



COPADATA
do it your way

zenon manual

Wizards

v.7.20





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1. Welcome to COPA-DATA help

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 (<mailto:documentation@copadata.com>).

PROJECT SUPPORT

You can receive support for any real project you may have from our Support Team, who you can contact via email at support@copadata.com (<mailto: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 (<mailto:sales@copadata.com>).

2. Wizards

In order to be able to handle recurring tasks in the engineering phase easily and expeditiously, zenon offers wizards for different fields of engineering.

Users can also create their own wizards.



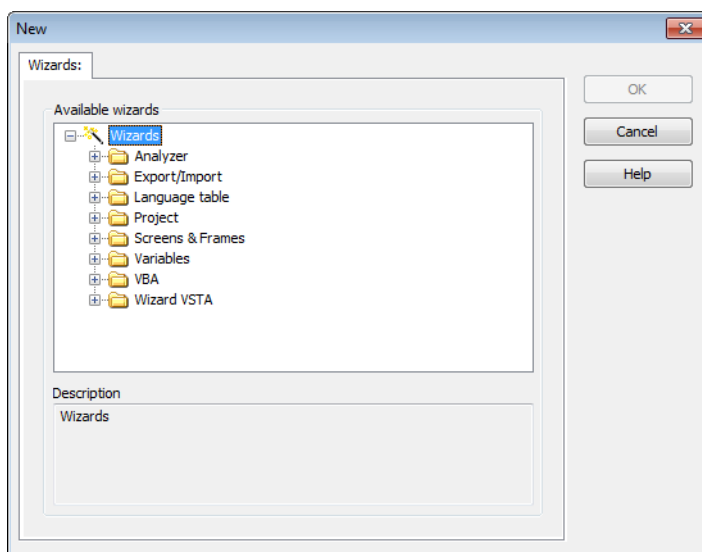
License information

Part of the standard license of the Editor and Runtime.

START WIZARDS

To start a wizard:

- ▶ Select, in the **File** drop-down list, **Wizards ...**
- or
- ▶ press the short cut **Alt+F12**



The wizard for project creation is automatically offered when a new project is created.

SETTINGS ZENON6.INI

*For wizards to be displayed, the settings for VBA and/or VSTA must be set correctly in file **zenon6.ini**:*

[VBA]

EIN=1

[VSTA]

ON=1

*If VSTA wizards are not displayed although the settings are correct, set entry **LOADED=** to 1 in area **[VSTA]**.*

3. Topics

The following wizards are available in zenon:

- ▶ **Analyzer** (on page 8)
 - **Export Wizard for Analyzer 2.10** (on page 9)
 - **Export Wizard for Analyzer 2.20** (on page 36)
 - **Meaning and Waterfall Chart Wizard** (on page 66)
 - **Sankey Wizard** (on page 84)
- ▶ **Export - Import** (on page 106)
 - **FactoryLink Import Wizard** (on page 106)
 - **PDdiag import wizard** (on page 108)
 - **WinCC Import Wizard** (on page 114)
 - **XML export wizard** (on page 133)
 - **XML Import Wizard** (on page 138)
- ▶ **Language Table** (on page 138)
 - **Language Table Wizard** (on page 139)
 - **Language Translation Wizard** (on page 145)
 - **System Text Wizard VSTA**
- ▶ **Meterin Point Administration Wizard** (on page 157)

Metering point administration is a tool to manage technical data and administer metering points.
- ▶ **Pharmaceutical** (on page 223)
 - **Pharmaceutical Wizard** (on page 224)
- ▶ **Project** (on page 259)
 - **Backup Comparison Wizard** (on page 259)
 - **Documentation wizard** (on page 292)
 - **Project Wizard** (on page 271)
- ▶ **Variables** (on page 293)
 - **Variable creation wizard** (on page 293)
 - **Driver Simulation** (on page 293)
 - **IEC850 Driver Configuration** (on page 298)
- ▶ **Wizards VSTA** (on page 320)
 - **Demo Wizard**: Empty template that can be amended individually.

3.1 Analyzer

The zenon Analyzer has wizards that support correct setting of parameters for the SCADA system and the export of data from the SCADA system. The zenon SCADA system is currently supported.

Wizards:

- ▶ **Export Wizard for Analyzer 2.10** (on page 9): supports the export of metadata from zenon for the zenon Analyzer, version 2.10.
- ▶ **Export Wizard for Analyzer 2.20** (on page 36): supports the export of metadata from zenon for the zenon Analyzer, version 2.20.
- ▶ **Meaning and Waterfall Chart Wizard** (on page 66): Helps you prepare a zenon project for the processing of variable information in zenon Analyzer.
- ▶ **Analyzer Export Wizard** (on page 36): supports the export of metadata from zenon from version 7.10 SP0 for the zenon Analyzer.
- ▶ **Sankey Wizard** (on page 84): supports you when creating Sankey diagrams that you can see in the Runtime or which are used in zenon Analyzer.

The wizards for zenon Analyzer are automatically installed when installing zenon 7.20. The **Analyzer Export Wizard** has its own DLL. **Meaning and Waterfall Chart Wizard** and **Sankey Wizard** share a DLL. Installation and maintenance thus differ from other zenon wizards. Analyzer wizards are automatically kept up to date with the updates from zenon from version 7.20. The update can, if required, also be carried out manually via the build file contained in the zenon Analyzer installation medium for zenon from version 7.10. These wizards are not updated by means of the update mechanism of the zenon wizard. For details, see the **Installation and Update** chapter in the **zenon Analyzer** manual.

SYNTAX FOR INPUTS IN ZENON

Input in zenon depends on the version of zenon that is used.

UP TO ZENON 7.11

Up to and including zenon version 7.11, the meaning and waterfall model is entered in the zenon **Resources label** property. These can contain meanings for several categories.

The following is applicable to entries in the resource label property:

- ▶ Categories are separated by a semicolon (;).
 - ▶ Areas within a category are separated by a comma (,).
 - ▶ Categories are marked by an index:
 - **ME=**: Identifies a (**Meaning**).
- Syntax: ME=[main meaning as text], [additional meaning as text], [additional

meaning as text],...;

Example: **ME=Station_1,Station_2;**

- **WF=:** Identifies a variable for the waterfall display.
Syntax: WF=[model name text],[line index INT],[index in column INT],[color code as text #XXXXXX];
- Every other entry is also understood as a **Meaning**

Complete syntax for the **Resources label** property:

ME=[meaning1],[meaning2],...,[meaningN];WF=[model name],[row index],[index in row],[color code];

Attention: The **Resources label** property is limited to 256 characters in the zenon Editor.

FROM ZENON 7.20

From zenon 7.20, there are separate properties in zenon for the definition of **Meaning** and waterfall, as well as the input of a display name. These entries do not need an identification in front of them.

The following properties in the zenon **Analyzer** variable properties group provide information for reports in the zenon Analyzer:

- ▶ **Visual name:** Entry of a display name of the variable in zenon Analyzer. This must be unique in the project. The check is not carried out when issued in zenon, but when imported into zenon Analyzer. If this property is changed after the first export to a zenon Analyzer, these changes are not applied in the zenon Analyzer.
- ▶ **Meaning:** Entry of the (**Meaning**) of a variable in the zenon Analyzer. Entry is manual or by means of the **Meaning and Waterfall Chart Wizard**. Several meanings are separated by a comma.
Syntax: [Meaning1],[Meaning2],...,[MeaningN]
- ▶ **Parameter for waterfall diagram:** Parameters of a variable for a waterfall diagram in zenon Analyzer. Entry is manual or by means of the **Meaning and Waterfall Chart Wizard**. The individual parameters are separated by a comma. Several waterfalls are divided by a semicolon.
Syntax: [model name],[row index],[index in row],[color code];

Attention: All these input fields are limited to 256 characters in the zenon Editor.

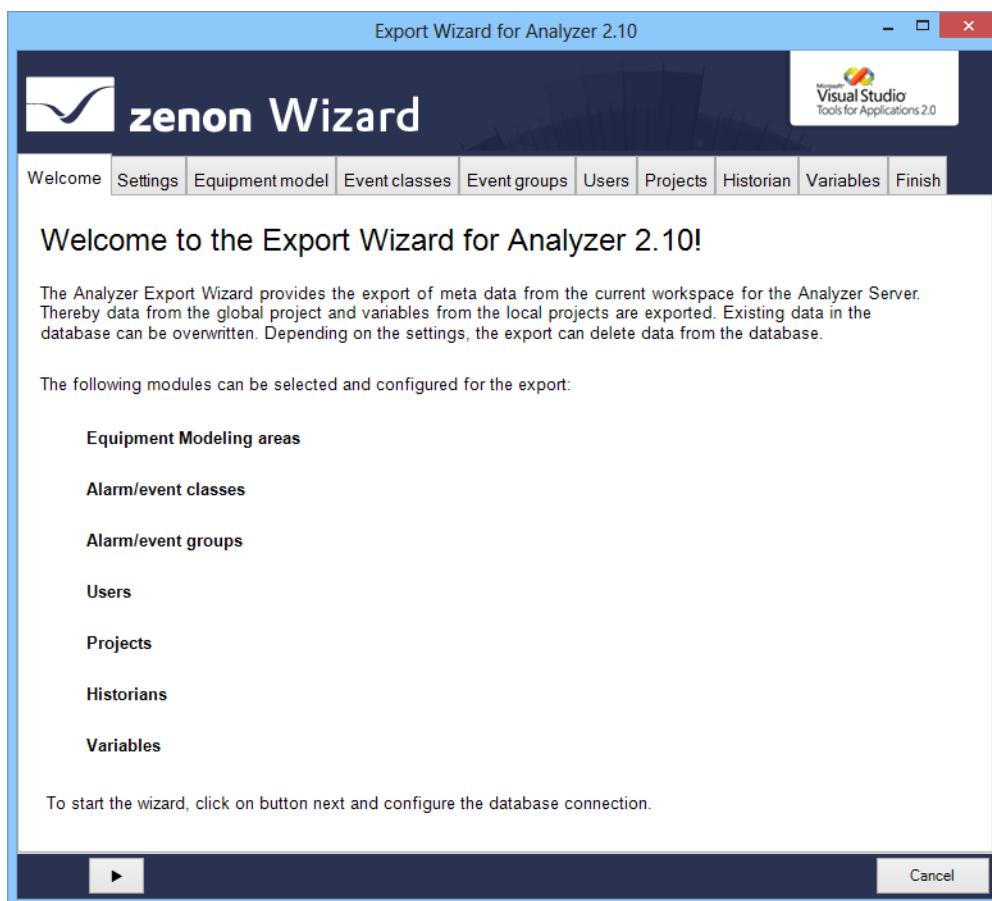
- ▶ When exporting to zenon Analyzer, both the previous property and the new one are checked. If both are assigned, the entries of the new properties are taken on. Entries that are created using the **Meaning and Waterfall Chart Wizard** are always entered into the new properties.

3.1.1 Export Wizard for Analyzer 2.10

The zenon **Export Wizard for Analyzer 2.10** supports the export of metadata from zenon from version 7.10 SP0 for the zenon Analyzer 2.10.

The following can be exported:

- ▶ Data from the global project
 - Equipment models
 - Alarm/event classes
 - Alarm/event groups
 - User
- ▶ Data from selected projects:
 - Archives
 - Variables



Note: The wizard is only available in English.

COMPATIBILITY:

The [Analyzer Export Wizard](#) works with zenon from version 7.10 SP0. There is a separate wizard available for each supported version of zenon.

Install and call up wizard

The wizard is automatically installed with zenon for each supported version of zenon Analyzer.

STARTING THE WIZARD

*For wizards to be displayed, the settings for VBA and/or VSTA must be set correctly in file **zenon6.ini**:*

[VBA]

EIN=1

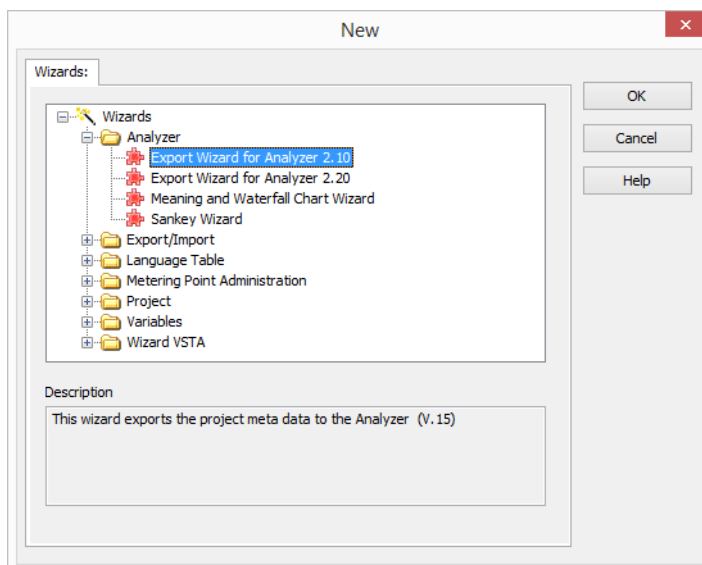
[VSTA]

ON=1

If VSTA wizards are not displayed although the settings are correct, set entry **LOADED=** to 1 in area **[VSTA]**.

To start the wizard:

1. in zenon open menu **File**
or press the shortcut **Alt+F12**
2. select the entry **Wizards...**
3. the selection dialog is opened
4. navigate to the **Analyzer** node
5. select the **Analyzer Export Wizard**

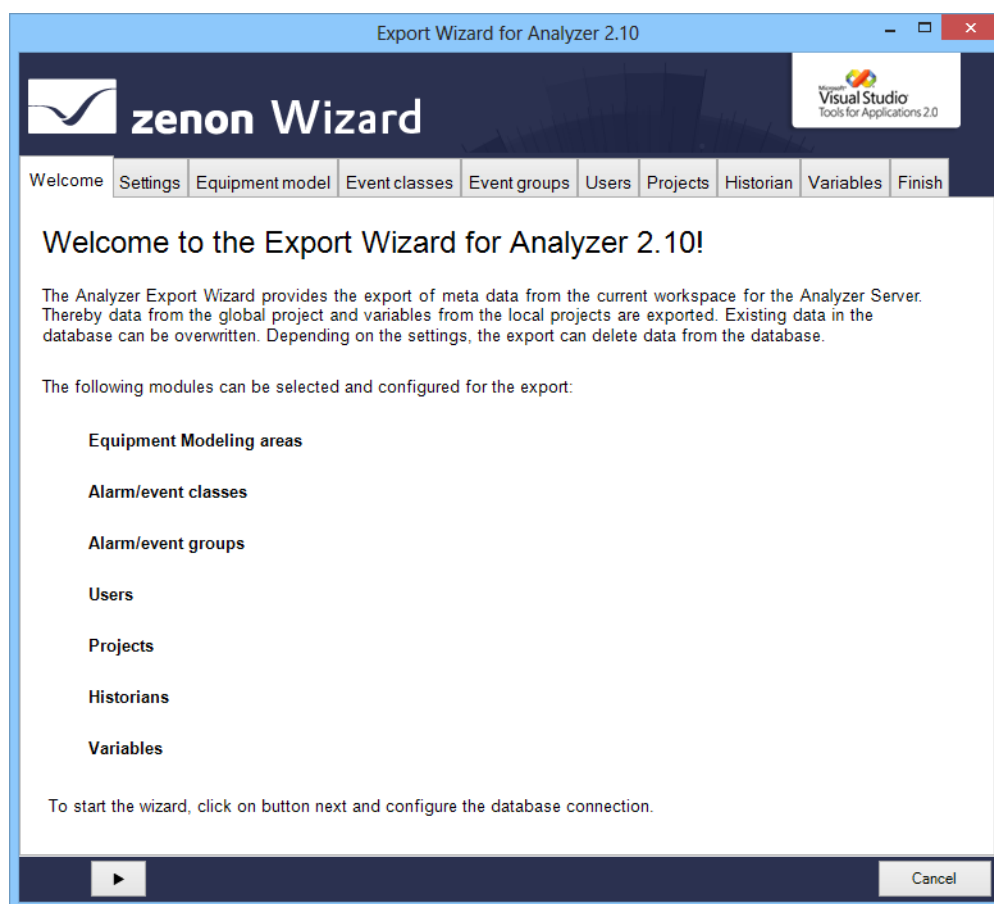


6. Start the wizard by clicking on **OK**

Start window

When the wizard is opened, you receive an overview page that lists all exportable objects.

The individual objects are configured for the export on individual tabs.



Click on the button with the **arrow** to navigate through the configuration (on page 40) of the export.

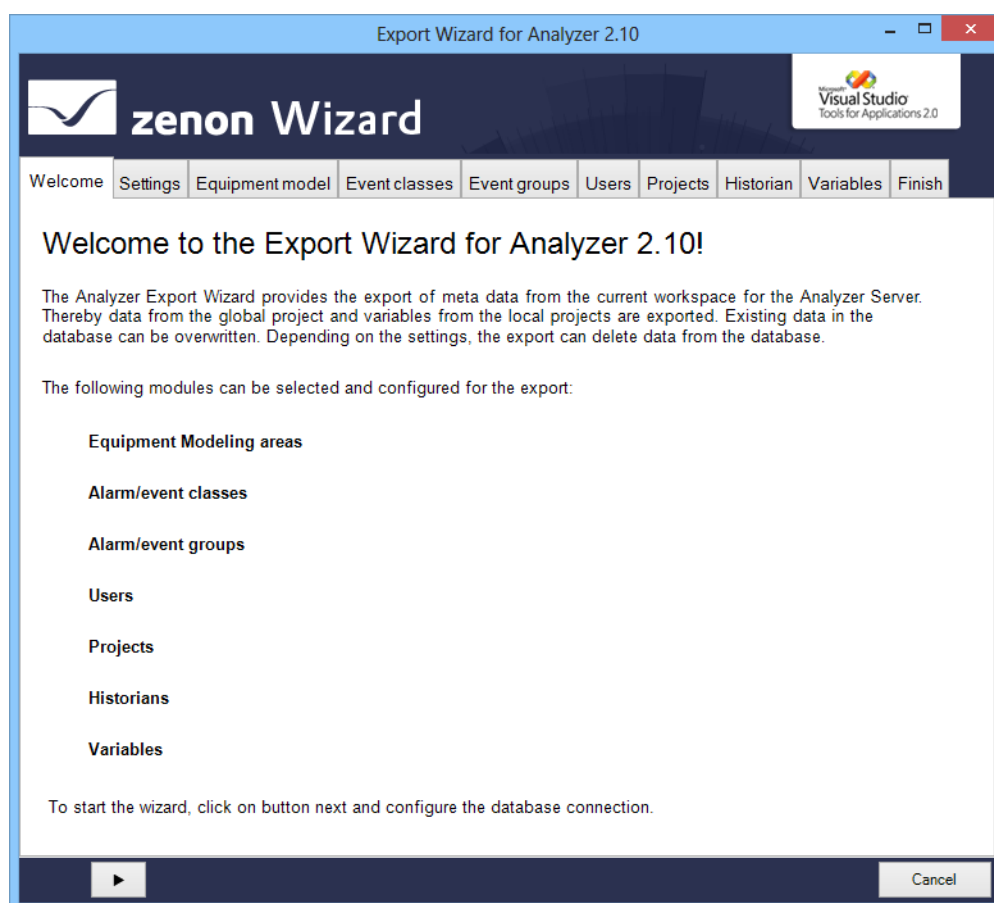
Configuration

When exporting with the Analyzer Export Wizard, all modules selected in the Settings (on page 42) tab are offered in sequence for detailed configuration. You get to the next level by clicking on the button with the **right arrow**. You can select individual tabs directly by clicking on the title of the tab.

The following tabs are available for configuration of the export:

- ▶ Settings (on page 42): Options for collection metadata
- ▶ Equipment model: (on page 46) Export of the model groups from the global project
- ▶ Event classes (on page 49): Alarm/Event classes from global project
- ▶ Event Event groups (on page 51): Alarm/event groups from global project

- ▶ Users (on page 53): User from global project
- ▶ Projects (on page 54): Projects from workspace
- ▶ Historian (on page 57): Archives of the selected projects
- ▶ Variables (on page 59): Variables of the selected projects
- ▶ Finish (on page 63): Start of the export and output of the result



Attention: Only one global project can be exported to the database! Workspaces with projects that are to be exported to the database must include this global project.

Navigation

Navigation through the tabs is carried out by means of the navigation bar in the lower area of the wizard window:



Button	Description
Arrow left	Goes back one tab in the wizard process.
Arrow right	Goes forward one tab in the wizard process.
Export	Exports the data to the Analyzer database. Is only active if the Finish tab is opened.
Cancel	Closes the wizard without exporting. When closing, a dialog asks if the configuration is to be saved <ul style="list-style-type: none">▶ Yes: writes the settings configured in the Settings (on page 42) tab to the registry and closes the wizard; the wizard is opened with these settings the next time it is restarted▶ No: closes the wizard without saving the configuration The configuration is saved for each specific user.

Individual tabs can also be selected by clicking directly on the title of the tab.

Settings

In this tab:

1. You define the database to which the wizard connects
2. You define general options for exporting

3. You start the data readout

Export Wizard for Analyzer 2.10

zenon Wizard

Welcome Settings Equipment model Event classes Event groups Users Projects Historian Variables Finish

Settings

Please verify the database settings and options.

In order to continue please load the data into the Analyzer Export Wizard.

Database settings

DB host: localhost

DB instance: ZA2

DB name: ZA_DATA

Authentication: Windows Authentication

User name:

Password: *****

☒ Remember password

Options

☐ Load every project of this workspace into the memory

☒ Keep the existing data in the Analyzer database

☒ Preselect existing Analyzer database content

Load Data

Load data

Export Cancel

Parameters	Description
Settings	Information and hints about current export processes.
Database settings	Connection settings to the Analyzer server.
DB host	Computer on which the database is located.
DB instance	Instance of the database.
DB name	Name of the database.
Authentication	Type of authentication: <ul style="list-style-type: none"> ▶ Windows Authentication: Windows login information is used. ▶ SQL Server Authentication: Login with data from an SQL server user.
User name	Entry of the user name. Only for login with SQL Server Authentication. Display only with Windows Authentication.
Password	Entry of the password. Only for login with SQL Server Authentication. No input possible with Windows Authentication.
Remember password	Password is saved for next connection. Only for login with SQL Server Authentication. Inactive for Windows Authentication.
Options	General options for the export.
Load every project of this workspace into the memory	Active: Loads all projects present in the workspace, even if they are not active and not set to Keep project in memory .
Keep the existing data in the Analyzer database	Active: Only entries from the workspace are written to the database. Inactive: Entries in the database are also updated or deleted. Exception: Projects are not deleted
Preselect existing Analyzer database content	Active: Entries already present in the database are preselected in the individual areas.
Load Data	
Load Data	Clicking on the button loads, depending on the Load every project of this workspace into the memory parameter - the data from the currently loaded project into the wizard. In doing so, a check is made to see if data is present in the Analyzer database. Pre-existing data is combined with the data

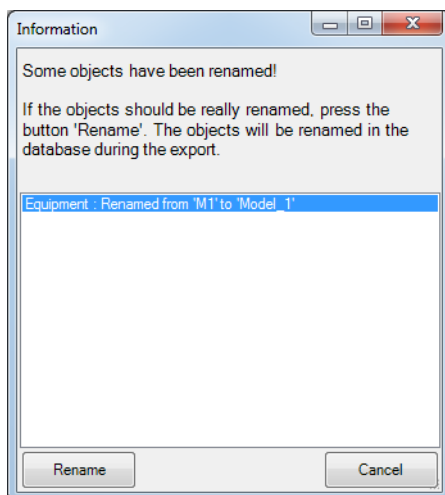
	<p>from the workspace and loaded into the wizard. In the event of naming conflicts, a dialog to rectify the error is called up.</p> <p>If the loading of data has been successfully concluded, the export can be configured in the following tabs.</p>
--	--

RENAMING OBJECTS

Objects must always be named the same in the Analyzer database and in zenon. If objects that are already present in the database are renamed in zenon, these changes can be accepted or rejected when the data is combined. Rejection of the changes leads to the wizard being closed, because only objects with identical names can be handled correctly.

DIALOG FOR RENAMING

In the event of conflicts in the naming of objects, a dialog for dealing with the error is opened:



Parameters	Description
List of amended objects	<p>Contains all objects that were changed. Previous name and new name are displayed. The following renamed objects are displayed in the list:</p> <ul style="list-style-type: none"> ‣ Name of the equipment models ‣ Names of the alarm/event classes ‣ Names of the alarm/event groups ‣ Project name ‣ Variable name <p>Exceptions:</p> <ul style="list-style-type: none"> ‣ Users are always recreated ‣ Archive names are only created once in the database as a visual name and can be overwritten in the zenon Analyzer
Rename	Renames all objects listed in the database, closes the dialog and stops reading in data.
Cancel	Leaves the previous name in the database, finishes reading in data and closes the wizard.

Equipment model

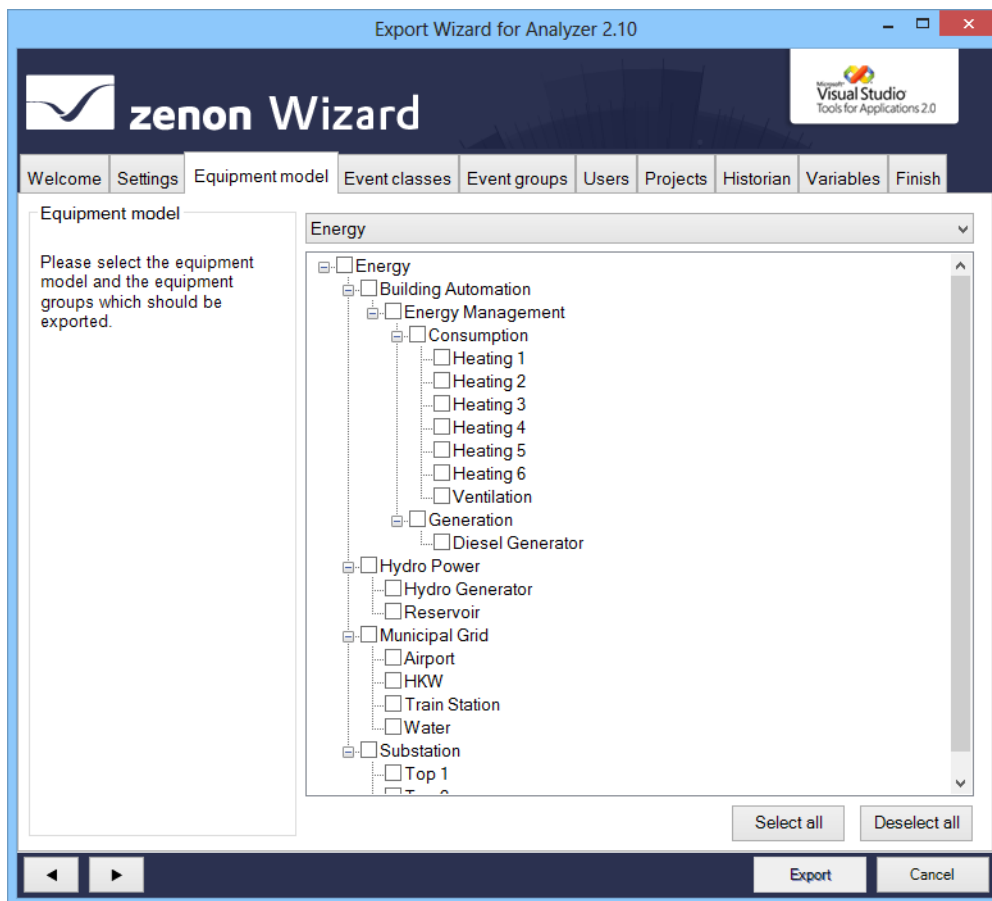
Configuration of the model group which should be exported from the global project.



Attention

Each equipment group in zenon may only be assigned to one individual time model.

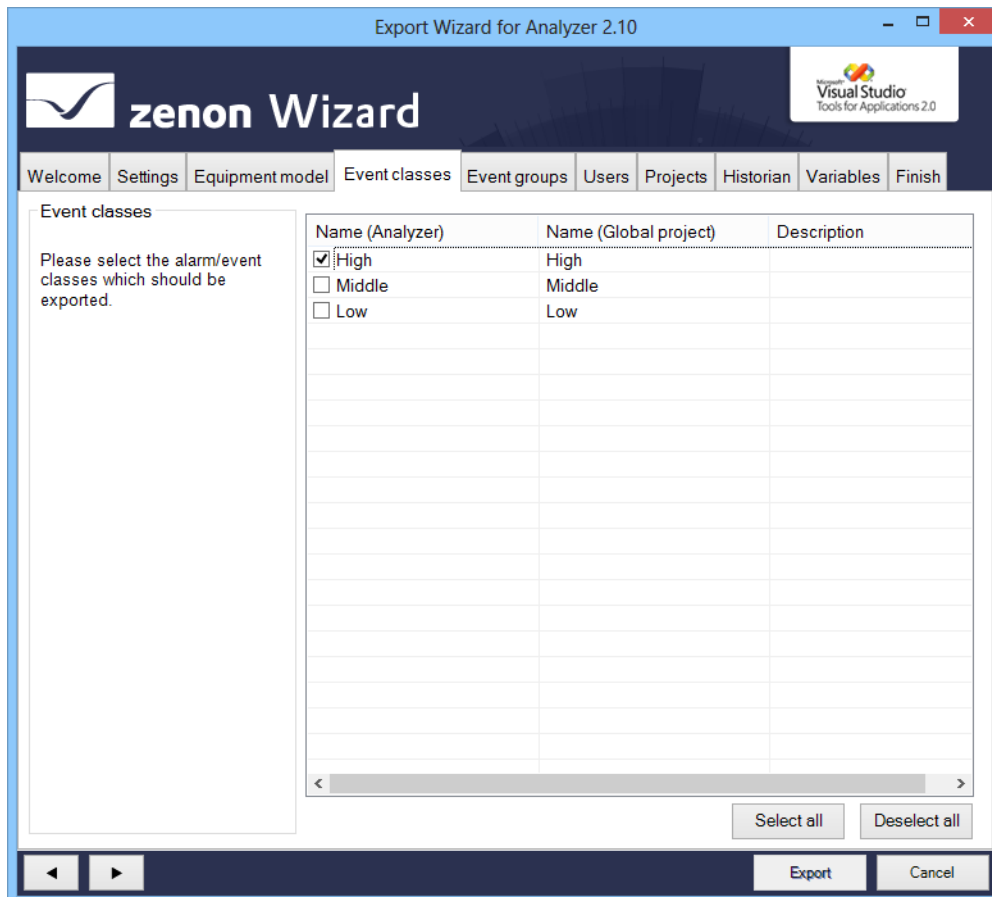
If several time model groups are assigned, the Analyzer Wizard Export uses the first that it finds and exports this to the metadata of the Analyzer. Other time model groups are ignored.



Parameters	Description
Equipment modeling	Information and notes on exporting.
Selection of equipment/medium	<p>Drop-down list to select what is offered in List of equipment models/media for configuration:</p> <ul style="list-style-type: none"> ▶ Plant: displays equipment models ▶ Media: displays media
List of equipment models/media	<p>List field with the possibility to select equipment models and model groups or media. To select an entry, activate the check box in front of the entry.</p> <p>In the list field the name, as it is stored in the database, is always displayed in the individual nodes. If the name was changed, the original name from the zenon project is displayed in brackets.</p> <p>Equipment groups that were deleted in the global project are no longer displayed.</p> <p>If, in the Settings tab, the option Keep the existing data in the Analyzer database was selected, amended objects in the database are deleted or updated.</p>
Select all	Clicking on the button selects all equipment groups
Deselect all	Clicking on the button deselects all equipment groups.

Alarm/event classes

Configuration of the alarm/event classes which should be exported from the global project.




Parameters	Description
Alarm/event classes	Information and notes on exporting.
List of the alarm/event classes	<p>List field with the possibility to select the alarm/event classes. To select an entry, activate the check box in front of the entry.</p> <p>Sorting: Clicking on the column identifier sorts the entries after this column upwards or downwards.</p> <p>Multiple selection: If several rows are highlighted, a click in the check box sets the options for all selected rows.</p> <p>Alarm/event classes that were deleted in the global project are no longer displayed here.</p> <p>If, in the Settings tab, the option Keep the existing data in the Analyzer database was selected, amended objects in the database are deleted or updated.</p>
Select all	Selects all entries in the list and activates the checkboxes.
Deselect all	Selects all entries in the list and deactivates the check boxes.


Event groups

Configuration of the alarm/event groups which should be exported from the global project.

Export Wizard for Analyzer 2.10



zenon Wizard



Welcome |
 Settings |
 Equipment model |
 Event classes |
 Event groups |
 Users |
 Projects |
 Historian |
 Variables |
 Finish

Event groups

Please select the alarm/event groups which should be exported.

Name (Analyzer)	Name (Global project)	Description
<input checked="" type="checkbox"/> Linde Order State	Linde Order State	
<input checked="" type="checkbox"/> Line Team State	Line Team State	
<input checked="" type="checkbox"/> Line Personal State	Line Personal State	
<input type="checkbox"/> Machine Operation Mode	Machine Operation Mode	
<input type="checkbox"/> Machine Program	Machine Program	
<input type="checkbox"/> Machine Operation State	Machine Operation State	
<input type="checkbox"/> Machine Alarm - Emerge...	Machine Alarm - Emergency	
<input type="checkbox"/> Machine Alarm - External	Machine Alarm - External	
<input type="checkbox"/> Machine Alarm - Equipm...	Machine Alarm - Equipment	

Select all Deselect all

<
>

Parameters	Description
Alarm/event groups	Information and notes on exporting.
List of the alarm/event groups	<p>List field in which you can select alarm/event groups. To select an entry, activate the check box in front of the entry.</p> <p>Sorting: Clicking on the column identifier sorts the entries after this column upwards or downwards.</p> <p>Multiple selection: If several rows are highlighted, a click in the check box sets the options for all selected rows.</p> <p>Alarm/event classes that were deleted in the global project are no longer displayed here.</p> <p>If, in the Settings tab, the option Keep the existing data in the Analyzer database was selected, amended objects in the database are deleted or updated.</p>
Select all	Selects all entries in the list and activates the checkboxes.
Deselect all	Selects all entries in the list and deactivates the check boxes.

Users

Configuration of the user which should be exported from the global project.

[illegible]


Parameters	Description
Users	Information and notes on exporting.
User List	<p>List field with selection possibility for users. To select an entry, activate the check box in front of the entry.</p> <p>Sorting: Clicking on the column identifier sorts the entries after this column upwards or downwards.</p> <p>Multiple selection: If several rows are highlighted, a click in the check box sets the options for all selected rows.</p> <p>If, in the Settings tab, the option Keep the existing data in the Analyzer database was selected, amended objects in the database are deleted or updated.</p> <p>If a user was renamed in zenon they are considered new and recreated in the project. The previous user is deleted.</p>
Select all	Selects all entries in the list and activates the checkboxes.
Deselect all	Selects all entries in the list and deactivates the check boxes.

Projects


Configuration of the local projects which should be exported. The names for the server and standby-server can be changed here. To do this:

1. Highlight the project in the list of projects
2. Enter the desired name for the server and standby-server

Export Wizard for Analyzer 2.10



zenon Wizard



Welcome | Settings | Equipment model | Event classes | Event groups | Users | **Projects** | Historian | Variables | Finish

Projects

Please select the projects which should be exported.

IMPORTANT:

Please verify the correct name of the server and standby server for each project.

Name (Analyzer)	Name (Workspace)	Description	Server	Standby
<input checked="" type="checkbox"/> TIMEF	TIMEF			
<input checked="" type="checkbox"/> MEWF	MEWF			

<>

Server :

Standby :

Select allDeselect all

<>

Export

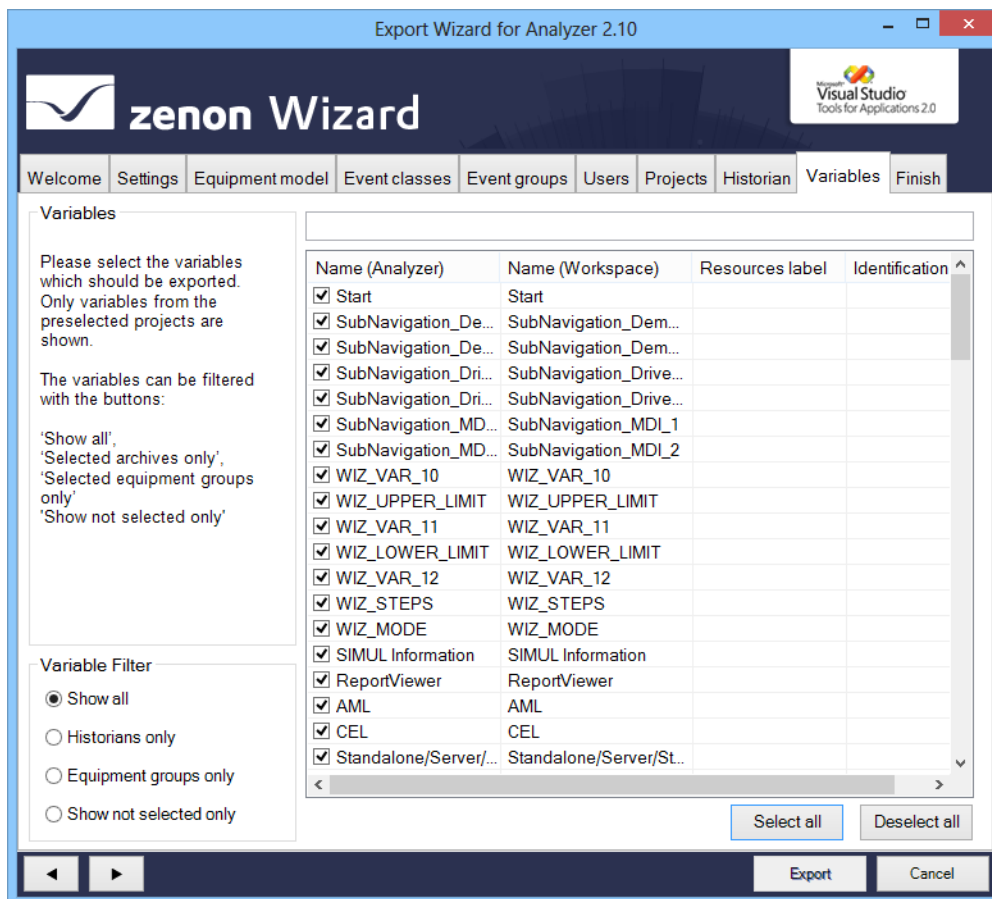
Cancel

Parameters	Description
Projects	Information and notes on exporting.
Project list	<p>List field with selection possibility for projects. To select an entry, activate the check box in front of the entry.</p> <p>Sorting: Clicking on the column identifier sorts the entries after this column upwards or downwards.</p> <p>Multiple selection: If several rows are highlighted, a click in the check box sets the options for all selected rows.</p> <p>If, in the Settings tab, the option Keep the existing data in the Analyzer database was selected, amended objects in the database are deleted or updated.</p>
Server	Address of the server for the project selected in the list window.
Standby	Address of the server for the project selected in the list window.
Select all	Selects all entries in the list and activates the checkboxes.
Deselect all	Selects all entries in the list and deactivates the check boxes.

Parameters	Description
Historian	Information and notes on exporting.
Archive list	<p>List field with possibility to select for archives. To select an entry, activate the check box in front of the entry.</p> <p>Sorting: Clicking on the column identifier sorts the entries after this column upwards or downwards.</p> <p>Multiple selection: If several rows are highlighted, a click in the check box sets the options for all selected rows.</p> <p>If, in the Settings tab, the option Keep the existing data in the Analyzer database was selected, amended objects in the database are deleted or updated.</p>
Select all	Selects all entries in the list and activates the checkboxes.
Deselect all	Selects all entries in the list and deactivates the check boxes.

Variables

Configuration of the variables from the local project which should be exported. When selecting variables, the entries offered can be prefiltered.



Parameters	Description
Variables	Information and notes on exporting.
Variable Filter	Selection of the variable filter using the following option fields: <ul style="list-style-type: none"> ▶ Show all: All variables are displayed. ▶ Historians only: Only archive variables are displayed. ▶ Equipment groups only: Only variables are displayed which are part of the selected Equipment model (on page 46). ▶ Show not selected only: Only variables that were not selected are displayed.
Filter row	Input of alphanumerical characters according to which the List of variables is to be filtered.
List of variables	List field with possibility to select variables. To select an entry, activate the check box in front of the entry. Sorting : Clicking on the column identifier sorts the entries after this column upwards or downwards. Multiple selection : If several rows are highlighted, a click in the check box sets the options for all selected rows. If, in the Settings tab, the option Keep the existing data in the Analyzer database was selected, amended objects in the database are deleted or updated.
Select all	Selects all entries in the list and activates the checkboxes.
Deselect all	Selects all entries in the list and deactivates the check boxes.

