



zenon
by COPA-DATA

zenon manual

Menus

v.8.20



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1 Welcome to COPA-DATA help

ZENON VIDEO TUTORIALS

You can find practical examples for project configuration with zenon in our YouTube channel (https://www.copadata.com/tutorial_menu). The tutorials are grouped according to topics and give an initial insight into working with different zenon modules. All tutorials are available in English.

GENERAL HELP

If you cannot find any information you require in this help chapter or can think of anything that you would like added, please send an email to documentation@copadata.com.

PROJECT SUPPORT

You can receive support for any real project you may have from our customer service team, which you can contact via email at support@copadata.com.

LICENSES AND MODULES

If you find that you need other modules or licenses, our staff will be happy to help you. Email sales@copadata.com.

2 Menus

Windows-compliant menus are created in the menu editor. Two different types of menus are available:

- ▶ Main menus
- ▶ Context Menus

Note: The operating system does not allow separate menus for single screens or frames.

PROJECT MANAGER CONTEXT MENU

Menu item	Action
New main menu	Inserts a new main menu in the menu list of the detail view.
New context menu	Inserts a new context menu in the menu list of the detail view.
Export all as XML	Exports all entries as an XML file.
Import XML	Imports entries from an XML file.
Editor profile	Opens the context menu with pre-defined Editor profiles.
Help	Opens online help.

3 Engineering in the Editor

Select menu item Project Manager in order to open the menu editor in detailed view. You can chose from main and sub menus. With the context menu (entry **Main menu new** or **Context menu new**) you can create new menus. They then are displayed in the right part of the detail view. Menus can be imported and exported. You will find more information in chapter Import / Export / Menus.

Attention

Requirement if main menus should be displayed in Runtime: The **Main menus active** (Nodes**Graphical design**) property must be activated in project properties.

CREATE NEW MENU ITEM

To create a new menu item:

1. Highlight the last entry.
2. Confirm with the **Enter key**.
3. A new empty input field is created.

CREATE NEW SUB-MENU

To create a new sub-menu, activate the **Submenu** property in the superordinate menu item. A new entry field is thus opened for the sub-menu.

MOVE MENU ITEM

1. Highlight the desired entry (multiple selection is possible).
2. Hold down the left mouse button and move it to the new position.
3. **Note:** If you move sub-menus to a menu item that is not defined as a sub-menu, the items are created as main menus.
If you move the uppermost item, all sub-menus are moved with it.

COPY MENU ITEM

1. Highlight the desired entry (multiple selection is possible).
2. Select Copy in the context menu or in the tool bar.
3. Select the save location for the copy.
Note: If you copied sub-menus to a menu item that is not defined as a sub-menu, the items are created as main menus.
If you copy the uppermost item, all sub-menus are copied with it.
4. Select Insert in the context menu or in the tool bar.
5. Hold down the left mouse button and move it to the new position.

RENAME MENU ITEM

1. select the menu item and edit it via:
 - ▶ Double-click or delayed double-click on the entry
or
 - ▶ Press the **F2** key or the **Enter** key when the entry is selected
or
 - ▶ select command **Rename** in the context menu or from the toolbar
2. the current entry is highlighted
3. Enter the new name
4. confirm the change via:
 - ▶ Pressing the **Enter** key
 - ▶ switch to another menu item
5. or cancel the change by pressing the **Esc key**.

MULTISELECT

To edit several entries at once

- ▶ press and hold the **Control** key and click on the entries
or
- ▶ press and hold the **Shift key** and click on the entries
or
- ▶ press and hold the **Shift key** and use the cursor keys on the keyboard

To deselect an entry again, click on the entry whilst holding down the **Ctrl key** or **Shift key**.

To deselect all entries and only select a single entry, click on the desired entry.

3.1 Toolbar and context menus for detail view and details

TOOLBAR



Menu item	Action
New main menu	Inserts a new main menu in the menu list of the detail view.
New context menu	Inserts a new context menu in the menu list of the detail view.
Create standard function	Opens the dialog for selecting an action and creates a suitable function. The action is documented in the output window.
Jump back to starting element	Jumps back to the initial position in the zenon Editor. Note: Only available in the context menu if a jump to the current position has been made from another position with the Linked elements context menu entry.
Copy	Copies the selected entry to the clipboard.
Paste	Pastes the contents of the clipboard.
Delete	Deletes the selected entry without confirmation.
Export selected as XML...	Exports selected entries as an XML file.
Import XML	Imports entries from an XML file.
Rename	Opens menu item for renaming.
Properties	Opens the properties window for the selected entry.
Help	Opens online help.

