WAY4 Manager Form Editor

Contents

Form Editor: Introduction

WAY4 Manager users access data contained in database tables through editing windows that fall into:

- Grid forms where records are represented as table rows and their fields as columns
- Free forms that represent one database record at a time. The location and size of the fields in such forms are determined when a form is designed.

Form Editor is used to create new and edit existing forms that are used as WAY4 Manager editing windows.

This document is intended for WAY4 Manager users (bank or processing centre employees) acting as system administrators.

While working with this document, it is recommended that users refer to the following reference material from OpenWay's documentation series:

- WAY4 Manager Manual
- WAY4 Manager Menu Editor
- WAY4™ User Management

The following conventions are used throughout this document:

- Field labels in screen forms are typed in *italics*.
- Button labels used in screen forms are placed in square brackets, such as [Approve].
- Menu selection sequences are shown with the use of arrows, such as "Issuing → Contracts Input & Update".
- Item selection sequences, in the system menu, are shown with the use of different arrows, such as "Database => Change password".
- Key combinations used while working with WAY4 Manager are shown in angular brackets, such as <Ctrl>+<F3>.
- The names of directories, files and file paths that vary for each local instance of the program are also displayed in angular brackets, as in <OWS_HOME>.
- The  sign warns that there is an increased chance of making an incorrect action.
- Messages marked with the  sign contain information about important features, additional facilities, or the optimal use of certain functions of the system.

Chapter 1. Starting Form Editor

To start Form Editor, select "Tools => Editors => Form Editor" from the WAY4 Manager system menu or press <F3>.

This will open the "Choose Form" window (see Fig. 1). It contains a drop-down list of database table names and a list of forms based on the tables.

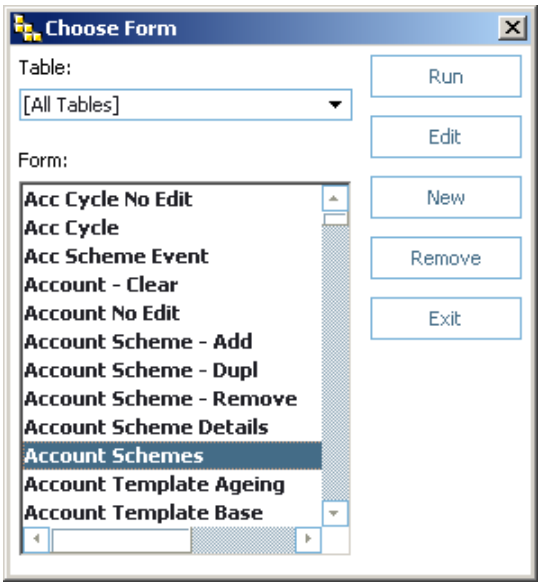


Fig. 1. Window for selecting a form to be edited

When the "Choose Form" window opens, a list of forms based on all tables will be displayed by default. The list contains a large number of form names. To simplify the search of the necessary form, it is recommended that users first select the name of the table on which the form is based.

To select a form to be edited, double-click the necessary name in the list of forms, or click the necessary name and then click [Edit].

To create a form, click [New].

To delete a custom form (see "Restoring Standard Forms"), use the [Remove] button.

Click [Run] to open the selected form.

Click [Exit] to close the "Choose Form" window.

Form Editor Window

To open the Form Editor window, perform one of the actions below:

- In the "Choose Form<…>" form (see the figure Fig. 1 in section "Starting Form Editor"), select the necessary form and click [Edit], or double-click the name of the necessary form.
- In the "Choose Form<…>" form (see Fig. 1), click the [New] button. This will open the "WAY4Manager" form (see Fig. 2). In this form, enter the name of the form to be created and click [OK].

Fig. 2. Entering the name of a new form

- While working with the form, select "Design → Open Data Form" from the context menu opened at any point of the form.

After one of the actions is performed, the Form Editor window "<name of form> (design)" will be displayed on the screen (see Fig. 3).

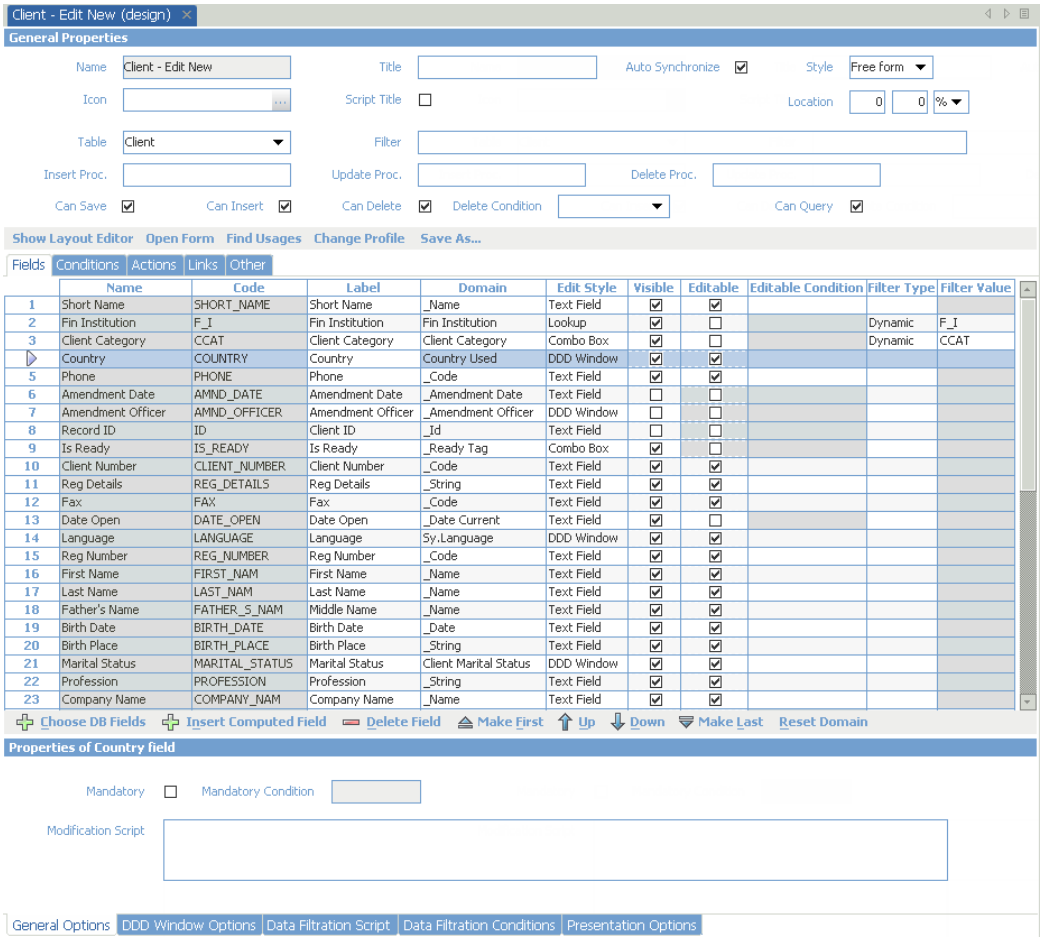


Fig. 3. Form Editor window

The Form Editor window allows for describing general form properties and specifying the data entities necessary to build the form. The window contains the "General Properties" form with a description of general properties of the edited form and the following tabs:

- "Fields" – list of form fields and their properties
- "Conditions" – list of conditions for working with the form
- List of associated procedures (database procedures, custom procedures, menu items)
- "Links" – list of links to other forms
- "Other" – list of parameters for preliminary data selection and sorting

Chapter 2. Form Parameters

Form Editor Window. "General Properties" Form

The "General Properties" form (see Fig. 4) is used to specify main properties of a form.

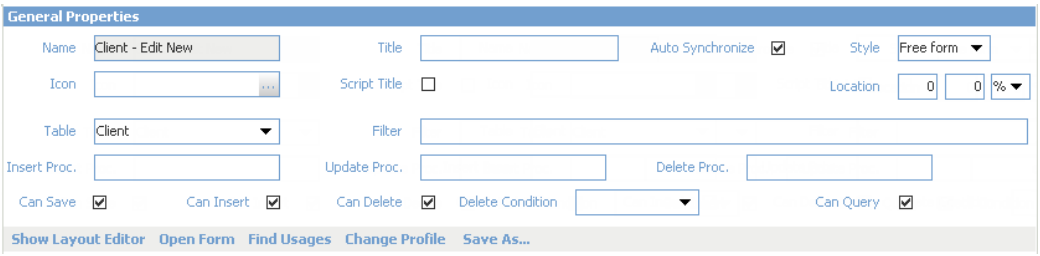


Fig. 4. Main properties of a form

This form contains the following fields:

- *Name* – form name
- *Icon* – name of a graphic file containing an icon; to select a file, click on the … button. The icon is used, for instance, for a form included in a screen.
- *Table* – name of the database table used to build the form
- *Title* – form label

  Note that a form label can be redefined in the menu item used to open the form.
- *Script Title* – when this box is checked, the value of the *Title* field is interpreted as a JavaScript script
- *Filter* – additional condition for selecting data that will be displayed in the form; this expression will be included in the "WHERE" condition of an SQL request
- *Auto Synchronise* – when this box is checked, synchronisation of the form will be performed (see "Synchronisation of Custom Forms"). To start form synchronisation, select "Tools => Synchronization => Synchronize Forms" from the system menu or press <Shift>+<F11>.
- *Style* – form style; the field can take on one of the following values:
  - "Grid" – grid form
  - "Free Form" – free form
- *Location* – group of fields for specifying the parameters of form location on the screen. The first field contains the horizontal offset of the upper left-hand corner of the form from the upper left-hand corner of the screen, the second field, the vertical offset. The last field is used to specify an offset unit.
  - "%" – offset is specified in percentage of the corresponding screen dimension (horizontal or vertical)
  - "px." – offset is specified in pixels

- *Insert Proc.* – the name of the stored procedure that redefines the standard procedure for creating a new record in the database.

  This field is only available when the *Can Insert* flag is set.

- *Update Proc.* – the name of the stored procedure that redefines the standard procedure for editing a record.

  This procedure will be executed when the button (save changes) is clicked.

- *Delete Proc.* – the name of the stored procedure that redefines the standard procedure for deleting a record from the database.

  This field is only available when the *Can Delete* flag is set.

- *Can Save* – when this flag is set, the button (save changes) will be shown in the form. If the flag is not set, the button will not be shown in the form and moreover, data in the form cannot be saved using the <Ctrl>+<S> key combination.

- *Can Insert* – when this box is checked, the button is active in the form, and new records can be created in the database

  The *Can Insert* box cannot be checked for forms based on automatically updated database tables.

- *Can Delete* – when this box is checked, the button is active in the form, and records can be deleted from the database

  The *Can Delete* box cannot be checked for forms based on automatically updated database tables.

- *Delete Condition* – drop-down list of special conditions that must be met so that the record could be deleted from the database. The conditions are specified in the "Conditions" tab of the Form Editor window (see "Form Editor Window. "Conditions" Tab").

  The field *Delete Condition* is only available when the *Can Delete* box is checked.

  See an example of the use of conditions of record deletion from the database in item 1 of section "Appendix 2 Examples of the Use of Scripts".

- *Can Query* – when this box is checked, the data selection button is available in the form. The button is used to change the form's data selection conditions.

The [Show Layout Editor] button in the "General Properties" form is used to switch to form design mode (see "Form Design").

The [Open Form] button is used to open the edited form.

The [Find Usages] button is used to search the user menu path to the edited form (see "Form Path Search").

The [Change Profile] button is used to specify the form design for a specific screen resolution. Clicking this button will open the "WAY4 Manager" form (see Fig. 5).

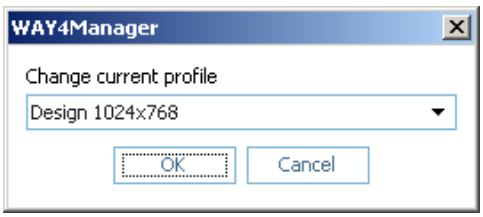


Fig. 5. Selecting the resolution of a form

The *Change current profile* field can take on one of the following values:

- "Design 1024x768" – form design for the screen resolution of 1024x768 pixels
- "Design 1280x1024" – form design for the screen resolution of 1280x1024 pixels

The [Save As…] button is used to save the form with another name. Clicking this button opens the "WAY4Manager" form. In this form's *Form Name* field, enter the name of the form and click [OK].

Form Path Search

To search a path to a form, click the [Find Usages] button in the "General Properties" form (see the figure Fig. 4 in section "Form Editor Window. "General Properties" Form"). As a result, the "<name of form> Usages" window (see Fig. 6) will be displayed.

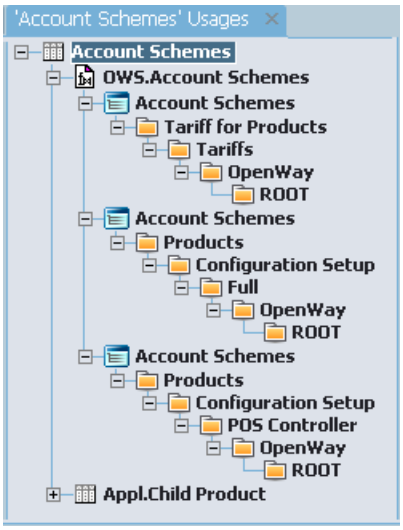


Fig. 6. Form in the user menu hierarchy

This window shows the hierarchy of forms and menu items 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

Form Editor Window. "Fields" Tab

The "Fields" tab of the Form Editor window (see Fig. 7) contains a list of fields of an edited form and their properties.

