Operation Manual

WAY4 Manager Menu Editor

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Contents

1 Editing the user menu 5

1.1 Menu folder 6

1.1.1 Adding a new menu folder 6

1.1.2 Renaming a menu folder 7

1.1.3 Deleting a menu folder 7

1.1.4 Menu folder parameters 7

1.2 Menu item 8

1.2.1 Adding a new menu item 10

1.2.2 Renaming a menu item 10

1.2.3 Deleting a menu item 10

1.3 Link 11

1.3.1 Adding a new link 12

1.3.2 Renaming a link 13

1.3.3 Deleting a link 13

1.3.4 Deleting the connection between a link and a menu item 14

2 Working with Menu Item Definition Editor 15

2.1 Editing menu item definitions 17

2.1.1 Creating a new definition 18

2.1.2 Deleting a definition from the list 18

2.1.3 Renaming a menu item definition 19

2.1.4 Changing menu item definition icons 19

2.1.5 Search by links 20

2.2 Editing menu subitems 20

2.2.1 "Form" item 22

2.2.2 "Screen" type 25

2.2.3 "Assignment" type 26

2.2.4 "Menu Item" type 27

2.2.5 "Pipe" type 27

2.2.6 "Java Pipe" type 28

2.2.7 "Oracle Report" type 30

2.2.8 "EXE File" type 32

2.2.9 "Sql" type 33
2.2.10 "Process" type 36
2.2.11 "DB Procedure Cycle" type 37
2.2.12 "Sql Cycle" type 38
2.2.13 "Db Row Procedure" type 38
2.2.14 "Java Class" type 39
2.2.15 "Message Box" type 39
2.2.16 "Voice Authorization" type 40
2.2.17 "Blob Management" type 41
2.2.18 "Run Script" type 42
2.2.19 "Flag" type 42
2.2.20 "Waiting Files" type 43
2.2.21 "Send Mail" type 44

3 Importing and exporting the user menu 46

3.1 Exporting menu folders and items to a file 46
3.2 Importing menu folders and items from a file 48
3.3 Importing and exporting menu items using the command line 52

WAY4 Manager users access forms and processes through the user menu.

The WAY4 Manager user menu is a hierarchy in which separate elements (menu items) are grouped, similar to how files and folders in are grouped in MS Windows Explorer.

Each menu item corresponds to a sequence of actions performed by the system. Menu items are used to provide access to information contained in the WAY4 database and/or are used to start a system process.

The sequence of actions performed by the program when a user menu item is selected is called a menu item definition. A menu item definition contains subitems that open editing windows (forms) for access to information (records) from the database or that start specific processes.

Editing a menu includes the following:

- Creating, deleting or renaming WAY Manager user menu items.
- Creating, deleting or editing menu item definitions.

This document is intended for WAY4 Manager system administrators (bank or processing center employees).

When working with this document, it is recommended to use the following resources from the OpenWay documentation series:

- "WAY4 Manager. Operation Manual".
- "WAY4 Manager Form Editor"
- "WAY4™ User Management".

The following notation can be used in the document:

- Field labels in screen forms are shown in *italics.*
- Key combinations are shown in angular brackets, for example, <Ctrl>+<F3>.
- Names of screen form buttons and tabs are shown in square brackets, for example, [Approve].
- Sequences for selecting user menu items or context menu items are shown using arrows as follows: "Issuing → Contracts Input & Update".
- Sequences for selecting system menu items are shown using arrows as follows: Database => Change password.
- Variables that differ for each local instance, such as directory and file names, as well as file paths are shown in angular brackets, as in <OWS_HOME>.

Warnings and information are marked as follows:

Warnings about potentially hazardous situations or actions.

Messages with information about important features, additional options, or the best use of certain system functions.

1 Editing the user menu

This section contains basic definitions and describes ways of editing the user menu.

> Note that it is forbidden to edit the structure of the WAY4 Manager standard menu folder (editing groups and user menu items) supplied together with the system. This menu folder is called "OpenWay".

Menu Editor is started in one of the following ways:

- By selecting "Tools => Editors => Menu Editor" in the WAY4 Manager system menu.
- By pressing <F10>.
- By selecting [Edit] from the context menu opened in the user menu window.

This opens the "Menu Editor" window.

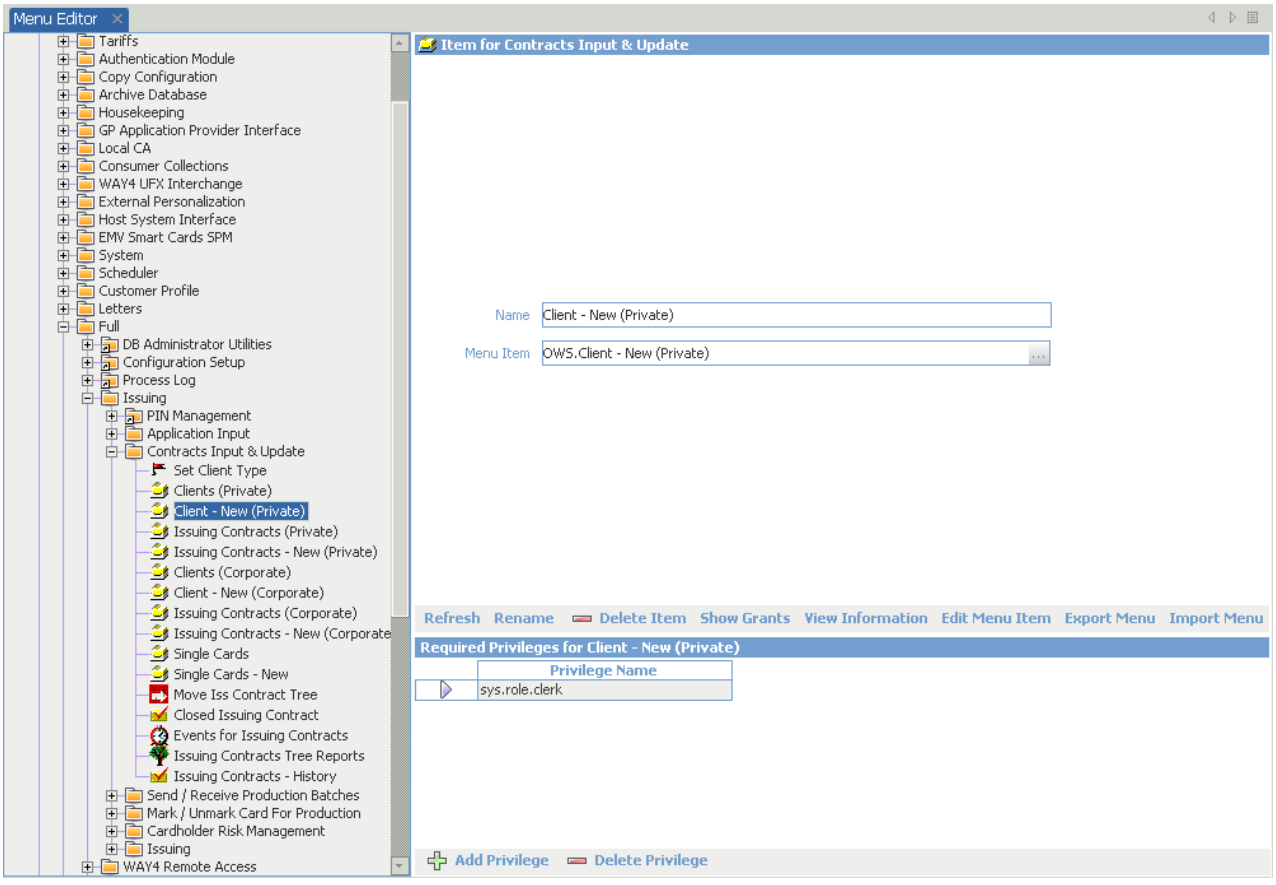

Fig. Menu Editor Window

The left part of the window contains a user menu in the form of a hierarchy.

User menu elements:

- Menu folders marked with the icon.
- Menu items marked with the icons of the corresponding menu item definitions.

- Links marked with the icon added to the menu folder icon or menu item icon.

The right part of the window contains a form with a description of the selected element's main properties. The name of a form and the labels of buttons in the form depend on the selected user menu item.

The form "Required Privileges for <element name>" is used to add access privileges that are assigned to users and user groups which will have access to this menu element (for more information about user access privileges, see the section "Way4 users" of the document "WAY4™ User Management"). To add access privileges that are registered in WAY4, click Add Privilege. The "Add Privilege for '<menu element name>'" form will open.

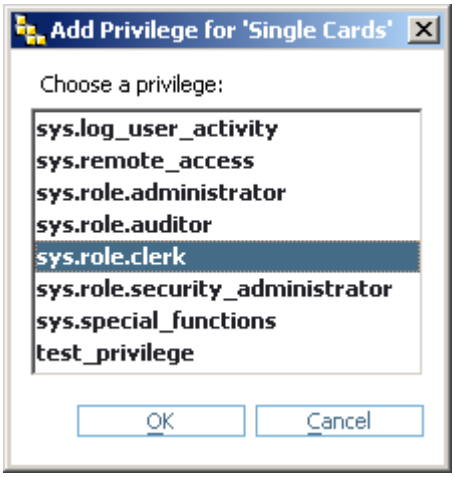

Fig. Adding privileges for a user menu element

After selecting the required access privileges, click [OK]; to cancel, click [Cancel].

To delete a role from the "Required Privileges for <element name>", click Delete Privilege.

1.1 Menu folder

A menu folder is an element of the user menu hierarchy and may contain subordinate menu folders, menu items and links to menu folders and/or items that are contained in other sections of the user menu.

The icon indicates a menu folder.

1.1.1 Adding a new menu folder

To add a new menu folder, in the Menu Editor window (see the section "Editing the user menu"), select the folder to which the new folder will be added and then continue in one of the following ways:

- Right-click on the selected folder and select "Add Menu" from the context menu that opens.
- In the "Folder for <name of parent menu folder>" form, click Add Menu.

A new folder named "New Menu 1" will be added to the user menu.

1.1.2 Renaming a menu folder

To rename a menu folder, in the Menu Editor window (see the section "Editing the user menu"), select the required folder and then do one of the following:

- In the *Name* field of the "Folder for <name of parent menu folder>" form, enter the folder's new name.
- In the "Folder for <name of parent menu folder>" form, click [Rename], and enter the folder's new name.
- Hover over the folder, right-click and select "Rename" from the context menu that opens. Then enter the folder's new name.

Note that the folder's new name will be immediately available in the user menu.

1.1.3 Deleting a menu folder

To delete a menu folder, in the Menu Editor window (see the section "Editing the user menu"), select the required folder and continue in one of the following ways:

- Press the <Delete> key.
- Hover over the folder, right-click and select "Delete Menu" from the context menu that opens.
- In the "Folder for <name of parent menu folder>" form, click

.
- A confirmation dialog will be displayed with the prompt "Do you really want to perform Delete Menu?". To confirm, click [Yes]; to cancel, click [No].

Exercise caution when deleting menu folders, since this may make system resources inaccessible to users.

1.1.4 Menu folder parameters

To access menu folder parameters, use the buttons in the "Folder for <name of parent menu folder>" form of the Menu Editor window (see the section "Editing the user menu").

Information about menu folder parameters can also be accessed through a context menu opened by right-clicking on the name of the required menu group.

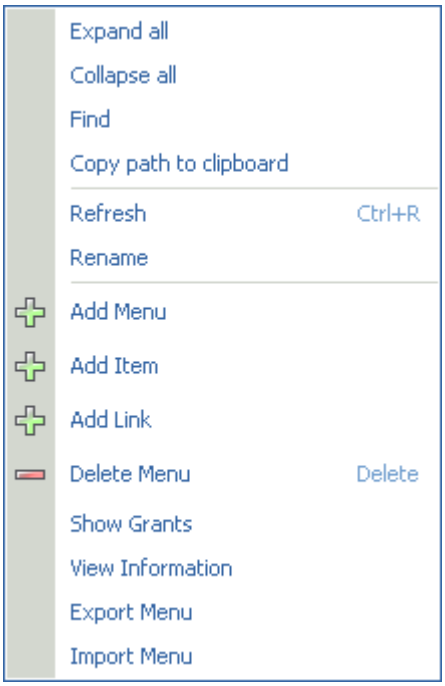

Fig. Folder context menu

This context menu contains the following items:

- "Expand all" – maximize the menu folder and all child folders.
- "Collapse all" – minimize the menu folder.
- "Find" – find the folder or item in the user menu. After selecting this command, enter the first letters of the folder's or menu item's name.
- "Copy path to clipboard" – copy the folder's name and the path to the folder in the user menu to the clipboard.
- "Refresh" – refresh data in the user menu.
- "Rename" – rename the menu folder.
- "Add Menu" – add a menu folder (see "Adding a new menu folder").
- "Add Item" – add a menu item (see "Adding a new menu item").
- "Add Link" – add a link (see "Adding a new link").
- "Delete Menu" – delete the menu folder (see "Deleting a menu folder").
- "Show Grants" – show what privileges are necessary to access the menu folder.
- "View Information" – get information about the selected folder's location in the user menu hierarchy.
- "Export Menu" – export menu folders or items (see "Exporting menu folders and items to a file");
- "Import Menu" – import menu folders or items (see "Importing menu folders and items from a file").

1.2 Menu item

A menu item is an element of the user menu hierarchy. Menu items are used to start a sequence of actions performed by the system.

When a menu item is selected, the right part of the Menu Editor window contains the "Item for <name of folder containing this menu item>" form.

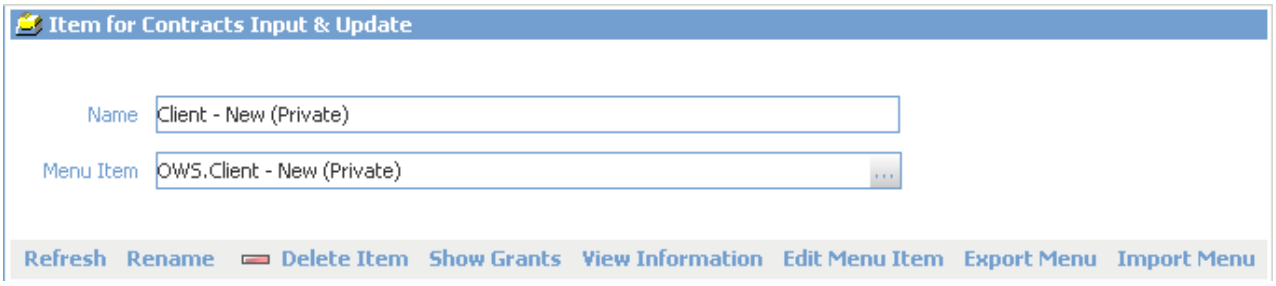

Fig. Menu item properties

This form contains the following fields:

- *Name* – name of menu item.
- *Menu Item* – menu item definition corresponding to this item.

To assign another menu item definition to a menu item, in the *Menu Item* form, click ... . The "Choose Menu Item Definition" form will open. This form contains a list of menu item definitions created in WAY4 Manager.

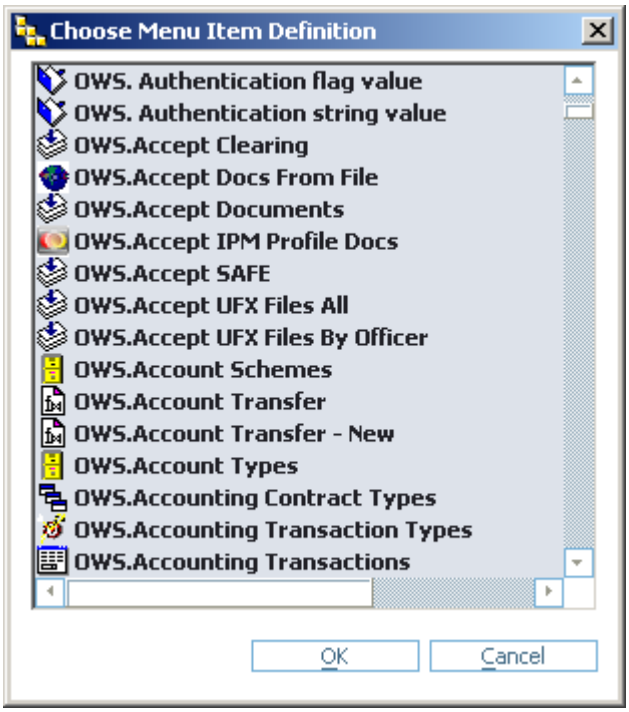

Fig. List of WAY4 Manager menu item definitions

After selecting the necessary menu item definition, click [OK]; to cancel, click [Cancel].

