software AG

NaturalONE

Predict Description and Generation

Version 8.2.7

March 2013

NaturalONE

This document applies to NaturalONE Version 8.2.7.

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

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Preface

This documentation is organized under the following headings:

Release Notes	New features and enhancements.
Introduction	What is Predict Description and Generation? Restrictions and benefits.
Elements of Predict Description and Generation	Context menus and commands that are available in NaturalONE when this component has been installed.
Getting Started with Predict Description and Generation	How to show the view that is required for working with documentation objects. Information on preferences and navigation commands.
Invoking an Overview of All Documentation Objects	How to display the documentation objects for a specific connection. How to filter or find the documentation objects, how to display the properties for the nodes, and how to refresh the tree.
Managing Natural Objects	How to create documentation objects by redocumenting Natural objects or by opening the description for a Natural object or library. How to find out whether a Natural object or library has already been documented by displaying its description.
Managing Documentation Objects	Information on the object type-specific content editors. Information on the locking mechanism. How to modify, rename or purge documentation objects.
Managing Associations and Links	How to link/unlink objects, and how to modify the attributes of a link.
Managing External Objects	How to generate external objects from documentation objects, and how to administer external objects (refresh, disconnect and purge).

Notes:

1. Reference documentation is provided separately. See *Predefined Object Types in Predict*.
2. Certain features concerning external objects (generation and administration) are documented in *External Objects in Predict*.
3. This documentation assumes that Predict Version 4.6.1 is installed on the server you are connecting to. If you use an older version of Predict, the contents and design of windows, tabs and dialogs may differ from those displayed in this documentation.

1 Release Notes

- New Features 2

New Features

Support Report Description for Natural Objects

It is now possible to use the function Report Description for Natural objects. See *Reporting the Description for a Natural Object* for details.

Support Predict Functions for Natural Objects in the Navigator View

It is now possible to use the functions Display Description, Open Description, Report Description and Redocument for Natural objects in the Navigator view. See *Commands on Natural Objects* for details.

Support Predict Functions for Natural Editors

It is now possible to use the functions Display Description, Open Description, Report Description and Redocument from inside the Natural Editors (source editor, map editor and DDM editor). See *Commands on Natural Objects* for details.

2 Introduction

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What is Predict Description and Generation?

Predict Description and Generation is available as an optional component for NaturalONE.

With Predict Description and Generation, you can document Natural sources in Predict via NaturalONE, and you can manipulate and retrieve data stored by Predict on the server. Predict Description and Generation works in the Natural Server Mode.

In addition, you can use Predict Description and Generation to manage external objects (generation and administration).

Restrictions

Some functions are only available in Predict.

In this version of Predict Description and Generation, it is not possible to create new object types. This is currently only possible with Predict.

In this version of Predict Description and Generation, generation and incorporation is supported for Adabas and DB2 structures. This includes generation and incorporation of the following:

- Adabas databases (incorporation only),
- Adabas files,
- DB2 databases,
- DB2 procedures/functions (generation only),
- DB2 storagegroups,
- DB2 tablespaces,
- DB2 tables/views,
- DDMs for Natural (generation only),
- activation of automatic processing rules (generation only).

Generation and incorporation of other external objects is currently only possible with Predict.

Benefits

With Predict Description and Generation, locking of documentation objects takes place. This feature is not supported in Predict. See ***Locking of Documentation Objects*** for further details.

Setting Up a Predict Environment

You install the optional Predict Description and Generation component of NaturalONE using the Software AG Installer.

If you want to use the optional Predict Description and Generation component of NaturalONE, Predict Version 4.6.1 or above must be installed on the server and the Natural profile parameter `FDIC` on the server must specify a valid Predict file.

You can check this directly from within NaturalONE. To do so, proceed as follows:

1. Map the appropriate Natural server in the **Natural Server** view (see *Mapping a Natural Environment* in *Using NaturalONE*).
2. Open the properties for the mapped Natural server (see *System Information for a Natural Environment* in *Using NaturalONE*).
3. View the product information (`SYSPROD`) and the system files (`SYSPROF`).

When Predict Description and Generation has been installed and when the current context (that is, the selected item in the **Natural Server** view) allows it, an additional **Predict Description and Generation** menu is available in the context menu.

3 Elements of Predict Description and Generation

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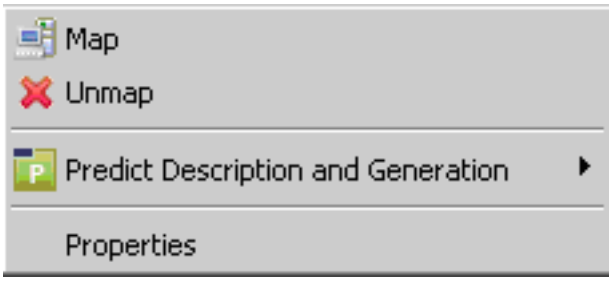
- Commands 9

When Predict Description and Generation has been installed, additional elements are available in NaturalONE:

Context Menus

When the current context (that is, the selected item) allows it, the commands described in the section *Commands* can be chosen from a **Predict Description and Generation** context menu.



A context menu also contains further component-specific commands such as **Open**, **Filter** and **Delete**. These commands are described later in this documentation.

To invoke a context menu

1 Select the item for which you want to invoke a context menu.

2 Click the right mouse button.

Or:

Press SHIFT+F10.

Or:

Press the menu key on your keyboard.

The context menu appears and you can now choose the required command.

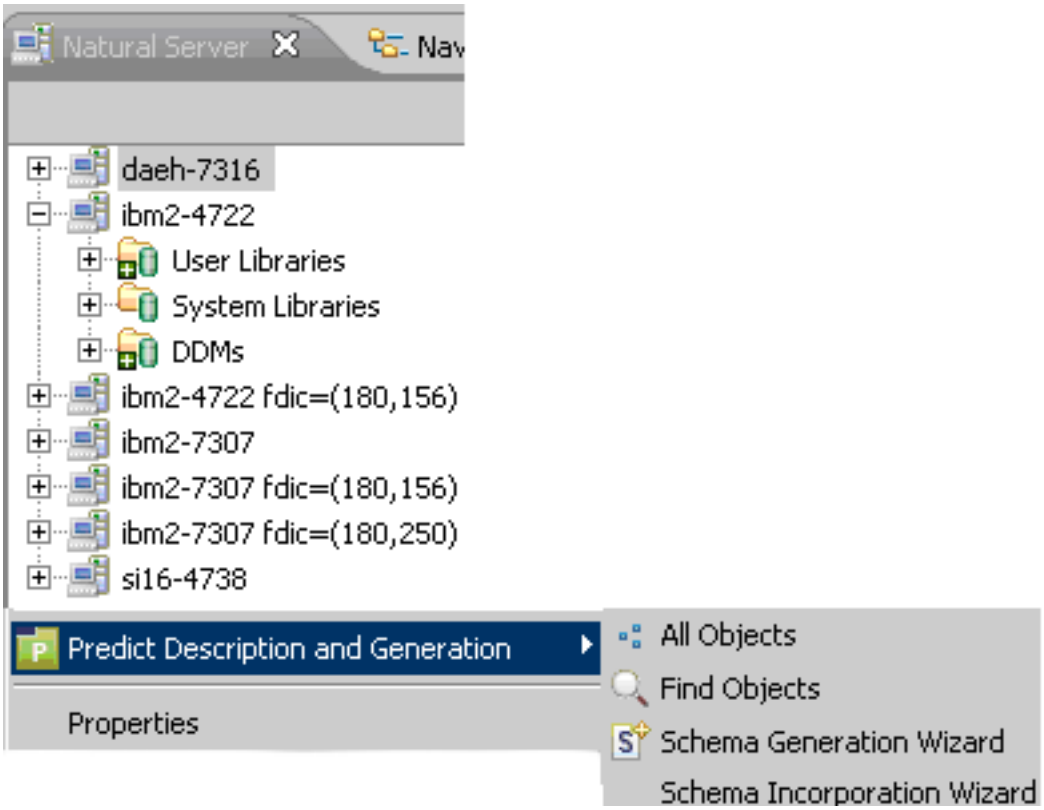
Commands

When Predict Description and Generation has been installed and you have defined a connection to a server where Predict has been installed, the following commands are available for Natural objects (displayed in the **Natural Server** view or in the **Navigator** view or in a Natural Editor in NaturalONE):

- On Natural Server Connections

- On Natural Objects

On Natural Server Connections



Command	Using this command, you can ...
All Objects	Invoke a tree view window containing all documentation objects.
Find Objects	Search for specific documentation objects.
Schema Generation Wizard	Invoke the Wizard to generate Schemas into external systems.
Schema Incorporation Wizard	Invoke the Wizard to incorporate Schemas from external systems.

On Natural Objects

Command	Using this command, you can ...
Redocument / Redocument Objects	Create documentation objects for the selected Natural object. See *Redocumenting Natural Objects* for details. This command is not available for DDMs and Libraries in the **Navigator** view.
Display Description	Invoke a separate window containing a read-only description of the selected object. See *Managing Natural Objects* for further details.
Open Description	Invoke a separate window containing a modifiable description of the selected object. See *Managing Natural Objects* for further details.

Command	Using this command, you can ...
Report Description	Invoke a separate window containing a description of the selected object as a plain text report. See *Managing Natural Objects* for further details.

4 Getting Started with Predict Description and Generation

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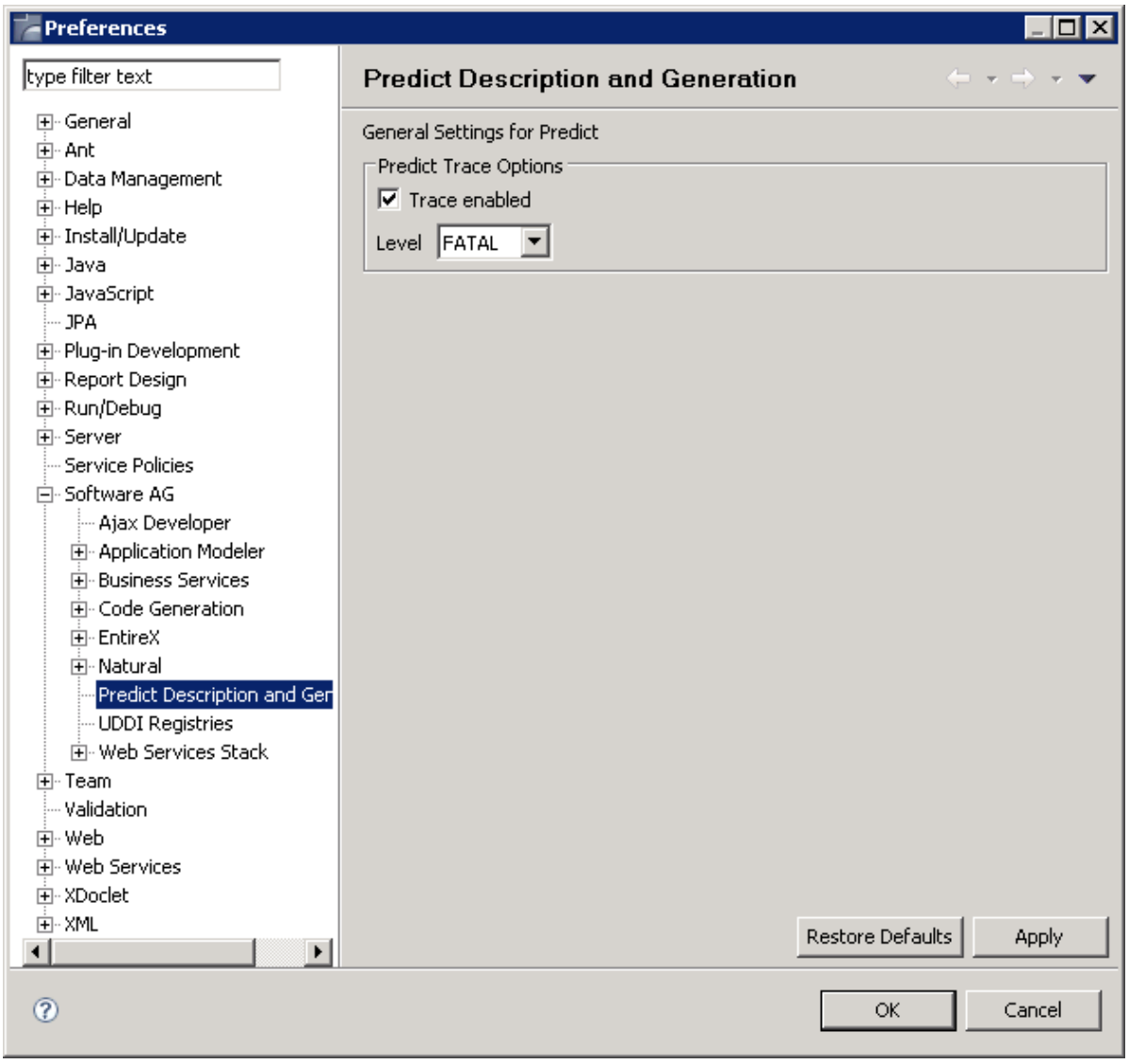
Setting the Preferences

To set the preferences

1 From the **Window** menu, choose **Preferences**.

2 In the tree of the resulting window, expand the **Software AG** node and select **Predict Description and Generation**.



3 Modify the desired values.

4 Choose the **OK** button.

Enabling Tracing

You can enable tracing to troubleshoot configuration and connection issues. This option records what is happening internally within the component.

To enable tracing

1 Activate the **Enable tracing** check box.

2 Select the desired trace level from the **Trace level** spin box.

Note: The trace level names, granularity settings and their following description are taken from the documentation of the `org.apache.log4j` package (Apache Log4j 1.2.16 API) and are copyright by **Apache Software Foundation**.

The following trace levels can be set.

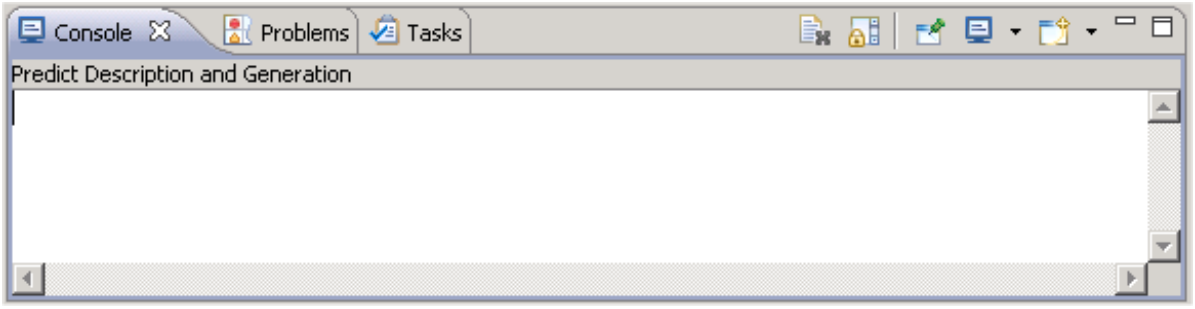
Level	Description
`FATAL`	The `FATAL` level designates very severe error events that will presumably lead the application to abort.
`ERROR`	The `ERROR` level designates error events that might still allow the application to continue running.
`WARN`	The `WARN` level designates potentially harmful situations.
`INFO`	The `INFO` level designates informational messages that highlight the progress of the application at coarse-grained level.
`DEBUG`	The `DEBUG` level designates fine-grained informational events that are most useful to debug an application.
`TRACE`	The `TRACE` level designates finer-grained informational events than the `DEBUG` level.

Runtime information will now be provided in the standard Eclipse **Console** view.

To show the Console view

- From the **Window** menu, choose **Show View > Other > General > Console**.

  The **Console** view appears.



For information on how to use this view, see the Eclipse documentation.

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Displaying the Documentation Objects for a Specific Connection

To invoke the tree view window containing all documentation objects

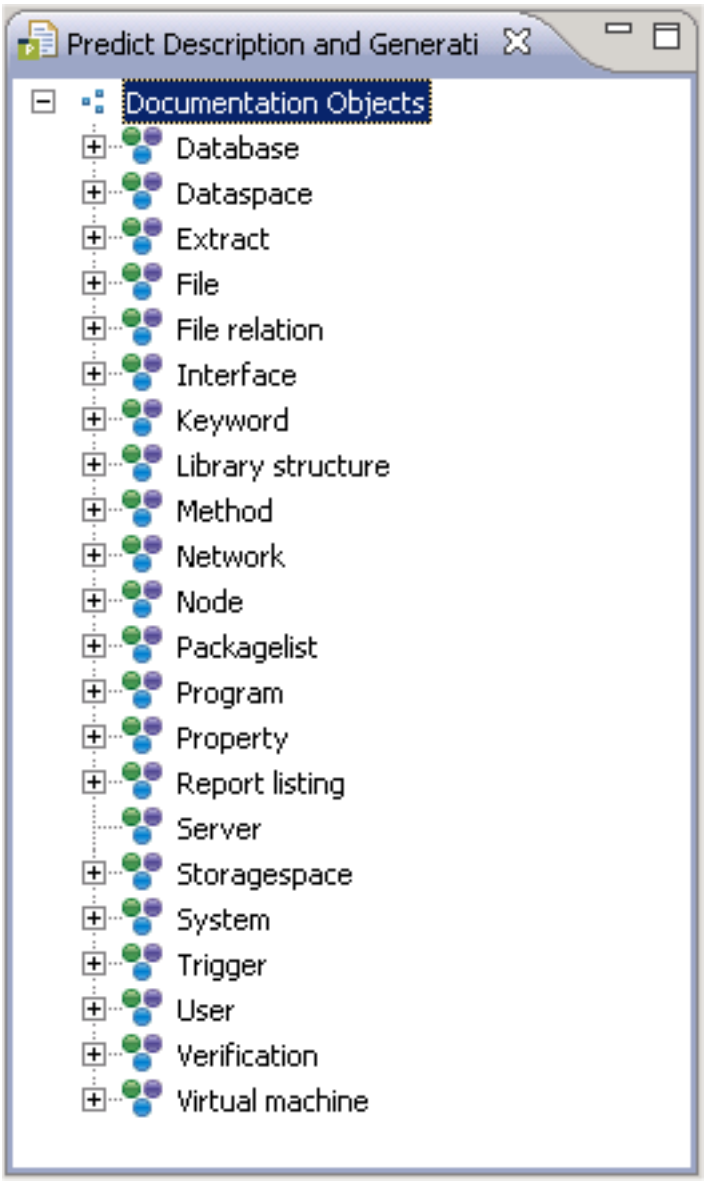
- From the context menu of a server connection in the **Natural Server** view, choose **Predict Description and Generation > All Objects**.