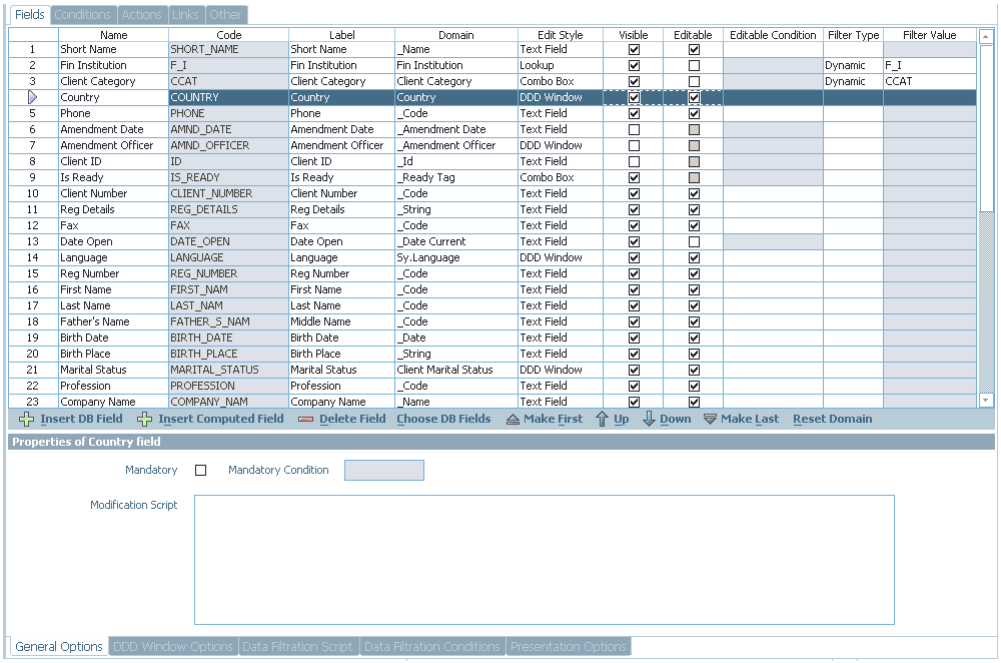


Fig. 7. List of form fields and their properties

The following fields are used in this tab:

- *Name* – name of a database table field included in the list of fields used in the edited form
- *Code* – database table field code
- *Label* – field name in the form
- *Domain* – data domain to which the database table field belongs
- *Edit Style* – drop-down list of style types of the edited field. Note that the properties of a field of an edited form, i.e. the number of tabs in the "Properties of <name of field> Field", depend of the field style type. The *Edit style* field can take on one of the following values:
  - "Text Field" – text field for entering free format data
  - "Combo Box" – editable drop-down list
  - "Check Box" – checkbox with two states: "checked" and "not checked"
  - "DDD Window" (Drop Down Data Window) – not editable drop-down list
  - "Check Box List" – field for selecting several items from a list stored in the database
  - "Lookup" – dialogue box (see the section "Field Editing Methods" in the WAY4™ Manager Manual) or tree for selecting values from the database
  - "Password" – text field where entered data is displayed as "*" characters; for instance, used to enter passwords
- *Visible* – determines whether the field is displayed in the form; if the checkbox is not checked, the corresponding field will not be displayed when the form is shown on the screen

- *Editable* – form field editing checkbox (only available when the *Visible* checkbox is checked); if the checkbox is checked, values in the field can be edited
- *Editable Condition* – drop-down list of conditions that must be met so that the field could be edited. The condition is specified in the "Conditions" tab of the Form Editor window (see "Form Editor Window. "Conditions" Tab").

  The field *Editable Condition* is only available when the *Editable* box is checked.

  See an example of the use of field value editing conditions in item 2 of section "Appendix 2 Examples of the Use of Scripts".
- *Filter Type* – rule (type) of data selection by a database table column. The form will only display the records for which this database table field contains the value from the *Filter Value* column. The *Filter Type* field can take on one of the following values:
  - "None" (or blank) – no preliminary data selection
  - "Static" – preliminary data selection by a constant value that must be selected in the *Filter Value* field

    The list of values of the *Filter Value* is generated according to the data domain to which the database table field belongs.
  - "Dynamic" – preliminary selection by a so-called local constant obtained from the database table "Local Constant" when the form is opened. A local constant name is selected from the list in the *Filter Value* field. For more details on local constants, see the section "Initialising Local Constants" in the WAY4™ User Management Administrator Manual.
- *Filter Value* – column for specifying the value of the field by which preliminary data selection will be performed. Depending on the *Filter Type* value, this field contains either a field value itself or the local constant whose value will be used for preliminary data selection when the form is displayed.

  Note that when new records are added while working with the form, the field by which preliminary data selection is performed cannot be edited, and its value will be determined by selection conditions.

  Data selection by values of cells in columns *Filter Type* and *Filter Value* is a property of an edited form and is performed when the form is displayed on the screen regardless of user actions.

  For a description of preliminary data selection performed by users, see the section "Preliminary Record Selection by Arbitrary Criteria" in the WAY4 Manager Administrator Manual.

To add a database table field in an edited form, click Insert DB Field.

The Insert Computed Field button is used to add a computed field (see "Adding Computed Fields").

To delete a selected field from the form, click Delete Field.

Clicking Choose Fields will open the "Form Fields" window (see Fig. 8). It is used to select database table fields that will be used in the form.

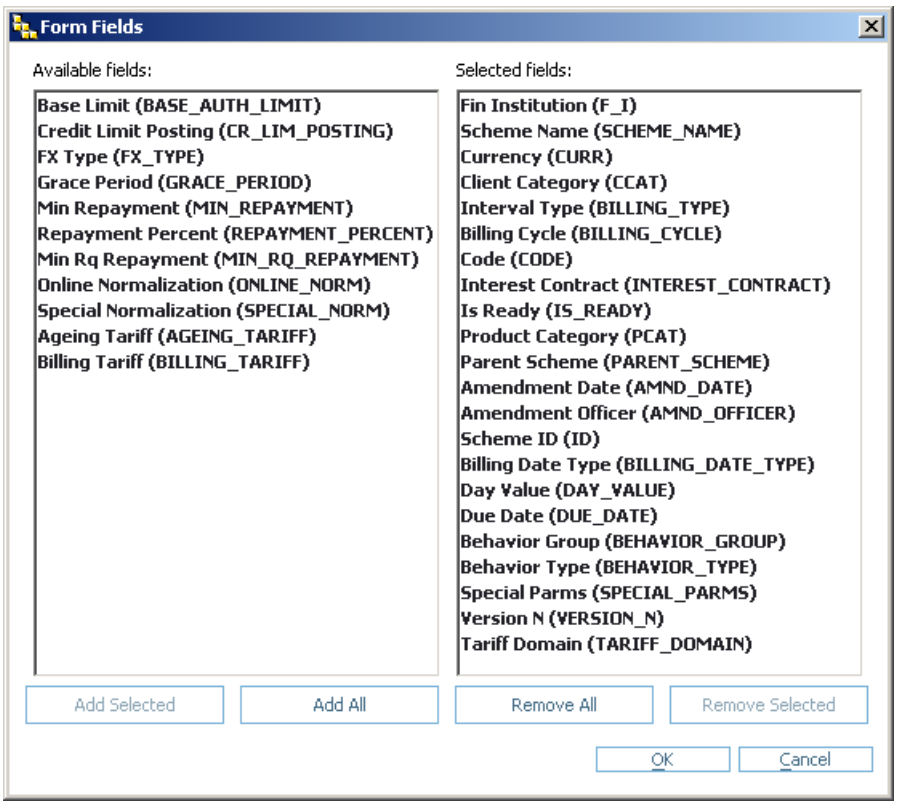


Fig. 8. Window for selecting database table fields

The field *Available fields* contains a list of all database table fields that are not used in the form; the field *Selected fields* contains the fields used in the form.

To add a field, click the name of the necessary field in the *Available fields* list and then click [Add Selected]. To delete a field from the form, click its name in the *Selected fields* list and then click [Remove Selected]. To add all database table fields to the form, click [Add All]; to remove all fields from the form, click [Remove All]. After adding or removing database table fields, click [OK]; to cancel the made changes, click [Cancel].

The order of fields in the "Fields" tab determines the default order of fields in the preliminary data selection window (see the section "Preliminary Record Selection by Arbitrary Criteria" in the WAY4 Manager Administrator Manual). Use the Make First button to move the necessary field to the first position in the list and the Make Last button to move it to the last position in the list. The Up button moves a selected field one position up, the Down button, one position down.

The [Reset Domain] button is used to restore default configurations of the data domain to which a database table field belongs.

Field Properties

The "Properties of <name of field> Field" form (see Fig. 7) is used to specify main properties of form fields.

"General Options" Tab

The "General Options" tab (see Fig. 9) is used to specify additional properties of a form field. The tab is available for all field style types.

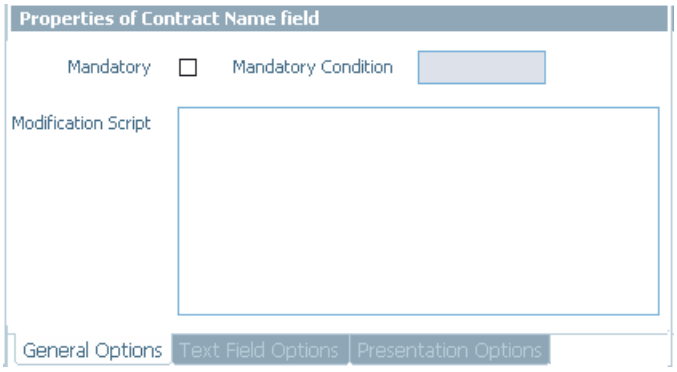


Fig. 9. "General Options" tab

The following fields are used in this tab:

- *Mandatory* – determines whether this field is mandatory. If the box is checked and the field is left blank, an error message will be displayed on the screen.

  The *Mandatory* checkbox is only available when the *Editable* box in the "Fields" tab is checked (see "Form Editor Window. "Fields" Tab").

- *Mandatory Condition* – drop-down list of conditions that must be met so that the field in the edited form was mandatory. The condition is specified in the "Conditions" tab of the Form Editor window (see "Form Editor Window. "Conditions" Tab").

  The *Mandatory Condition* field is only available when the *Mandatory* box is checked.

"Presentation Options" Tab

The "Presentation Options" tab (see Fig. 10) is used to specify how a field id displayed in a form. The tab is available for all field style types.

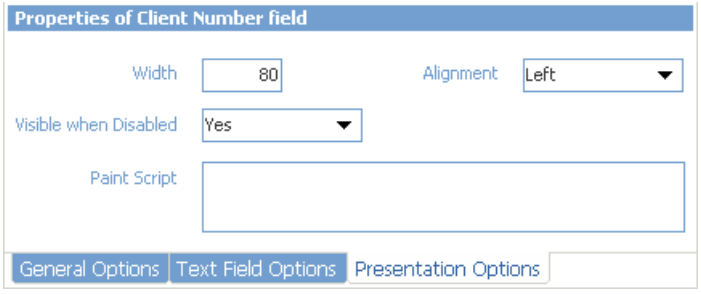


Fig. 10. "Presentation Options" tab

The following fields are used in this tab:

- *Width* – field width in pixels
- *Visible when disabled* – drop-down list of conditions for displaying the field in a form if the field is inactive:
  - "Yes" – the field will be displayed in an edited form
  - "No" – the field will not be displayed in an edited form
  - "By Paint Script" – the field will be displayed in an edited form when the script specified in the *Paint script* field is executed
- *Alignment* – type of text alignment in the field:

- Left
- Right
- Center

- *Paint script* – JavaScript script used to specify, for instance, font and background colours and conditions that must be met so that the field was displayed in a form when the field is inactive

  See an example of the use of the script in item 4 of section "Appendix 2 Examples of the Use of Scripts".

"Text Field Options" Tab

The "Text Field Options" tab (see Fig. 11) is only available for fields with the "Text Field" style type. It is used to specify properties of text input fields.

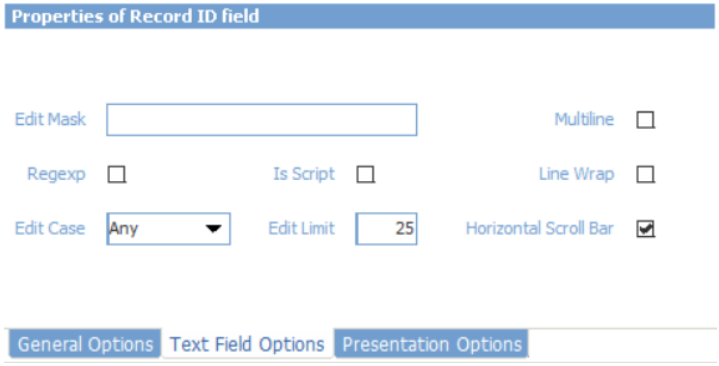


Fig. 11. "Text Field Options" tab

This tab contains the following fields:

- *Edit Mask* – field to specify the format for entering data (date, time, amount formats, etc.). Depending on the data domain (the *Domain* field value of the "Fields" tab in the form editor window), to which a field with this type belongs, text fields can be separated into three categories: text strings, digits and dates. If the *Regexp* flag is not set, the format for entering data can be specified using the following symbols:
  - Text strings:
    - "A" – letter or digit.
    - "H" – hexadecimal digit.
    - "L" – letter; when entered, the letter becomes lowercase.
    - "U" – letter; when entered, the letter becomes uppercase.
    - "#" – digit.
    - "*" – any symbols.
    - "?" – any letters.

