

# Adabas Client for Java

## Adabas Data Designer

Version 3.0.0

December 2024

This document applies to Adabas Client for Java Version 3.0.0 and all subsequent releases.

Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

Copyright © 2024 Software GmbH, Darmstadt, Germany and/or its subsidiaries and/or its affiliates and/or their licensors.

The name Software AG and all Software GmbH product names are either trademarks or registered trademarks of Software GmbH and/or its subsidiaries and/or its affiliates and/or their licensors. Other company and product names mentioned herein may be trademarks of their respective owners.

Detailed information on trademarks and patents owned by Software GmbH and/or its subsidiaries is located at <https://softwareag.com/licenses>.

Use of this software is subject to adherence to Software GmbH's licensing conditions and terms. These terms are part of the product documentation, located at <https://softwareag.com/licenses> and/or in the root installation directory of the licensed product(s).

This software may include portions of third-party products. For third-party copyright notices, license terms, additional rights or restrictions, please refer to "License Texts, Copyright Notices and Disclaimers of Third-Party Products". For certain specific third-party license restrictions, please refer to section E of the Legal Notices available under "License Terms and Conditions for Use of Software GmbH Products / Copyright and Trademark Notices of Software GmbH Products". These documents are part of the product documentation, located at <https://softwareag.com/licenses> and/or in the root installation directory of the licensed product(s).

Use, reproduction, transfer, publication or disclosure is prohibited except as specifically provided for in your License Agreement with Software GmbH.

**Document ID: ACJ-DD-300-20241221**

## Table of Contents

Preface .....	v
1 About this Documentation .....	1
Document Conventions .....	2
Online Information and Support .....	2
Data Protection .....	3
2 Adabas Data Designer .....	5
Starting the Data Designer .....	6
Database Information .....	6
Browsing Adabas Data .....	7
Creating Maps .....	9
Create Map Dialog .....	9
Browsing Adabas Data with Maps .....	12
Creating a new Adabas File .....	13
Free Hand Adabas File and Map .....	14
Create a new Adabas File and Map from an existing Definition .....	19



---

## Preface

---

This documentation contains information about the Adabas Data Designer, together with details of how to use it.

The following topic is covered:

<a href="#">Adabas Data Designer</a>	Explains the main concepts behind Adabas Data Designer and describes how to use it.
--------------------------------------	---



**Note:** Adabas Data Designer is only available on Linux and Windows.

---

# 1 About this Documentation

---

- Document Conventions ..... 2
- Online Information and Support ..... 2
- Data Protection ..... 3

## Document Conventions

---

Convention	Description
<b>Bold</b>	Identifies elements on a screen.
Monospace font	Identifies service names and locations in the format <i>folder.subfolder.service</i> , APIs, Java classes, methods, properties.
<i>Italic</i>	Identifies:  Variables for which you must supply values specific to your own situation or environment. New terms the first time they occur in the text. References to other documentation sources.
Monospace font	Identifies:  Text you must type in. Messages displayed by the system. Program code.
{ }	Indicates a set of choices from which you must choose one. Type only the information inside the curly braces. Do not type the { } symbols.
	Separates two mutually exclusive choices in a syntax line. Type one of these choices. Do not type the   symbol.
[ ]	Indicates one or more options. Type only the information inside the square brackets. Do not type the [ ] symbols.
...	Indicates that you can type multiple options of the same type. Type only the information. Do not type the ellipsis (...).

## Online Information and Support

---

### Product Documentation

You can find the product documentation on our documentation website at <https://documentation.softwareag.com>.

### Product Training

You can find helpful product training material on our Learning Portal at <https://learn.software-ag.com>.

### Tech Community

You can collaborate with Software GmbH experts on our Tech Community website at <https://tech-community.softwareag.com>. From here you can, for example:

- Browse through our vast knowledge base.
- Ask questions and find answers in our discussion forums.
- Get the latest Software GmbH news and announcements.
- Explore our communities.
- Go to our public GitHub and Docker repositories at <https://github.com/softwareag> and <https://containers.softwareag.com/products> and discover additional Software GmbH resources.

## Product Support

Support for Software GmbH products is provided to licensed customers via our Empower Portal at <https://empower.softwareag.com>. Many services on this portal require that you have an account. If you do not yet have one, you can request it at <https://empower.softwareag.com/register>. Once you have an account, you can, for example:

- Download products, updates and fixes.
- Search the Knowledge Center for technical information and tips.
- Subscribe to early warnings and critical alerts.
- Open and update support incidents.
- Add product feature requests.

## Data Protection

---

Software GmbH products provide functionality with respect to processing of personal data according to the EU General Data Protection Regulation (GDPR). Where applicable, appropriate steps are documented in the respective administration documentation.

---

# 2 Adabas Data Designer

---

- Starting the Data Designer ..... 6
- Database Information ..... 6
- Browsing Adabas Data ..... 7
- Creating Maps ..... 9
- Create Map Dialog ..... 9
- Browsing Adabas Data with Maps ..... 12
- Creating a new Adabas File ..... 13
- Free Hand Adabas File and Map ..... 14
- Create a new Adabas File and Map from an existing Definition ..... 19

Adabas does not provide the capability to work with long names for fields. In order to use long names in Java applications, you first have to create a map file with the Adabas Data Designer.

