

Using Java Wrapper for Natural

This chapter describes how to generate a client interface object, using Java Wrapper for Natural. It covers the following topics:

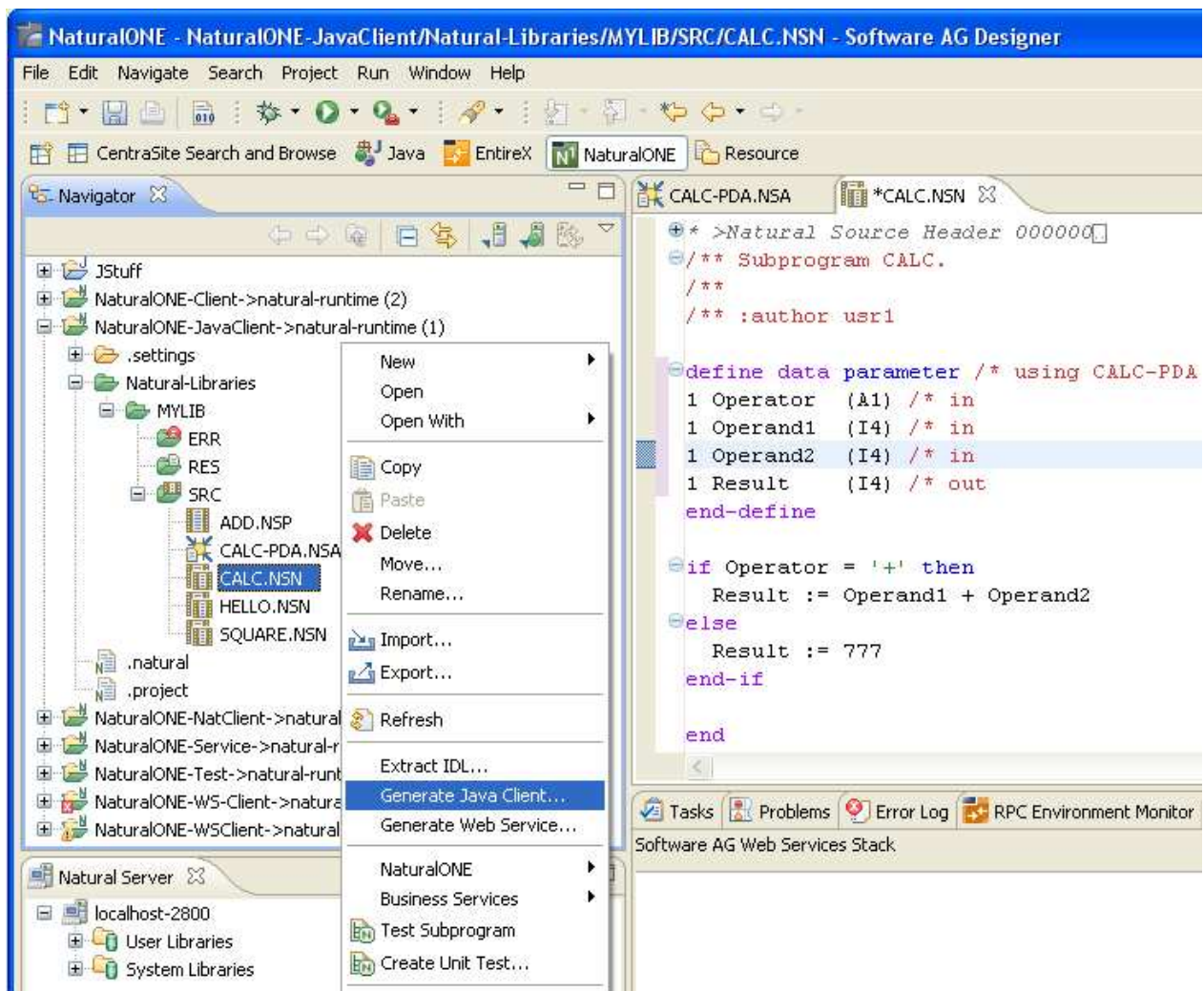
- Prerequisites
 - Step 1: Start the Java Wrapper for Natural
 - Step 2: Select the Natural Library (Optional)
 - Step 3: Select the Natural Subprograms
 - Step 4: Redesign the Interface for Natural Subprograms (Optional)
 - Step 5: Configure the Class to be Generated
 - Generation Result
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Prerequisites

To use Java Wrapper for Natural you need Software AG Designer with the NaturalONE and EntireX plug-ins installed.