    So, the entry mask "UU-####" allows two letters to be entered (which become uppercase) and 4 digits; as a result the field will contain, for example, "HW-1234".
  - Digits:
    - "0" – digit; this symbol will be present in the field.
    - "#" – digit.

- "." or "," – delimiter of a whole and fractional portion.
- "," or " " (space) – delimiter of a group of digits.

So, if the user didn't enter any digits, the entry mask "###,##0.00" will be represented as "0.00"; the user can enter, for example, "123,456.78", and the maximum possible value in this field will be "999,999.99".

- Dates. Date entry mask: "dd/MM/yy[yy] [hh:[mm:[ss:[fff]]]]", where "dd" – day of the month, "MM" – month, "yyyy" – year, "hh" – hours, "mm" – minutes, "ss" – seconds, "fff" – milliseconds; non-mandatory parameters of the mask are specified in brackets "[" and "]". For example, the entry mask "dd/MM/yyyy" allows the user to enter the value "16/03/2011", and the mask "dd/MM/yy hh:mm:ss", the value "18/04/2011 11:15:35".

If the *Is Script* box is checked, the data input format can be set using a JavaScript script. Input format can be set in a data domain or separately for each field with the "Text Field" style type, but the value set in the *Edit Mask* field will have priority.

Sample script:

```
var fi = Condition.getLocalConstant('F_I');
if(fi!="1"){"###,###,###,##0.000";}else{"###,###,###,##0.0";}
```

⚠ Note that the operating system's Regional and Language Options influence the format in which dates and digits are displayed. If "English (United States)" is specified in these settings, regardless of the specified mask, a period (".") will be used to delimit whole and fractional portions; a comma "," to delimit groups of digits; the first pair of digits in a date will indicate the month, and the second pair of digits will indicate the day of the month.

- *Regexp* – when this box is checked, the content of the *Edit Mask* field is interpreted as a Java regular expression.
- *Is Script* – when this box is checked, the content of the *Edit Mask* field is interpreted as a JavaScript script.
- *Edit Case* – drop-down list for specifying the case of displayed characters:
  - Upper
  - Lower
  - Any
- *Edit Limit* – maximum number of characters that can be specified in a field. If the field is not filled in, there will be no limit to the number of characters. If, for example, "4" is specified the *Edit Limit* field for a form field, if a fifth character is entered the field when editing the form, the "Text field is full" message will be displayed.
- *Multiline* – when this box is checked, information in the form field will be displayed in several lines if there is insufficient space in a single line; when the box is not checked, information will be displayed in a single line.

- *Line Wrap* – when this flag is set, text that was too wide to fit in the given field will be wrapped. If necessary, a vertical scroll bar will appear in the field.
- *Horizontal Scroll bar* – when this flag is set, a horizontal scroll bar will appear in the field if the text was too long to fit in this field.

"Combo Box Options" Tab

The "Combo Box Options" tab (see Fig. 12) is only available for fields with the "Combo Box" style type. It is used to specify properties of editable drop-down lists.

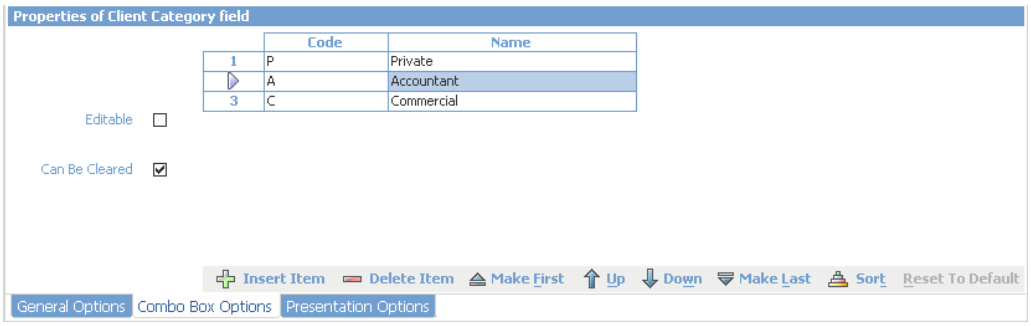


Fig. 12. "Combo Box Options" tab

The tab contains the following fields and buttons:

- *Editable* – when this box is checked, the field can be filled in by both selecting a value from a drop-down list and entering data manually
- *Can Be Cleared* – when this box is checked, the drop-down list of field values will contain the value [None]. When this value is selected, the field is left blank.
- The grid form to the right of the checkboxes contains an ordered list of data to be selected. The *Name* field contains the value that will be displayed in the drop-down list, and the *Code* field contains the value that will be sent to the system when this item is selected.

  To add a new row in a grid form, use the Insert Item button, to delete a selected row, the Delete Item button. Buttons Make First and Make Last move a selected field to the first and last positions in the list, respectively, buttons Up and Down, one position up and down.

  Click Sort to sort grid form data by the *Name* field in the ascending order.

  Click [Reset To Default] to restore the values used in the grid form by default. The values will be copied from the data domain to which the form field belongs.

"DDD Window Options" Tab

The "DDD Window Options" tab (see Fig. 13) is only available for fields of the "DDD Window" style type. It is used to specify properties of not editable drop-down lists.

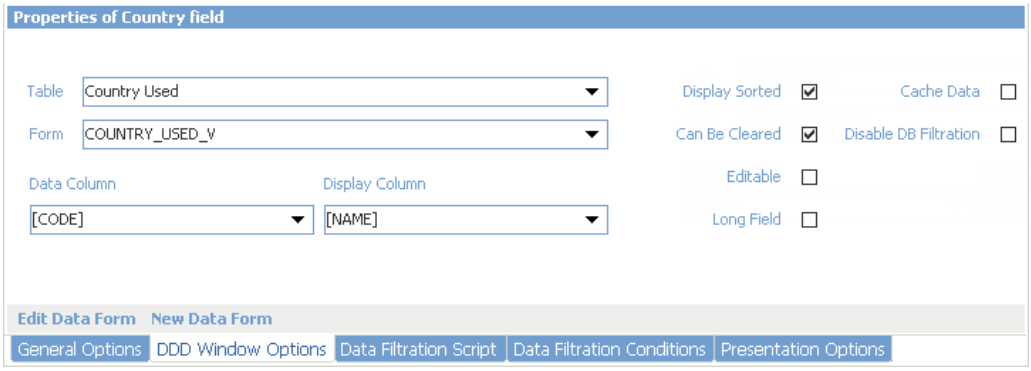


Fig. 13. "DDD Window Options" tab

This tab contains the following fields:

- *Table* – database table from which values will be selected
- *Form* – form based on the database table specified in the *Table* field
- *Data Column* – field of the table specified in the *Table* field of the tab; the value of the selected field will be sent to the system when the corresponding item is selected
- *Display Column* – field of the table specified in the *Table* field of the tab; the value of the selected field will be displayed in the drop-down list
- *Display Sorted* – when this box is checked, the values of the drop-down list will be sorted by the value of the *Display Column* field in the ascending order
- *Can Be Cleared* – when this box is checked, the drop-down list will contain the value [None]. When this value is selected, the field is left blank.
- *Editable* – when this box is checked, the field can be filled in by both selecting a value from a drop-down list and entering data manually, for instance, a currency code instead of selecting its abbreviation from the list
- *Long Field* – when this box is checked, the drop-down list will be generated when the form field is selected. If the box is not checked, the drop-down list will be generated when the form is displayed on the screen.

  It is recommended that this box be checked if the table from which values will be selected contains a large number of records.

  If the *Long Field* flag is set, it will not be possible to filter using script set in the *Data Filtration Script* field of the "Data Filtration Script" tab (see the figure Fig. 19 in section ""Data Filtration Script" Tab").
- *Cache Data* – when the box is not checked, the drop-down list will be generated every time a form field is selected.
- *Disable DB Filtration* – when this box is checked, data displayed in the drop-down list is filtered only using the script specified in the *Data Filtration Script* field of the "Data Filtration Script" tab (see the figure Fig. 19 in section ""Data Filtration Script" Tab"). If no script is specified, data is not filtered.

  The *Disable DB Filtration* checkbox is only available when the *Long Field* checkbox is not checked.

The [Edit Data Form] button is used to edit the form whose name is specified in the *Form* field. Clicking this button opens the "<name of form> Editing" form (see Fig. 14).

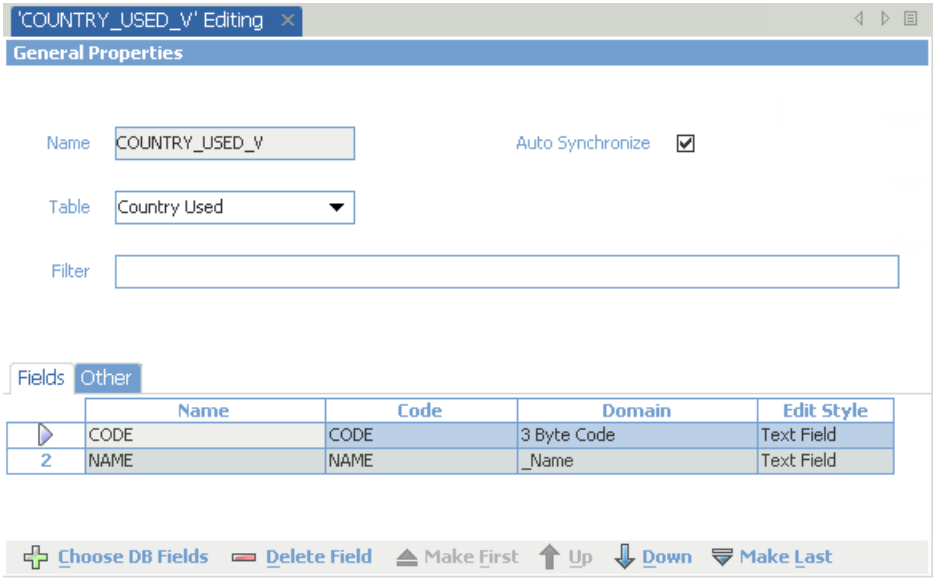


Fig. 14. Editing the form from which values for DDDW will be selected

This form's fields are used in the same way as the fields of the same name in the form editor window (see the figure Fig. 3 in the section "Form Editor Window").

The [New Data Form] button of the "DDD Window Options" tab (see Fig. 13) is used to create the form whose name is specified in the *Form* field. When this button is clicked, a window is displayed. In in the *Enter DD Form Name* field of this window, specify the name of the created form and click [OK]. The window "<name of form> Editing" will be displayed (see Fig. 14).

"Check Box List Options" Tab

Fields with the style type "Check Box List" are used to select several items from a list stored in the database. The figure below Fig. 15 shows an example of this field.

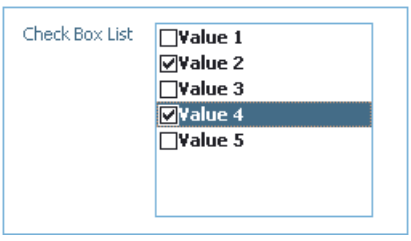


Fig. 15. Field with the "Check Box List" style type

The "Check Box List Options" tab (see Fig. 16) is only available for fields with the style type "Check Box List" and determines the properties of the fields.

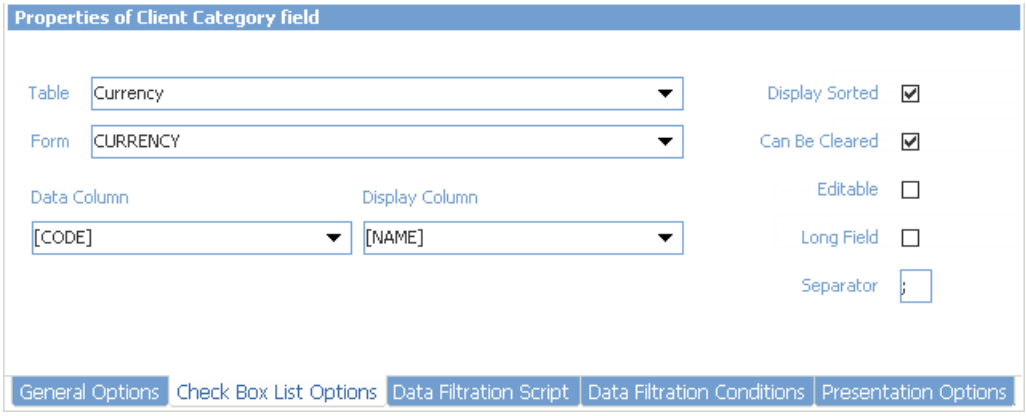


Fig. 16. "Check Box List Options" tab

The *Separator* field is used to specify a character that will be used to separate selected values in a database table field.

The other fields in the tab are the same as the fields in the "DDD Window Options" tab (see ""DDD Window Options" Tab").

"Lookup Options" Tab

The "Lookup Options" tab is only available for fields with the style type "Lookup".