The Adabas Data Designer is based on the Eclipse RCP and it's purpose is to:

- Create views, which can be used to browse through Adabas data and read FDT information.
- Create map definitions that contain long names instead of the two character short names of Adabas.

The map files are stored as separate Adabas files independently from the associated FDTs; they can also be in a separate database with a different database ID.



**Note:** One database can only contain one mapping file (named Data\_Designer), but as many mappings as required. You can also have multiple mappings for one file. Please be aware that changing, e.g. renaming, deleting or reloading with different entries, will not change the mapping; in this case, it might be necessary to recreate the mapping.

## Starting the Data Designer

---

The Data Designer is a Java rich client and uses Java 8 technology. The required Java 8 runtime environment will be installed by the Software AG Installer. Please ensure that you set the correct environment e.g. by sourcing the "sagenv.new" file from the bin subdirectory of your installation, before you start the Designer for the first time. The Data Designer is started by calling the program `AdabasDataDesigner` program on Unix/Linux platforms. On Windows platforms, choose **Software AG->Tools->Adabas Client for Java->Start the Adabas Data Designer** from the **Start Menu**.

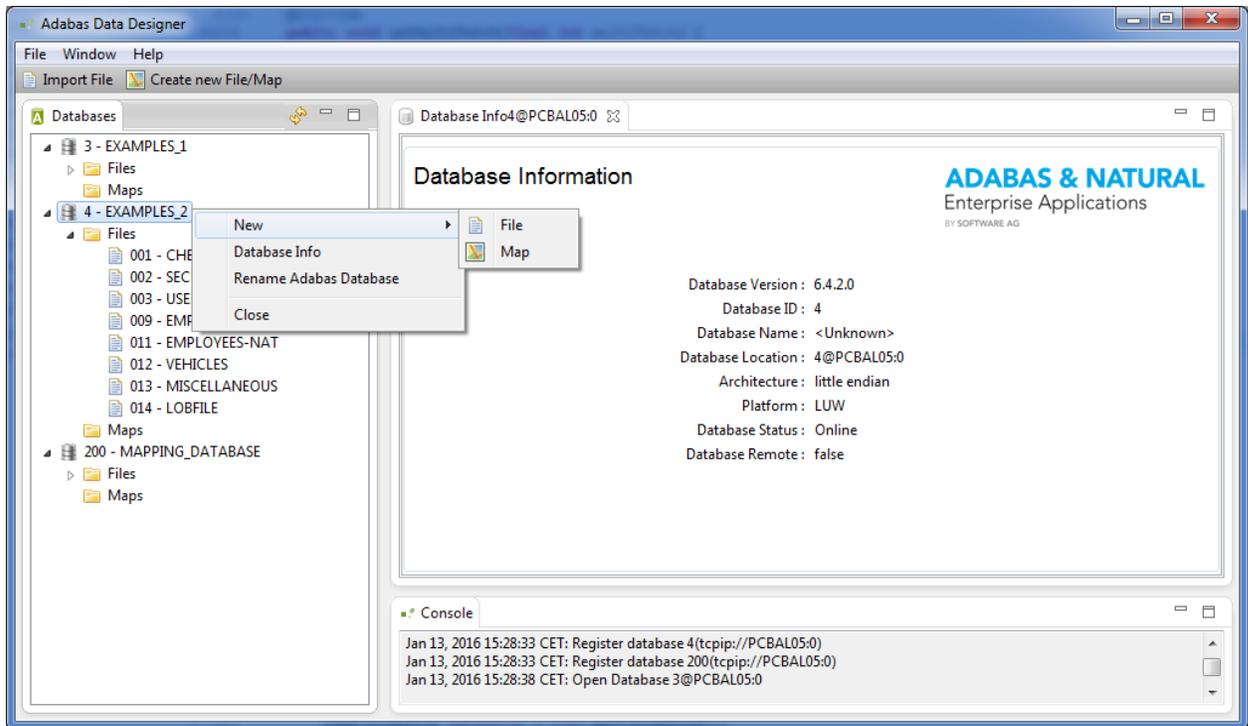


**Note:** On Windows, this will start the Adabas Data Designer Console in the background as a separate DOS box. Please don't close this DOS box, otherwise this will terminate the Adabas Data Designer application as well.