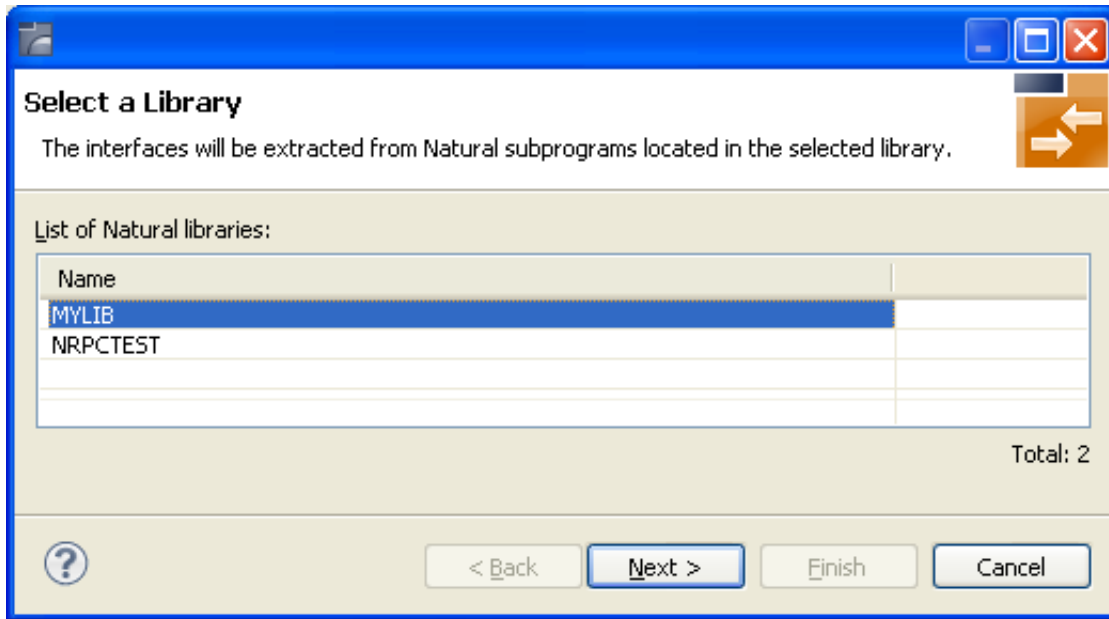
Step 1: Start the Java Wrapper for Natural

To start the Java Wrapper for Natural, select a Natural subprogram (file extension .NSN) located in a library of a NaturalONE project, and from the context menu choose **Generate Java Client...** Alternatively you can start the Java Wrapper for Natural from the context menu of the Natural source folder or any parent folder in the project, including the Natural library and the Project folder.



Step 2: Select the Natural Library (Optional)