The buttons in the "Item for <name of folder containing this menu item>" form and context menu items that have the same names as these buttons are the same as the corresponding items in a menu folder's context menu (see "Menu folder parameters").

Clicking [Edit Menu Item] opens Menu Item Definition Editor (see "Working with Menu Item Definition Editor").

1.2.1 Adding a new menu item

To add a new menu item, in the Menu Editor window (see the section "Editing the user menu"), select the folder to which the menu item will be added and do one of the following:

- Right-click on the selected folder and select "Add Item" from the context menu that opens.
- In the "Item for <name of folder containing this menu item>" form, click Add Item.

The "Choose Menu Item Definition" window will open. In the window, select the necessary definition and click [OK]. To cancel addition of the menu item, click [Cancel].

> To add a menu item with a new definition, you must first add the new menu item definition to the list (see "Creating a new definition").

1.2.2 Renaming a menu item

Menu items are renamed in the same way as menu folders (see "Renaming a menu folder").

1.2.3 Deleting a menu item

To delete a menu item, select it in the Menu Editor window (see the section "Editing the user menu") and then do one of the following:

- Press the <Delete> key.
- Right-click on the selected menu item, and select "Delete Item" from the context menu that opens.

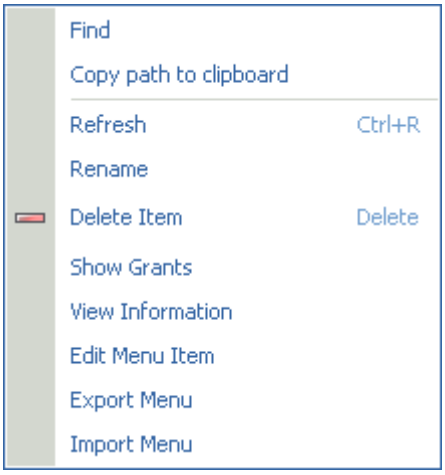

Fig. Context menu of an item

- In the "Item for <name of folder containing this menu item>" form, click Delete Item.
- A confirmation dialog will be displayed with the prompt "Do you really want to perform Delete Item?". To confirm, click [Yes]; to cancel, click [No].

Be careful when deleting menu items since this may make certain system resources unavailable to the user. Note that deleting a menu item from the user menu does not delete the item's definition from the list of definitions.

1.3 Link

To configure the user menu to suit their individual needs, users can create links to menu folders and items.

Creating a link means adding a copy of a menu folder or item associated with a menu group or item to a menu item. Links are marked with the icon added to the menu folder icon or menu item icon.

Links make it possible to regroup menu items according to a user's needs without changing the structure of the menu supplied by the system vendor.

The user menu may change after system upgrade or update of the menu itself. To make sure that links reflect user menu changes that occurred as a result of upgrade, synchronize links in one of the following ways:

- Select the system menu item "Tools => Synchronization => Synchronize Menu Links".
- Select the "ROOT" menu folder and select "Synchronize All Links" from the context menu.
- Select "Synchronize" from the context menu.
- Click [Synchronize] in the "LinkItem for <...>" or "LinkFolder for <...>" form of the Menu Editor window (see the section "Editing the user menu").

When links are synchronized after a menu item for which a link was created is deleted or renamed, the corresponding link will also be deleted or renamed.

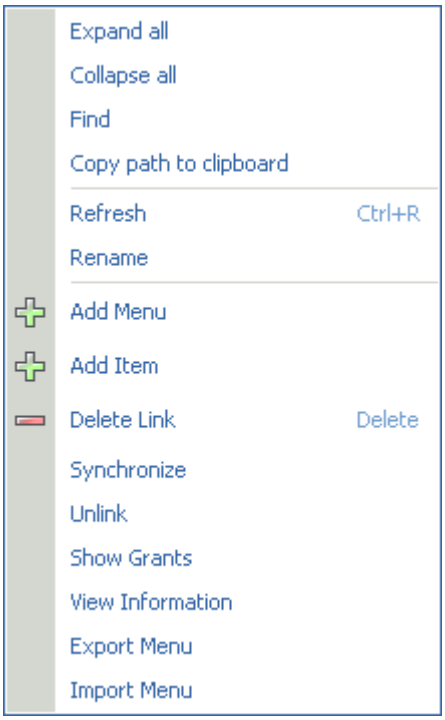

Fig. Context menu of a link

1.3.1 Adding a new link

To add a new link, in the Menu Editor window (see the section "Editing the user menu"), select the menu folder to which the link will be added and do one of the following:

- Right-click on the folder and select "Add Link" from the context menu that opens.
- In the "Folder for <name of parent menu folder>" form, click Add Link.

The "Select Item or Menu" window will open. This window shows the user menu tree.

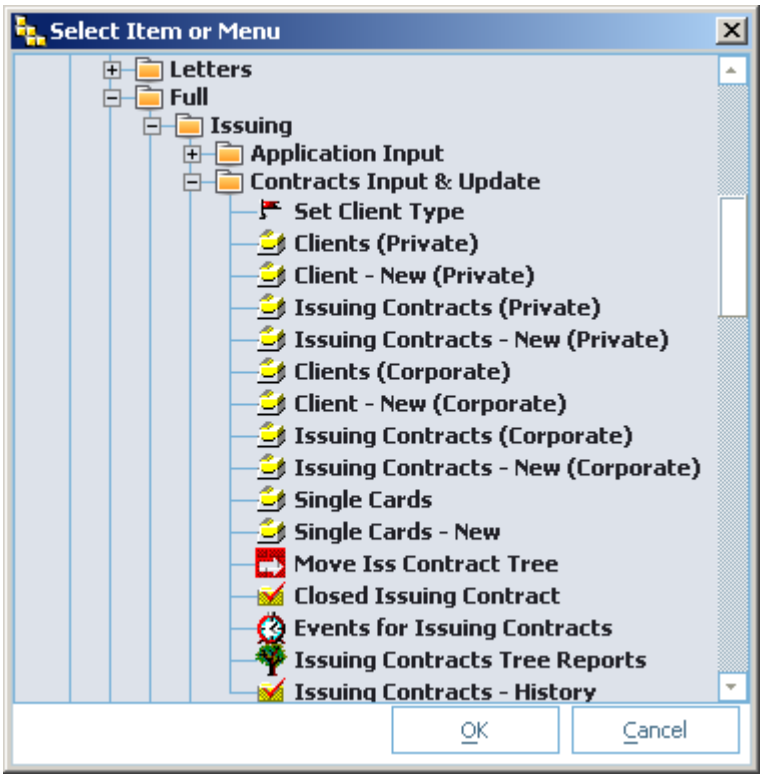

Fig. User menu tree

In the window, select the menu folder or item to which a link is required and click [OK]. To cancel addition of a link, click [Cancel].

1.3.2 Renaming a link

Links are renamed in the same way as menu folders (see "Renaming a menu folder").

> Note that when links are synchronized, the old name of the link will be restored.

1.3.3 Deleting a link

To delete a link, select it in the Menu Editor window and then do one of the following:

- Press the <Delete> key.
- Right-click on the link and select "Delete Link" from the context menu that opens.
- In the "LinkItem for <...>" form (for a link to a menu item) or "LinkFolder for <...>" form (for a link to a menu folder) of the Menu Editor window, click Delete Link.

A confirmation dialog will be displayed with the prompt "Do you really want to perform Delete Link?". To confirm, click [Yes]; to cancel, click [No].

> Note that when links are synchronized for a menu folder which contained a deleted link, this link will be restored.

1.3.4 Deleting the connection between a link and a menu item

To delete the connection between a link and a menu item, in the Menu Editor window (see the section "Editing the user menu") select the required link and continue in one of the following ways:

- Right-click on the link and select "Unlink" from the context menu that opens.
- In the "Link Item for <...>" form (for a link to a menu item) or "Link Folder for <...>" form (for a link to a menu folder) of the Menu Editor window, click [Unlink].

The link will be unlinked from the menu item, while the menu item itself remains unchanged. As a result, the link will be unlinked from the menu item, while the item remains unchanged. Note that when a link is unlinked from a menu folder, it will automatically be unlinked from all items contained in the folder.

2 Working with Menu Item Definition Editor

This section describes principles for working with Menu Item Definition Editor.

> Note that it is forbidden to edit the structure of the WAY4 Manager standard menu folder (editing folders, user menu items, and menu item definitions) supplied together with the system. This menu folder is called "OpenWay".

There are two ways of starting Menu Item Definition Editor:

- By selecting the system menu item "Tools => Editors => Menu Item Editor" (or pressing the <F7> functional key).
- By clicking [Edit Menu Item] in the "Item for <name of the folder containing this menu item>" (see the section "Menu item").

The Menu Item Definition Editor window will open.

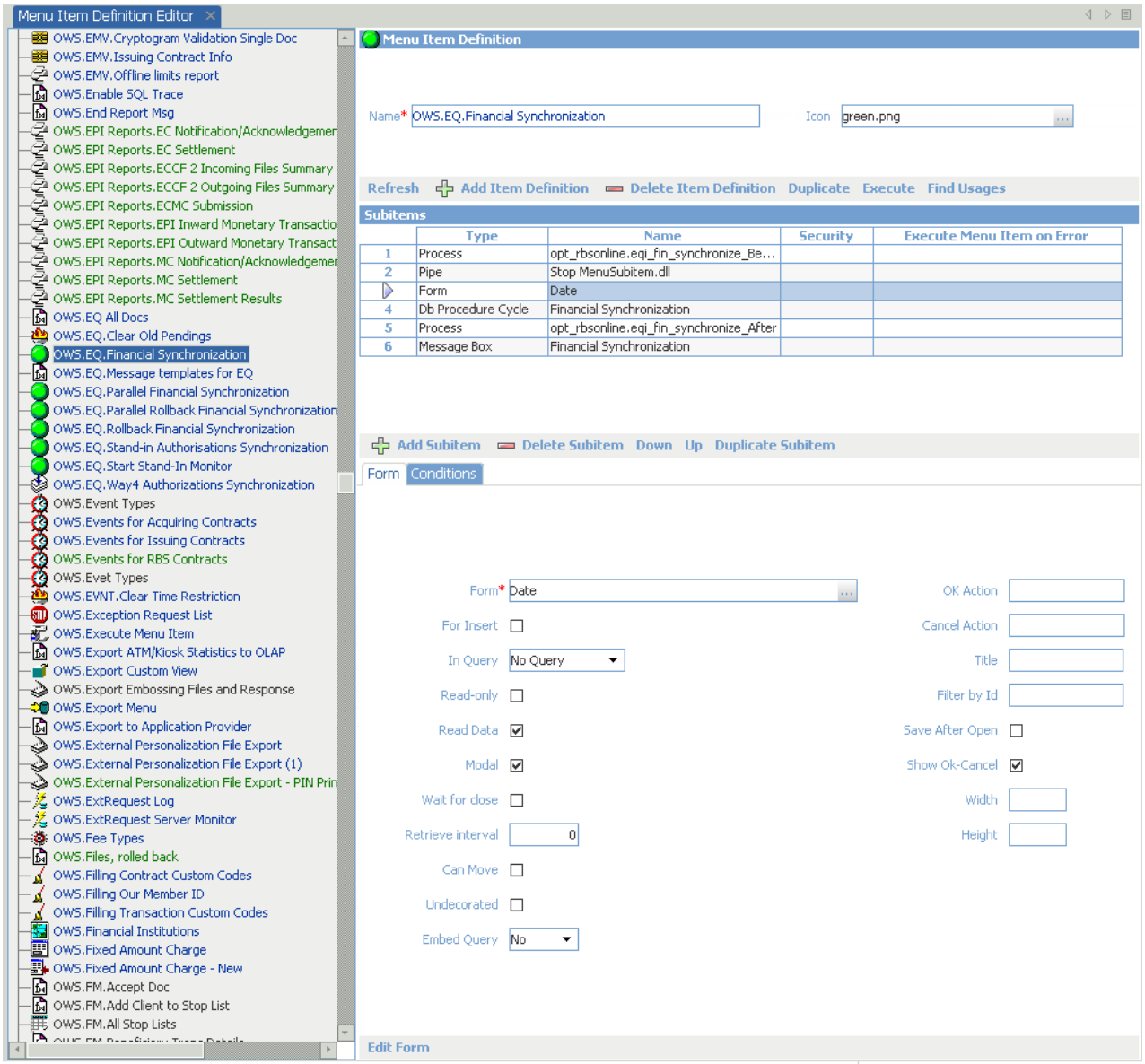

Fig. Menu Item Definition Editor window

The section in the left part of the window contains an alphabetically sorted list of menu item definitions created in the system.

The "Menu Item Definition" form contains the main parameters of the current menu item definition.

The "Subitems" form and its child forms contain a list of subitems of the current menu item definition and the parameters of these sub-elements

> ⚠ Menu Item Definition Editor fields marked with a "*" character are mandatory.

> Menu item definitions which are supplied with the distribution and are stored in the <OWS_HOME> directory are considered to be standard. The names of standard menu items contain the "OWS" prefix. It is forbidden to edit them in any way or delete them.

Standard menu item definitions may only be modified by WAY4 specialists and are only updated when the system version is upgraded.

When editing (modifying) standard definitions, for example when localizing their names, and when creating custom definitions, copies of the standard definitions are created in the <OWS_WORK> directory. When further working with the system, these definitions will be called instead of the standard ones. Names of standard definitions are shown in black, names of custom definitions, in green, names of edited standard definitions, in blue.

2.1 Editing menu item definitions

Main properties are specified in the "Menu Item Definition" form of the Menu Item Definition Editor window.

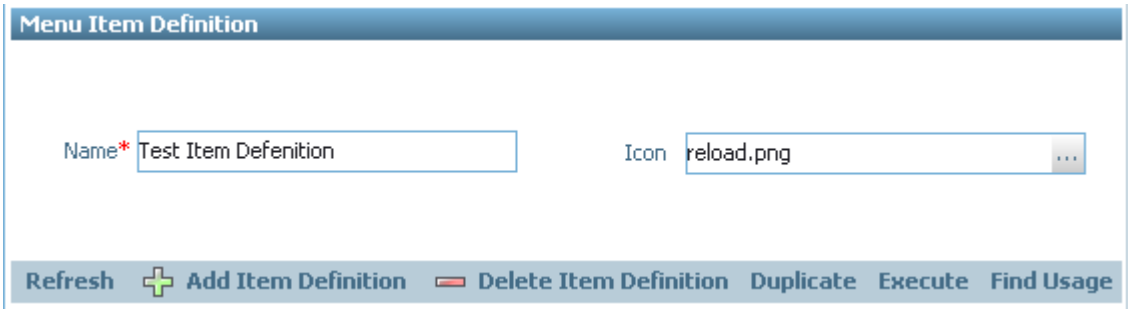

Fig. main properties of a menu item definition

This form contains the following fields:

- *Name** – name of the menu item definition
- *Icon* – name of the "*.png" file that contains the menu item definition's icon.

The [Refresh] button is used to refresh Menu Item Definition Editor data.

The [Add Item Definition] and [Duplicate] buttons are used to create a new menu item definition (see "Creating a new definition").

To delete a definition, click [Delete Item Definition] (see "Deleting a definition from the list").

To run a menu item definition, click [Execute].

The [Find Usage] button is used to search for links between the definition and forms, menu items and other definitions (see "Search by links").

> The context menu opened by right-clicking a menu item definition contains items whose names are the same as the labels of the buttons used in this form.

2.1.1 Creating a new definition

There are two ways to add a menu item definition to the list that is created in the system:

- By creating a new menu item definition.
- By copying an existing menu item definition and editing it.

To create a new menu item definition, in the "Menu Item Definition" form (see the section "Editing menu item definitions") click [Add Item Definition] or in the context menu opened by right-clicking in the Menu Item Definition Editor window (see the section "Working with Menu Item Definition Editor"), select "Add Item Definition". The "WAY4Manager" form will open. In this form, enter the name of the item definition and click [OK]. To cancel creation of a definition, click [Cancel].

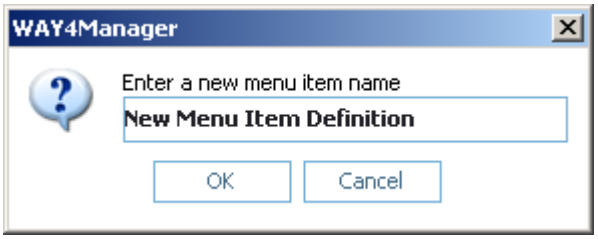

Fig. Entering the name of an item definition

As a result, a new definition containing no subitems will be added to the list.