  The tree view window appears. It contains the top-level node **Documentation Objects**.

When you expand the **Documentation Objects** node, nodes for all object types (predefined object types and user-defined object types) are shown. The object types to be shown can be reduced using a filter; see *Defining the Object Types to be Shown*.

When you expand the node for an object type, the defined documentation objects of that type are shown. You can also apply a filter to an object type, for example, to show only databases of type Adabas; see *Applying a Filter to an Object Type*.

When you expand the node for a documentation object, nodes for all active associations of that object are shown. Some of these nodes can be expanded further.



The following icons are shown for the nodes in the tree:

- Top-level node for all documentation objects
- Object type
- Filtered object type
- Documentation object (brown border with light blue content)
- Dummy (blue border with blue content)
- Placeholder (red)
- Link

Filtered link

External Objects

Filtering Documentation Objects

Using a filter, you can reduce the number of items that are shown in the **tree**. The filter criteria are saved individually for each user.

The following topics are covered below:

- Defining the Object Types to be Shown
- Applying a Filter to an Object Type

Defining the Object Types to be Shown

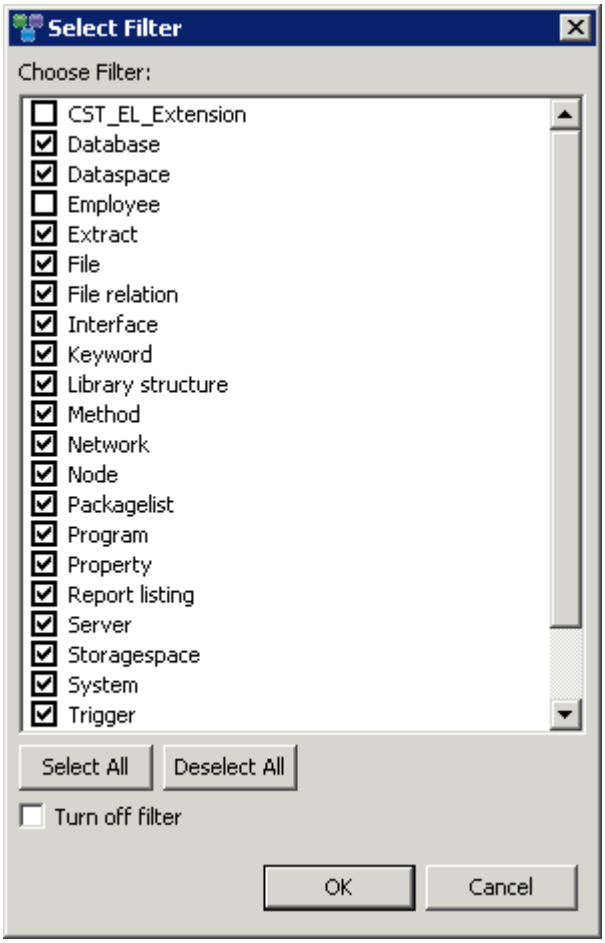
You can reduce the number of predefined and user-defined object types. For example, you can define a filter which only shows your own user-defined objects.

To define the object types to be shown

1 In the tree, select the node **Documentation Objects**.

2 Invoke the context menu and choose **Display Filter**.

The **Select Filter** dialog box appears. The object types that are currently shown are selected. For example:



3 Select the object types that are to be shown, and/or deselect the object types that are not to be shown. You can use the **Select All** or **Deselect All** button to select or deselect all displayed objects types.

When you select the **Turn off filter** check box, your filter is not applied. This is useful if you want to deactivate your filter temporarily.

4 Choose the **OK** button.

The content of the tree changes. The tree now only shows the object types that you have defined in your filter.

Applying a Filter to an Object Type

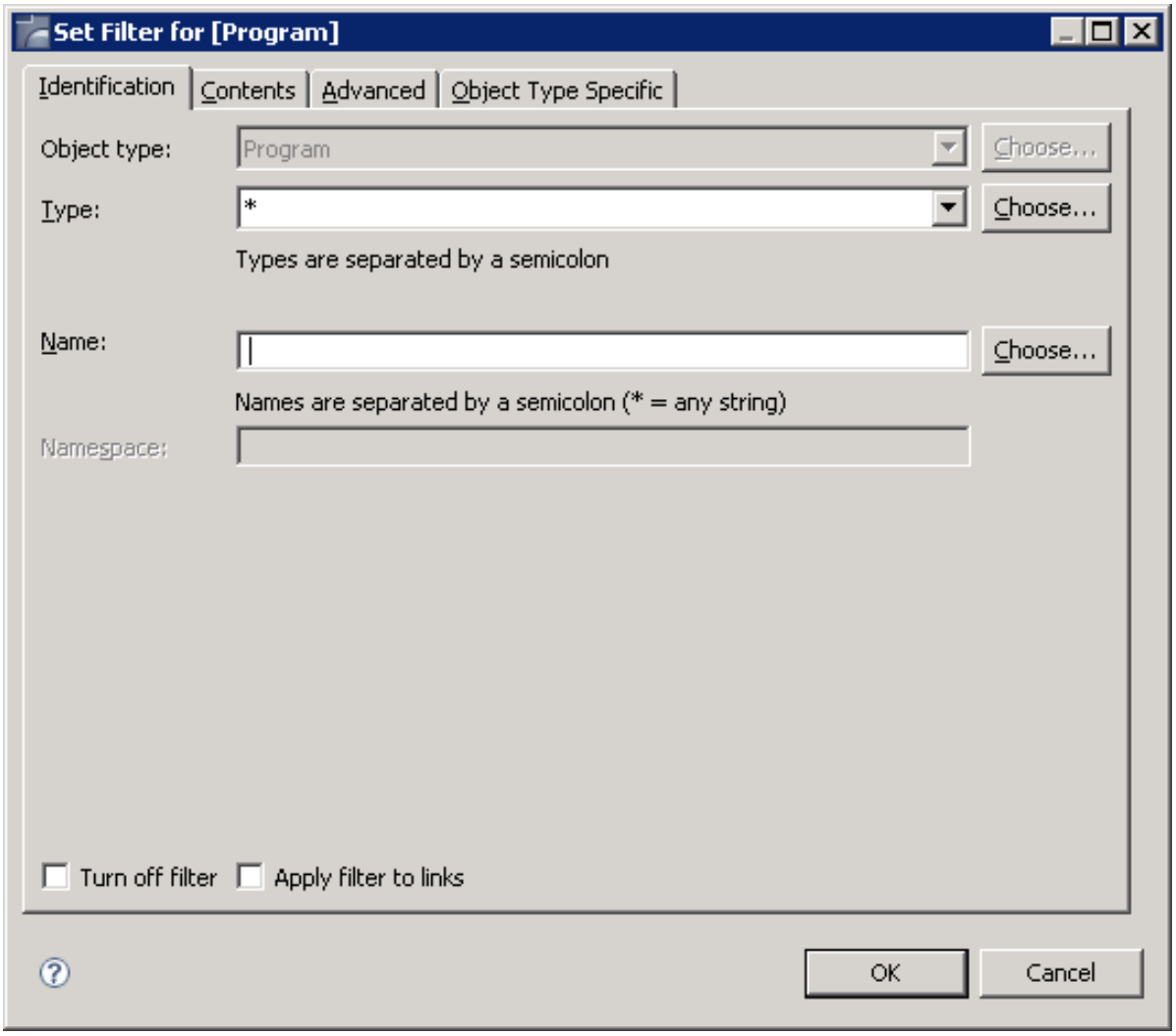
You can reduce the number of objects that are shown for a specific object type. For example, you can define a filter for the predefined object type Database which only shows the databases of type Adabas. When a filter has been applied to an object type, the following icon is shown in the tree:

To apply a filter to an object type

1 Select the object type to which you want to apply a filter (for example, the predefined object type Database).

2 Invoke the context menu and choose **Display Filter**.

The **Filter** dialog box appears. The type(s) that are currently shown are listed in the text box of the **Type** drop-down list box (only as much as fit in the text box). Example for the object type Database:



When you select the **Turn off filter** check box, your filter is not applied. This is useful if you want to deactivate your filter temporarily.

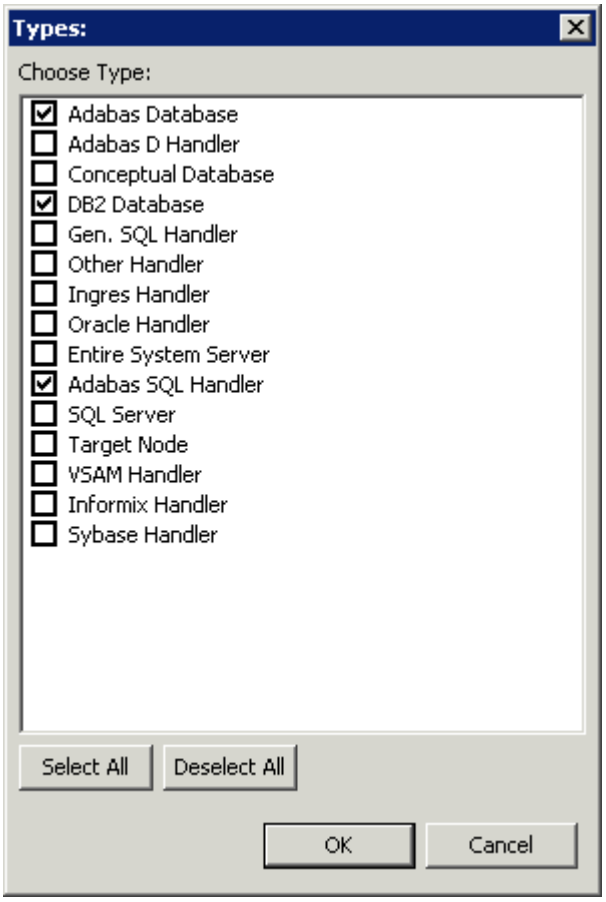
When you select the **Apply filter to links** check box, your filter is also applied to links.

3 If you only want to define a filter for a single type, select the type from the **Type** drop-down list box.

Or:

If you want to define a filter for more than one type, click the **Choose** button which is shown next to the **Type** drop-down list box.

The **Types** dialog box appears. The types that are currently shown are selected. Example for the object type Database:



Select the types that are to be shown, and/or deselect the types that are not to be shown. You can use the **Select All** or **Deselect All** button to select or deselect all types.

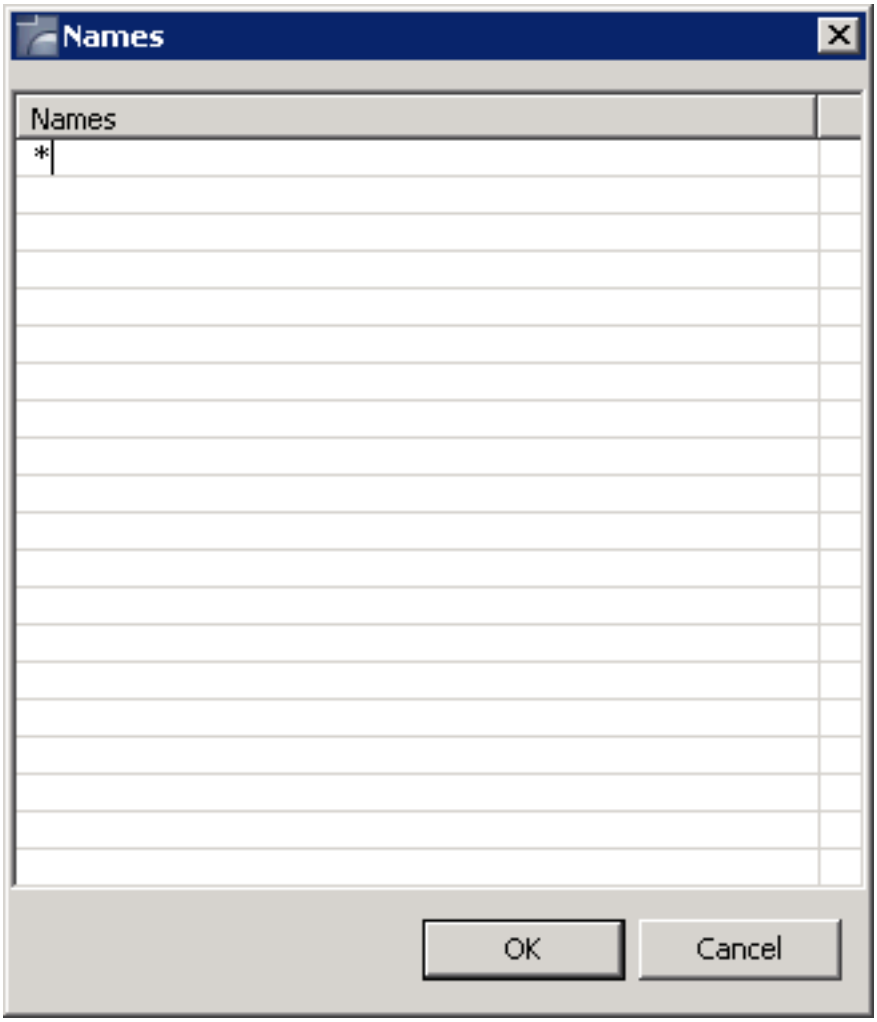
Choose the **OK** button to close the **Types** dialog box. In the **Filter** dialog box, the selected types (as much as fit in the text box) are now shown in the text box of the **Type** drop-down list box.

4 If you want to further restrict your filter selection to object types with a specific name, you can enter the name or the first character(s) of the name followed by an asterisk (*) in the **Name** text box.

Or:

If you want to define a filter for more than one name, click the **Choose** button which is shown next to the **Name** text box.

The **Names** box appears.



Enter the names or the first character(s) of the name(s) followed by an asterisk (*). Choose the **OK** button to close the **Names** dialog box. In the **Filter** dialog box, the defined names (as much as fit in the text box) are now shown in the **Name** text box.

5 You can specify further filter criteria on the different tabs of the **Filter** dialog box. The same tabs are used in the **Find Documentation Objects** dialog box. See *Finding Documentation Objects* for information on these tabs.

6 When you have defined all filter criteria, choose the **OK** button to close the **Filter** dialog box.

When the node for the selected object type is currently open in the tree, you can see that its contents changes. Only nodes for the types that you have selected are now shown.

Finding Documentation Objects

You can search for objects of a given type. The found objects are shown in a list view window.

To find an object

1 From the Natural Server connection choose **Predict Description and Generation > Find Objects**.

Or:

In the **Predict Description and Generation** view select either the top node **Documentation Objects** or a documentation object and from the context menu, choose **Find Objects**.