RULES FOR THE EXPORT OF VARIABLES WITH REACTION MATRICES

If linked variables are exported with reaction matrices, the limit value text and the status value of the reaction matrix statuses are also exported to the **STATUSNAME** table in the metadata database of the Analyzer. Because only certain states can be evaluated in the reports, they must be pre-sorted using the wizard.

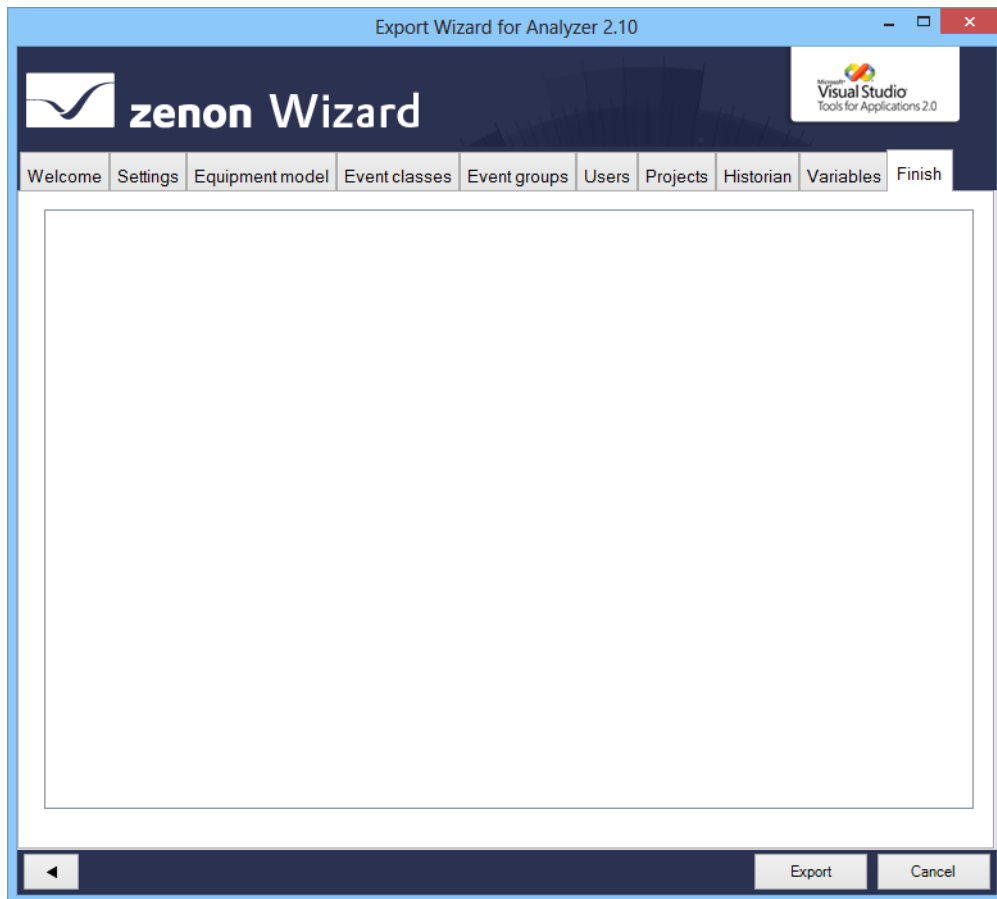
The following statuses of the reaction matrices can be exported or excluded:

Rema	Rules
Numeric	<ul style="list-style-type: none"> ▶ The default status is ignored. ▶ If several statuses with the same status and limit value condition are set, then only the first status and its status text are exported. ▶ Only statuses with a value that is equal to a limit value are exported (limit value condition). ▶ The limit value conditions <code>greater than</code>, <code>less than</code>, <code>as desired</code> and <code>range</code> are ignored.
Multi numeric	<ul style="list-style-type: none"> ▶ Correspond to the rules for numeric. ▶ Substatuses are also ignored.
Binary	<ul style="list-style-type: none"> ▶ Only statuses that have value bits set consistently from right to left in the bit mask (0 or 1) are set. For example: <pre> 10.. 1 100 100 1 </pre> The following are ignored, for example <pre> 1 00 1 10..100 1 </pre>
Multi binary	<ul style="list-style-type: none"> ▶ Correspond to the rules for Binary. ▶ In addition, substatuses and statuses are also ignored with edge definitions in the bit mask.
String	<ul style="list-style-type: none"> ▶ Are completely ignored and not exported.

Finish

To export the configured data:

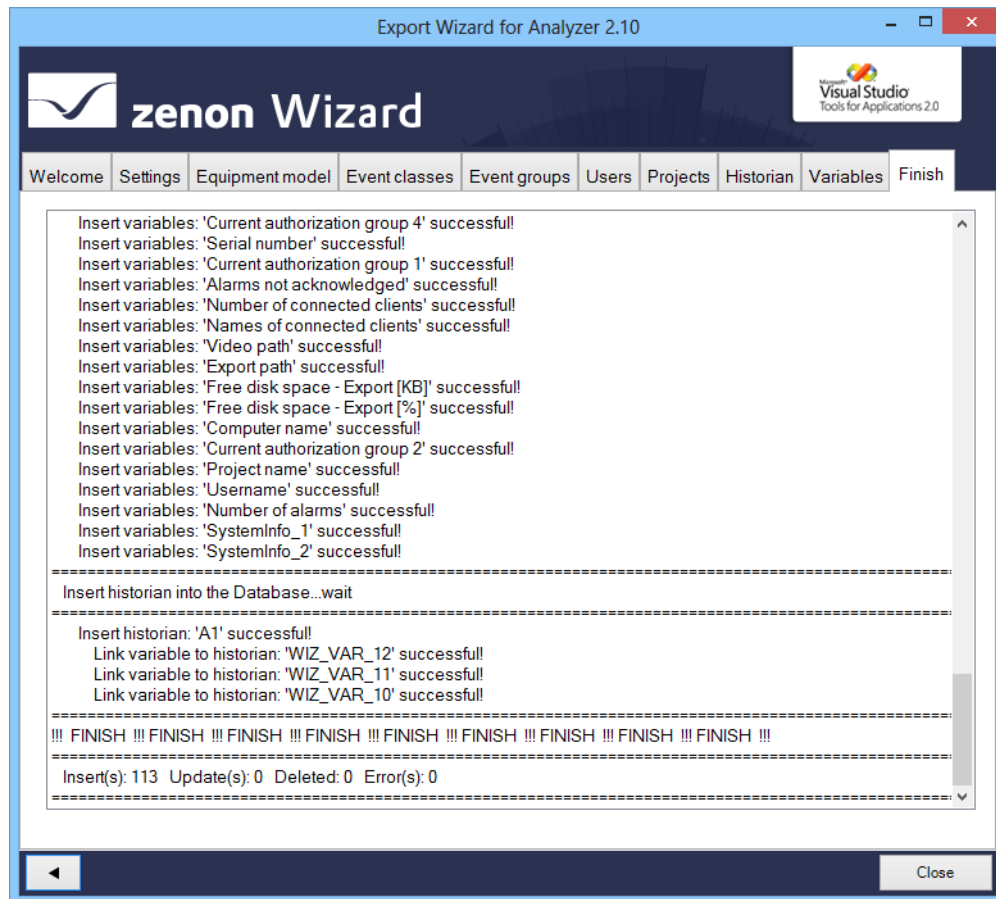
1. In the Finish tab, click on the **Export** button



2. the export is started

- The exported elements are shown in the output window with the attendant success and error messages

In addition, the number of objects that have been added, replaced or deleted, and the number of errors that occurred are shown.



- Click on **Close** to close the wizard

RECONFIGURING THE WIZARD

To reconfigure the wizard:

- Open the Settings (on page 42) tab
- click on button **Load data**
- Configure the tabs

Close wizard

To close the wizard:

- Click on the **Cancel** button

- ▶ a dialog prompts whether the configuration should be saved
 - Clicking on **yes** writes the settings configured in the Settings (on page 42) tab to the registry and closes the wizard; the wizard is opened with this configuration next time it is started
 - Click on **no** closes the wizard and the configuration is not saved.

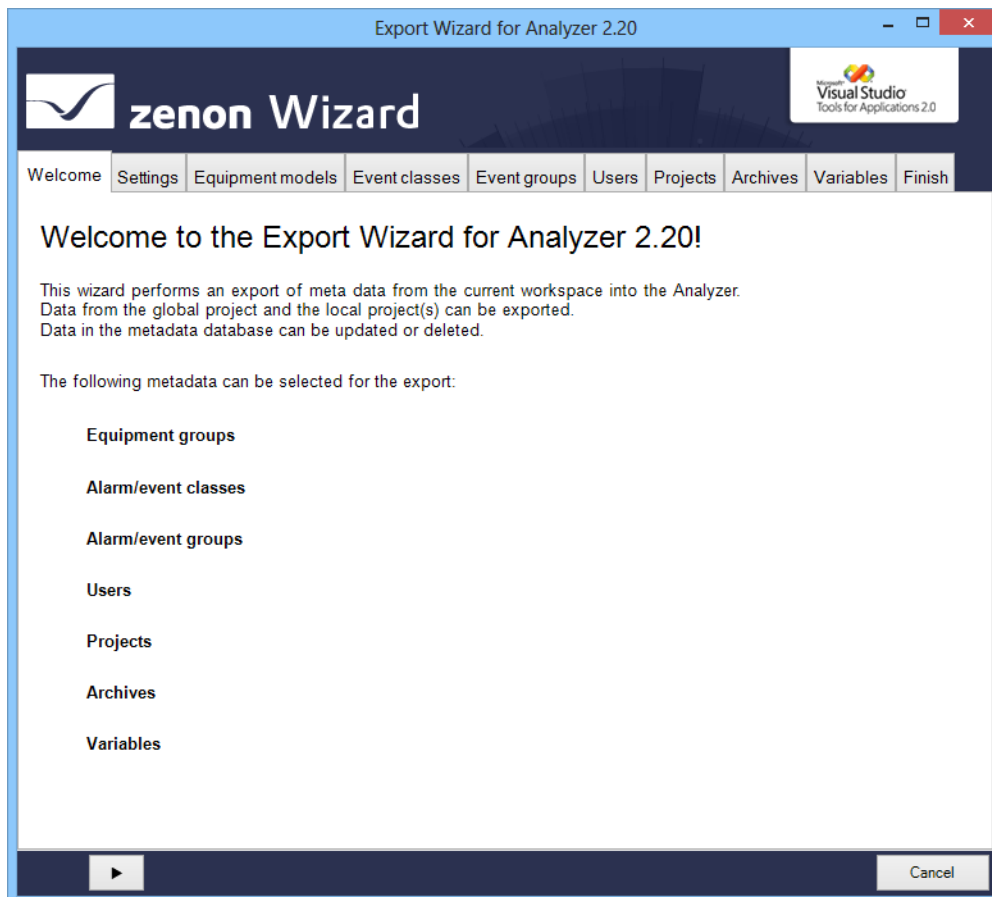
3.1.2 Export Wizard for Analyzer 2.20

The zenon Analyzer Export Wizard 2.20 supports the export of metadata from zenon from version 7.0 SP0 for the zenon Analyzer 2.20.

The following can be exported:

- ▶ Data from the global project
 - Equipment models
 - Alarm/event classes
 - Alarm/event groups
 - User
- ▶ Data from selected projects:
 - Archives
 - Variables, with:
 - **Visual name** (see `visual names` (on page 62) section)
 - **Meaning** (see `meaning` (on page 62) section)
 - **Parameter for waterfall diagram** (see `parameter waterfall chart` (on page 63) section)

- Sankey diagrams (see **Sankey charts** (on page 37) section)



Note: The wizard is only available in English.

COMPATIBILITY:

The **Analyzer Export Wizard** works with zenon from version 7.10 SP0. There is a separate wizard available for each supported version of zenon.

Sankey diagrams

The wizard automatically reads the definition for Sankey diagrams from all activated projects (on page 42) and the global project. These are in the zenon project folder `\Files\Others`.

In doing so, the following applies:

- Only valid XML files that were created for the zenon Analyzer are taken into account. Diagrams that have the **True** and **Valid** attributes set to **True** in the **sankey** XML file are valid. All other Sankey diagrams are ignored and not loaded.

- ▶ All Sankey diagram definitions are written to the zenon Analyzer metadata database in the **SANKEY_DIAGRAMM** tables, **SANKEY_OBJECT** and **SANKEY_VARIABLE**.
- ▶ Diagrams are added depending on the setting for the **Keep the existing data in the Analyzer database** option (on page 42):
 - **Active:** Only new diagrams are added to the Analyzer database.
 - **Inactive:** New diagrams are added and existing diagrams are updated.
- ▶ Diagrams deleted in zenon (XML files) are not deleted in the Analyzer. Diagrams can only be deleted in the database directly in zenon Analyzer.
- ▶ For the adding or updating of diagrams, the following must apply to all required zenon variables:
 - Be selected via the **variables** (on page 59) tab
or
 - already be in the database

If variables that are required for the Sankey diagram are not selected for export, the Sankey diagram is not exported.
- ▶ If the Sankey diagram already exists, the metadata database tables are updated according to the changes.
- ▶ Clicking on the **Export** button in the **Finish** tab starts the export of the Sankey diagrams from zenon in to zenon Analyzer.
The diagrams are only exported once all other data such as projects or variables have been exported. The success of the export is shown in the message list of the **Finish** tab.



Attention

The import of Sankey diagrams is carried out automatically in the background. There are no user interface or configuration options available.

Install and call up wizard

The wizard is automatically installed with zenon for each supported version of zenon Analyzer.

STARTING THE WIZARD

*For wizards to be displayed, the settings for VBA and/or VSTA must be set correctly in file **zenon6.ini**:*

[VBA]

EIN=1

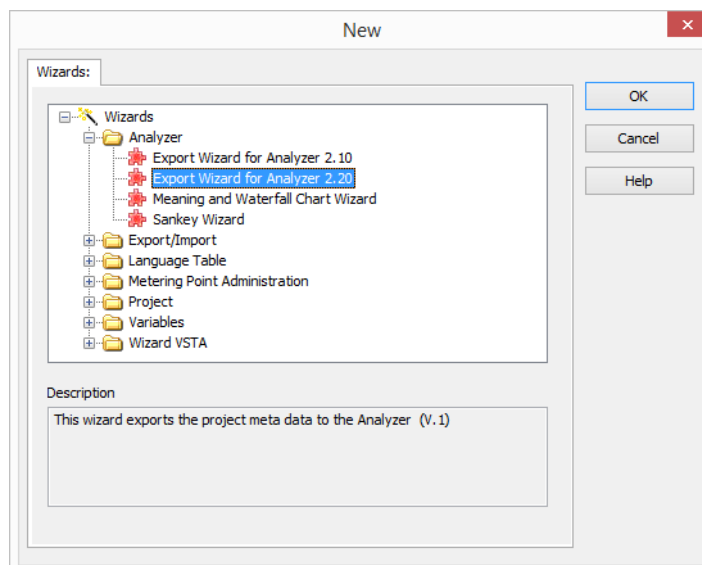
[VSTA]

ON=1

If VSTA wizards are not displayed although the settings are correct, set entry **LOADED=** to 1 in area [VSTA].

To start the wizard:

1. In zenon open menu **File**
or press the shortcut **Alt+F12**
2. Select the entry **Wizards**.
3. The selection dialog is opened
4. Navigate to the **Analyzer** node
5. Select the desired version of the **Analyzer Export Wizard**.

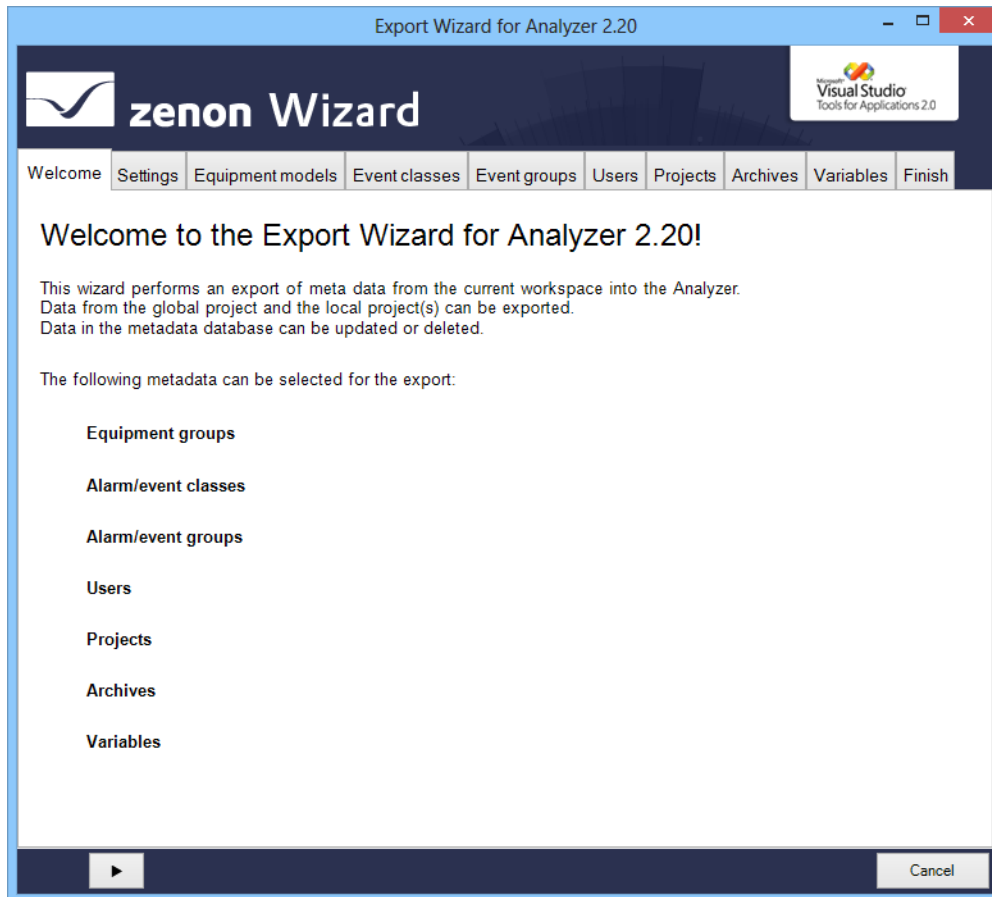


6. Start the wizard by clicking on **OK**

Start window

When the wizard is opened, you receive an overview page that lists all exportable objects.

The individual objects are configured for the export on individual tabs.



Click on the button with the **arrow** to navigate through the configuration (on page 40) of the export.

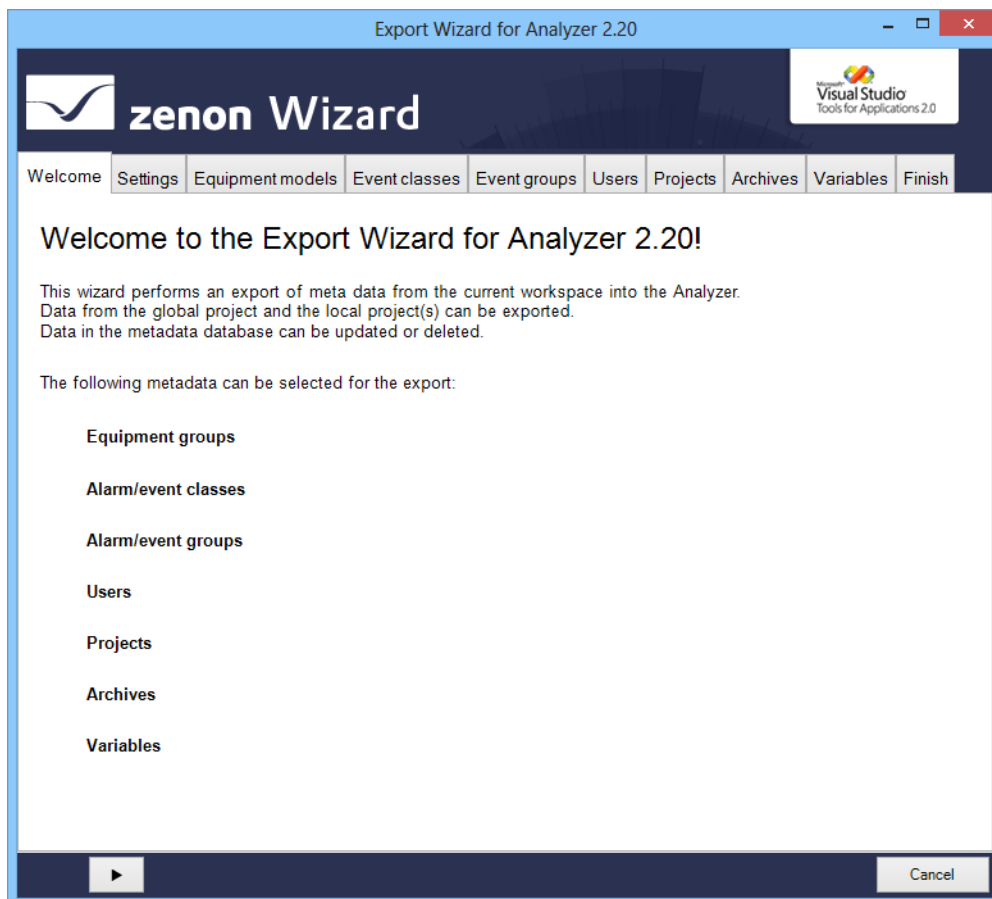
Configuration

When exporting with the Analyzer Export Wizard, all modules available for export are offered for detailed configuration. Only the selected data is exported. The export of Sankey diagrams (on page 37) is carried out in the background, without the possibility of configuration. You get to the next level by clicking on the button with the **right arrow**. You can also select individual tabs directly by clicking on the title of the tab.

The following tabs are available for configuration of the export:

- ▶ Settings (on page 42): Options for the export of metadata
- ▶ Equipment models: (on page 46) Export of the equipment groups from the global project
- ▶ Event classes (on page 49): Alarm/Event classes from global project
- ▶ Event groups (on page 51): Alarm/event groups from global project
- ▶ Users (on page 53): User from global project

- ▶ Projects (on page 54): Projects from workspace
- ▶ Archives (on page 57): Archives of the selected projects
- ▶ Variables (on page 59): Variables of the selected projects
- ▶ Finish (on page 63): Start of the export and output of the result



Navigation

Navigation through the tabs is carried out by means of the navigation bar in the lower area of the wizard window:



Button	Description
Arrow left	Goes back one tab in the wizard process.
Arrow right	Goes forward one tab in the wizard process.
Export	Exports the data to the Analyzer database. Is only active if the Finish tab is opened.
Cancel	Closes the wizard without exporting. When closing, a dialog asks if the configuration is to be saved <ul style="list-style-type: none"> ▶ Yes: Writes the settings set in the Settings (on page 42) tab to the registry and closes the wizard. The wizard is opened with this configuration the next time it is started. ▶ No: Closes the wizard without saving the configuration The configuration is saved for each specific user.

Individual tabs can also be selected by clicking directly on the title of the tab.

Settings

In this tab:

1. You define the database to which the wizard connects
2. You define general options for exporting

3. You start the data readout

Export Wizard for Analyzer 2.20

zenon Wizard

Welcome Settings Equipment models Event classes Event groups Users Projects Archives Variables Finish

Settings

Please check the database settings and options.

In order to continue load the data into the Analyzer Export Wizard by clicking on the "Load data" button.

Database settings

DB host: localhost

DB instance: ZA2

DB name: ZA_DATA

Authentication: Windows Authentication

User name:

Password: *****

☒ Remember password

Projects

☒ ARC
☒ RGM
☒ INI
☒ TIMEF
☒ HISTORIAN
☐ FP
☐ MU
☐ FRAMES
☐ FIRSTSTEPS
☐ MEWF

Options

☒ Keep the existing data in the Analyzer database

☒ Preselect existing Analyzer database content

Load Data

Load data

Cancel

SETTINGS

Parameters	Description
Settings	Information and hints about current export processes.

DATABASE SETTINGS

Parameters	Description
Database settings	Connection settings to the Analyzer server.
DB host	Computer on which the database is located.
DB instance	Instance of the database.
DB name	Name of the database.
Authentication	Type of authentication: <ul style="list-style-type: none"> ▶ Windows Authentication: Windows login information is used. ▶ SQL Server Authentication: Login with data from an SQL server user.
User name	Entry of the user name. Only for login with SQL Server Authentication. Display only for Windows Authentication.
Password	Entry of the password. Only for login with SQL Server Authentication. No input possible with Windows Authentication.
Remember password	Password is saved for next connection. Only for login with SQL Server Authentication. Inactive with Windows Authentication.

PROJECTS

Parameters	Description
Projects	List of the available projects in the current zenon workspace. The checkbox shows whether the data of the project is used: <ul style="list-style-type: none"> ▶ Active: Project is used. Projects that are active in the memory are pre-selected. Inactive projects can be added by means of selection with a checkbox.

OPTIONS

Parameters	Description
Options	General options for the export.
Keep the existing data in the Analyzer database	<ul style="list-style-type: none"> ▶ Active: Only completely new entries from the workspace are written to the database. Note: If linkings from variables, archives etc. are changed or new ones are created, these are not transferred. If these are also transferred, the checkbox must be set to Inactive ▶ Inactive: Entries in the database are also updated or deleted. New entries are created, amended entries are updated and deleted entries are removed. Exception: Projects and Sankey diagrams are not deleted.
Preselect existing Analyzer database content	<ul style="list-style-type: none"> ▶ Active: Entries already present in the database are preselected in the individual areas.

LOAD DATA

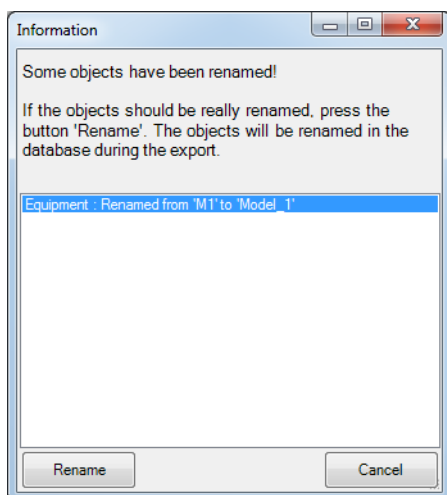
Load Data	<p>Clicking on the button loads, depending on the Load every project of this workspace into the memory parameter - the data from the currently loaded project into the wizard.</p> <p>In doing so, a check is made to see if data is present in the Analyzer database. Pre-existing data is combined with the data from the workspace and loaded into the wizard. In the event of naming conflicts, a dialog to rectify the error is called up.</p> <p>If the loading of data has been successfully concluded, the export can be configured in the following tabs.</p>
-----------	---

RENAMING OBJECTS

Objects must always be named the same in the Analyzer database and in zenon. If objects that are already present in the database are renamed in zenon, these changes can be accepted or rejected when the data is combined. Rejection of the changes leads to the wizard being closed, because only objects with identical names can be handled correctly.

DIALOG FOR RENAMING

In the event of conflicts in the naming of objects, a dialog for dealing with the error is opened:



Parameters	Description
List of amended objects	<p>Contains all objects that were changed. Previous name and new name are displayed. The following renamed objects are displayed in the list:</p> <ul style="list-style-type: none"> ‣ Name of the equipment models ‣ Names of the alarm/event classes ‣ Names of the alarm/event groups ‣ Project name ‣ Variable name <p>Exceptions:</p> <ul style="list-style-type: none"> ‣ Users are always recreated ‣ Archive names are only created once in the database as a Visualname and can be overwritten in the zenon Analyzer
Rename	Renames all objects listed in the database, closes the dialog and stops reading in data.
Cancel	Leaves the previous name in the database, finishes reading in data and closes the wizard.

Equipment models

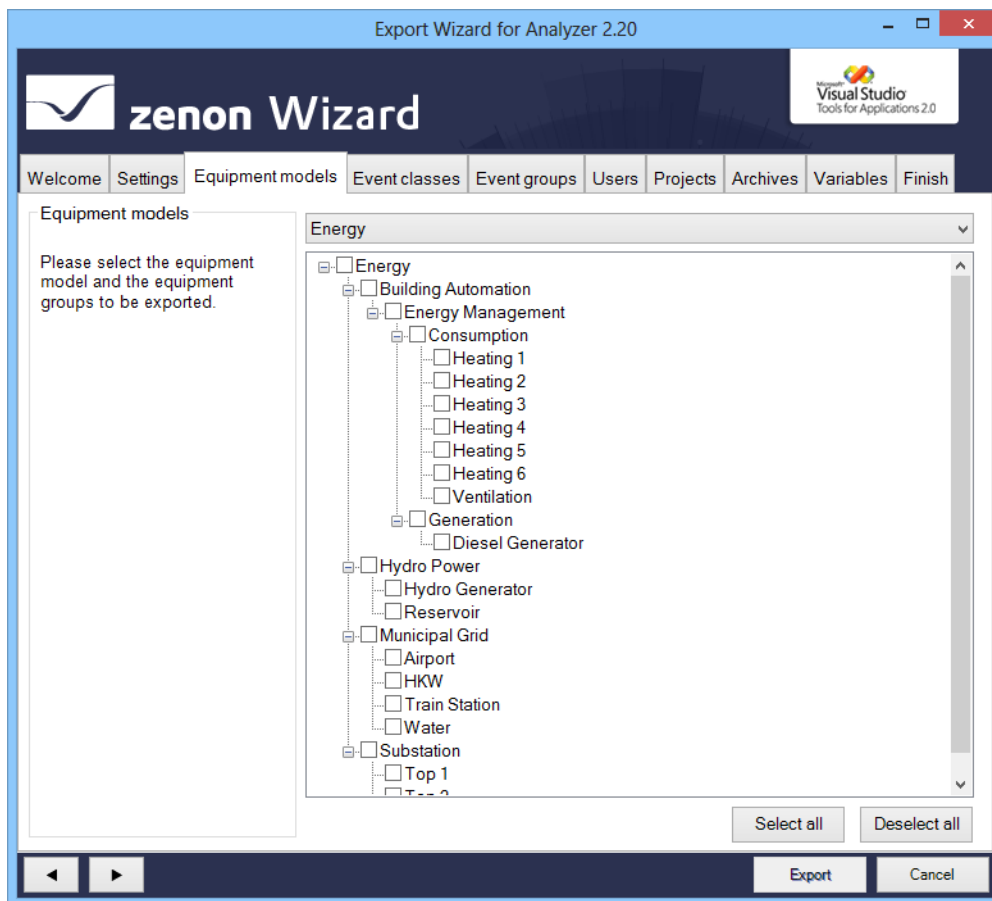
Configuration of the model group which should be exported from the global project.



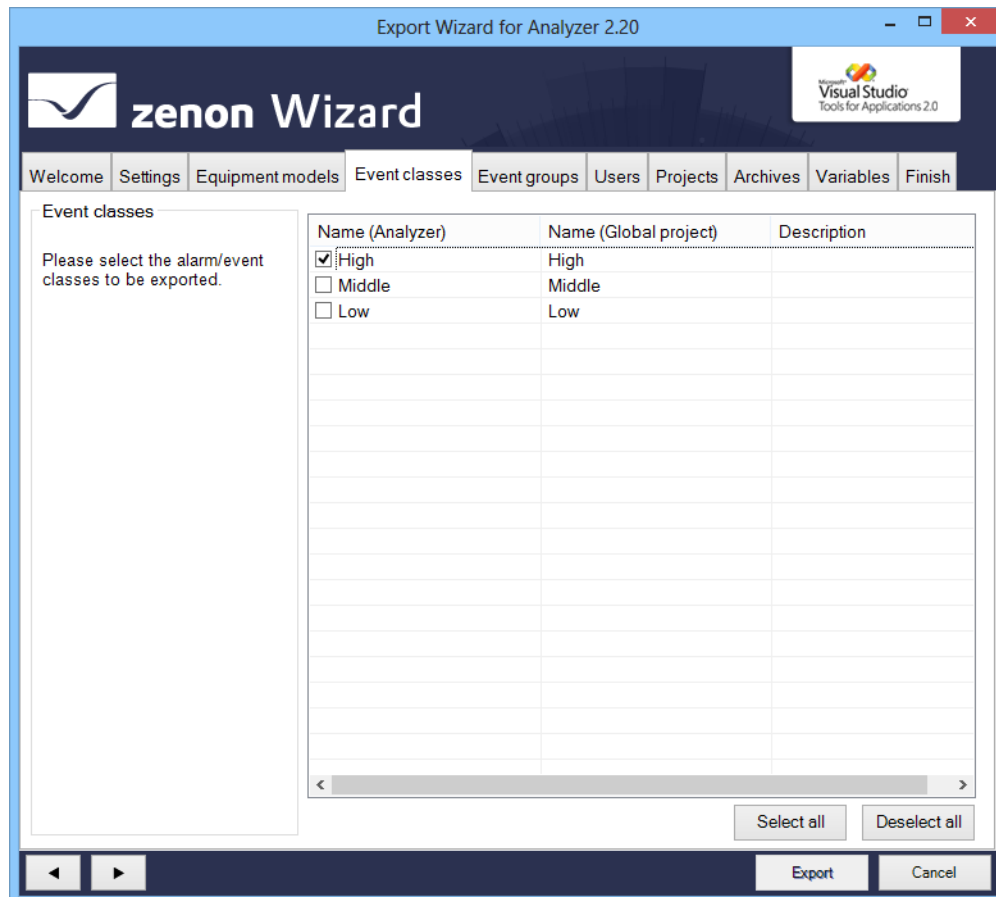
Attention

Each equipment group in zenon may only be assigned to one individual time model.

If several time model groups are assigned, the Analyzer Wizard Export uses the first that it finds and exports this to the metadata of the Analyzer. Other time model groups are ignored.



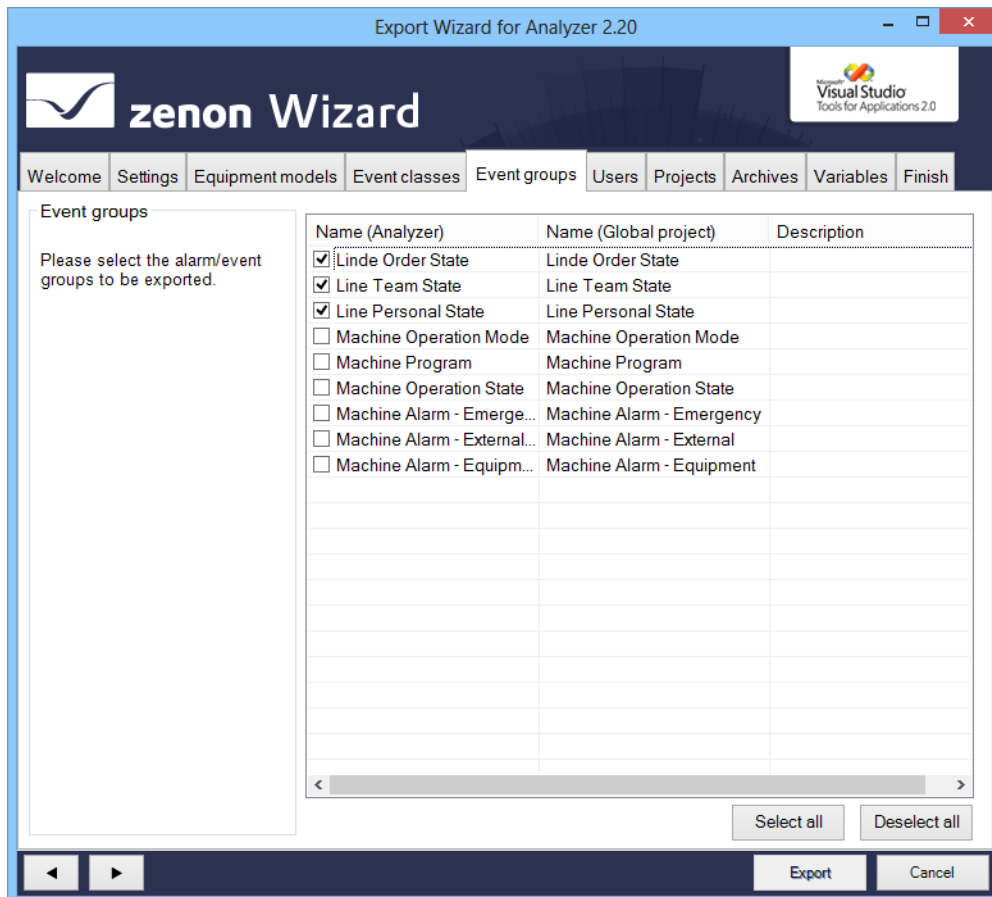
Parameters	Description
Equipment models	Information and notes on exporting.
Selection of equipment/medium	Drop-down list to select a model that is offered in the Equipment models/media list for configuration.
List of equipment models/media	<p>List field with the possibility to select equipment models and model groups or media. To select an entry, activate the check box in front of the entry.</p> <p>In the list field the name, as it is stored in the database, is always displayed in the individual nodes. If the name was changed, the original name from the zenon project is displayed in brackets.</p> <p>Equipment groups that were deleted in the global project are no longer displayed.</p> <p>If, in the Settings tab, the Keep the existing data in the Analyzer database option is deselected, amended objects in the database are deleted or updated.</p>
Select all	Clicking on the button selects all equipment groups
Deselect all	Clicking on the button deselects all equipment groups.



Parameters	Description
Event classes	Information and notes on exporting.
List of the alarm/event classes	<p>List field with the possibility to select the alarm/event classes. To select an entry, activate the check box in front of the entry.</p> <p>Sorting: Clicking on the column identifier sorts the entries after this column upwards or downwards.</p> <p>Multiple selection: If several lines are highlighted, the selection applies for all selected lines.</p> <p>Alarm/event classes that were deleted in the global project are no longer displayed here.</p> <p>If, in the Settings tab, the Keep the existing data in the Analyzer database option is deselected, amended objects in the database are deleted or updated.</p>
Select all	Selects all entries in the list and activates the checkboxes.
Deselect all	Selects all entries in the list and deactivates the check boxes.

Event groups

Configuration of the alarm/event groups which should be exported from the global project.



Parameters	Description
Event groups	Information and notes on exporting.
List of the alarm/event groups	<p>List field in which you can select alarm/event groups. To select an entry, activate the check box in front of the entry.</p> <p>Sorting: Clicking on the column identifier sorts the entries after this column upwards or downwards.</p> <p>Multiple selection: If several lines are highlighted, the selection applies for all selected lines.</p> <p>Alarm/event classes that were deleted in the global project are no longer displayed here.</p> <p>If, in the Settings tab, the Keep the existing data in the Analyzer database option is deselected, amended objects in the database are deleted or updated.</p>
Select all	Selects all entries in the list and activates the checkboxes.
Deselect all	Selects all entries in the list and deactivates the check boxes.

Users

Configuration of the user which should be exported from the global project.

The screenshot shows the 'Export Wizard for Analyzer 2.20' window. The title bar includes standard Windows controls (minimize, maximize, close) and the text 'Export Wizard for Analyzer 2.20'. The main header area features the 'zenon Wizard' logo on the left and the 'Microsoft Visual Studio Tools for Applications 2.0' logo on the right. Below the header is a horizontal tab bar with tabs labeled 'Welcome', 'Settings', 'Equipment models', 'Event classes', 'Event groups', 'Users', 'Projects', 'Archives', 'Variables', and 'Finish'. The 'Users' tab is currently selected. On the left side of the 'Users' tab, there is a large white box containing the text 'Please select the users to be exported.' To the right of this box is a table with three columns: 'Name (Analyzer)', 'Name (Global project)', and 'Description'. The table contains two rows of data: one for 'JDoe' (John Doe) and one for 'JaneD' (Jane Doe), each preceded by an unchecked checkbox. At the bottom of the table is a scrollbar. Below the table are two buttons: 'Select all' and 'Deselect all'. At the very bottom of the window is a dark blue footer bar with navigation arrows on the left and 'Export' and 'Cancel' buttons on the right.

Parameters	Description
Users	Information and notes on exporting.
User List	<p>List field with selection possibility for users. To select an entry, activate the check box in front of the entry.</p> <p>Sorting: Clicking on the column identifier sorts the entries after this column upwards or downwards.</p> <p>Multiple selection: If several lines are highlighted, the selection applies for all selected lines.</p> <p>If, in the Settings tab, the Keep the existing data in the Analyzer database option is deselected, amended objects in the database are deleted or updated.</p> <p>If a user was renamed in zenon they are considered new and recreated in the project. The previous user is deleted.</p>
Select all	Selects all entries in the list and activates the checkboxes.
Deselect all	Selects all entries in the list and deactivates the check boxes.

Projects

Configuration of the local projects which should be exported. The names for **Server 1** and **Server 2** can be changed here.