## Database Information

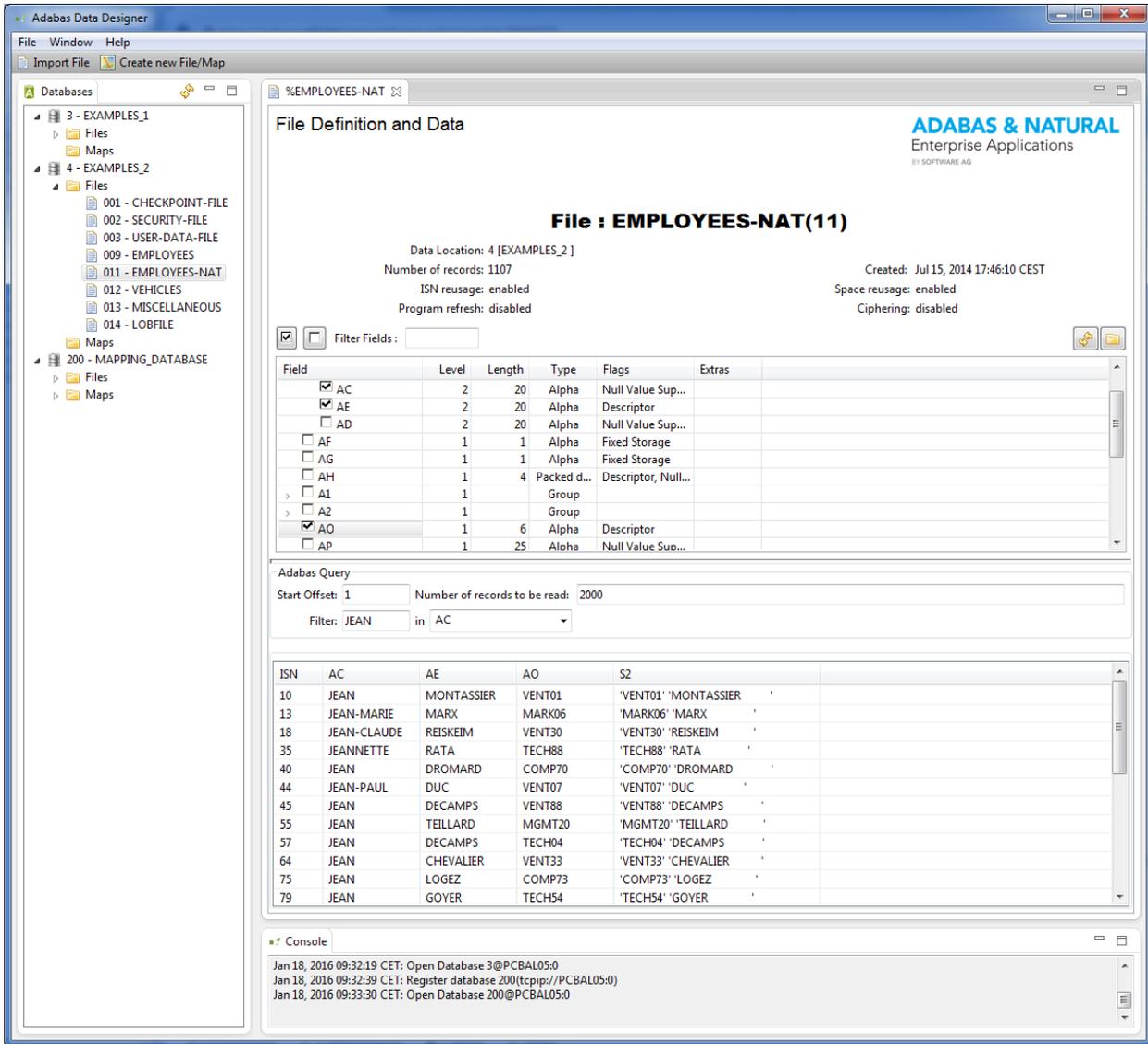
---

If any local databases are active, the Designer will display them in the left tree view Databases. Open a view of the database by either double clicking on the database or by choosing the context menu **Database Info**. You can display a list of loaded files by expanding the database tree view.



## Browsing Adabas Data

You can display the File Definition and the Adabas Data of an Adabas file by double clicking on the specific file in the Databases tree view or by choosing **Data Browser** in the context menu.



You can browse any field of the Adabas file by selecting it in the "File Definition and Data" view. Exceptions are fields of phonetic descriptors and referential integrity. For super descriptors, the appropriate subfields are displayed. You can search for a field using **Filter Fields**, which is especially useful for long FDTs.

The amount of data can be restricted either by using a start offset (ISN), specifying the number of records to be read or by using a filter for the contents of a specific field.

## Creating Maps

Adabas does not support the capability to work with long names. In order to use long names in Java applications, you need to create a map file first. Using maps in a Java application hides the "classic" Adabas database ID/file number combination, i.e. Java applications can be developed without further knowledge about the DBID or FNR information.