The system uses two types of "Lookup" fields. Types are specified in the *Lookup Type* field of the tab:

- "List" – dialogue box (see the section "Field Editing Methods" in the WAY4™ Manager Manual) for selecting values from the database. For instance, fields of this type are used to select a client during issuing contract registration.

  The figure below Fig. 17 shows the properties of "List" type fields specified in the "Lookup Options" tab.

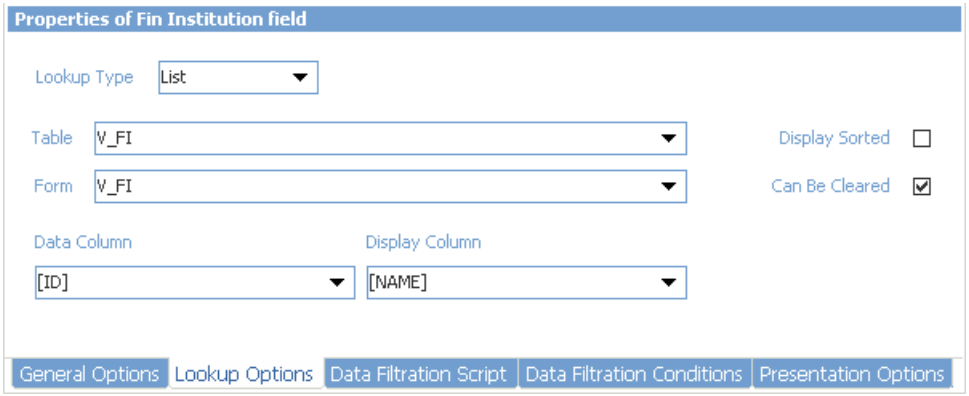


Fig. 17. "Lookup Options" tab for a field of the "List" type

  The *Lookup Type* field is used to specify the field type "Lookup".

  The other fields in the tab are the same as the fields in the "DDD Window Options" tab (see ""DDD Window Options" Tab").

- "Tree" – tree for selecting values from the database. The source table of the values displayed in the list must have a hierarchical structure. For instance, fields of this type are used to select a financial institution.

  The figure below Fig. 18 shows the properties of "Tree" type fields specified in the "Lookup Options" tab.

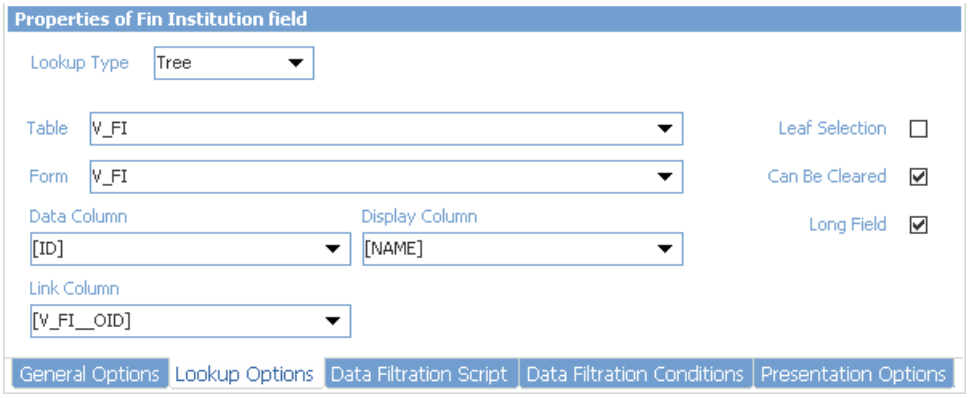


Fig. 18. "Lookup Options" tab for a field of the "Tree" type

The fields in the tab are the same as the fields in the "DDD Window Options" tab (see ""DDD Window Options" Tab") except for the following fields:

- *Lookup Type* – type of a "Lookup" field
- *Link Column* – field of the table specified in the *Table* field of the tab; the value of the selected field is used as a link to a parent item when a hierarchical list is generated
- *Leaf Selection* – when this box is checked, users can select both parent and subordinate (child) items from the list

"Data Filtration Script" Tab

The "Data Filtration Script" tab (see Fig. 19) is available for fields with style types "DDD Window", "Check Box List", and "Lookup". The *Data Filtration Script* field contains a JavaScript script used to specify additional conditions for filtering data displayed in a drop-down list.

For fields with the "DDD Window" style type, if the *Long Field* flag is set in the "DDD Window Options" form (see the first figure Fig. 13 of the section "DDD Window Options" Tab"), it will not be possible to filter using the script set in the *Data Filtration Script* field.

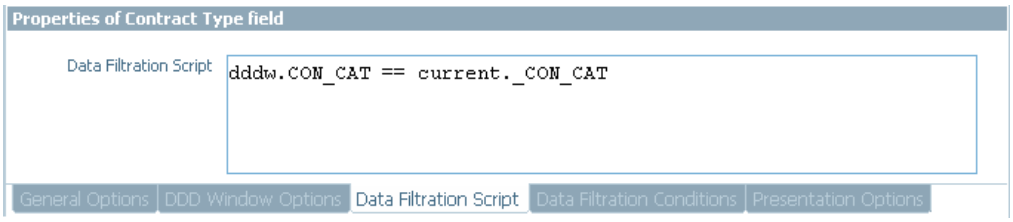


Fig. 19. "Data Filtration Script" tab

See an example of the use of the script in item 5 of section "Appendix 2 Examples of the Use of Scripts".

"Data Filtration Conditions" Tab

The "Data Filtration Conditions" tab (see Fig. 20) is available for fields with style types "DDD Window", "Check Box List", and "Lookup". Rules for filtering data displayed in a drop-down list are specified in the tab.

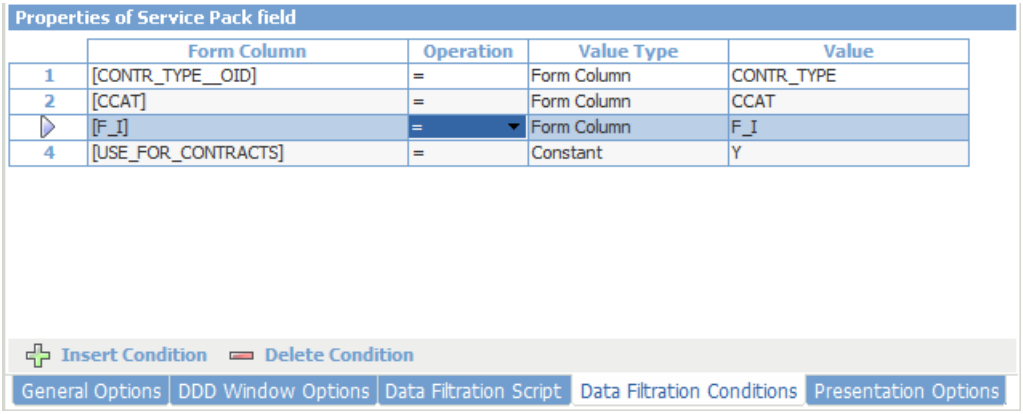


Fig. 20. "Data Filtration Conditions" tab

The tab contains the following fields (filtering rule formats and field values are shown in table Table 1):

- *Form Column* – field of the database table specified in the *Table* field of the "DDD Window Options", "Check Box List Options" or "Lookup Options" tab (the tab name depends on the field style type).
- *Operation* – operation for the filtering rule.
- *Value Type* – type of value that will be specified in the *Value* field.
- *Value* – value corresponding to the type specified in the *Value Type* field.

The Insert Condition and Delete Condition buttons are used, respectively, to add and delete data filtering rules.

Table Table 1 shows possible formats for filtering rules.

Table 1. Filtering rule formats

Operation	***Value type***	***Value***	**Description**
	Form Column	Code of the field in the form being edited.	Format "*<Form_Column_value>=<_Value_column_ref>*". The list of possible values will contain source table records for which the *Form Column* field value is equal to the value of the *Value* field for the form being edited.
	Constant	Constant.	Format "*<Form_Column_value>=<_Constant>*". The list of possible values will contain those source table records for which the *Form Column* field value is equal to the constant in the *Value* field.
	Local Constant Column	Name of the LOCAL_CONSTANTS table field (local constants).	Format "*<Form_Column_value>=<_Local_Constant>*". The list of possible values will contain those source table records for which the *Form Column* field value is equal to the value of the local constant in the *Value* field.

Operation	***Value type***	***Value***	**Description**
!=	Form Column	Code of the field in the form being edited.	This operation ("!=") is the same as the "=" operation, only the "not equal to" condition is checked instead of "equal to".
	Constant	Constant.	
	Local Constant Column	Name of the LOCAL_CONSTANTS table field (local constants).	
IS NULL	–	–	Format "<*Form_Column*> IS NULL". The list of possible values will contain those source table records for which the *Form Column* field does not contain a value (NULL). Note that the *Value Type* and *Value* fields cannot be edited.
IS NOT NULL	–	–	Format "<*Form_Column*> IS NOT NULL". The list of possible values will contain those source table records for which the *Form Column* field contains a value. Note that the *Value Type* and *Value* fields cannot be edited.
IN	List of Values	<Value_1>, <Value_2>,…	Format "<*Form_Column*> IN (<SQL_IN_Values_List>)". The list of possible values will contain those source table records for which the *Form Column* field value matches a value in the <SQL_IN_Values_List> set, i.e. "<Value_1>, <Value_2>,…" (separated by commas). Only literals (constants) can be used as values in the set.
NOT IN	List of Values	<Value_1>, <Value_2>,…	This operation ("NOT IN") is the same as the "IN" operation, only the *Form Column* field value may not match any value from the "<Value_1>, <Value_2>,…" list.
LIKE	Pattern	<SQL_LIKE_Pattern>	Format "<*Form_Column*> LIKE <SQL_LIKE_Pattern>". The list of possible values will contain those source table records for which the *Form Column* field value corresponds to a specific "<SQL_LIKE_Pattern>" pattern defined in SQL LIKE notation. For example, the '%abc%' pattern means the character sequence "abc" is found in the "<*Form_Column*>" field.

Example:

- "[LANGUAGE]=LANGUAGE", "Local Constant Column" is specified in the *Value Type* field.
- "[APPL_PRODUCT__OID] IS NOT NULL";
- "[SHORT_NAME] LIKE Jo%";
- "[COUNTRY] IN Brazil, Argentina, Venezuela".

Form Editor Window. "Conditions" Tab

The "Conditions" tab (see Fig. 21) is used to generate conditions according to which the form will or will not contain buttons for executing associated procedures and opening child forms. The tab also contains conditions that determine whether form fields are not mandatory and whether records can or cannot be deleted.

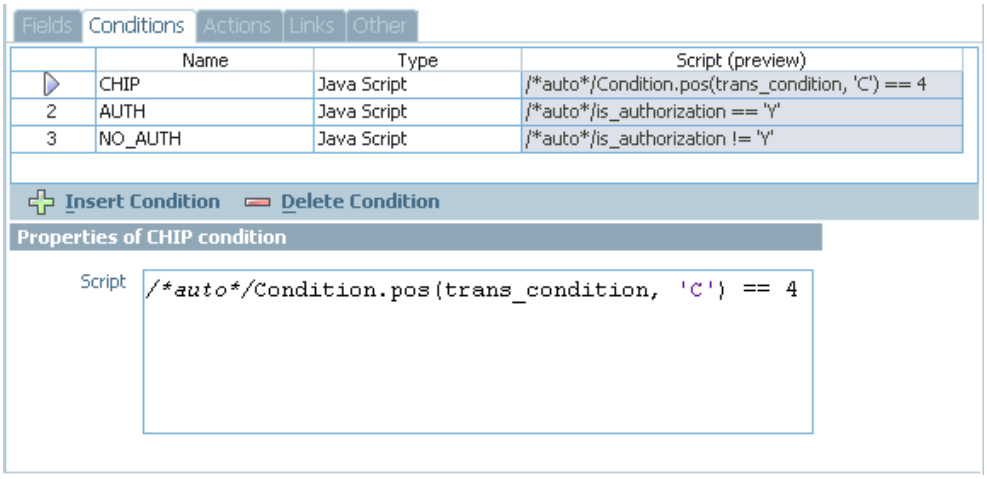


Fig. 21. "Conditions" tab

This tab contains the following fields:

- *Name* – condition name
- *Type* – condition type:
  - "Java Script" – the condition is specified as a JavaScript script
  - "Screen" – the condition is specified on the level of a screen (a set of forms to which this form belongs)
  - "Menu Item" – the condition is specified on the level of the menu item used to open the form
- *Script (preview)* – for the condition type "Java Script", the field contains a script specified in the *Script* form of the child form "Properties of <name of condition> condition"; for the condition type "Screen" ("Menu Item"), the field contains the message "See corresponding condition with the same name at a screen (menu item) that uses this form"

Buttons Insert Condition and Delete Condition are used to add and delete conditions, respectively.

The *Script* field of the child form "Properties of <name of condition> condition" is used to specify a JavaScript script. Note that conditions specified by scripts must return a Boolean value (1-true, 0-false).

Form Editor Window. "Actions" Tab

The "Actions" tab (see Fig. 22) is used to specify associated procedure execution parameters.