To create a copy of an existing menu item definition, click [Duplicate] in the "Menu Item Definition" form. Then, enter the name of the item definition in the "WAY4Manager" form that opens and click [OK].

As a result, a definition whose parameters and list of subitems correspond to the original menu item definition will be added to the list.

2.1.2 Deleting a definition from the list

To delete the current menu item definition, click [Delete Item Definition] in the "Menu Item Definition" form (see the section "Editing menu item definitions").

A confirmation dialog will be displayed with the prompt "Do you really want to perform Delete Item Definition?". To confirm, click [Yes]; to cancel, click [No].

If at least one menu item was created using this definition, or the definition is included in other menu item definitions (see the section "Search by links"), the menu item definition cannot be deleted. The following message will be displayed: "The menu item definition you want to delete is used in the following menu item definitions: <...>".

Note that deletion of menu item definitions may have serious consequences, and make certain system resources inaccessible to the user.

2.1.3 Renaming a menu item definition

To rename a menu item definition, enter its new name in the *Name** field of the "Menu Item Definition" form (see the section "Editing menu item definitions").

The "OWS" prefix in a name indicates that this is a standard menu item definition supplied by the system vendor. Menu item definitions with this prefix can change in system upgrade (see the section "Importing and exporting the user menu"). Therefore, it is forbidden to edit these definitions. When it is necessary to change them, it is recommended to create new definitions (not containing the "OWS" prefix in their names) that will not change during system upgrade.

2.1.4 Changing menu item definition icons

To set an icon for a menu item definition, click ..., to the right of the *Icon* field in the "Menu Item Definition" form (see the section "Editing menu item definitions"). The "Select Icon" window will open.

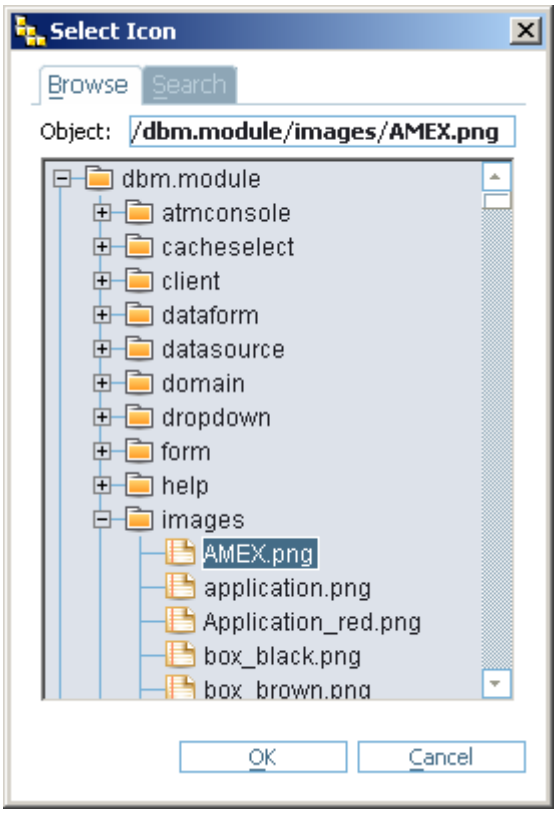

Fig. Selecting an icon for a menu item definition

There are two ways to select a "*.png" file:

- By specifying the file name and path in the "Browse" and clicking [OK].
  Note that this tab shows directories and "*.png" files found in the subdirectories "<OWS_directory_name>\Client\Way4manager\components" of the standard directories <OWS_HOME> and <OWS_WORK>.
- By entering the first letters of the graphic file's name in the *Search for:* field of the "Search" form, selecting the appropriate value in the list that opens in the lower field, and clicking [OK].

After an icon file has been specified, the corresponding image will be displayed to the left of the menu item definition name in the Menu Item Definition Editor window (see the section "Working with Menu Item Definition Editor") and to the left of the name of the corresponding user menu item.

2.1.5 Search by links

To search for links between a menu item definition and forms, menu items and other menu item definitions, click [Find Usage] in the "Menu Item Definition" form (see the section "Editing menu item definitions"). The "<name of menu item definition> Usages" window will open.

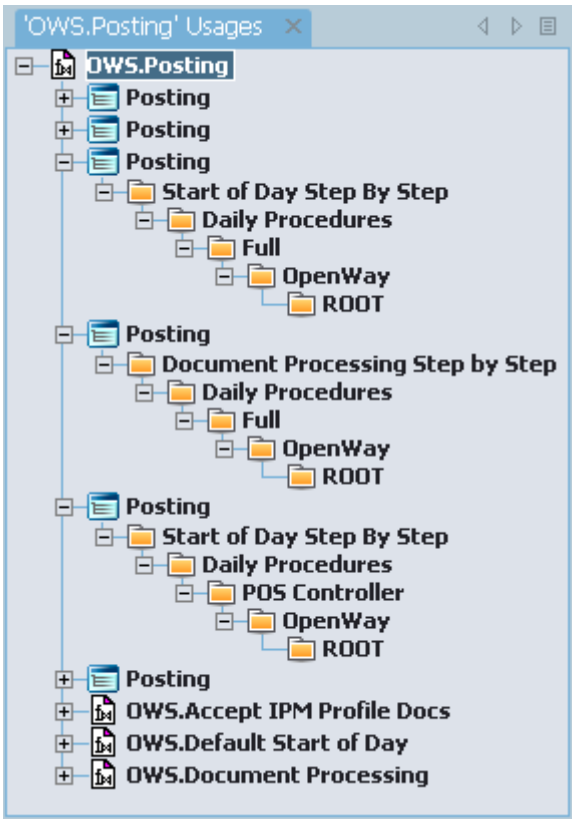

Fig. Menu item definition in a hierarchy

This window displays a hierarchy representing links between a menu item definition and menu items, forms or other definitions all the way up to the root level. The following icons are used in the window to show different objects:

- – menu folder
- – menu item
- – menu item definition
- – form.

2.2 Editing menu subitems

To edit the subitems of menu item definitions, use the "Subitems" form of the Menu Item Definition Editor window and its child forms and windows whose names depend on the subitem type.

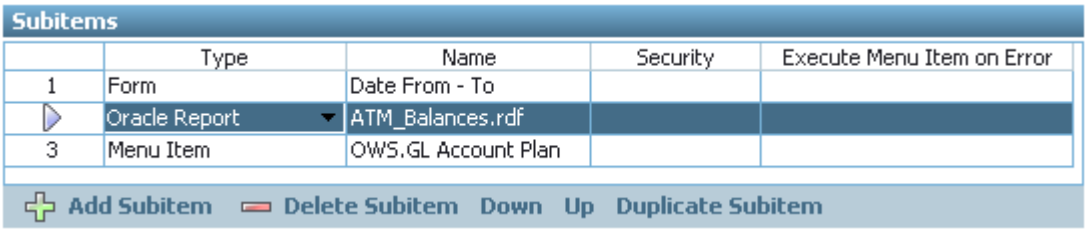

Fig. List of subitems

The "Subitems" form contains an ordered list of menu item definition subitems.

The following fields are used in the form:

- *Type* – subitem type. This field can have one of the following values:
  - "Form" – open a form for viewing and editing data.
  - "Screen" – display a screen (a set of forms).
  - "Assignment" – assign local constant values for the current WAY4 Manager session.
  - "Menu Item" – run a menu item registered in the system.
  - "Pipe" – start a C pipe.
  - "Java Pipe" – start a Java pipe.
  - "Oracle Report" – start the Oracle Report generator.
  - "EXE File" – start an operating system executable file.
  - "Sql" – execute a SQL expression or program file.
  - "Process" – start a stored procedure executed by the database server.
  - "Db Procedure Cycle" – execute a stored database procedure for all table rows that meet specified conditions.
  - "Sql Cycle" – execute a specific SQL expression for all table rows that meet the specified condition.
  - "Db Row Procedure" – execute a stored database procedure for the current table row.
  - "Java Class" – launch an external Java application to perform specific actions, e.g. to export XML data from the database; this subitem type may only be used by WAY4 employees.
  - "Message Box" – display a message window on the screen.
  - "Change Password" – display the password change window; this subitem type is used without parameters.
  - "Voice Authorization" – open the interface for voice authorization of bank card requests.
  - "Luhn Calculator" – calculate a Luhn digit for a number entered by the user; this subitem type is used without parameters.
  - "User Management" – open the "User Management" window; this subitem type is used without parameters.
  - "Save Current" – save current changes.
  - "Microhelp Drawer" – refresh the status bar, this subitem type is used without parameters.

  - "Blob Management" – execute an action (load, open, save) with BLOB objects (Binary Large Object). This subitem type is used, for example, if files must be saved in the database (documents, images, software code).
  - "Run Script" – run a JavaScript script.
  - "Flag" – set or remove a special parameter (flag); subitems of this type are used when working with WAY4 Scheduler (see the document "Scheduler R2").
  - "Waiting Files" – wait until the specified file appears in the specified directories; subitems of this type are used when working with WAY4 Scheduler (see the document "Scheduler R2").
  - "Send mail" – send an email message.
  - "Other" – run a special software module on the client's workstation; this subitem type may only be used by WAY4 employees.
- *Name* – subitem name;
- *Security* – drop-down list for specifying user privileges required to run this menu item (see the section "Configuring privilege packages" of the document "WAY4™ User Management").
- *Execute Menu Item on Error* – menu item definition that will be executed if business logic errors occur during execution of this subitem. This mechanism is used for handling exceptions that violate the order of executing menu subitems defined in this menu item. Such an exception may be, for example, the absence of an imported file in a certain directory.
  If system errors occur (for example, an SQL Error), the menu item definition specified in this field will not be executed.

It is recommended to use this field when working with Scheduler (see the document "Scheduler R2") and only for the menu subitem types "Sql", "Flag, "Waiting Files" and "Java Pipes".

To add a new subitem, click [Add Subitem].

To create a copy of an existing subitem, click [Duplicate Subitem].

A dialogue box with the "Do you really want to perform Delete Subitem?" prompt will be displayed on the screen. To confirm deletion, click [Yes]; to cancel deletion, click [No].

Use the [Up] and [Down] buttons to move a subitem one position up or one position down.

Note that deletion of subitems may have serious consequences, and make certain system resources inaccessible to the user.

2.2.1 "Form" item

When a subitem with the "Form" type is executed, the specified form is displayed on the screen. The main parameters for this subitem type are shown on the "Form" tab.

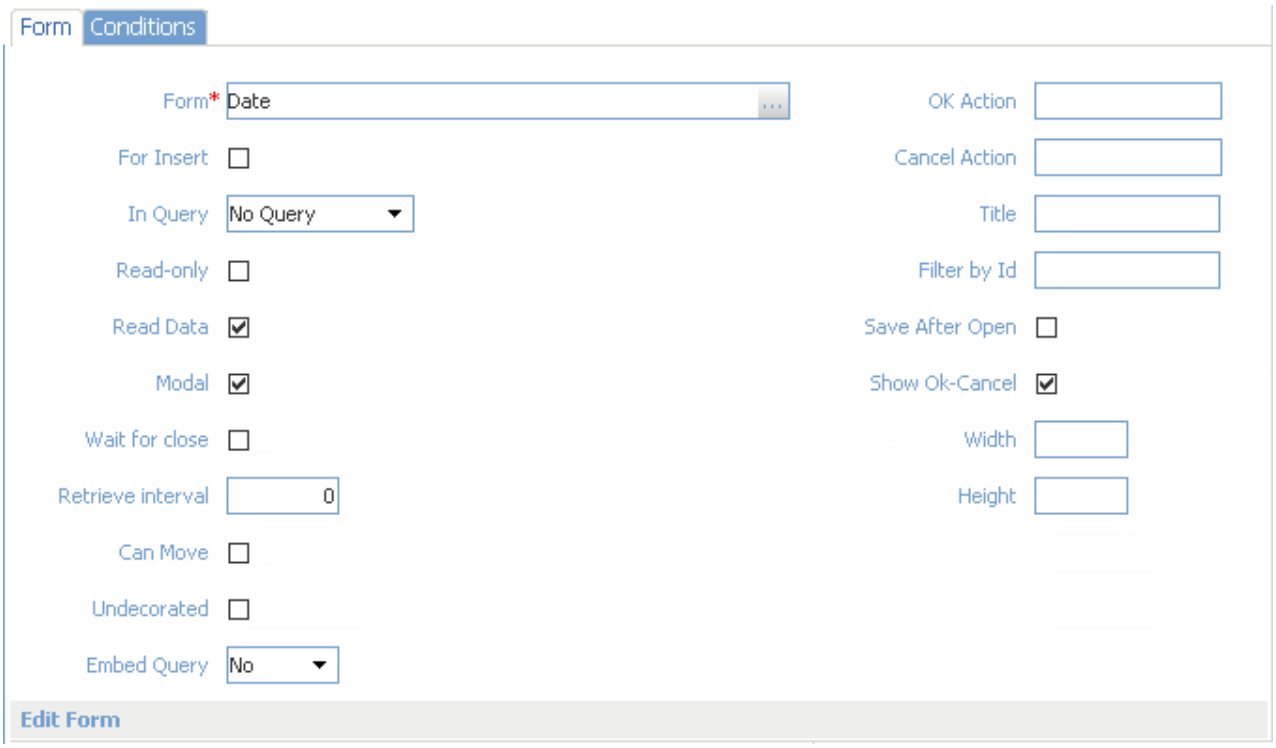

Fig. Parameters of a subitem with the "Form" type

This tab contains the following fields:

- *Form** – drop-down list of forms registered in the system (see the section "Starting Form Editor" of the document "WAY4 Manager Form Editor"). To open the list of forms, click ....
- *For Insert* – when this checkbox is selected, the form is only used to add records, and data is not read from the database when the form is opened.
- *In Query* – query method for the specified form (see the section "Queries" of the document "WAY4 Manager Manual"):
  - "No Query" – a query window will not be opened when the form is opened.
  - "Free Query" – a query can be made according to custom criteria or using a scenario that was prepared in advance.
  - "Prepared Query" – a query can only be made using a scenario that was prepared in advance.
- *Read-only* – when this checkbox is selected, form fields cannot be edited; otherwise, this is determined by form field editing parameters (see the section Form Editor window. "Fields" tab" of the document "WAY4 Manager Form Editor").

> Note that if in parameters of the Editor's child form on the "Links" tab the "Edit Mode" field's value is "Default", and column parameters of the child form have the "Editable" flag while settings of the main menu item of the "Form" type have the "Read-only" flag in parameters, the child form will not be editable.

- *Read Data* – when this checkbox is selected, data will be read from the database when opening the form; otherwise, the form will not contain data.
- *Modal* – form modality checkbox. If this checkbox is selected, when the form is open, data can only be entered and edited in this form. Other forms will become unavailable for entering and editing data.
- *Wait for close* – if this checkbox is selected, the next subitem can be executed only after this form has been closed. This checkbox is only available if the *Modal* checkbox is not selected.
- *Retrieve interval* – number of seconds after which the content of the form will be refreshed. If the field contains "0", data will read from the database only when opening the form.
- *Can move* – if this checkbox is selected, users can drag the form when holding down the right mouse button. This checkbox is only available if the *Modal* checkbox is selected.
- *Undecorated* – if this checkbox is selected, the form title will not be displayed in MS Windows style. This checkbox is only available if the *Modal* checkbox is selected.
- *Embed Query* – defines whether the query window will be displayed on the same tab with this form:
  - "Yes" – the query window is displayed together with the form.
  - "No" (default) – the query window is not displayed together with the form.
- *OK Action* – name of the associated procedure performed when [OK] is clicked in the form; parameters of the associated procedure are specified on the "Actions" tab of the Form Editor window (see section "Form Editor window. "Actions" tab" of the document "WAY4 Manager Form Editor"). This checkbox is only available if the *Modal* checkbox is selected.
- *Cancel Action* – name of the associated procedure performed when [Cancel] is clicked in the form; parameters of the associated procedure are specified on the "Actions" tab of the Form Editor window (see the section "Form Editor window. "Actions" tab of the document "WAY4 Manager Form Editor"). This checkbox is only available if the *Modal* checkbox is selected.
- *Title* – form title.
- *Filter by Id* – form record ID according to which data is filtered in the form before displaying the form on the screen.
- *Save After Open* – if this checkbox is selected, the opened form's data will automatically be saved in the database.
- *Show OK-Cancel* – if this checkbox is selected, the [OK] and [Cancel] buttons will be shown in the form.
- *Width* – form width in pixels.
- *Height* – form height in pixels.