To change the name of a Server or Standby Server:

1. Highlight the project in the list of projects.
2. Enter the desired name for **Server 1** and **Server 2**.

zenon Wizard

Visual Studio
Tools for Applications 2.0

Welcome Settings Equipment models Event classes Event groups Users **Projects** Archives Variables Finish

Projects

Please select the projects to be exported.

IMPORTANT:
Please check the name of the Server1 and Server2 for each project.

Name (Analyzer)	Name (Workspace)	Description	Server1	Server2
<input checked="" type="checkbox"/> ARC	ARC			
<input checked="" type="checkbox"/> RGM	RGM			
<input type="checkbox"/> INI	INI			
<input type="checkbox"/> TIMEF	TIMEF			
<input checked="" type="checkbox"/> HISTORIAN	HISTORIAN			

Server1:

Server2:

Select all Deselect all

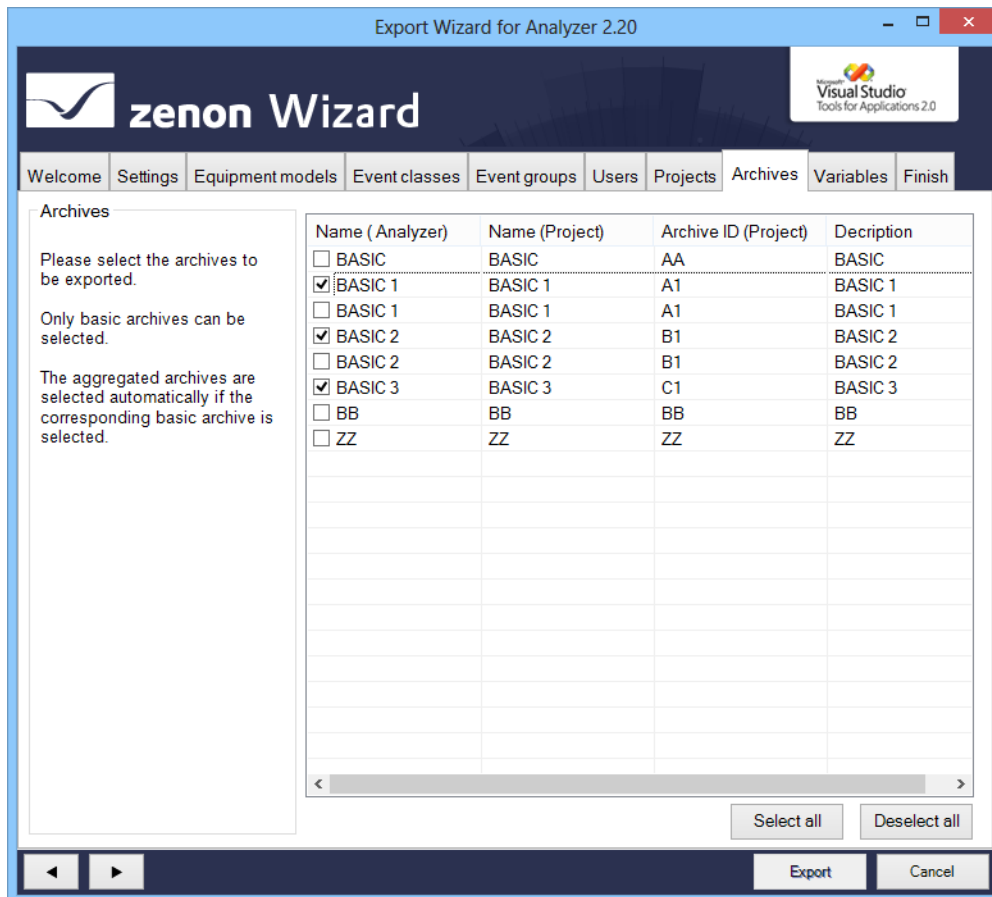
◀ ▶

Export Cancel

Parameters	Description
Projects	Information and notes on exporting.
Project list	<p>List field with selection possibility for projects. To select an entry, activate the check box in front of the entry.</p> <p>Sorting: Clicking on the column identifier sorts the entries after this column upwards or downwards.</p> <p>Multiple selection: If several lines are highlighted, the selection applies for all selected lines.</p> <p>If, in the Settings tab, the Keep the existing data in the Analyzer database option is deselected, amended objects in the database are deleted or updated.</p>
Server 1	Address of the Server 1 for the project selected in the list window.
Server 2	Address of the Server 2 for the project selected in the list window.
Select all	Selects all entries in the list and activates the checkboxes.
Deselect all	Selects all entries in the list and deactivates the check boxes.

Archives

Selection of the archive from the selected projects (on page 54). Only base archives are displayed. Aggregated archives are not displayed in the list, but are also selected with the base archives and written to the database.



Parameters	Description
Archives	Information and notes on exporting.
Archive list	<p>List field with possibility to select for archives. To select an entry, activate the check box in front of the entry.</p> <p>Sorting: Clicking on the column identifier sorts the entries after this column upwards or downwards.</p> <p>Multiple selection: If several lines are highlighted, the selection applies for all selected lines.</p> <p>If, in the Settings tab, the Keep the existing data in the Analyzer database option is deselected, amended objects in the database are deleted or updated.</p>
Select all	Selects all entries in the list and activates the checkboxes.
Deselect all	Selects all entries in the list and deactivates the check boxes.

Parameters	Description
Variables	Information and notes on exporting.
Display	<p>Selection of which variables are displayed, via the following option fields:</p> <ul style="list-style-type: none"> ▶ All: All variables are displayed. ▶ Selected: Only variables that have already been selected are displayed. ▶ Unselected: Only variables that have not yet been selected are displayed.
Variable filter	<p>Selection of the variable filter using the following option fields:</p> <ul style="list-style-type: none"> ▶ All: All variables are displayed. ▶ Archives: Only archive variables are displayed. ▶ Equipment groups: Only variables are displayed which are part of the selected Equipment model (on page 46).
Filter row	Input of alphanumerical characters according to which the List of variables is to be filtered.
List of variables	<p>List field with possibility to select variables. To select an entry, activate the check box in front of the entry.</p> <p>The following are displayed:</p> <ul style="list-style-type: none"> ▶ Name (Analyzer): Name in zenon Analyzer. ▶ Name (Workspace): Can be issued from zenon 7.20 in the Editor by means of the Visual name property. Must be unique in the project. See also chapter Visual name (on page 62) ▶ Meaning: Can be issued from zenon 7.20 in the Editor by means of the Meaning property. See also chapter Meaning (on page 62) ▶ Ressource label: corresponds to the Resources label property in zenon. Is used for zenon up to and including version 7.11 for meaning (on page 62) and parameter waterfall diagram (on page 63). From version 7.20, there are separate properties available for this in zenon. ▶ Identification: It corresponds to the Identification property in zenon. <p>Sorting: Clicking on the column identifier sorts the entries after this column upwards or downwards.</p> <p>Multiple selection: If several lines are highlighted, the selection applies for all selected lines.</p> <p>If, in the Settings tab, the Keep the existing data in the Analyzer database option is deselected, amended objects in the</p>

	database are deleted or updated.
Select all	Selects all entries in the list and activates the checkboxes.
Deselect all	Selects all entries in the list and deactivates the check boxes.

RULES FOR THE EXPORT OF VARIABLES WITH REACTION MATRICES

If linked variables are exported with reaction matrices, the limit value text, the limit value color and the status value of the reaction matrix statuses are also exported to the **STATUSNAME** table in the metadata database of the Analyzer. Because only certain states can be evaluated in the reports, they must be pre-sorted using the wizard.

The following statuses of the reaction matrices can be exported or excluded:

Rema	Rules
Numeric	<ul style="list-style-type: none"> ▶ The default status is ignored. ▶ If several statuses with the same status and limit value condition are set, then only the first status and its status text are exported. ▶ Only statuses with a value that is equal to a limit value are exported (limit value condition). ▶ The limit value conditions <code>greater than</code>, <code>less than</code>, <code>as desired</code> and <code>range</code> are ignored.
Multi numeric	<ul style="list-style-type: none"> ▶ Correspond to the rules for numeric. ▶ Substatuses are also ignored.
Binary	<ul style="list-style-type: none"> ▶ Only statuses that have value bits set consistently from right to left in the bit mask (0 or 1) are set. For example: <pre> 10.. 1 100 100 1 </pre> The following are ignored, for example <pre> 1 00 1 10..100 1 </pre>
Multi binary	<ul style="list-style-type: none"> ▶ Correspond to the rules for Binary. ▶ In addition, substatuses and statuses are also ignored with edge definitions in the bit mask.
String	<ul style="list-style-type: none"> ▶ Are completely ignored and not exported.

IMPORT OF VARIABLE INFORMATION FROM ZENON

The following properties in the zenon **Analyzer** variable properties group provide information for reports in the zenon Analyzer:

- ▶ **Visual name:** Entry of a display name of the variable in zenon Analyzer. This must be unique in the project. The check is not carried out when issued in zenon, but when imported into zenon Analyzer. If this property is changed after the first export to a zenon Analyzer, these changes are not applied in the zenon Analyzer.
- ▶ **Meaning:** Entry of the (**Meaning**) of a variable in the zenon Analyzer. Entry is manual or by means of the **Meaning and Waterfall Chart Wizard**. Several meanings are separated by a comma.
Syntax: [Meaning1], [Meaning2], ..., [MeaningN]
- ▶ **Parameter for waterfall diagram:** Parameters of a variable for a waterfall diagram in zenon Analyzer. Entry is manual or by means of the **Meaning and Waterfall Chart Wizard**. The individual parameters are separated by a comma. Several waterfalls are divided by a semicolon.
Syntax: [model name], [row index], [index in row], [color code];

Visual name

The wizard reads the **Analyzer/Visual name** property when loading the zenon workspace from zenon 7.20 and displays this for each variable in the **variables** (on page 59) tab. . The following applies for visual names:

- ▶ The name must be unique for each project.
- ▶ Names in a project that appear several times are highlighted in red.
- ▶ The **Visual name** are entered when writing the data to the metadata database.
- ▶ In the event of duplicated name within a project, the **Visual name** is only entered for the first variable found. For the second variable, the **Name** of the variables is entered in zenon.
- ▶ The **Visual name** is only set when the variable is exported for the first time. If this is subsequently changed in the Editor, this change is no longer applied in the metadata database. Changes are of course applied to a new metadata database when exporting to a new database.
- ▶ With a version of zenon before 7.20, the visual name is always taken from the zenon **Identification** property.

Meaning

From zenon 7.20, the wizard reads the **Analyzer/Meaning** property and displays this for each variable in the **variables** (on page 59) tab. .

The following applies for meanings:

- ▶ If there are entries for **Meaning**, the corresponding entries in the **Resources label** are ignored.
- ▶ If there are no entries, corresponding entries from the **Resources label** are accepted.
- ▶ The identification **ME=** is no longer necessary but can continue to be used. If a variable is assigned several meanings, a comma is used as a separator.

- ▶ With a version of zenon before 7.20, the meaning is always taken from the zenon **Resources label** property.

Parameter waterfall diagram

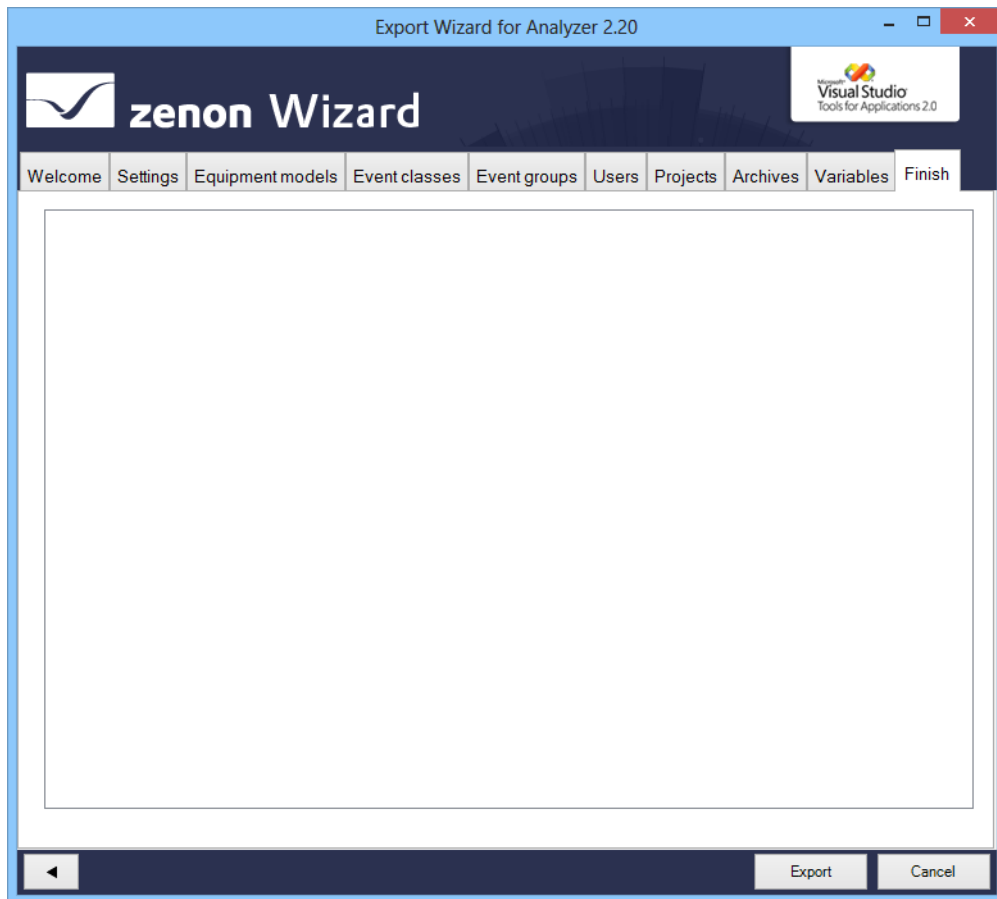
The wizard reads the **Analyzer/Parameter for waterfall diagram** property when loading the zenon workspace from zenon 7.20 and displays this for each variable in the **variables** (on page 59) tab. . The following applies for waterfall:

- ▶ If there are entries for **Parameter for waterfall diagram**, the corresponding entries in the **Resources label** are ignored.
- ▶ If there are no entries, corresponding entries from the **Resources label** are accepted.
- ▶ The identification **WF=** is no longer necessary but can continue to be used. The individual elements of a model are separated by a comma. If several waterfall models are assigned to a variable, a semicolon is used as a separator.
- ▶ With versions of zenon before 7.20, the waterfall parameters are always taken from the zenon **Resources label** property.

Finish

To export the configured data:

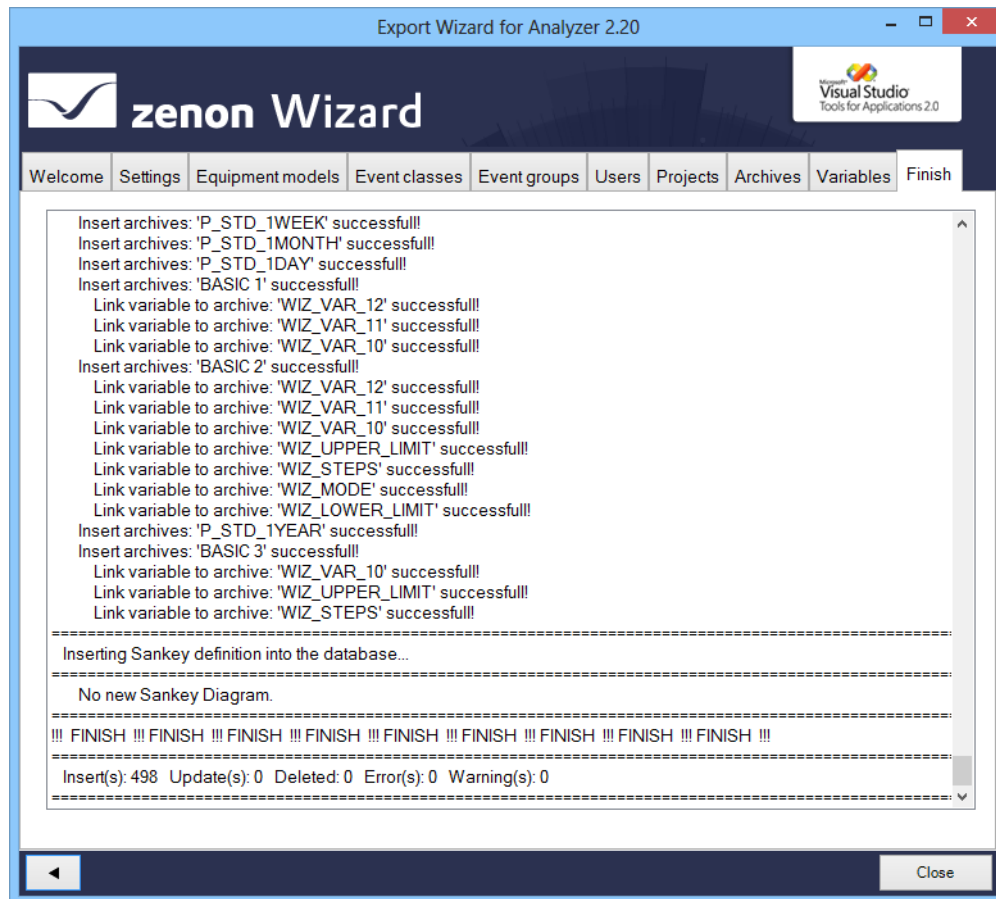
1. In the Finish tab, click on the **Export** button.



2. the export is started

- The exported elements are shown in the output window with the attendant success and error messages

In addition, the number of objects that have been added, replaced or deleted, and the number of errors that occurred are shown.



- Click the **close** button to close the wizard

RECONFIGURING THE WIZARD

To reconfigure the wizard:

- Open the **settings** (on page 42) tab.
- Click on the **Load data** button.
- Configure the tabs.

Close wizard

To close the wizard:

- Click on the **cancel** button .

- ▶ A dialog prompts whether the configuration should be saved.
 - **Yes:** writes the settings set in the **Settings** (on page 42) tab to the registry and closes the wizard. The wizard is opened with this configuration the next time it is started. The configuration is saved for each specific user.
 - **No:** Closes the wizard without saving the configuration

3.1.3 Meaning and Waterfall Chart Wizard

The **Meaning and Waterfall Chart Wizard** helps you prepare a zenon project for the processing of variable information in the zenon Analyzer.

Note: The wizard is only available in English.



Attention

If the **Multi-User** is used with a project with distributed engineering (Multi-User), then **Enable changes** must be activated in the zenon Editor for:

- ▶ The project (context menu of the project)
- ▶ The variables (context menu of the variables or the **Variables** module)

Otherwise the changes made by the **Meaning and Waterfall Chart Wizard** cannot be applied. These are then discarded.

The Meaning and Waterfall Chart Wizard helps you, when engineering projects in zenon, to configure:

- ▶ Meanings (**Meaning**)
- ▶ Waterfall charts (**Waterfall**)

The wizard writes the configuration in the corresponding properties of the variables selected in the wizard. The target properties depend on the version of zenon that is used.

FROM ZENON 7.20

- ▶ Meanings:

The **Meanings** are written in the **Analyzer/Meaning** property. Several entries are separated by a comma (,).

- ▶ Waterfall:

The parameters for waterfall diagrams are written in the **Analyzer/Parameter for waterfall diagram** property. The parameters for a diagram are separated by a comma (,). Several diagrams are separated by a semi colon (;)

The following applies for both properties: If there are still entries in the **General/Resources label** property from previous versions of zenon, these are deleted and entered in the corresponding properties for zenon 7.20.

UP TO ZENON 7.11:

Meanings and parameters for waterfall diagrams are written to the **Resources label** variable property. In doing so, the prefix **WF=** is added for meanings and the prefix **WF=** is added for waterfall parameters.

For further information, see the **Analyzer Wizards** chapter.

Install and call up wizard

The wizard is automatically installed together with zenon.

STARTING THE WIZARD

*For wizards to be displayed, the settings for VBA and/or VSTA must be set correctly in file **zenon6.ini**:*

[VBA]

EIN=1

[VSTA]

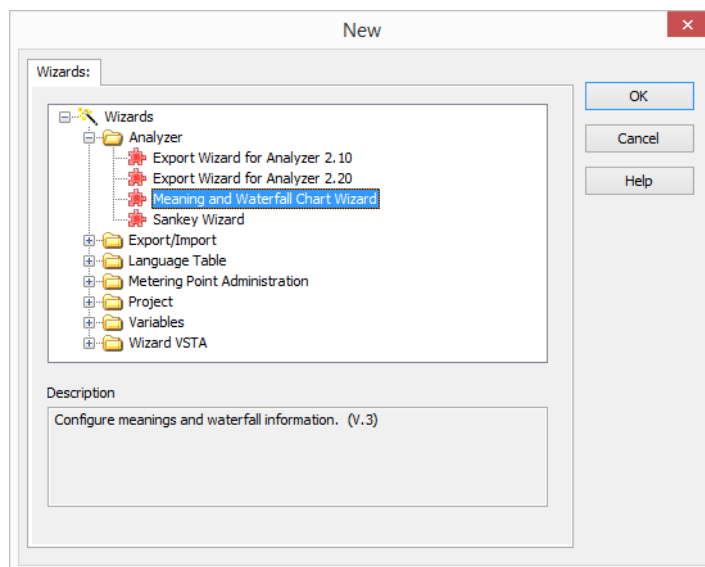
ON=1

If VSTA wizards are not displayed although the settings are correct, set entry **LOADED=** to 1 in area **[VSTA]**.

To start the wizard:

1. In zenon open menu **File**
or press the shortcut **Alt+F12**
2. Select the entry **Wizards**
3. The selection dialog is opened
4. Navigate to node **Analyzer**.

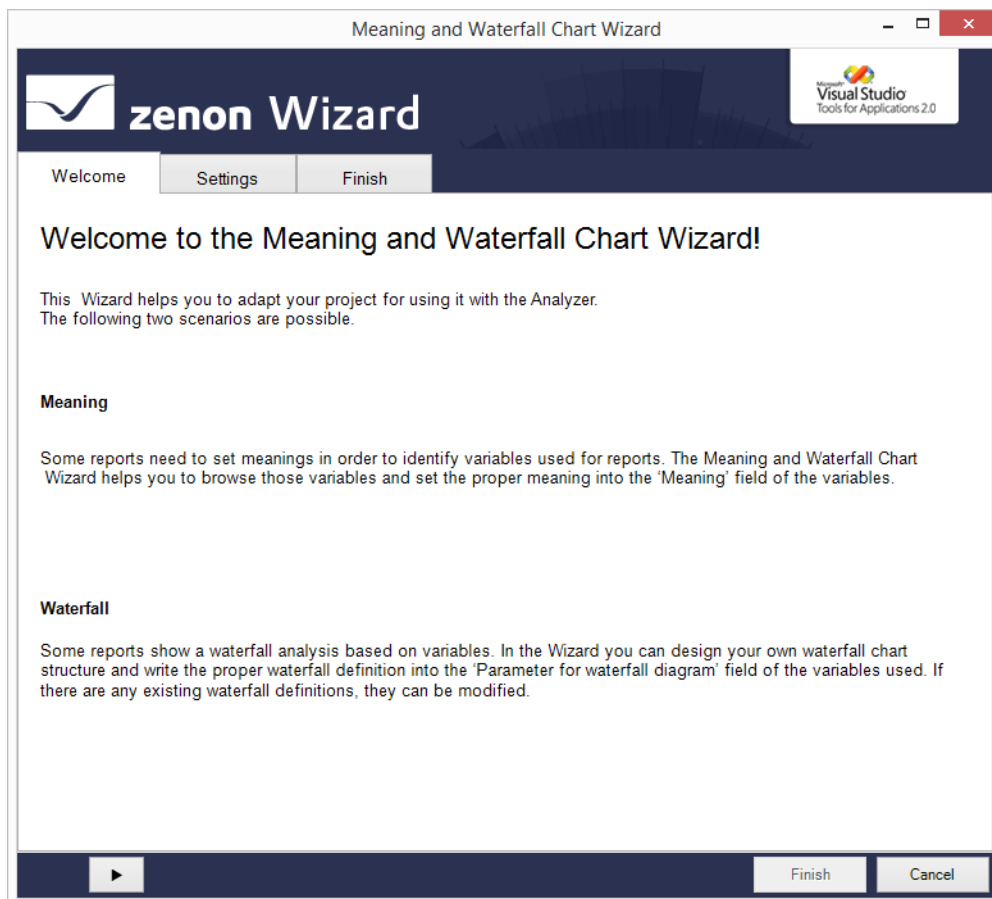
5. Select the **Meaning and Waterfall Chart Wizard**.



6. Start the wizard by clicking on **OK**.

Start window

When opening the wizard, you receive an overview that lists and explains all objects that can be configured. Configuration starts with the **settings** (on page 72) tab..



MEANING

zenon variables often receive technically-orientated names in the project. This naming is often not meaningful enough for display in a zenon Analyzer report. The variables can be given a unique name for display in the zenon Analyzer report. This name is saved to the corresponding variable property depending on the zenon version. Target property and entry are automatically selected by the wizard.

After import into zenon Analyzer, this name is used for reports without the existing variable name needing to be changed. For details, see the Analyzer Wizards chapter in the online help.

WATERFALL

Some zenon Analyzer reports can display a waterfall diagram using zenon variables. To do this, information on the appearance of the diagram must already be present in the resource label of the

selected variable. The structure and appearance of a waterfall diagram can be defined with a wizard. The waterfall information is saved to the corresponding variable property depending on the zenon version. Target property and entry are automatically selected by the wizard. For details, see the Analyzer Wizards chapter in the online help.

NAVIGATION

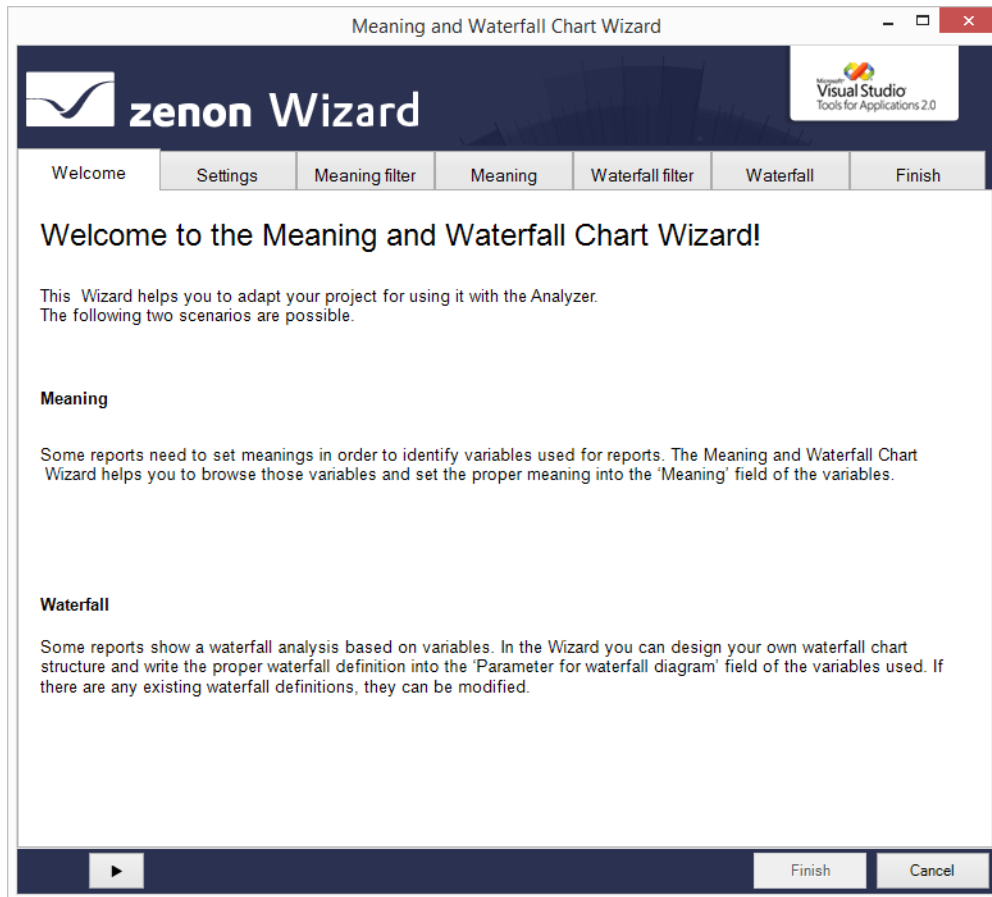
Click on the button with the **arrow** to navigate (on page 71) through the configuration (on page 70) of the export.

Configuration

The **Meaning and Waterfall Chart Wizard** is configured with the following tabs:

- ▶ **Settings** (on page 72): Loading the data from the projects.
Only once the data to be loaded is selected are other tabs available for meanings and/or waterfall diagrams.
- ▶ **Meaning filter** (on page 74): Filter settings for meanings.
- ▶ **Meaning** (on page 75): Selection and assignment of the meanings.
- ▶ **Waterfall filter** (on page 78): Filter settings for waterfall.
- ▶ **Waterfall** (on page 79): Selection of variables for waterfall diagram.

- **Finish** (on page 83): Acceptance of configuration and configuration by the wizard.



Navigation

Navigation through the tabs is carried out by means of the navigation bar in the lower area of the wizard window:

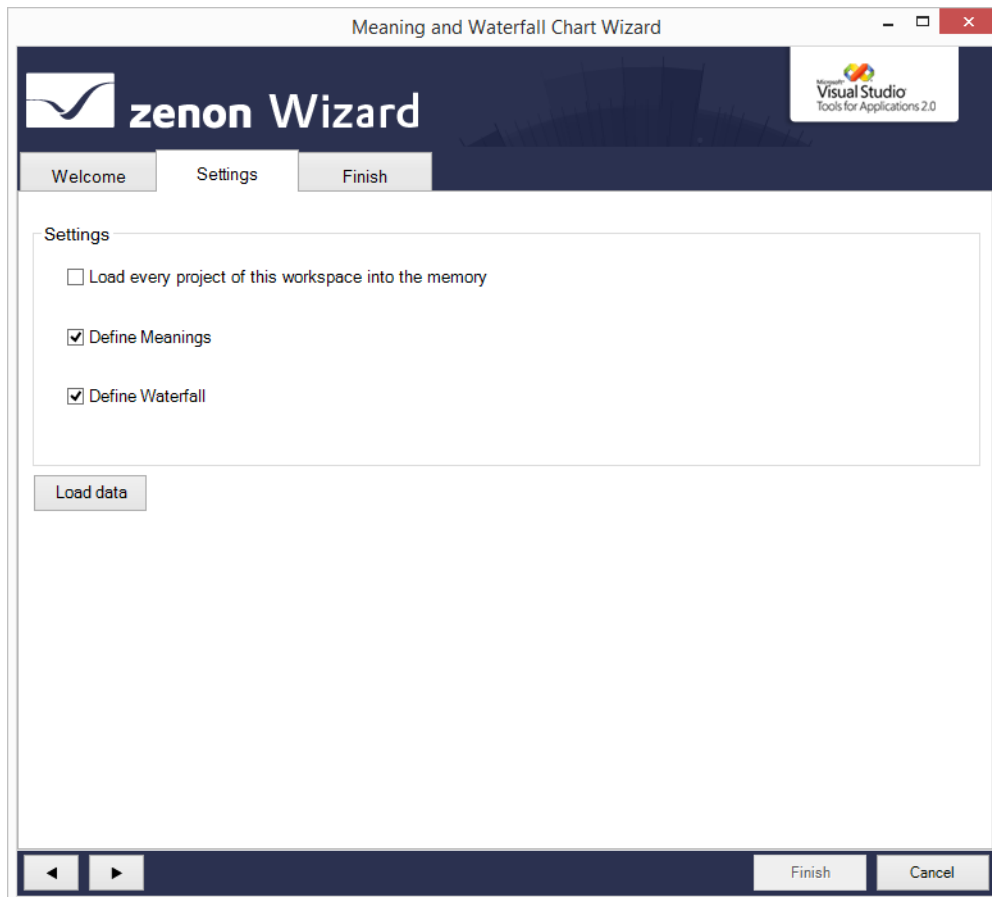


Button	Description
Arrow left	Goes back one tab in the wizard process.
Arrow right	Goes forward one tab in the wizard process.
Finish	Writes all changes to the zenon variable in the Editor and closes the wizard.
Cancel	Ends the wizard without making changes.

Individual tabs can also be selected by clicking directly on the title of the tab.

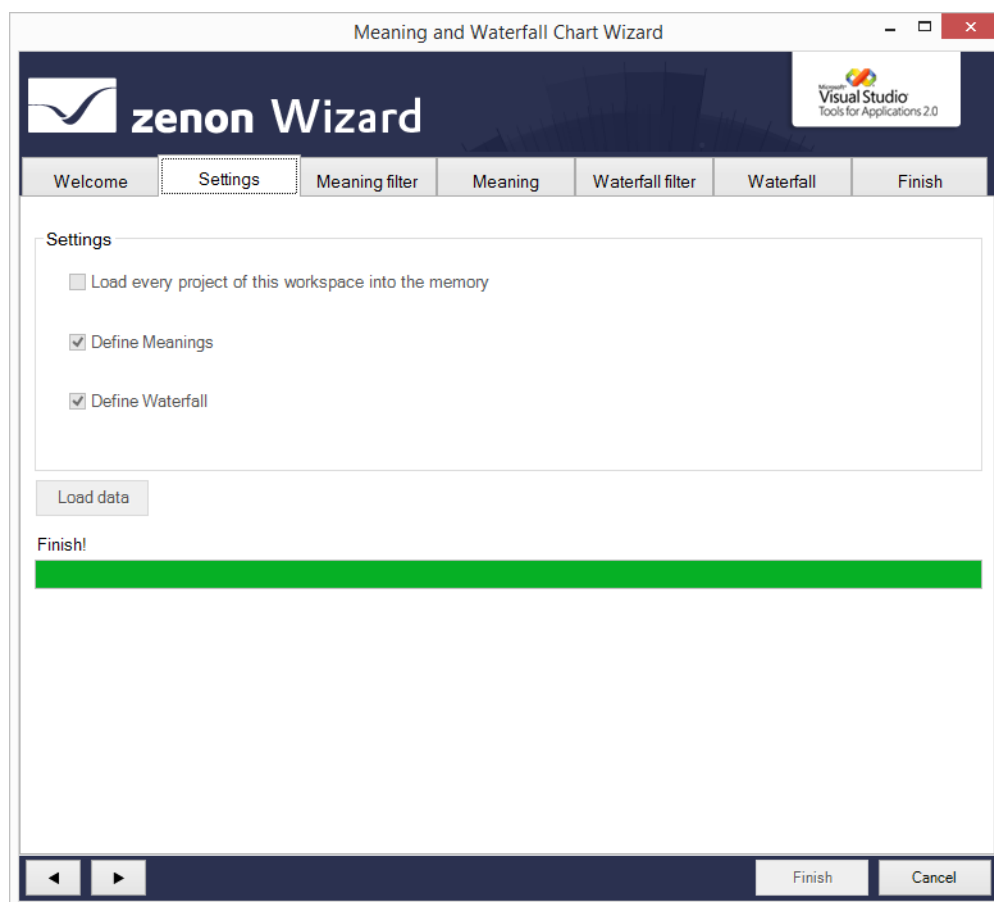
Settings

Selection and loading of the tabs to be configured.



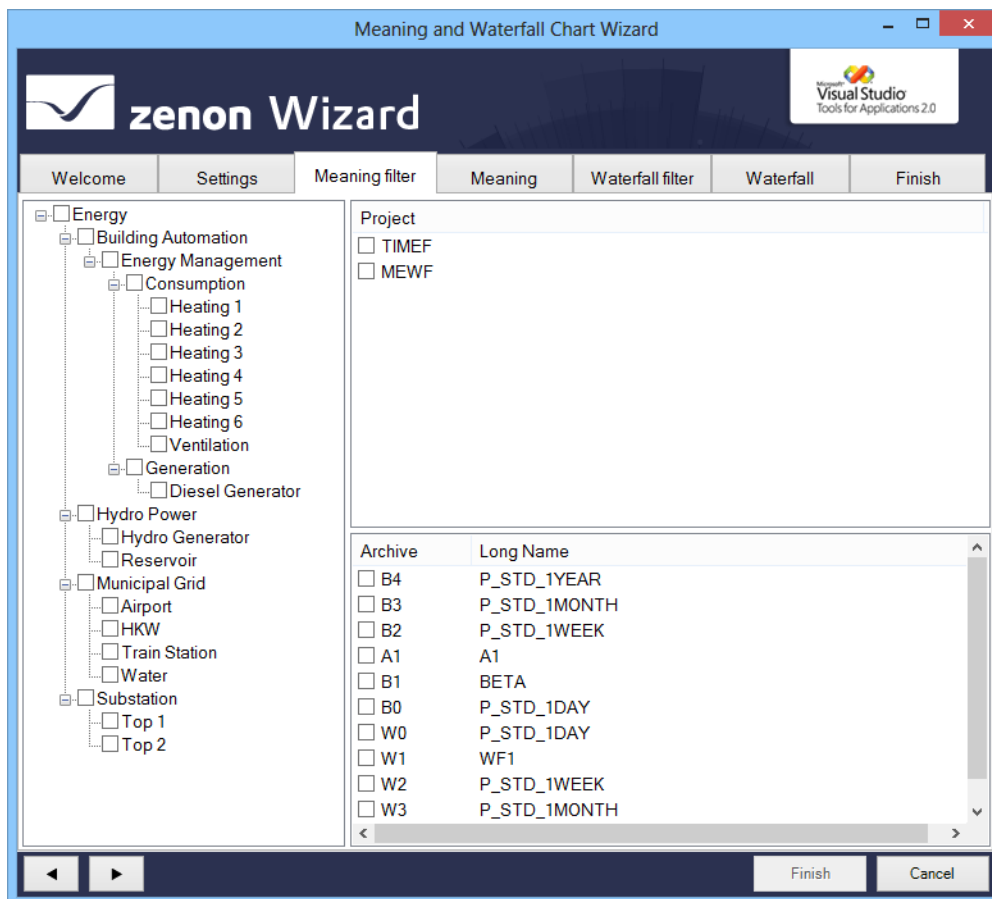
Parameters	Description
Settings	Setting for which tabs are to be loaded.
Load every project of this workspace into the memory	Active: Projects from the workspace that are not in the memory are loaded. Once the wizard has been ended or once the Finish action has been executed, these are removed.
Define Meanings	Active: The tabs Meaning filter (on page 74) and Meaning (on page 75) are loaded.
Define Waterfall	Active: The tabs Waterfall filter (on page 78) and Waterfall (on page 79) are loaded.
Load data	Clicking on the button searches through the variables of all projects loaded in the workspace and loads the required information for the filter and editing the variables. The corresponding tabs are displayed in the wizard. A progress bar is displayed during the loading process.

After loading, all tabs are available for configuration.



Meaning filter

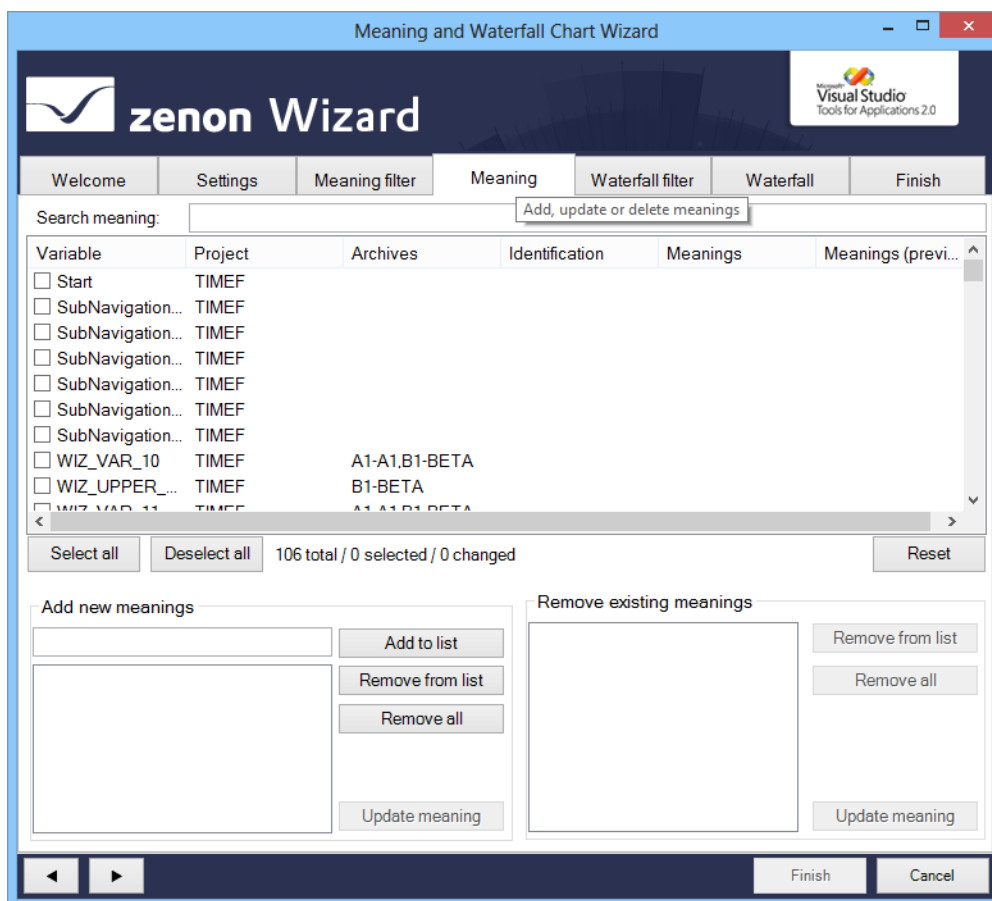
The variables to be edited are pre-filtered with this tab. If an object is not selected in any group, all variables are available in the **Meaning** (on page 75) tab.