The Data Designer provides two ways to create a map file:

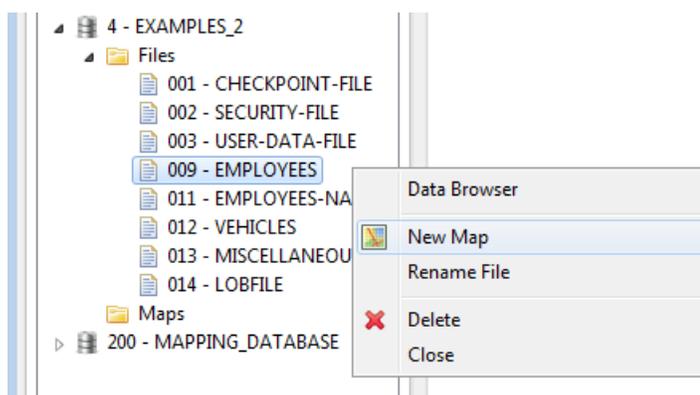
1. Create a map file definition for an existing Adabas file already loaded into the database:
  - a. Add map definitions by hand;
  - b. Load definitions from an external file.
2. Create a map definition in combination with a new Adabas file definition table:
  - a. Add map and field definitions by hand;
  - b. Load the map and Adabas field definitions from an external file.

## Create Map Dialog

The create map dialog provides different possibilities to add a map definition to an existing file.

### > To add a map to an existing file

- Choose **New Map** from the context menu of an existing file.



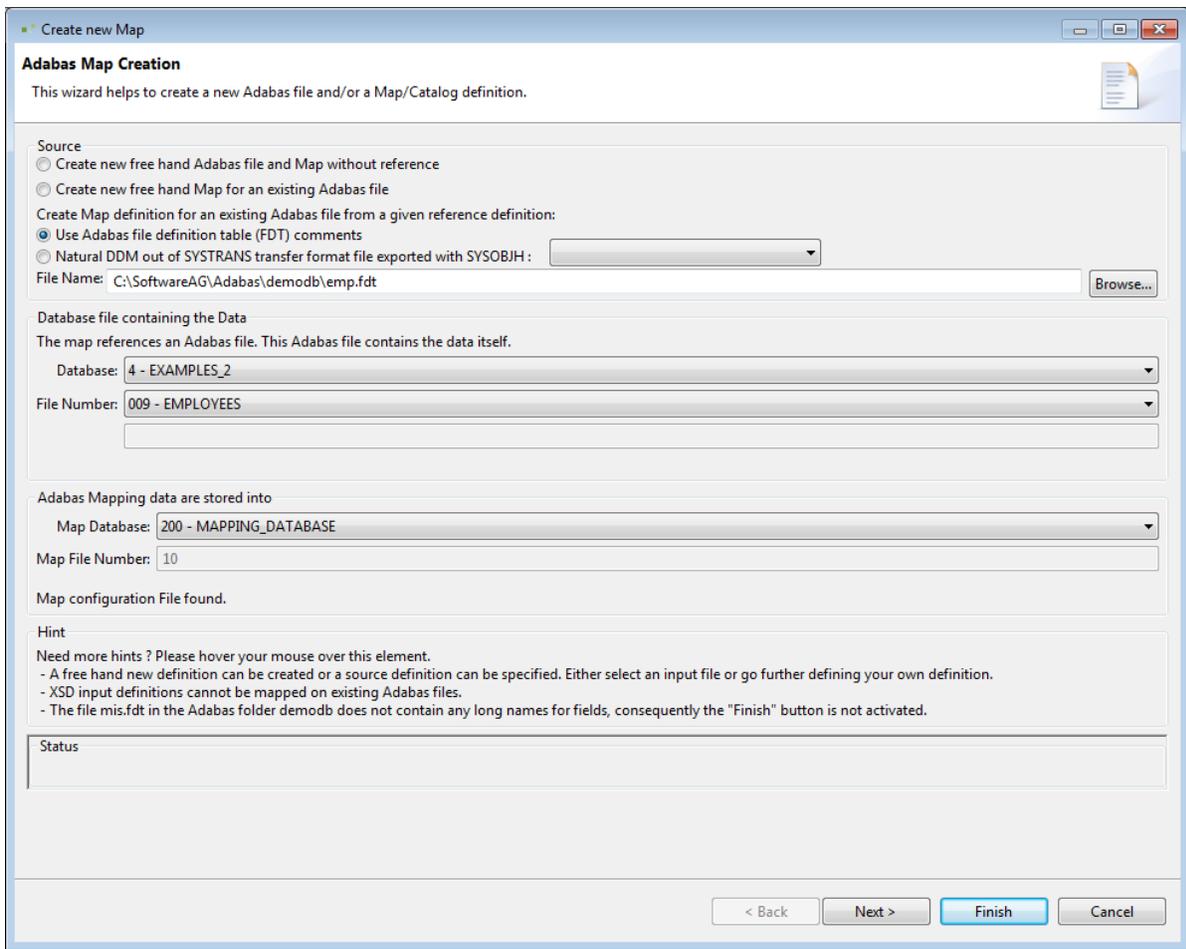
The file and the database will be preselected in the following dialog. There are now several data sources possible for the map definition: an Adabas ADAFDU input file with appropriate comments (see the examples files in the *demodb* subdirectory of Adabas), a DDM exported from Natural, or you can interactively add the definitions in the subsequent dialogs (free hand

map). The following extract from the emp.fdt file shows the syntax for comments in the FDT file, which are then read and converted by the Data Designer into long names:

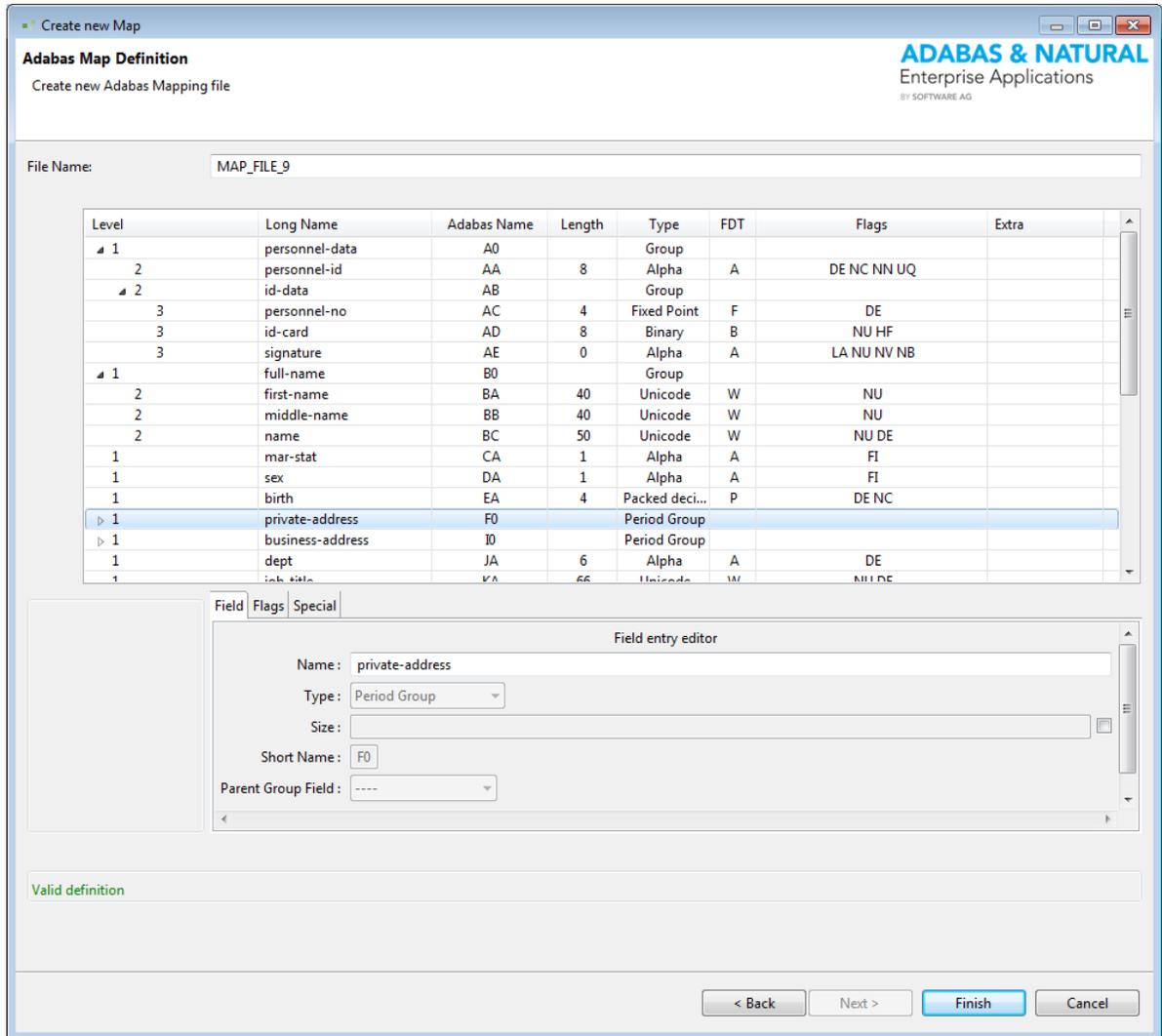
```

1      ,  A0                                ; personnel-data
2      ,  AA ,   8 ,   A ,  DE,NC,NN,UQ    ; personnel-id
2      ,  AB                                ; id-data
3      ,  AC ,   4 ,   F ,  DE             ; personnel-no
3      ,  AD ,   8 ,   B ,  NU,HF         ; id-card
3      ,  AE ,   0 ,   A ,  LA,NU,NV,NB   ; signature
    
```

 **Important:** Select the database and file where the new map definitions are to be stored. This can be the same database as files for which the maps are defined, or it can be any other database.