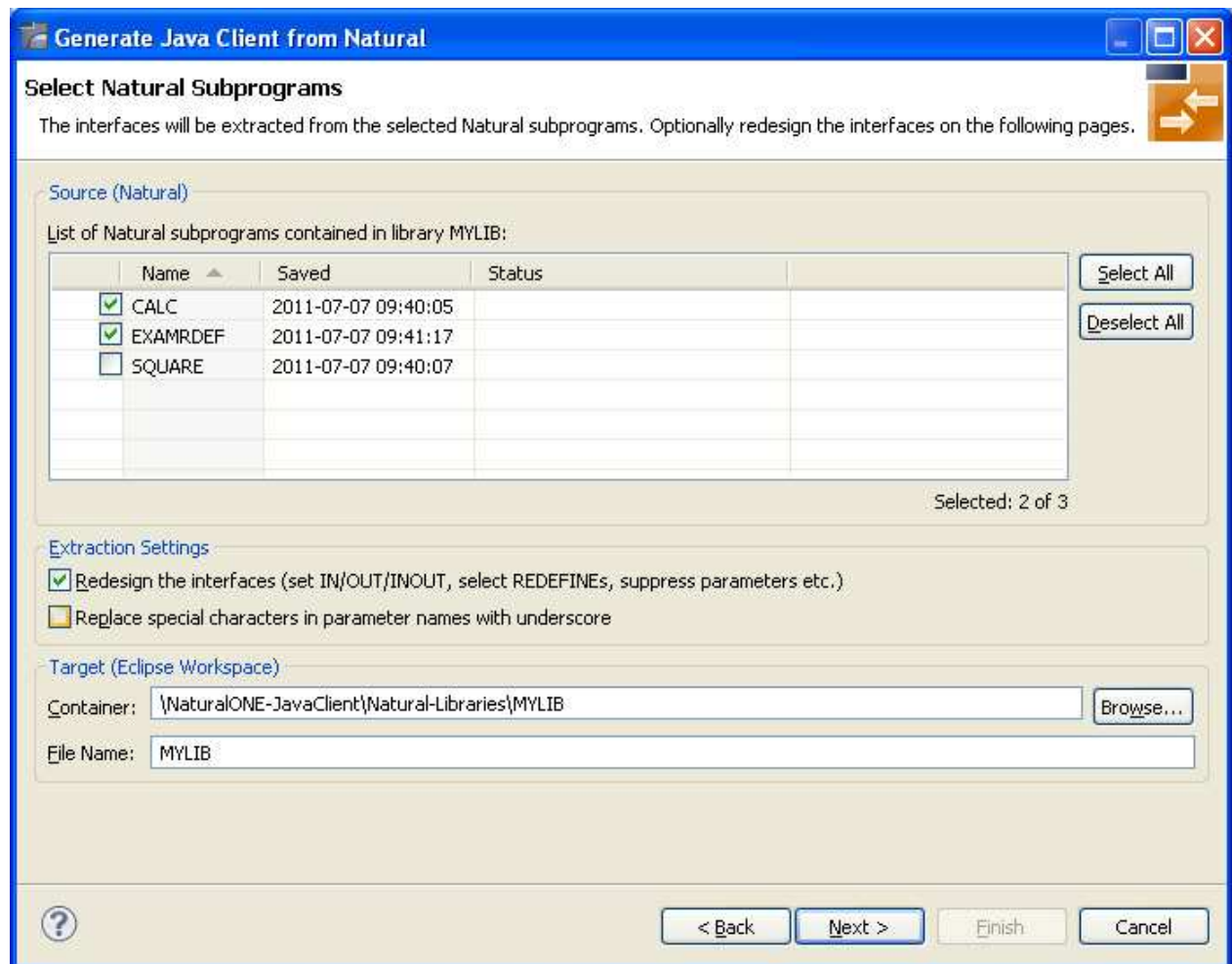
If you have started the wizard from a folder containing multiple Natural libraries, the wizard displays a page showing all available libraries from which you can select one.



Select the Natural library from the list and continue with *Step 3: Select the Natural Subprograms*.

Step 3: Select the Natural Subprograms

The following wizard page provides a list of available Natural subprograms.



In the **Source** pane, select at least one program from the list of Natural subprograms (CALLNATs). You can also choose **Select All** or **Deselect All**.

In the **Extraction Settings** pane, check **Redesign the interfaces** if you want to design the extracted interfaces to the Natural subprograms. The **Next** button will be enabled. See *Step 4: Redesign the Interface for Natural Subprograms (Optional)*. If you do not check **Redesign the interfaces**, see *Natural to IDL Mapping* in the IDL Extractor for Natural documentation for default mappings.

Check **Replace special characters in parameter names by underscore** to substitute the special characters '\$', '#', '&', '@', '/' by underscores. See also *Extracting IDL Parameter Names*.