CONTEXT MENU RUNTIME MENUS

Menu item	Action
New main menu	Inserts a new main menu in the menu list of the detail view.
New context menu	Inserts a new context menu in the menu list of the detail view.
Paste	Pastes copied menu entry into the corresponding branch (Main menus or Context menus) as Copy x of , whereby x is a consecutive number.
Help	Opens online help.

CONTEXT MENUS MAIN MENU

Menu item	Action
New main menu	Inserts a new main menu in the menu list of the detail view.
Paste	Pastes copied menu entry of a main menu as copy x of , whereby x is a consecutive number.
Help	Opens online help.

CONTEXT MENUS CONTEXT MENU

Menu item	Action
New context menu	Inserts a new context menu in the menu list of the detail view.
Paste	Pastes copied menu entry of a context menu as copy x of , whereby x is a consecutive number.
Help	Opens online help.

CONTEXT MENUS MENUS

Menu item	Action
Create standard function	Opens the dialog for selecting an action and creates a suitable function. The action is documented in the output window.
Linked elements	Lists linked elements. Clicking on the entry opens the linked element in the Editor.
Copy	Copies the selected entry.
Paste	Pastes copied menu entry as copy x of , whereby x is a

Menu item	Action
	consecutive number.
Delete	Deletes the selected entry without confirmation.
Export selected as XML...	Exports selected entries as an XML file.
Import XML	Imports entries from an XML file.
Properties	Opens the properties window for the selected entry.
Help	Opens online help.

CONTEXT MENU DETAILS

Menu item	Action
Rename	Opens menu item for renaming.
Create new in front of selected	Adds a new menu item in front of the highlighted menu item.
Copy	Copies the selected menu item to the clipboard.
Paste	Pastes the contents of the clipboard.
Delete	Deletes the selected menu item without confirmation.
Properties	Opens the properties window for the menu item.
Help	Opens online help.

3.2 Define entries

Generally there are three types of menu entries:

Parameter	Description
Action type	<p>Sets out which type of action is to be carried out via the corresponding menu item in the Runtime. Not all action types are available in the main menu (on page 10), some are only available via the context menu (on page 11).</p> <ul style="list-style-type: none"> ▶ Acknowledge alarm (context menu only) ▶ Command processing(context menu only) ▶ Acknowledge flashing (context menu only) ▶ Show Extended Trend

Parameter	Description
	<ul style="list-style-type: none"> ▶ Function ▶ Help ▶ No action ▶ Write set value ▶ VBA macro (context menu only)
Submenu	Opens a sub-menu in the Runtime.
Separator	A horizontal line divides menu entries.

Underline text: Entering a & causes the following characters to be displayed as underlined.

Plan entries

To configure a menu item in the main menu or context menu:

1. Activate the corresponding menu cell
2. In properties, select:
 - ▶ **Action type:** depending on menu type
see also: Main menu action types (on page 10) and Context menu action types (on page 11)
 - ▶ **Menu ID:** ID of the entry
Note: For menu entries in the **Command Processing** (on page 13) module, fixed, pre-defined types with prescribed IDs are used by this module for project configuration. You can find further information about this and a list of these IDs in the Energy Edition manual in the Command processing via context menu chapter.
 - ▶ **Text:** clear labeling of the menu cells

Attention

The engineering of the **Text** property must be unique. If texts that are the same are given, further menu items with the same name are not displayed.

3.2.1 Main menu action types

Parameter	Description
Function	A defined function of zenon is executed by selecting the menu entry in the Runtime.