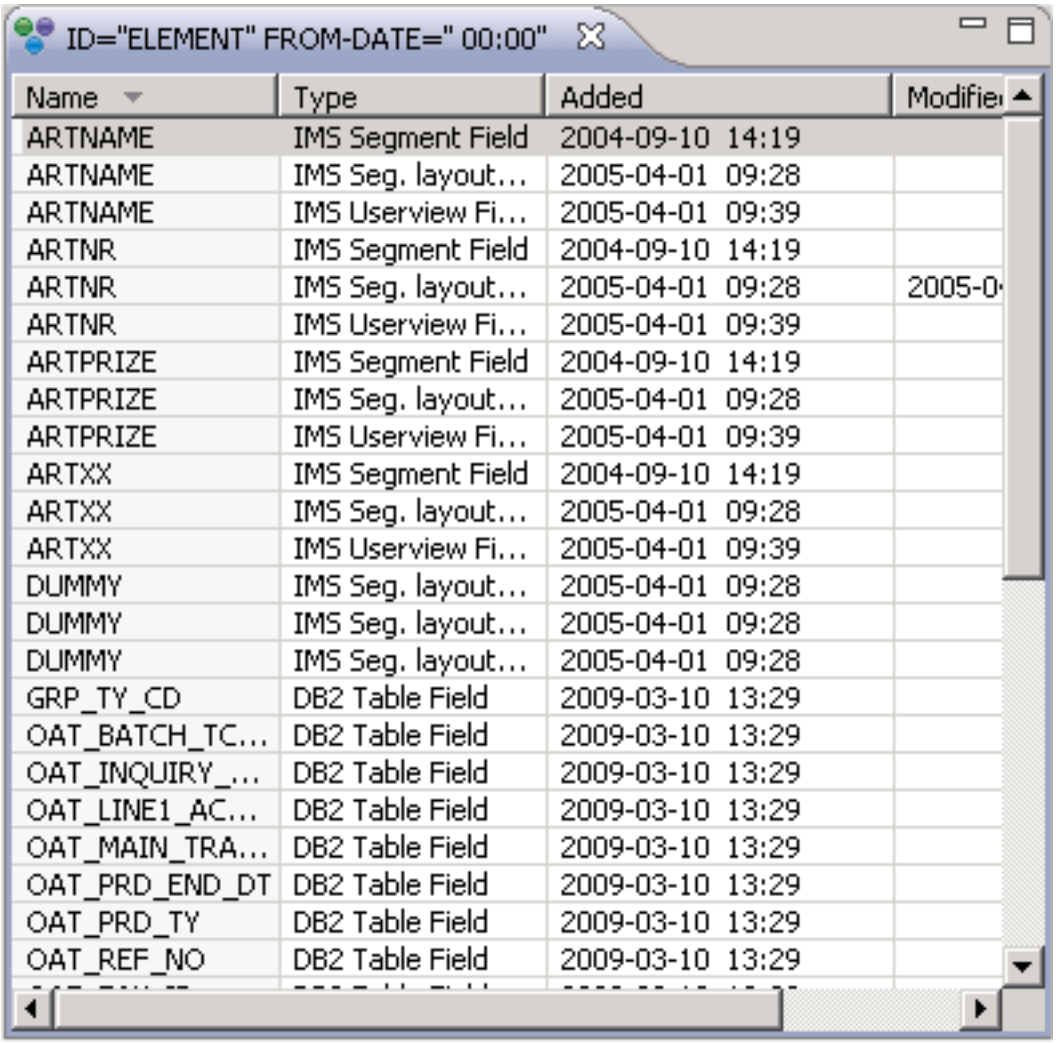
The **Find Documentation Objects** dialog box appears. This dialog box provides several tabs (some of these tabs are only shown for specific object types):

- **Identification**
- **Contents**
- **Advanced**
- **Object Type Specific**

2 Specify your search criteria on the different tabs as described below.

3 Click the **OK** button.

The **Find Documentation Objects** dialog box is closed and all found objects are shown in a list view window. Example:



Name	Type	Added	Modifie
ARTNAME	IMS Segment Field	2004-09-10 14:19	
ARTNAME	IMS Seg. layout...	2005-04-01 09:28	
ARTNAME	IMS Userview Fi...	2005-04-01 09:39	
ARTNR	IMS Segment Field	2004-09-10 14:19	
ARTNR	IMS Seg. layout...	2005-04-01 09:28	2005-0
ARTNR	IMS Userview Fi...	2005-04-01 09:39	
ARTPRIZE	IMS Segment Field	2004-09-10 14:19	
ARTPRIZE	IMS Seg. layout...	2005-04-01 09:28	
ARTPRIZE	IMS Userview Fi...	2005-04-01 09:39	
ARTXX	IMS Segment Field	2004-09-10 14:19	
ARTXX	IMS Seg. layout...	2005-04-01 09:28	
ARTXX	IMS Userview Fi...	2005-04-01 09:39	
DUMMY	IMS Seg. layout...	2005-04-01 09:28	
DUMMY	IMS Seg. layout...	2005-04-01 09:28	
DUMMY	IMS Seg. layout...	2005-04-01 09:28	
GRP_TY_CD	DB2 Table Field	2009-03-10 13:29	
OAT_BATCH_TC...	DB2 Table Field	2009-03-10 13:29	
OAT_INQUIRY_...	DB2 Table Field	2009-03-10 13:29	
OAT_LINE1_AC...	DB2 Table Field	2009-03-10 13:29	
OAT_MAIN_TRA...	DB2 Table Field	2009-03-10 13:29	
OAT_PRD_END_DT	DB2 Table Field	2009-03-10 13:29	
OAT_PRD_TY	DB2 Table Field	2009-03-10 13:29	
OAT_REF_NO	DB2 Table Field	2009-03-10 13:29	

You can manage the found objects using the context menu. For example, you can open, display or create a report of an object.

You can print the list view content (or a selection of it) using the standard Eclipse functions:

From the **File** menu choose **Print...** or click the button.

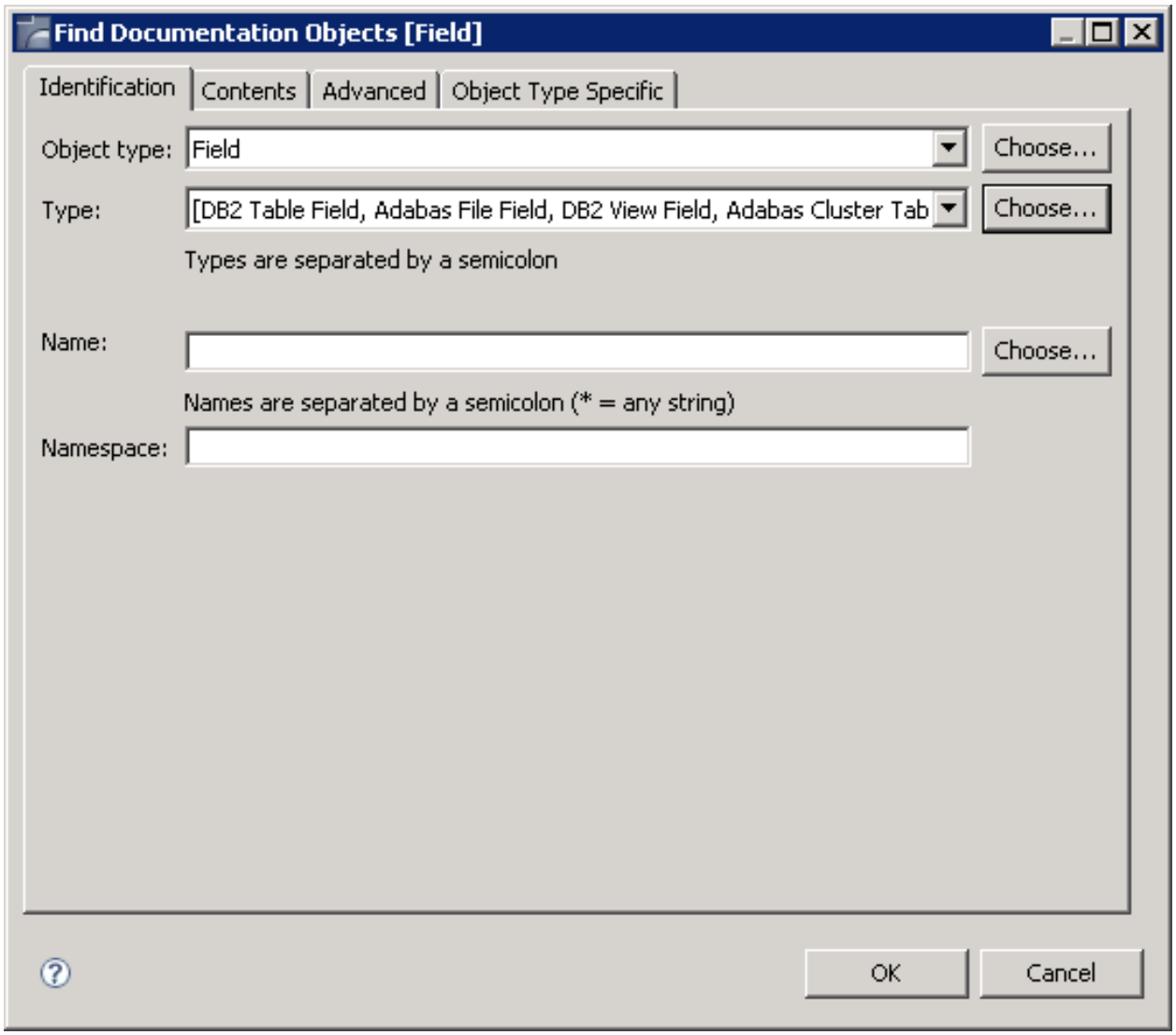
When no objects meeting the specified search criteria are found, the above window is empty.

Identification

All available object types are provided in a drop-down list box .

Multiple objects can be selected using the **Choose** button.

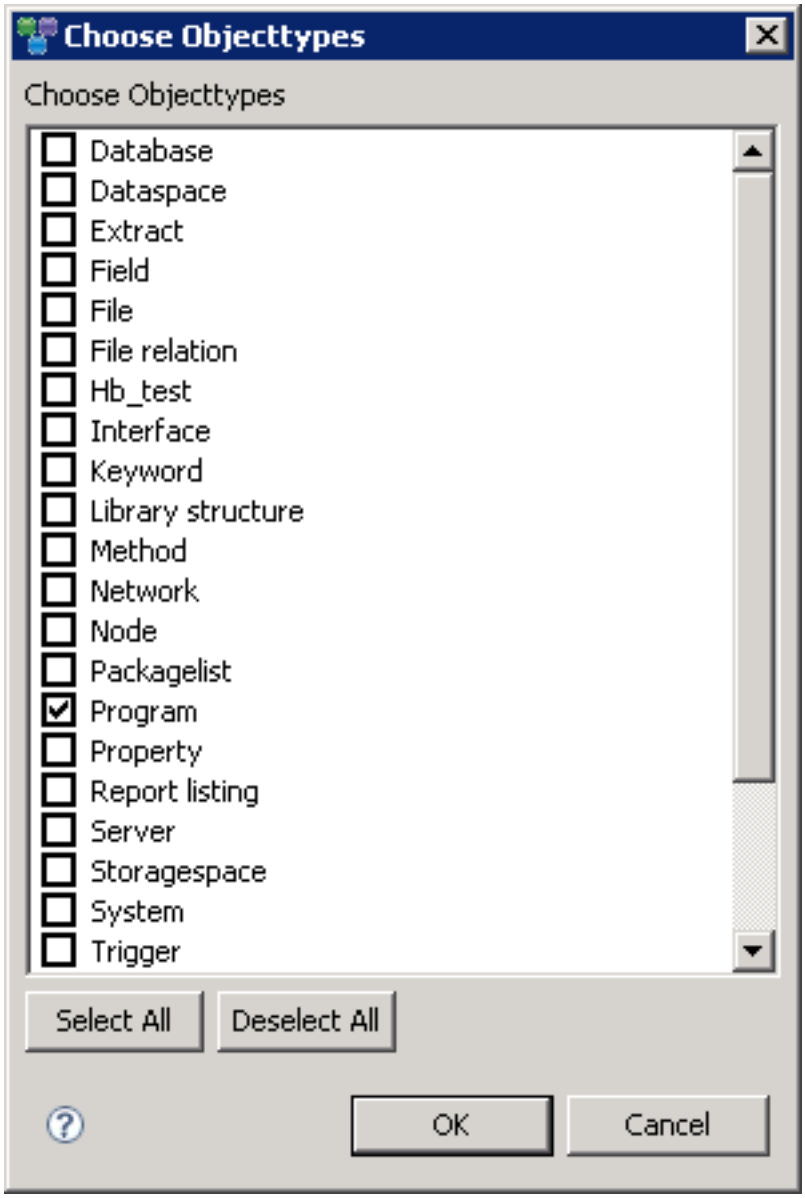
When a documentation object was selected before issuing the **Find Objects** command, the object type and, if appropriate, type of the selected documentation object are automatically preselected.



Option	Description
Object type	The object type to which the find function applies.
Type	Only available for documentation objects with different types. ■ If you only want to find a single type, select the type from the **Type** drop-down list box. An asterisk (*) in this drop-down list box means that all types of the selected object type will be found. ■ If you want to find more than one type, click the **Choose** button which is shown next to the **Type** drop-down list box. The **Types** dialog box appears. See the example below.
Name	If you know the name of the desired object, enter it in this text box. You can also specify the first character(s) of the name followed by an asterisk (*) to find all object names that start with these characters. If you want to specify more than one name, click the **Choose** button which is shown next to the **Name** text box. The **Names** dialog box appears. See the example below.
Namespace	For objects of type Field only. Enter the name of a file. Asterisk notation is possible.

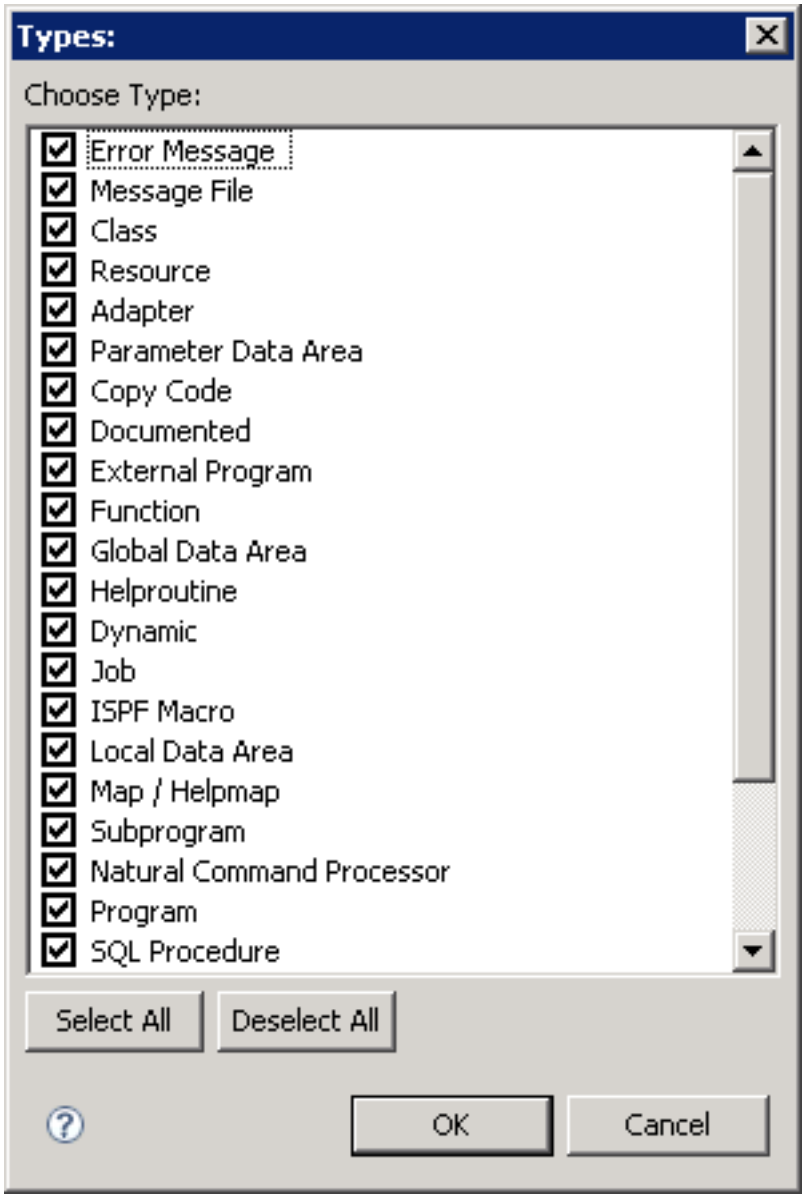
Example - find more than one object type:

The following dialog box appears.



Example - find more than one type:

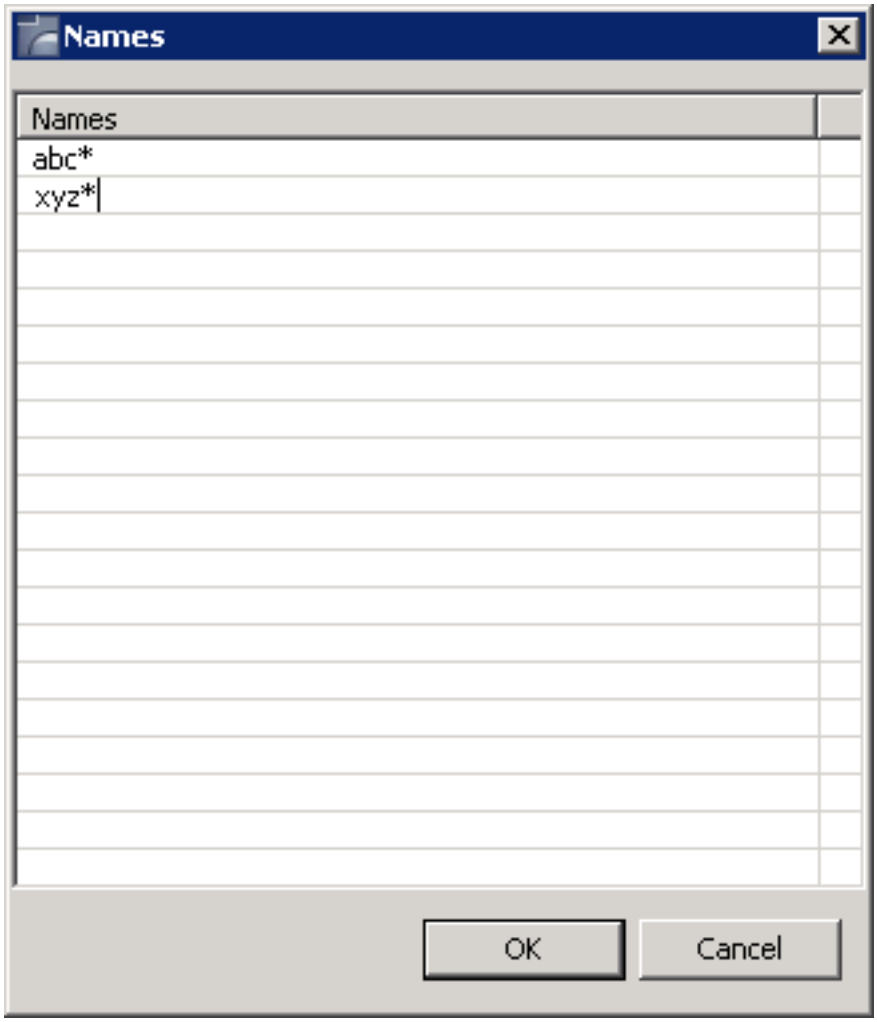
The following dialog box appears for object type Program.