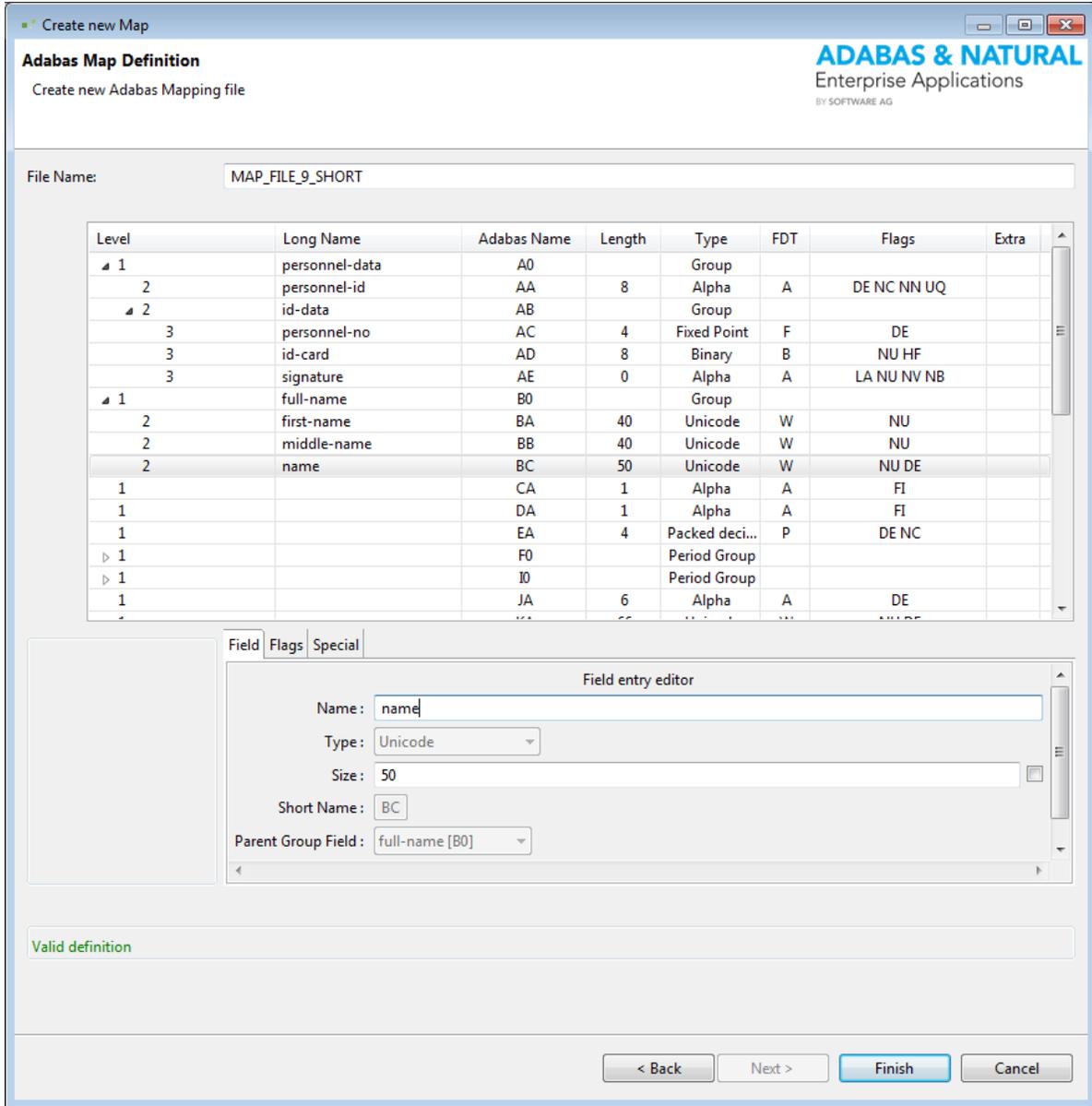
After you have selected the source, the next dialog provides the possibility of adding/changing long names for the FDT.



### Notes:

1. The entry in the field `File Name` must be unique.
2. Most of the definitions cannot be changed because an Adabas file definition cannot be changed dynamically.

The dialog for creating a so-called free hand map for an existing Adabas file is similar to the one shown above.



Click on the button **Finish** to complete the map definition.

## Browsing Adabas Data with Maps

Select the database and file specified for the maps and double click, or open the Data Browser via the context menu. All fields that are defined in the map with long names are shown, and can be used for browsing the data.

**Map Definition and Data**

**Map : MAP\_FILE\_9\_SHORT**

Data Location: 4 [EXAMPLES\_2]      Map Location: 4 File: 10  
Number of records: 1272      Created:  
ISN reusage: enabled      Space reusage: enabled  
Program refresh: disabled      Ciphering: disabled

Filter Fields :

Field	Level	Adabas Name	Length	Type	Flags	Content Type	Extras
<input checked="" type="checkbox"/> personnel-data	1	A0		Group			
<input checked="" type="checkbox"/> personnel-id	2	AA	8	Alpha	Descriptor, Null...		
<input checked="" type="checkbox"/> id-data	2	AB		Group			
<input checked="" type="checkbox"/> personnel-nc	3	AC	4	Fixed Point	Descriptor		
<input checked="" type="checkbox"/> id-card	3	AD	8	Binary	Null Value Sup...		
<input checked="" type="checkbox"/> signature	3	AE	0	Alpha	Long, Null Val...		
<input checked="" type="checkbox"/> full-name	1	B0		Group			
<input checked="" type="checkbox"/> first-name	2	BA	40	Unicode	Null Value Sup...		
<input checked="" type="checkbox"/> middle-name	2	BB	40	Unicode	Null Value Sup...		
<input checked="" type="checkbox"/> last-name	2	BC	50	Unicode	Null Value Sup...		