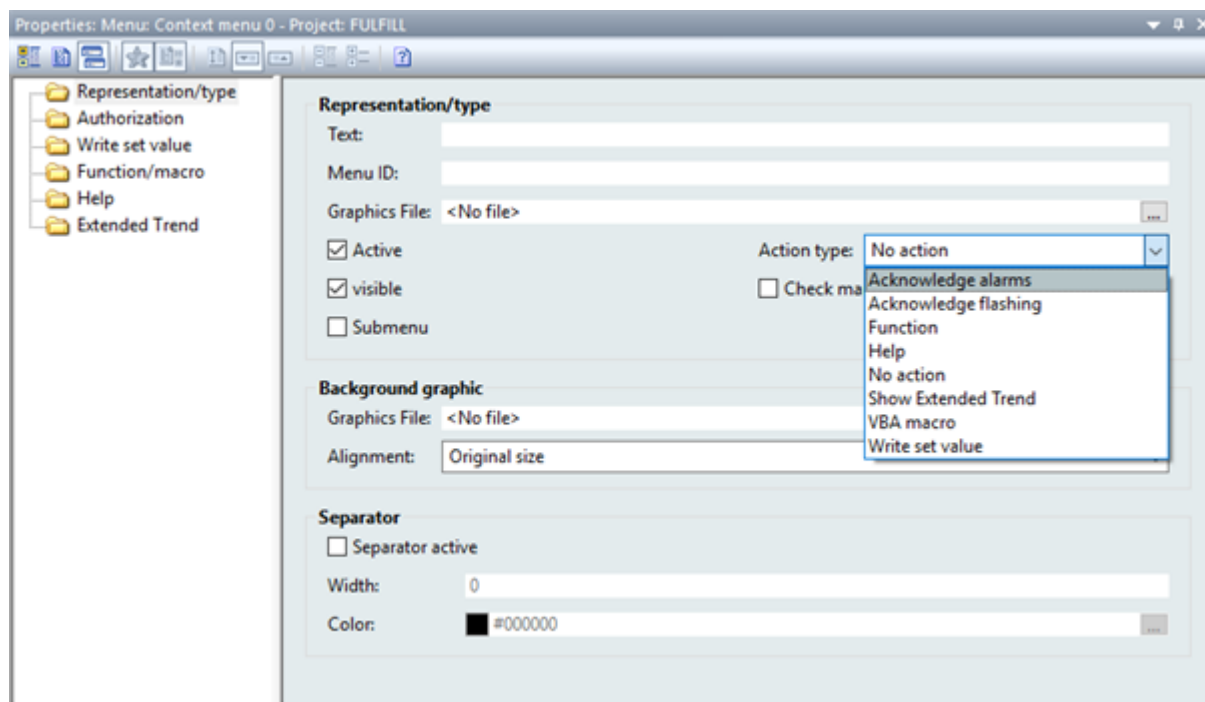
Parameter	Description
Help	A help chapter from a CHM file is displayed.
No action	No action is executed.
Write set value	By selecting menu item <i>Setting values</i> a fixed value can be send or a variable value can be increase or decrease by a fixed amount in the Runtime. The entry is made with the help of the zenon standard dialog box. If one of the 3 keyboard screens (SETVALUEKBD, SETBOOLKBD or SETSTRINGKBD) is available in the project, it is automatically used. For this action a variable can be selected directly, or if used in a context menu the variable can be selected from the clicked element.

3.2.2 Properties of the context menu and selection of the action types

The following nodes are available in the properties of the context menu, in which you can change settings for the context menu:

- ▶ **Representation/type**
- ▶ **Authorization**
- ▶ **Write set value**
- ▶ **Function/macro**
- ▶ **Help**
- ▶ **Extended Trend**

The following possibilities for selection are available under **Representation/type** and **Action type**:



Parameter	Description
Acknowledge alarms	The alarms of all variables linked to the dynamic element that the context menu relates to are acknowledged.
Command Processing	Opens the defined Command Processing screen (only with an energy license)
Acknowledge flashing	Switches off the blinking of all alarms for variables that are linked to the dynamic element, which the context menu relates to. The alarms are not acknowledged by this.
Show Extended Trend	<p>Opens a Extended Trend screen type. A new curve is created for the variable, which is linked to the respective element. The new curve has, by default, the style linked to the variable/data type. With archive variables, the best-suited archive is automatically selected. If it is not an archive variable, online data is used. If no Extended Trend screen has been configured in the context menu, the menu item is grayed out in the Runtime. If a diagram style is linked, the styles of the groups are used in the Runtime.</p> <p>The following settings can be changed in the Extended Trend node of the menu properties:</p> <ul style="list-style-type: none"> ▶ Screen: Allows the selection of a screen to be displayed in Extended Trend. Default: <No screen>