The currently defined types are selected. You can now select the required types, or deselect the types that are not to be considered in your search. Choose the **OK** button to close the **Types** dialog box. On the **Identification** tab, the selected types (as much as fit in the text box) are now shown in the text box of the **Type** drop-down list box.

Example - find more than one name:

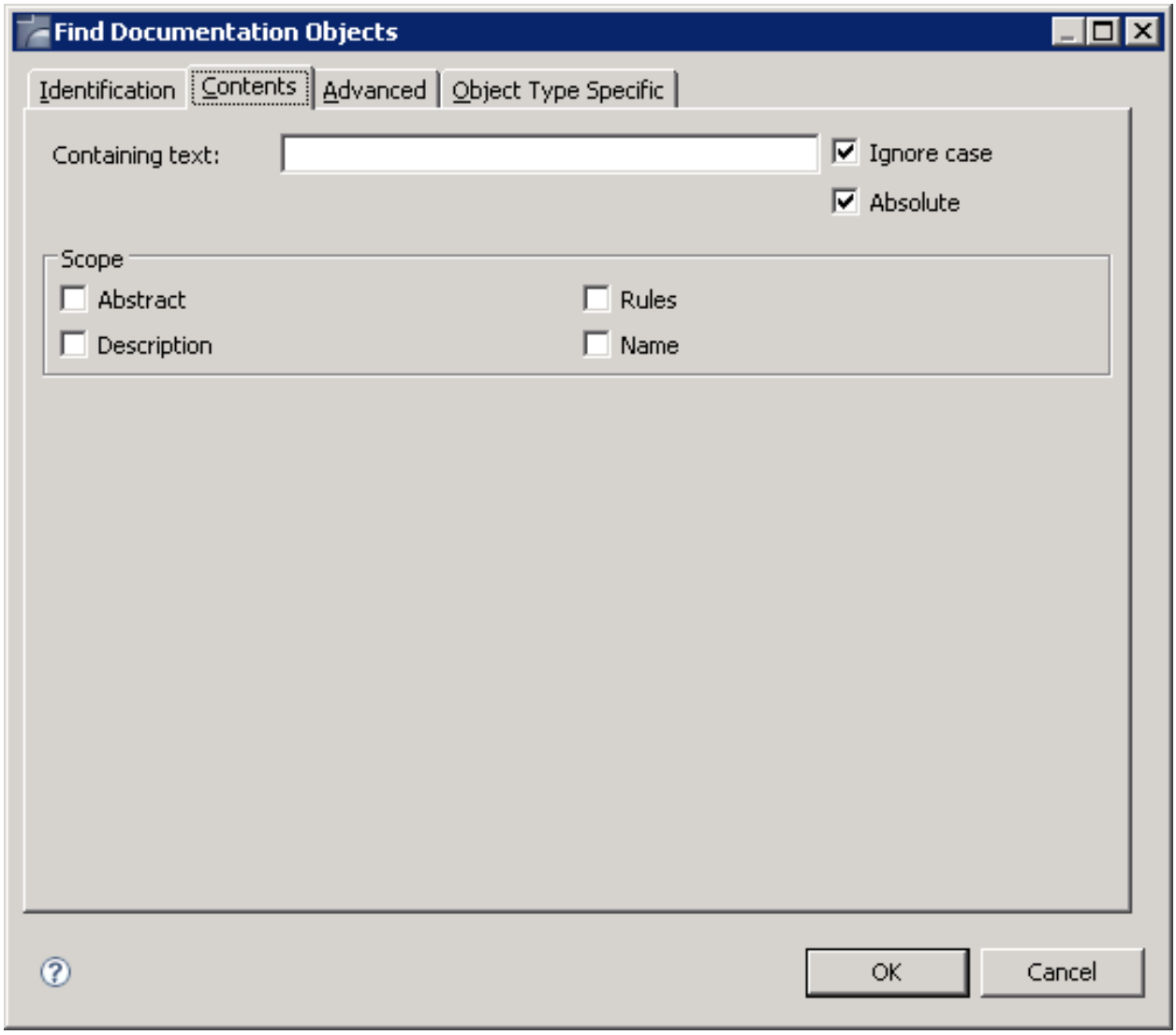
The following dialog box appears when click the **Choose** button next to the **Name** text box. When names have already been defined, they are shown in the dialog box.



You can enter the names or the first character(s) of the name(s) followed by an asterisk (*). Choose the **OK** button to close the **Names** dialog box. On the **Identification** tab, the specified names (as much as fit in the text box) are now shown in the text box of the **Name** text box.

Contents

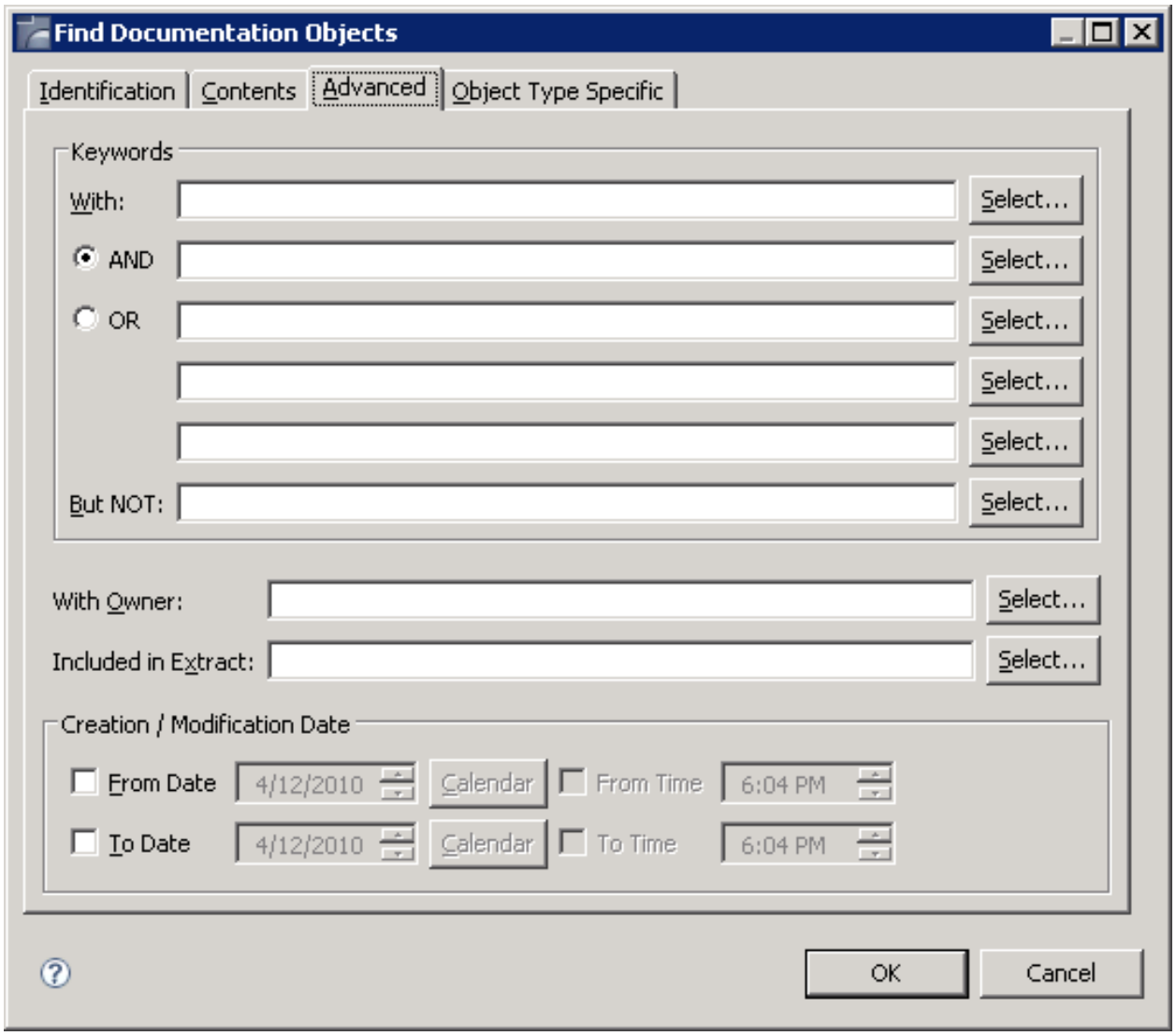
You can search for objects that contain specific text.



Option	Description
Containing text	Specify the text. The check boxes on this tab are only available when you have entered text in this text box.
Abstract	If selected, the abstract is searched for the specified text.
Description	If selected, the extended description is searched for the specified text.
Absolute	If selected, embedded text strings are found (for example, the embedded text string "mari" in "primarily"). If not selected, only occurrences of the search string that are delimited by blanks or special characters are found.
Rules	If selected, rules are to be scanned for the search string. This option applies exclusively to verifications. With objects of other types, this check box is disabled.
Name	If selected, objects will only be selected if the specified text occurs in the name (object ID).
Ignore case	If selected, no distinction is made between upper-case and lower-case characters.

Advanced

You can search, for example, for objects which contain specific keywords or which have a specific owner.

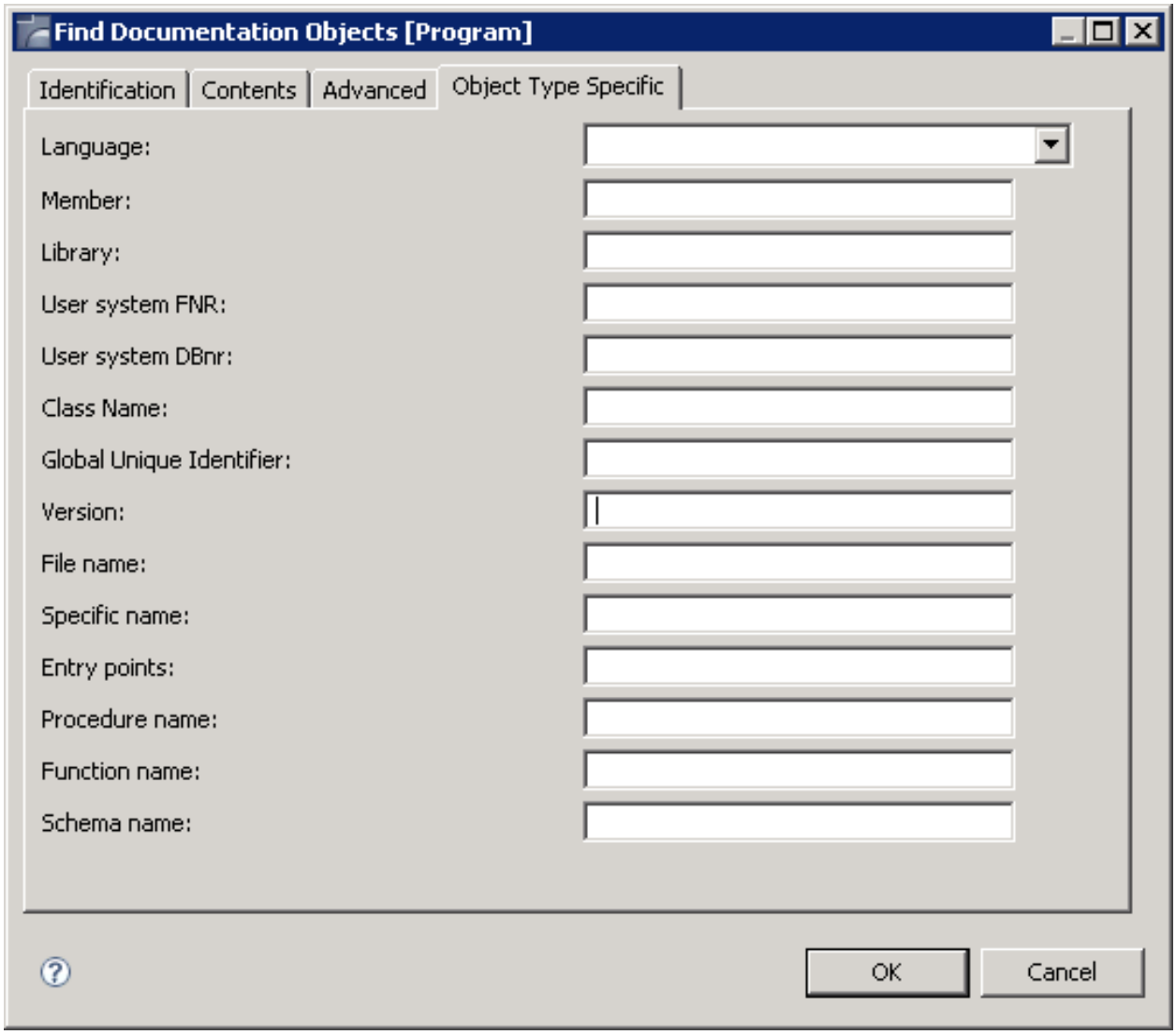


Option	Description
With	Only objects with the given keywords are included in the selection. Up to five keywords can be specified. Asterisk notation is possible.
AND/OR	When the option button **AND** is selected, the object must contain all specified keywords. When the option button **OR** is selected, the object must contain one of the specified keywords.
But NOT	Objects with the given keyword are excluded. Asterisk notation is possible.
With Owner	Only objects with the given owner are included in the selection. Asterisk notation is possible.

Option	Description
Included in Extract	Only objects contained in the specified extract are included in the selection. With asterisk notation you can specify a range of extracts.
From Date/Time	Only objects that were added or modified on or after this date will be selected. If a modification date exists, this will be evaluated. If no modification date exists for an object, the creation date is evaluated. Format "MM/DD/YYYY" for the date and "HH:II" for the time. You can also click on **Calendar** or use the arrow buttons to specify a certain date or time.
To Date/Time	Only objects that were added or modified on or before this date will be selected. If a modification date exists, this will be evaluated. If no modification date exists for an object, the creation date is evaluated. Format "MM/DD/YYYY" for the date and "HH:II" for the time. You can also click on **Calendar** or use the arrow buttons to specify a certain date or time.

Object Type Specific

The search options on this tab depend on the object type that has been selected on the **Identification** tab. This tab does not appear for all object types or if more than one object type is selected. Example for programs:



Specify all required search options.

Displaying the Properties

In **Predict Description and Generation**, the properties for the selected node are automatically shown in the standard Eclipse **Properties** view (**Show View > Other > General > Properties**).

In this view, the context menu provides the **Copy** command, which can be used to copy the content of the selected row to the Clipboard.

Different property information is shown, depending on the selected node:

- **Top-level Documentation Objectsnode**
  You can see the information that was specified when the connection was created and the version of Predict which is installed in the remote environment and the FDIC database ID and file number.

  You can see whether a filter is active (Y/N). See also *Defining the Object Types to be Shown*.

Property	Value
FDIC	FDIC=(180,250)
Filter active	Y
Host	ibm2
Port	4722
Session Parameters	profile=(prd46,177,7)fdic=(180,250)
Title	Documentation Objects
User ID	HNO

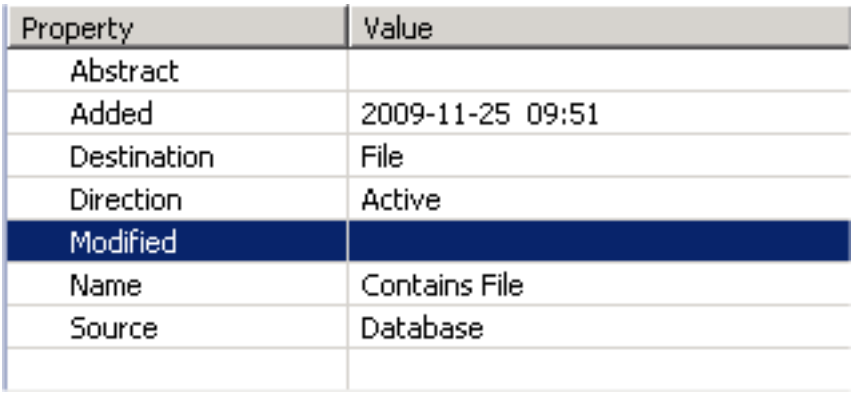
- **Node for an object type**
  You can see whether a filter exists and whether it is active (Y/N). See also *Applying a Filter to an Object Type*.

Property	Value
Filter active	N
ID	DATABASE
Title	Database

- **Node for an object of a specific type**
  You can see when and by whom the object has been added and, if applicable, last modified. When an abstract has been specified, it is also shown.

Property	Value
Abstract	asdgsdgdsf
Added	2009-08-13 15:01
Modified	2009-08-31 15:00
Name	DAEFDB26
Status	Object
Type	SQL Server

- **Node for an association**
  You can see name, source, destination and direction, and when and by whom the association was added and, if applicable, last modified. When an abstract has been specified, it is also shown.



Property	Value
Abstract	
Added	2009-11-25 09:51
Destination	File
Direction	Active
Modified	
Name	Contains File
Source	Database

Refreshing the Tree

You can refresh each node of a connection, so that the latest changes to the documentation objects are available in the **Predict Description and Generation** view. When you refresh a node, only the subtree of this node is refreshed.

Caution: For external objects, a command with a similar name, **Refresh External**, is available. Do not confuse this command with the **Refresh** command. See *Refreshing an External Object* for further information.

To refresh the tree

1 Select the node that you want to refresh.

2 Invoke the context menu and choose **Refresh**.

6 Managing Natural Objects

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- Opening the Description for a Natural Object 42
- Reporting the Description for a Natural Object 43

Redocumenting Natural Objects

You can create documentation objects for Natural objects that are shown in the **Natural Server** view, in the **Navigator** view or in a Natural Editor.