Parameters	Description
List of equipment groups	Filtering for individual models by activating the respective checkboxes. No selection: Variables of all equipment models are selected.
List of projects	Filtering for individual checkboxes by activating the respective checkboxes. No selection: Variables of all projects are selected.
List of archives	Filtering for individual archives by activating the respective checkboxes. No selection: Variables of all archives are selected.

Meaning

The meanings of the variables are edited in this tab. Variables can be selected and given new meanings, and existing meanings can be removed.



Meaning and Waterfall Chart Wizard

zenon Wizard

Microsoft Visual Studio Tools for Applications 2.0

Welcome Settings Meaning filter **Meaning** Waterfall filter Waterfall Finish

Search meaning: Add, update or delete meanings

Variable	Project	Archives	Identification	Meanings	Meanings (previ...
<input type="checkbox"/> Start	TIMEF				
<input type="checkbox"/> SubNavigation...	TIMEF				
<input type="checkbox"/> SubNavigation...	TIMEF				
<input type="checkbox"/> SubNavigation...	TIMEF				
<input type="checkbox"/> SubNavigation...	TIMEF				
<input type="checkbox"/> SubNavigation...	TIMEF				
<input type="checkbox"/> SubNavigation...	TIMEF				
<input type="checkbox"/> WIZ_VAR_10	TIMEF	A1-A1,B1-BETA			
<input type="checkbox"/> WIZ_UPPER_...	TIMEF	B1-BETA			
<input type="checkbox"/> WIZ_VAR_11	TIMEF	A1-A1,B1-BETA			

Select all Deselect all 106 total / 0 selected / 0 changed Reset

Add new meanings

Add to list

Remove from list

Remove all

Update meaning

Remove existing meanings

Remove from list

Remove all

Update meaning

Previous Next Finish Cancel

VARIABLE SELECTION

Parameters	Description
Search meaning	Input of a search term lists all variables with their corresponding meanings. The list is immediately updated with the entry of a character. Placeholders cannot be used.
List Variablen	List of the variables available after filtering. Selection of variables for editing: Activation of the checkbox before the variables. Existing meanings of the variables are shown in the Meanings column. In doing so, only meanings are displayed. Other entries or entries for the waterfall chart are hidden or ignored when editing. The variables can be sorted by clicking on a column label.
Select all	Clicking this selects all variables for editing.
Deselect all	Clicking this deselects all variables.
Display statistics	Display how many variables: <ul style="list-style-type: none"> ▶ Are present in the list ▶ Have been selected ▶ Have been changed
Reset	Resets all changes that have been made by clicking on Update meaning . Note: Changes are only accepted finally after clicking on Finish .

ADD MEANINGS

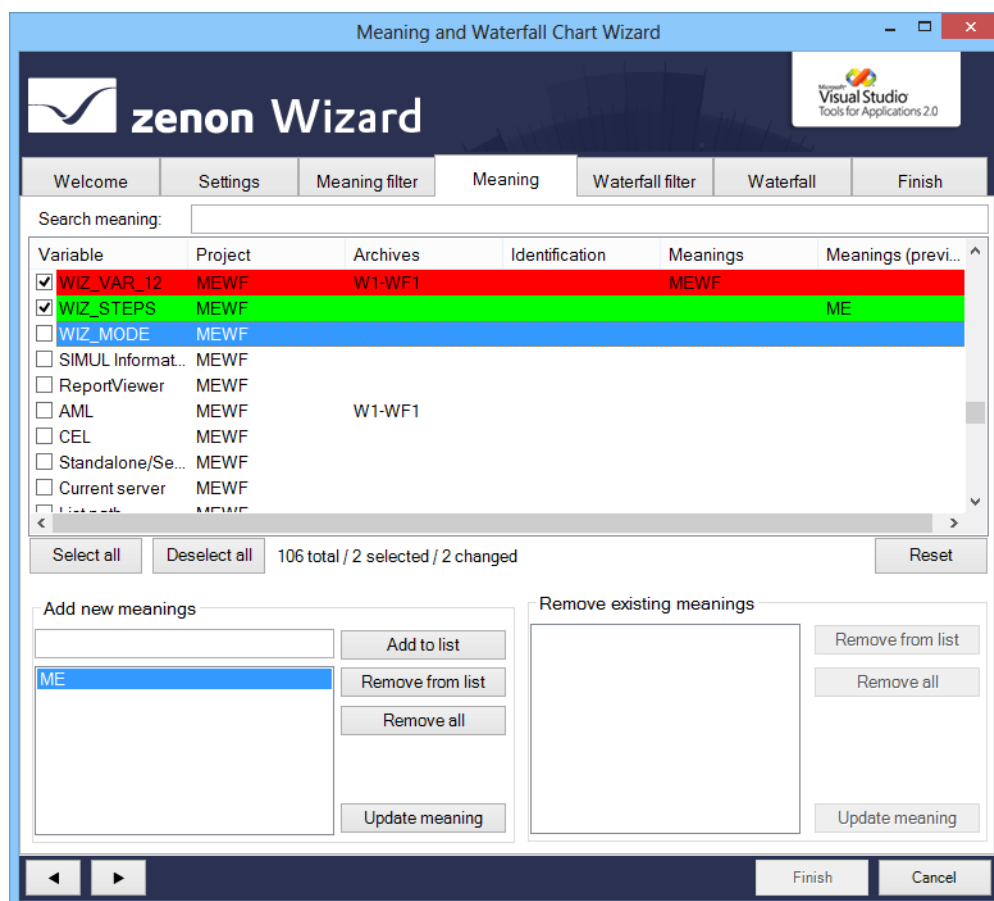
Add new meanings	Allows meanings to be added to variables. New meanings are entered in the input field, added to the list and assigned to the selected variables using the Update meaning button.
Eingabefeld	Entry of a new meaning. Maximum length: 50 characters
Liste Meanings	Lists all meanings that have been created.
Add to list	Adds entry from text field to the list of meanings.
Remove from list	Deletes selected entry from the list of Meanings .
Remove all	Deletes all entries from the list of Meanings .
Update meaning	Clicking this assigns a new meaning to all entries in the list of Meanings . The meanings to be added are displayed in the Meanings (preview) column; the row with the variables has a green background.

REMOVE MEANINGS

Remove existing meanings	Allows meanings to be removed from variables. If a variable is selected, all assigned meanings are displayed in the list of Meanings . Meanings that are to be retained are deleted from the list by clicking on the Remove from list button. Clicking on the Update meaning button removes the meanings from the selected variables.
List Meanings	Lists all of the meanings assigned to the selected variables.
Remove from list	Deletes selected entry from the list of Meanings .
Remove all	Deletes all entries from the list of Meanings .
Update meaning	Clicking this removes all entries in the list of Meanings from the selected variables. The row with the variables has a red background.

Attention: Changes and new entries are only written to the zenon variable once the **Finish** action in the **Finish** tab has been executed.

EXAMPLE OF COLOR IDENTIFICATION

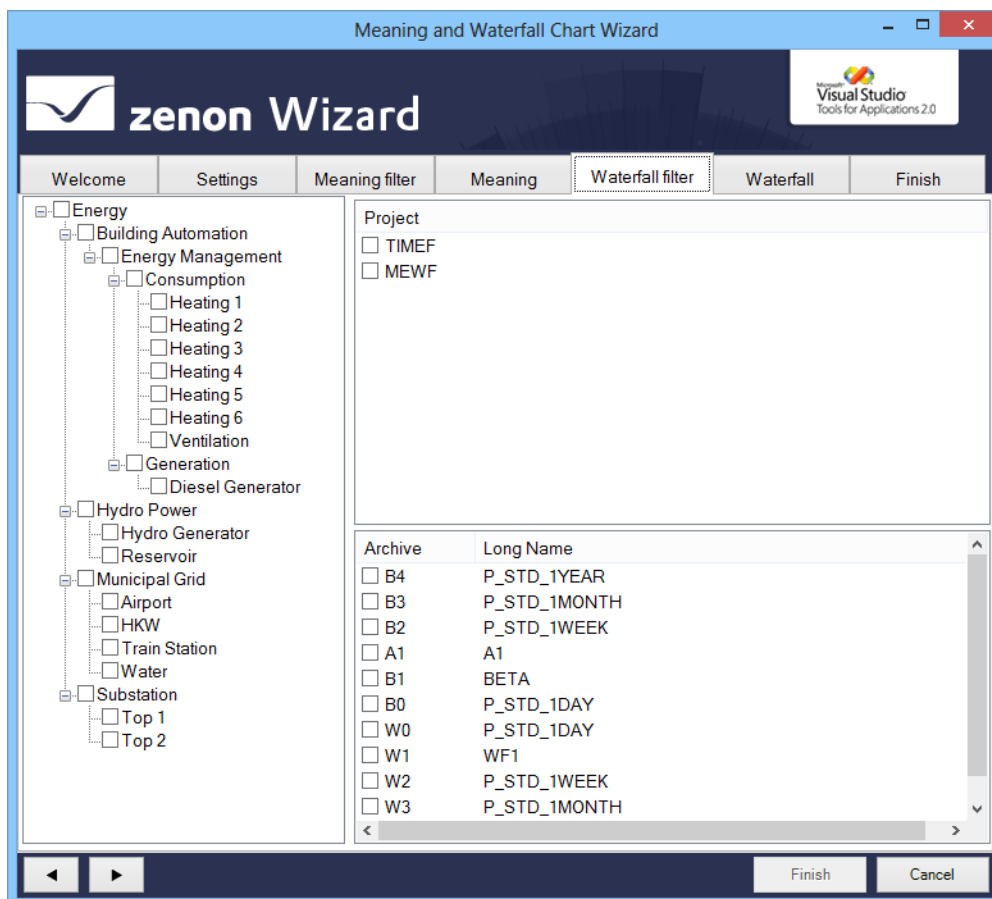


- Red: All **Meanings** of the variable have been deleted.

- Green: Variable has received a new Meaning.

Waterfall filter

You define the waterfall diagram in this tab. To do this, all variables must be assigned to the same equipment group. If variables from an archive are used, the archive and the variables must be assigned to the same equipment group.



Parameters	Description
List of equipment groups	Selection of an equipment group.
List of projects	Selection of a project.
List of archives	Select an archive.

An equipment group and a project must be selected. As a option, it is also possible to select an archive from the appropriate equipment group.

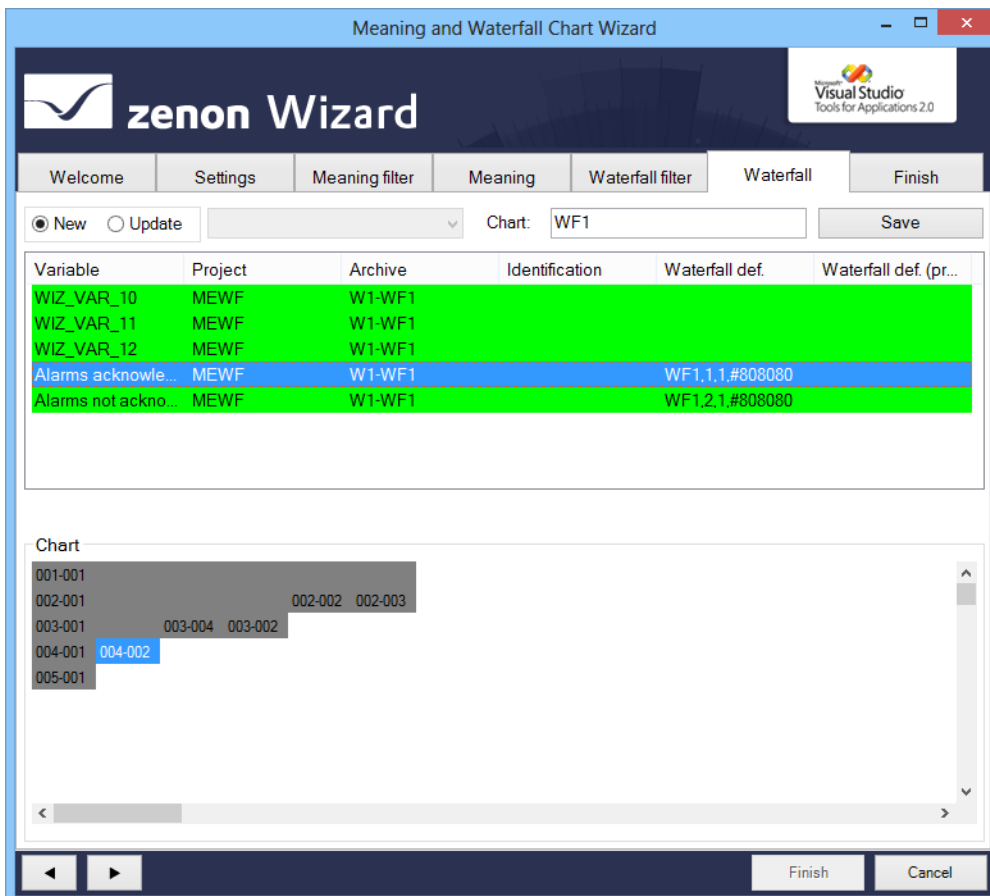
No variables can be displayed in the **Waterfall** (on page 79) tab:

- No project was selected

- ▶ No equipment group was selected
- ▶ Objects were selected that are not assigned to the same equipment group

Waterfall

Waterfall definitions can be created and edited on this tab:



Meaning and Waterfall Chart Wizard

zenon Wizard

Visual Studio Tools for Applications 2.0

Welcome Settings Meaning filter Meaning Waterfall filter Waterfall Finish

☒ New ☐ Update Chart: WF1 Save

Variable	Project	Archive	Identification	Waterfall def.	Waterfall def. (pr...
WIZ_VAR_10	MEWF	W1-WF1			
WIZ_VAR_11	MEWF	W1-WF1			
WIZ_VAR_12	MEWF	W1-WF1			
Alarms acknowle...	MEWF	W1-WF1		WF1.1.1.#808080	
Alarms not ackno...	MEWF	W1-WF1		WF1.2.1.#808080	

Chart

001-001
002-001
003-001
004-001
005-001

002-002 002-003
003-004 003-002
004-002

Finish Cancel

Parameters	Description
New	<i>Active:</i> A new waterfall definition is created.
Update	<i>Active:</i> An existing waterfall definition is edited. Select from drop-down list.
Chart	Entry of a name for a new waterfall definition.
Save	Clicking on the button saves the entries. Note: All changes are only written to the zenon variable once the Finish action in the Finish tab has been executed.
Variablenliste	Lists all variables that correspond to the configuration on the Waterfall filter (on page 78) tab. Bool and String variables are not displayed. The list can also be sorted by clicking on the column heading. Existing waterfall definitions are displayed in the Waterfalls column. New or amended waterfall definitions are displayed in the Waterfalls (preview) column.
Chart	Waterfall definitions can be created or amended here by dragging & dropping.

Note: All changes are only written to the zenon variable once the **Finish** action in the **Finish** tab has been executed.

CREATING A WATERFALL DEFINITION

To create a new waterfall definition:

1. Select **New**.
2. Move the desired variable by drag&drop in sequence in the **chart** area
3. Arrange the bar according to the rules
4. Enter a name in the **Chart** input field
5. Click on **Save**.
6. The configuration is saved in the **Waterfalls (preview)** column
7. Switch to tab **Finish**.
8. Click on **Finish**.

RULES

The following rules apply when creating and editing waterfall definitions:

1. For the first bar, the variable in the upper left corner of the character area must be dragged.
2. The second bar can only be inserted below the first bar.
3. All other bars can be inserted either below the existing bar or to the right of an existing bar.

- The first row can only contain one bar.
 - If a bar is inserted to the right of an existing bar, the bar above this is extended.
4. The selected variable is displayed in green.
 5. Each variable can only be used once.
 6. The bar contains an index:
 - First number: Row index
 - Second number: Column index
 7. The name of the selected variable is displayed in the tooltip of the bar.

CHANGING THE COLOR OF A BAR

To change the color of a bar:

1. Right-click on the bar
2. The dialog to select the color opened:
3. select the desired color
4. Click **OK**.

MOVING THE BAR

Bars can be moved if:

- ▶ It is a short bar
- ▶ The movement is within a row

To move a bar, drag & drop it to the new position. All other bars between the old and the new position are moved by one place.

DELETING A BAR

Bars can be deleted if:

- ▶ It is a short bar
- ▶ There is no other bar below or to the right

To delete a bar, drag & drop it to a free location outside the Chart field (but not in the variable list).

The bar is deleted. All other bars are moved accordingly.

SAVING A WATERFALL DEFINITION

To save a waterfall definition:

1. Enter a name in the **chart** input field
2. Click on the **save** button.
3. The definition is saved in the variable list and the new entry is displayed in the **Waterfalls (preview)** column
4. The new waterfall definition is only written to the zenon variable after clicking on the **Finish** button in the **Finish** tab.

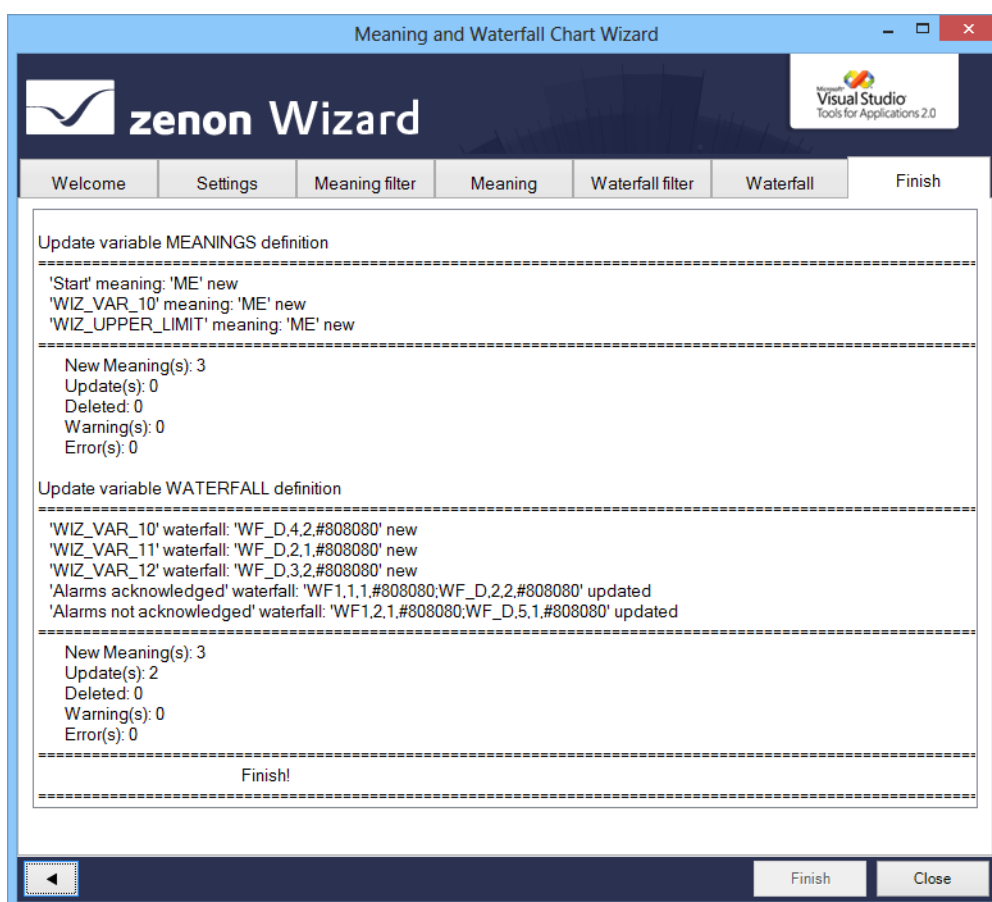
EDITING A WATERFALL DEFINITION

To edit a new waterfall definition:

1. Select **update**.
2. Select the desired waterfall definition from the drop-down list.
Attention: Only definitions that correspond to the configuration in the **Waterfall filter** (on page 78) tab are offered.
3. The waterfall definition is displayed in the **chart** area
4. Change the definition in accordance with the rules:
 - Adding a bar:
 - Deleting a bar: If a bar is deleted, the variable is highlighted in red in the list.
 - Moving a bar:
 - Changing the color:
5. Click on **save**.
6. All changes are displayed in the **Waterfalls (preview)** column
7. Switch to tab **Finish**.
8. Click on **Finish**.

Finish

In this tab, the changes are written to the variables in zenon and the result is displayed in the output field.



Clicking on the 'Finish' button writes the changes to the zenon variable in the Editor.

The changes made are displayed in the output field:

- ▶ Update **MEANINGS** variable definition: Changes to the variables that are carried out and that concern the meanings.
- ▶ Update **WATERFALL** variable definition: Changes to the variables that have been carried out and that concern the waterfall definition
- ▶ Notes on new and deleted entries, warnings and error messages.

When importing into zenon, the length of the entry is checked for the corresponding properties. This must not consist of more than 250 characters. If the entry is longer, the sequence is cut off after the 250th character and an error message is written in the output field of the 'Finish' tab.

3.1.4 Sankey Wizard

A Sankey diagram is a graphic display of quantity flows. The quantities are displayed by arrows with a thickness proportional to the quantity. Sankey diagrams are important aids for the visualization of energy and material flows, as well as inefficiencies and potential for saving when using resources.

The **Sankey Wizard** supports you when creating Sankey diagrams that you can see in zenon Runtime and in zenon Analyzer.

Three scenarios are possible:

- ▶ Create a new Sankey diagram.
- ▶ Use a pre-existing Sankey diagram as a template.
- ▶ Edit an existing Sankey diagram.

The Sankey diagram is saved in an XML file.

Note: The wizard is only available in English.



License information

Part of the standard license of the Editor and Runtime.

Installing the Sankey wizard

The wizard is automatically installed together with zenon.

Starting the Sankey wizard

*For wizards to be displayed, the settings for VBA and/or VSTA must be set correctly in file **zenon6.ini**:*

[VBA]

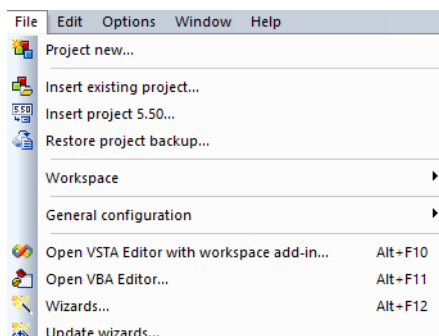
EIN=1

[VSTA]

ON=1

If VSTA wizards are not displayed although the settings are correct, set entry **LOADED=** to 1 in area **[VSTA]**.

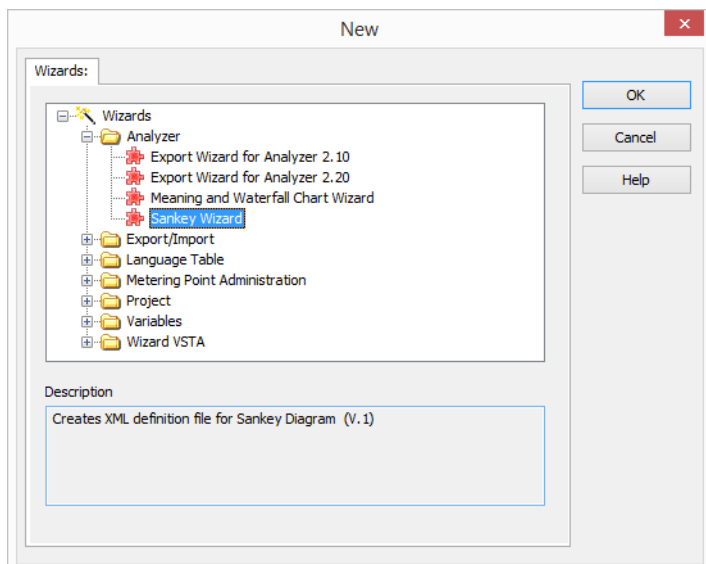
To start the Sankey wizard, proceed as follows:



1. Start the **zenon Editor**.
2. Click on **File** in the tool bar on the left.
3. Click on **Wizards**.

Note: You can also open the selection window with the available wizards with the key combination **Alt+F12**.

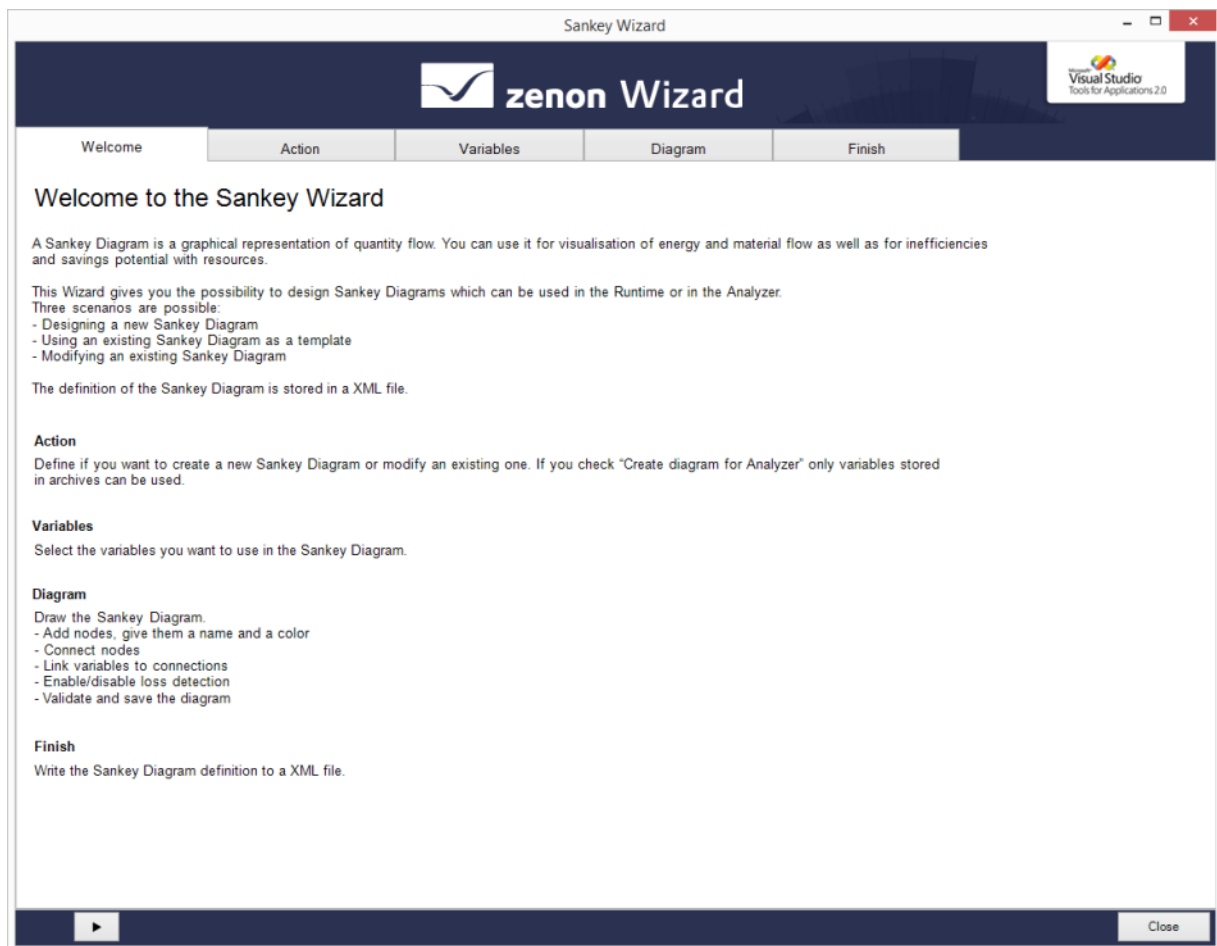
The selection window with the available wizards opens.



1. Expand the **Analyzer** node
2. Then click on **Sankey Wizard**.
3. Start the wizard by clicking on **OK**.

Start window

When opening the wizard, you receive an overview that lists and explains all objects that can be configured. Configuration starts with the **Action** tab.



Click on the button with the **arrow** or on the title of the tab to navigate through the configuration of the export.

Navigation

Navigation through the tabs is carried out by means of the navigation bar in the lower area of the wizard window:

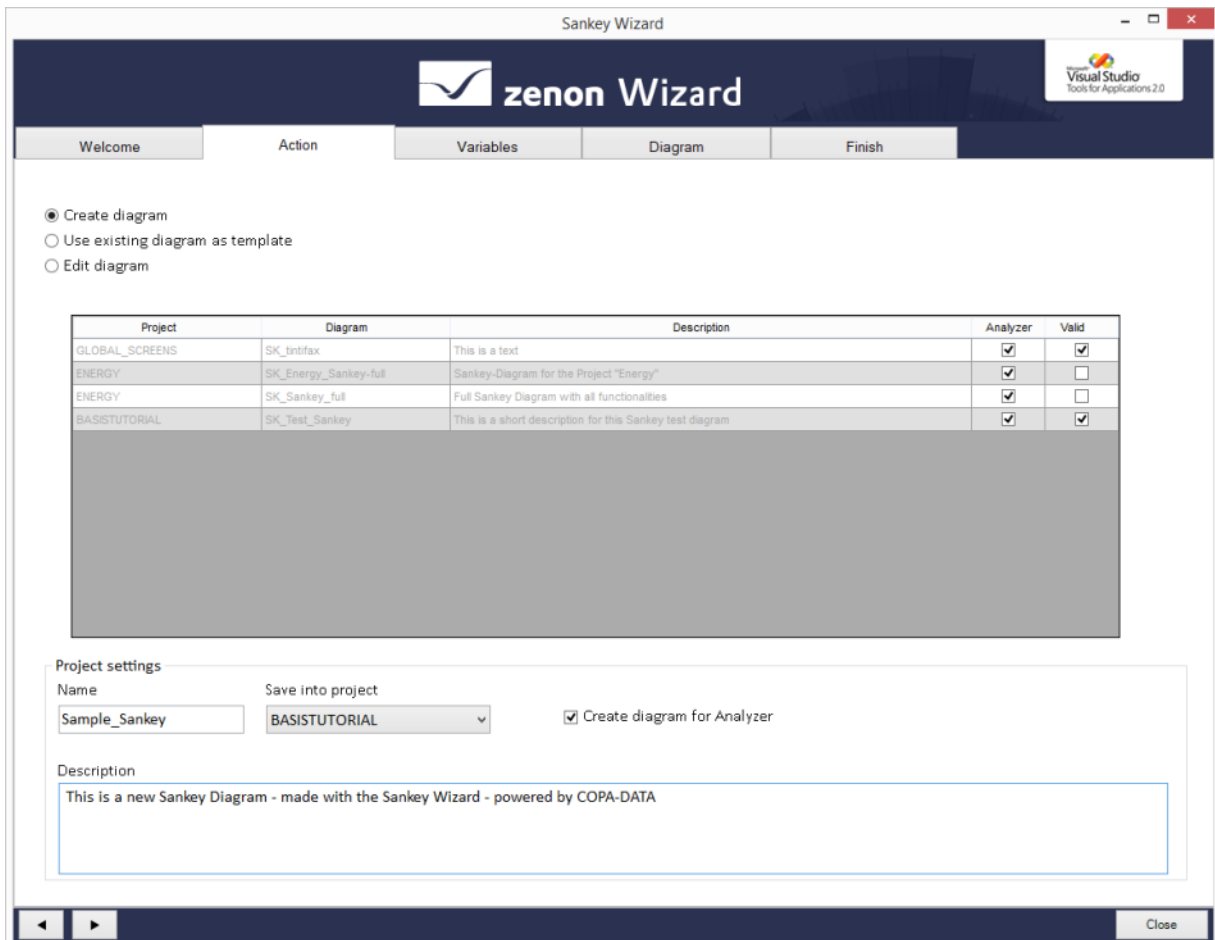


Button	Description
Arrow left	Goes back one tab in the wizard process.
Arrow right	Goes forward one tab in the wizard process.
Finish	Writes all changes to the zenon variable in the Editor and closes the wizard.
Cancel	Ends the wizard without making changes.

Individual tabs can also be selected by clicking directly on the title of the tab.

Action - select action

Select, in the **Action** tab, the desired action by activating it.



Sankey Wizard

zenon Wizard

Visual Studio Tools for Applications 2.0

Welcome Action Variables Diagram Finish

☒ Create diagram
☐ Use existing diagram as template
☐ Edit diagram

Project	Diagram	Description	Analyzer	Valid
GLOBAL_SCREEN	SK_tntifax	This is a text	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ENERGY	SK_Energy_Sankey-full	Sankey-Diagram for the Project "Energy"	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ENERGY	SK_Sankey_full	Full Sankey Diagram with all functionalities	<input checked="" type="checkbox"/>	<input type="checkbox"/>
BASISTUTORIAL	SK_Test_Sankey	This is a short description for this Sankey test diagram	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Project settings

Name:

Save into project:

☒ Create diagram for Analyzer

Description:

Close

There are the following three possibilities:

Parameters	Description
Create diagram	Creates a new diagram.
Use existing diagram as template	Uses an existing diagram as a template. Note: In this case, variables must be linked to node connections again. The variable linkings of existing diagrams are not shown in the template.
Edit diagram	Allows the editing of an existing diagram.

LIST OF THE DIAGRAMS THAT HAVE BEEN CREATED

The window in the middle shows a list with the diagrams that have already been created. The entries are grayed out if `Create_Diagram` has been selected. The following information for this is visible:

Parameters	Description
Project	Name of the project in which the diagram is saved
Diagram	Shows the name of the diagram.
Description	Shows the description of the diagram.
Analyzer	Active: The diagram can be used in the Analyzer and in Runtime. Inactive: The diagram can only be used in Runtime.
Valid	Active: The diagram is valid. Inactive: The diagram is not valid. You cannot use the diagram in either the Analyzer or in Runtime. Note: In this case, edit the diagram and amend it until it is valid.

PROJECT SETTINGS

You can change the following settings for the project in this area:

Parameters	Description
Name	<p>Enter a name for the project here.</p> <p>Note: The name must be unique. Otherwise a warning dialog will make you aware of this. A newly-created program with a name that already exists would replace the existing one if the warning dialog is confirmed. However if you click on No in the warning dialog, _1 is automatically added to the name.</p>
Save into project	<p>Here you select the project in which your diagram is to be saved.</p>
Description	<p>Enter a description here.</p> <p>Note: This is optional.</p>
Create diagram for Analyzer	<p>Active: Only variables that are in archives are shown.</p> <p>Note: The variables that you want to use must first be exported with the Analyzer Export Wizard.</p> <p>Inactive: Selection of the variables is possible without limitations, however the diagram cannot be used in zenon Analyzer, only in zenon Runtime.</p>

Note: Once this tab is left, it is no longer possible to edit the settings that have been made.

Variables - select variables

You can select variables for your project in this tab.

Sankey Wizard

zenon Wizard

Visual Studio Tools for Applications 2.0

Welcome Action **Variables** Diagram Finish

Select project

Project

- ☒ SNMP_NG
- ☐ NETWORK
- ☒ ENERGY
- ☒ BASISTUTORIAL
- ☒ BEFEHLSCABE_COMMAND_PROCESSING

Select data source

Short name	Long name	Project	Parent archive
<input checked="" type="checkbox"/> 10	SDFFD	SNMP_NG	11
<input type="checkbox"/> 11	SADFDFAF	SNMP_NG	
<input checked="" type="checkbox"/> A1	A1	BASISTUTO...	
<input type="checkbox"/> MI	MINIMUM	ENERGY	
<input checked="" type="checkbox"/> A0	AVERAGE	ENERGY	AV
<input checked="" type="checkbox"/> S0	ARCHIVE-SUM	ENERGY	SU
<input type="checkbox"/> TS	PER DAY	ENERGY	

Variables

Project variables

Name	Project	Archive	Aggregation
Timeserver - SNMP A...	SNMP_NG	10	AVG
Vorratstank[1].Fullstand	BASISTUTORIAL	A1	RAW
EMS_Supply area 1_f...	ENERGY	A0	AVG
EMS_Supply area 1_f...	ENERGY	A0	AVG
EMS_Supply area 1_f...	ENERGY	A0	AVG
EMS_Supply area 1_f...	ENERGY	A0	AVG
EMS_Supply area 1_f...	ENERGY	A0	AVG
EMS_Supply area 1_f...	ENERGY	A0	AVG
EMS_Supply area 1_n...	ENERGY	A0	AVG
EMS_Supply area 1_c...	ENERGY	A0	AVG
EMS_Supply area 1_f...	ENERGY	S0	SUM
EMS_Supply area 1_l...	ENERGY	S0	SUM
EMS_Supply area 1_f...	ENERGY	S0	SUM
EMS_Supply area 1_f...	ENERGY	S0	SUM
EMS_Supply area 1_...	ENERGY	S0	SUM

Diagram variables

Name	Project	Archive	Aggregation
Timeserver - SNMP Ag...	SNMP_NG	10	AVG
test	ENERGY	A0	AVG
EMS_Supply area 1_fo...	ENERGY	A0	AVG
EMS_Supply area 1_fir...	ENERGY	A0	AVG
EMS_Supply area 1_fo...	ENERGY	A0	AVG

Buttons: Add ->, Add all ->, <- Delete, <- Delete all

Close

SELECT PROJECT

Parameters	Description
Select project	<p>List of all active zenon projects.</p> <p>Select the project(s) from which you want to select variables for your diagram here.</p> <p>Note: Multiple selection is possible.</p>

SELECT DATA SOURCE

Parameters	Description
Select data source	<p>Select the data source here (archives).</p> <p>Note: The Online Data option is available for all other variables that do not come from archives. This option can only be selected if you have not activated the create for Analyzer option in the Action tab. Live values, i.e. online values, are used for Runtime. Historical values are used for zenon Analyzer.</p> <ul style="list-style-type: none"> ▶ Short name Short identification of the archive ▶ Long name Full name of the archive ▶ Project Project name of the archive ▶ Parent archive Version of the archive used

VARIABLES

Parameters	Description
Project variables	<p>Select the variables that you want to link to your diagram here. Multiple selection is possible.</p> <p>Possibilities for this:</p> <ul style="list-style-type: none"> ▶ Double-click on the desired variable. ▶ Highlight the desired variable and then click on Add->. ▶ Hold down the Ctrl key, highlight several variables, click on Add->. ▶ Click on Add all-> to select all variables.

	Variable list: <ul style="list-style-type: none"> ▶ Name Variable name ▶ Project Name of the project of the variable ▶ Archive: Short identification of the archive ▶ Aggregation: Aggregation type of the archive <ul style="list-style-type: none"> • AVG (Average) • Max (Maximum value) • Min (Minimum value) • Sum (Sum) • RAW (Raw data format - without aggregation)
Button Add ->	Adds selected variable(s) to the list of Diagram variables .
Button Add all ->	Adds all variables to the list of Diagram variables .
Button <- Delete	Removes selected variable(s) from the list of the Diagram variables .
Button <- Delete all	Removes all variables from the list of Diagram variables .