Parameter	Description
	<ul style="list-style-type: none"> ▶ Time filter relative: Allows the display of a time filter. Default: <i>0T 00:00:00</i> ▶ Refresh rate: Allows the setting of the updating of the Extended Trend screen in seconds in the Runtime. Default: 5 s ▶ Style group chart: Allows the selection of a style for display in Extended Trend. Default: <i><No style linked></i>
Function	A defined function of zenon is executed by selecting the menu entry in the Runtime.
Help	A help chapter from a CHM file is displayed.
No action	No action is executed.
Write set value	By selecting menu item <i>Setting values</i> a fixed value can be send or a variable value can be increase or decrease by a fixed amount in the Runtime. The entry is made with the help of the zenon standard dialog box. If one of the 3 keyboard screens (SETVALUEKBD, SETBOOLKBD or SETSTRINGKBD) is available in the project, it is automatically used. For this action a variable can be selected directly, or if used in a context menu the variable can be selected from the clicked element.
VBA macro	A VBA macro is executed by selecting the menu entry in the Runtime. You can only select the VBA macros which are declared as Init event.

3.2.2.1 Command Processing

When creating a new action in the Command Processing, a menu ID corresponding to the action type and the switching direction for the **Action type** property is created and offered in the drop-down list. If the content corresponds to an ID defined as standard text for the action type and switching direction, the content is adapted if the action type or switching direction change.

To create a context menu for the Command Processing:

1. Create the desired actions in the command processing
2. In the properties of the context menu item select the **Action type Command Processing**
3. Select the desired action and switching direction via the drop-down menu with the **Menu ID** property

4. Give it a clear label in the **Text** property
 Note: If no entry is defined for **Text**, the field is automatically filled with the "**command processing**" label.

⚠ Attention

The engineering of the **Text** property must be unique. If texts that are the same are given, further menu items with the same name are not displayed.

Because automatically created menu items with the same action result in the same text, there are macros (on page 16) available for these.

The character sequence ID_CMD_AUTO is reserved for automatically created menu items. These must always be used with macros, because otherwise only the menu item is inserted.

When checking for duplicate entries the following rules apply:

- ▶ Manual menu points have priority over automatic ones.
- ▶ If it is the same type then the last entry has twice the priority.
- ▶ If a duplicate entry is found, a warning is set off in the log. This includes the menu ID and description. Automatically expandable entries have **<auto>** added to the ID.

ACTIONS FOR ACTION TYPE COMMAND PROCESSING

Action	Switching direction	Menu ID
<i>ID_CMD_AUTO</i>		This menu entry automatically shows all possible actions for an element, if no direct menu entry from the list is used already.
Pulse command	On (1)	ID_CMD_EBEF_ON
Pulse command	OFF (1)	ID_CMD_EBEF_OFF
Pulse command	NONE	ID_CMD_EBEF_NONE
Switching command	On (1)	ID_CMD_DBEF_ON
Switching command	OFF (2)	ID_CMD_DBEF_OFF
Switching command	NONE	ID_CMD_DBEF_NONE
Set value	NONE	ID_CMD_SVALUE
Set value	DIRECT	ID_CMD_SVALUE_DIR

Action	Switching direction	Menu ID
Status input	NONE	ID_CMD_STATE
Status input	On (1)	ID_CMD_STATE_ON
Status input	OFF (0)	ID_CMD_STATE_OFF
Replace	NONE	ID_CMD_REPL_NONE
Replace	On (1)	ID_CMD_REPL_ON
Replace	OFF (0)	ID_CMD_REPL_OFF
Replace	DIST	ID_CMD_REPL_DEF
Replace	DIFF	ID_CMD_REPL_DIFF
Manual correction	NONE	ID_CMD_UPD_NONE
Manual correction	On (1)	ID_CMD_UPD_ON
Manual correction	OFF (0)	ID_CMD_UPD_OFF
Manual correction	DIFF	ID_CMD_UPD_DIFF
Manual correction	DIST	ID_CMD_UPD_DEF
Manual correction	DIRECT	ID_CMD_UPD_DIR
Block	NONE	ID_CMD_BLOCK
Release	NONE	ID_CMD_UNLOCK
Lock	NONE	ID_CMD_LOCK
Revision	OFF (0)	ID_CMD_REV_OFF
Revision	On (1)	ID_CMD_REV_ON
Forced command	On (1)	ID_CMD_FORCE_ON
Forced command	Off (0)	ID_CMD_FORCE_OFF
Forced command	NONE	ID_CMD_FORCE_NONE



Information

For more information about using the context menus in the Command see chapter Energy Edition in section Context menu Command.