Adabas Query

Start Offset: 1      Number of records to be read: 20  
Filter:  in

ISN	A0:personnel-id	A0:AB:personn...	A0:AB:id-card	A0:AB:signature	B0:first-name	B0:middle-name	B0:last-name
1	50005800	0	0		Simone		Adam
2	50005600	0	0		Humberto		Moreno
3	50005500	0	0		AlexAndré		Blond
4	50005300	0	0		Elisabeth		Maizière
5	50004900	0	0		Albert		Caoudal
6	50004600	0	0		Bernard		Verdie
7	50004300	0	0		Michele		Guerin
8	50004200	0	0		Bernard		Vauzelle
9	50004100	0	0		Robert		Chapuis
10	50004000	0	0		Jean		Montassier
11	50003800	0	0		Daniel		Jousselin
12	50006900	0	0		Patrick		Baillet
13	50007600	0	0		Jean-Marie		Marx
14	50003700	0	0		Louis		D'Agostino

Console

```
Jan 18, 2016 15:28:15 CET: Console listener started
Jan 18, 2016 15:28:15 CET: Register database 3(tcpip://PCBAL05:0)
Jan 18, 2016 15:28:15 CET: Register database 4(tcpip://PCBAL05:0)
Jan 18, 2016 15:28:15 CET: Open Database 3@PCBAL05:0
```

## Creating a new Adabas File

There are two ways in which you can create a new Adabas file with the Data Designer:

- Choose **Create a new free hand Adabas file and Map without reference** from the **New Map** dialog;
- Import a file definition from an existing file, such as an XML schema or an Adabas FDT file. Choose **Import file** or **new->file** from the context menu.



Click the **Add Group/Field** button to add fields to the FDT, and a default entry for the field will be added. All types and options can be changed in the **Field entry editor**:

The screenshot shows the 'Field entry editor' dialog box with the following fields and values:

- Name: Id
- Type: Packed decimal
- Size: 8
- Short Name: AA
- Parent Group Field: ----

On the left side of the dialog, there are three buttons: 'Add Group/Field', 'Add Sub/Superdescriptor', and 'Delete Field'. The 'Field' tab is selected at the top.

To add a group or periodic group, choose the appropriate type from the dialog and then add the fields to the group.

The screenshot shows the 'Field entry editor' dialog box with the 'Type' dropdown menu open. The 'Name' field contains 'Group\_Field'. The dropdown menu lists the following options:

- Alpha
- Binary
- Fixed Point
- Floating
- Packed decimal
- Unicode
- Group
- Period Group
- Logical
- Date
- Time
- Numeric
- Sub Descriptor
- Super Descriptor
- Referential Integrity
- Phonetic Descriptor
- Collation Descriptor
- Parent Field
- Foreign Key
- Primary Key

The 'Group' option is selected. The 'Parent Group Field' field is empty. A 'Valid definition' message is visible at the bottom left.

Choose the appropriate parent field from the drop down box Parent Group Field. Existing fields can be changed to be part of a group.

Field entry editor

Name: Group\_Member

Type: Alpha

Size: 10

Short Name: AC

Parent Group Field: Group\_Field [AB]

Flags

- Descriptor(DE)
- Null not allowed(NN)
- Fixed storage(FI)
- Use creation Time in System generated field(CR)
- Delete Cascade(DC)
- Update no action(UX)
- Update set NULL(UN)
- Null value suppression(NU)
- SQL Null-Value Representation(NC)
- Unique(UQ)
- Multiple(MU)
- No Value Conversion(NV)
- Delete no action(DX)
- Delete set NULL(DN)
- Update Cascade(UC)

Special

Configure Charset and Date Time definition

Charset: US-ASCII

Date/Time (DT): No Date definition

TZ: Local Time Zone

System generated SY: No system generated definition

CR: Creation time

To add a sub- or super descriptor, click the **Add a Sub/Superdescriptor** button. Select the field that should be added and specify the length and click the **Add** button.

**Note:** It is not possible to modify fields that have already been added. In order to change the descriptor, it is necessary to cancel the dialog first and then add the descriptor again.