DIAGRAM VARIABLES

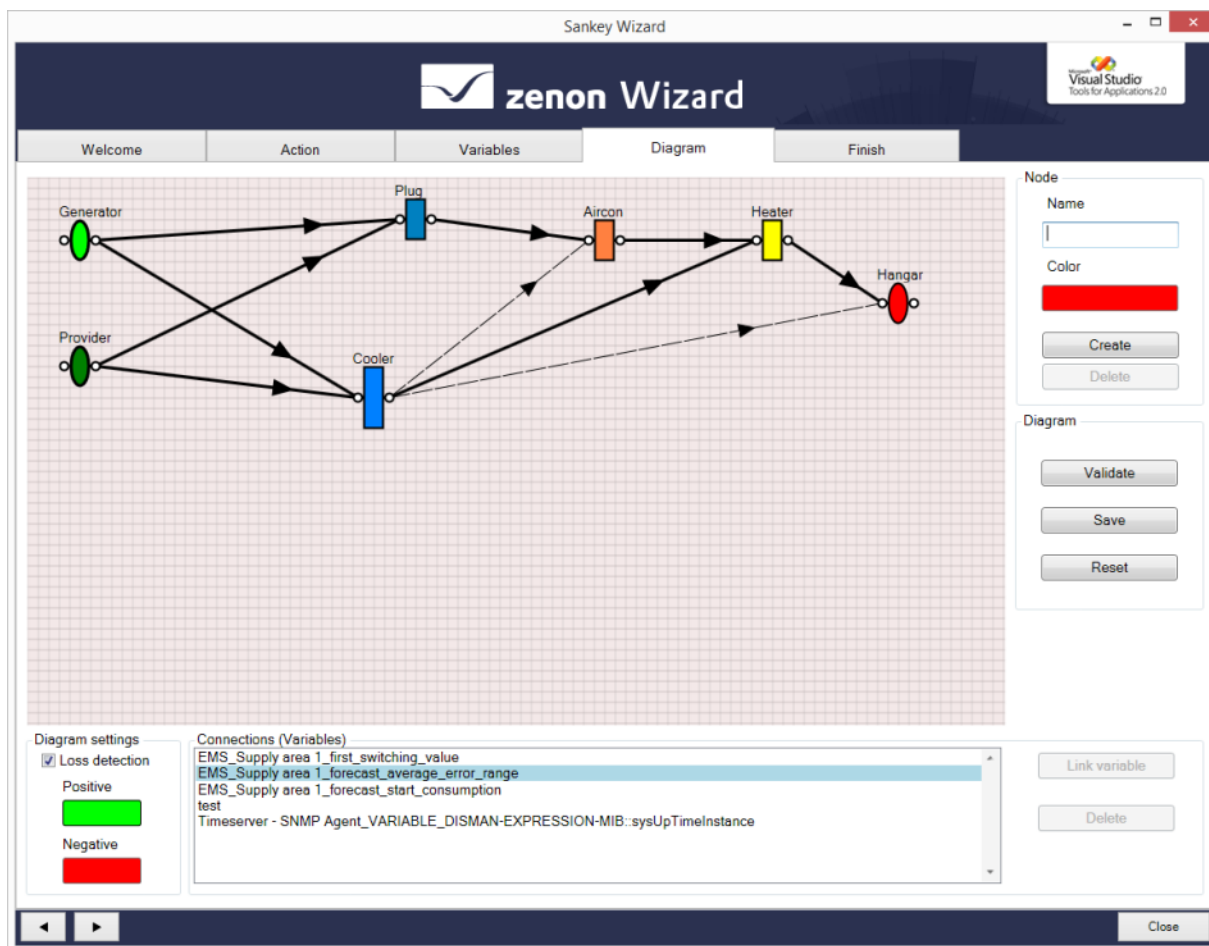
Parameters	Description
Diagram variables	<p>You can see all selected variables here. These are relevant for the next tab when creating the diagram.</p> <p>To delete variables again:</p> <ul style="list-style-type: none"> ▶ Highlight the variable that you want to delete and click on <-Delete. ▶ Hold down the Ctrl key, highlight several variables that you want to delete at the same time and click on <-Delete. ▶ Click on <-Delete all to delete all selected variables again. <p>Variable list:</p> <ul style="list-style-type: none"> ▶ Name Variable name

	<ul style="list-style-type: none">‣ Project Name of the project of the variable‣ Archive: Short identification of the archive‣ Aggregation: Aggregation type of the archive<ul style="list-style-type: none">• AVG (Average)• Max (Maximum value)• Min (Minimum value)• Sum (Sum)• RAW (Raw data format - without aggregation)
--	--

Note: Once you have left this tab, changes to the settings that have been made here are possible.

Diagram - create diagram

You are able to draw a diagram in this tab.



DRAWING AREA

You position your nodes and connections in the drawing area.

NODE

Parameters	Description
Name	Node name
Color	Color of the node. Displays the last selected color. Clicking on the button opens the color selection dialog.
Create	Creates nodes and positions these on the drawing area.
Delete	Deletes selected nodes from the drawing area. Only active if at least one node in the drawing area has been selected.

DIAGRAM

Parameters	Description
Validate	Checks whether all nodes have been linked and/or whether the links are occupied with a variable. The result of the validation is displayed in a dialog. <ul style="list-style-type: none"> ▶ Node xx is not connected! The node is not connected to another node. ▶ A connection of node xx has no variable linked! The linking of the node does not have an assigned variable.
Save	Saves the current project configuration. A check is also carried out before saving.
Reset	Deletes all nodes and previously-configured connections.

DIAGRAM SETTINGS

Parameters	Description
Loss detection	Automatic loss detection with an additional connection that visualizes the differential flow. activated: Automatic loss detection is calculated. deactivated: There is no calculation of the differential flow. Default: deactivated
Positive	If, for a node, the quantity of outflows exceeds the quantity of inflows, a differential flow is displayed in the selected color.

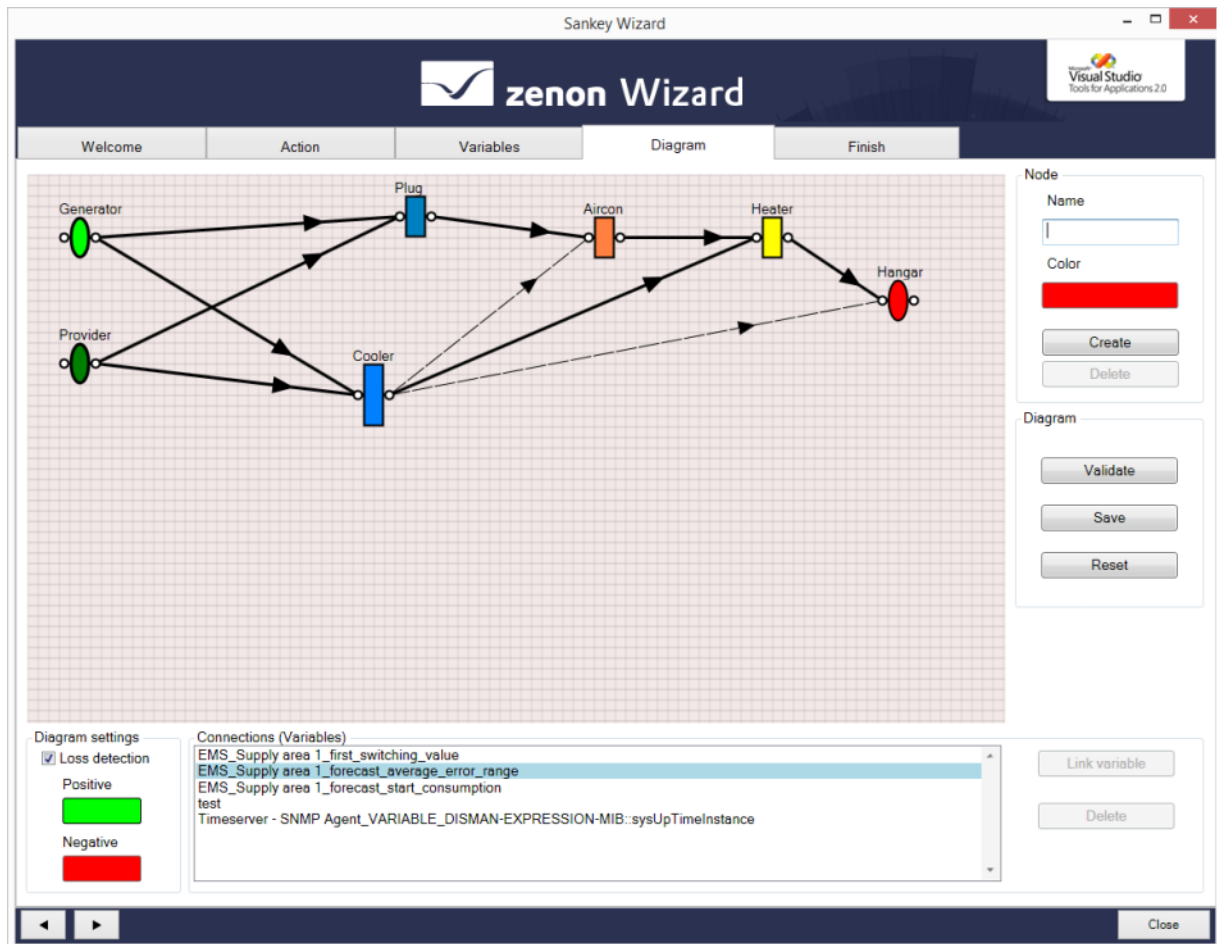
	<p>Only active if property Loss detection is active.</p> <p>Note: This differential flow is only visible in zenon Runtime or in zenon Analyzer.</p>
Negative	<p>If, for a node, the quantity of inflows exceeds the quantity of outflows, a differential flow in the selected color is displayed.</p> <p>Only active if property Loss detection is active.</p> <p>Note: This differential flow is only visible in zenon Runtime or in zenon Analyzer.</p>

CONNECTIONS (VARIABLES)

Parameters	Description
Connections (Variables)	<p>List of all the variables available for linking.</p> <p>If a variable is already linked to a connection, this variable is shown in green in the selection list.</p> <p>Note: These variables are provided in the Variables tab.</p>
Link variable	<p>Links the selected variable to the selected connection.</p> <p>Not active if no connection is selected.</p> <p>Note: If a second node and a variable is selected, the connection is also drawn in addition to the linking.</p>
Delete	<p>Deletes selected connection.</p> <p>Multiple selection of connections is possible.</p> <p>Not active if no connection is selected.</p>

Create diagram

This is how you create a Sankey diagram with the Sankey wizard:



CREATING NODES AND CONNECTIONS:

Node

Name

Color

Create

Delete

1. Enter, in the **Node** window, under the **Name** field, a name for the node to be created.
2. Select a color for the node by clicking on the **Color** field.

3. Then click on **Create**.
4. Create as many nodes as you want and sort them as you want.
5. Connect the nodes by dragging a node output (to the right of the node) to a node input (to the left of the node).

Note: A node can have connections to several nodes or several nodes can have connections to one node. The size of the output node changes depending on how many connections there are. Nodes that are only connected on one side are displayed as round or oval. Nodes that have connections on both sides are shown as angular.

There are the following possibilities with regard to node connections:

Back-coupling: Establish a connection from the output of a node to its input

To do this:

- Double-click on the node on which you want to create the back-coupling.

or

- Drag the connection from the output of the node to its input.

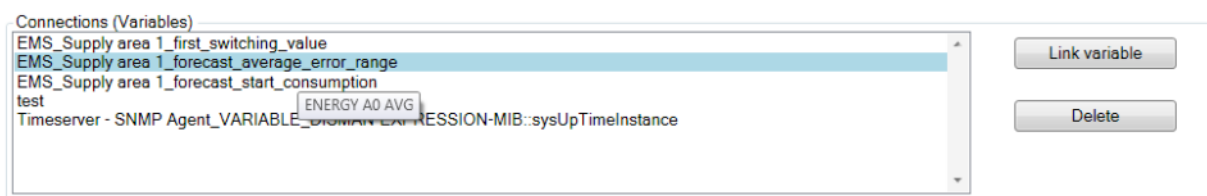
Establish a connection between 2 nodes and link a variable to it at the same time:

To do this:

1. Highlight both nodes that you want to connect and the variable that you want to link to it.
2. Click on **Link Variable**.

LINKING VARIABLES TO CONNECTIONS:

There are several possibilities for linking variables to connections:



Drag&Drop

- Drag the desired variable from the **Connections (Variables)** window to the desired node connection.

Note: Provided that you have already established the connection between the nodes.

Button **Link Variable**

1. Highlight the desired node connection
2. Highlight the variable that you want to link to the connection.

3. Click on the **Link Variable** button.

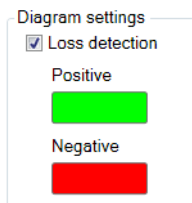
Note: You can only link one variable to each connection.

Linking a variable to several node connections:

1. Hold down the **Ctrl** key and highlight several node connections.
 2. Highlight the desired variable
 3. Click on **Link Variable**
- or
4. Drag the variable to the highlighted node connections.

Note: Move the mouse to a connection in order to see the name of the variable that is linked to the connection.

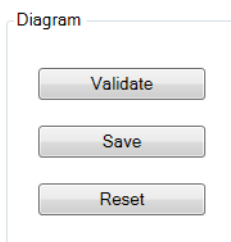
DIAGRAM SETTINGS:



If you activate the **Loss Detection** option, loss detection is calculated automatically.

You can select the colors that are to be used for the display of the differential flows in the **Positive** and **Negative** fields.

CONCLUDING THE DRAWING OF THE DIAGRAM:



Once you have finished drawing your diagram,

- Click on the button **Validate**:

If all your connections are correct, a dialog appears informing you that the diagram is valid. Otherwise a dialog appears informing you that there are still nodes that are not connected or that variables are not linked to the connections.

In order for a diagram to be valid:

- ▶ All nodes must be connected
- ▶ All connections must be occupied with a variable
- ▶ No nodes can overlap if they are moved towards inputs (left) or outputs (right)

To save your diagram,

- ▶ Click on the **save** button.

The diagram you have created is validated. The diagram is saved and marked as valid or invalid. You are shown the project in which it is saved.

To redraw the diagram,

- ▶ Click on the **Reset** button.

All the nodes you have drawn and your connections are thus deleted.



Information

*Clicking on the **Validate** or **Save** buttons orientates the nodes to the right and left side of the drawing area.*

Note: Nodes must not overlap in the process.

EDITING NODES:

Once you have created some nodes, you can

Issue several nodes with the same name:

1. Hold down the **Ctrl** key.
2. Highlight the nodes that you want to name.
3. Enter a name.

Select the same color for several nodes:

1. Hold down the **Ctrl** key.
2. Highlight the nodes that you want to color.
3. Then select a color.

Moving several nodes at the same time:

1. Hold down the **Ctrl** key.
2. Select the node that you want to move.

3. Move the nodes. Your connections are also moved.

Note: You can also edit a node individually by highlighting it and make the desired change.

DELETING NODES:

1. Highlight the node that you want to delete.
2. Click, in the **Node** window, on **Delete** or use the **Del** key.

Deleting several nodes at the same time:

1. Hold down the **Ctrl** key and highlight the node that you want to delete.
2. Click, in the **Node** window, on **Delete** or use the **Del** key.

Note: When the node is deleted, its connections are also deleted.

DELETING CONNECTIONS:

1. Highlight the connection that you want to delete.
2. Click, in the **Connections (Variables)** window, on **Delete** or use the **Del** key.

Deleting several connections at the same time:

1. Hold down the **Ctrl** key and highlight the connections that you want to delete.
2. Click, in the **Connections (Variables)** window, on **Delete** or use the **Del** key.

Display of Sankey diagram in zenon Analyzer

The nodes are always rearranged in zenon Analyzer and do not follow the exact positioning in the wizard in the process. The display of the Sankey diagram is automatically optimized in zenon Analyzer for legibility and clarity.

The width of the connection is taken into account specially for this arrangement. This width is dependent on the respective values shown (the more there are, the thicker it is).

HORIZONTAL ARRANGEMENT

Nodes are distributed horizontally over the whole width in proportion to their number.

Example: With three nodes, the display of the first connection will end in the middle of the display.

VERTICAL ARRANGEMENT

The vertical arrangement of the nodes is always carried out in a vertical line in zenon Analyzer. This means that the first level is always arranged in a vertical line, regardless of the project configuration in the wizard.

The end nodes are automatically arranged from top to bottom at equal distances.



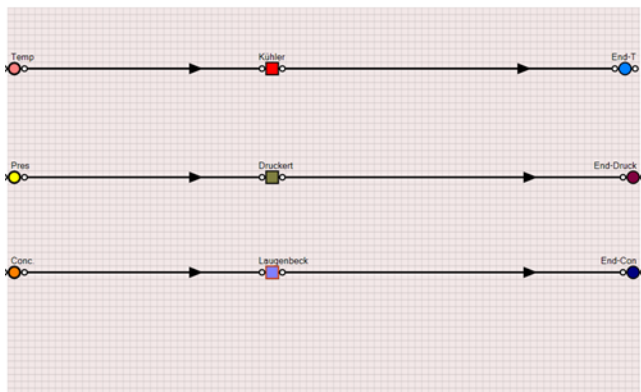
Information

Please note the following examples of views.

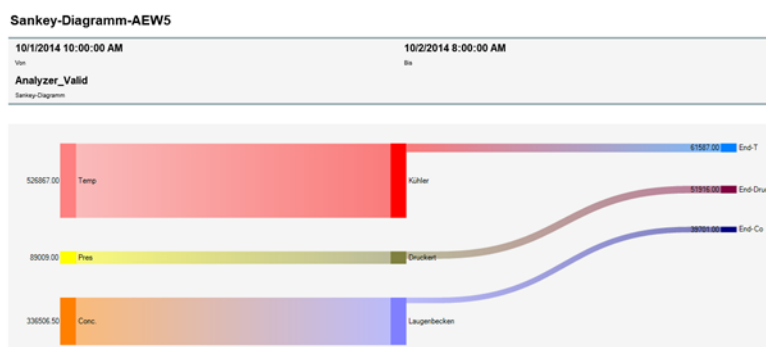
Examples of views: Wizard - zenon Analyzer

EXAMPLE OF HORIZONTAL ARRANGEMENT

SANKEY WIZARD CONFIGURATION

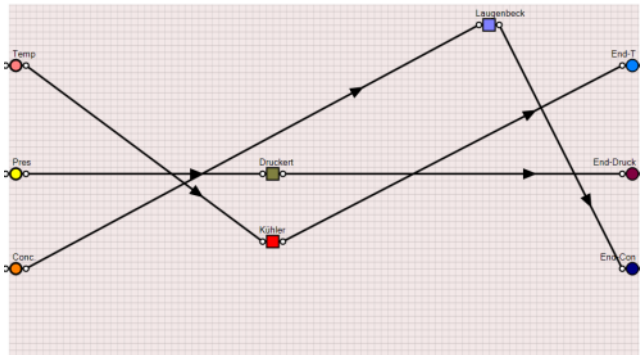


ZENON ANALYZER VIEW

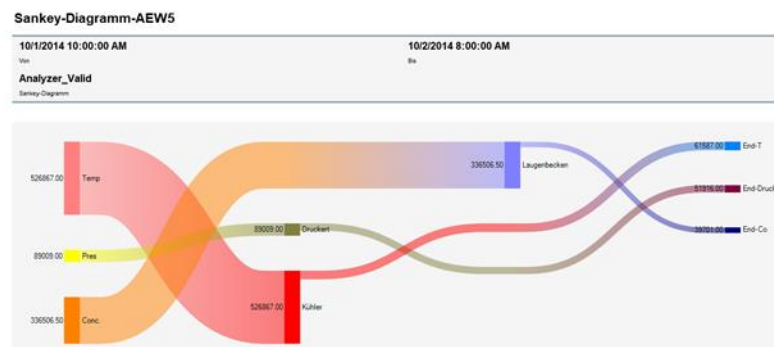


EXAMPLE OF VERTICAL ARRANGEMENT

SANKEY WIZARD CONFIGURATION

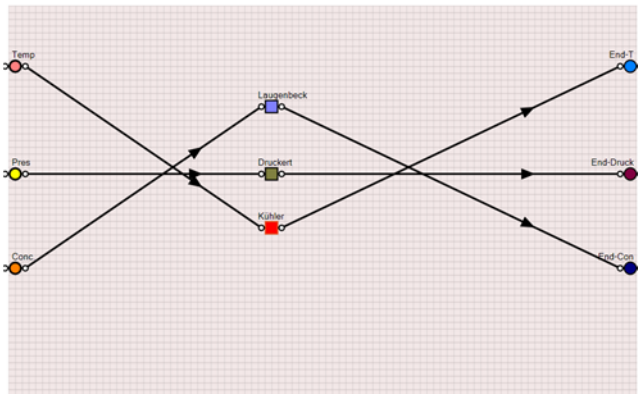


ZENON ANALYZER VIEW

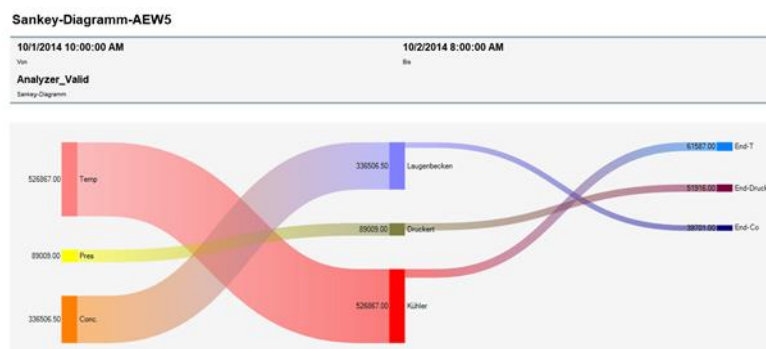


EXAMPLE OF MIXED ARRANGEMENT

SANKEY WIZARD CONFIGURATION



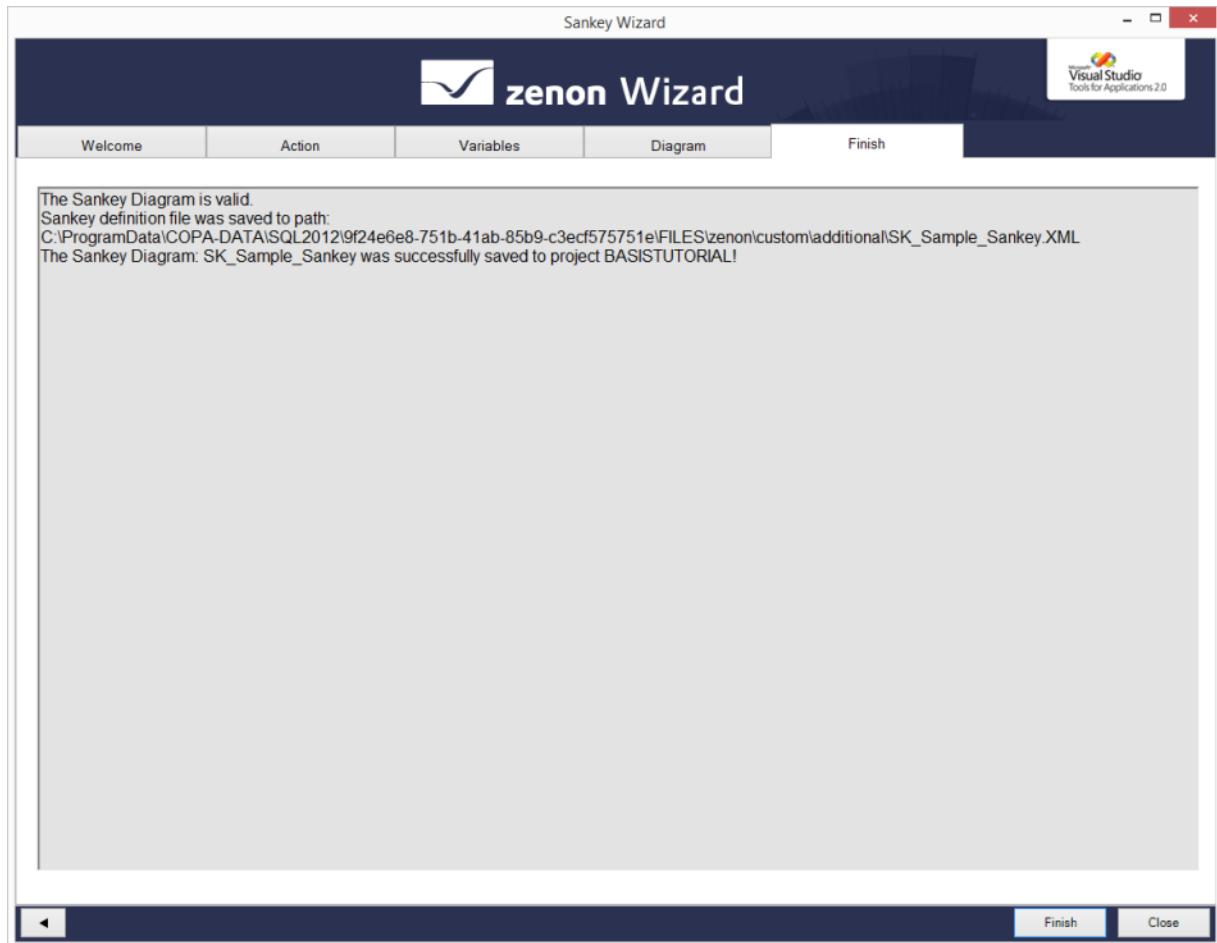
ZENON ANALYZER VIEW



Finish - complete

In the **Finish** tab, you can see whether the diagram you have created is valid and the location where the diagram you have created has been saved.

- Click on the **Finish** button.



To close the Sankey wizard:

- Click on the **Close** button.



Information

The configuration of your Sankey diagram is saved in an XML file.

*This is in the **project manager** of the selected project in the **Files** node in the **Other** folder.*

With the Analyzer Export Wizard, you can accept the modeled Sankey diagram for use in zenon Analyzer.

You can read details of this export in the Analyzer Export Wizard. (on page 37) manual

3.2 Import - Export

Wizards for export and import of data.

3.2.1 FactoryLink import wizard

The **FactoryLink Import Wizard** is an assistant that supports the user when porting a **FactoryLink** project to zenon.



Attention

The zenon Editor language should be set to English, in order to ensure that the FactoryLink project is imported with as few errors as possible.

Export of project data from FactoryLink

FactoryLink project data is exported via the Menu Display - Library Converter in the ClientBuilder application. Here, the desired libraries all all project data to be converted must be selected.



Attention

ASCII must be selected as the target format.

In addition, there must be access to all bitmaps used in the project. All files must remain in the file structure that was created by **FactoryLink**.

Import of the project

A selection dialog is displayed using the File - Wizards... menu, which displays all wizards available in zenon. The FactoryLink Import wizard is in the Wizards - Export/import - FactoryLink Import Wizard group.

Welcome

On the first page of the wizards, the process and the following pages of the wizard are briefly explained.

Preparation

Basic information for executing the wizard is available on this page. To exclude the possibility of two names of screens and templates when importing, it is recommended that you create a new project in zenon. The zenon dialog to create a new project can be called up by clicking on **Create empty project** if the project that is currently loaded is not to be empty.



Attention

After creating a new project, the zenon wizard selection dialog opens automatically. This selection dialog must be closed, because the FactoryLink Import Wizard remains active in the background.

TAG selection

On this page, the file `imltags.asc` of the FactoryLink project to be imported must be selected. All of the project's variable information is imported into zenon by clicking 'Import!'. The wizard opens the file with the variable information and reads names, types and descriptions of the variables. The internal driver is used as a standard driver in zenon.



Information

After the variables have been imported, the drivers used in zenon can be changed via
Properties -> Addressing -> Driver Connection -> Driver.

Mimic selection

On this page, all relevant folders in which picture data, templates, bitmaps and project symbols are located must be selected.

In addition to normal import as a picture symbol, there is also the possibility to create a symbol in the wizard. In doing so, the wizard creates a picture with all symbols contained in the project. These symbols must now be manually copied into the local symbol library of the zenon project. If the project contains FactoryLink animations (for example Symbols Bit Group), in which variables with symbols are linked, the wizard can transfer these animations to a zenon combined element.

Events

A summary of the conversions is shown on this page. The list can be filtered for certain event if required.

List of importable objects

- ▶ Import of variable names, description and types, transfer of FactoryLink connections to the zenon internal driver
- ▶ The import and creation of FactoryLink templates and mimics.
- ▶ Import of FactoryLink Bitmaps in the picture folder of the zenon project manager
- ▶ Import and creation of static picture elements:
 - ▶ Rectangle
 - ▶ Lines
 - ▶ Rounded rectangle
 - ▶ Circle/ellipse
 - ▶ Text
 - ▶ Polygons
 - ▶ Polylines
 - ▶ Pie charts
 - ▶ Bitmaps
- ▶ Import of MultiLang texts from text elements in zenon language tables
- ▶ Fonts from FactoryLink projects are approximated in size and adapted to existing standard project fonts
- ▶ Possibility of creating a symbol, which contains all symbols for manual import into the local symbol library
- ▶ FactoryLink symbol import as zenon symbols
- ▶ Alternative symbol import from zenon symbol library, if manual import was carried out
- ▶ Conversion of CB animations (ColorBit) to a zenon combined element
- ▶ Conversion of CB animations (ColorBit) to a zenon combined element
- ▶ Conversion of DR animations (display register) to a zenon text element
- ▶ Conversion of SR animations (send register) to a zenon text button

3.2.2 PDiag import wizard

The zenon PDiag import wizard supports PDiag messages during import. This wizard can also serve as a template for your own expansions in this respect.

The PDiag import wizard is only available in English.

Requirements

The wizard imports an XML file exported from the `process diagnosis (PDiag)` Simatic module. This export can be carried out with the menu item `Process diagnosis | Export` in Simatic Manager.

The XML file created in this way is imported with the wizard in zenon. In doing so, variables that are based on the S7-TCP driver, of driver object type `Alarm` s are created. Each message and each accompanying value corresponds to a zenon variable.

Only UINT variables are imported as accompanying values. In doing so, the message text is analyzed for the Simatic PDiag identifier "`@1X%2d@`", "`@1X%3d@`" und "`@1X%4d@`" and adapted for zenon accordingly. It is also possible to use the language table for dynamic texts. In doing so, the texts outside the wizard are to be transferred to the zenon.

This wizard also imports S7 graph messages, which are automatically generated and thus also contained in the XML file.

Settings

To start the wizard:

1. Select **Wizards...** in the **File** menu.
Alternatively: The key combination `Alt+F12`
2. The dialog to select the zenon wizards is opened
3. Open the **Export/Import** nodes
4. Select **PDIAG wizard**

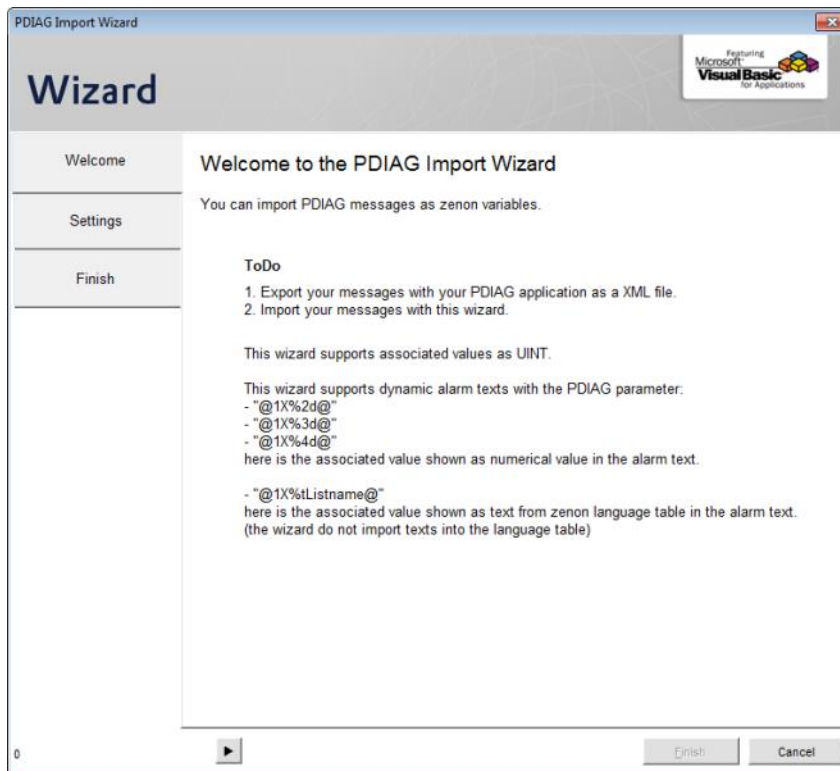
The wizard leads to, via the

- ▶ Welcome (on page 110)
- ▶ Settings (on page 111)
- ▶ Finish (on page 113)

tabs, to the import of an XML file.

Welcome

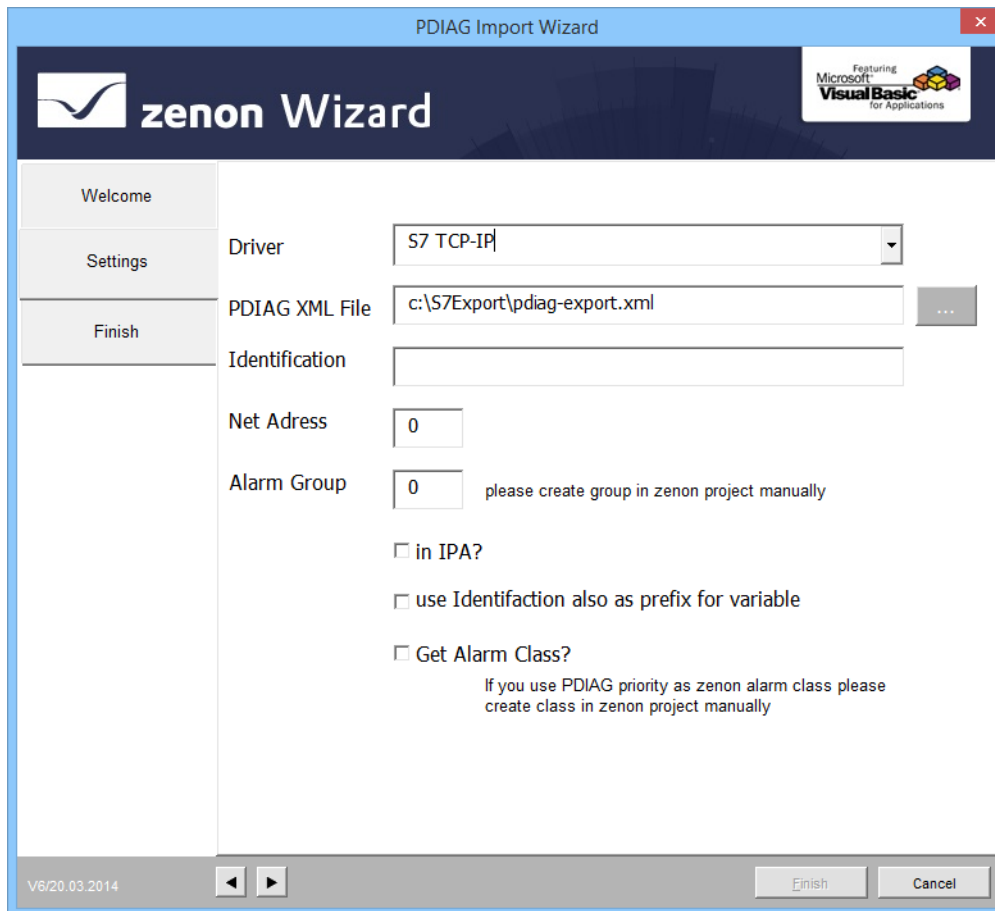
The **Welcome** tab contains a short explanation of how the wizard works and what it requires.



To get to the Settings (on page 111) tab, click on the **Settings** menu or on the arrow on the bottom left.

Settings

You can adjust the import settings in the **settings** tab.



The screenshot shows the 'PDIAG Import Wizard' window, specifically the 'Settings' tab. The window has a blue title bar and a dark blue header with the 'zenon Wizard' logo and a 'Featuring Microsoft Visual Basic for Applications' badge. On the left, there is a vertical sidebar with three tabs: 'Welcome', 'Settings' (which is selected), and 'Finish'. The main area contains several input fields and checkboxes. The 'Driver' is set to 'S7 TCP-IP'. The 'PDIAG XML File' is set to 'c:\S7Export\pdiag-export.xml'. The 'Identification' field is empty. The 'Net Address' is set to '0'. The 'Alarm Group' is set to '0' with a note 'please create group in zenon project manually'. There are three checkboxes: 'in IPA?' (unchecked), 'use Identification also as prefix for variable' (unchecked), and 'Get Alarm Class?' (unchecked). Below the last checkbox is a note: 'If you use PDIAG priority as zenon alarm class please create class in zenon project manually'. At the bottom, there is a status bar with the version 'V6/20.03.2014', navigation arrows, and 'Finish' and 'Cancel' buttons.

PDIAG Import Wizard

zenon Wizard

Featuring Microsoft Visual Basic for Applications

Welcome

Settings

Finish

Driver: S7 TCP-IP

PDIAG XML File: c:\S7Export\pdiag-export.xml

Identification:

Net Address: 0

Alarm Group: 0 please create group in zenon project manually

☐ in IPA?

☐ use Identification also as prefix for variable

☐ Get Alarm Class?

If you use PDIAG priority as zenon alarm class please create class in zenon project manually

V6/20.03.2014

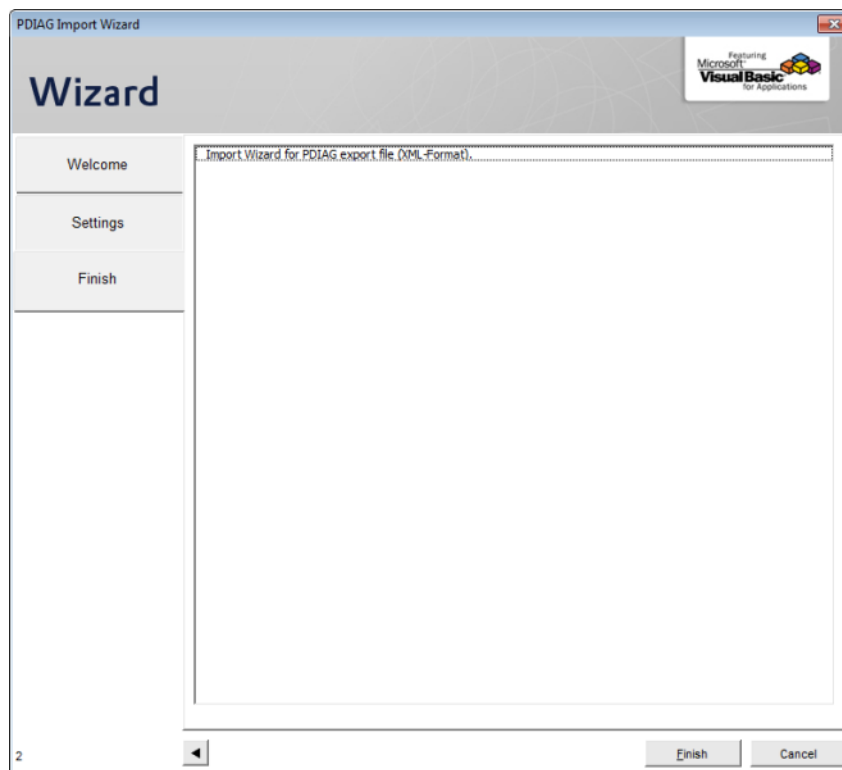
Finish Cancel

Setting	Description
Driver	Selection of the S7-TCP driver from the active project for which the import is to be carried out.
PDIAG XML File	Selection of the XML file to be imported.
Identification	Optional entry for variable identification. This entry can be filtered in the variable list.
Net Address	Defines the net address for the zenon variable addressing. You can see the valid net address in the driver configuration.
Alarm Group	<p>Sets the alarm/event group of the messages to be imported.</p> <p>Attention: The wizard does not create alarm/event classes in zenon independently. These must be manually created before the import.</p>
In IPA	Active: Sets the Save in IPA database property for the variables. This transfers the messages to the industrial performance analyzer.
use Identification also as prefix for variable	Active: For the variable names of the alarm variables, the variable detection given in the wizard is used as a prefix for the variable names. This option supports unique variable names for projects with several drivers.
Get Alarm Class	<p>Active: The message priority set in Simatic Manager is interpreted as zenon alarm/event class.</p> <p>Attention: The wizard does not create alarm/event groups in zenon independently. These must be manually created before the import.</p>

The import is started with **Finish**. This button is only active in the Finish (on page 113) tab. Click on **Finish** in the menu or on the arrow at the bottom left.