The *Show OK-Cancel*, *Width* and *Height* fields are only available if the *Modal* checkbox is selected.

Clicking [Edit Form] in the form opens Form Editor for the form (see the document "WAY4 Manager Form Editor").

The "Conditions" tab is used to specify whether the condition specified in the "Conditions" tab of the Form Editor window is true or false (see the section Form Editor window. "Conditions" tab of the document "WAY4 Manager Form Editor").

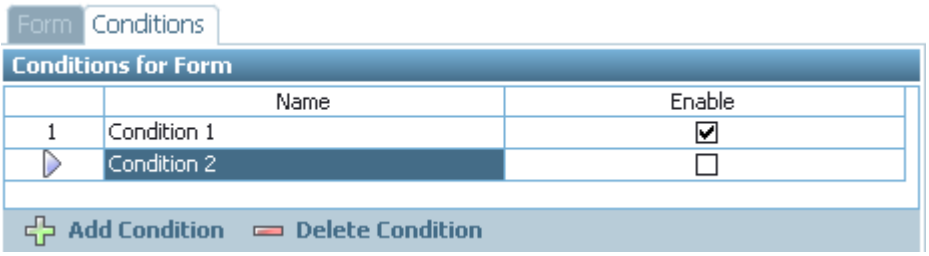

Fig. "Conditions" tab"

The tab contains the following fields:

- *Name* – condition name.
- *Enable* – if this checkbox is selected, the condition specified on the "Conditions" tab of the Form Editor window is treated as true; otherwise, it is treated as false.

The Add Condition and Delete Condition buttons are used to add and delete conditions, respectively.

2.2.2 "Screen" type

When a "Screen" subitem is executed, a screen (a set of forms) is displayed on the screen. The main parameters for this subitem type are shown on the "Screen" tab.

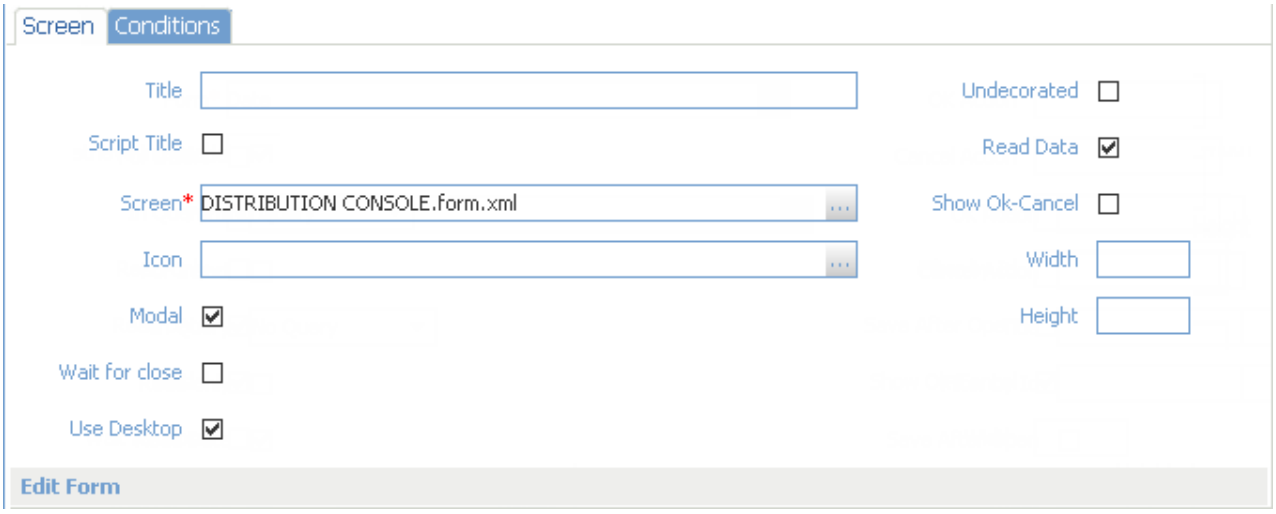

Fig. Parameters of a "Screen" subitem

This tab contains the following fields:

- *Title* – screen title.
- *Script Title* – when this checkbox is selected, the value of the *Title* field will be interpreted as a script written in JavaScript.
- *Screen** – drop-down list of screens registered in the system; to open the list, click ....
- *Icon* – name of the graphic file containing the icon used for this screen; to select a file, click ....

- *Modal* – screen modality checkbox. If this checkbox is selected, when the screen is open, data can only be entered and edited in this window. Other forms will become unavailable for entering and editing data.
- *Wait for close* – if this checkbox is selected, the next subitem can be executed only after the window with the screen has been closed. This checkbox is only available if the *Modal* checkbox is not selected.
- *Use Desktop* –if this checkbox is selected, he screen will be displayed as a child MDI (Multiple Document Interface) window.
- *Undecorated* – if this checkbox is selected, the screen title will not be displayed in MS Windows style. This checkbox is only available if the *Modal* checkbox is selected.
- *Read Data* – when this checkbox is selected, data will be read from the database when opening the screen; otherwise, the window will not contain data.
- *Show OK-Cancel* – if this checkbox is selected, the screen will contain the [OK] button.
- *Width* – screen width in pixels.
- *Height* – screen height in pixels.

> The *Show OK-Cancel*, *Width* and *Height* fields are only available if the *Modal* checkbox is selected.

The "Conditions" tab of the "Screen" subitem is the same is the "Conditions" tab of the "Form" subitem (see the section ""Form" item).

2.2.3 "Assignment" type

Executing a subitem of this type changes local constants for the current WAY4 Manager session. Values are assigned to local constants in fields of the "Assignment parameters for <name of subitem>" form.

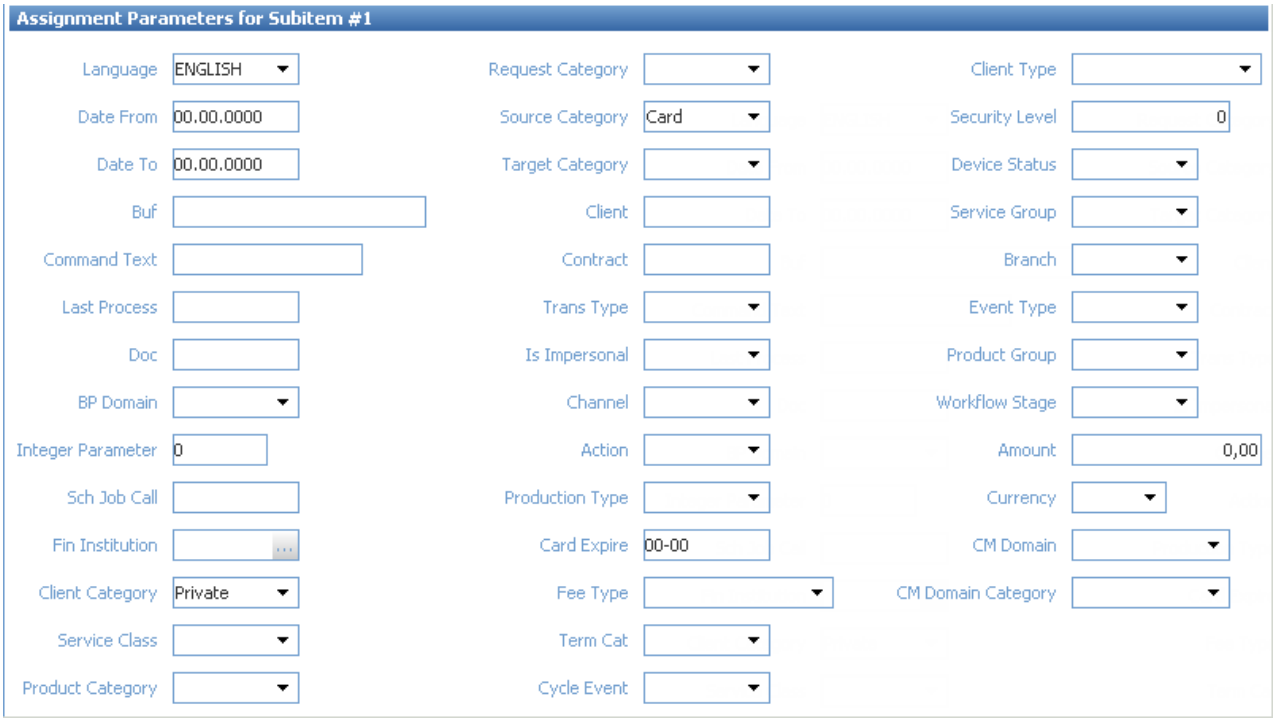

Fig. Parameters of an "Assignment" subitem

Values of local constants are selected from a list or are entered using the keyboard. An empty field in the window means that this menu subitem does not affect the value of the corresponding local constant.

This subitem type does not allow for setting local constant values to NULL. For this, use an "SQL" subitem (see ""Sql" type).

2.2.4 "Menu Item" type

When a subitem of this type is executed, actions specified in the corresponding menu item definition are performed. Subitem parameters are specified in the "Menu Item Parameters for <...>" form.

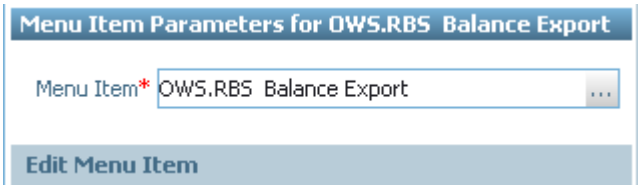

Fig. Parameters of a "Menu Item" subitem

To specify a menu item definition, in the *Menu Item* * field click ... . The "Choose Menu Item Definition" form will open (see the section "Menu item"). This form contains a lsit of menu item definitions created in WAY4 Manager.

Clicking [Edit Menu Item] opens Menu Item Definition Editor for the specified menu item definition.

2.2.5 "Pipe" type

Executing a "Pipe" subitem starts a C pipe. The subitem's main parameters are specified in the "Pipe" form, ans additional parameters are specified in the "Additional Parameters for Pipe" form.

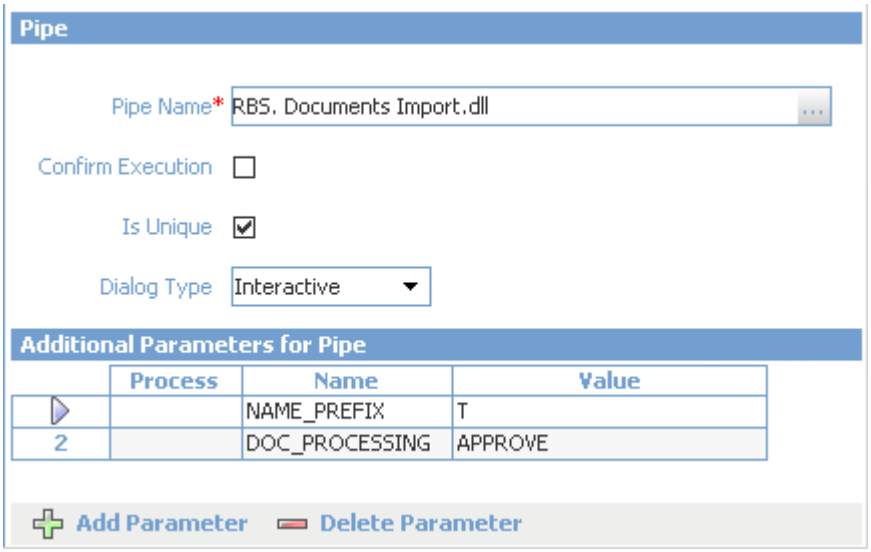

Fig. Parameters of a "Pipe" subitem

The "Pipe" form contains the following fields:

- *Pipe Name** – drop-down list for selecting a pipe name; to open the list of pipe names, click ....
- *Confirm Execution* – if this checkbox is selected, a prompt to confirm pipe execution is displayed before the pipe is started; in case of a negative response, the pipe is not started.
- *Is Unique* – if this checkbox is selected, only one instance of the pipe can be executed at the same time (on the same workstation during the same WAY4 Manager session).
- *Dialog Type* – a pipe can be executed in one of the following modes:
  - "Interactive" – the pipe execution process is shown in a corresponding dialog box.
  - "Errors only" – the dialog box only shows errors that occur during execution of the pipe.
  - "Silent" – during execution of the pipe, only the progress bar is displayed and logging to the process log is performed. Auxiliary dialog windows (for example, the file selection window, window confirming the execution of various actions) are not displayed.

The "Additional Parameters for Pipe" form used to specify pipe parameters, contains the following fields:

- *Process* – this field is used to enable parallel mode. The mode is only used for pipes importing and exporting data from files and increases performance when executing a large number of similar operations. In this case, process identifiers are specified in the *Process* field. The number of different identifiers is the number of parallel executed processes. Pipe parameters for which the same value is specified in the *Process* field belong to the same process. Parameters for which the *Process* field is not filled in are common to all processes.
- *Name* – pipe parameter name.
- *Value* – parameter value.

To add a parameter, click Add Parameter; to delete a parameter, click Delete Parameter.

> Note that each pipe has a unique set of parameters and their values. For more information about pipe parameters, see the corresponding documents from the WAY4 documentation series

2.2.6 "Java Pipe" type

Executing a "Java Pipe" subitem starts a Java pipe. The subitem's main parameters are specified in the "Java Pipe" form and additional parameters are specified in the "Additional Parameters for <...>" form.

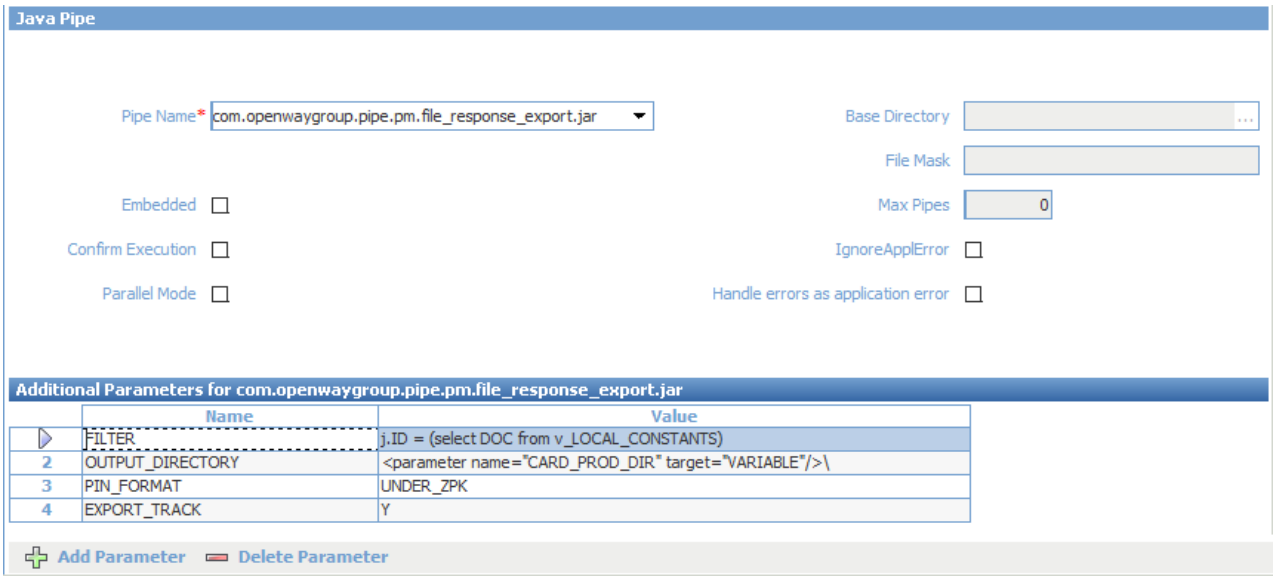

Fig. Parameters of a "Java Pipe" subitem

The "Java Pipe" form contains the following fields:

- *Pipe Name** – drop-down list for selecting a pipe name.
- *Embedded* – this checkbox may only be used by WAY4 specialists.
- *Confirm Execution* – if this checkbox is selected, a prompt to confirm pipe execution is displayed before the pipe is started; in case of a negative response, the pipe is not started.
- *Ignore Appl Error* – if this checkbox is selected, business logic errors that occur during the pipe's operation will be ignored.
  If the checkbox is not selected and during Java pipe operation business logic errors occurred that were saved in the process log (i.e. the corresponding record in the "Process Log" form has the "Closed" status and "Error" is specified in the *Error Level* field), the menu item specified in the *Execute Menu Item on Error* field of the "Subitems" form will be run (see the section "Editing menu subitems"). Note that it is recommended to use this checkbox only when working with Scheduler (see the document "Scheduler R2").
- *Handle errors as application error* – when this checkbox is selected system errors (for example SQL errors) will be interpreted by WAY4 as business logic errors occurring during pipe operation. If the checkbox is selected, the mode set with the *Ignore Appl Error* checkbox will be used for system errors; if a system error occurs, the menu item's operation will not be terminated. Note that it is recommended to use this checkbox only when working with Scheduler (see the document "Scheduler R2").
- *Parallel Mode* – if this checkbox is selected, parallel mode is eabled and several pipe instances can be started simultaneously. The mode is only used for pipes importing data from files and increases performance when executing a large number of similar operations.
- *Base Directory* – directory from which files are imported; to select a directory, click ... . This field is only available if the *Parallel Mode* checkbox is selected.
- *File Mask* – regular expression (mask) for a file name; "*" (any number of characters) and "?" (any character) can be used. This field is only available if the *Parallel Mode* checkbox is selected.
- *Max Pipes* – maximum number of pipe instances that can be run simultaneously. This field is only available if the *Parallel Mode* checkbox is selected.