3.2.2.1.1 Macros for the context menu

A macro is a defined character sequence that is replaced by a text when menu items are created in the Runtime. Virtually all macros can occur more than once per menu item. They can also contain further macros as a result. In doing so, the expansion sequence must be considered. Macros are not case sensitive when configuring menus. If macros contain a macro as a result, the macro must be contained in capitals in the result. The entry is made with **\$** as a prefix and suffix.

The sequence of the expansion is from left to right in the following priority.

1. **\$ALL\$**
2. **\$NOTE\$**
3. **\$TAG\$**
4. **\$REMA<Condition>\$**
5. **\$RDIR\$**
6. **\$DIR\$**
7. **\$ACT\$**
8. **\$NAME\$**

Macro	Description
\$ALL\$	<p>Results in Action naming: Switching direction.</p> <p>Corresponds to the combination of the \$ACT\$: macro \$DIR\$</p> <p>Note: If a context menu is created for the command processing, the default text is \$ALL\$, even if the menu already has text configured for it but the action type changes to command processing.</p>
\$NOTE\$	<p>The whole text including the macro is interpreted as a note. If the resulting text is empty, the \$ALL\$ macro is used.</p> <p>For the last macro, the note macro is again checked and the text to the right of this including the macro is deleted.</p> <p>If the resulting text is empty or only consists of spaces, the menu item is not inserted.</p>

Macro	Description
\$TAG\$	<p>Is replaced by the identification of the action variable.</p> <p>The identification can be translated by the online language translation function. If no translation character (@) is contained, the whole identification is highlighted for translation.</p>
\$REMA<Status>\$	<p><Condition> is a Rema or limit value state, the text of which is used as a replacement.</p> <p>If the status is not present, the menu item is not displayed.</p> <p>The limit value text is translated linguistically according to the placement of @ .</p> <p>The status can be a number between -2^{31} and 2^{31-1}. Leading characters and a prefix are permitted. If characters are contained that cannot be converted to a number, or the number is outside the given area, the menu item is not displayed.</p>
\$RDIR\$	<p>Text for the switching direction from reaction matrix/limit value as in \$DIR\$ macro, with the exception of:</p> <ul style="list-style-type: none"> ▶ Action <i>Write set value direct</i> The text is taken from the rema/limit value of the status, which corresponds to the value of the set point to be set. ▶ Action <i>Status on</i> and <i>Status off</i> Text is taken from the rema/limit value for the <i>on</i> or <i>off</i> statuses. ▶ Action <i>Correct direct</i> The text is taken from the rema/limit value of the status, which corresponds to the value of the set point to be set.
\$DIR\$	Switching direction of the action.
\$ACT\$	Action naming of the action.
\$NAME\$	The \$NAME\$ macro can be used to create menus and provides the configured content of the Action name property, the language of which can also be switched in the Runtime with a @ character.

AUTOMATICALLY CREATED MENU ITEMS

Automatically created menu items are created as a menu ID with ID_CMD_AUTO. In this case, macros must always be used, because otherwise only a menu item would be inserted.

COMPATIBILITY

Previous to version 6.51 text at automatic menu items was ignored. When converting projects that were created with versions earlier than 6.51, the macros \$ALL\$NOTE\$ are automatically inserted before the configured text. Therefore the menu items behave as before.

ONLINE LANGUAGE SWITCH

The labeling for the menu item in the **Text** property is translated linguistically before macro expansion from the character @.

Note: If, for the \$TAGS\$ macro, no translation indicator (@) is contained, the complete text is translated.

3.2.3 Graphical designs

The graphics of the menus can be influenced by the following properties

Parameter	Description
Graphics File	Shows a graphics file in the far left area.
Background graphic	Places a graphics file behind the menu entry. The orientation can be either in <i>original size</i> or <i>adjusted</i> .
Check mark	Shows a tick in the far left area. This tick has no influence on the availability of the linked function; it is only for display. The display and functionality in Runtime can only be controlled via VBA/VSTA.
visible	Activated: Menu entry is displayed in the Runtime and linked function is available. The visibility in the Runtime can only be controlled via VBA/VSTA.
Separator active	Shows, instead of the menu entry, a horizontal dividing line for a logical division of the menu. The dividing line can be a width of 0 to 50 pixels and the color can be freely defined.

3.2.4 Submenu

To create sub-menus:

1. Go to a menu cell.

2. Activate the **Submenu** property.
As a result, a new, empty menu item is created next to the selected menu cell.
3. Define the entries for the sub-menu or configure further sub-menus

Sub-menus are shown by an arrow to the right. Sub-menus can also be created as nested sub-menus.