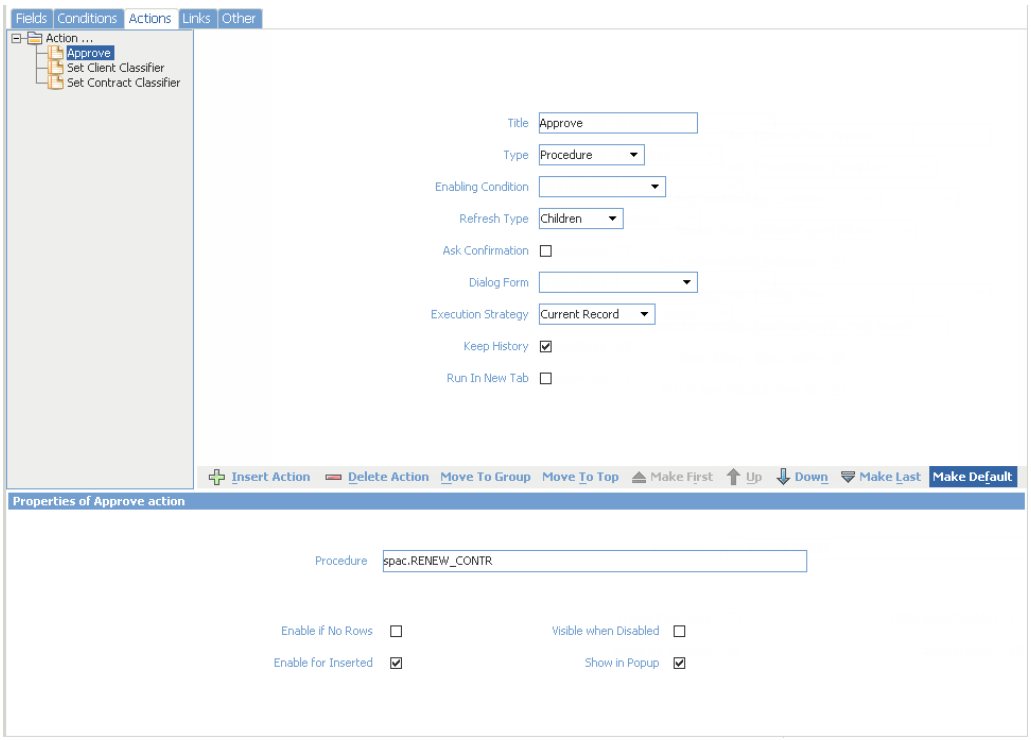


Fig. 22. "Actions" tab

The left window contains a hierarchy of buttons for executing associated procedures. The icon marks a group of associated procedure buttons; the icon marks an associated procedure button.

This tab contains the following fields:

- *Title* – label of the button used to execute the associated procedure

  Labels can contain the "&" character. In this case, the letter after "&" will be underlined, and pressing the key combination <Alt>+<underlined letter> will equal clicking the corresponding button.

- *Type* – drop-down list of associated procedure types:
  - "Procedure" – executing a stored database procedure.
  - "Menu Item" – executing a menu item.
  - "Java Script – calls a JavaScript script.
  - "Free" – executing a custom procedure.
- *Enabling Condition* – drop-down list of conditions under which the associated procedure button will be present in the form (see "Form Editor Window. "Conditions" Tab").
- *Refresh Type* – drop-down list of conditions for refreshing the form after executing the associated procedure:
  - "None" – the contents of the form are not refreshed.
  - "Row" – only the current record is refreshed.

  - "Children" – the current record and its child record are refreshed.
  - "Current Set" – all this form's records are refreshed.
  - "Parent" – the parent, current, and child record of the form are refreshed.
  - "All" – the entire contents of the form are refreshed, as well as all child and parent records.
- *Ask Confirmation* – when this box is checked, a dialogue box prompting users to confirm execution of the associated procedure will be displayed on the screen.
- *Dialogue Form* – name of the modal form opened before associated procedure execution to specify its parameters (e.g. a processing date).
- *Execution Strategy* – specifies the records for which this procedure will be executed:
  - "Current Record" – for the current record.
  - "Each Record" – for all the form's records; the procedure is called the same number of times as the number of records in the form.
  - "Pack Records IDs" – for all the form's records; the procedure is called one time, and a string containing the identifiers of all the form's records separated by commas (",") is sent as a parameter.
- *Keep history* – when this box is checked, the system will log the changes made by the associated procedure to the corresponding record.
- *Run In New Tab* – when this flag is set, a form opened when the procedure is executed (when a menu item is called or a script is run) will open in a new tab.

The child form "Properties of <name of button> action" contains the following field:

- *Procedure* – name of the associated procedure; the field is named *Menu Item* for the "Menu Item" associated procedure type, *Script* for the "Java Script" type and *Task* for the "Free" procedure type.
- *Enable if No Rows* – when this box is checked, the associated procedure can be executed even if there are no records in the form.
- *Visible when Disabled* – when this box is checked, the associated procedure button will be displayed in the form even if it is inactive.
- *Enable for Inserted* – when this box is checked, the associated procedure will be available for newly created records that are not yet saved in the database.
- *Show in Popup* – when this box is checked, an item for executing this associated procedure will be added in the form's context menu

To add and delete associated procedure buttons, click buttons 

(

– for adding in a selected folder) and 

, respectively.

To add and delete groups of associated procedure buttons, click buttons 

and 

, respectively.

The Make First button moves a selected associated procedure button to the first position in the corresponding group, the Make Last button, to the last position. Buttons Up and Down move associated procedure buttons one position up and down, respectively.

Click the Move To Top button to move an associated procedure button from its current group to the top level (i.e. to make it independent and exclude from the current group).

The Move To Group button is used to specify the group to which the associated procedure button will belong.

Form Editor Window. "Links" Tab

The "Links" tab (see Fig. 23) contains an ordered list of forms that can be opened from the currently edited form. The edited form is a parent form, and opened forms are its child forms. Parent and child forms can be based on both the same and different database tables. The "Links" tab is also used to specify the parameters for opening child forms.

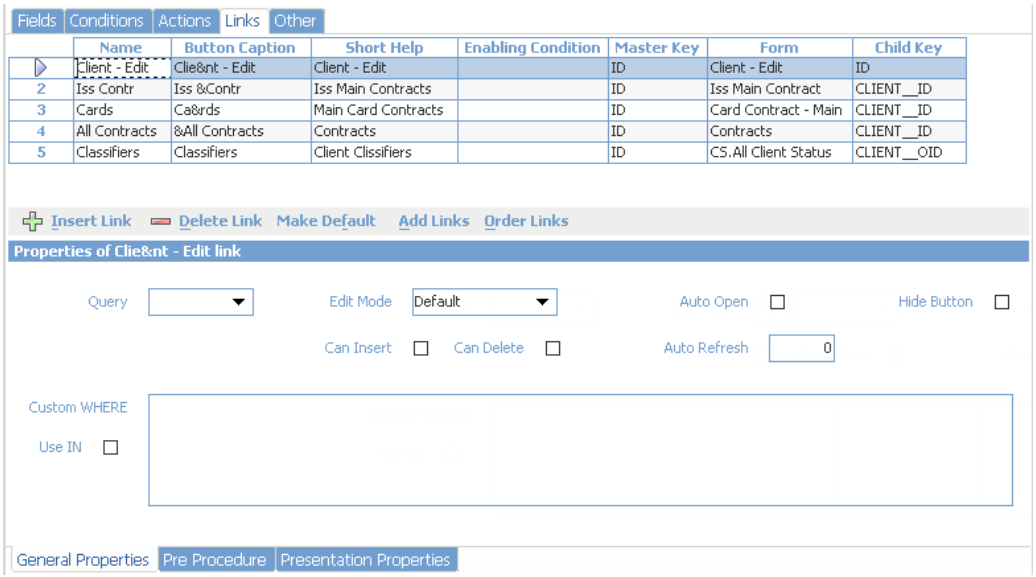


Fig. 23. "Links" tab

This tab contains the following fields:

- *Name* – name of the link between the forms
- *Button Caption* – label of the button that must be clicked to open the child form. Labels can contain the "&" character. In this case, the letter after "&" will be underlined, and pressing the key combination <Alt>+<underlined letter> will equal clicking the corresponding button.
- *Short Help* – message that will be displayed in the status bar when the mouse hovers over the button for opening the child form
- *Enabling Condition* – drop-down list of conditions specified in the "Conditions" tab (see "Form Editor Window. "Conditions" Tab"); when a specific condition is selected, the child form can only be opened for records that meet this condition

See an example of the use of the script in item 6 of section "Appendix 2 Examples of the Use of Scripts".

- *Master Key* – drop-down list for selecting a field of the parent form
- *Form* – drop-down list for selecting a child form name
- *Child Key* – drop-down list for selecting a field of the child form

Note that the child form will only contain records with the same values in fields *Master Key* and *Child Key*.

Buttons Insert Link and Delete Link are used to add and delete links to child forms, respectively.

Click the Make Default button to set the specified child form as the form that will be opened by default when the parent form is double-clicked. The name of the link between the forms will be displayed in bold. To undo the action, click Reset Default State.

The Add Links button is used to select child forms that can be opened from the parent form. Clicking the button will open a window for selecting child forms (see Fig. 24).

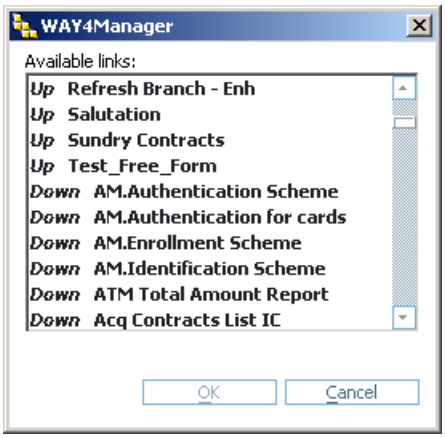


Fig. 24. Window for selecting child forms

The *Available links* field contains a list of forms that can be opened from the edited form; a possible type of link with the parent form is specified in front of the name of each form:

- "Up" – the child form contains a record to which the current record of the parent form refers (e.g. the form "Acquiring Contracts" and the child form "Clients")
- "Down" – the child form contains records referring to the current record of the parent form (e.g. the form "Acquiring Contracts" and the child form "Devices")
- "Self" – both forms are based on the same database table; the child form contains information on the current record of the parent form. For instance, this link type is used to show a list of database records in the parent form and all fields of the current records in the child form (e.g. forms "Issuing Contracts" and "Balance").

To select child forms, click the necessary items while the <Ctrl> key is pressed and click [OK]; to cancel addition of child forms, click [Cancel].

The Order Links button in the "Links" tab is used to specify the order in which the buttons for opening child forms will be displayed in the parent form. Clicking the button will open the "Link Order" window (see Fig. 25).

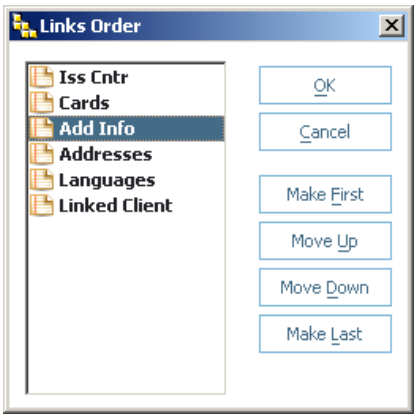


Fig. 25. Order of buttons for opening child forms

To change the specified order, click the name of a link between forms and move it to the necessary position using buttons. The [Make First] button moves the selected record to the first position in the list, the [Make Last] button, to the last position. Buttons [Move Up] and [Move Down] move a record one position up and down, respectively.

To save the changed order of buttons for opening child forms, click [OK], to cancel the made changes, click [Cancel].

"General Properties" Tab

The "General Properties" tab in the child form "Properties of <Button Caption> link" (see Fig. 23) is used to specify the parameters of opening child forms.

This tab contains the following fields:

- *Query* – determines how queries are made for a child form (see the section "Preliminary Record Selection by Arbitrary Criteria" of the document "WAY4 Manager Manual"):
  - "None" – the query window will not be opened.
  - "Free" – a query can be made according to user-specified criteria or according to a predefined scenario.
  - "Prepared" – a query is only made according to a predefined scenario.
- *Edit Mode* – method of editing child form fields:
  - "Default" – editing of form fields will be determined by the form properties.
  - "Read Only" – form fields cannot be edited.
- *Can Insert* – three-state checkbox for specifying whether records can be added in the child form. When the box is in "unspecified" state (is light grey), the properties of the form determine whether records can be added; when the box is checked, records can be added in the form; when the box is not checked, records cannot be added.
- *Can Delete* – three-state checkbox for specifying whether records can be deleted from the child form. When the box is in "unspecified" state (is light grey), the properties of the form determine whether records can be deleted;

when the box is checked, records can be deleted from the form; when the box is unchecked, records cannot be deleted.

- *Auto Refresh* – interval (in seconds) after which the contents of the child form are automatically refreshed; when the field contains "0", the contents of the form are not refreshed.
- *Auto Open* – when this box is checked, the child form is opened automatically when the parent form is opened.
- *Hide Button* – when this flag is set, the button for opening the child form will be absent in the main form.

  The *Hide Button* flag is only available when the *Auto Open* flag is set.
- *Custom WHERE* – fragment of the WHERE condition added to the SELECT operator to select records displayed in the child form
- *Use IN* – when this box is checked, the contents of the *Custom WHERE* field is considered a fragment of the IN condition added to the value of the *Child Key* field in the "Links" tab (see Fig. 23)

"Pre Procedure" Tab

The "Pre Procedure" tab (see Fig. 26) is used to specify the parameters of a stored procedure that will be called before opening a child form.