The "Additional Parameters for <...>" form, used to specify pipe parameters, contains the following fields:

- *Name* – pipe parameter name.
- *Value* – parameter value.

To add a parameter, click Add Parameter; to delete a parameter, click Delete Parameter.

> Note that each pipe has a unique set of parameters and their values. For more information about pipe parameters, see the corresponding documents from the OpenWay documentation series

2.2.7 "Oracle Report" type

Executing a subitem of this type starts Oracle Report Generator, which generates a report using the specified Oracle Report Definition file (see the section "Report Generation Principles" of the document "WAY4 Manager Manual"). The subitem's main parameters are shown on the "Oracle Report" tab.

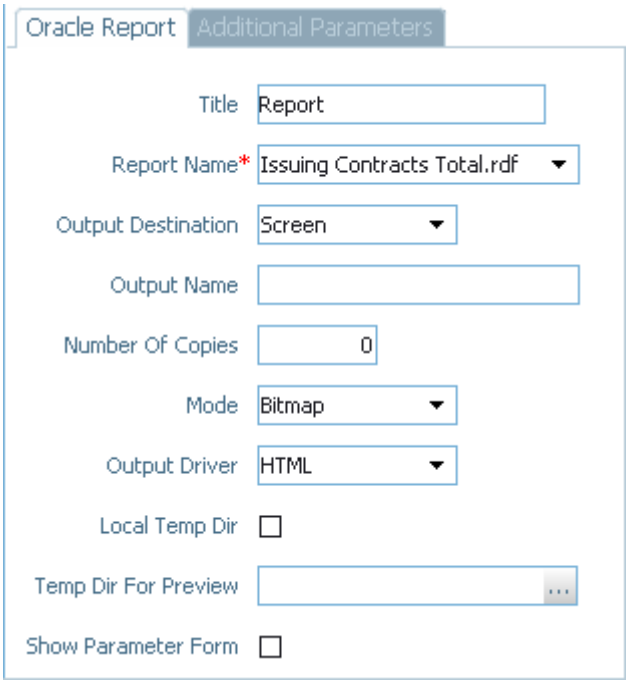

Fig. Main parameters of the "Oracle Report" subitem

This tab contains the following fields:

- *Title* – report title that will be shown on each page of the report.
- *Report Name** – drop-down list of report templates.
- *Output Destination* – drop-down list to specify a report destination:
  - "Preview" – computer screen.
  - "File" – file. The file name and path must be specified in the following format in the *Output Name* field: "<parameter name="STMT_DIR" target="VARIABLE"/>\<file name>", where STMT_DIR is the name of an environment variable specifying the directory in which the file

will be saved; STMT_DIR can be specified in the "db.ini" file or in the system menu by selecting "Database => Configure".

  - "Printer" – printer
  - "Mail" – email; in this case MAPI (Messaging Application Programming Interface) support must be installed on the computer and the report recipient's email address must be specified in the *Output Name* field.

- *Output Name* – destination name (file name, email address, printer name, etc).
- *Number Of Copies* – number of copies created.
- *Mode* – drop-down list for selecting the format of report data:
  - "Bitmap" – text and graphics.
  - "Character" – text only.
- *Output Driver* – drop-down list for selecting the report file format:
  - "DFLT" – printer description file used by Oracle Reports; it is also possible to manually enter names of other Oracle printer description files, e.g. "wide" or "wide180".
  - "PDF"
  - "HTML"
  - "Spreadsheet" – Microsoft Excel files (*.xls); only used for Oracle Report 10G and later.
  - "XML"
- *Local Temp Dir* – if this checkbox is selected, a temporary report file will be created in the operating system's temporary file directory. If this checkbox is not selected, a temporary report file will be created in the directory specified in the *Temp Dir For Preview* field; if this field is left blank, a file will be created in the standard temporary file directory.
- *Temp Dir For Preview* – directory for temporary report files; to select a directory, click ....
- *Show Parameter Form* – if this checkbox is selected, a form for entering report parameters will be displayed before the report is generated; otherwise, the form will not be displayed.

The "Additional Parameters" tab is used to specify additional parameters used during report generation.

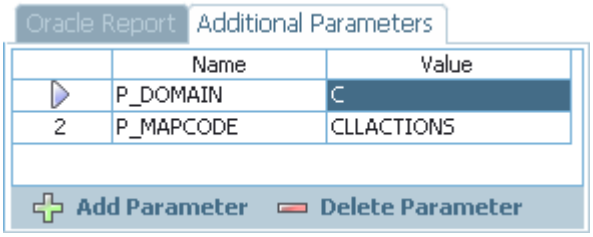

Fig. Additional report parameters

The tab contains the following fields:

- *Name* – parameter name.
- *Value* – parameter value.

The Add Parameter and Delete Parameter buttons are used to add and delete parameter values.

2.2.8 "EXE File" type

Executing a subitem of this type launches an executable MS Windows file on the user's workstation. Subitem parameters are specified in the "EXE File Parameters for <...>" form.

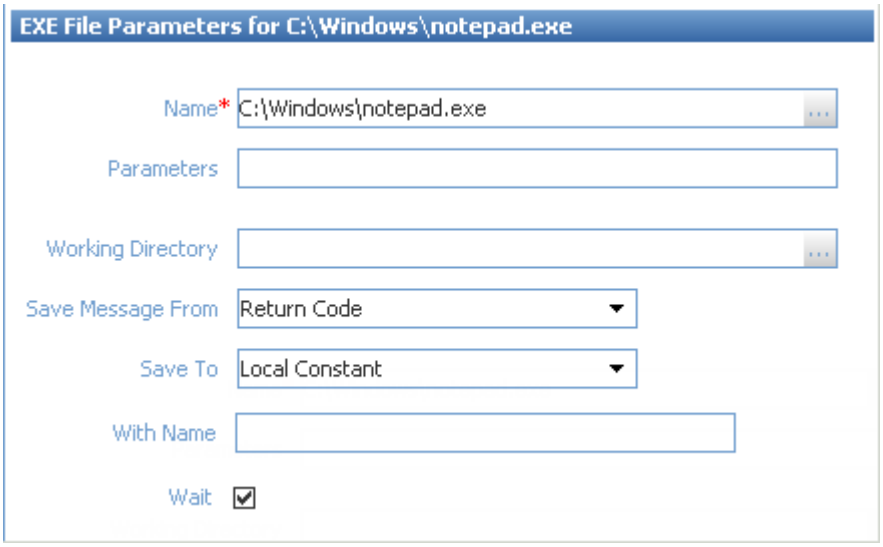

Fig. "EXE File" subitem parameters

This form contains the following fields:

- *Name** – name of the executable file and path to the file; to select the necessary name in the standard MS Windows window "Open", click ....
- *Parameters* – parameters for launching the executable file.
- *Working Directory* – working directory of the executable file.
- *Save Message From* – field specifying where to get information about the results of the program's operation:
  - "Return Code" – from the program's return code.
  - "Standard Flow" – from the program's standard flow.
  - "Error Flow" – from the program's error flow.
  - "File" – from a file; when this value is specified, the *File Name* field appears in the form. The filename should be specified in this field.
  - "None" – information about the results of the program's operation is not required

> The *Wait* checkbox must be selected if any value other than "None" is specified in this field.

- *Save To* – specifies where to save information about the results of the program's operation:
- "Local Constant" – to a local constant whose name should be specified in the *With Name* field.
- "Program Context" – to a WAY4 Manager internal constant whose name should be specified in the *With Name* field.

If any value is specified in this field, select the *Wait* checkbox.

- *With Name* – name of the local constant or WAY4 Manager internal constant to which information about the results of the program's operation will be saved.
- *Wait* – if this checkbox is selected, the next menu items will only be executed after operation of the program started by this subitem is completed.

In the *Name* and *Parameters* fields local constants can be used (fields of the LOCAL_CONSTANTS table), "ows_home" (system root directory) and "ows_work" (system working directory) variables as well as variables specified in the configuration files "<OWS_WORK>\db.ini", "<OWS_HOME>\client\dbm\dbm.ini" and in the form for configuring the local computer's WAY4 Manager parameters (menu item "Database => Configure..."). The following format is used for calling variables:

- "<parameter name="<Name>" target="LOCAL_CONSTANT"/>" – for local constants. For example, when the expression "<parameter name="FI" target="LOCAL_CONSTANT"/>" is specified, the "FI" (financial institution) variable is called.
- "<parameter name="<Name>" target="VARIABLE"/>" – for other variables. For example, when the expression "<parameter name="ows_work" target="VARIABLE"/>" is specified, the "ows_work" variable (system working directory) is called.

2.2.9 "Sql" type

When an "Sql" subtype is executed, an SQL expression or program file is executed.

Subitem parameters are specified in the "Sql Parameters for <...>" form and depend on the value of the *SQL Source* field,which determines whether an SQL expression will be taken from a file or set directly in the subitem.

If "Text" is specified in the *SQL Source* field, the "Sql Parameters for <...>" form will contain the fields shown in the figure.

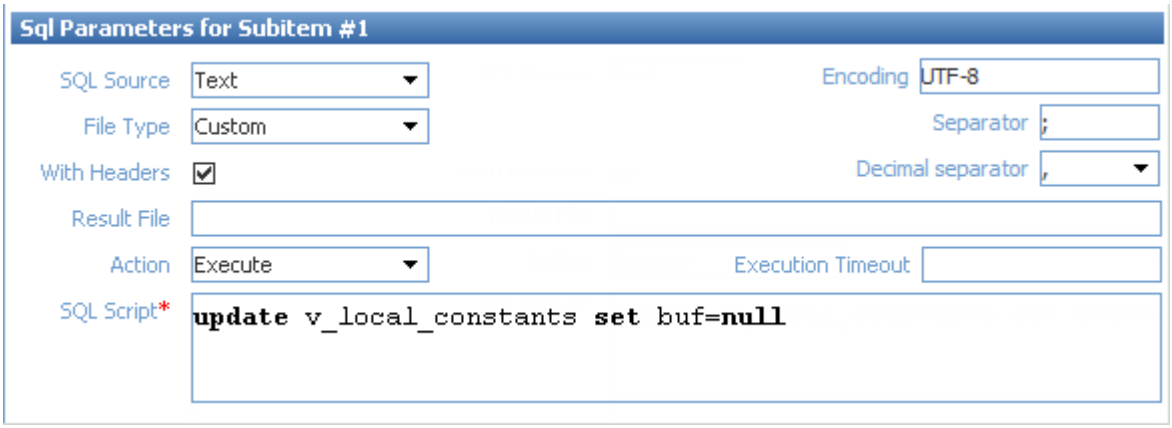

Fig. Parameters of an SQL expression specified directly in a subitem

This form contains the following fields:

- *File Type* – drop-down list for selecting the format of the file to which the result set will be placed:

  - "Comma-Separated" – text file with commas as separators.
  - "Tab-Separated" – text file with tabulation characters as separators.
  - "Custom" – text file with characters specified in the *Separator* field as separators.
- *Encoding* – field to specify the encoding of the file with the result set; the value in this field can be entered manually or selected from the following list:
  - "UTF-8" (default value)
  - "ANSI"
- *Separator* – character used to separate values in a result set.

> The *Separator* field is only available when "Custom" is selected in the *File Type* field.

- *Decimal separator* – decimal separator:
  - "." – period.
  - "," – comma.
- *With Headers* – when this checkbox is selected, the file with the result set will include database table field headers.
- *Result File* – name of the file with the result set; if this field is left blank, the result will be output to the screen. When specifying a filepath, links to local constants can be used (fields of the links to LOCAL_CONSTANTS table), "ows_home" (system root directory) and "ows_work" (system working directory) variables as well as variables specified in the configuration files "<OWS_WORK>\db.ini", "<OWS_HOME>\client\dbm\dbm.ini" and in the form for configuring the local computer's WAY4 Manager parameters (menu item "Database => Configure..."). The following format is used for calling variables:
  - "<parameter name="<Name>" target="LOCAL_CONSTANT" type="in" substitution_type="bind"/>" – for local constants. For example, when the expression "<parameter name="FI" target="LOCAL_CONSTANT"/>" is specified, the "FI" (financial institution) variable is called.
  - "<parameter name="<Name>" target="VARIABLE" type="in" substitution_type="bind"/>" – for other variables. For example, when the expression "<parameter name="ows_work" target="VARIABLE"/>" is specified, the "ows_work" variable (system working directory) is called.
  - "<parameter name="<Name>" target="ROW" type="in" substitution_type="bind"/>" – value of the parameter from the current row of the current form.
- *Action* – drop-down list for specifying an action.
  - "Execute" – execute an SQL expression.
  - "Check and interrupt" – this value is used for logical branching of menu items depending on the results of executing a stored procedure or function. The following expression must be specified in the *SQL Script** field:

- For a stored procedure – "{call <procedure_name>(1,<parameter name="SQL_SCRIPT_RESULT_VALUE" type="out" substitution_type="bind" target="CONTEXT"/>)}", where <procedure_name> is the name of the stored procedure.
- For a function – "{call <parameter name="SQL_SCRIPT_RESULT_VALUE" type="out" substitution_type="bind" target="CONTEXT"/>:= <function_name>(1)}", where <function_name> is the name of the stored procedure.

If a stored procedure or function returns "Y" , the next menu subitem will be executed. If the procedure or function returns "N", execution of the menu item will be terminated and the menu item specified in the *Execute Menu Item on Error* field of the "Subitems" form will be launched (see the section "Editing menu subitems").

It is recommended to use the "Check and interrupt" value if it is necessary to change the order in which menu subitems will be executed in exception handling; for example, if a contract has the "Not Ready" status when the daily closing procedure is executed.

- *Execution Timeout* – the maximum time for executing an SQL expression; if the SQL expression was not executed by the end of the time interval, execution of the subitem will be terminated and an error message will appear on the screen. The time interval can be specified in one of the following ways:
  - "<number>" – <number> milliseconds
  - "<number>ms" – <number> milliseconds
  - "<number>s" – <number> seconds
  - "<number>m" – <number> minutes
  - "<number>h" – <number> hours

It is recommended to use this parameter when working with Scheduler (see the document "Scheduler R2").

- *SQL Script** – SQL expression. Either one SQL expression or a PL\SQL block can be specified as an expression (according to PL\SQL syntax).

If "File" is specified in the *SQL Source* field, the "Sql Parameters for <...>" form will contain the fields shown in the figure.