The following restrictions apply for Natural objects:

- Currently, it is only possible to redocument Natural sources which reside on the server side.
- DDMs and Libraries in the **Navigator** view are not supported.

This feature uses the defaults for the redocument function that have been defined in Predict. The results of the redocument function are shown in the Predict report view.

The Predict processing option "Add and Replace" is always used. This means: a documentation object of type Program is created for the selected Natural object. Or, when a library has been selected, documentation objects of type Program are created for all Natural objects in this library. Existing documentation objects are replaced.

It is also possible to create documentation objects in a different way. See the sections *Opening the Description for a Natural Object* and *Adding a New Documentation Object* for further information.

To redocument a Natural object

1. Select the Natural object in the **Natural Server** view or in the **Navigator** view or in a Natural Editor.
2. Invoke the context menu and choose **Predict Description and Generation > Redocument**.

To redocument all Natural objects in a library with a specific type

1. Select the type node (for example subprograms) in the **Natural Server** view.
2. Invoke the context menu and choose **Predict Description and Generation > Redocument Objects**.

To redocument all Natural objects in a library

1. Select the library in the **Natural Server** view.
2. Invoke the context menu and choose **Predict Description and Generation > Redocument Objects**.

Displaying the Description for a Natural Object

Using the **Display Description** command, you can display information on a documentation object for a Natural object, DDM or library.

When a documentation object does not yet exist, a warning appears in the result window indicating that the object is not documented.

When a documentation object does already exist, an object type-specific window appears and you can view the defined information. This is the same window which appears when you open the description for a Natural object, DDM or library (**see below**). The only difference is that the information is provided in read-only mode and that certain command buttons are therefore not available.

Note: DDMs on platforms running Natural for Windows or UNIX are only supported, if they reside in library SYSTEM or the Natural system file respectively, for DDMs are defined via the Natural profile parameter FDDM.

To display the description for a Natural object

1 Select the Natural object in the **Natural Server** view or in the **Navigator** view or in a Natural Editor.

2 Invoke the context menu and choose **Predict Description and Generation > Display Description**.

When a documentation object does already exist, a window for the object type Program appears. See *Program* in *Predefined Object Types in Predict* for further information.

In case of a DDM, a window for the object type File appears. See *File* in *Predefined Object Types in Predict* for further information.

In case of a library, a window for the object type System (system type Application Library) appears. See *System* in *Predefined Object Types in Predict* for further information.

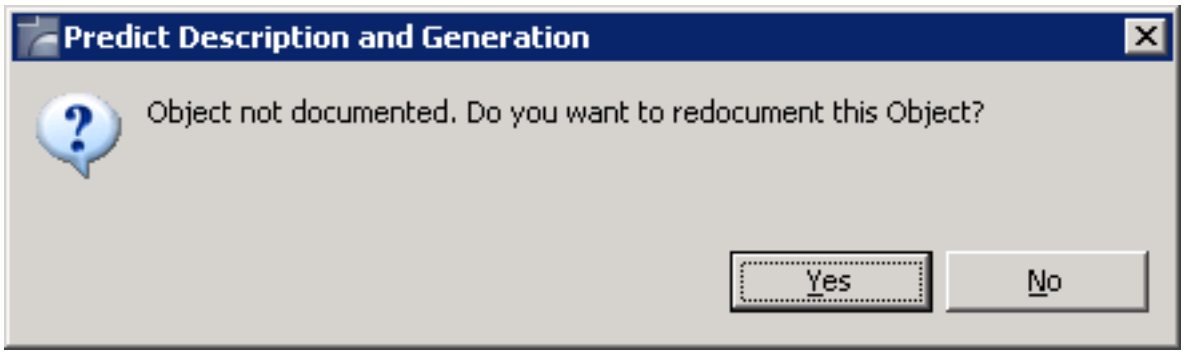
3 Choose the **OK** button to close the window.

Opening the Description for a Natural Object

The implementation pointer is used to establish the connection between the Natural object and the documentation object. In case of a Natural object it consists of member name, library name, user system file number and user system database number. When you open the description for a Natural object, the best hit principle is applied: the member with the most detailed implementation pointer is shown. So that a matching documentation object can be found, at least the member names must match. Exception: in case of a DDM an implementation pointer does not exist; the connection is established via the name.

In case of a library, the implementation pointer consists of library name, user system file number and user system database number. So that a matching documentation object can be found, at least the library names must match.

If no documentation object is found for the selected Natural object, you will be asked whether you want to redocument the selected object. This dialog is only displayed in the **Natural Server** view.



When a documentation object can be found, you can modify it.

Note: DDMs on platforms running Natural for Windows or UNIX are only supported, if they reside in library SYSTEM or the Natural system file respectively, for DDMs are defined via the Natural profile parameter FDDM.

To open the description for a Natural object

1 Select the Natural object in the **Natural Server** view or in the **Navigator** view or in a Natural Editor.

2 Invoke the context menu and choose **Predict Description and Generation > Open Description**.

A window for the object type Program appears. See *Program* in *Predefined Object Types in Predict* for further information.

In case of a DDM, a window for the object type File appears. See *File* in *Predefined Object Types in Predict* for further information.

In case of a library, a window for the object type System (system type Application Library) appears. See *System* in *Predefined Object Types in Predict* for further information.

3 Specify all required information. See also ***Object Type-Specific Windows***.

4 Choose the **Save** button to modify the documentation object.

Or:

When you save a new object and a name has not yet been specified, the **Save As** dialog box appears. In this case, you have to specify a name for the new documentation object and choose the **OK** button.

Reporting the Description for a Natural Object

Using the **Report Description** command, you can find out whether a documentation object already exists for a Natural object, DDM or library.

When a documentation object does not yet exist, a warning appears in the result window indicating that the object is not documented.

When a documentation object already exists, the **Predict Report** view appears. The report provides information on the documentation object in simple text format..

Note: DDMs on platforms running Natural for Windows or UNIX are only supported, if they reside in library SYSTEM or the Natural system file respectively, for DDMs are defined via the Natural profile parameter FDDM.

To display the description for a Natural object as a report

1 Select the Natural object in the **Natural Server** view or in the **Navigator** view or in a Natural Editor.

2 Invoke the context menu and choose **Predict Description and Generation > Report Description**.

The report description is displayed.

See also ***Printing and Saving a Report for a Documentation Object*** for details.

7 Managing Documentation Objects

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- Adding a New Documentation Object 52
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Object Type-Specific Content Editors

An object type-specific content editor appears when you open an existing documentation object, or when you add a new documentation object.

The object type-specific content editors have different tabs with different types of edit controls.

- Tabs
- Simple Edit Controls
- Text Box
- Text Editor
- Tables
- Saving Your Changes

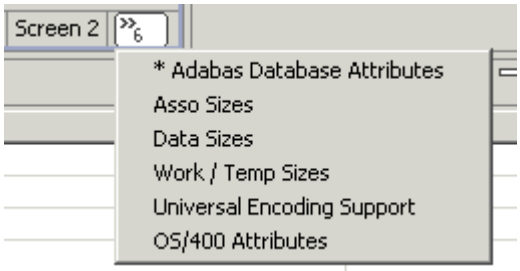
Note: With Predict 4.6.1 Fix 1 the metadata structures are changed to be more user friendly. Therefore, it may appear that tabs and edit controls within tabs are differing from those displayed in this documentation.

Tabs

Two types of tabs are available:

- Common tabs that are always the same for all object types are **Overview** and **Extended Description**. See *Global Attributes* in the reference documentation *Predefined Object Types in Predict*.
- Tabs that are only shown for this type of object. See the object type-specific descriptions in the reference documentation *Predefined Object Types in Predict*.

The tabs are shown at the bottom of the content editor. When more tabs are available than can be shown on the screen, a number at bottom right indicates that there are more tabs. When you select this number, you can display a tab by choosing its name from a list.



Several tabs require that you specify mandatory information. Such a tab shows an asterisk (*) next to the tab name.

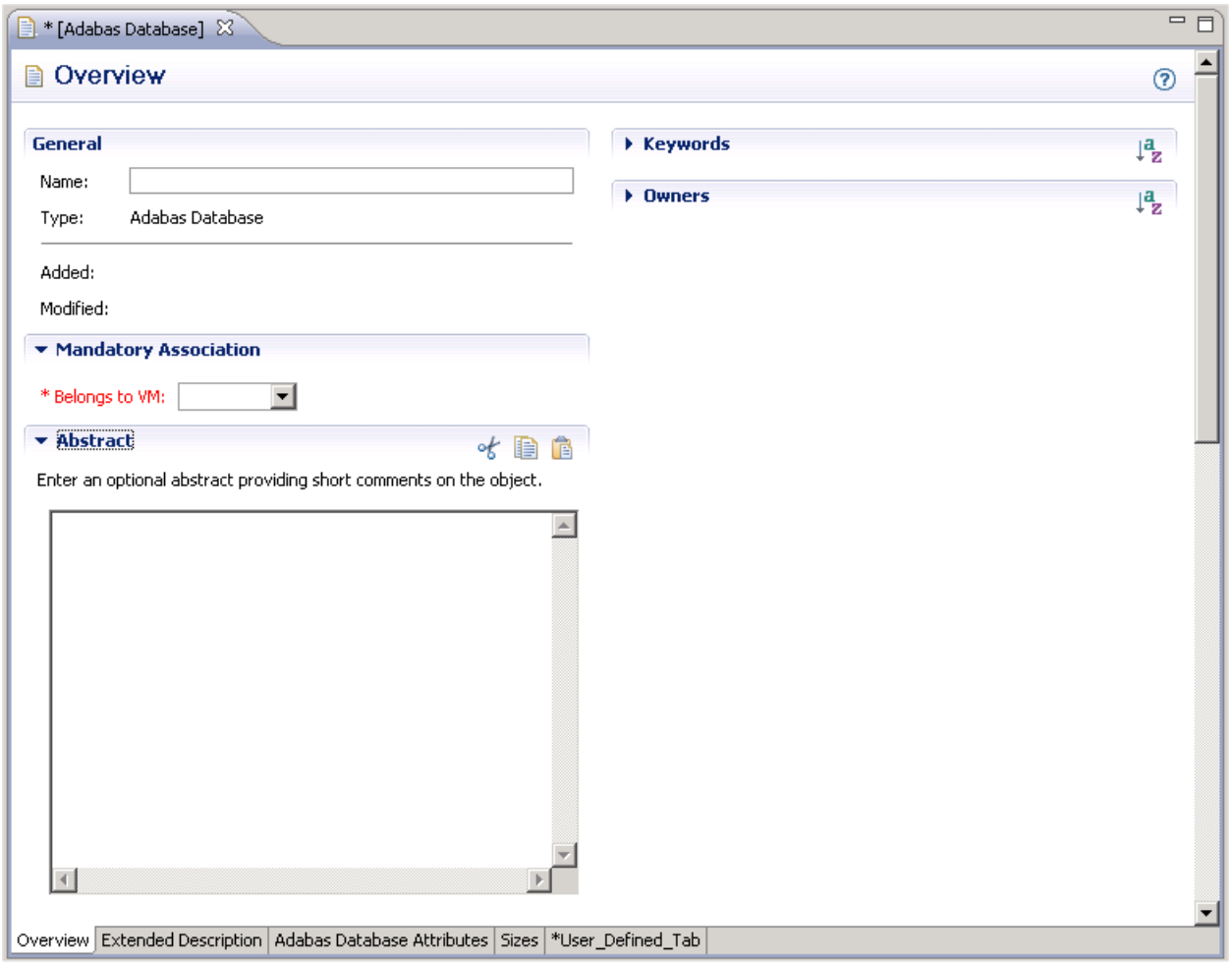
Simple Edit Controls

Some tabs provide simple edit controls such as text boxes, check boxes or drop-down list boxes.

For the description of check boxes, the reference documentation *Predefined Object Types in Predict* uses the abbreviations Y (yes) and N (no). Y means that the check box is selected, and N means that the check box is not selected.

Text Box

Some tabs such as the **Overview** tab provide a simple text editor such as the **Abstract** section. Edit commands like **Copy** and **Paste** are available in a context menu. Example:



Text Editor

The following tabs provide a text editor:

- Extended Description,
- Processing Rule (of a verification),
- Check Expression (for files of type DB2 Table),
- Subquery (for files of type DB2 View) and
- Field Expression (for a DB2 View Field).

Using the commands from the common **Edit** menu, you can **Cut**, **Copy**, **Paste**, **Delete**, **Select All** and **Find/Replace** text. In addition, you can undo and redo your last change and make a **Revert File** operation.

The above commands are available using the corresponding Eclipse keyboard shortcuts.

Some of these commands are also available when you invoke the context menu in the editor.

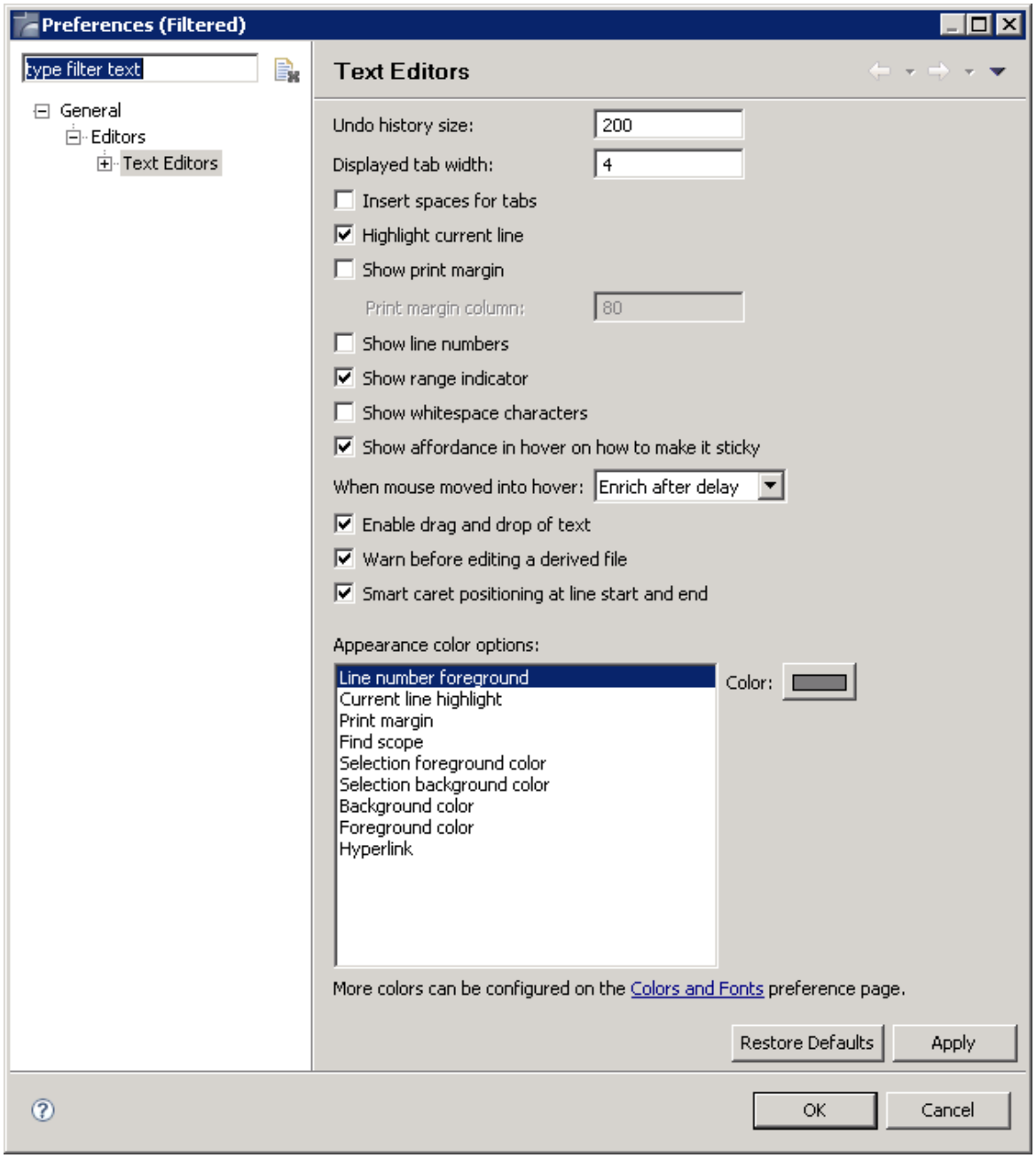
When using the editor the following functions are available:

- The function **Show line numbers** in the Eclipse **Preferences** can be switched on/off in the editor.

To display the Text Editors preferences from within the text editor

1. On any column in the editor, invoke the context menu and click on the **Preferences** option.

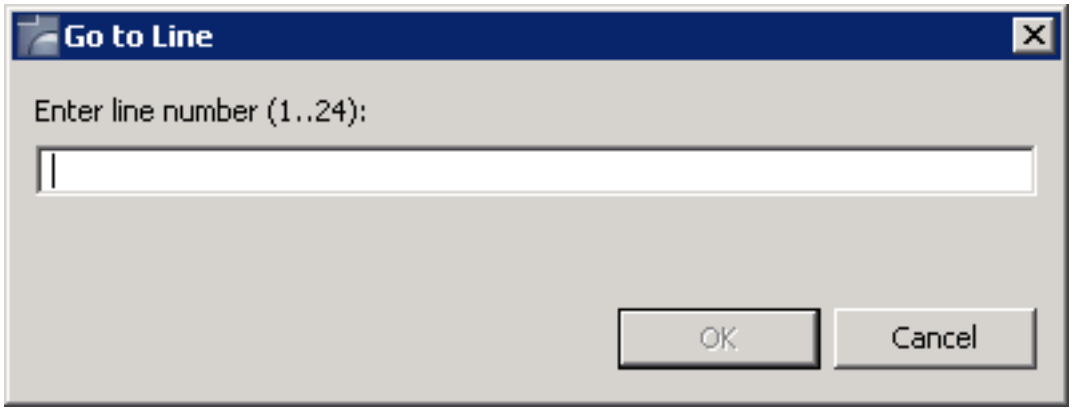
   The **Text Editors** preferences menu is displayed.
2. Activate/deactivate the **Show line numbers** option.