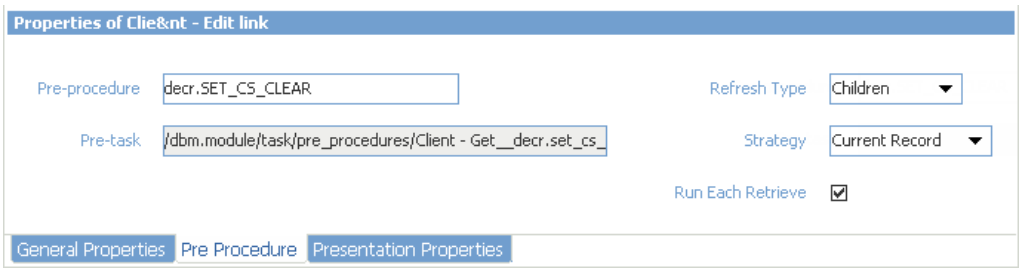


Fig. 26. "Pre Procedure" tab

The tab contains the following fields:

- *Pre-procedure* – the name of the stored procedure that will be called before opening the child form.
- *Pre-task* – the path to the file containing the description of the stored procedure specified in the *Pre-Procedure* field.
- *Refresh Type* – drop-down list to specify the conditions for refreshing the child form's contents after executing the associated procedure:
  - "None" – the contents of the form are not refreshed.
  - "Row" – only the current record is refreshed.
  - "Children" – the current record and its child record are refreshed.
  - "Current Set" – all this form's records are refreshed.
  - "Parent" – the parent, current, and child record of the form are refreshed.
  - "All" – the entire contents of the form are refreshed, as well as all child and parent records.
- *Strategy* – specifies the records for which this procedure will be executed:
  - "Current Record" – for the current record.

- "Each Record" – for all the form's records; the procedure is called the same number of times as the number of records in the form.
- "Pack Records IDs" – for all the form's records; the procedure is called one time, and a string containing the identifiers of all the form's records separated by commas (",") is sent as a parameter.

- *Run Each Retrieve* – when this flag is set, a stored procedure will be executed each time the child form is called, and also when moving from one record to another in the parent form.

"Presentation Properties" Tab

The "Presentation Properties" tab (see Fig. 27) is used to specify the parameters of child form location on the screen.

Fig. 27. "Link Presentation Properties" tab

This tab contains the following fields:

- *Title formula* – child form label specified using a JavaScript script

  See an example of the use of the script in item 7 of section "Appendix 2 Examples of the Use of Scripts".

- *Location* – group of fields for specifying the parameters of form location on the screen. The first field contains the horizontal offset of the upper left-hand corner of the form from the upper left-hand corner of the screen, the second field, the vertical offset. The last field is used to specify an offset unit:
  - "%" – offset is specified in percentage of the corresponding screen dimension (horizontal or vertical)
  - "px." – offset is specified in pixels

- *Size* – group of fields for specifying the form size. The first field contains the horizontal size of the form, the second field, the vertical size of the form. The last field is used to specify a unit of the size:
  - "%" – size is specified in percentage of the corresponding screen dimension (horizontal or vertical)
  - "px." – size is specified in pixels

Form Editor Window. "Other" Tab

The "Other" tab (see Fig. 28) is used to specify additional criteria of preliminary data selection and conditions for sorting records in the edited form.

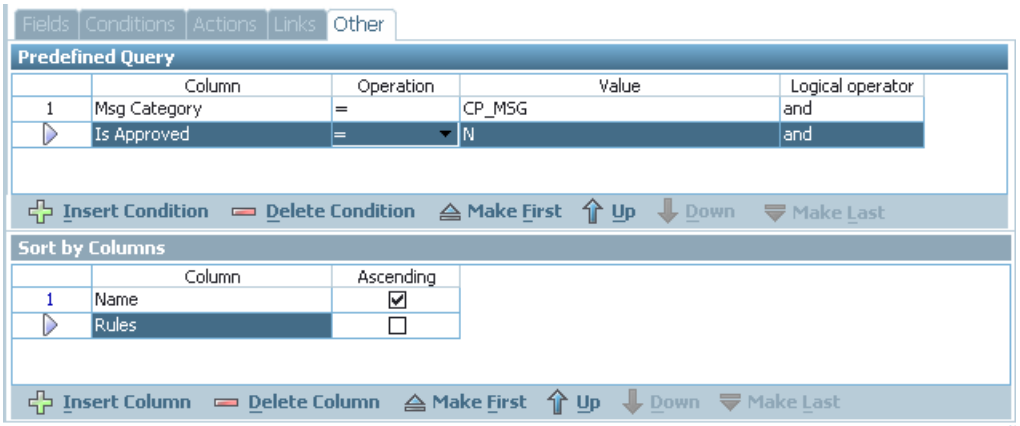


Fig. 28. "Other" tab

The "Predefined Query" form is used to specify criteria for preliminary selection of data that will be shown in the edited form. Selection criteria are specified in the same way as described in the "Preliminary Record Selection by Arbitrary Criteria" in the WAY4 Manager Administrator Manual.

Note that data selection by criteria specified in the "Predefined Query" form is a property of the edited form and performed when the form is opened regardless of user actions.

The "Sort by Columns" form is used to specify parameters of record sorting in the form. The form contains an ordered list of names of form columns (fields) used for sorting and the order of sorting by each field. To add a column for sorting, click Insert Column and then fill in the following fields:

- *Column* – drop-down list of form field names
- *Ascending* – checkbox for specifying the order of sorting: ascending when the box is checked, otherwise, descending

Note that the data sorting order depends on the order of records in this form, i.e. records will be first sorted by the field specified in the first row, then, by the field specified in the second row, etc.

To delete a column from the list, select the necessary column and click Delete Column.

To change the order of records in forms "Predefined Query" and "Sort by Columns", use buttons Make First (to move the record to the first position in the list), Make Last (to move the record to the last position in the list), Up (to move the record one position up), and Down (to move the record one position down).

Adding Computed Fields

The system allows for adding computed fields based on form data. To add a computed field, click the [Insert Computed Field] button in the "Fields" window of Form Editor (see the figure Fig. 7 in section "Form Editor Window. "Fields" Tab"). In the *Enter a new computed field name* field of the window that opens, enter the name of a computed field and click [OK]. As a result, the corresponding row will be added to the list of fields in the "Fields" tab.

Note that fields *Label* and *Visible* of a computed field are editable, and the remaining fields cannot be edited.

Computed field formulas are specified in the *Expression* field in the "Computed Field Options" tab of the Form Editor window.

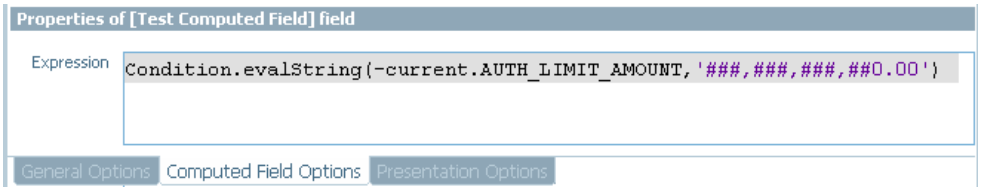


Fig. 29. "Computed Field Options" tab

A formula of a computed field is a JavaScript script. For instance, the scripts can be used to concatenate values of several text fields when it is necessary to display a client's last name, name and patronymic in the same field.

Syntax for computed fields is described in the way4manager_javadoc-<version>.zip specification located in the "<OWS_HOME>client\way4manager\doc" directory.

Chapter 3. Form Design

Design of Grid Forms

Grid form elements are:

- Grid consisting of rows and columns; rows correspond to database records, and columns correspond to record fields
- Column labels
- Control buttons, etc.

To switch to grid form design mode, click the [Show Layout Editor] button in the "General Properties" form (see the figure Fig. 4 in section "Form Editor Window. "General Properties" Form").

Before clicking the [Show Layout Editor] button, make sure that the *Style* field of the "General Properties" form contains the value "Grid".

After the [Show Layout Editor] button is clicked, the window for designing a grid form will be displayed on the screen (see Fig. 30).

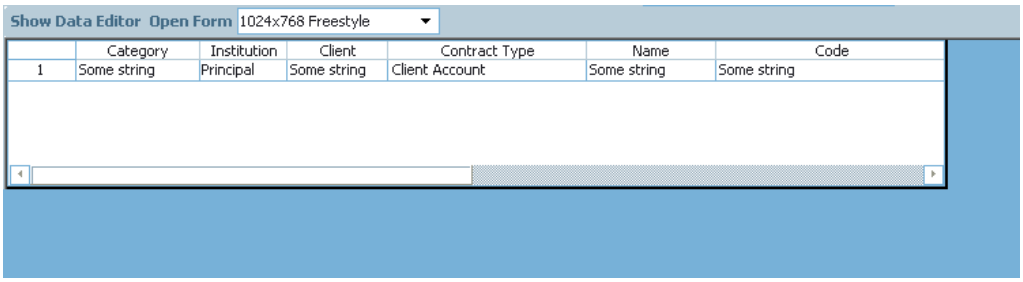


Fig. 30. Designing a grid form

The window contains an example of a grid form, in which columns correspond to the fields of the database table on which the form is based.

Click the [Show Data Editor] button to switch to form data editing mode and open the Form Editor window (see the figure Fig. 3 in section "Form Editor Window").

The [Open Form] button is used to open the edited form.

To the right of the [Open Form] button there is a drop-down list for selecting the size of the form. Values of the field depend on the value in the *Change current profile* field of the "WAY4Manager" form (see the figure Fig. 5 in section "Form Editor Window. "General Properties" Form"):

- For the value "Design 1024x768":
  - "1024x768 Halfscreen Wide" – for the screen resolution of 1024x768 pixels, the form will occupy half of the screen vertically and the entire screen horizontally if user menu, history and "Favourites" windows are minimised
  - "1024x768 Fullscreen Wide" – for the screen resolution of 1024x768 pixels, the form will occupy the entire screen if user menu, history and "Favourites" windows are minimised

- "1024x768 60% Wide" – for the screen resolution of 1024x768 pixels, the form will occupy 60% of the screen vertically and the entire screen horizontally if user menu, history and "Favourites" windows are minimised
- "1024x768 40% Wide" – for the screen resolution of 1024x768 pixels, the form will occupy 40% of the screen vertically and the entire screen horizontally if user menu, history and "Favourites" windows are minimised
- "1024x768 Halfscreen" – for the screen resolution of 1024x768 pixels, the form will occupy half of the screen vertically and the entire screen horizontally if at least one of the user menu, history or "Favourites" windows is not minimised
- "1024x768 Fullscreen" – for the screen resolution of 1024x768 pixels, the form will occupy the entire screen if at least one of the user menu, history and "Favourites" windows is not minimised
- "1024x768 Freestyle" – the size of the form is specified by users

- For the value "Design 1280x1024":
  - "1280x1024 Halfscreen" – for the screen resolution of 1280x1024 pixels, the form will occupy half of the screen vertically and the entire screen horizontally if at least one of the user menu, history or "Favourites" windows is not minimised
  - "1280x1024 Fullscreen" – for the screen resolution of 1280x1024 pixels, the form will occupy the entire screen if at least one of the user menu, history and "Favourites" windows is not minimised
  - "1280x1024 Freestyle" – the size of the form is specified by users

Order of Columns

The order of columns in a grid form is changed in grid form design mode. To do so, place the mouse cursor over a column label, press the left mouse button, and drag the label to the necessary position to the right or to the left.

Changing Column Width

The width of a column in a grid form is changed in grid form design mode. To do so, place the mouse cursor over the border of the necessary column (the cursor will look like a double arrow), press the left mouse button, and drag the mouse to the right or to the left to set the necessary column width.

Changing Column Labels

There are two ways to change the label of a grid form column:

- For the field that must be renamed, enter a new name in the *Label* field of the "Fields" tab of the Form Editor window (see the figure Fig. 7 in section "Form Editor Window. "Fields" Tab").
- In grid form design mode, right-click the necessary column. Select "Change Label" from the context menu that opens, enter a new label of the column in the *Enter a column label* field of the window that opens, and click [OK].

  Note that after changes are made, the new label of the grid form column will also be displayed in the *Label* field of the "Fields" tab of the Form

Editor window (see the figure Fig. 7 in section "Form Editor Window. "Fields" Tab").

Deleting Columns

Grid form columns are deleted in grid form design mode. To delete a column, right-click it. Select "Delete Column" from the context menu that opens.

Note that deleting a column unchecks the *Visible* box in the "Fields" tab of the Form Editor window (see the figure Fig. 7 in section "Form Editor Window. "Fields" Tab").

Calculating Totals

Grid form design mode allows users to calculate form column totals. To do so, right-click a column and select "Add Computed Row" from the context menu that opens. Enter the name of the totals row in the *Enter a new computed row name* field of the window that opens and click [OK]. As a result, the totals row will be added at the bottom of the table.

There are two ways to specify a formula used to calculate totals:

- Double-click the totals row cell that corresponds to the selected column.
- Right-click the totals row cell corresponding to the selected column and select "Add Expression" from the context menu that opens.

A JavaScript formula can be entered in the *Enter a script* field (see Fig. 31) of the window that opens. After [OK] is clicked, the entered script will be displayed in the corresponding cell of the totals row.

See an example of the use of the script in item 8 of section "Appendix 2 Examples of the Use of Scripts".