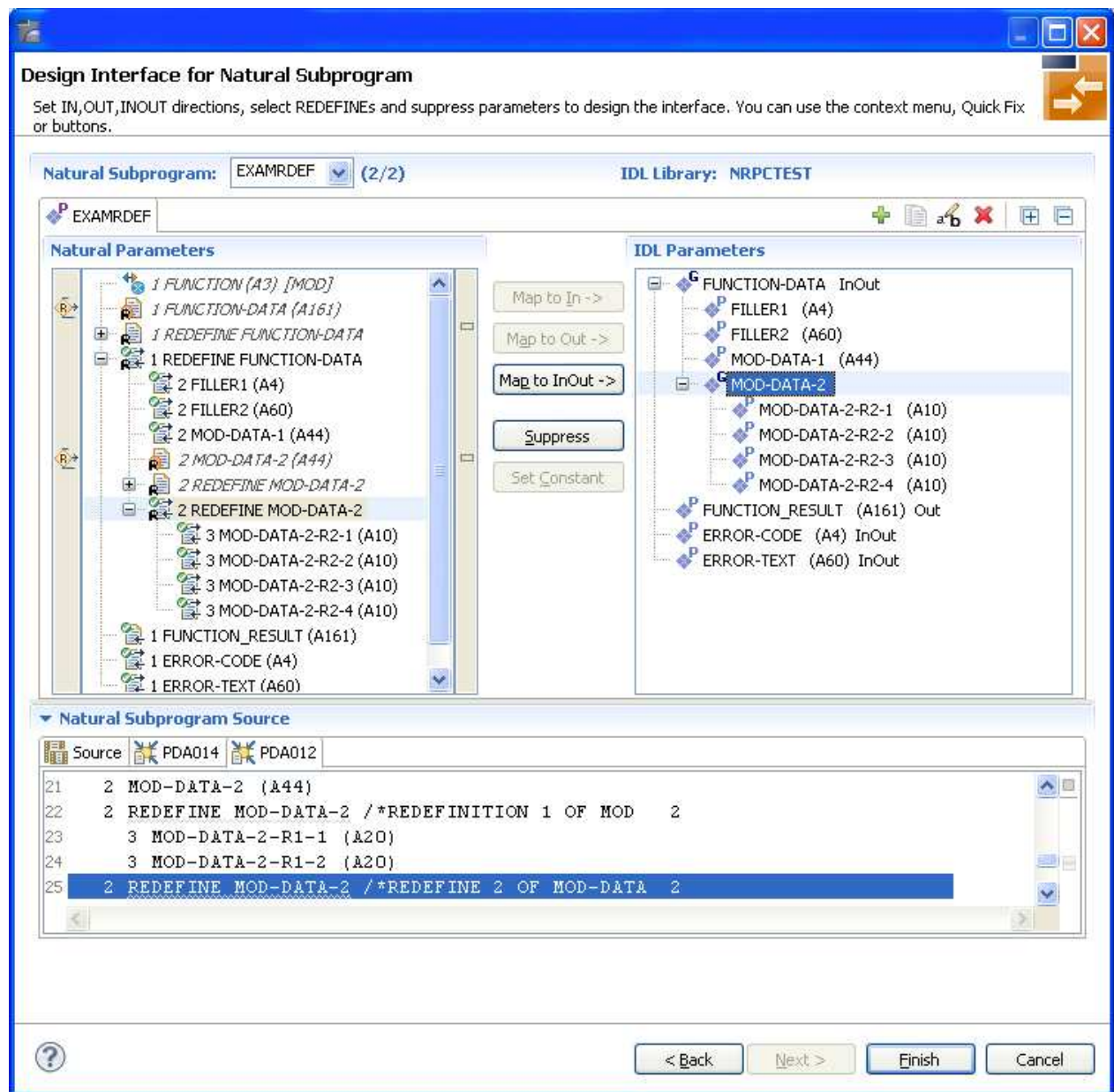
Press **Next** to continue.

- If **Redesign the interfaces** is checked, continue with *Step 4: Redesign the Interface for Natural Subprograms (Optional)*.
- Otherwise continue with *Step 5: Configure the Class to be Generated*.

Step 4: Redesign the Interface for Natural Subprograms (Optional)

In this step, you can redesign the interface. This includes:

- *Extracting Multiple Interfaces*
- *Extracting Natural REDEFINES*
- *Extracting IDL Directions (IN,OUT,INOUT)*
- *Setting Natural Parameters to Constants*
- *Suppressing Natural Parameters*
- *Renaming a Program*



Use this page for the following tasks:

- Define the direction of parameters in the extracted interface. Choose **Map to In**, **Map to Out** or **Map to InOut** for each parameter on level 1.
- Define which parameters redefined in the Natural PDA are part of the extracted interface. Choose **Map to In**, **Map to Out** or **Map to InOut** for the REDEFINE base parameter or any REDEFINE path.
- Hide or suppress unneeded parameters in the extracted interface. Choose **Suppress**.
- Set parameters to constants and hide or suppress them in the extracted interface. Choose **Set Constant**.

This page consists of the following main parts:

- **Top line**







The top line contains the current Natural subprogram and the IDL library name. The combo box can be used as quick navigation if more than one Natural subprogram is selected.

- **Middle**

The middle part contains a tab item for each interface (IDL program) extracted from the Natural subprogram.