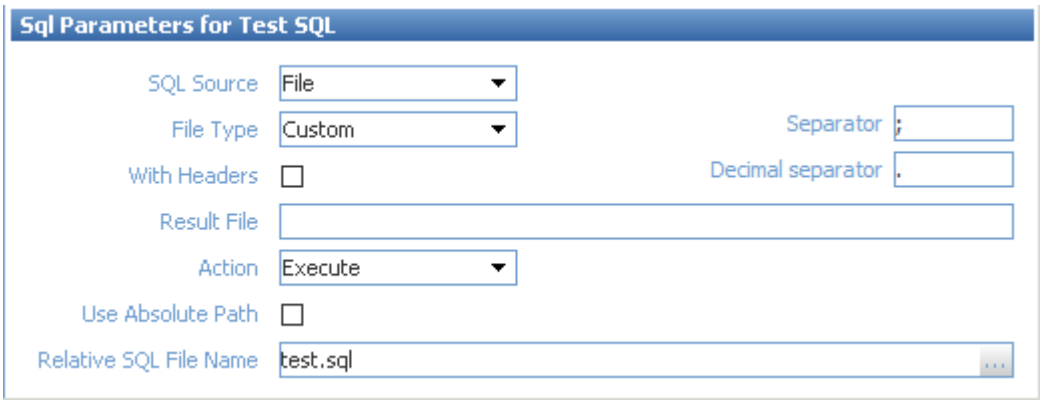

Fig. Parameters of an SQL expression specified in a file

If the *Use Absolute Path* checkbox is selected in this form, the absolute path to the file with the SQL expression must entered in the *Absolute SQL File Name* field, either manually or by clicking ... . If the *Use Absolute Path* checkbox is not selected, the path to the file relative to the <OWS_HOME> directory must be specified in the *Relative SQL File Name* field.

2.2.10 "Process" type

Executing a subitem of this type launches a stored database procedure. Subitem parameters are defined in the "Process Parameters for <...>" form.

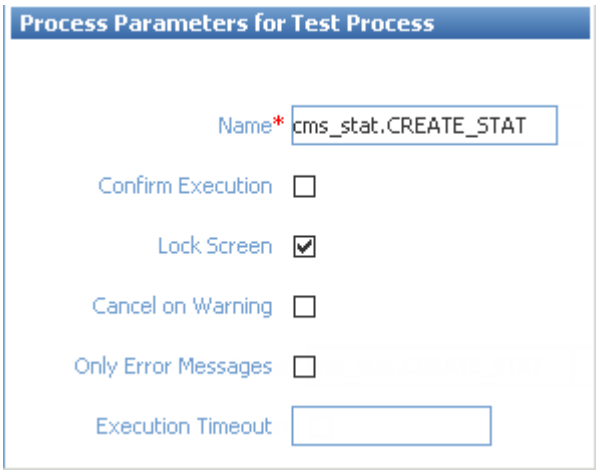

Fig. "Process" subitem parameters

This form contains the following fields:

- *Name** – procedure name.
- *Confirm Execution* – if this checkbox is selected, a confirmation prompt is displayed before launching the procedure; if the response is negative, this procedure will not be executed.
- *Lock Screen* – if this checkbox is selected, users cannot perform any other actions in the system while the procedure is being executed.
- *Cancel on Warning* – if this checkbox is selected, execution of the menu item will be interrupted if "Warning" messages occurred during execution of the procedure.
- *Only Error Messages* – if this checkbox is selected, only messages about errors that occur during the procedure's execution will be displayed in the dialog box.

- *Execution Timeout* – the maximum time for executing an SQL expression; if the SQL expression was not executed by the end of the time interval, execution of the subitem will be terminated and an error message will appear on the screen. The time interval can be specified in one of the following ways:
  - "<number>" – <number> milliseconds
  - "<number>ms" – <number> milliseconds
  - "<number>s" – <number> seconds
  - "<number>m" – <number> minutes
  - "<number>h" – <number> hours

It is recommended to use this parameter when working with Scheduler (see the document "Scheduler R2").

2.2.11 "DB Procedure Cycle" type

Executing a subitem of this type launches a stored database procedure for all table rows that meet the conditions described in the subitem. Subitem parameters are defined in the "DB Procedure Cycle Parameters for <...>" form.

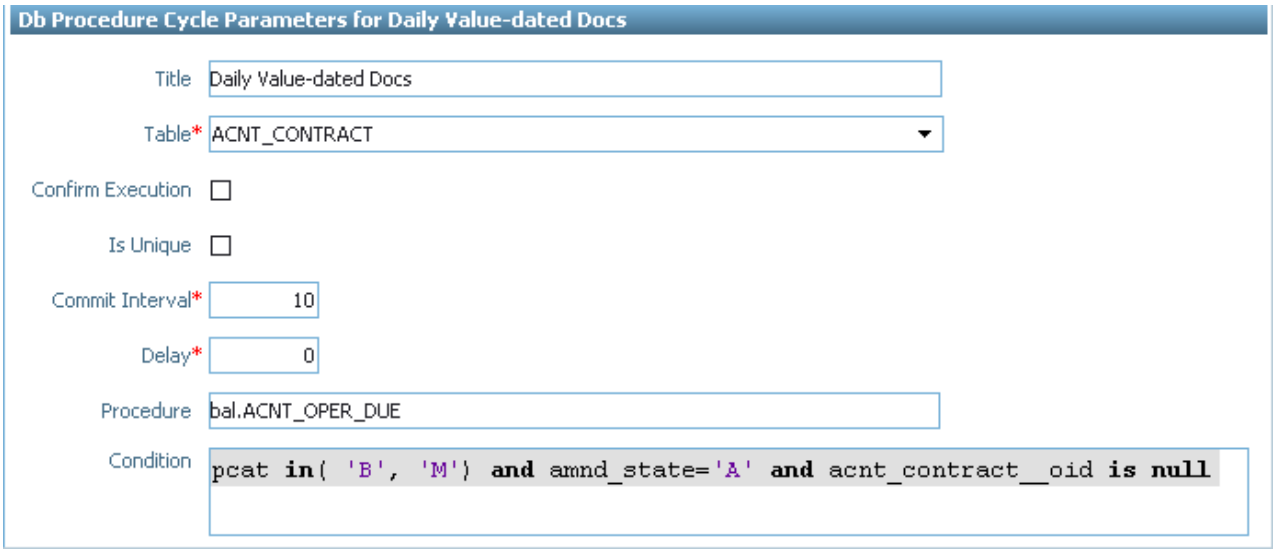

Fig. "DB Procedure Cycle" subitem parameters

This form contains the following fields:

- *Title* – title of the procedure execution window.
- *Table** – name of the queried database.
- *Confirm Execution* – if this checkbox is selected, a confirmation prompt is displayed before launching the stored procedure; if the response is negative, execution of this menu item will be terminated.
- *Is Unique* – if this checkbox is selected, only one instance of the stored procedure can be launched at the same time (on the same workstation during the same WAY4 Manager session).
- *Commit Interval** – number of records processed during one transaction; the recommended range is from 10 to 1000.

- *Delay** – delay in milliseconds after each execution of the COMMIT statement to decrease the database server load.
- *Procedure* – name of the stored database procedure.
- *Condition* – query condition.

2.2.12 "Sql Cycle" type

Executing a subitem of the "Sql Cycle" type executes a specific SQL expression for all table rows that meet a certain condition. Subitem parameters are defined in the "Sql Cycle Parameters for <...>" form.

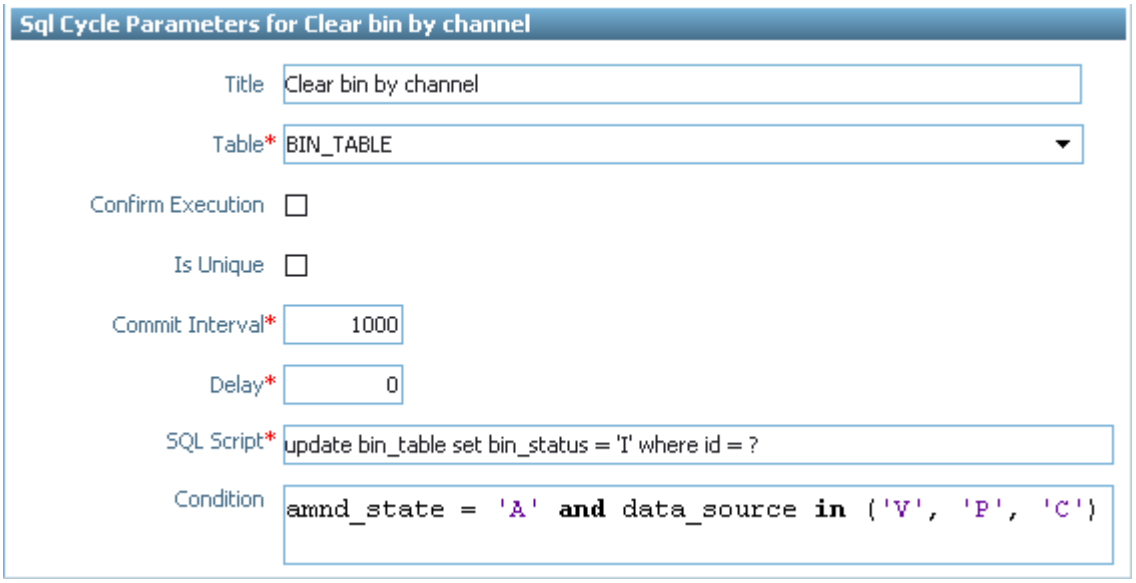

Fig. "Sql Cycle" subitem parameters

This form contains the following fields:

- *Title* – title of the SQL expression execution window.
- *Table** – name of the queried database.
- *Confirm Execution* – if this checkbox is selected, a confirmation prompt is displayed before executing the SQL expression; if the response is negative, execution of this menu item is terminated.
- *Is Unique* – if this checkbox is selected, only one instance of the SQL expression can be executed at the same time (on the same workstation during the same WAY4 Manager session).
- *Commit Interval** – number of records processed during one transaction; the recommended range is from 10 to 1000.
- *Delay** – delay in milliseconds after each execution of the COMMIT statement to decrease the database server load.
- *SQL Script** – SQL expression executed for each record in the database query. The "?" character is a synonym for the *ID* field of the database table being queried.
- *Condition* – query condition.

2.2.13 "Db Row Procedure" type

Executing a subitem of this type launches a stored database procedure for the current table row.

> It is recommended that subitems of the "Db Row Procedure" type be only used for menu item definitions started from forms (see section "Form Editor Window. "Actions" tab of the document "WAY4 Manager Form Editor").

Subitem parameters are defined in the "Db Row Procedure Parameters for <...>" form.

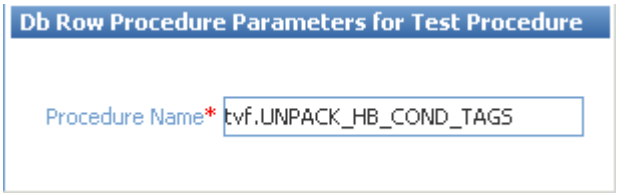

Fig. Parameters of a "Db Row Procedure" subitem

The name of the stored procedure is specified in the *Procedure Name** field of the form.

2.2.14 "Java Class" type

The "Java Class" subitem type makes it possible to start some external Java applications. These applications are determined by the vendor. This option is only for use by OpenWay employees.

2.2.15 "Message Box" type

Executing a subitem of the "Message Box" type displays a message box on the screen. Subitem parameters are specified in the "Message Box Parameters for <...>" form.

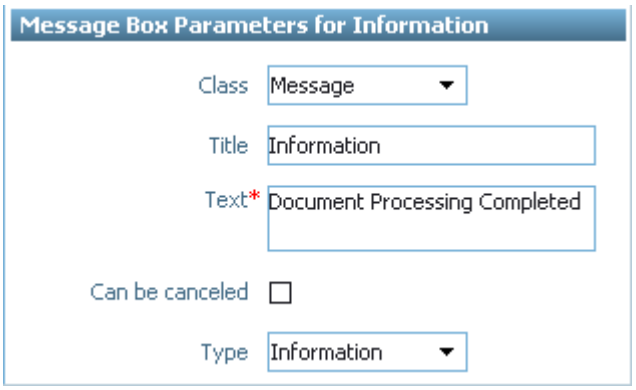

Fig. "Message Box" subitem parameters

This form contains the following fields:

- *Class* – message type:
  - "Message" – display a dialog box with a message and the [OK] button.
  - "Confirmation" – display a dialog box with a prompt and buttons for a response. If the response is positive ([OK]), the next subitem is executed; if the response is negative ([Cancel]), execution of the current item is terminated.
  - "Progress" – display a progress bar window.
- *Title* – message window title.

- *Text** – message text.
- *Can be canceled* – when this checkbox is selected, a progress bar contains the [Cancel] button. This checkbox is only available for "Progress" messages.
- *Type* – drop-down list to select the icon shown in the message box:
  - "None" – no icon
  - "Information" – .
  - "Warning" – .
  - "Error" – .

> This field is only available for "Message" and "Confirmation" messages.

2.2.16 "Voice Authorization" type

Executing a subitem of this type opens the interface for voice authorization of bankcard requests. Subitem parameters are specified in the "Voice Authorization Parameters for <...>" form.

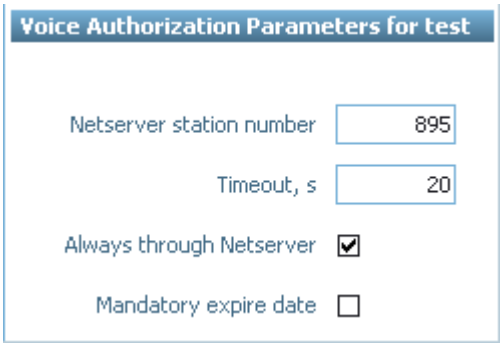

Fig. "Voice Authorization" subitem parameters

This form contains the following fields:

- *Netserver station number* – identifier of the NetServer that will be used by WAY4 Manager to start authorization of "on-us" and "foreign" cards.
- *Timeout, s* – maximum period to wait for a NetServer response, in seconds.
- *Always through Netserver* – when this checkbox is selected, requests are always routed to the database through NetServer.

> It is recommended to select this checkbox.

- *Mandatory expire date* –when this checkbox is selected, a card's expiration date must be entered to perform authorization.

2.2.17 "Blob Management" type

When executing a "Blob Management" type subitem, actions are performed (loading, opening, saving) with BLOB objects (Binary Large Object). This subitem type is used, for example, if files must be saved in the database (documents, images, software code).

Subitem parameters are defined in the "Blob Management Parameters for <...>" form.

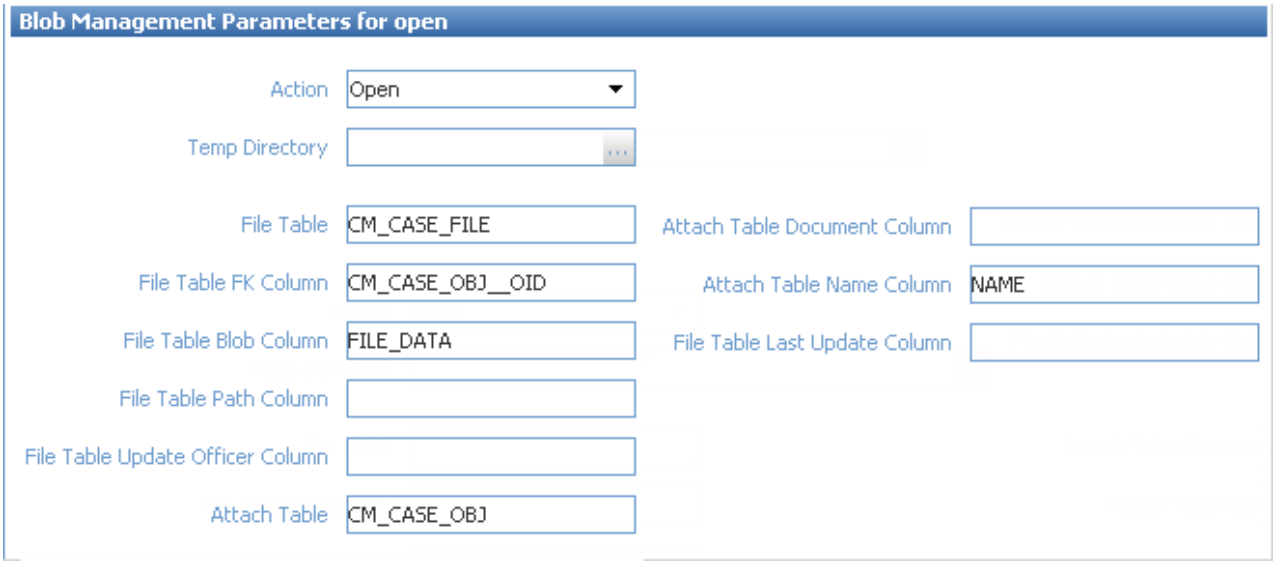

Fig. "Blob Management" subitem parameters

This form contains the following fields:

- *Action* – the action that must be performed with the files:
  - "Save" – save a file from the database to the hard drive.
  - "Open" – open a file.
  - "Load" – load a file from the hard drive to the database.
  - "Save All" – save all files to the hard drive.
  - "Save all from Context" – save all files whose IDs were specified in this item's previous menu subitems.
- *Temp Directory* – directory for saving temporary files created during the "Open" action (open a file).
- *File Table* – name of the table in which the file (Blob object) will be stored.
- *File Table FK Column* – name of the table field (*File Table*) that is the foreign key. According to the value of this field, a link is made with the table in which records about the file are stored (*Attach Table*).
- *File Table Blob Column* – name of the table field (*File Table*) in which the file will be stored. The default value is "FILE_DATA".
- *File Table Path Column* – name of the table field (*File Table*) in which the path to the directory from which the file was loaded into the database will be stored. The default value is "DOCUMENT".
- *File Table Update Officer Column* – name of the table field (*File Table*) in which information about the user who loaded the file into the database will be stored. The default value is "UPDATE_OFFICER".