3 Click **OK**.

The text editor now displays/hides line numbers.

- The function **Go to line** is available via the Eclipse keyboard shortcut Ctrl+L. The following dialog is displayed:



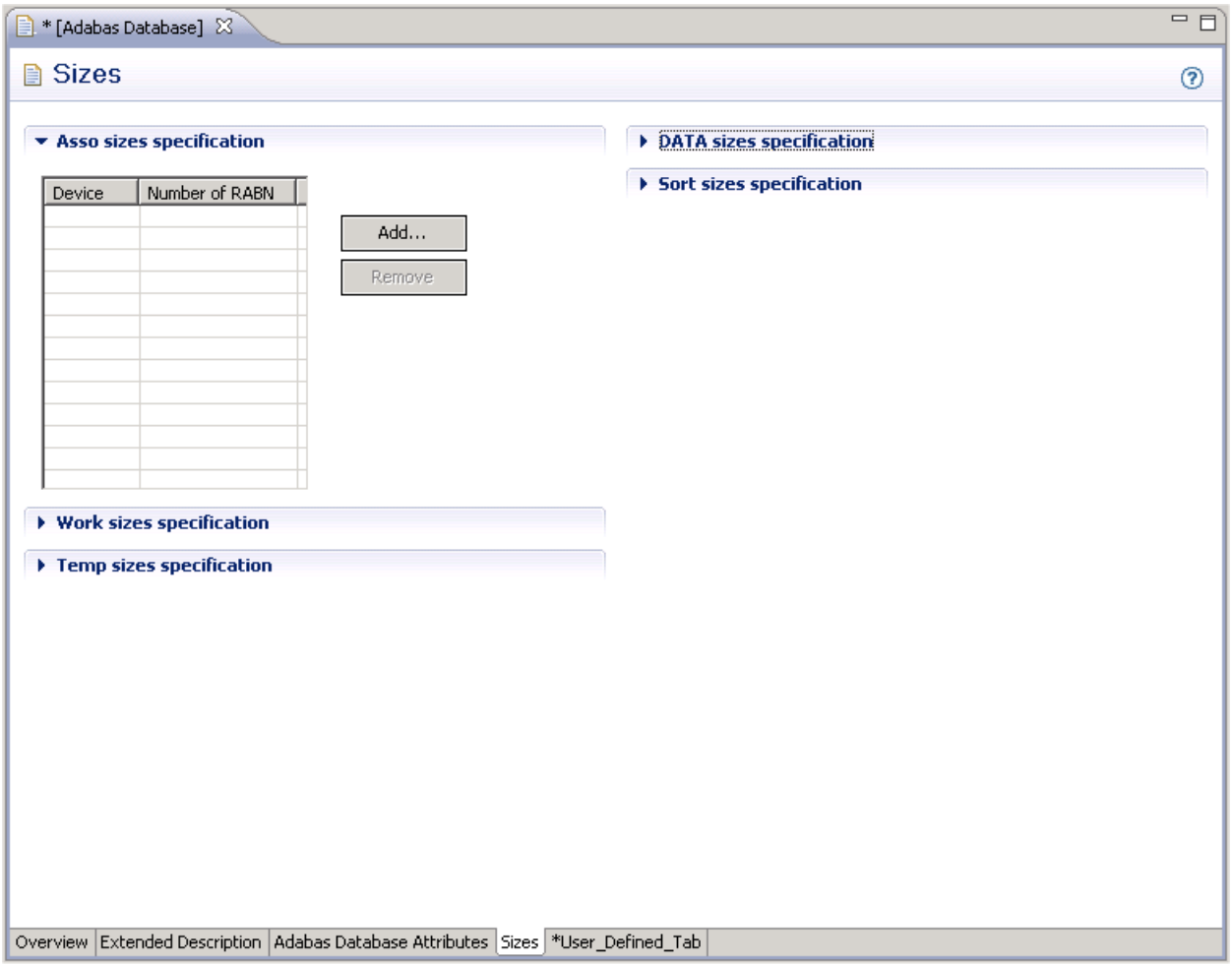
- The Eclipse Status Line shows whether the object is ("Writable" or "Read-Only"), the editor´s insert mode ("Smart Insert" or "Overwrite") and the current cursor position (following the pattern "line : column").

  A double click on the status field insert mode toggles this mode.

  A double click on the status field cursor position opens the above **Go to Line** dialog.

Tables

Some tabs provide tables to which you can add new information. A table may contain one or more resizable columns. Example:



The following command buttons are provided with a table:

Command Button	Description
Add...	Creates a new row containing several cells in which you can enter information.
Remove	Removes the selected row.

The following functions are provided in the context menu of a table:

Command Button	Description
Insert	Creates a new row containing several cells in which you can enter information.
Delete	Deletes the selected row.

To modify existing information in a cell of the table, simply overwrite it. You can either enter information directly in a cell or select it from a drop-down list box.

Saving Your Changes

To save your changes in an object type-specific content editor, you simply use the Eclipse save functionality.

Notes:

1. When you save a new object and a name has not yet been specified, the **Save As** dialog box appears. In this case, you have to specify a name for the new documentation object and choose the **OK** button.
2. When mandatory information has not been specified, an appropriate error message is shown in a dialog box. The tab on which information is missing is automatically shown. The documentation can only be saved after all mandatory information has been specified.

Adding a New Documentation Object

You can manually add documentation objects for all predefined and user-defined objects types in Predict. You have to specify all information yourself, including the implementation pointer. This function is helpful, if documentation is to take place before implementation. Information on the implementation pointer can be found under *Opening the Description for a Natural Object*.

To add a new documentation object

1 Select the object type for which you want to add a new object.

2 Invoke the context menu and choose **New**.

In some cases, you have to select a type (for example, a database type) in a dialog box. The resulting content editor then shows object-specific information.

3 Specify all required information as described in the reference documentation *Predefined Object Types in Predict*. See also *Object Type-Specific Content Editors*.

Locking of Documentation Objects

When a documentation object is modified, renamed or deleted, it is automatically locked to prevent concurrent updates.

When working with associations and links, the following applies:

- When the **Unlink/Link** command is used, the parent object is locked. See also: *Linking and Unlinking Associations*.

- When the **Attributes of Link** command is used, both the parent and child object are locked. See also: *Modifying the Attributes of a Link*.

Caution: Currently, locking of documentation objects is only possible on the client side when using Predict Description and Generation. When performing actions on documentation objects in Predict on the server side, the locking mechanism is ignored. This can result in inconsistent data.

When a system interruption has occurred, you can manually unlock locked documentation objects.

Important: You should only unlock a documentation object when you are sure that this object is currently not being edited by another user.

To unlock a documentation object

1 Select the documentation object that you want to unlock.

2 Invoke the context menu and choose **Unlock Object**.

Opening/Displaying an Existing Documentation Object

When you open a documentation object, it is possible to modify it (edit mode). There is one exception: when the documentation object is currently locked, it is only possible to view the information, it is not possible to modify the documentation object (read-only mode).

To open a documentation object

1 Select the documentation object.

2 Invoke the context menu and choose either **Open** or **Display**.

Or:

Double-click the documentation object.

An object type-specific content editor appears. See also *Object Type-Specific Content Editors*.

Renaming a Documentation Object

You can change the object ID with the **Rename** command. The new object ID must not already exist in the dictionary.

To rename a documentation object

1 Select the documentation object that you want to rename.

2 Invoke the context menu and choose **Rename**.

A dialog box appears prompting for a new name.

3 Specify another name and choose the **OK** button.

Purging a Documentation Object

You can purge documentation objects using the **Delete** command.

For further information on the purge process, see the object type-specific descriptions in the reference documentation *Predefined Object Types in Predict*.

To purge a documentation object

1 Select the documentation object that you want to purge.

2 Invoke the context menu and choose **Delete**.

A dialog box appears asking whether you really want to delete the object.

3 To confirm the deletion for the current object, choose the **OK** button.

Printing and Saving a Report for a Documentation Object

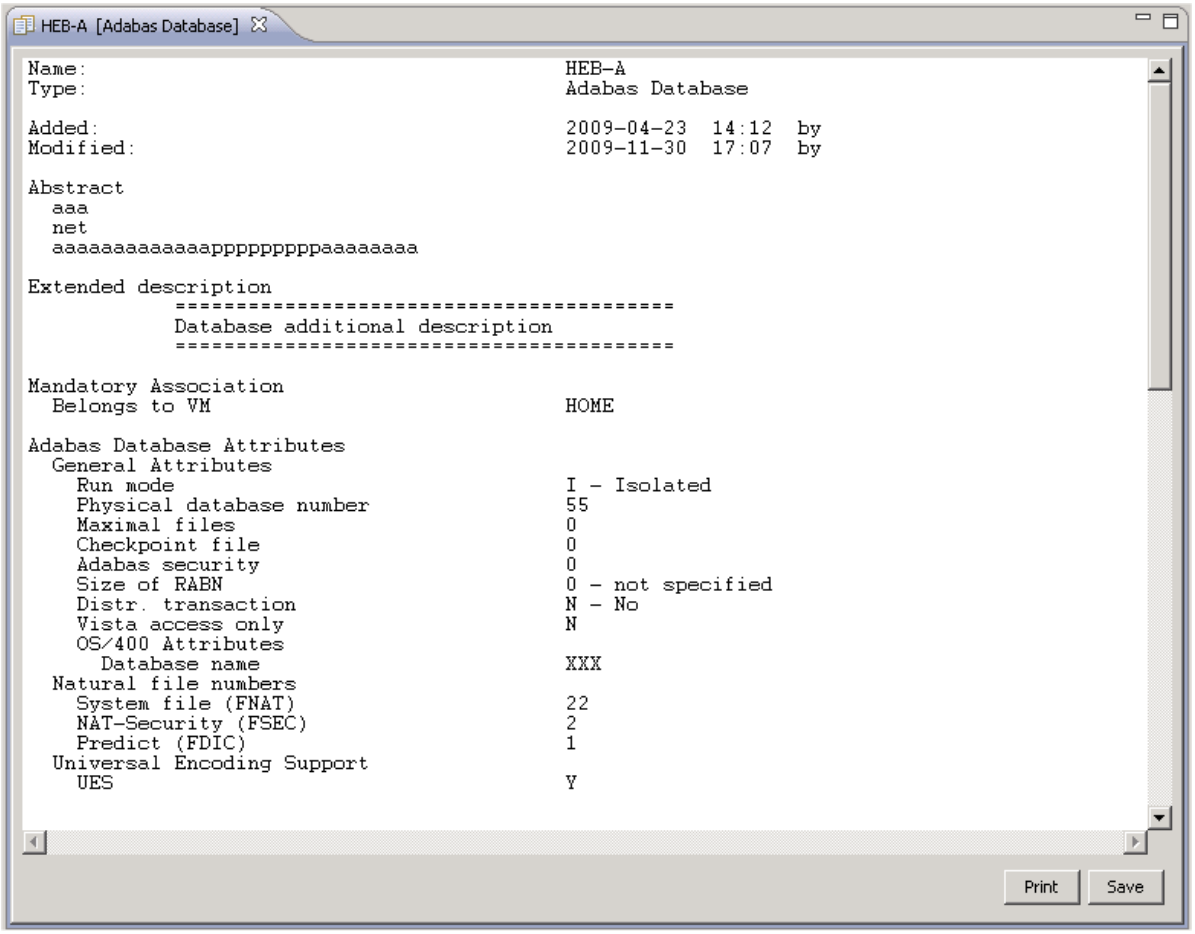
The information shown in an object-type specific window (which can be invoked with the **Open** or **Display** command) can also be shown as a report in simple text format. It is possible to print and save this report.

To print and save a report

1 Select the documentation object.

2 Invoke the context menu and choose **Report**.

A window such as the following appears.



3 Choose the desired command button:

Command Button	Description
Print	The **Print Setup** dialog box appears. Specify all required information (for example, a different printer or text orientation) and choose the **OK** button.
Save	The **Save Report** dialog box appears. Select the folder in which you want to store the report, specify a report name and choose the **Save** button.

4 To close the window in which the report is shown, choose the **OK** button.

8 Managing Associations and Links

- Linking and Unlinking Objects 58
- Modifying the Attributes of a Link 59
- Printing and Saving a Report for the Attributes of a Link 61

Linking and Unlinking Objects

You can link more objects to a parent object or remove linked objects. You can also modify the sequence of the linked objects.

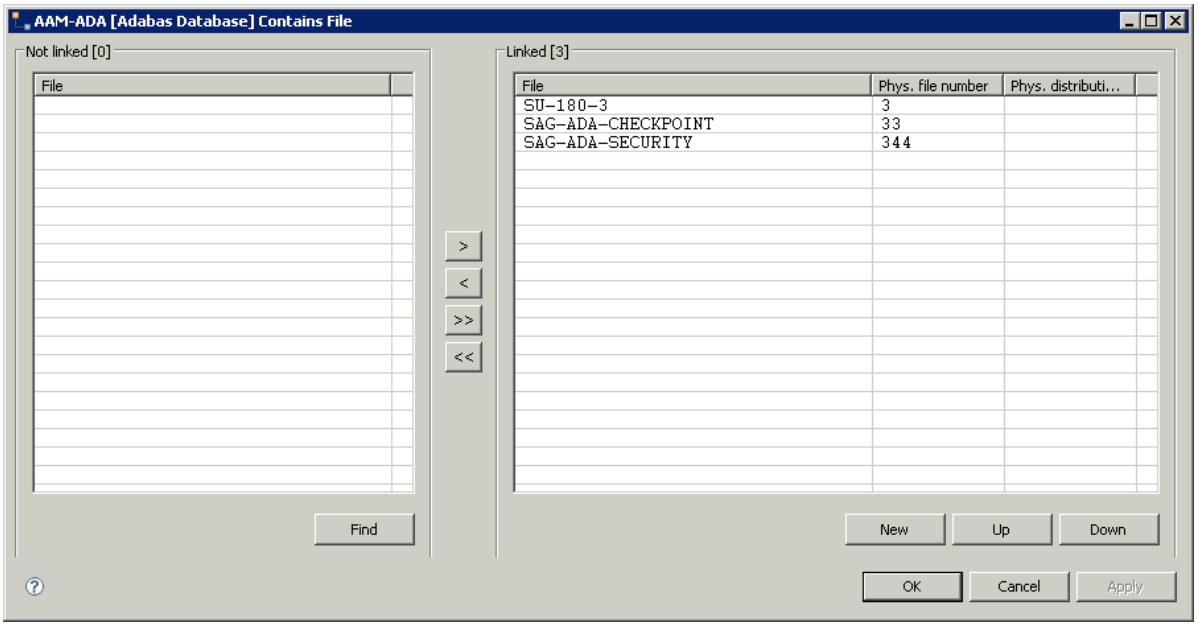
To link and unlink objects

1 Select the node for the desired association in the tree.

2 Invoke the context menu and choose **Unlink/Link**.

> **Note:** There are several associations for which it is not possible to change the list of linked objects. The **Unlink/Link** command is dimmed in these cases. An example of such an association is "Has Fields"; fields can only be maintained via the object type-specific content editors which appear for files and fields.

A window appears. The name and type of the parent object and the name of the association are shown in the title bar. A list of linked objects (children) is shown on the right side of the window.



3 Use the following command buttons to link/unlink objects:

Command Button	Description
Find	Invoke the **Find Documentation Objects** dialog box in which you can specify the search criteria for the objects that are to be shown on the left side of the window. Found objects can then be moved to the list of linked objects. For information on the **Find Documentation Objects** dialog box, see *Finding Documentation Objects*.
>	Move the objects that are currently selected on the left side of the window to the list of linked objects on the right side of the window. See also the description of the **Find** button.
<	Remove the linked objects that are currently selected on the right side of the window. When a linked object has been removed, it is shown in the list on the left side of the window.
>>	Move all objects from the left side of the window to the list of linked objects on the right side of the window.
<<	Remove all linked objects on the right side of the window.
New	Add a new object to the list of linked objects. A dialog box appears in which you have to enter the name for the new object.
Up	Move the selected linked object one position up in the list.
Down	Move the selected linked object one position down in the list.

4 Choose the **OK** button to saves all changes and to close the window.

Modifying the Attributes of a Link

This function is only available for links where attributes have been defined for the corresponding association in the metastructure of the Predict data dictionary. With the predefined associations this is the case, for example, for the links "Has Files" of an Adabas database, and for the links "Defined in Server" of a DB2 database or file. With user-defined associations, attributes may also be defined. When such attributes have been defined, it is possible to add or modify their values for a link.