Note:

It is possible to extract more than one interface (IDL program) from a Natural subprogram. To create, rename and remove interfaces, use the toolbar on the right side of tab folder.

Icon	Function	Description
	Create	Creates a new interface (IDL program) based on the original parameters of the Natural subprogram.
	Duplicate	Creates a new interface (IDL program) based on the current interface (active tab). All modifications of the current interface are copied.
	Rename	Change the name of the current interface (active tab). The name must be unique.
	Remove	Removes the current interface (active tab). At least one interface must exist.
	Expand All	Expands the Natural and IDL tree.
	Collapse All	Collapse the Natural and IDL tree.

- **Middle left**

Input pane. The parameters of the Natural subprogram to extract from. For each Natural subprogram parameter you can choose one of the operations **Map to In**, **Map to Out**, **Map to InOut**, **Suppress** and **Set Constant**. Additionally for REDEFINES, a quick fix is available (icons on the left side of the pane) to choose which parameters redefined in the Natural PDA are part of the extracted interface.

Notes:

1. The mapping operations **Map to In**, **Map to Out**, **Map to InOut**, **Suppress** and **Set Constant** are also available in the context menu of the Natural parameter tree.
2. Natural parameters that are suppressed or set to constant in the interface are rendered in italic type. For example, in the screen above, *FUNCTION (A3)* is set to constant; *FILLER1 (A4)* and *FILLER2 (A60)* are suppressed; *FUNCTION-DATA (A161)* and its first REDEFINE path are implicitly suppressed because the second REDEFINE path with prefix *MOD-DATA-2-R2* is selected.
3. The value for Natural parameters set to constant are displayed behind the parameter in the Natural parameter tree (e.g. in the screen above, *FUNCTION (A3) [MOD]*).
4. Natural parameters mapped in the interface are displayed with a green tick (☑).

- **Middle right**
Output pane. The extracted interface (IDL).
- **Bottom**
Reference. The Natural subprogram source and its PDA sources, each displayed in a separate tab.

Tips:

- The panes can be resized.
- To enlarge parameter lists, use the vertical bars on the side.
- You can close the bottom pane if it is not needed by clicking on the triangle next to **Natural Subprogram Source**. In this way, you have more space for viewing the upper panes.

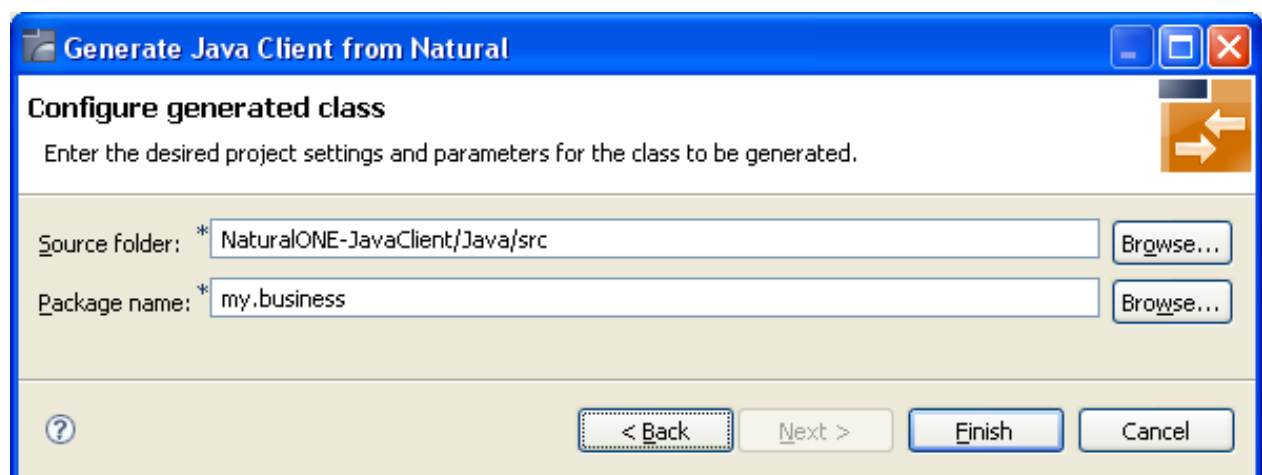
Use the quick navigation or choose **Next** to continue. If multiple Natural subprograms have been selected in the Natural subprogram selection step, redesign the next interface. The amount of subprograms extracted so far is indicated by the fraction next to the title (current/total).