### Add Sub/Super Descriptor

This is the Dialog for adding a sub/super descriptor

Add Descriptor

Long Name  Short Name

Level	Long Name	Short Name	Length	Type
1	Id	AA	8	Packed decimal
▲ 1	Group_Field	AB		Group
2	Group_Member	AC	10	Alpha

Select Subfield: AC From  To

Level	Long Name	Short Name	Length	Type
▲ 1	Super_1	AD	8	Sub Descriptor
2	Id	AA	1-8	Packed decimal

Create new Map
ADABAS & NATURAL  
Enterprise Applications  
BY SOFTWARE AG

**Adabas Map Definition**  
Create new Adabas Mapping file

File Name:

Level	Long Name	Adabas Name	Length	Type	FDT	Flags	Extra
1	Id	AA	8	Packed decimal	P	NU DE UQ	
▲ 1	Group_Field	AB		Group			
2	Group_Member	AC	10	Alpha	A	NU	
▲ 1	Super_1	AD	14	Super Descriptor		NU DE	
2	Id	AA	1-8	Packed decimal	P	NU DE UQ	
2	Group_Member	AC	5-10	Alpha	A	NU	

Field
Flags
Special

Field entry editor

Name:

Type:

Size:

Short Name:

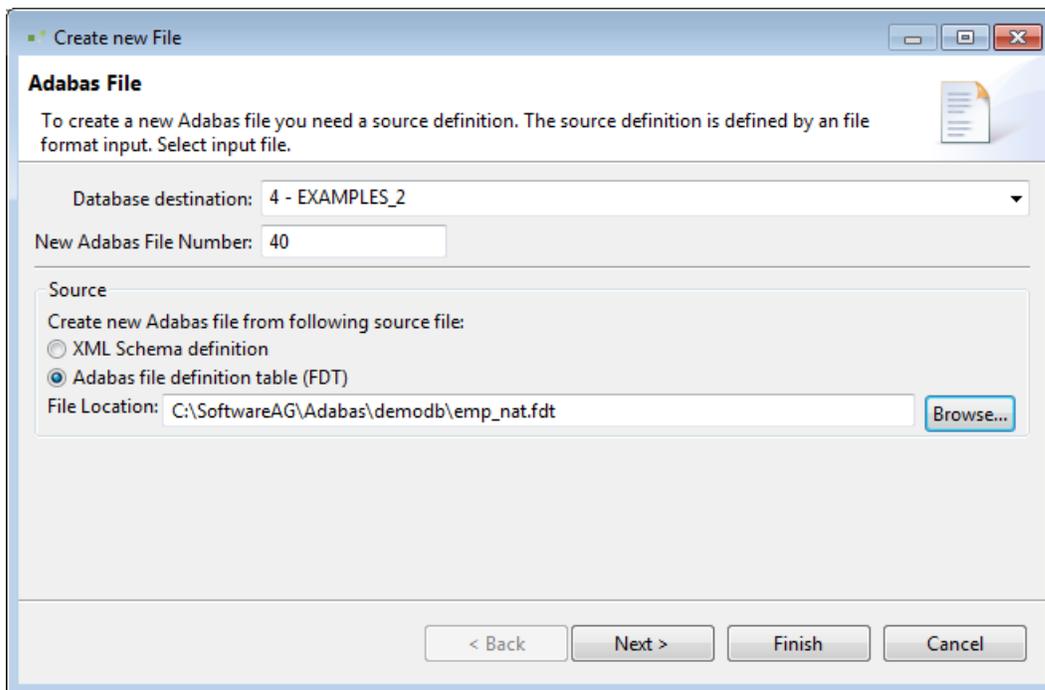
Parent Group Field:

Field is part of a sub/super descriptor, editing disabled

## Create a new Adabas File and Map from an existing Definition

This new file dialog supports two different file formats to load a definition from a file and create a new Adabas file with the corresponding map definitions:

- An Adabas ADAFDU input file;
- An XML schema file.



The next dialog shows all fields and can be used to change the field definitions as required.

Create new File

**Adbas File**  
Display Definitions for the new File on Database "4 - EXAMPLES\_2"

Filename: EMPLOYEES-NEW

Level	ID	Format	Length	Options	Name
1	AA	A	8	DE UQ	personnel-id
1	AB				full-name
2	AC	A	20	NU	first-name
2	AE	A	20	DE	name
2	AD	A	20	NU	middle-name
1	AF	A	1	FI	mar-stat
1	AG	A	1	FI	sex
1	AH	P	4	DE NC	birth
1	A1				full-address
2	AI	A	20	NU MU	address-line
2	AJ	A	20	NU DE	city
2	AK	A	10	NU	post-code
2	AL	A	3	NU	country

LEVEL: 2  
 FIELD\_NAME: AK    LENGTH: 10  
 LONG\_NAME: post-code  
 FORMAT: Alphanumeric (A)  
 FLAGS:  Multiple fields(MU)    Period group(PE)  
 Fixed storage length(FI)    Data compression(NU)    SQL null value(NC)    No SQL null(NN)  
 Descriptor(DE)    Unique(UQ)    No index(XI)  
 Long alpha(LA)    Large Object(LB)    Encoding conversion(NV)    Blank compression(NB)

< Back    Next >    Finish    Cancel

**Create new File**

**Adabas File**

Enter Mapping and LOB File information for the new File on Database "4 - EXAMPLES\_2"

**Mapping**

Create Map Definitions

Map Database: 200 - MAPPING\_DATABASE

Map File Number: 1000

QUERYCONFIG File found.

**LOB File**

Create LOB File

LOB File Number: 5

LOB File Name: LOBFILE\_of\_4

< Back   Next >   Finish   Cancel

Choose whether to create a map definition and where to store it.