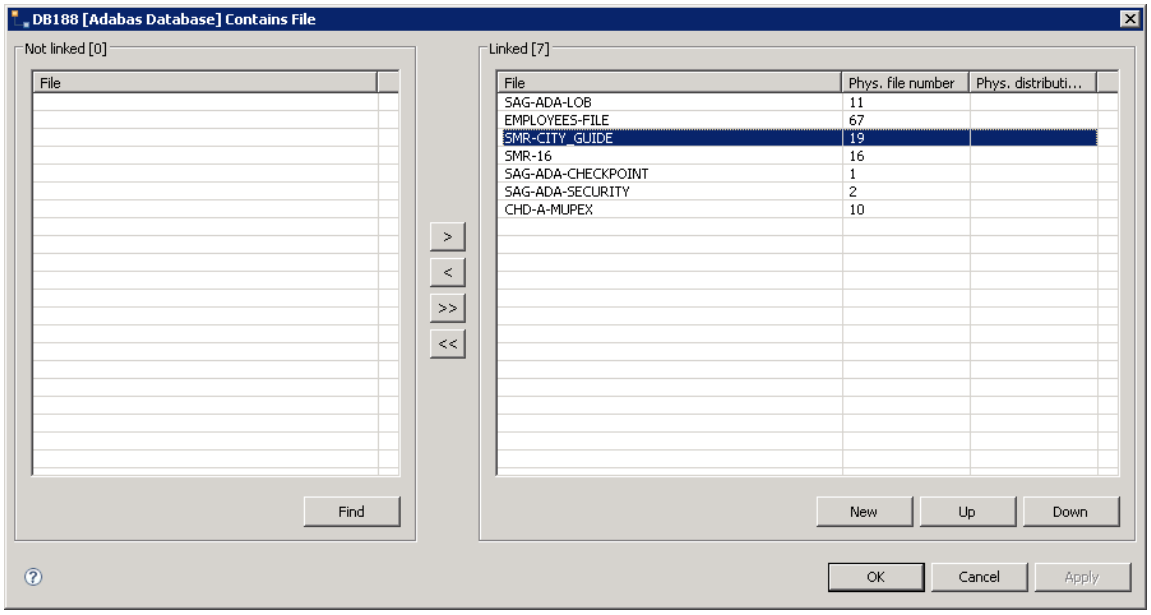
To modify the attributes of a link

1 Open the node for the desired association in the tree.

2 Select the desired documentation object.

3 Invoke the context menu and choose **Attributes of Link**.

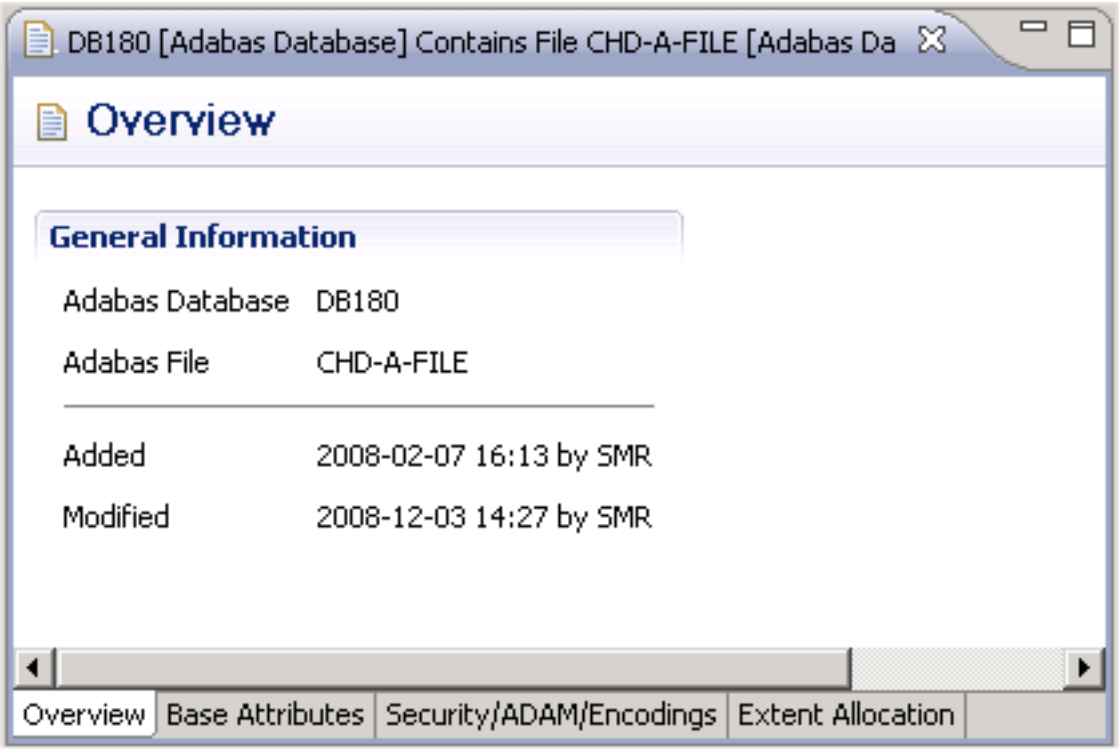
Adabas databases and files only:
When the logical distribution type "Expanded" or "Partitioned" has been defined, the following **Link** dialog box appears in which you have to select the link to be modified. A number in the **Phys. file number** column stands for the physical file number.



When the **Link** dialog box has been invoked using the **Unlink/Link** command, it is also possible to add a new link by selecting **New**. Choose the **OK** button to proceed to the association-specific content editor (see below).

The tabs that are shown in the resulting content editor depend on the type of association. See the reference documentation *Predefined Object Types in Predict* for further information.

The following is an example of an association-specific content editor in which the attributes of the link can be modified.



When an object is locked, a corresponding message is shown and the attributes are shown in read-only mode.

Printing and Saving a Report for the Attributes of a Link

The information shown in an association-specific window (which can be invoked with the **Attributes of Link** command) can also be shown as a report in simple text format. It is possible to print and save this report.

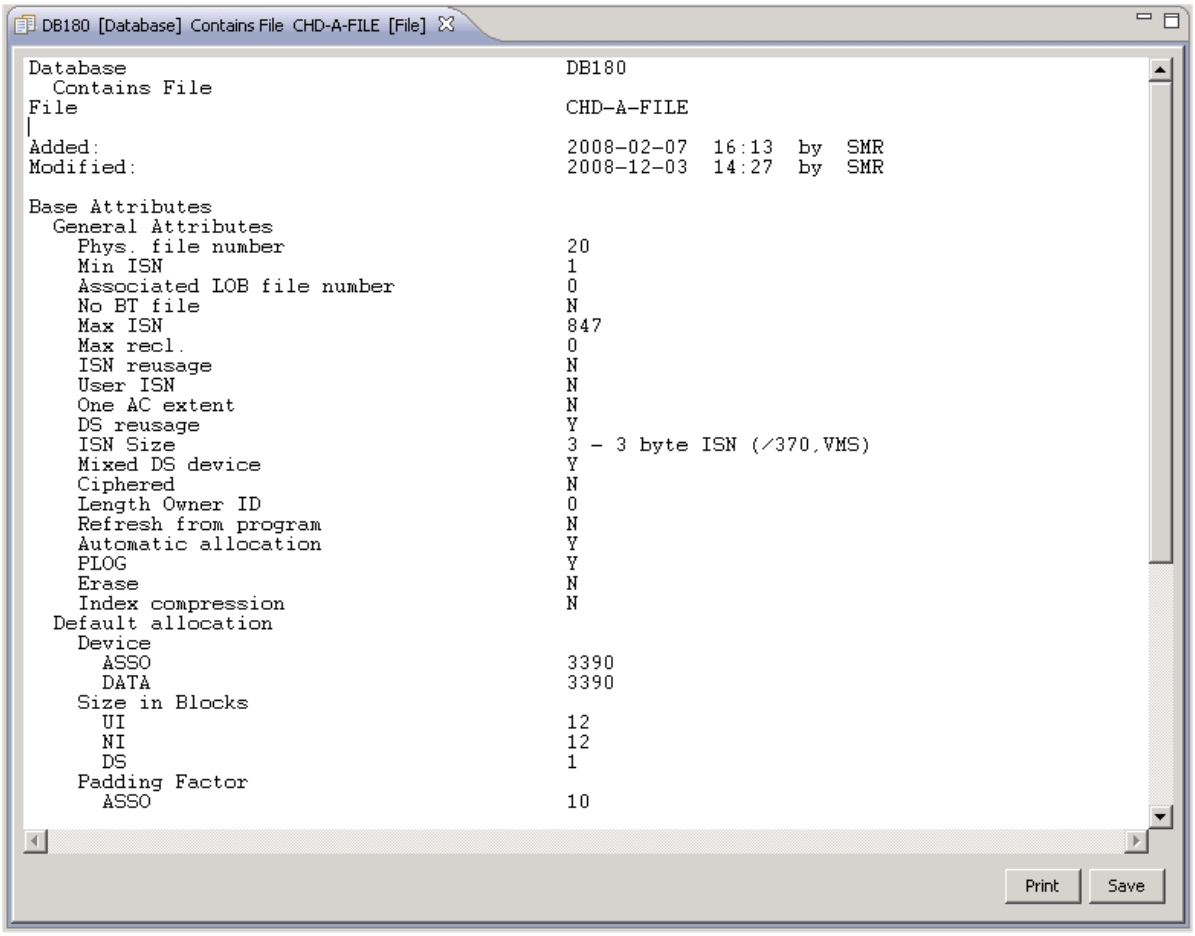
To print and save a report

1 Open the node for the desired association in the tree view window for the documentation objects.

2 Select the desired documentation object.

3 Invoke the context menu and choose **Report Attributes of Link**.

A window such as the following appears.



4 Choose the desired command button:

Command Button	Description
Print	The **Print Setup** dialog box appears. Specify all required information (for example, a different printer or text orientation) and choose the **OK** button.
Save	The **Save Report** dialog box appears. Select the folder in which you want to store the report, specify a report name and choose the **Save** button.

5 To close the window in which the report is shown, choose the **OK** button.

9 Managing External Objects

- Generating an External Object 64
- Incorporating External Objects 64
- Refreshing an External Object 72
- Disconnecting an External Object 73
- Purging an External Object 73

Generating an External Object

You can generate an external object from a documentation object.

To generate an external object

1 Select the documentation object for which you want to generate an external object.

You can generate an external object from the following object types:

- DB2 databases
- dataspaces
- files of many different types
- programs of type database function and SQL procedure
- storagespaces
- verifications of type automatic

2 Invoke the context menu and choose **Schema Generation Wizard**.

The schema generation wizard appears.

3 Specify all required options. If available choose the **Next** button to proceed to the next page.

For detailed information on the object type-specific information that can be specified using this wizard, see *Generation of External Objects* in *External Objects in Predict*.

4 If all required information has been specified, choose the **Finish** button to start generation.

When the generation process has completed, the last page of the wizard is shown. When the **List** option has been selected on a previous page of the wizard, a report is shown. If an error occurs during the generation process, an error report is shown.

Incorporating External Objects

This section describes the wizard that is used for schema incorporation.

The wizard provides several pages in which you have to specify information. The number of pages and the information on these pages depends on the object type that has been selected on the first page of the wizard.

For detailed information on the object type-specific information that can be specified using this wizard, see *Incorporation* in *External Objects in Predict*.

The wizard uses edit controls such as text boxes, check boxes or drop-down list boxes. For the description of check boxes, the reference documentation *External Objects in Predict* uses the abbreviations Y (yes) and N (no). Y means that the check box is selected, and N means that the check box is not selected.

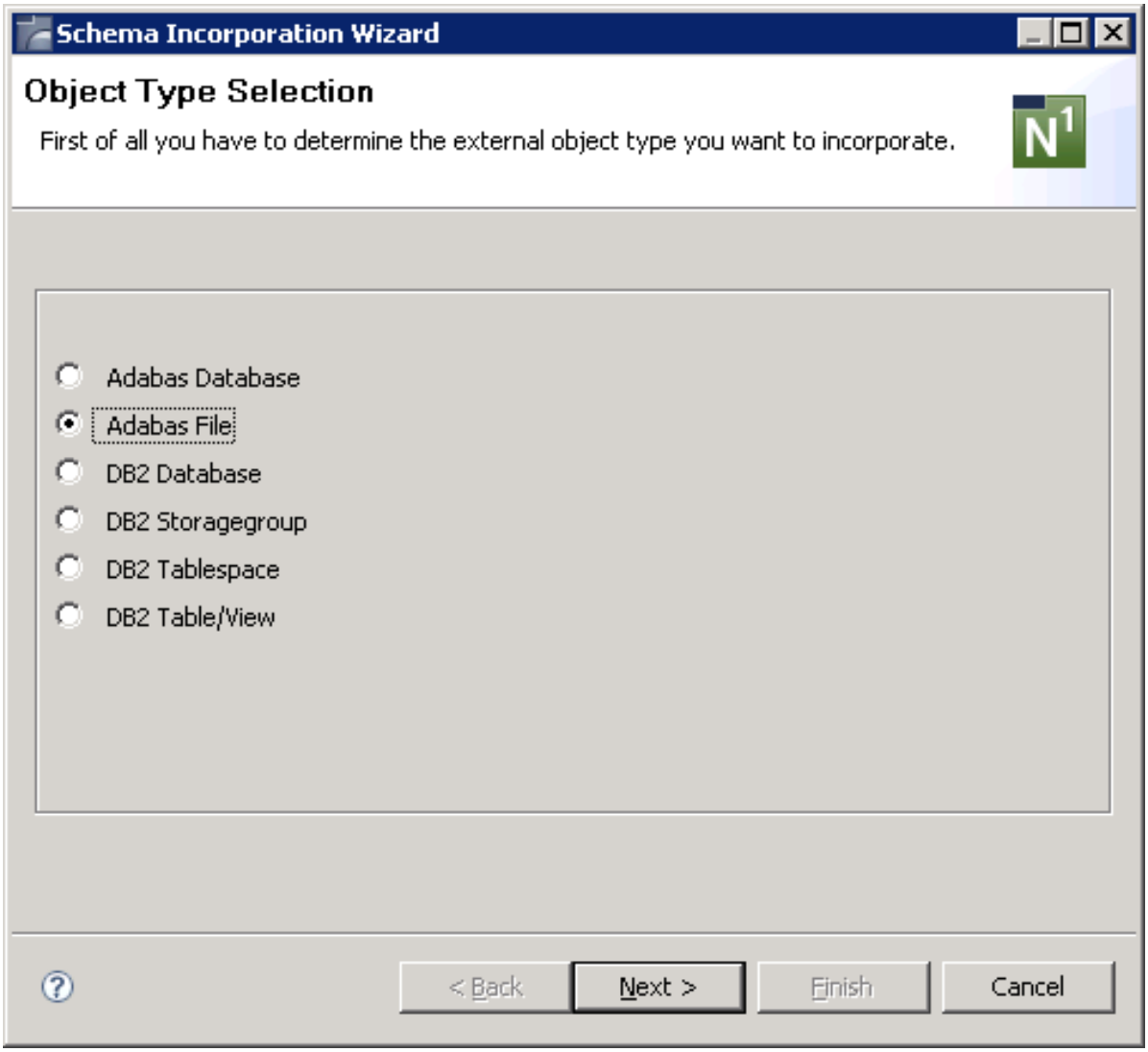
To incorporate an external schema

1 In the **Natural server** view, choose **Predict Description and Generation > Schema Incorporation Wizard**.

Or:

In the **Predict Description and Generation** view right-click on the root node and select **Schema Incorporation Wizard**

The schema incorporation wizard appears, providing several pages.



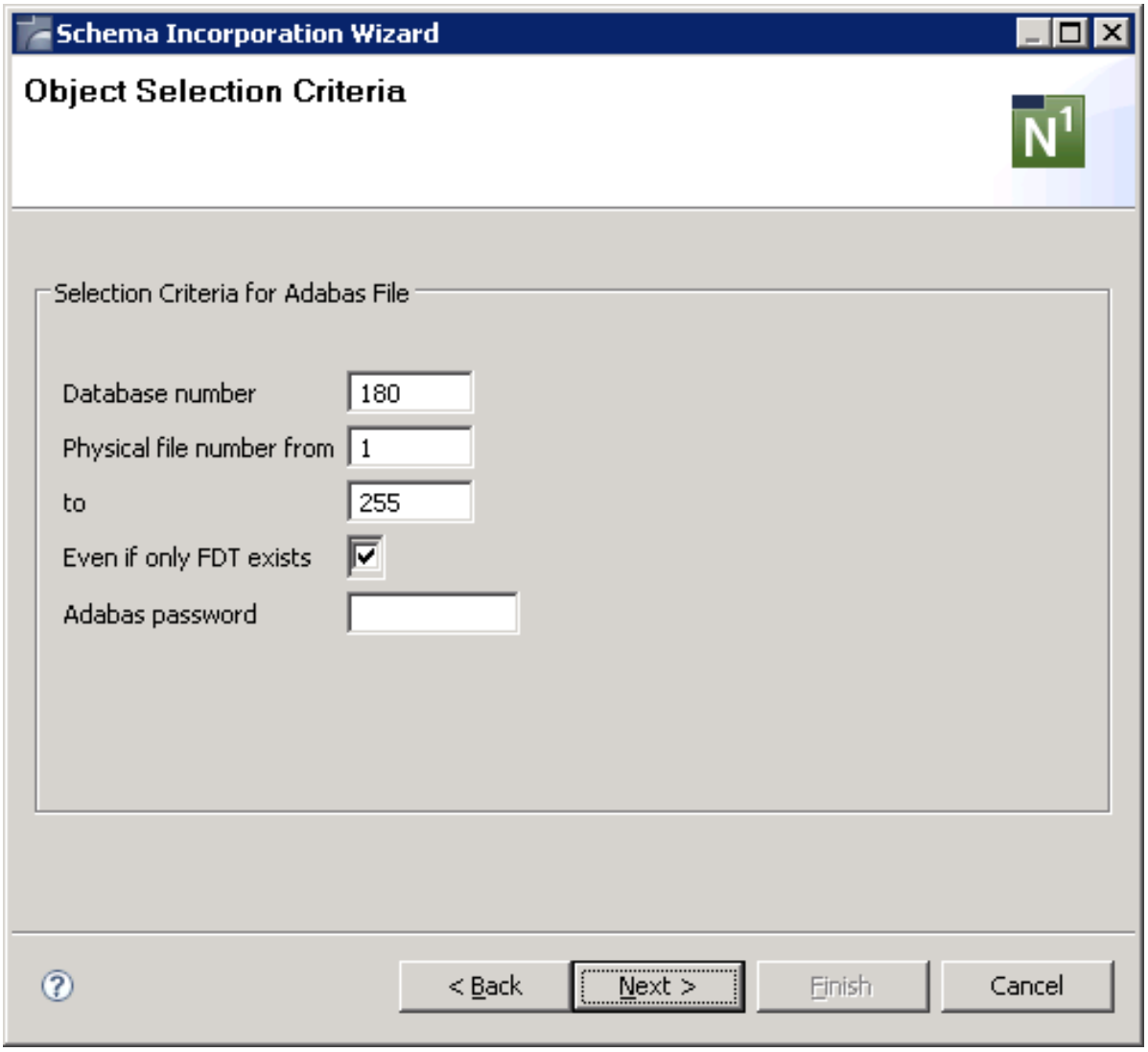
Note: If DB2 is not installed at your site, the incorporation functions for DB2 objects are not available.