4 Operating during Runtime

The Menu Editor menus correspond to the usual functionality that is common in Windows applications.

Menus are located on a predefined position in the upper left corner in the Runtime.

Note: If there is alarm pending, the alarm line may cover the menus. In this case, the menus can only be operated once the alarms have been acknowledged. To avoid this, plan the alarm status line at a different location or activate frames for the template.

4.1 Displays menus in Runtime

To display the main menu (on page 19) in Runtime, the corresponding function **Show menu** must be created and linked.

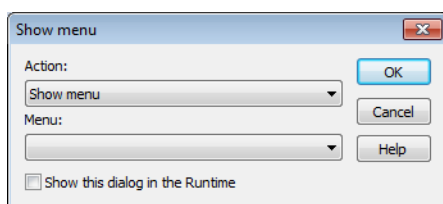
Context menu (on page 20) are defined in the properties for the respective dynamic elements.

If certain authorization levels and/or signatures are required for actions with menus in Runtime, configure them in the property group **Authorization** (on page 21)..

4.1.1 Displaying main menus

This function controls the display of main menus (on page 4).

1. Create a new function with **New function**
2. In the **Screens** node, select the **Display menu** function
3. Define the action to be carried out and the main menu



Parameter	Description
Action	Selection of the action:
<i>Show menu</i>	The selected menu is displayed.
<i>Hide menu</i>	The selected menu is hidden.
<i>Change menu</i>	The current menu is hidden and the selected menu is displayed instead.
<i>If no menu exists</i>	The selected menu is displayed, if no menu is displayed at the moment.
Menu	Selection of menu.
Show this dialog in the Runtime	<i>Active:</i> This dialog is opened when the function is carried out in the Runtime.



Information

In the zenon Web Client (zenon Web Server and Web Server Pro) the main menus are not displayed.

Under CE (zenon under Windows CE) menus can only be displayed in the standards supported by Windows CE. Colors and fonts different than the Windows colors/fonts cannot explicitly be selected in the menus under CE.

When the standard function is created from the context menu in the detail view, zenon automatically creates the function 'Show menu' for the selected menu.

4.1.2 Displaying context menus

Context menus can be used in the Runtime for dynamic elements. To display a context menu in the Runtime, link the context menu with the desired dynamic element.

To do this:

1. navigate to the **Runtime** node in the dynamic element properties
2. select the **Context Menu** property
3. select the desired context menu from the drop-down list

Attention

Context menus are referenced via their name. This means: If a context menu is renamed, the linking to the dynamic element is lost and must be recreated.

4.2 Authorization

If user administration is configured for the project, the display behavior of the menu in the Runtime can be amended to the user operating authorizations. In addition a signature can also be requested.



Information

You can read more information about the configuration of user administration in the user administration chapter.

CONFIGURE AUTHORIZATIONS FOR MENUS IN EDITOR

To configure authorizations for operating menus:

1. Open the **User Administration** properties group in the project properties.
2. Configure the desired behavior in the **Login and signature/Locked menu items** property.
3. Assign **Authorization level** to:
 - a) Switch to the **Menus** node in the module tree.
 - b) Highlight the desired menu item in the drawing window.
 - c) Open the **Authorization** properties group.
 - d) Set the corresponding authorization level in the **Authorization level** property.
Attention: Not available for **Action type** *No action* or *Help*.
 - e) Configure other properties in this group if necessary.

SIGNATURE NECESSARY

User actions can also be protected by means of a signature. This applies, for example, to dynamic elements, functions, actions via a menu or changes in variables of the recipe group manager.

To additionally protect user actions with a signature:

1. Configure the **Signature necessary** property for the respective element in the Editor.
2. Select from the drop-down list:
 - ▶ *Signature with password*: A signature and a password are required for operation of the element.

For security reasons, a password is requested here again even for a user who is already logged in. The signature text is logged in the Chronological Event List (CEL) after it has been used successfully.

Caution: Only users who are logged in can sign an action. Signing actions with temporary login is no longer possible.

- ▶ *Signature without password:* A signature is necessary to operate the element. This can be entered without entering a password. The signature text is logged in the Chronological Event List (CEL) after the successful use of the element.
3. In the **Signature text** property, enter the signature text for the CEL.
 4. In the Runtime, the user will be requested to sign the user action. Depending on the configuration, the user must also confirm this with his or her password. In addition, an entry is created in the Chronological Event List.