is then located at position (X,Y) relative to the start name you specify in the **Start name** field.

You can also specify multiple words as a start name by separating them using the pipe character (|).

Reference: Start Name for First Occurrence

If the values for the multiple field should only be read in at the first occurrence of the start name in a document, select this reference.

Reference: Another Multi-Field

This reference gives you the possibility of defining a multiple field which is related to another multiple field. That means that the position of the multiple field will be determined relative to the reference field. The value for this field is only read in if a value for the reference field has also been found.

Mehrfachfeldeigenschaften

Feldname: konto

Typ: Alphanumerisch

Bezug: anderes Mehrfachfeld

Bezugsfeld: gegenkonto

X-Position: 6

Y-Position: 0

Länge: 7

Buttons: OK, Abbrechen, Hilfe, Neu, Löschen

For example: you have defined a **Concerns** multi-field and know that the values for the multi-field you are now defining, **Editors**, are located two lines further down in the document. If you now choose the **Concerns** field as the reference field for the **Editors** multi-field, the values for the **Editors** multi-field are also read in during COLD import whenever the **Concerns** field is found. The import then looks for the values for **Editors** at the specified position (X,Y) relative to the **Concerns** field.

A field defined as a reference field for another field can only be deleted once this reference has been canceled.

Configuration Test

If you have specified an existing source file during the configuration of the COLD import, you can test the configuration using these data. Doing so lets you confirm that the document composition and page separation execute correctly, and that the fields are correctly identified.

The configuration test creates two files and displays them:

- `ascold.par`
This file lists the defined fields and displays the retrieved values of these fields.
- Image file
You can choose to have the preview of the image file generated in ASCII, TIFF G4, or PDF format.
The ASCII file reveals the page composition of an image document. Background images and the layout settings, however, are not represented. TIFF G4 or PDF files will open in the applications associated with these formats.

The test is started using the **Test** button. You enter the document number of your choice and the image format. If you enter the value '0' as the document number, file `ascold.par` will contain the field values for all documents.

Import wizard

The mapping of configured COLD data to DMS objects takes place using the import wizard, which is documented in detail above.

As with other import types, you select the DMS object types, assign defined fields to DMS object fields, and configure object actions (see DMS Objects and Field Mappings).

For the filing types 'with image data' and 'ASCII files', you need to assign the import field 'bitmaps' to the object field 'image file name' during field mapping to a document type in order to allow image files to be generated for that document type.

PCL Data

Introduction

To transfer data from systems which do not have the typical interfaces for data archiving at their disposal, the data stream of the printer interface can be taped. One highly prevalent printer protocol is PCL (Printer Command Language). It was developed by Hewlett-Packard for the 'LaserJet' and 'DeskJet' series of printers.

External PCL converters are available for this format; they can be started from the command line with the parameter to be passed (PCL file name).

PCL converters can also be integrated into the automatic action 'ASCOLD Import'. Doing so allows you to import PCL data through a process similar to COLD data import.

One requirement on the source material is that readable keywords can be retrieved from the print data-stream for the purpose of indexing and document separation. Likely to fulfill this requirement are data streams which contain neither raster graphics nor soft fonts.

Single printer settings can lead to enormous differences in the results of a PCL conversion (layout, font, foreign language characters, euro signs). Thus, it is necessary to make an exact evaluation of the best solution for the data at hand, and to configure printing based on this evaluation.

Configure

The PCL data import is configured in the same way as the COLD import. You specify the source file, configure the document composition, page separation, page composition and fields. All configurations concerning the identification of documents, pages, and indexing work similarly to those for COLD imports.

The character-set settings normally apply to the capture of index data and the document which is to be imported. During PCL conversion, the chosen character set is only for the generation of index data applicable; for the image data, unchanged PCL data are retrieved. The image files are thus created by the external PCL converter. All configurations related to the image files are created by making configuration entries in the file `ascold.cfg`. This file is found in the directory `\server\etc`. It can be edited with any editor.

Close the COLD-PCL configuration in enaio® administrator before opening the `ascold.cfg` configuration file.

PCL Configuration Entries

The `ascold.cfg` configuration file contains a section for each COLD configuration. The section begins with the configuration name in brackets.

Add lines with configuration entries to the section associated with your COLD-PCL configuration. The set of possible entries depends on which converter has been integrated.

The following entries are possible:

- `PCLKONVERTER=`

In this entry, specify the path and name of the PCL converter.

In general, the converter is started with two transfer parameters.

`Infile.pcl`

`Outfile.pdf/Outfile.tif.`

- `PCLKOMMANDOZEILE=`

Options for the startup of the program can be specified here. If this line is inserted, one placeholder for the PCL input file (%i) and one for the output file (%o) must be provided.

- PCLZIELFORMAT=

You can select TIF or PDF as the output format. The PCL converter must be configured for the intended format. By default, the setting is PDF.

PCL Converter

The following converters can be added:

- JetPCL by Tech Know Systems

Homepage: <http://www.techknowsystems.com>

Configuration entry:

```
PCLKONVERTER=\path\JETPCL.EXE
```

For the PDF format, insert the following entry into file JETPLC.CFG:

```
-Ipcl -Opdf:Text="Native";Font="Windows"
```

- Pcl2pdf von Visual Software

Homepage: <http://www.visual.co.uk/pcl2pdf.asp>

Configuration entries:

```
PCLKONVERTER=\path\PCL2PDF32.EXE
```

```
PCLKOMMANDOZEILE=%i %o
```

- EscapeE by RedTitan

Version: 7.86B/Homepage: <http://www.pclviewer.com/>

Configuration entries:

```
PCLKONVERTER=\path\escapee.exe
```

```
PCLKOMMANDOZEILE=%i /PAPER A4 /PDFOPTS 166144 /PDF /X /WINDOW 1
```

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