- *File Table Last Update Column* – name of the table field (*File Table*) in which the date and time of the last file update and information about it is stored. The default value is "LAST_UPDATE".
- *Attach Table* – name of the table in which records about the file will be stored.
- *Attach Table Document Column* – name of the table field (*Attach Table*) in which the path to the directory from which the file was loaded into the database is stored. The default value is "DOCUMENT".
- *Attach Table Name Column* – name of the table field (*Attach Table*), in which the name of the file record will be stored. The default value is "NAME".

2.2.18 "Run Script" type

When a "Run Script" type subitem is executed, a JavaScript script is run. This type is used, for example, if a certain screen must be opened.

> It is not recommended to use the "Run Script" type subitem without OpenWay's agreement.

Specify the script in the "Run Script Parameters for <...>" form.

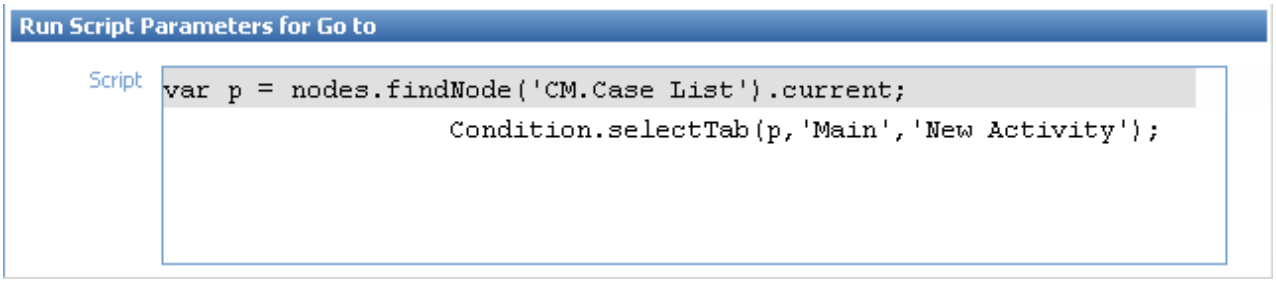

Fig. "Run Script" subitem parameters

A JavaScript script is specified in the *Script* field of this form.

2.2.19 "Flag" type

Executing a subitem of the "Flag" type sets or removes a special parameter (flag). This mechanism is used, for instance, to restrict access to a resource or to notify users of a specific event. Subitems of this type are used while working with WAY4 Scheduler (see the document "Scheduler R2").

Subitem parameters are determined in the "Flag Parameters for <...>" form.

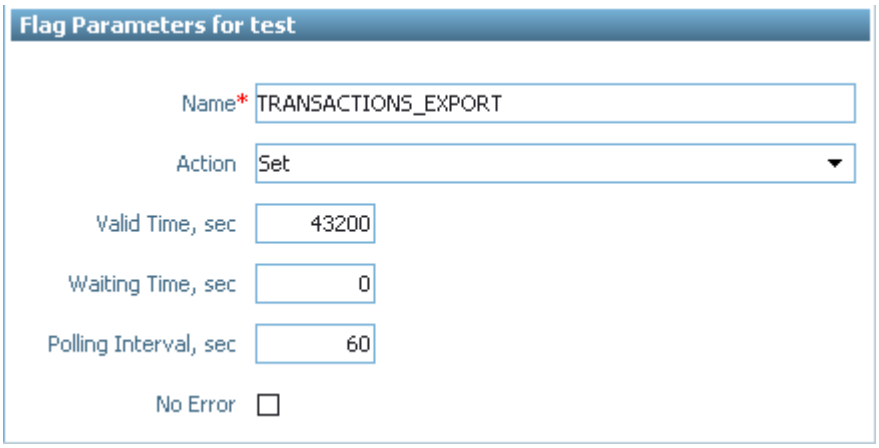

Fig. "Flag" subitem parameters

This form contains the following fields:

- *Name** – flag name.
- *Action* – action that must be performed with the flag:
  - "Set" – set the flag to "Y".
  - "Reset" – reset the flag; that is, set it to "N".
  - "Wait" – wait until the flag's value is "Y".
  - "Lock" – set the flag to "Y" only if the flag is not set.
- *Valid Time, sec* – time interval (in seconds) during which the flag setting is valid; this field must be filled in if "Set" or "Reset" is specified in the *Action* field.
- *Waiting Time, sec* – waiting time (in seconds); this field must be filled in if "Wait" or "Lock" is specified in the *Action* field.
- *Polling Interval, sec* – database polling time interval (in seconds); this field must be filled in if "Wait" or "Lock" is specified in the *Action* field.
- *No Error* – if this checkbox is selected, the *Action* field contains "Wait" or "Lock" and the flag is not set to "Y" after the waiting time expires, execution of this menu item ends without an error message; otherwise, execution of the menu item is terminated, and the menu item specified in the *Execute Menu Item on Error* field of the "Subitems" form is started (see the section "Editing menu subitems").

> If a menu item containing a "Flag" subitem is called from another menu item, the *No Error* checkbox is selected, the *Action* field contains "Wait" or "Lock" and the flag is not set to "Y" after the waiting time expires, the next subitem of the menu that called the menu item is executed.

2.2.20 "Waiting Files" type

When a subitem of the "Waiting Files" type is executed, the system waits until the specified file appears in the specified directories. Subitems of this type are used while working with WAY4 Scheduler (see the document "Scheduler R2").

The subitem's parameters are defined in the "Waiting Files Parameters" and "Directories" forms.

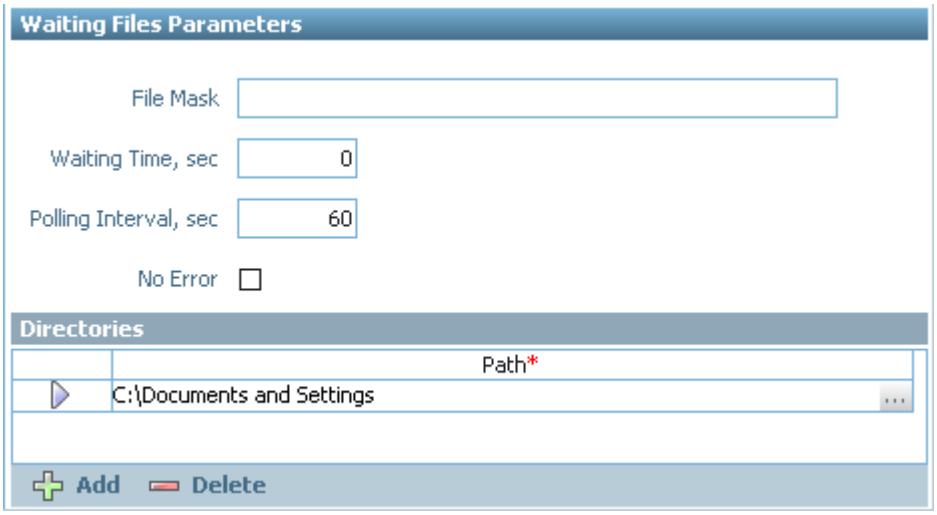

Fig. "Waiting Files" subitem parameters

The "Waiting Files Parameters" form contains the following fields:

- *File Mask* – regular expression (mask) for a file name; specified in the Java regular expression format. For example, to wait for a file with any name and extension, specify the ".*" mask, for files with the ".xml" extension – the ".\.xml" mask. All files with the ".txt" extension beginning with the capital letter "A" will comply with the mask "A.*\.txt".
- *Waiting Time, sec* – waiting time (in seconds).
- *Polling Interval, sec* – polling interval (in seconds).
- *No Error* – if this checkbox is selected and the file does not appear in the directories by the end of the waiting period, execution of this menu item ends without an error message. If the checkbox is not selected and the file does not appear in the directories by the end of the waiting period, execution of the menu item is terminated, and the menu item specified in the *Execute Menu Item on Error* field of the "Subitems" form is started (see the section "Editing menu subitems").

> If a menu item containing a "Waiting Files" subitem is called from another menu item, the *No Error* checkbox is selected, and the file did not appear in the specified directories by the end of the timeout, the next subitem of the menu that called the menu item is executed.

The "Directories" form is used to specify the path to the directory in which a file must appear. Clicking ... in the *Path** field opens the standard MS Windows window "Open" to specify the path to the necessary directory.

The Add and Delete buttons are used to add or delete a path to a directory.

2.2.21 "Send Mail" type

When the "Send Mail" subitem is executed, a message will be sent by e-mail.

If this subitem is run from the WAY4 Manager application, the recipient's address specified in the *To e-mail address* field of the "Please fill report parameters" form will be used. This form is opened by

selecting the system menu item "Help => Send feedback with debug info" (see the section "Help" Item" of the document "WAY4 Manager Manual").

If the subitem is run using Scheduler, the address specified using Scheduler's "mail_address_to" configuration parameter will be used as the recipient's address (see the section "Configuring Scheduler" of the document "Scheduler R2").

The subitem's parameters are specified in the "Send Mail Parameters for <...>" form.

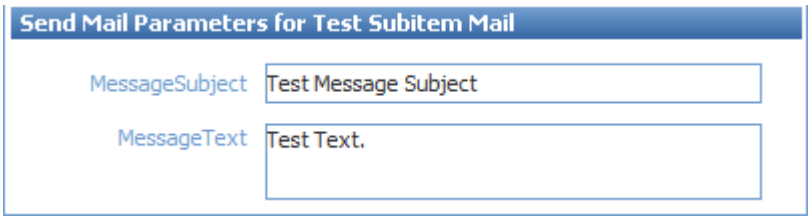

Fig. "Send Mail" subitem parameters

Enter the message subject in the *Message Subject* field and the message text in the *Message Text* field.

3 Importing and exporting the user menu

The WAY4 Manager user menu can be modified both directly, i.e. by editing menu folders and items, and after upgrade, i.e. data import from a special format file/files.

Menu upgrade can be performed during total system upgrade (in this case, the standard menu developed by OpenWay is imported) or when developed and debugged menu items are copied from one system to another.

3.1 Exporting menu folders and items to a file

Menu folders and items are exported after new menu elements are developed and debugged in one system to move them to another system, e.g. from a test system to a production one.

To export menu elements, click the "ROOT" menu folder in the right-hand section of the Menu Editor window (see the section "Editing the user menu") and proceed in one of the following ways:

- Right-click and select "Export Menu" from the context menu that opens.
- Click [Export Menu] in the "ROOT" form.

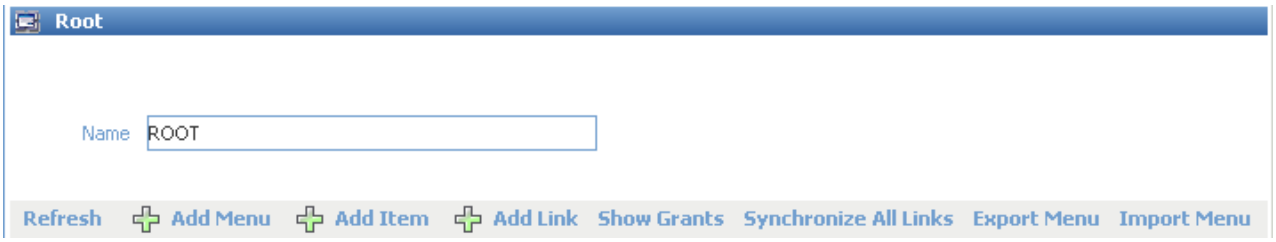

Fig. "ROOT" menu item

The "Menu Export" window will open. In this window, select user menu folders and/or items to be exported.

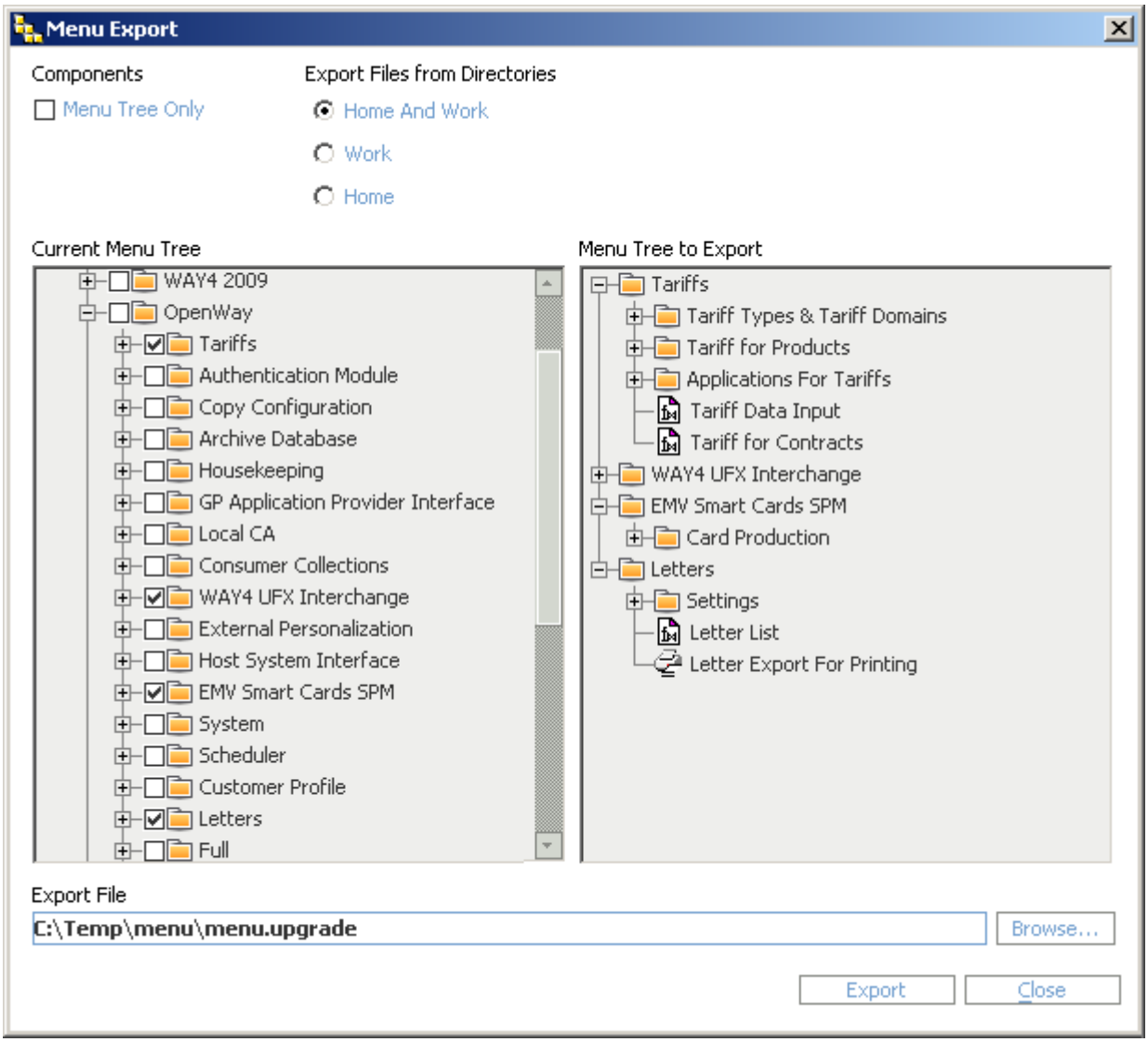

Fig. Dialog box for selecting menu elements to be exported

Th *Current Menu Tree* field contains a list of all menu folders and items (menu tree). To select menu elements to be exported, select the checkboxes to the left of the necessary elements.

Menu elements selected for export will appear in the *Menu Tree to Export* field of the window pane on the right.

To exclude a menu element from the list of exported element, deselect its checkbox; as a result, the element will be deleted from the *Menu Tree to Export* field.