2 Select the option button for the type of external object that you want to incorporate.

3 Choose the **Next** button to proceed to the next page.

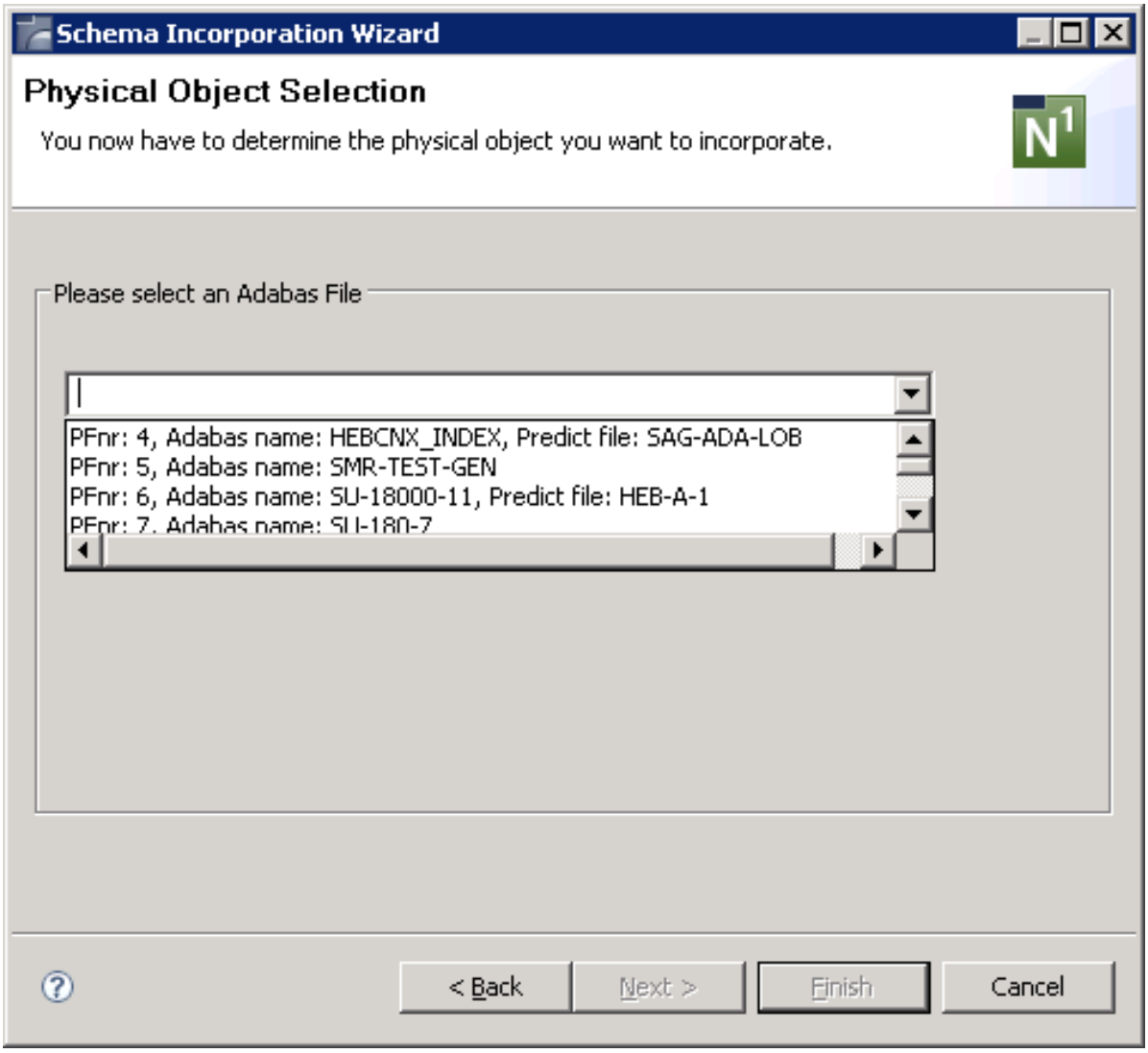
The information on the next pages depends on the object type that has been selected on the first page.

Example - incorporate Adabas file:



4 Specify the selection criteria and choose the **Next** button to proceed to the next page.

Example - incorporate Adabas file:



The incorporation functions that are available on this page depend on the object type that has been selected on the first page.

5 From the drop-down list box, select the object that you want to incorporate.

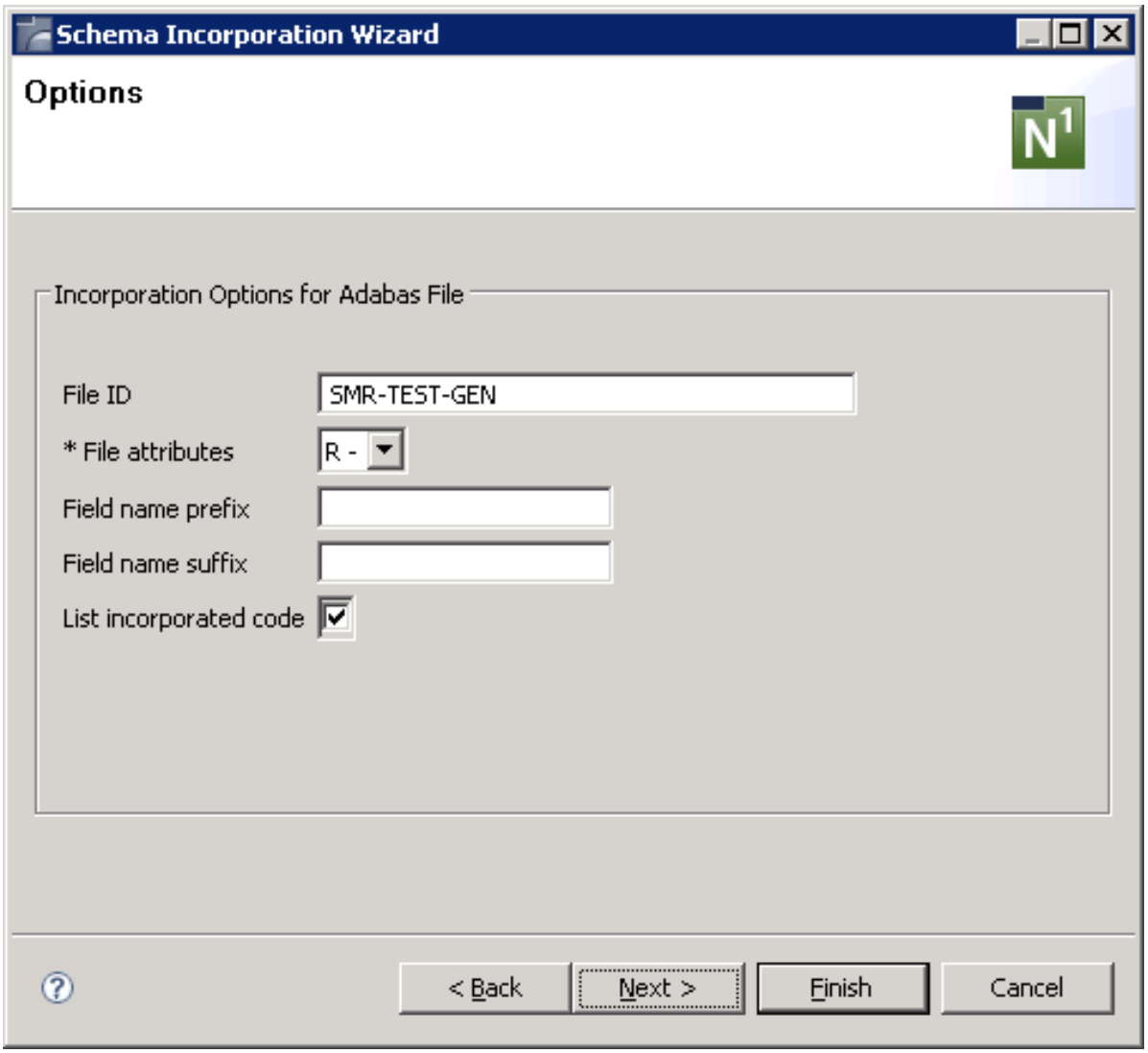
When an object has been selected, the option button(s) for the incorporation function(s) that can be executed for this object are visible.

For general information on these buttons, see *Overview of Incorporation Options* in *External Objects in Predict*.

6 Select the option button for the incorporation function that you want to execute (Incorporate, Connect or Test) and choose the **Next** button to proceed to the next page.

An additional page appears when you have selected the incorporation function Incorporate or Connect. You can then specify the incorporation or connect options.

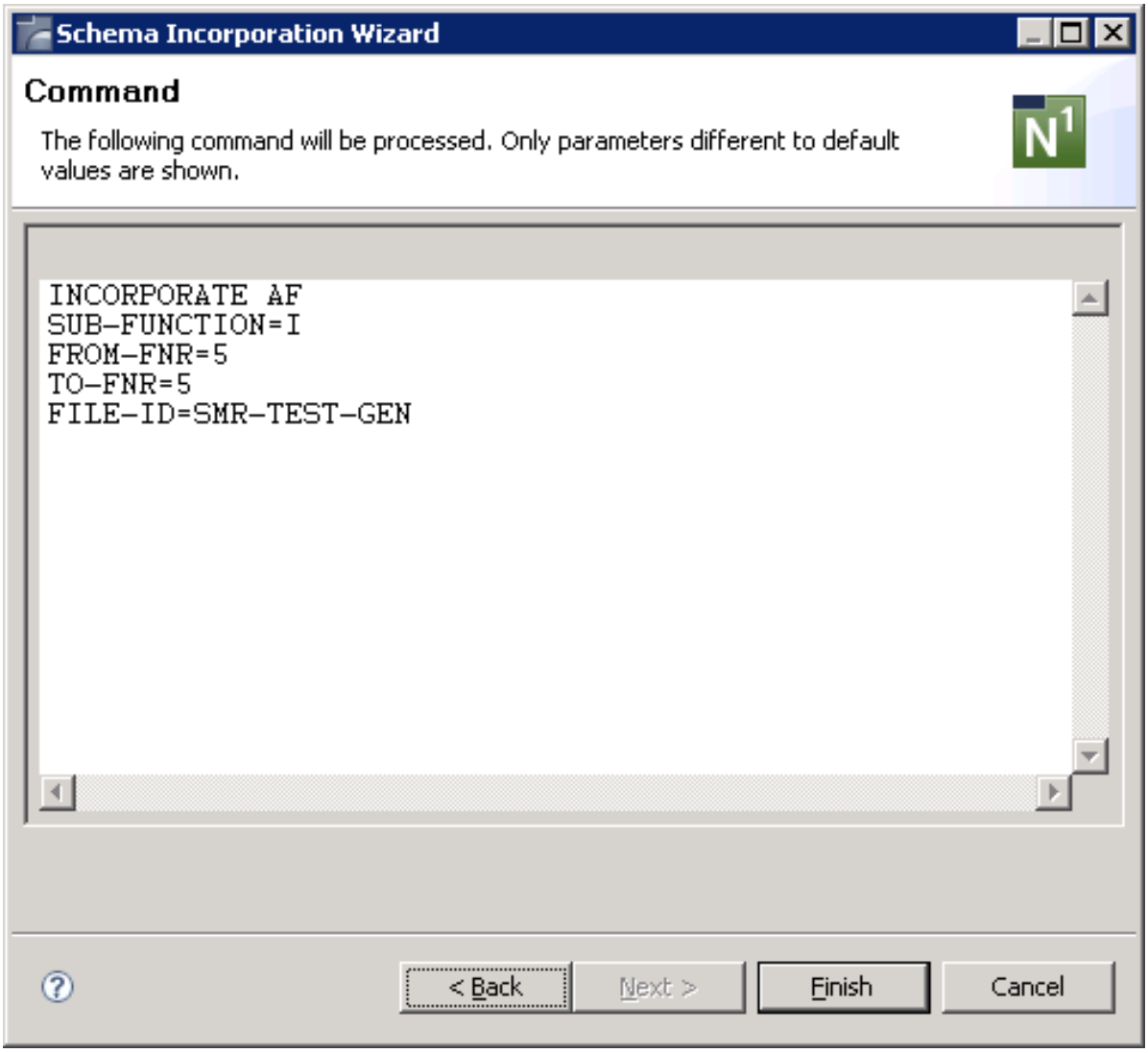
Example - incorporation options for an Adabas file:



Note: Different options or pages appear for the incorporation functions Connect and Test.

7 Specify the required information and choose the **Next** button to proceed to the next page.

Example - incorporate Adabas file:



This page shows only the settings which have been modified on the previous pages.

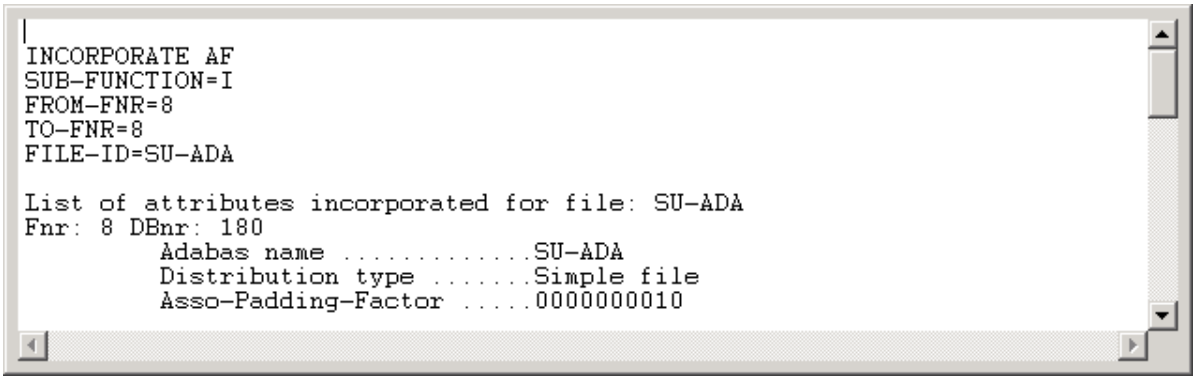
8 If all required information has been specified, choose the **Finish** button to start incorporation.

Note: As long as you do not choose the **Finish** button, you can go back to the previous pages by choosing the **Back** button.

When the incorporation process has completed and the **List incorporated code** option has been selected previously, a report is shown in a separate **Predict Report** view. If this option has not been selected, a message box shows only the resulting message of the incorporation process.

However, if an error occurs during the generation process, an error report is shown in the **Predict Report** tab. The error report is always shown. The setting of the **List incorporated code** option is not considered in this case.

Example - incorporate Adabas file:



You can **Print** the report on a printer that is defined in your environment or **Save** it using the standard Eclipse functions of the **File** menu .

Refreshing an External Object

You can refresh Adabas files and DB2 tables/views. When you refresh such an external object, you delete all of its contents.

See *Administration of External Objects* in *External Objects in Predict*.

Caution: Do not confuse this type of refresh (this term is used with Adabas) with the refresh function which updates your display see *Refreshing the Tree*.

To refresh an external object

1 Open the **External Objects** node containing the external object that you want to refresh.

2 Select the external object.

3 Invoke the context menu and choose **Refresh External**.

Note: When the refresh function is not available for the selected external object, the **Refresh External** command is disabled.

A dialog box appears asking whether you really want to refresh the object.

4 To refresh the current object, choose the **OK** button.

Disconnecting an External Object

When you disconnect an external object from its corresponding documentation objects, the implementation pointer from the documentation object to the external object is deleted, but the object itself remains intact.

See *Administration of External Objects* in *External Objects in Predict*.

To disconnect an external object

1 Open the **External Objects** node containing the external object that you want to disconnect.

2 Select the external object.

3 Invoke the context menu and choose **Disconnect**.

A dialog box appears asking whether you really want to disconnect the object.

4 To disconnect the current object, choose the **OK** button.

Disconnected external objects are no longer shown in the **External Objects** node.

Purging an External Object

You can purge external objects using the **Delete** command. When you purge an external object, it is disconnected and physically deleted.

See *Administration of External Objects* in *External Objects in Predict*.

To purge an external object

1 Open the **External Objects** node containing the external object that you want to purge.

2 Select the external object.

3 Invoke the context menu and choose **Delete**.

A dialog box appears asking whether you really want to delete the object.

4 To confirm the deletion for the current object, choose the **OK** button.