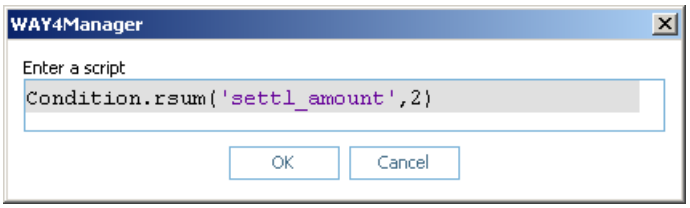


Fig. 31. Window for entering a formula for calculating totals

If it is necessary to calculate totals for other columns of the table, proceed as described above for the corresponding columns.

If it is necessary to specify several formulas for the same column, add the necessary number of totals rows and enter a JavaScript formula in the corresponding cell of each row.

To delete a formula entered before, right-click the cell containing the formula and select "Delete Expression" from the context menu that opens. As a result, a prompt to confirm deletion "Do you really want to remove the expression?" will be displayed. To confirm deletion, click [Yes]; to cancel deletion, click [No].

To delete a totals row, right-click any cell in the row and select "Delete Computed Row" from the context menu that opens.

To rename a totals row, right-click any cell in the row and select "Rename Computed Row" from the context menu that opens. Then, enter a new name of

the totals row in the *Enter a computed row name* field of the form that opens and click [OK].

Design of Free Forms

Free form elements are (see Fig. 32):

- Fields
- Labels (field names)
- Group boxes
- Computed fields

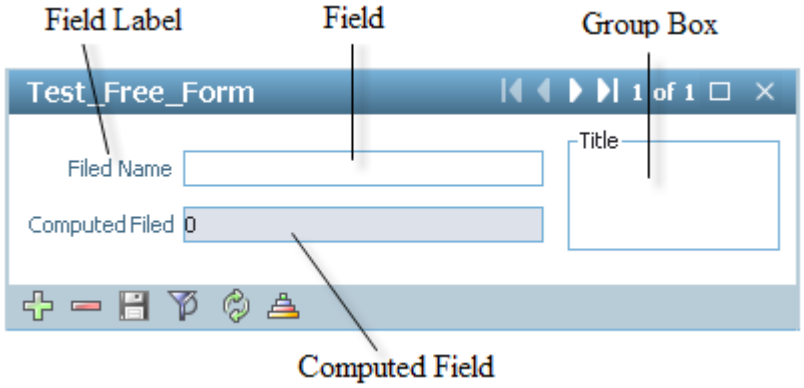


Fig. 32. Elements of a free form

To switch to free form design mode, click the [Show Layout Editor] button in the "General Properties" form (see the figure Fig. 4 in section "Form Editor Window. "General Properties" Form").

Before clicking the [Show Layout Editor] button, make sure that the *Style* field of the "General Properties" form contains the value "Free Form".

After the [Show Layout Editor] button is clicked, the window for designing a free form will be displayed on the screen (see Fig. 33).

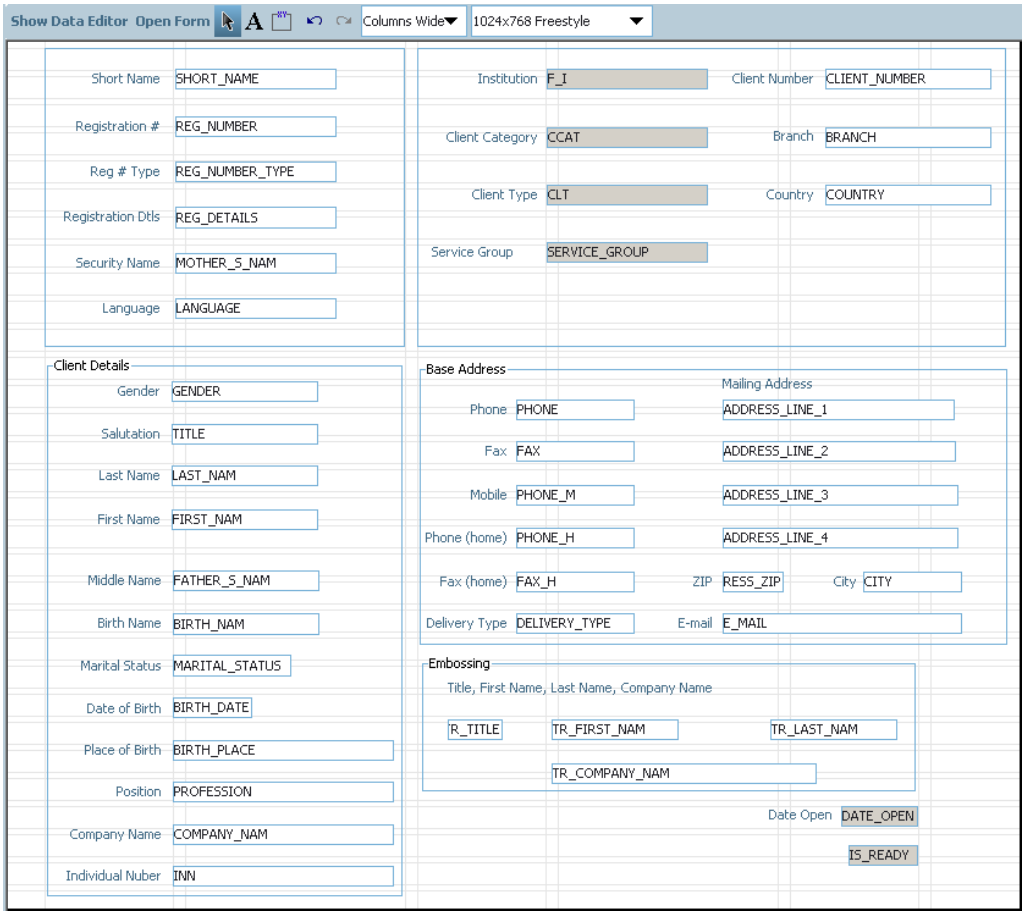


Fig. 33. Designing a free form

Click the [Show Data Editor] button to switch to form data editing mode and open the Form Editor window (see the figure Fig. 3 in section "Form Editor Window").

The [Open Form] button is used to open the edited form.

The  button is used to switch to form element selection mode. In this mode, users can move form elements, change their size, delete them, change their main properties, etc. When users roll over an element in this mode, the cursor looks like a four-way arrow.

The  button is used to add text to the edited form (see "Adding Text").

The  button is used to add a group box to the form.

To undo a user action, use the  button; to redo an undone action, use the  button.

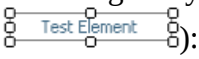
To the right of the  button there is a field for specifying a design window markup option. Note that the selected markup is used to align form elements and is not displayed when the form is opened. The field can take on one of the following values:

- "Columns Wide" – the markup is a rectangular grid consisting of two rectangles: the bigger one for the field, the smaller one for the field label (see Fig. 33)

- "Columns" – same as "Columns Wide", but the size of the rectangles is the same
- "10x10" – the markup is a grid consisting of 10 pixels squares
- "20x20" – the markup is a grid consisting of 20 pixels squares
- "No" – no markup is used

To the right of the field for specifying a markup option there is a drop-down list for selecting a form size (see a description of the field in section "Design of Grid Forms").

Moving Form Elements

To move free form elements, it is necessary to select them in one of the following ways (the elements will be marked by a special rectangle 

):

- To select a form element, click it.
- To select several form elements, click them while the <Ctrl> key is pressed down.
- To select elements of the same type (fields, field labels, or group boxes), click the corresponding element while the <Shift> key is pressed down.

After selecting form elements, place the mouse cursor over one of the selected elements (the cursor will look like a four-way arrow), press the left mouse button, and drag the elements to the necessary position. Form elements can also be moved using the keyboard keys <↑>, <↓>, <→>, and <←>).

Note that it is necessary to use the corresponding markup (see "Design of Free Forms") to align elements while moving them.

Changing the Size of Elements

To change the size of a free form element, click the necessary element. The selected element will look like this: 

. Then, place the mouse cursor over one of the circles at the borders of the element, press the left mouse button, and move the mouse to set the necessary size of the element.

To set the size of an element to the default value specified in the data domain, right-click the necessary element and select "Set Default Size" from the context menu that opens.

Automatic Location of Form Elements According to Markup

In design mode, it is possible to set the same size for all form elements of the same type and locate them according to the markup of the design window (see "Design of Free Forms").

To do so, right-click the construction window and select "Do autolayout" from the context menu that opens. As a result, a dialogue window with the message "Do you really want to clear your current layout and lay out components automatically?" will be displayed on the screen. Clicking [Yes] automatically places the form elements according to the selected markup option. All form elements of the same type (fields, field labels, and group boxes) will be of the same size, which is calculated automatically and depends on the selected markup option. The order of fields and labels in the form will correspond to the

order of the fields in the "Fields" tab (see "Form Editor Window. "Fields" Tab").

Deleting Elements

There are two ways to delete a free form element:

- Right-click the necessary element and select "Delete" from the context menu that opens.
- Click the necessary element and then click the [Delete] button.

Note that deleting a field or a computed field in a free form unchecks the *Visible* box in the "Fields" tab of the Form Editor window (see the figure Fig. 7 in section "Form Editor Window. "Fields" Tab").

Element Alignment

To arrange free form elements, click the necessary elements while the <Ctrl> button is pressed down, place the mouse cursor over one of the selected elements (the cursor will look like a four-way arrow), and right-click it. Select the necessary element arrangement method from the context menu that opens:

- "Align Vertically" – the elements will be aligned vertically, and their width and height will be changed to conform to the size of the first selected element
- "Align Horizontally" – the elements will be aligned horizontally, and their width and height will be changed to conform to the size of the first selected element

Adding Text

Text, e.g. a field label, is added in free forms in design mode. To do so, click the A button in the form design window (see Fig. 33), click the place where text must be added, and then edit the text.

To edit text, double-click it, or right-click it and select "Properties" from the context menu. As a result, the "Properties" window (see Fig. 34) will be displayed. It contains main parameters of the text.

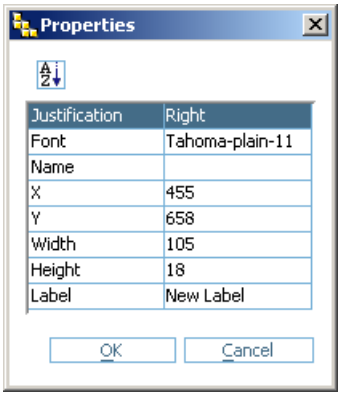


Fig. 34. Text parameters

This window contains the following fields:

- *Justification* – text alignment type:
  - "Left"
  - "Right"

  - "Centre"
- *Font* – font type
- *Name* – text name. For instance, this field is used when it is necessary to display/not display a field together with the corresponding text. In this case, the *Name* field must contain the code of the field to which the text is linked.
- *X* – horizontal offset of the text (in pixels) from the upper left-hand corner of the form
- *Y* – vertical offset of the text (in pixels) from the upper left-hand corner of the form
- *Width* – text width in pixels
- *Height* – text height in pixels
- *Label* – text label

Click the  button to sort the parameters of the text alphabetically.

Adding Group Boxes

Group boxes are added in free forms in design mode. To do so, click the  button in the form design window (see Fig. 33) and click the place where a group box must be added.

To edit a group box, double-click it, or right-click it and select "Properties" from the context menu. As a result, the "Properties" window (see Fig. 35) will be displayed. It contains main parameters of the group box.

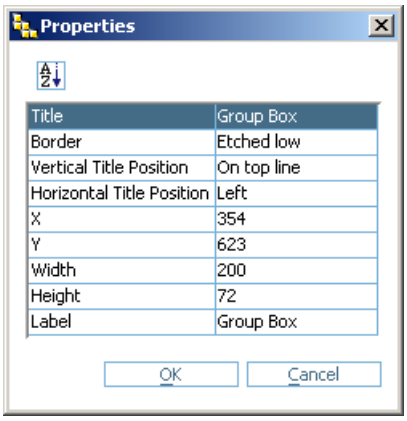


Fig. 35. Parameters of a group box

Group box parameters are the same are text parameters (see "Adding Text"). In addition, the window contains the following fields:

- *Title* – group box text (label)
- *Border* – border type:
  - "Raised"
  - "Lowered"
  - "Line border"
- *Vertical Title Position* – vertical position of the label:
  - "Above top"

- "On top line"
- "Below top line"
- "Above bottom"
- "Bottom"
- "Below bottom"

- *Horizontal Title Position* – horizontal position of the label:
  - "Left"
  - "Right"
  - "Center"

Field Parameters

In free form design mode, it is possible to specify main field parameters. To do so, double-click the necessary field, or right-click it and select "Properties" from the context menu. As a result, the "Properties" window (see Fig. 36) will be displayed. It contains main parameters of the field.