> To export all elements of the user menu, select the checkbox for the "ROOT" menu folder.

The following parameters for menu element export are defined in the "Menu Export" window:

- *Menu Tree Only* – when this checkbox is selected, only the list of menu folders and items (menu tree) will be exported; menu item definitions and forms will not be exported.

- *Export Files from Directories* – group of radio buttons that determine the order of standard WAY4 directories from which files will be taken during export of menu folders and items. For a description of standard file server directories and their access privileges, see section "Classification of WAY4 users" of the document "WAY4™ User Management". The following radio buttons are available:
  - *Home And Work* – the system will search for all necessary files in the <OWS_HOME> directory; if no files for export are found, the system will search for files in the <OWS_WORK> directory.
  - *Work* – the system will search for all necessary files in the <OWS_WORK> directory only.
  - *Home* – the system will search for all necessary files in the <OWS_HOME> directory only.

After selecting menu elements and specifying export parameters, click [Browse...] in the *Export File* field to specify the path and the name of the file in which data will be saved. Export files are automatically assigned the ".upgrade" extension.

To export selected menu elements, click [Export]; to cancel export, click [Close].

If export is completed successfully, a window will be displayed with the message "The export file <filename> has been created".

3.2 Importing menu folders and items from a file

Users import menu folders and items after receiving menu upgrade files from OpenWay, or after creating these files in a test system.

To import menu elements, click the "ROOT" menu folder in the right-hand section of the Menu Editor window (see the section "Editing the user menu") and proceed in one of the following ways:

- Right-click and select "Import Menu" from the context menu that opens.
- Click [Import Menu] in the "ROOT" form (see the section "Exporting menu folders and items to a file").

The "Menu Import" window will open. In this window, select user menu folders and/or items for import.

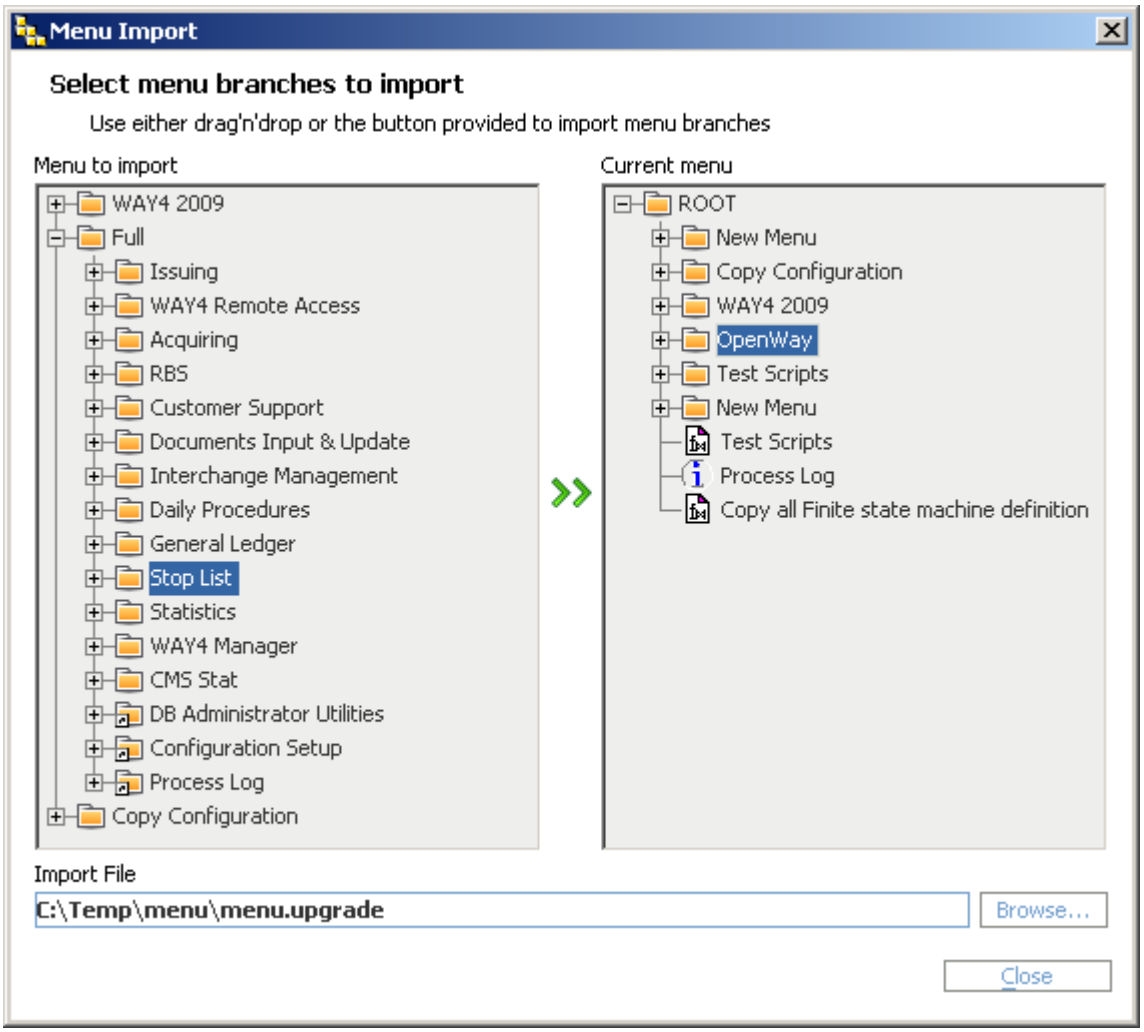

Fig. Dialog box for selecting menu elements to be imported

In the *Import File* field of the form, click [Browse...] and specify the path and the name of the file from which the menu will be imported. The *Menu to import* field will display the menu elements contained in the selected file.

The *Current menu* field contains a list of all menu folders and items installed on the workstation.

To display information about the differences between imported menu folders and menu folders installed on the workstation, do as follows:

- In the *Menu to import* and *Current menu* fields, click on the menu folders to be compared.
- Right-click on any of the selected folders and select "Show difference" from the context menu that opens.

As a result, the compared folders and items will be highlighted: folders and items that are the same, in green, folders and items that are only present in imported or installed menu folders, in pink.

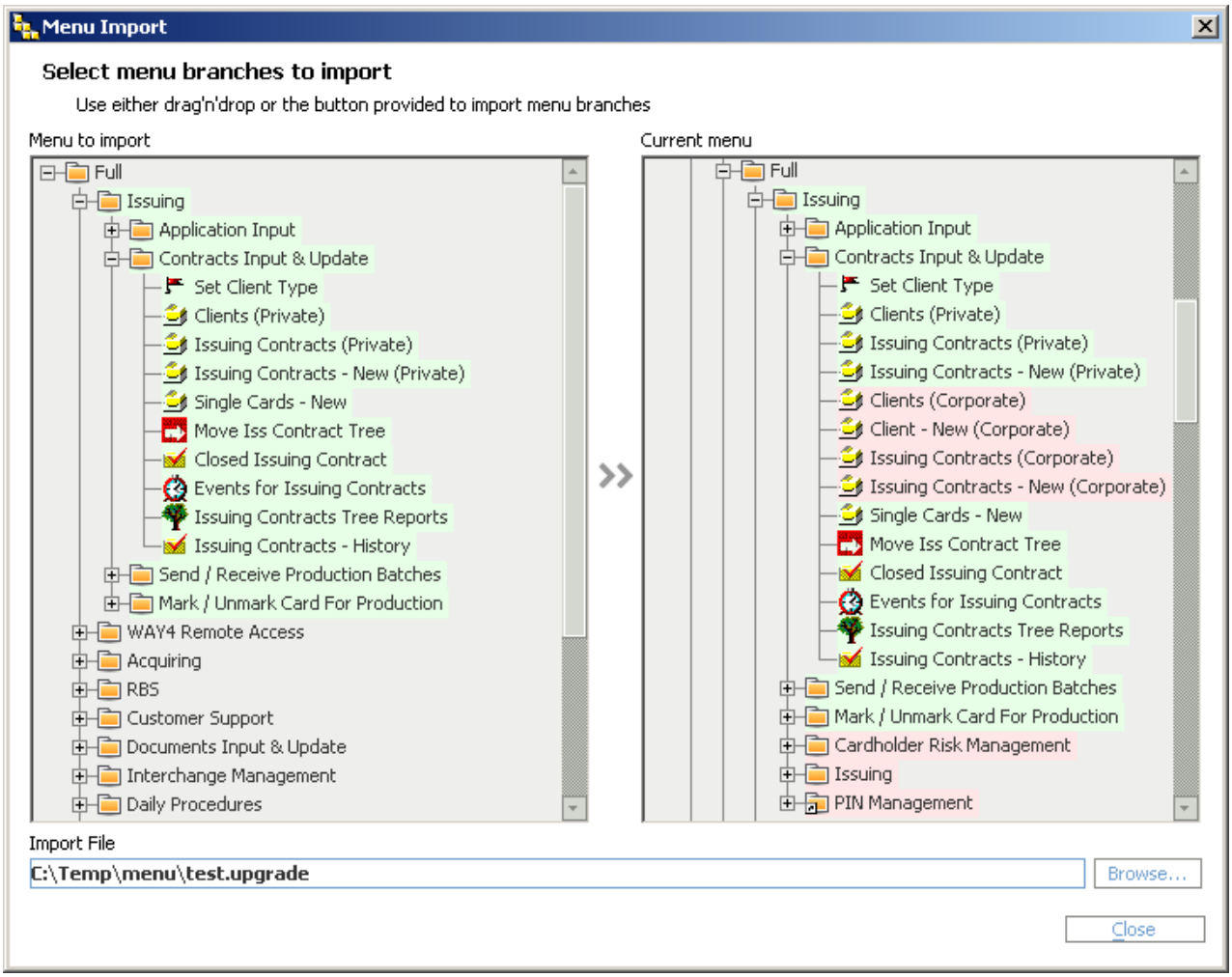

Fig. Differences between imported menu folders and menu folders installed on the workstation

To cancel comparison of menu folders, select "Hide difference" from the context menu.

To import a menu element, do as follows:

- In the *Menu to import* field, click on the name of the element to be imported and holding down the mouse button, drag the selected element to the required menu folder in the *Current menu* field.
- In the *Menu to import* field, click on the name of the element to be imported, and in the *Current menu* field, on the name of the required menu folder and then click .

The "Resources to import" window will open.

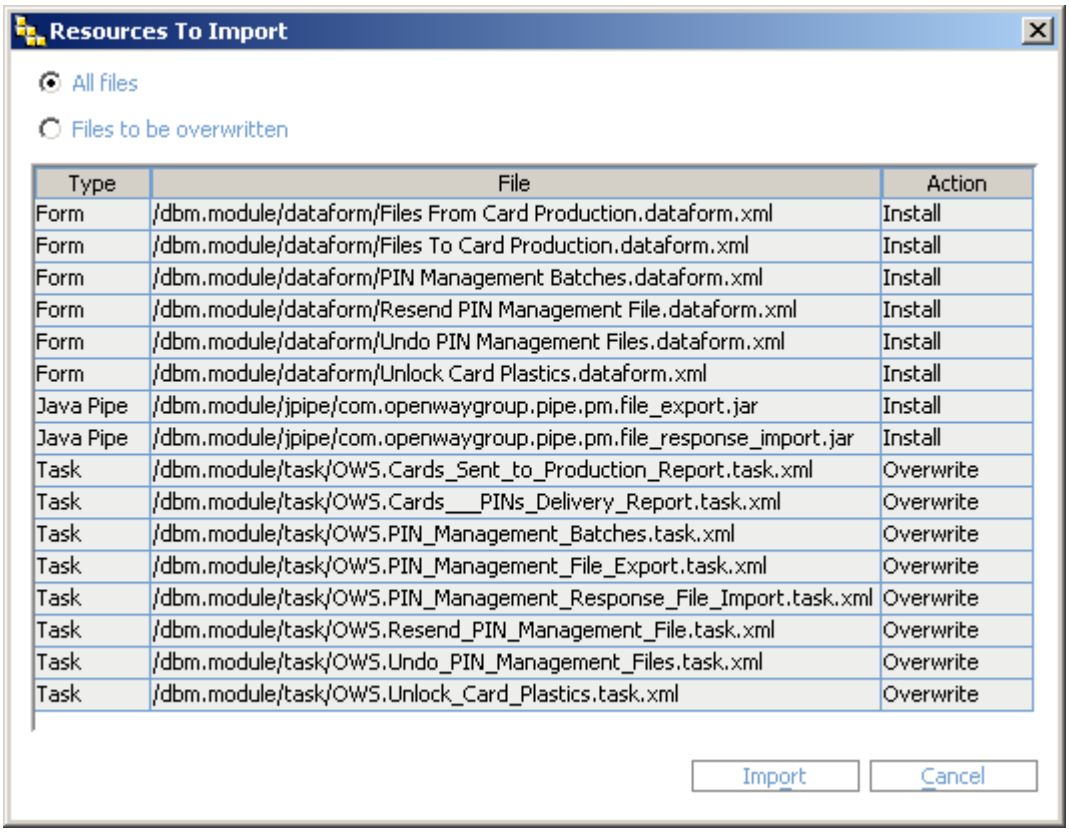

Fig. List of imported files

This form contains a table with a list of files that are necessary to execute the imported menu items. The list of displayed files depends on which radio button is set in the form:

- *All files* – the list contains all files required to import the menu items.
- *Files to be overwritten* – the list contains only files being imported that are already present in the user menu, while a file being imported may differ or be identical to the corresponding file.

The table with the list of files contains the following fields:

- *Type* – file type (form, pipe, stored database procedure).
- *File* – file path and name.
- *Action* – field with a drop-down list for specifying an action that must be performed with the file when importing the menu:
  - "Install" – the file will be imported to the user menu. This value is used by default for imported files that are absent from the user menu.
  - "Overwrite" – a file matching one that's already installed on the user's workstation will be imported to the user menu. This value is used by default for imported files that are already present in the user menu.

> ⚠ Note that in this case the installed file will be replaced by the imported one.

  - "Ignore" – the file will not be imported.

After specifying user menu element import parameters, click [Import] in the "Resources To Import" window to start the import procedure. To cancel import, click [Cancel].

3.3 Importing and exporting menu items using the command line

To export menu items, execute the following command from the "OWS_HOME\install\way4manager" directory:

```
migrate_with_el.bat -DOWS_WORK=<> -DWAY4MANAGER_MENU_ITEMS_FILE=<>
-DWAY4MANAGER_MENU_UPGRADE_FILE=<> export-menu
```

where:

- "OWS_WORK" – path to the "OWS_WORK" directory.
- "WAY4MANAGER_MENU_ITEMS_FILE" – path to a file with menu items to be exported.
- "WAY4MANAGER_MENU_UPGRADE_FILE" – path to the upgrade file to which export result should be recorded.

> If file names in parameter values contain spaces, these values must be enclosed in double quotes.

"WAY4MANAGER_MENU_ITEMS_FILE" file format with menu items:

- Each line is a path to the directory with menu items or to the menu item. When specifying a directory with menu items, all subitmes will be copied.
- The "\" character is used as a delimiter when specifying the path (the [Copy path to clipboard] command from the menu tree can be used).
- Specifying the root directory in the path is not required. For example, when copying a path through the menu tree, a path to the directory with menu items will appear as "ROOT\OpenWay\Unit Tests", but in the file with menu items specify only "OpenWay\Unit Tests".

To import menu items, execute the following command from the "OWS_HOME\install\way4manager" directory:

```
migrate_with_el.bat -DOWS_WORK=<> -DWAY4MANAGER_MENU_UPGRADE_FILE=<>
-DWAY4MANAGER_MENU_DEST_NODE=<> import-menu
```

Parameter description:

- "OWS_WORK" – path to the "OWS_WORK" directory.
- "WAY4MANAGER_MENU_UPGRADE_FILE" – path to the upgrade file.

- "WAY4MANAGER_MENU_DEST_NODE" – directory in a menu tree to which the new menu will be imported ("ROOT" if import is made to a root directory or a path to a directory without the root directory, for example "OpenWay").

> If parameter values contain spaces (in the name of a menu item for import or in file names), these values must be enclosed in double quotes, otherwise the command will terminate with an error.

Example of command:

```
migrate_with_el.bat -DOWS_WORK=C:\projects\cards\works\work_52
-DWAY4MANAGER_MENU_UPGRADE_FILE=C:\tmp\result.upgrade
-DWAY4MANAGER_MENU_DEST_NODE=ROOT import-menu
```