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If only one Natural subprogram has been selected or no further one has to be redesigned, continue with *Step 5: Configure the Class to be Generated*.

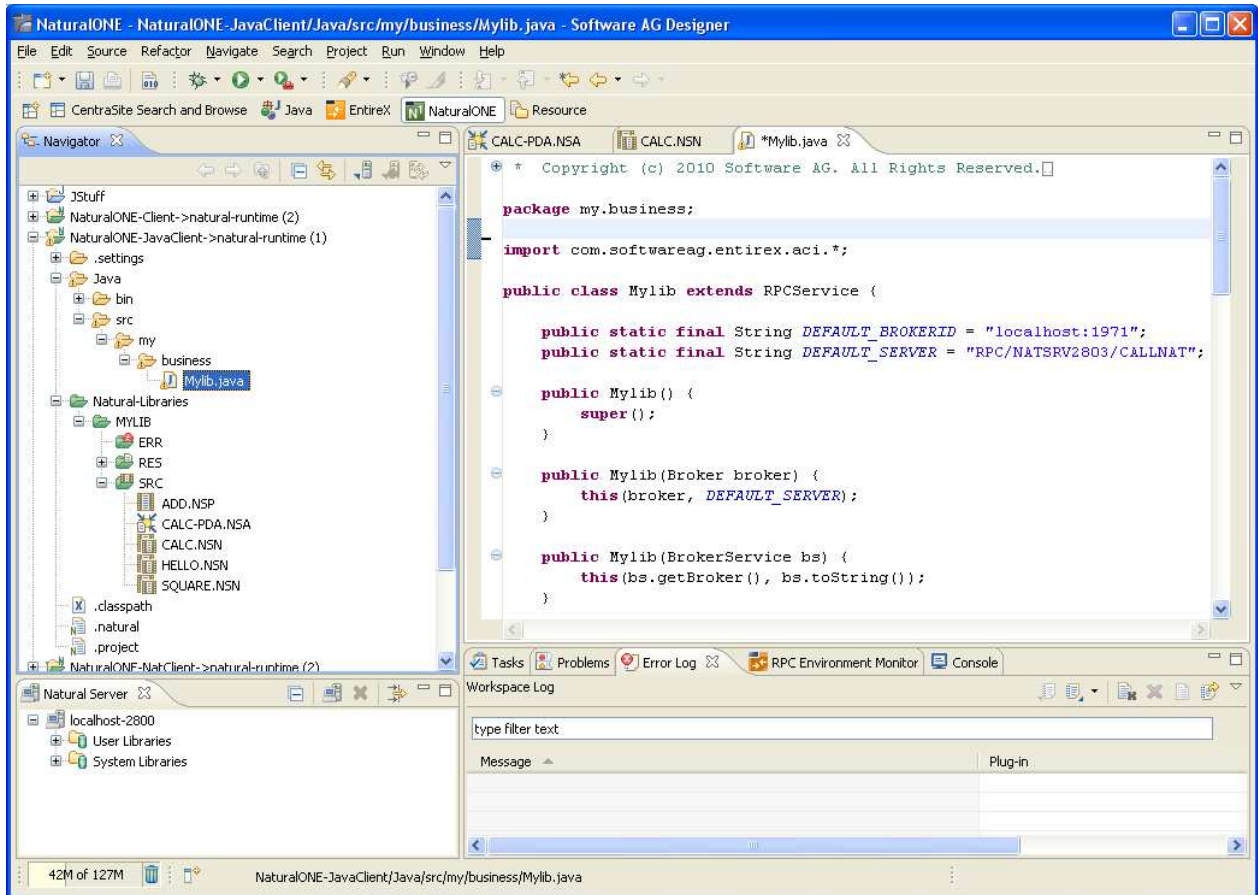
Step 5: Configure the Class to be Generated

The next wizard page asks for the name of the target folder of the generated Java classes, and for a Java package name. By default, the Java sources are generated into a folder *Java/src*. If this does not already exist, it will be created.



Generation Result

The Java interface object is generated and placed into the target folder.



For more information see the NaturalONE documentation.

Preferences

Use the preference page for the IDL Extractor for Natural to manage the default values relevant for *Step 3: Select the Natural Subprograms*. See *Preferences* under *Using the Software AG IDL Extractor for Natural*.