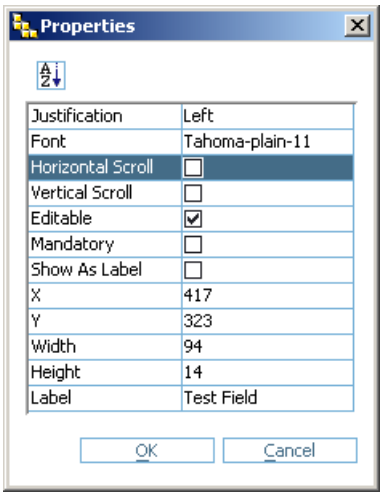


Fig. 36. Field parameters

The purpose of fields *Justification*, *Font*, *X*, *Y*, *Width*, *Height*, and *Label* is the same as the purpose of the same fields in the text parameter window (see "Adding Text"). In addition, the window contains the following fields:

- *Horizontal Scroll* – when this box is checked, the horizontal scroll bar will be displayed for this field; the parameter is only available for fields with the "Edit" style type and the *Multiline* box checked (see ""Text Field Options" Tab")
- *Vertical Scroll* – when this box is checked, the vertical scroll bar will be displayed for this field; the parameter is only available for fields with the "Edit" style type and the *Multiline* box checked (see ""Text Field Options" Tab")
- *Editable* – when this box is checked, values in this field can be edited
- *Mandatory* – determines whether this field is mandatory (only available when the *Editable* box is checked). If the box is checked and the field is left blank, an error message will be displayed on the screen.

- *Show As Label* – when this box is checked, the field border (a rectangular frame) will not be displayed in the form

Tab Order

The <Tab> key is used to navigate between fields when working with WAY4 Manager free forms.

There are two ways to specify the tab order (the order of navigating between fields by pressing the <Tab> key):

- Select "Set Tab Order" from the context menu that opens after right-clicking a form. As a result, the cursor will look like this: . Then, click every field to set the necessary tab order. After the last field is clicked, the message "Tab order has been successfully specified for all the fields" is displayed.
- Select "Tab Order Dialog" from the context menu that opens after right-clicking a form. As a result, the "Tab Order Dialog" window will be displayed on the screen. It contains an ordered list of the free form fields (see Fig. 37).

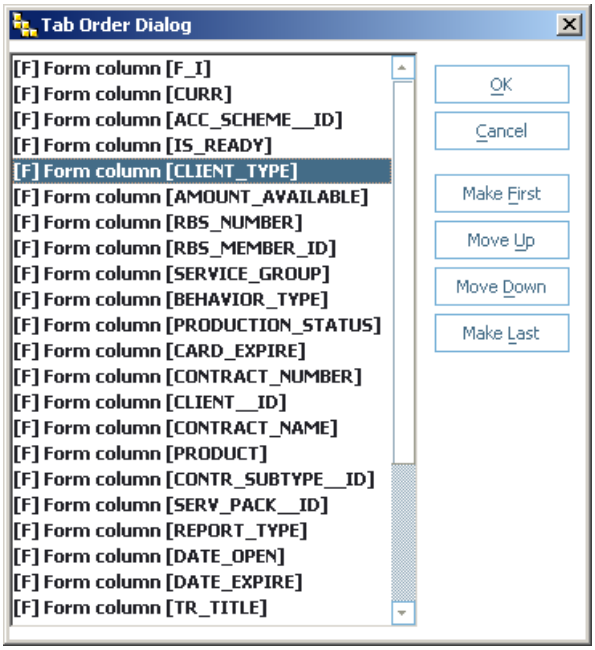


Fig. 37. Specifying the tab order

To change the tab order, click the name of the necessary field and move it to the necessary position using buttons. The [Make First] button moves the selected field to the first position in the list, the [Make Last] button, to the last position. Buttons [Move Up] and [Move Down] move a field one position up and down, respectively.

To save the changed tab order, click [OK]; to cancel the made changes, click [Cancel].

Element Overlapping Order

The order of overlapping of free form elements is regulated when fields and labels are located within a group box used to select groups of fields (see "Adding Group Boxes").

The order of overlapping of form elements is specified in design mode in one of the following ways:

- Right-click a form element and select "Send to Back" (move to the background) or "Bring to Front" (move to the foreground) from the context menu that opens.
- Select "Draw Order" from the context menu that opens after right-clicking a form. As a result, the "Draw Order" window will be displayed on the screen. It contains an ordered list of the free form elements.

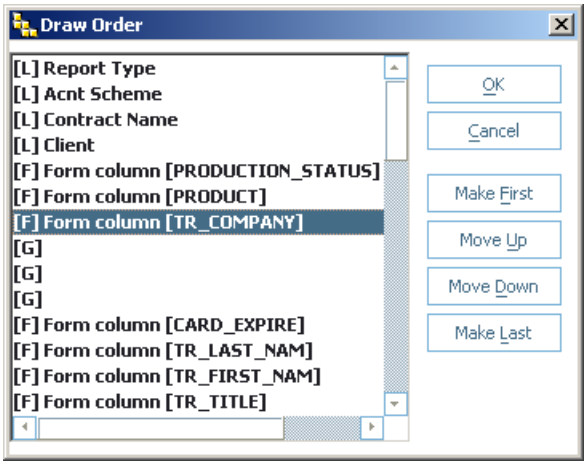


Fig. 38. Specifying the order of overlapping of elements

In this window, "F" means a form field, "[L]", a label, "G", a group box.

The order of overlapping of elements is changed in the same way as the tab order (see "Tab Order").

Appendix 1 Storing Forms in Standard WAY4 Directories

Standard Directories of WAY4 File Server

For a description of standard directories of the file server and their access privileges, see the section "Privileges of Access to WAY4 Directories" in the WAY4™ User Management Administrator Manual.

Storing Forms in Standard Directories

To store forms, physical xml files named "<name of form>.dataform" are used in the system. The files are stored in subdirectories "<OWS_name_of_directory>\client\way4manager\components\dbm.module\dataform" of standard system directories <OWS_HOME> and <OWS_WORK>.

Forms supplied together with the system distribution kit and correspondingly stored in the <OWS_HOME> directory are considered standard. It is forbidden to delete or in any way edit them.

Standard forms from in the <OWS_HOME> directory may only be modified by OpenWay specialists and are only updated during system version upgrade.

Custom Forms

When standard forms are edited (modified), e.g. form field labels are translated into a national language, and when system users create custom forms, copies of the forms are created in the directory <OWS_WORK>. Further on, the custom forms will be opened instead of the standard ones when users work with the system.

To find out in what directory an opened form is stored, right-click the form label and select "Design → Show Information" from the context menu. The *Form* field of the form parameter window that opens contains the path to the form file.

Synchronisation of Custom Forms

During system version upgrade, it is necessary to start the custom form synchronisation procedure. During this procedure, the system will check whether custom form fields correspond to upgraded database table fields. The procedure checks whether the corresponding fields are present in database tables and whether database fields and form fields have the same types. If not, a dialogue box prompting users to make changes to the corresponding columns or fields of the form will be displayed.

To start form synchronisation, select "Tools => Synchronization => Synchronize Forms" from the system menu or press <Shift>+<F11>.

It is sufficient to execute this process once every time a version is upgraded.

Restoring Standard Forms

There are two ways to go back to using a standard form instead of an edited (custom) form from the <OWS_WORK> directory: keeping the custom form or discarding it.

To use a standard form while working with the system, delete the file of the same form from the work directory. To do so, click the [Remove] button in the window for selecting a form to be edited (see Fig. 1) or delete its physical file using a file manager of the operating system.

To be able to restore a custom form, save its file "<name of form>.dataform.xml" in another directory on the disk.

Appendix 2 Examples of the Use of Scripts

1. Specifying a condition that must be met so that users could delete a document from the database. The condition is specified in the "Conditions" tab of the form editor window (see section "Form Editor Window. "Conditions" Tab") and then selected in the *Delete Condition* field of the "General Properties" form (see the figure Fig. 4 in section "Form Editor Window. "General Properties" Form").

   Example of a script:

```
Condition.isNull(posting_status)||posting_status=='W'||posting_status=='D'
```

   As a result of script execution, it will only be possible to delete a document from a grid form if the field with the "posting_status" code is not filled in or contains either "W" or "D" (this means that the document has the "Waiting" or "Decline" status). When the condition is met, the  button becomes active.

2. Specifying a condition that must be met so that users could edit a form field. The condition is specified in the "Conditions" tab of the form editor window (see section "Form Editor Window. "Conditions" Tab") and then selected in the *Editable Condition* field of the "General Properties" form (see the figure Fig. 7 in section "Form Editor Window. "Fields" Tab").

   Example of a script:

```
con_cat=='C'
```

   This script is specified, for instance, for fields *External PIN Response*, *On US PIN Response*, and *Def PIN Tries* of the "Service Pack Full Info" form, containing additional information about Service Packages. As a result of script execution, the specified fields will only be available for editing for Service Packages of card contracts, i.e. contracts with the "C" (Card) value in the field with the "con_cat" (contract category) code.

3. Script executed every time the contents of a field of an edited form changes. The script is specified in the *Modification Script* field of the "General Options" tab (see the figure Fig. 9 in section ""General Options" Tab").

   Example of a script:

```
if (current.CLT == 'PR') {userSetValue(currentRow,'COUNTRY','RUS')}
else{userSetValue(currentRow,'COUNTRY','')}
```

   If the "PR" (Private Resident) client type is specified in the field for which this script is set, the value "Russia" will be automatically placed in the field with the "COUNTRY" code (the code of this value is "RUS"). If the value of the edited field is other than "PR", the field with the "COUNTRY" code is not filled in. It is convenient to specify this script when the bank or processing centre is located in the Russian Federation.

4. Specifying a condition that must be met so that the text colour changed according to the value specified in a field. The script is specified in the *Paint Script* field of the "Presentation Options" tab (see the figure Fig. 10 in section ""Presentation Options" Tab").

Example of a script:

```
if (Condition.asc(message_type) == Condition.asc("E") )
{paintProperties.color = UI.rgb(255,0,0)}
else if (Condition.asc(message_type) == Condition.asc("W"))
{paintProperties.color = UI.rgb(0,255,0) }
else paintProperties.color = UI.rgb(0,0,0)
```

This script is specified, for example, for the *Type* field (the field code is "message_type") of the "Last Process Messages" form, opened by clicking the [Messages] button in the "Last Process" form. The "Last Process Messages" form contains information about messages generated by the system during process execution.

If an error occurs during process execution, i.e. the field with the "message_type" code contains the value "E" (Error), red will be used as the text colour. In other cases, text will be black.

5. Script used to determine additional conditions for filtering data displayed in drop-down lists (the script can only be specified for fields with "DDD Window", "Check Box List" and "Lookup" style types). The script is specified in the *Data Filtration Script* field of the "Data Filtration Script" tab (see the figure Fig. 19 in section ""Data Filtration Script" Tab").

   Example of a script:

```
dddw.F_I == current._F_I
&& dddw.PCAT == current._PCAT
&& dddw.CCAT == current._CCAT
```

   This script is specified, for example, for the *Account Scheme* field of the "Iss Main Contract" form.

   When an issuing contract is created, the drop-down list in the *Account Scheme* will only contain records whose values of fields with codes "F_I" (Financial Institution), "PCAT" (Product Category) and "CCAT" (Client Category) in the form are the same as the values of the same fields in the "acc_scheme" form, based on the ACC_SCHEME table.

6. Specifying a condition that must be met so that users could only open a child form for a record that meets this condition. The condition is specified in the "Conditions" tab of the form editor window (see section "Form Editor Window. "Conditions" Tab") and then selected in the *Editable Condition* field of the "Links" tab (see the figure Fig. 23 in section "Form Editor Window. "Links" Tab").

   Example of a script:

```
terminal_category=='A'
```

   This script is specified, for example, for the "Device Contract" form, used to enter device contracts.

   If the *Terminal Category* field (the field code is "terminal_category") contains the value "A" (ATM), the [ATM] button will be present in the "Device Contract" form. Clicking this button opens the "ATM for <name of device>" child form, used to set up ATMs.

7. Specifying a child form title. The script is specified in the *Title Formula* field of the "Link Presentation Properties" tab (see the figure Fig. 27 in section ""Presentation Properties" Tab").

   Example of a script:

```
'Linked Clients for ' + SHORT_NAME
```

   This script is specified, for example, for the "Client – Edit" form, containing the [Linked Client] button. Clicking this button opens the child form for specifying linked clients.

   When a child form is opened, its title will be generated as follows: the contents of the field with the "SHORT_NAME" code of the "Client – Edit" form will be added to "Linked Clients for". For example, if the field contains the "Test Client" value, the title of the child form will be "Linked Clients for Test Client".

8. Specifying a formula for calculating totals of grid form columns. The script is specified in the *Enter a script* field of the window for entering a totals calculation formula (see the figure Fig. 31 in section "Calculating Totals").

   Example of a script:

```
Condition.sum('shared_blocked',0)
```

   This script is specified, for example, for the "All Contracts for <name of client>" grid form, opened by clicking the [All Contracts] button in the "Clients (Corporate)" form.

   The *Credit Limit* field of the "sum" totals row in the "All Contracts for <name of client>" form will contain the sum total of credit limits (values of the *Credit Limit* field with the "chared_blocked" code) of all contracts of this client (see Fig. 39).

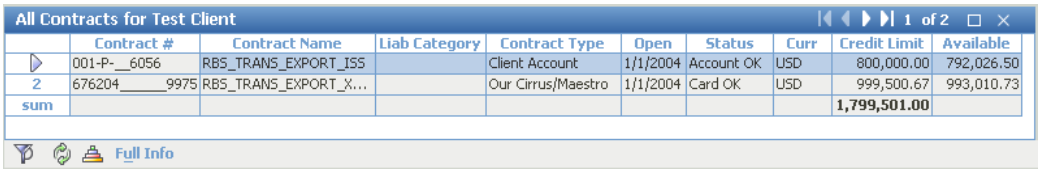


Fig. 39. Example of the use of formulas for calculating totals