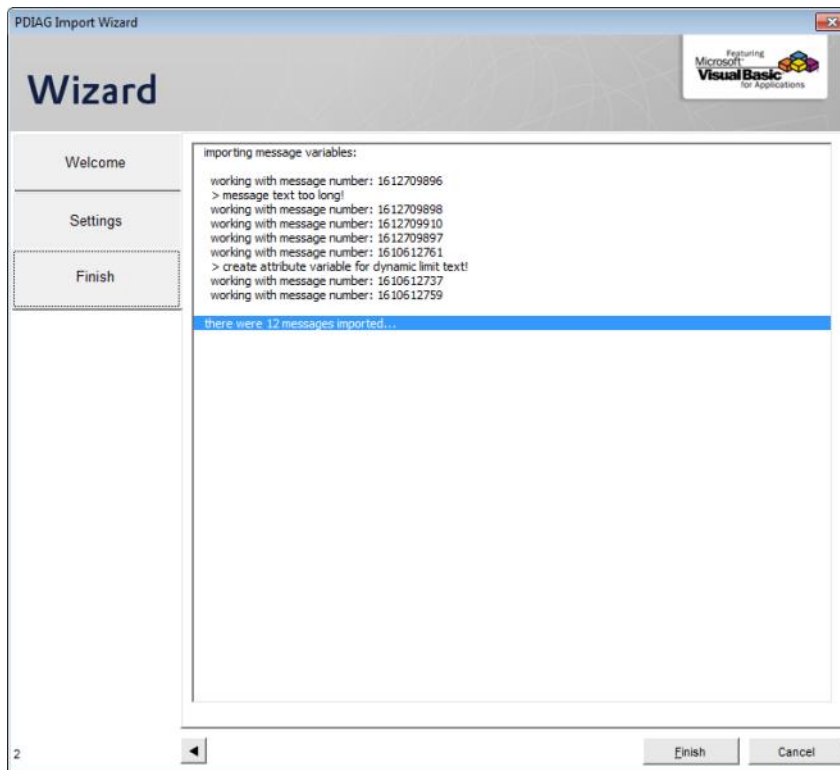
Finish

To start the import, click on the **Import** button.



Import of messages

Notices are given during the import:



After the import has finished, there is a note stating how many variables were imported.

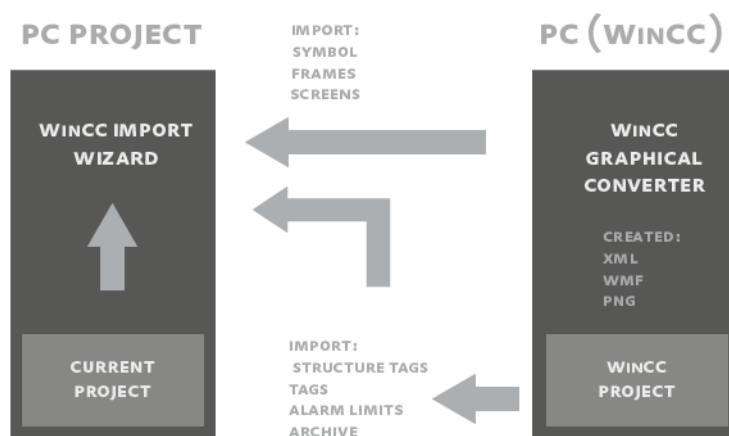
IMPORTANT MESSAGES

Message	Description
message text too long	The alarm text is too long and will be cut to the valid length in zenon.
creating attribute variable for dynamic limit text	In addition to the message variable, an accompanying value variable for the dynamic limit value text is created.

3.2.3 WinCC Import Wizard

The **WinCC Import Wizard** imports selected parts of an existing WinCC project to the currently loaded zenon project. The import of the WinCC project data is carried out using two programs:

- ▶ WinCC Graphics Converter (on page 118): exports WinCC screens, frames and symbols from WinCC in an XML file
- ▶ WinCC Import Wizard (on page 121): imported
 - Data blocks (structure TAGs), TAGs, alarms and archives directly
 - Screens, frames and symbols via XML files which were previously created with the help of the WinCC Graphics Converter (on page 118)



Installation

To execute the WinCC Import Wizard, you must first install all components.



Information

Note that zenon should NOT be installed on the same computer as WinCC.

INSTALLATION WINCC GRAPHICS CONVERTER

In order to access the WinCC information, the **WinCC Graphics Converter** must be installed on the computer on which the WinCC project runs. The program is located on the zenon installation medium in folder `\Additional Software\WinCC Graphics Converter`.

After the installation you can find the converting tool for different WinCC versions under Start - All Programs - COPA-DATA - WinCC Graphics Converter. Always start the tool for matching version.



Information

*For using the converter, **.NET Framework 3.5** must be installed. When installing the converter, it is checked whether it is available. If the framework is missing, the installation is canceled. In this case first install **.NET Framework 3.5** and then start the installation of the converter again.*

INSTALLATION OF THE WIZARD FOR ZENON 7.0 AND HIGHER

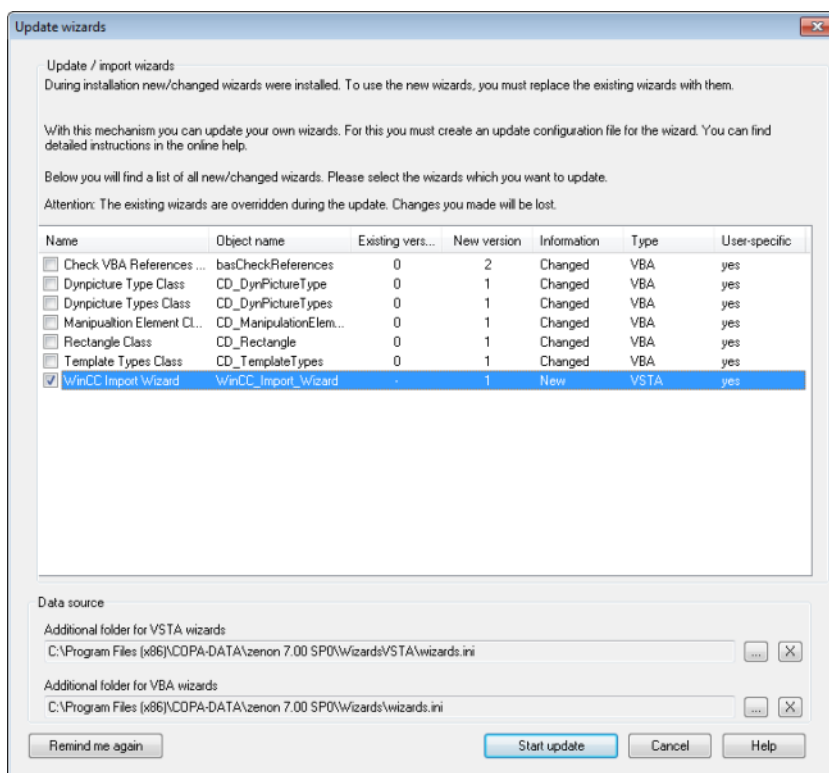
The wizard is automatically installed together with the zenon Editor. No separate settings are needed. You can start the wizard right away in the zenon Editor under File - Wizards... and there under Export/Import.

INSTALLATION OF THE WIZARD FOR ZENON 6.51

As the wizard is not a part of 6.51 SP0, you must carry out the following steps for the installation:

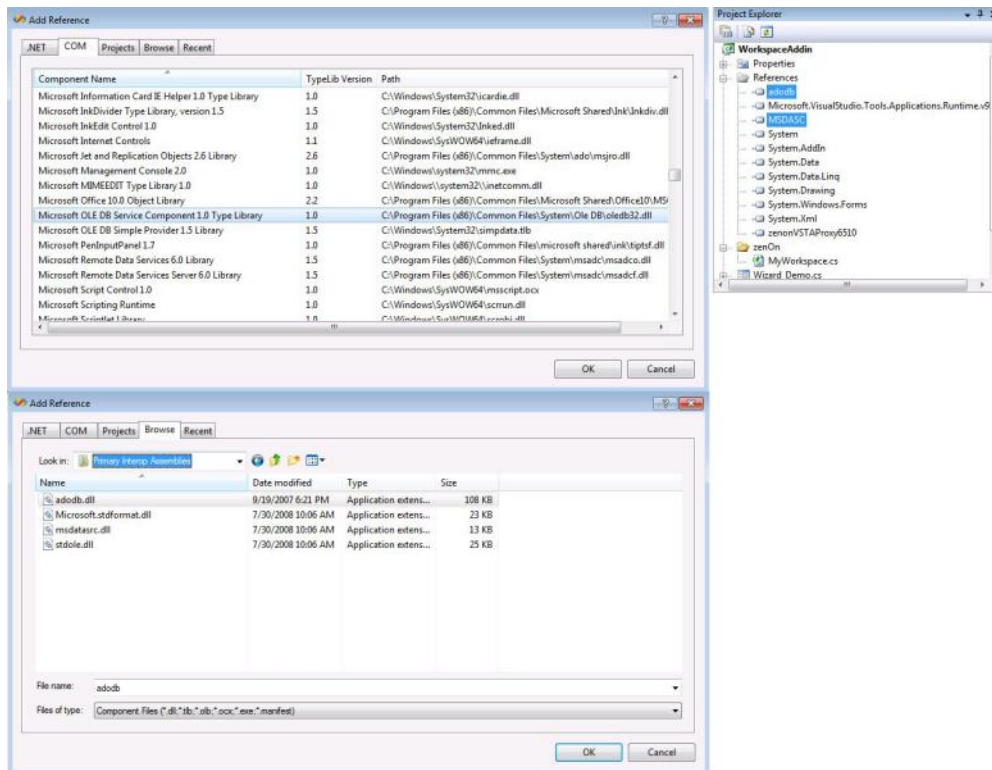
- ▶ Install at least Build 6 of zenon 6.51. You can request Build 6 from your distributor or from the COPA-DATA Support (<mailto:support@copadata.com>).
- ▶ Install the wizard together with the WinCC Graphics Converter. This setup installs the WinCC Graphics Converter tool and also the wizard if zenon 6.51 SP0 is installed. You can request the setup from your distributor or from the COPA-DATA Support (<mailto:support@copadata.com>).

- After the installation, start the zenon Editor. The dialog for updating the wizard is displayed. The wizard is added to the VSTA workspace by starting the update.
If you want to carry out this step later, you can return to this dialog in the zenon Editor via menu File - Update wizards.... To get to this dialog at any time.



- Start the VSTA Editor in the zenon Editor in the File - Open VSTA Editor... and select, in the Project Explorer window, the References node. Carry out menu item Add Reference.. in the context menu in order to add two missing references:
 - MSDASC: In the Add Reference dialog click on tab com and add the component Microsoft OLE DB Service Component 1.0 Type Library to the project.

- **ADODB:** In the Add Reference dialog click on tab **Browse**. Navigate to the folder `C:\Program Files (x86)\Microsoft.NET\Primary Interop Assemblies` and select file `adodb.dll`.



- In window **Project Explorer** you can now select node **WorkspaceAddin** and compile the add-in via menu item **Build** in the context menu.

After the compiling was successful, the wizard is available in the zenon Editor under **File - Wizards...** and there under **Export/Import**.

WinCC Graphics Converter

The **WinCC Graphics Converter** makes it possible to select screens, frames and symbols in WinCC projects and export them as XML files.



Information

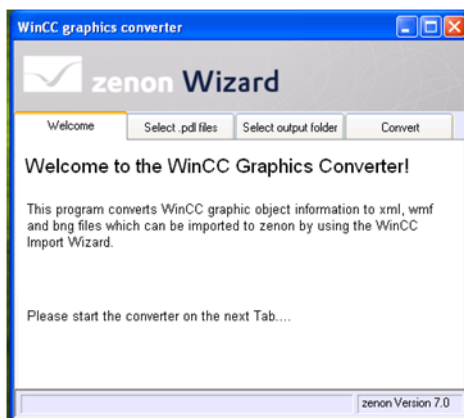
At the moment XML files can be created from WinCC projects of versions 7.0 and 7.0 SP1.

Welcome

With the help of the WinCC Graphics Converter you can convert WinCC graphics files (PDL) to an XML format which the WinCC Import Wizard can read. Existing graphics information are saved as PNG files and WMF files together with the XML files and stored in a selected folder.

To execute the converter:

1. click on Start
2. navigate to COPA-DATA -> WinCC Graphics Converter
3. start the **WinCC Graphics Converter**
4. follow the instructions of the wizard



Select .pdl files

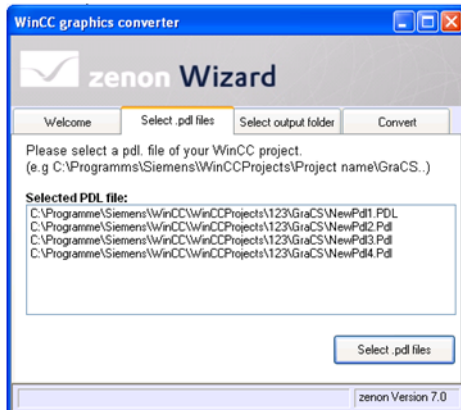
On this tab you select the PDL files which should be exported from the WinCC project. To do this:

1. click on button **Select .pdl files**
2. navigate to the project folder which contains the PDL files

Note: In order that the files can be selected, the WinCC project must be loaded on the computer!

3. select the desired files

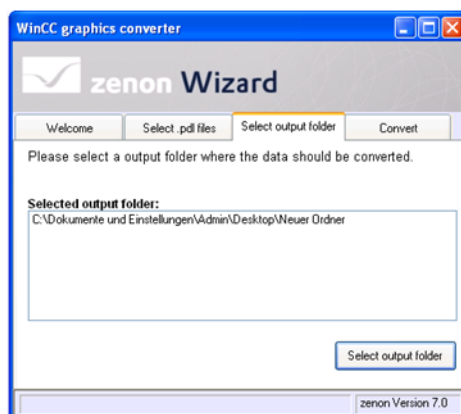
4. all selected PDL files are displayed in the preview window



Select output folder

On this tab you select the folder in which the export files should be saved. To do this:

1. click on button **Select output folder**
2. avigate to the folder in which the export files should be saved
3. Note: You can create a new folder in the selection dialog



Convert

On this tab you can carry out the conversion.

After the successful export copy the folder to the computer with the zenon project in which the data should be imported or make sure that the computer with the zenon project has access to the export folder.

WinCC Import Wizard

The WinCC Import Wizard is started via the wizard dialog of the Editor and can be used to import the following WinCC elements:

- ▶ Import of the Screens (on page 130) (the XML files created with the WinCC Graphics Converter (on page 118) are converted to frames, screens and symbols in zenon)
- ▶ Import of the WinCC Tags (on page 126) (only S7 TCP)
- ▶ Import of the WinCC Structure Tags (on page 125) (only S7 TCP)
- ▶ Import Alarm Limits (on page 127)
- ▶ Import Archive Tags (on page 129)

STARTING THE WIZARD

*For wizards to be displayed, the settings for VBA and/or VSTA must be set correctly in file **zenon6.ini**:*

[VBA]

EIN=1

[VSTA]

ON=1

If VSTA wizards are not displayed although the settings are correct, set entry **LOADED=** to 1 in area **[VSTA]**.

To start the wizard:

1. in zenon open menu **File**
or press the shortcut **Alt+F12**
2. select the entry **Wizards...**
3. the selection dialog is opened
4. navigate to the **Export/Import** node
5. select the **WinCC Import Wizard**
6. Start the wizard by clicking on **OK**

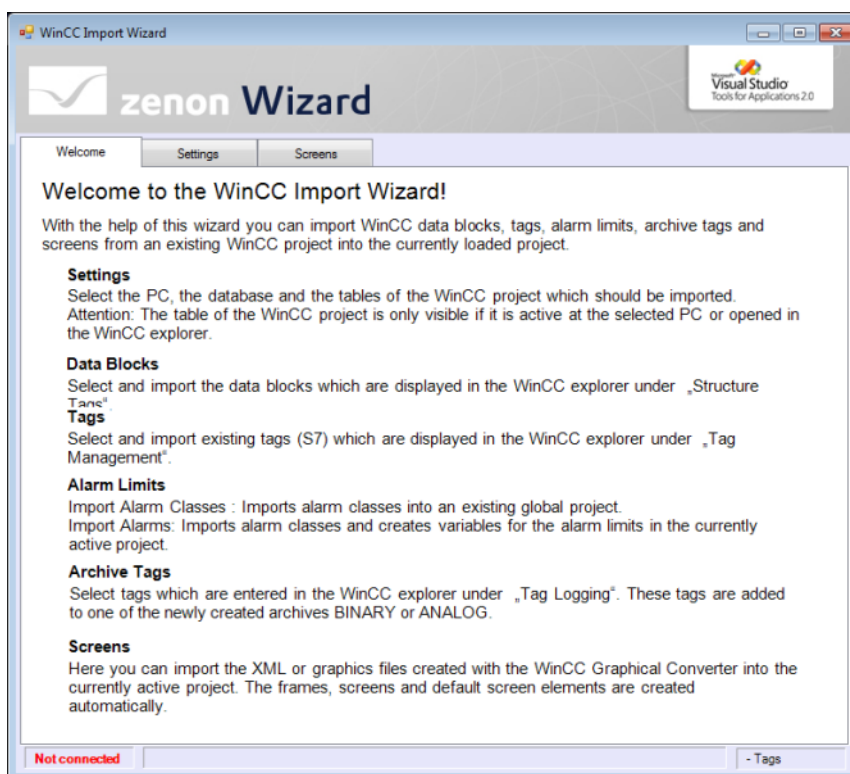
The wizard is divided into areas:

- ▶ Welcome (on page 122): Overview over the wizard.
- ▶ Settings (on page 123): Settings for the connection to the WinCC project. After the connection has been established successfully, the tabs for the direct import are displayed:
 - Data Blocks (on page 125): Structure Tags from WinCC
 - TAGs (on page 126) Tags from WinCC
 - Alarm Limits (on page 127): Alarm classes and alarms from WinCC

- Archive TAGs (on page 129) Archive files from WinCC
- Screens (on page 130): Import of the screens from WinCC via the WinCC Graphics Converter (on page 118)

Welcome

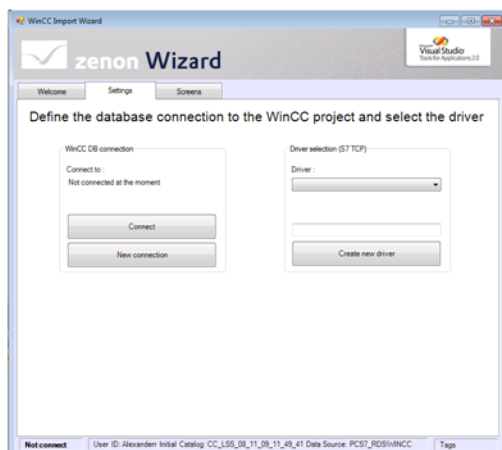
The start page of the wizard informs you about all other import steps:



The direct import of data is only possible after you have configured the connection to the WinCC project on tab **Settings**.

Settings

On this tab you configure the connection to the WinCC project whose data should be imported.



Parameters	Description
WinCC DB connection	Configuration of the connection to the WinCC database.
Connected with	Display of the active connection.
Connect	Establishes a connection.
New Connection	Opens the dialog for configuring a new connection.
Driver selection (S7 TCP)	Configuration of the zenon drivers.
Driver	Selection of a zenon driver from the drop-down list.
Create new Driver	Opens the dialog for creating a new driver.



Attention

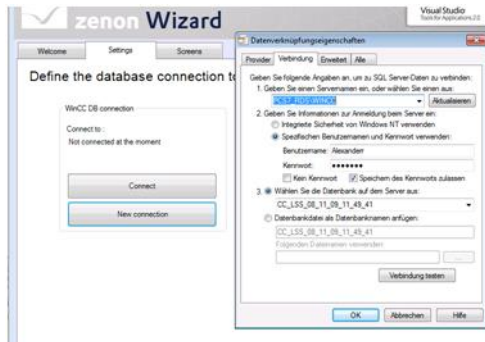
In order that the connection can be established, the WinCC project must be active or opened in the WinCC Explorer on the PC with which the connection should be established.

CONFIGURATION OF THE CONNECTION

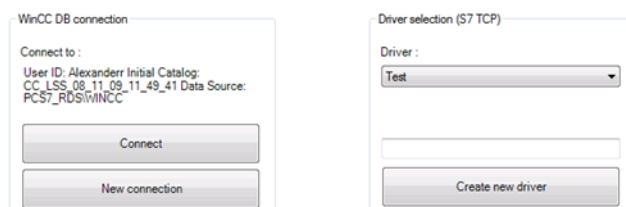
To establish a connection:

1. click on button **New connection**

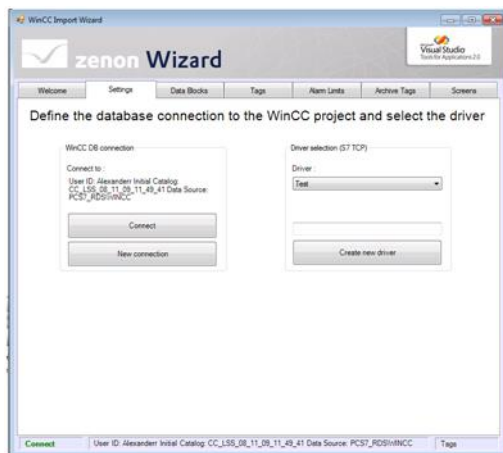
2. The dialog for the connection settings is opened



3. on tab **Provider** select the provider Microsoft OLE DB Provider for SQL Server
4. on tab **Connection**:
 - a) For **server name** enter the instance of the SQL server in which the WinCC project is located.
For example: HOSTNAME\WINCC
Important: The WinCC SQL server instance (sqlsrv.exe) must be enabled in the firewall.
 - b) For **logon information** enter your access data. At first you must create the access data with the help of SQL Server Management Studio in the SQL server instance.
Important: Activate option **Allow saving password**
 - c) For **database** select the WinCC Editor project. This is the database name without the suffix _R
Note: The project must be loaded and running in the WinCC Editor. Otherwise the project is not available in the SQL server.
 - d) Test the connection
5. Close the configuration dialog with **OK**
6. after that you can establish the connection to the WinCC project in the wizard via button **Connect**.
7. select a zenon driver



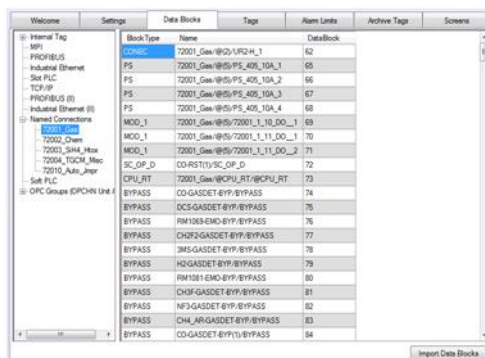
After a successful connection and the selection of a zenon driver, the tabs for the direct import are displayed.



Data Blocks

On this tab you select the data blocks which are displayed in the WinCC Explorer under **Data Blocks** and then imported as data types to zenon.

The WinCC data blocks are grouped according to drivers and are displayed sorted according to block type and name.



To import data blocks:

1. select the desired data blocks
2. click on **Import Data Blocks**

To import alarm classes:

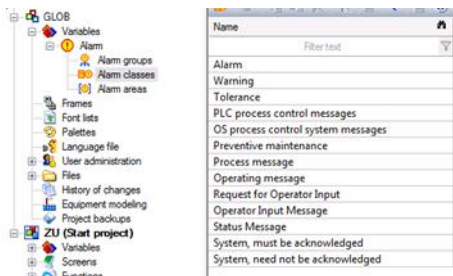
1. select the desired alarm classes
2. click on **Import Alarm Classes**

RESULT

Alarm classes in WinCC:



Alarm classes in zenon:



IMPORT ALARMS

With this kind of import all alarm classes and alarm groups are imported to the zenon project. The WinCC limit texts are replaced by limit variables.

Alarm High	0	False	RAW_EVENT	3MS-1 DIVMB1 EXHAUST GAS MONITOR SPARE	3MS-1 DIVMB1-AT-1/MIDASAT	NID
Alarm High	0	False	RAW_EVENT	3MS-1 DIVMB1 EXHAUST GAS MONITOR SPARE	3MS-1 DIVMB1-AT-1/MIDASAT	NID
Alarm High	0	False	RAW_EVENT	3MS-1 DIVMB1 EXHAUST GAS MONITOR SPARE	3MS-1 DIVMB1-AT-1/MIDASAT	NID
Alarm High	0	False	RAW_EVENT	3MS-1 DIVMB1 EXHAUST GAS MONITOR SPARE	3MS-1 DIVMB1-AT-1/MIDASAT	NID
Alarm High	0	False	RAW_EVENT	3MS-1 DIVMB1 EXHAUST GAS MONITOR SPARE	3MS-1 DIVMB1-AT-1/MIDASAT	NID
Alarm High	0	False	RAW_EVENT	3MS-1 DIVMB1 EXHAUST GAS MONITOR SPARE	3MS-1 DIVMB1-AT-1/MIDASAT	NID
Alarm High	0	False	RAW_EVENT	3MS-1 DIVMB1 EXHAUST GAS MONITOR SPARE	3MS-1 DIVMB1-AT-1/MIDASAT	NID
Alarm High	0	False	RAW_EVENT	3MS-1 GAS CABINET EXHAUST GAS MONITOR BYPASS ACTIVATED	3MS-GASDET.BYP/BYPASS	NID
Alarm High	0	False	RAW_EVENT	Ash3/PH3 STORAGE CABINET EXHAUST GAS MONITOR BYPASS SPARE	ASH3_PH3-BYP/BYPASS	NID
Alarm High	0	False	RAW_EVENT	Ash3/PH3 STORAGE CABINET EXHAUST GAS MONITOR BYPASS SPARE	ASH3_PH3-BYP/BYPASS	NID
Alarm High	0	False	RAW_EVENT	Ash3/PH3 STORAGE CABINET EXHAUST GAS MONITOR BYPASS SPARE	ASH3_PH3-BYP/BYPASS	NID
Alarm High	0	False	RAW_EVENT	Ash3/PH3 STORAGE CABINET EXHAUST GAS MONITOR BYPASS SPARE	ASH3_PH3-BYP/BYPASS	NID

To import alarms:

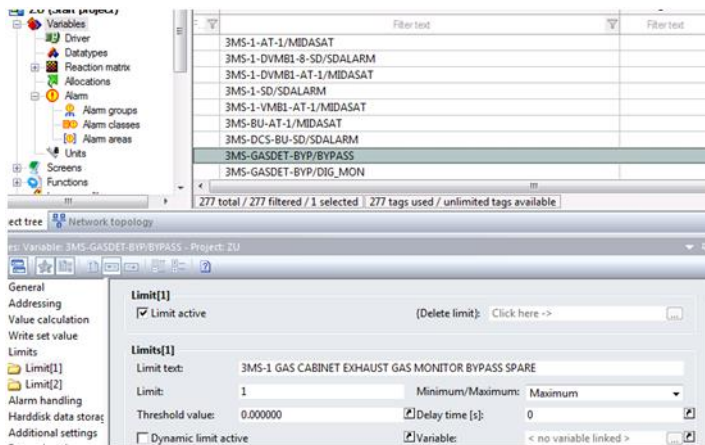
1. select the desired alarms
2. click on **Import Alarms**

RESULT

Alarms in WinCC:

0	3MS-DCS-BU-SD/SDALARM	LSS	3MS-1 & DCS-1 BACKUP GAS CABINET SHUTDOWN SPARE	
0	3MS-GASDET-BYP/BYPASS	LSS	3MS-1 GAS CABINET EXHAUST GAS MONITOR BYPASS SPARE	
0	3MS-GASDET-BYP/DIG_MON	LSS	High warning	@1%e@
0	72001_Gas/8(5)/72001_1_10_AI_1	Diagnostics	Module @1%e@/@2%e@/@3%e@: Access error	
0	3MS-STOR-1-AT-1/MIDASAT	LSS	3MS STORAGE CABINET 1 EXHAUST GAS MONITOR Manual EVAC Read	

Alarms in zenon:



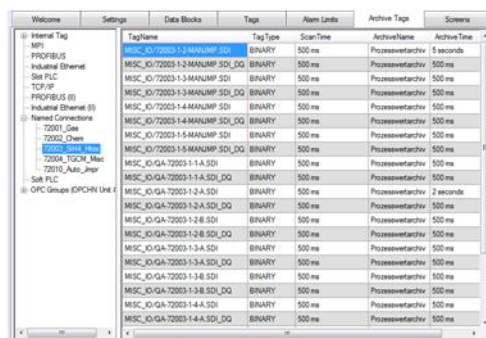
Archive TAGs

On this tab TAGs which are entered under **Tag Logging** in the WinCC Explorer can be selected and imported. The import is carried out in one of the two newly created archives BINARY and ANALOG in the zenon project.



Attention

TAGs are only created in the zenon archive if they were imported as TAGs beforehand.



TagName	Tag Type	ScanTime	ArchiveName	Archive Time
MISC_XI/72003-1-1-MANUMP_SDI	BINARY	500 ms	Processwertarchiv	5 seconds
MISC_XI/72003-1-2-MANUMP_SDI	BINARY	500 ms	Processwertarchiv	500 ms
MISC_XI/72003-1-3-MANUMP_SDI	BINARY	500 ms	Processwertarchiv	500 ms
MISC_XI/72003-1-4-MANUMP_SDI	BINARY	500 ms	Processwertarchiv	500 ms
MISC_XI/72003-1-5-MANUMP_SDI	BINARY	500 ms	Processwertarchiv	500 ms
MISC_XI/72003-1-6-MANUMP_SDI	BINARY	500 ms	Processwertarchiv	500 ms
MISC_XI/72003-1-7-MANUMP_SDI	BINARY	500 ms	Processwertarchiv	500 ms
MISC_XI/72003-1-8-MANUMP_SDI	BINARY	500 ms	Processwertarchiv	500 ms
MISC_XI/72003-1-9-MANUMP_SDI	BINARY	500 ms	Processwertarchiv	500 ms
MISC_XI/72003-1-10-MANUMP_SDI	BINARY	500 ms	Processwertarchiv	500 ms
MISC_XI/72003-1-11-MANUMP_SDI	BINARY	500 ms	Processwertarchiv	500 ms
MISC_XI/72003-1-12-MANUMP_SDI	BINARY	500 ms	Processwertarchiv	500 ms
MISC_XI/72003-1-13-MANUMP_SDI	BINARY	500 ms	Processwertarchiv	500 ms
MISC_XI/72003-1-14-MANUMP_SDI	BINARY	500 ms	Processwertarchiv	500 ms
MISC_XI/72003-1-15-MANUMP_SDI	BINARY	500 ms	Processwertarchiv	500 ms
MISC_XI/72003-1-16-MANUMP_SDI	BINARY	500 ms	Processwertarchiv	500 ms
MISC_XI/72003-1-17-MANUMP_SDI	BINARY	500 ms	Processwertarchiv	500 ms
MISC_XI/72003-1-18-MANUMP_SDI	BINARY	500 ms	Processwertarchiv	500 ms
MISC_XI/72003-1-19-MANUMP_SDI	BINARY	500 ms	Processwertarchiv	500 ms
MISC_XI/72003-1-20-MANUMP_SDI	BINARY	500 ms	Processwertarchiv	500 ms

To import Archive Tags:

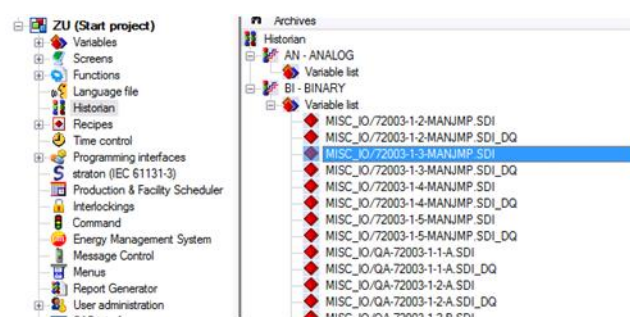
1. select the desired Archive TAGs
2. click on **Import Archiv Tags**

RESULT

Archive TAGs in WinCC:

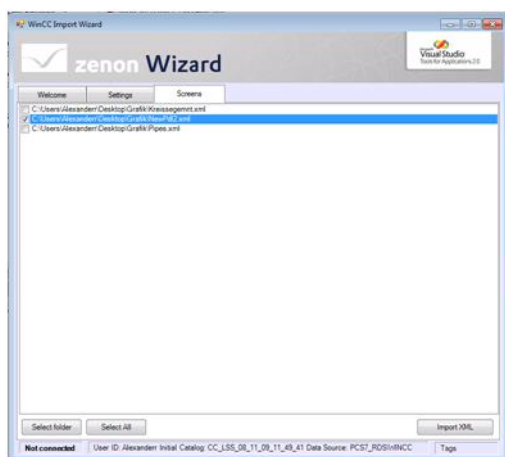
MISC_IO/72003-1-3-MANJMP.SDI	MISC_IO/72003-1-3-MANJMP.SDI	Binary	
MISC_IO/72003-1-3-MANJMP.SDI_DQ	MISC_IO/72003-1-3-MANJMP.SDI_DQ	Binary	
MISC_IO/72003-1-4-MANJMP.SDI	MISC_IO/72003-1-4-MANJMP.SDI	Binary	
MISC_IO/72003-1-4-MANJMP.SDI_DQ	MISC_IO/72003-1-4-MANJMP.SDI_DQ	Binary	
MISC_IO/72003-1-5-MANJMP.SDI	MISC_IO/72003-1-5-MANJMP.SDI	Binary	
MISC_IO/72003-1-5-MANJMP.SDI_DQ	MISC_IO/72003-1-5-MANJMP.SDI_DQ	Binary	
MISC_IO/QA-72003-1-1-A.SDI	MISC_IO/QA-72003-1-1-A.SDI	Binary	
MISC_IO/QA-72003-1-1-A.SDI_DQ	MISC_IO/QA-72003-1-1-A.SDI_DQ	Binary	
MISC_IO/QA-72003-1-2-A.SDI	MISC_IO/QA-72003-1-2-A.SDI	Binary	
MISC_IO/QA-72003-1-2-A.SDI_DQ	MISC_IO/QA-72003-1-2-A.SDI_DQ	Binary	
MISC_IO/QA-72003-1-2-B.SDI	MISC_IO/QA-72003-1-2-B.SDI	Binary	

Archives in zenon:



Screens

In this tab you can import the XML files which were created with the WinCC Graphics Converter (on page 118) to the active zenon project. In zenon frames, screens and standard screen elements are created based on the information stored in the XML files and based on the WMF and PNG files which are stored in the folder.



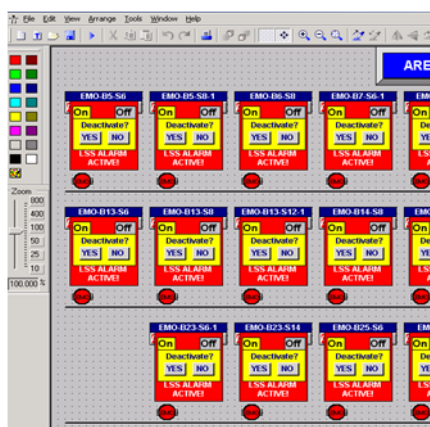
Parameters	Description
List of files	Shows all existing files in the selected folder.
Select Folder	Opens the dialog for selecting the folder with the import files.
Select All	Selects all existing files on the screen.
Import XML	Starts the import.

To import screens:

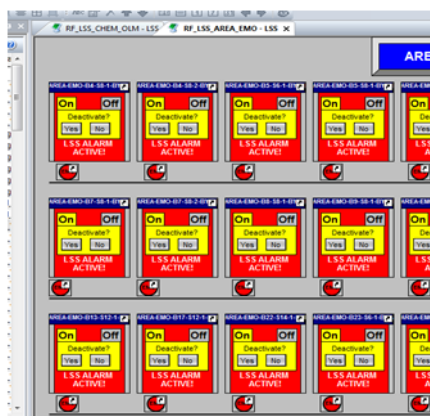
1. select the desired XML files
2. click on **Import XML**

RESULT

Screens in WinCC:



Screens in zenon:



WHICH WINCC SCREEN ELEMENTS ARE AUTOMATICALLY CREATED IN THE ZENON EDITOR?

STANDARD SCREEN ELEMENTS

- ▶ Line
- ▶ Polygon
- ▶ Polyline
- ▶ Ellipse
- ▶ Circle
- ▶ Elipse Segment
- ▶ Pie Segment
- ▶ Elipse Arc
- ▶ Circular Arc
- ▶ Rectangle
- ▶ Rounded Rectangle
- ▶ Static Text

TUBE OBJECTS

- ▶ Polygon tube
- ▶ T-piece
- ▶ Double T-piece
- ▶ Tube bend

SMART OBJECTS

- ▶ I/O Field
- ▶ Graphic Object
- ▶ Windows Objects
- ▶ Button

For all other WinCC objects a placeholder is created in zenon.

ERROR TREATMENT

Errors when importing screens are displayed in the zenon output window when the Runtime files are created.

Error message	Error treatment
The symbol "could not be found in the symbol library"!	<p>A placeholder for non-interpretable elements has been placed in the screen.</p> <p>Background: For each non-interpretable element, a symbol is created in the screen using the wizard. This is not in the symbol library however. You therefore have the opportunity to check to see if elements (placeholders) in a screen still need work carried out on them.</p>
WRN: (FDV_RECETTE_TUNNEL_T POS_DETAILS_FOU2->(ZONE_C NS0)Variable: could not be found in the project!	Signifies variable names, that are stored in WinCC in I/O Field Element but are not (including in WinCC) created as variables.

3.2.4 XML export wizard VSTA

You export all desired modules of a project into a folder of your choice with the XML export wizard. An independent XML file is created for each module.

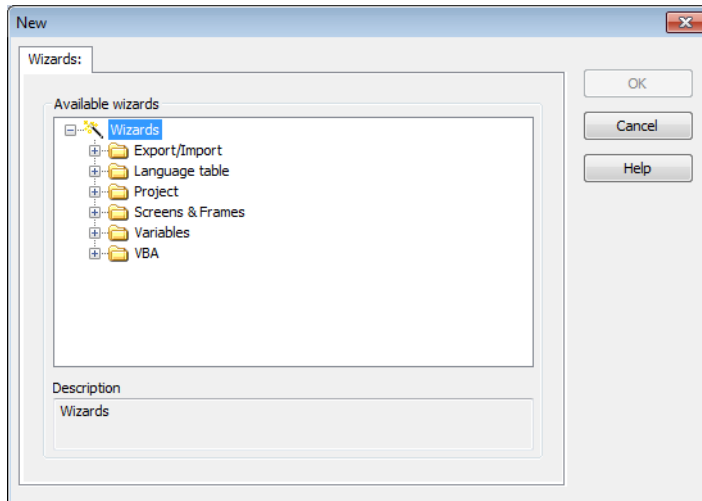
The wizard is only available in English.

Start wizard

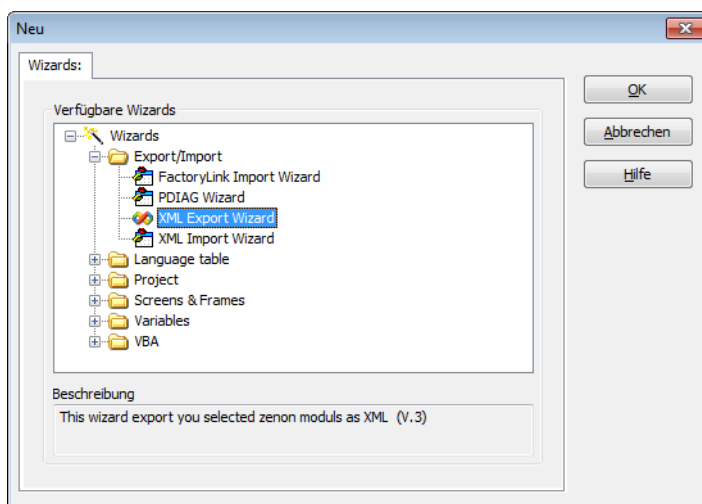
To start the wizard:

- ▶ Click on File-> Wizards...
 - or press the short cut `Alt+F12`
- ▶ The selection window with the available wizards opens

- Select the **Export/import** folder

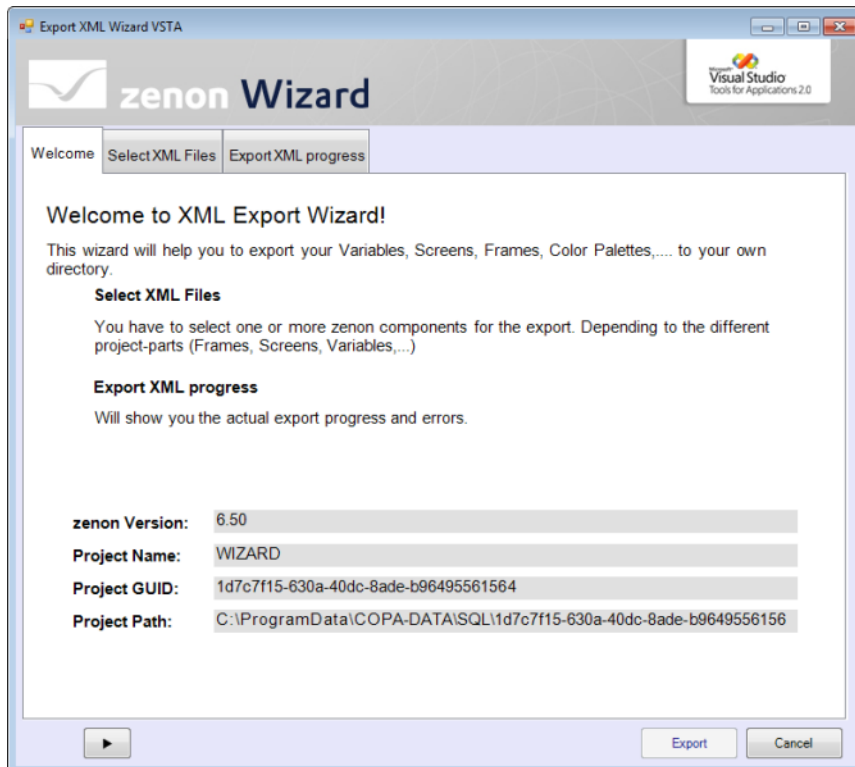


- Select **XML export wizard** there



- click on **OK**
- The wizard starts with the welcome page and displays:
 - brief instructions
 - the zenon version
 - the name of the project from which the export is taking place
 - Project GUID

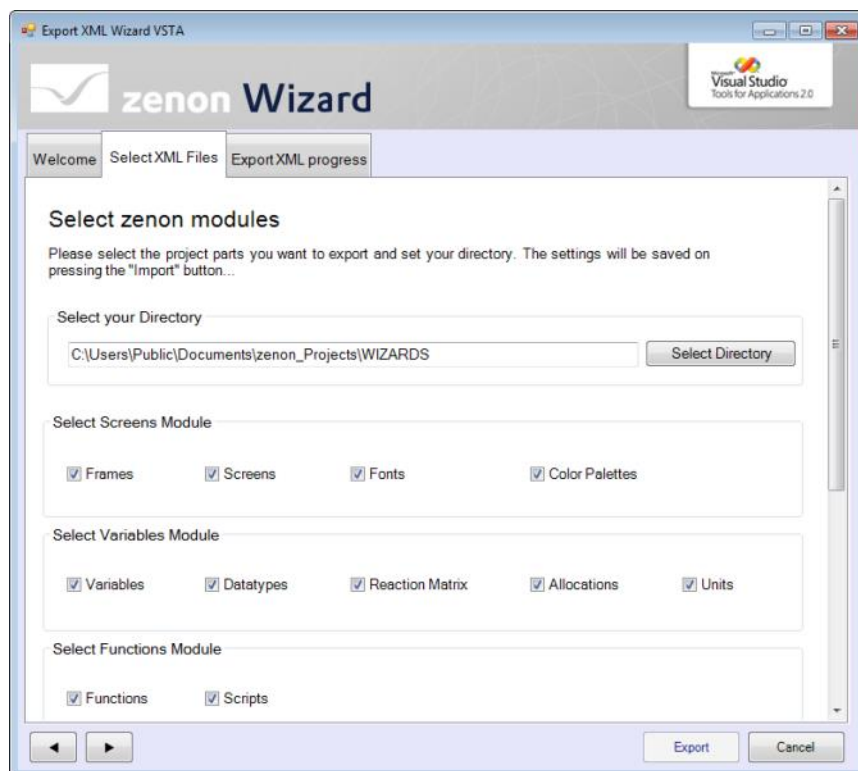
- Project path



- ▶ The cursor key leads you step by step through the wizard
 - Alternatively, clicking a tab opens the respective setting
- ▶ To activate the **Export** button, the **Export XML progress** page must be open

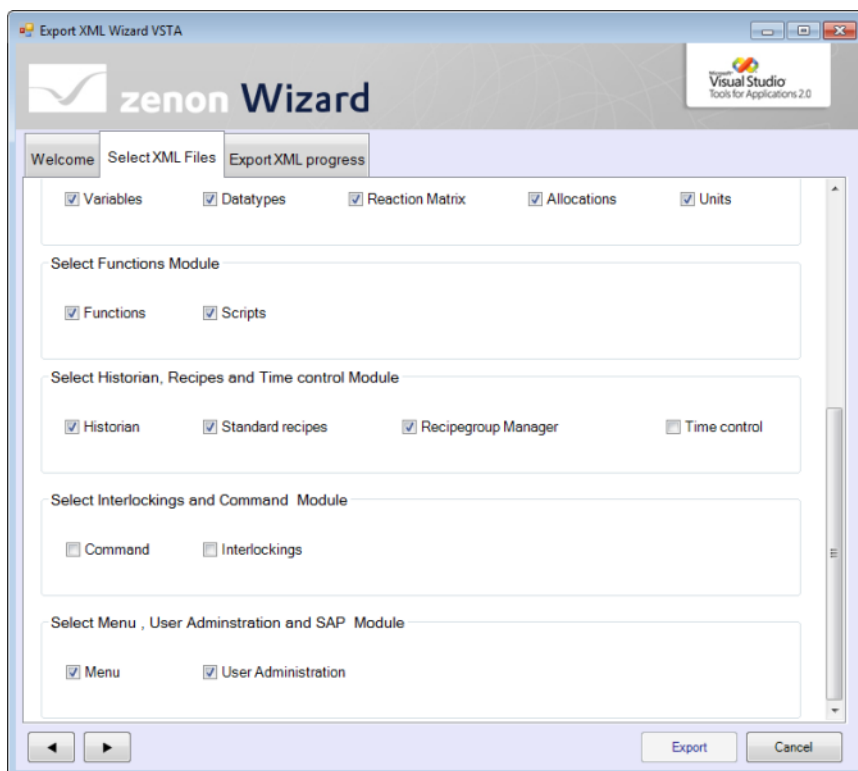
Select XML files

Select which module of the project is to be imported:



- Click on **select directory** to define the folder for export

- Select the modules and elements that are to be exported by ticking the checkboxes (scroll down if necessary)

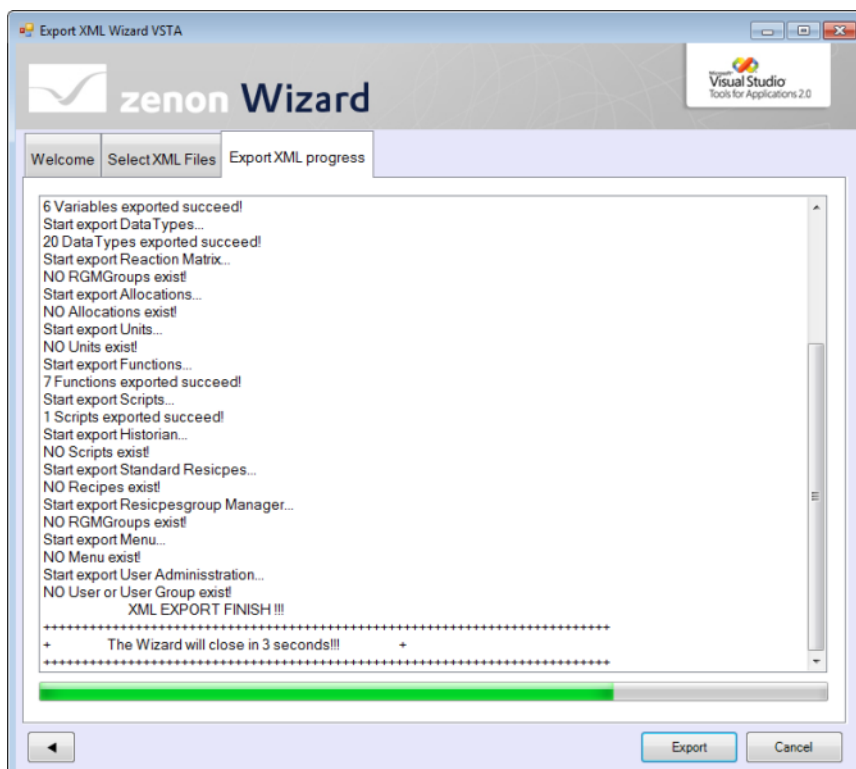


Export

To start the export:

- click on the **Export** button
- the desired modules are exported
- The output window displays which modules are exported with what success

- The wizard closes automatically three seconds after the end of the export



3.2.5 XML Import Wizard

This wizard helps with importing variables, functions, screens and scripts from a XML file.



Attention

This wizard does not support distributed engineering and is not available in multiuser projects.

3.3 Language Table

Wizards for language switching.

3.3.1 Language Table Wizard

The Language Table Wizard replaces the old Language Change Wizard (VBA).

The Wizard

- ▶ Searches the active projects for translatable texts or key words (text marked with a "@") and
- ▶ writes this
 - either to the selected language table in the active project or
 - in the global project as an option.

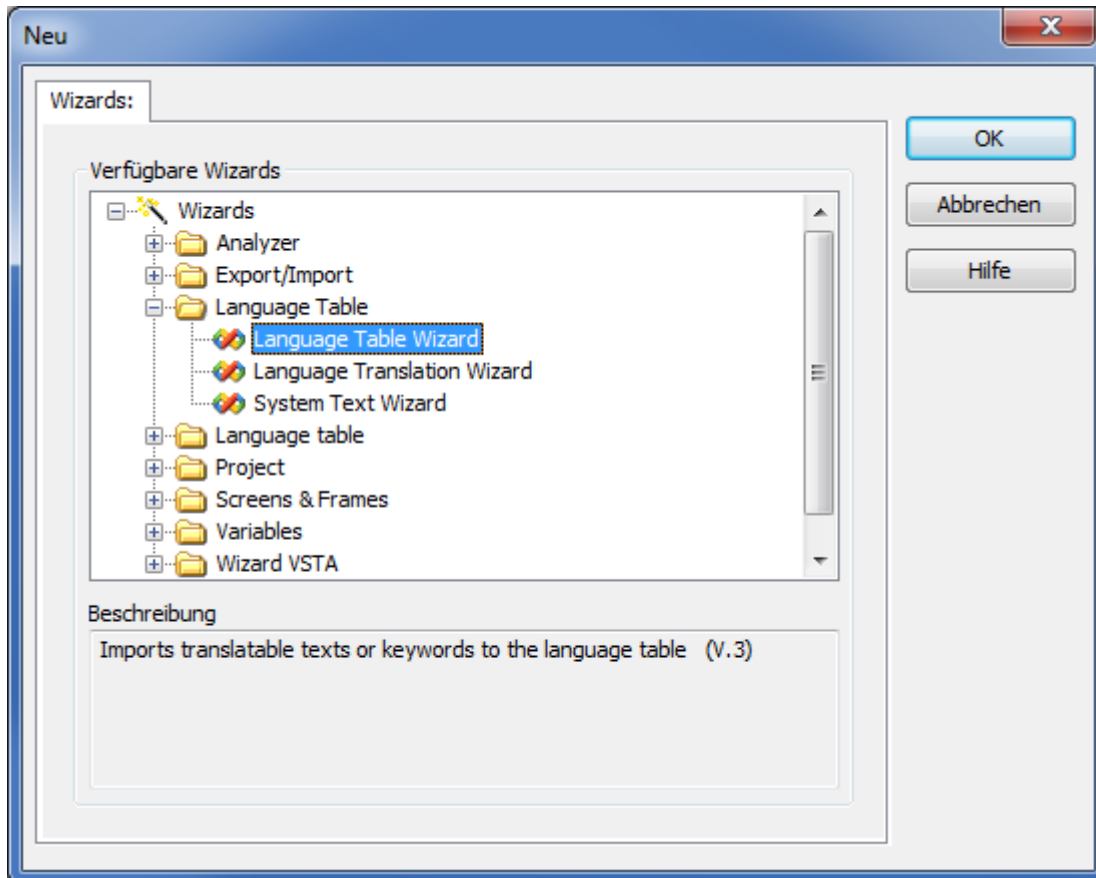
For reference purposes, at least on table (`ZENONSTR.TXT`) must be selected for the import.

If texts without as "@" character are found, these can be set as a key word in a project. To do this, a "@" is written at the start of the text.

Note: The wizard is only available in English.

Calling up the wizard

The wizard can also be selected directly in the dialog for starting wizards.

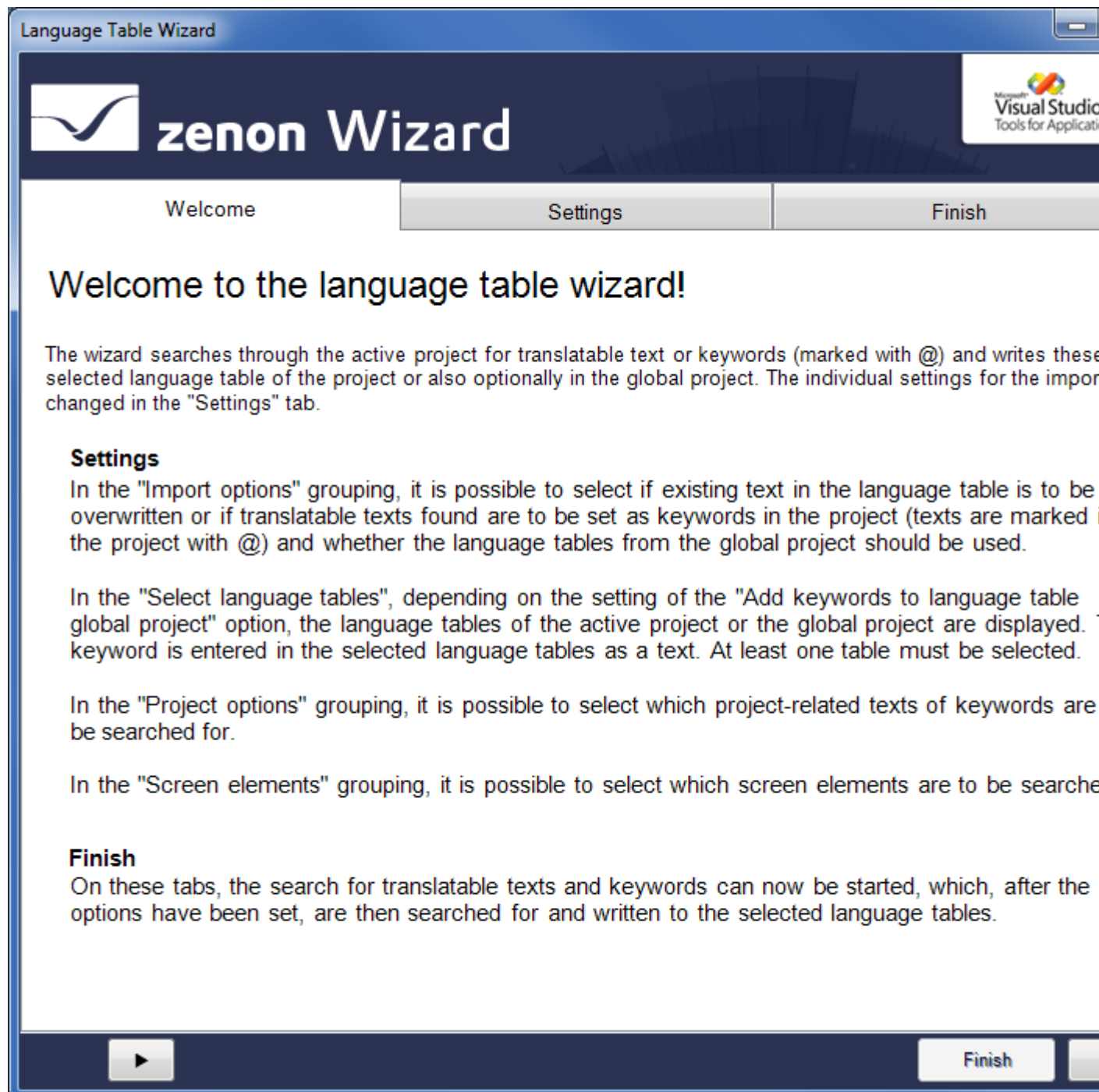


To start the wizard manually:

1. Click on File-> Wizards...
or press the short cut `Alt+F12`
2. The selection window with the available wizards opens
3. Select the **Language Table** folder
4. Select **Language Table Wizard** there
5. click on **OK**
6. The wizard starts with the welcome page

Start window

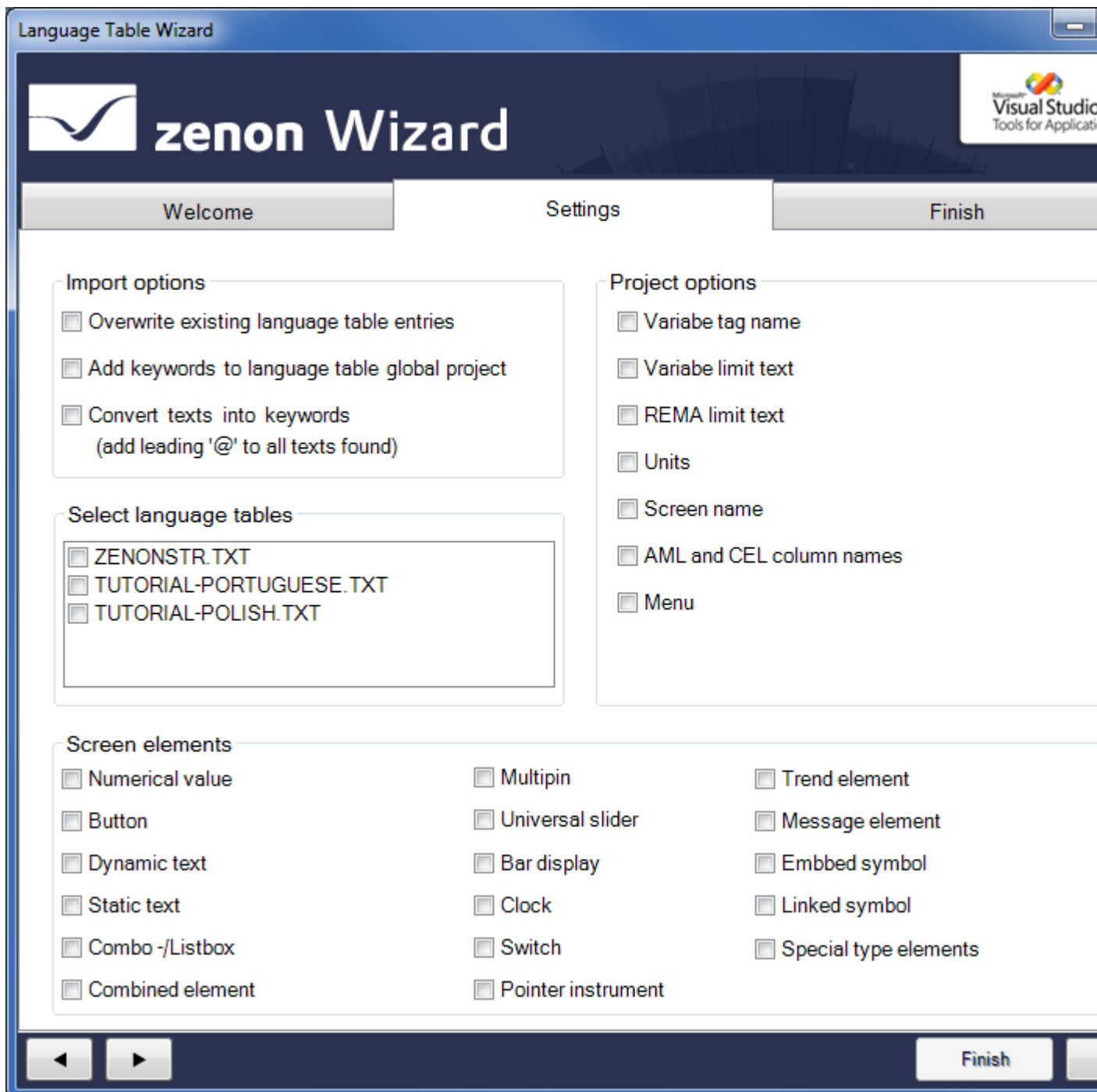
When opening the wizard, you get an overview page with English-language documentation for the wizard.



The navigation through the wizard is done by clicking on the individual tabs or step by step by clicking on the arrow keys.

Click on **cancel** to close the wizard.

Settings



The screenshot shows the 'Language Table Wizard' window with the 'Settings' tab selected. The window has a blue header with the 'zenon Wizard' logo and a Microsoft Visual Studio logo in the top right corner. The 'Settings' tab is active, showing three main sections: 'Import options', 'Project options', and 'Screen elements'. Each section contains a list of checkboxes for configuration.

Language Table Wizard

zenon Wizard

Settings

Import options

- ☐ Overwrite existing language table entries
- ☐ Add keywords to language table global project
- ☐ Convert texts into keywords (add leading '@' to all texts found)

Select language tables

- ☐ ZENONSTR.TXT
- ☐ TUTORIAL-PORTUGUESE.TXT
- ☐ TUTORIAL-POLISH.TXT

Project options

- ☐ Variabe tag name
- ☐ Variabe limit text
- ☐ REMA limit text
- ☐ Units
- ☐ Screen name
- ☐ AML and CEL column names
- ☐ Menu

Screen elements

<input type="checkbox"/> Numerical value	<input type="checkbox"/> Multipin	<input type="checkbox"/> Trend element
<input type="checkbox"/> Button	<input type="checkbox"/> Universal slider	<input type="checkbox"/> Message element
<input type="checkbox"/> Dynamic text	<input type="checkbox"/> Bar display	<input type="checkbox"/> Embbed symbol
<input type="checkbox"/> Static text	<input type="checkbox"/> Clock	<input type="checkbox"/> Linked symbol
<input type="checkbox"/> Combo -/Listbox	<input type="checkbox"/> Switch	<input type="checkbox"/> Special type elements
<input type="checkbox"/> Combined element	<input type="checkbox"/> Pointer instrument	

Navigation buttons: Previous, Next, Finish

IMPORT OPTIONS

It is possible to select the following in the "**Import options**" group:

- ▶ Whether existing texts are to be overwritten in the selected language table,
- ▶ Whether translatable texts found are to be set as key words in the project (texts are marked in the project with a @) and
- ▶ whether the language tables are to be used by the global project.

SELECT LANGUAGE TABLES

In the "**Select language tables**", depending on the setting of the "Add keywords to language table global project" option, the language tables of the active project or the global project are displayed. The key word is entered in the selected language tables as a text. At least one table must be selected.

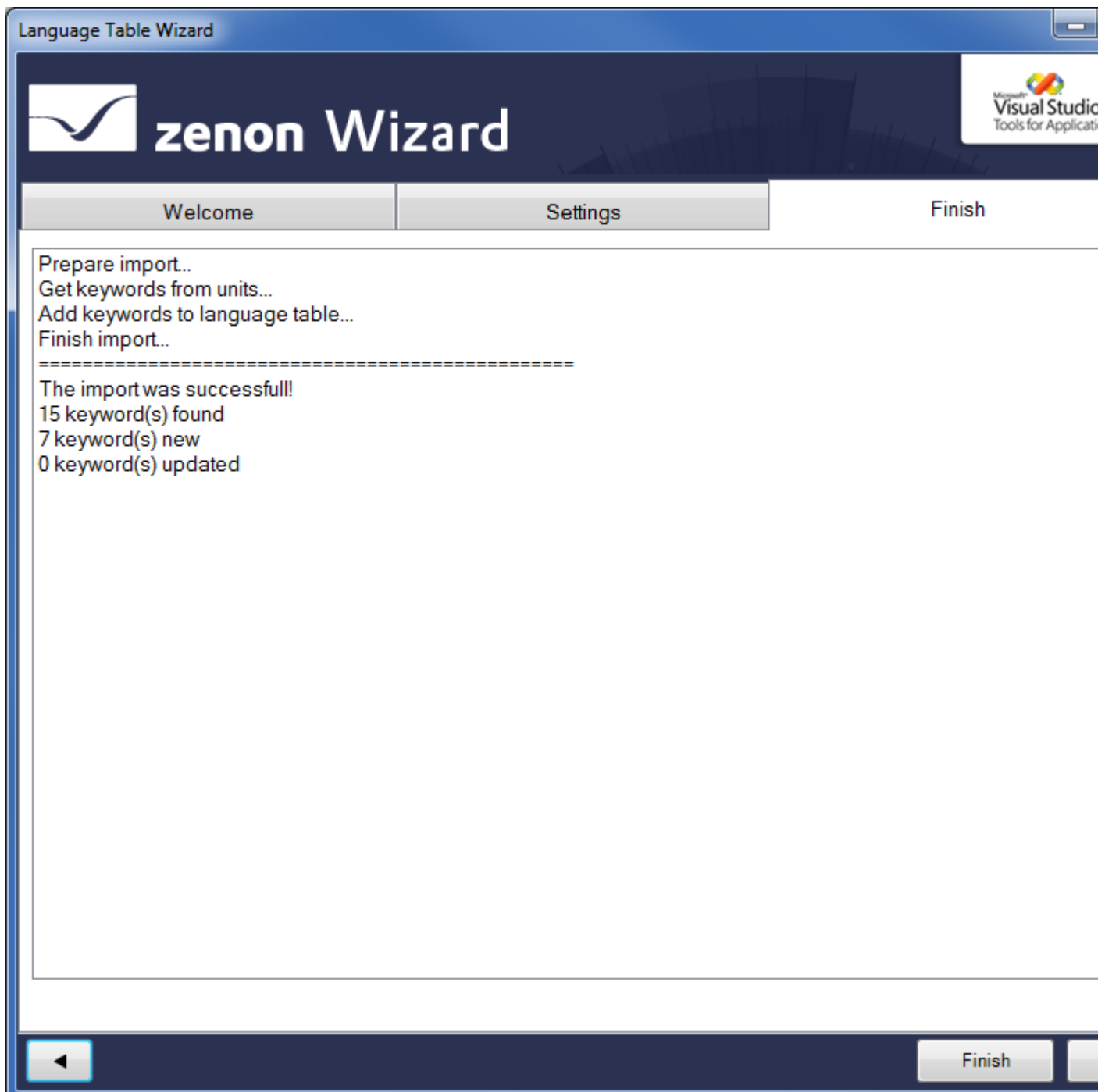
PROJECT OPTIONS

In the "**Project options**" grouping, it is possible to select which project-related texts of key words are to be searched for.

SCREEN ELEMENTS

In the "**Screen elements**" grouping, it is possible to select which screen elements are to be searched.

Finish



The search for translatable text and key words can now be started on this tab. To do this, click the **Finish** button.

After this, a search is carried out and it is possible to write to the selected language tables.

3.3.2 Language Translation Wizard

This wizard is for the preparation of data for the Project Translation Interface, a translation tool.

In doing so, all relevant data for translation is prepared and compressed into a ZIP file. This ZIP file can then be unzipped in the Project Translation Interface and the language tables can be edited or supplemented. After editing, the ZIP file can be loaded into the wizard and the edited language tables can be reimported into the project.

Note: The wizard is only available in English.



License information

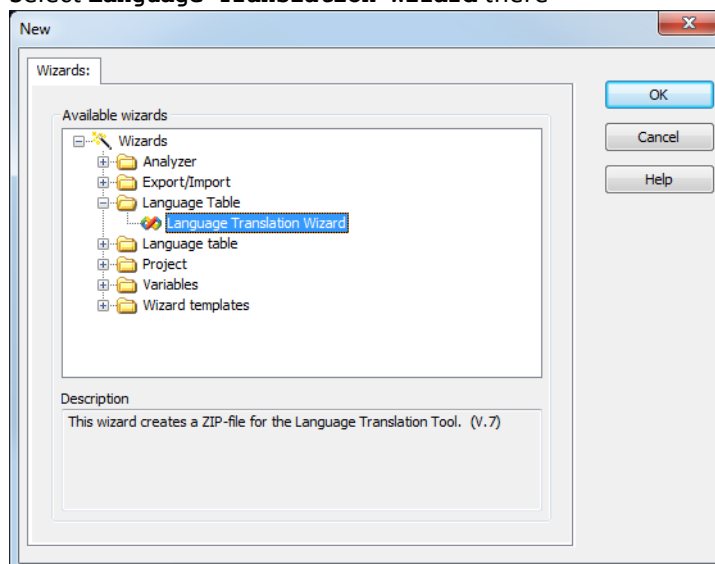
Part of the standard license of the Editor and Runtime.


The Language Translation Wizard is also supplied with the paid-for Project Translation Interface.

Start wizard

To start the wizard:

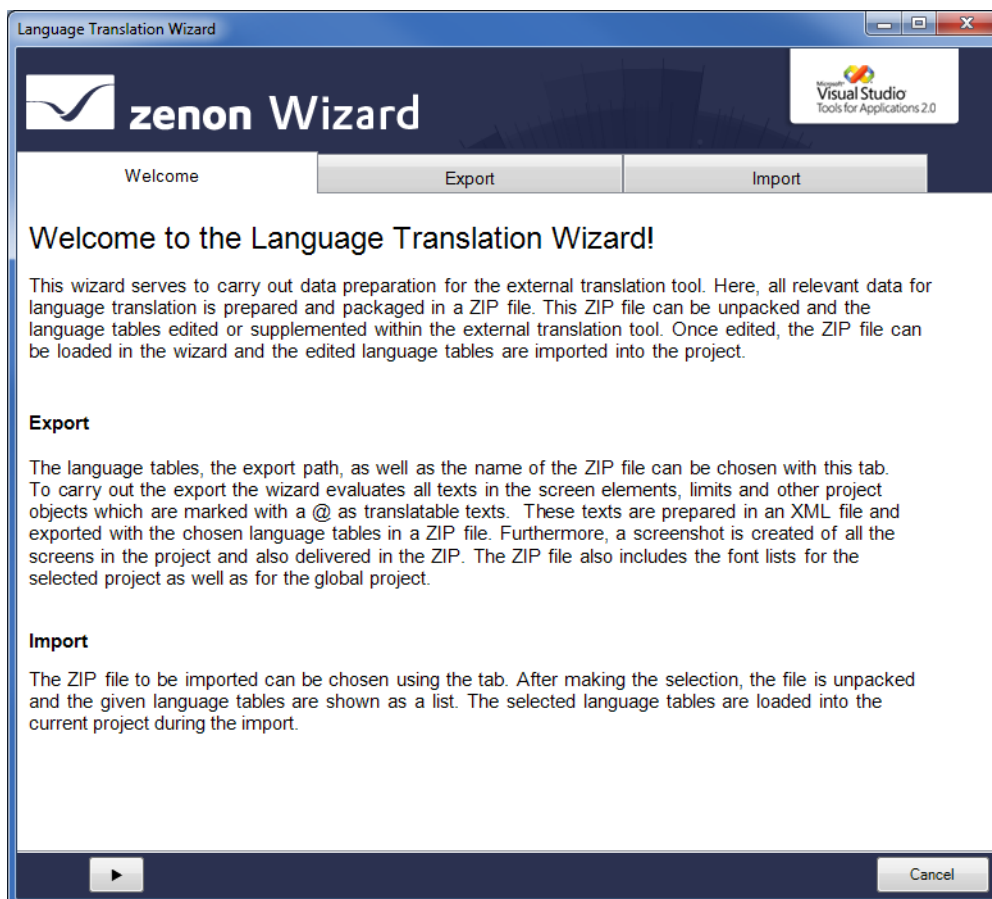
1. Click on File-> Wizards...
or press the short cut **Alt+F12**
2. The selection window with the available wizards opens
3. Select the **Language Table** folder
4. Select **Language Translation Wizard** there



5. click on 
6. The wizard starts with the welcome page

Start window

When opening the wizard, you get an overview page with English-language documentation for the wizard.



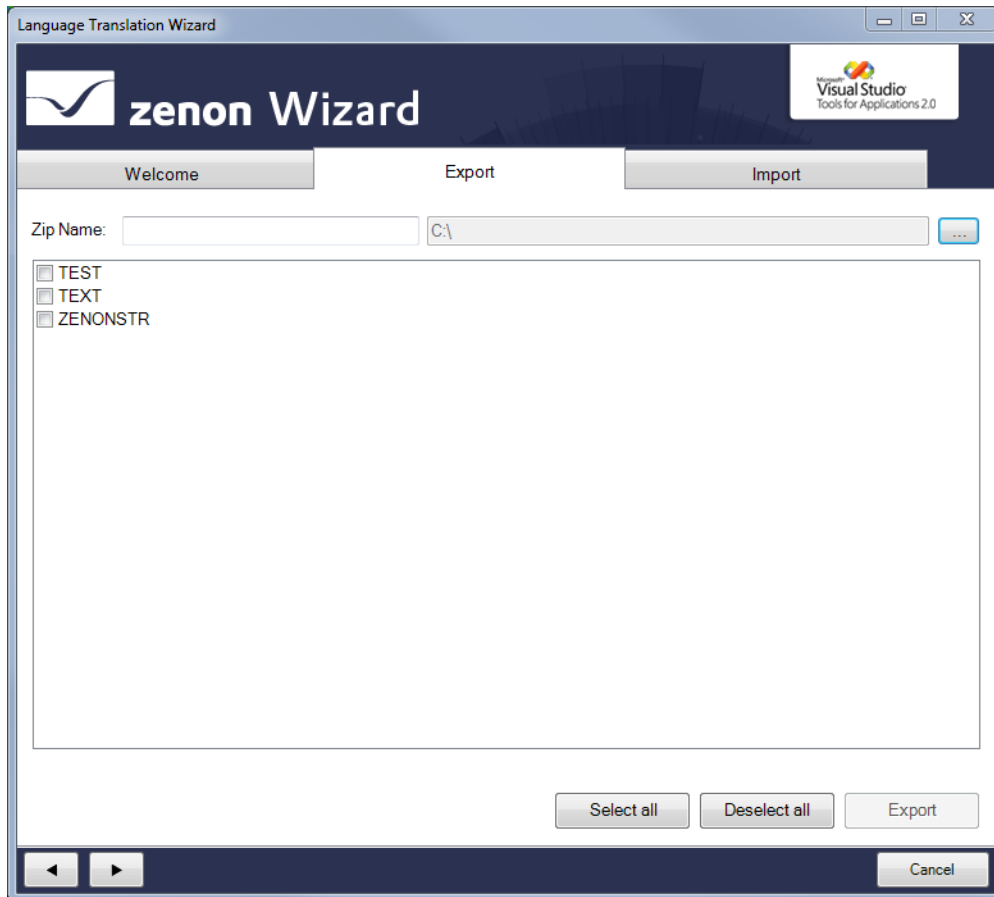
The navigation through the wizard is done by clicking on the individual tabs or step by step by clicking on the arrow keys.

Click on **Cancel** to close the wizard.

Export

When carrying out the export, the wizard evaluates all texts from screen elements, limits and other project objects, which are translatable text marked with a @.

These texts are prepared into an XML file and exported with the selected language tables as a ZIP file. In addition, a screenshot of all screens is created and also provided in the ZIP file. The ZIP file also contains the font lists of the selected project and those of the global project.



Button	Description
Zip Name:	Name of the export file
C:\	Save location of the export file. A click on button . . . Opens the file browser for selecting a target folder.
Liste Sprachdateien	List field with the possibility to select the existing language files in the project.
Select all	Selects all entries in the list and activates the checkboxes.
Deselect all	Selects all entries in the list and deactivates the check boxes.
Export	Exports the files to the target folder. Is only active if one or more language tables are selected.
Arrow left	Goes back one tab in the wizard process.
Arrow right	Goes forward one tab in the wizard process.
Cancel	Closes the wizard without exporting.



Attention

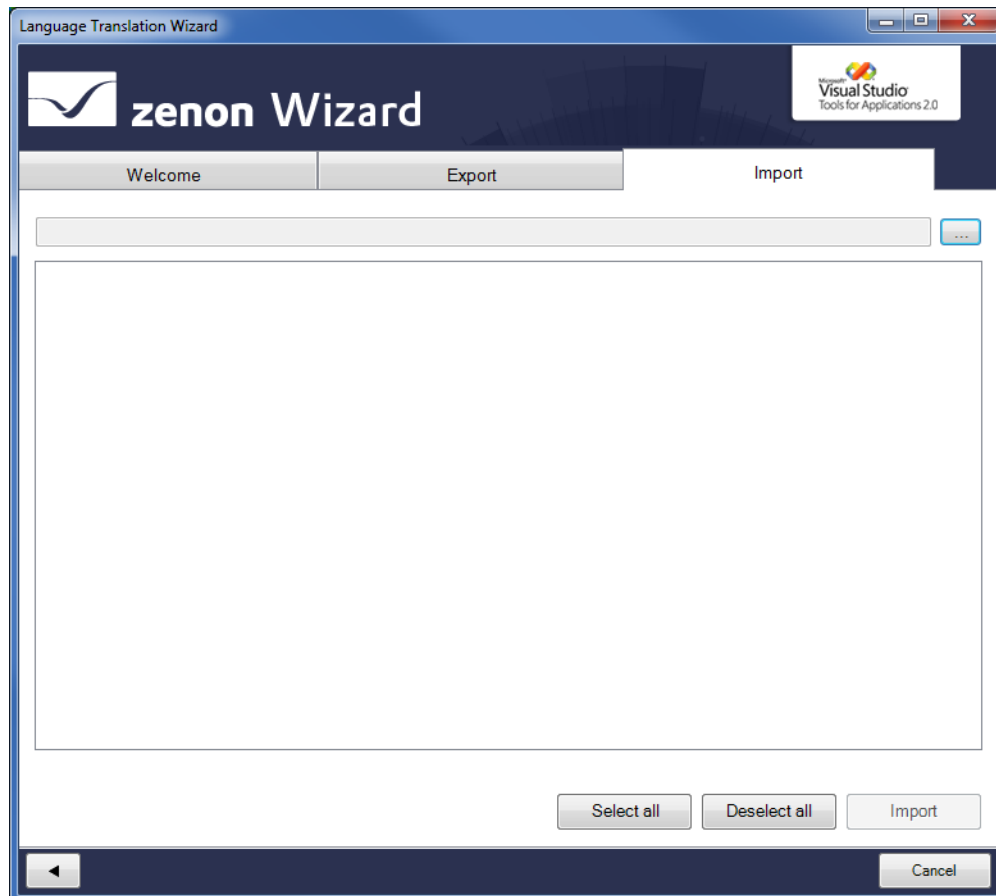
The following special characters must not be used in the screen names:

*: / \ * < >*

These special characters are removed and replaced by a serial number.

Import

The ZIP file to be imported can be selected in this tab.



Button	Description
...	Save location of the import file. A click on button ... Opens the file browser to select a file folder.
List of language files	List field with the possibility to select the language files to be translated and imported.
Select all	Selects all entries in the list and activates the checkboxes.
Deselect all	Selects all entries in the list and deactivates the check boxes.
Import	Imports the selected language tables in the current zenon project. Is only active if one or more language files are selected.
Arrow left	Goes back one tab in the wizard process.
Cancel	Closes the wizard without importing.



Attention

If a new language file was added in zenon 6.51, the project must be reloaded in the workspace once the wizard has been ended.

The language files are automatically updated in version 7.00 SP0 onwards.

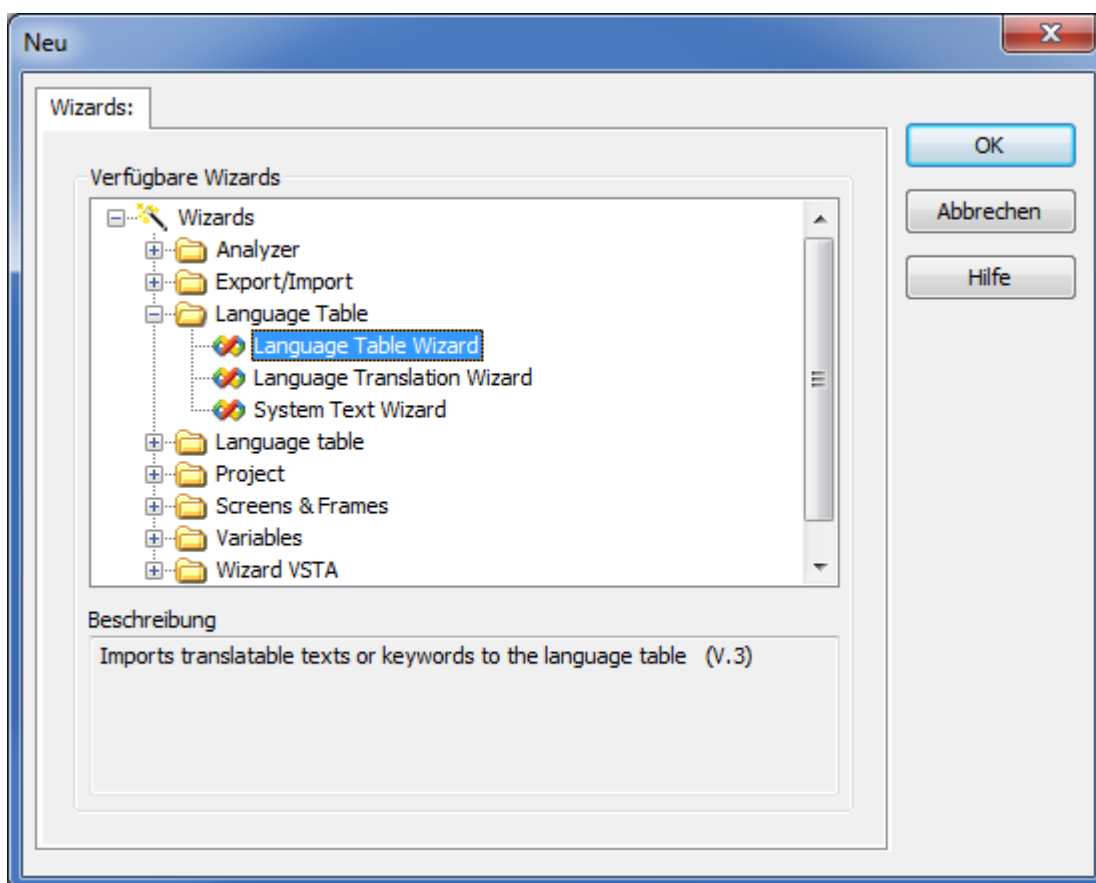
3.3.3 System Text Wizard

The System Text Wizard allows the import of system text into the language table. System texts are Runtime texts that are used in zenon dialogs and menus and cannot be changed by the user. In order to be able to make these texts, which are predetermined by zenon, compatible with language switching, these texts must first be imported into the language table with this wizard. The number of the key words and texts imported can be limited in the settings.

Note: The wizard is only available in English.

Calling up the wizard

The wizard can also be selected directly in the dialog for starting wizards.

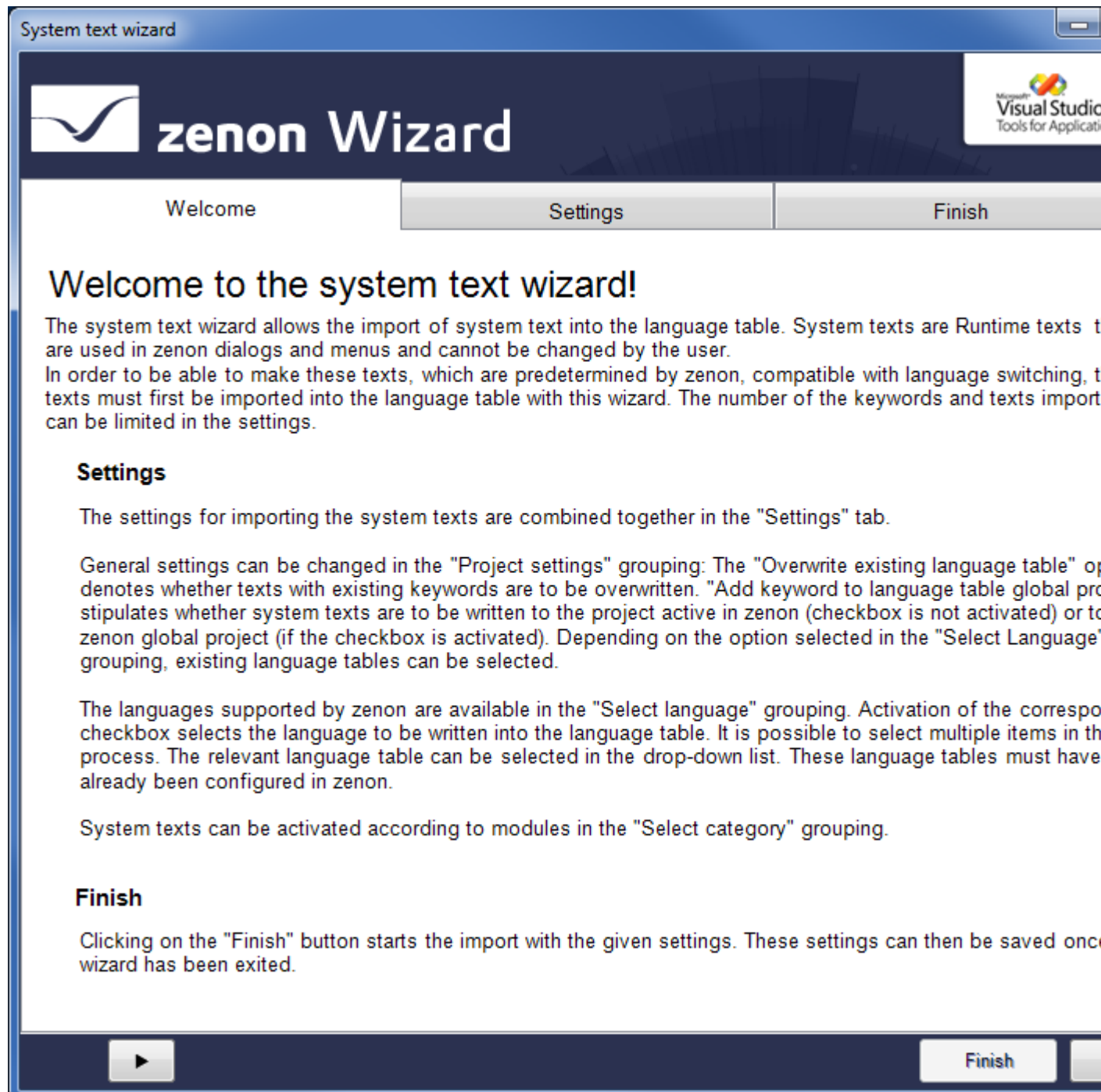


To start the wizard manually:

1. Click on File-> Wizards...
or press the short cut `Alt+F12`
2. The selection window with the available wizards opens
3. Select the `Language Table` folder
4. Select `System Text Wizard` there
5. click on `OK`
6. The wizard starts with the welcome page

Start window

When opening the wizard, you get an overview page with English-language documentation for the wizard.

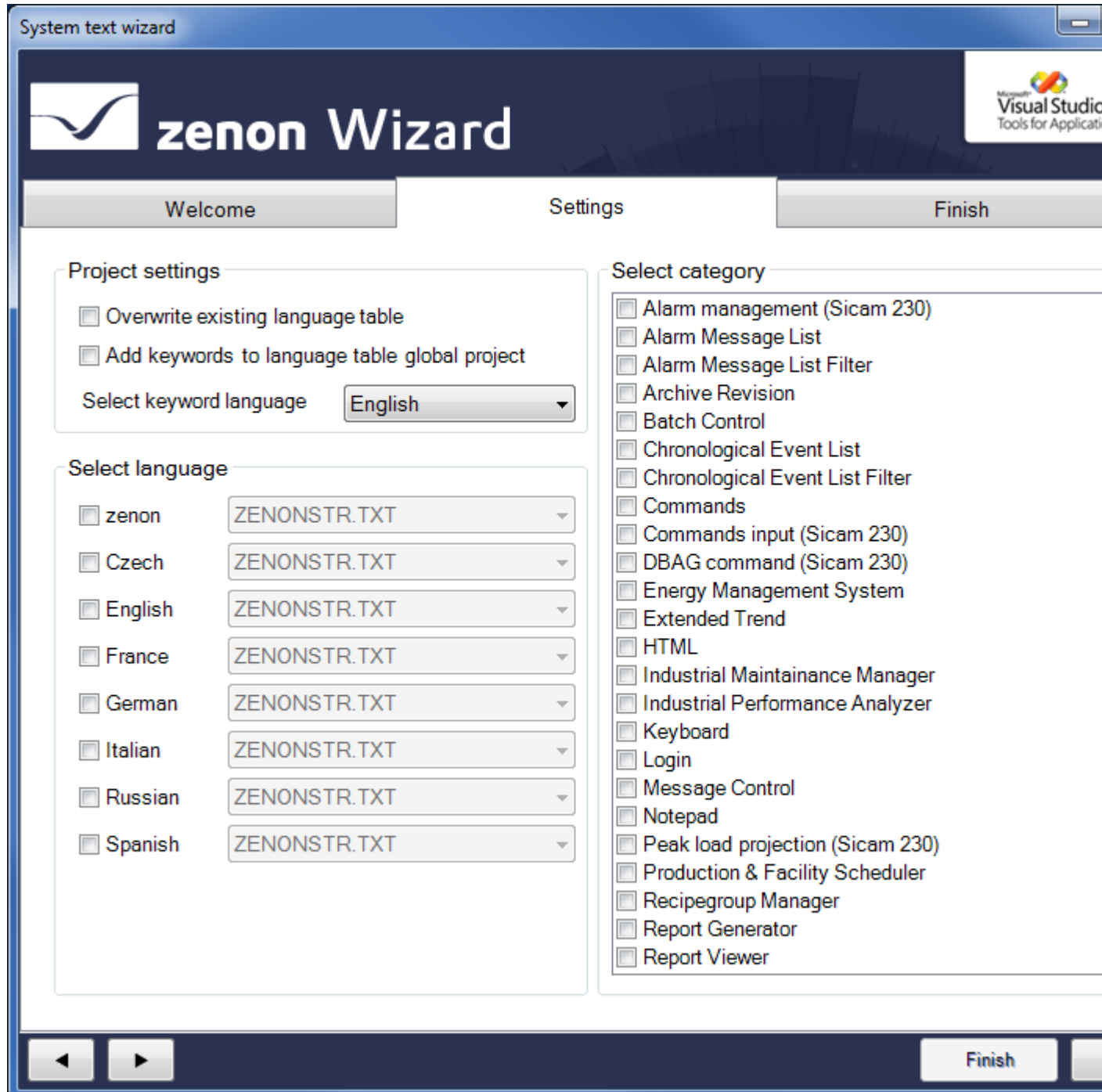


The navigation through the wizard is done by clicking on the individual tabs or step by step by clicking on the arrow keys.

Click on **cancel** to close the wizard.

Settings

The settings for importing the system texts are combined together in the "Settings" tab.



System text wizard

zenon Wizard

Welcome Settings Finish

Project settings

- ☐ Overwrite existing language table
- ☐ Add keywords to language table global project

Select keyword language: English

Select language

<input type="checkbox"/> zenon	ZENONSTR.TXT
<input type="checkbox"/> Czech	ZENONSTR.TXT
<input type="checkbox"/> English	ZENONSTR.TXT
<input type="checkbox"/> France	ZENONSTR.TXT
<input type="checkbox"/> German	ZENONSTR.TXT
<input type="checkbox"/> Italian	ZENONSTR.TXT
<input type="checkbox"/> Russian	ZENONSTR.TXT
<input type="checkbox"/> Spanish	ZENONSTR.TXT

Select category

- ☐ Alarm management (Sicam 230)
- ☐ Alarm Message List
- ☐ Alarm Message List Filter
- ☐ Archive Revision
- ☐ Batch Control
- ☐ Chronological Event List
- ☐ Chronological Event List Filter
- ☐ Commands
- ☐ Commands input (Sicam 230)
- ☐ DBAG command (Sicam 230)
- ☐ Energy Management System
- ☐ Extended Trend
- ☐ HTML
- ☐ Industrial Maintenance Manager
- ☐ Industrial Performance Analyzer
- ☐ Keyboard
- ☐ Login
- ☐ Message Control
- ☐ Notepad
- ☐ Peak load projection (Sicam 230)
- ☐ Production & Facility Scheduler
- ☐ Recipegroup Manager
- ☐ Report Generator
- ☐ Report Viewer

Finish

PROJECT SETTINGS

General settings can be changed in the "Project settings" grouping: The "**Overwrite existing language table**" option denotes whether texts with existing key words are to be overwritten. "**Add keyword to language table global project**" stipulates whether system texts are to be written to the project active in zenon (checkbox is not activated) or to a zenon global project (if the checkbox is activated). Depending on the option selected in the "Select Language" grouping, existing language tables can be selected.

SELECT LANGUAGE

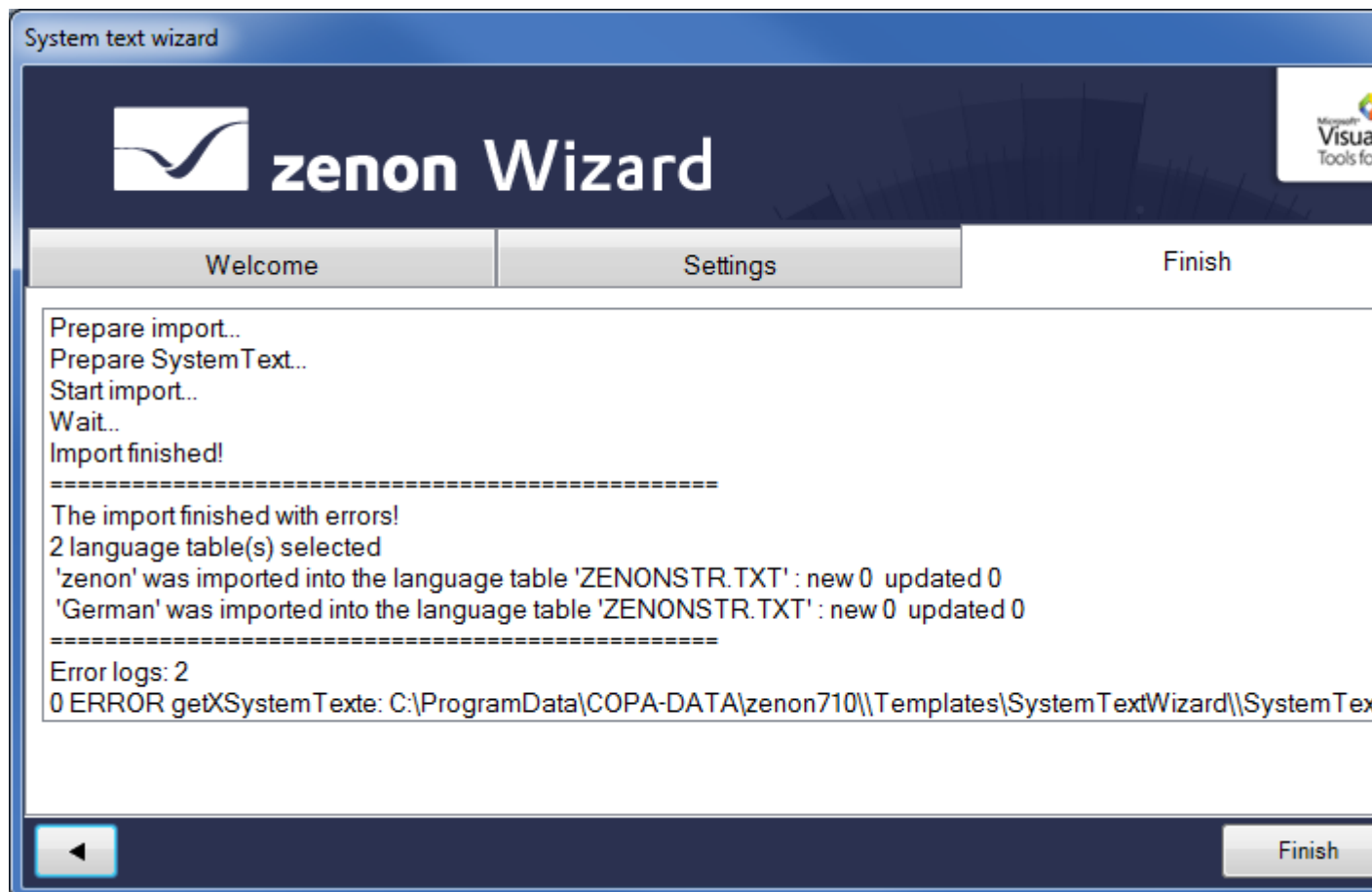
The languages supported by zenon are available in the "Select language" grouping. Activation of the corresponding checkbox selects the language to be written into the language table. It is possible to select multiple items in the process. The relevant language table can be selected in the drop-down list. These language tables must have already been configured in zenon.

SELECT CATEGORY

System texts can be activated according to modules in the "**Select category**" grouping.

Finish

Clicking on the "Finish" button starts the import with the given settings. These settings can then be saved once the wizard has been exited.



3.4 Metering Point Administration

Database
Metering Points
Meter
English

Replace Meter...
Manual value input...
Post-editing...
History...
Reload

Drag a column here to group by this column.

	Name	Description	Location	Automatic	MeteringType	Calculation ac...	Meter name	Meter descrip...	Equipment gr...
▶	Water_automatic	Metering point...	Main distributor...	<input checked="" type="checkbox"/>	Water	<input type="checkbox"/>	Water_1_3	Water meter - 1...	
	Water_manual	Metering point...	Main distributor...	<input type="checkbox"/>	Water	<input checked="" type="checkbox"/>			
	Gas_manual	Metering point...	Main distributor...	<input type="checkbox"/>	Gas	<input checked="" type="checkbox"/>	Gas_roof	Gas - Roof	
	Electricity_I_ma...	Metering point...	Main distributor...	<input type="checkbox"/>	Electricity	<input checked="" type="checkbox"/>	Electricity_2	Current meter ~...	
	Test	for testing only	somewhere	<input checked="" type="checkbox"/>	not used	<input type="checkbox"/>	Test	for testing only	
	Test_2	for testing only	somewhere	<input type="checkbox"/>	not used	<input checked="" type="checkbox"/>	Test_meter_2		
	Test_1	for testing only	somewhere	<input checked="" type="checkbox"/>	not used	<input type="checkbox"/>	Test_meter_1_1		
	01_Test	for testing only	somewhere	<input checked="" type="checkbox"/>	not used	<input type="checkbox"/>			

Metering point administration is a tool to manage technical data and administer metering points.

- ▶ In zenon Editor, the project configuration is created with the **Metering Point Administration Wizard** (on page 162).
- ▶ For display in Runtime, a corresponding ActiveX element (on page 197) is configured in the Editor in any desired zenon screen.
- ▶ Meters can be assigned to metering points in Runtime, meters can be replaced and values can be (manually) corrected.

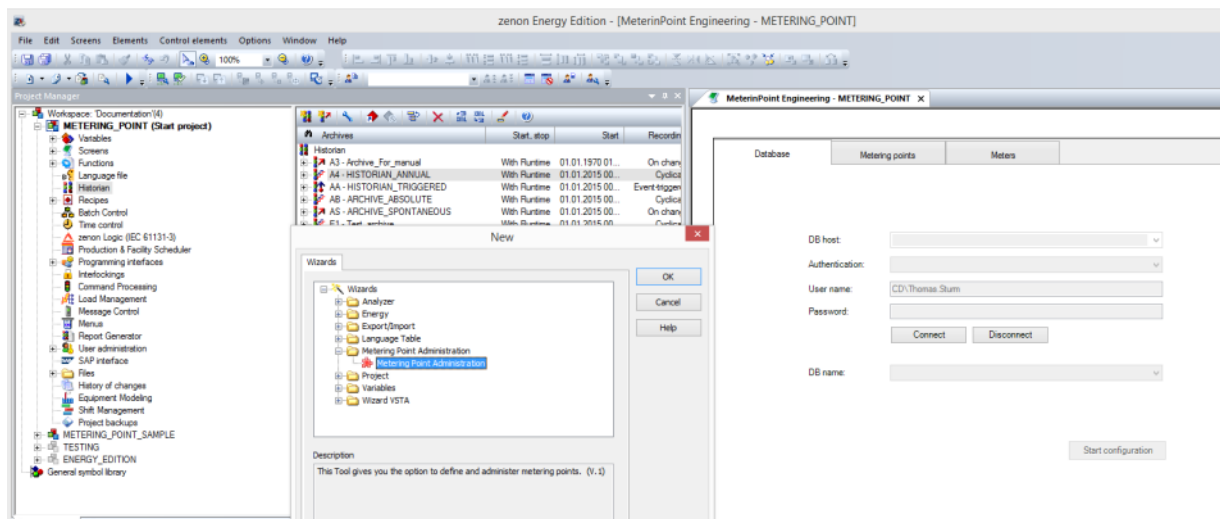
The wizard tool is available in English and German.



License information

Part of the standard license of the Editor and Runtime.

3.4.1 General - project configuration



To use the metering point administration, the following project configuration steps are necessary:

1. Configure variables in zenon Editor.
Note: corresponding variables can also be created for relative values in the wizard directly.
2. Configure archives in zenon Editor.
Note: Archives can also be created directly from the wizard.
3. In zenon Editor, start the **Metering Point Administration** Wizard.
4. Create metering points and meters in the wizard.
Note: Meters can also be created in Runtime.
5. In the wizard, assign the metering points to absolute value variables and relative value variables from archives.
Note: Relative values can also be calculated automatically.
6. Configure a screen in zenon Editor.
7. Place an ActiveX element (on page 197) in this zenon screen.
8. You assign meters to the corresponding metering points in Runtime.
9. If necessary, enter current values for manual metering points in Runtime for the meters.

3.4.2 Install and call up metering point administration

The **Metering Point Administration** is automatically installed as part of the zenon standard installation.

STARTING THE WIZARD

For wizards to be displayed, the settings for VBA and/or VSTA must be set correctly in file `zenon6.ini`:

[VBA]

EIN=1

[VSTA]

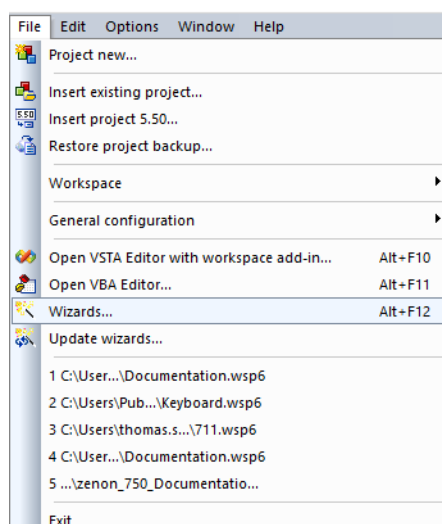
ON=1

If VSTA wizards are not displayed although the settings are correct, set entry `LOADED=` to 1 in area [VSTA].

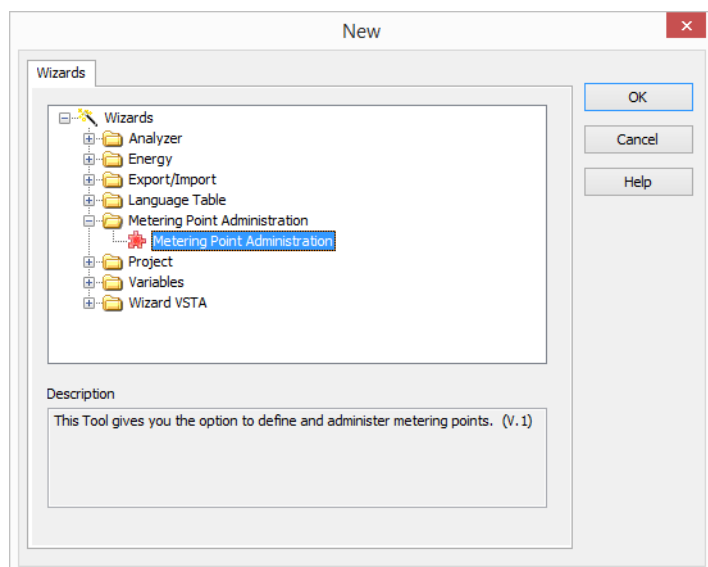
To call up the tool, proceed as follows:

1. Start the zenon Editor.
2. Click on File in the toolbar.
3. Click on **Wizards**.

Note: You can also open the selection window with the available wizards and tools with the keyboard shortcut `Alt+F12`.



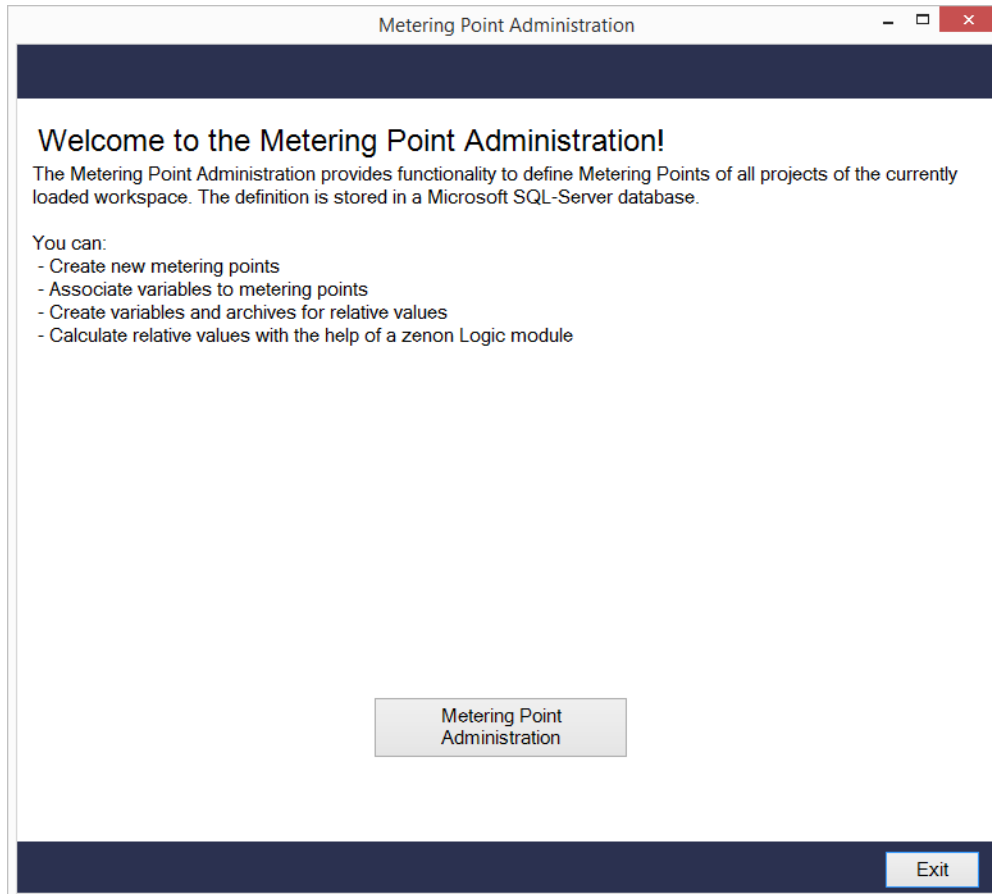
The selection window with the available wizards and tools opens.



1. Select the **Metering Point Administration** folder.
2. There, click on **Metering Point Administration**.
3. Click on **OK**.

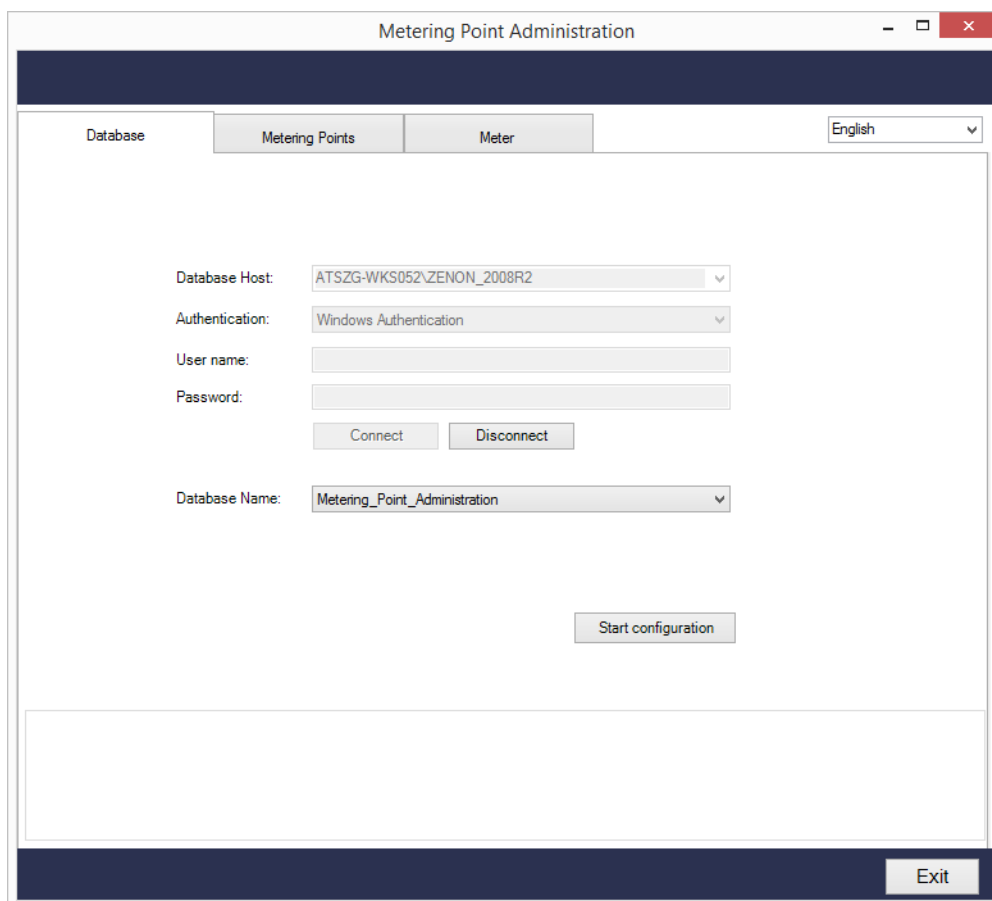
3.4.3 Wizard - start dialog

The **Metering Point Administration** wizard starts with the welcome page in English.



- ▶ To continue, click on the **Metering Point Administration** button.
The dialog switches back to the configuration dialog for metering point administration.
- ▶ Clicking on the **Exit** button closes the wizard.

3.4.4 Wizard - Metering Point Administration



Once the start dialog for the wizard has been confirmed, start the configuration of the metering point administration Configuration starts with the **Database** tab.

If database settings have already been saved, an attempt to establish a connection is started automatically when the wizard is called up. If this is successful, a switch to the **Measuring points** tab is made. If the establishment of a connection is unsuccessful, a corresponding error message is shown.

Navigation through the tabs is carried out by clicking on the title of the tab.

It is possible to select from **German** or **English** in the drop-down list for the display language.



Parameters	Description
Database (on page 164)	Tab for the settings of the necessary database connection.
Metering Points (on page 169)	Tab for the creation and administration of metering points in zenon Editor. Each metering point is assigned corresponding archives and variables.
Meter (on page 191)	Tab for the creation and administration of users.
Display language	Drop-down list to select the display language for the wizard. <ul style="list-style-type: none"> ▶ German ▶ English

NAVIGATION

Button

Exit

Description

Closes the wizard.

Changes that have not been saved are lost in the process.

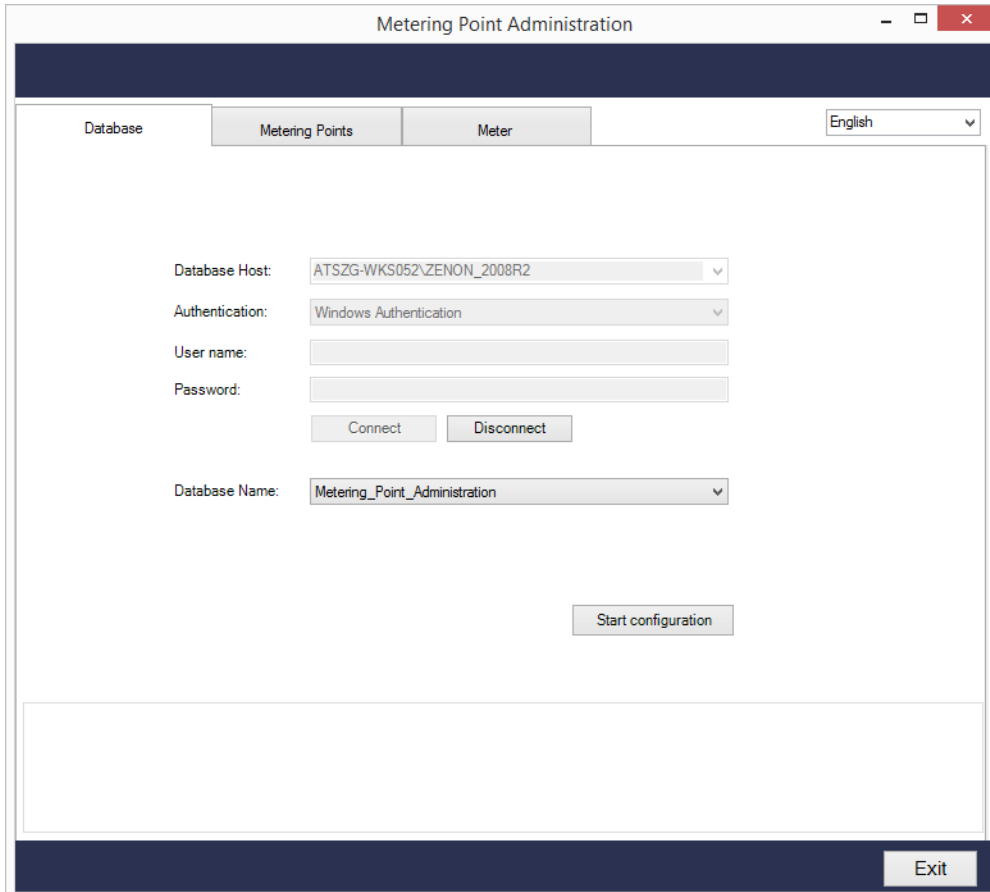


Information

Settings changed in the wizard are saved in the user profile of the operating system and loaded at the next opening by the same user.

Database

You configure the communication settings for a database in this tab.



The screenshot shows the 'Metering Point Administration' window with the 'Database' tab selected. The window has a dark blue header and footer. The main area is white and contains the following fields and buttons:

- Database Host:** A dropdown menu showing 'ATSZG-WKS052\ZENON_2008R2'.
- Authentication:** A dropdown menu showing 'Windows Authentication'.
- User name:** A text input field.
- Password:** A text input field.
- Connect** and **Disconnect** buttons.
- Database Name:** A dropdown menu showing 'Metering_Point_Administration'.
- Start configuration** button.
- Exit** button in the bottom right corner.

The window also features a tab bar at the top with 'Database', 'Metering Points', and 'Meter' tabs. A language dropdown menu in the top right corner is set to 'English'.

Parameters	Description
Database Host	Drop-down list for the selection of the database server. Select, for example, your computer in this field. Note: Your computer is shown as a default when the tab is opened.
Authentication	Drop-down list for selection of the login method: <ul style="list-style-type: none"> ► Windows Authentication (Default): The login to the database is carried out with the information of the user logged in to the local computer. ► SQL Server Authentication: User name and password are entered manually. The corresponding login data must be available for database login.
User name	User name for login to a database. Grayed out if the authentication is Windows Authentication .
Password	Password for login to a database. For security reasons, each letter is shown with a * when the password is entered. Grayed out if the authentication is Windows Authentication .
Connect	Establishes the connection to the configured database server. If no connection is possible (for example due to incorrect entry of user name and/or password), an error message is called up. Grayed out if it is already connected to a database server.
Disconnect	Disconnects an existing connection to a database server. Grayed out if no connection is active.
Database Name	Drop-down list to select a database. This list shows all available databases of the database server configured under Datenbank-Host . If this list is empty, there is no connection to a database server or there is no SQL database available on the selected computer.
Start configuration	Switches to the Metering point tab. If there is not currently a connection to a database, a

	<p>connection with the login information that has already been entered is established when clicking on the Start configuration button.</p> <p>If this input is incorrect or incomplete, no further settings can be changed in the Metering points or Meters tabs. A connection to a database is always necessary for this!</p>
--	---

NAVIGATION

Button

Exit

Description

Closes the wizard.

Changes that have not been saved are lost in the process.



Information

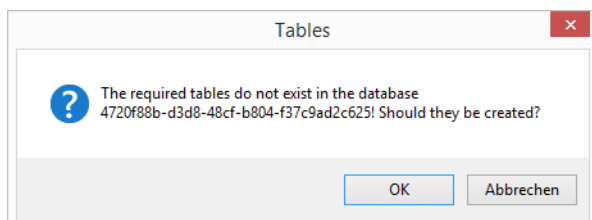
If there is already a connection to a database, all input fields are grayed out.

Database - evaluation and amendment

If a connection to a database is established, the structure of this database is evaluated immediately. Tables required for metering point administration are created automatically if required. The validation is carried out in the Editor and in Runtime.

If amendments to the existing database are required, you are informed of this by means of a dialog. The dialog only appears if amendments are necessary.

EVALUATION DIALOG






- Confirm this dialog with **yes** if the database is to be amended to the corresponding tables.
- **cancel** closes the dialog. No amendments are made in the dialog. Configuration of metering points is not possible. The wizard jumps to the Database tab.

VALIDATION OF THE ARCHIVES

A validation is carried out on starting - errors are visualized.

If a problem occurs when validating the archives, this is signaled by a red warning symbol next to the problematic element. You get a detailed description in the tool tip, if you move to the warning symbol with the mouse.

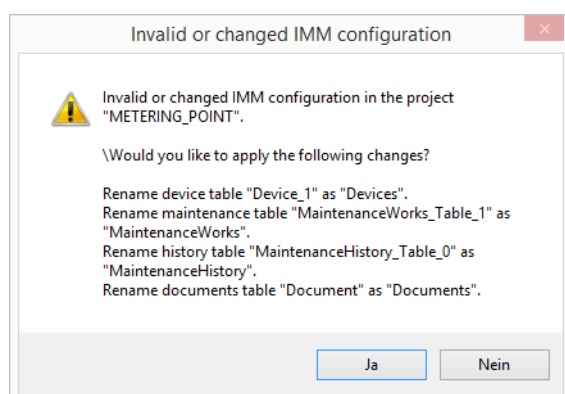
EXAMPLE OF A VIEW - RUNTIME

Database	Metering Points	Meter	
<div>Assign Meter...</div> <div>Manual value input...</div> <div>Post-editing...</div> <div>History...</div>			
Name	Description	Location	Automatic
 Water_automatic	Metering point for water	Main distributor - main floor	<input checked="" type="checkbox"/>
 Water_manual	Metering point for water	Main distributor - main floor	<input type="checkbox"/>
 The project is not loaded or the variable has been deleted.		Main distributor - main floor	<input type="checkbox"/>

Industrial Maintenance Manager compatibility

The functionality of the Industrial Maintenance Manager (IMM) can be used for meters in metering point administration. The IMM is for the administration of machine and maintenance data. Service intervals can be planned and administered with ease. You can see at a glance which devices, items of equipment, machines, etc. have to be maintained today / this week / next month etc. Furthermore, the service work that has been completed in the past is also logged.

When checking the database, the table names of an existing IMM project configuration are checked. If necessary, these names are amended after confirmation.



- Confirm this dialog with **yes** if the table names are to be amended.

- ▶ **No** closes the dialog. No amendments to the table names are made in the database. Configuration of metering points is possible.

IMM TABLE NAMES:

- ▶ **Table for devices:** Devices
- ▶ **Table for maint. works:** MaintenanceWorks
- ▶ **Table for history:** MaintenanceHistory
- ▶ **Table for documents:** Documents



Information

Project configurations from zenon version 7.20 are not affected by this. From version 7.20, the table names for the Industrial Maintenance Manager can no longer be freely configured.

Metering Points

New metering points are created in this tab and existing ones are administered.

Metering Point Administration

Database Metering Points Meter English

New... Edit... Delete

Drag a column here to group by this column.

Name	Description	Location	Automatic	MeteringT...	Calculatio...	Meter name	Meter des...	Relative v...	Absolute...
01_Test	for testing...	somewhere	<input checked="" type="checkbox"/>	not used	<input type="checkbox"/>			Test_absolu...	Test_absol...
Electricity_I...	Metering p...	Main distri...	<input type="checkbox"/>	Electricity	<input checked="" type="checkbox"/>	Electricity_2	Current me...	Test_absolu...	Test_absol...
Gas_manual	Metering p...	Main distri...	<input type="checkbox"/>	Gas	<input checked="" type="checkbox"/>	Gas_roof	Gas - Roof	Test_relativ...	Test_relativ...
Test	for testing...	somewhere	<input checked="" type="checkbox"/>	not used	<input type="checkbox"/>	Test	for testing...	Test_relativ...	Test_relativ...
Test_1	for testing...	somewhere	<input checked="" type="checkbox"/>	not used	<input type="checkbox"/>	Test_meter...		Test_absolu...	Test_absol...
Test_2	for testing...	somewhere	<input type="checkbox"/>	not used	<input checked="" type="checkbox"/>	Test_meter_2		Test_absolu...	Test_absol...
Water_auto...	Metering p...	Main distri...	<input checked="" type="checkbox"/>	Water	<input type="checkbox"/>	Water_1_3	Water mete...	Test_absolu...	Test_absol...
▶ Water_man...	Metering p...	Main distri...	<input type="checkbox"/>	Water	<input checked="" type="checkbox"/>			Test_relativ...	Test_absol...

Exit

Parameters	Description
New... (on page 171)	Opens the dialog to create a new Metering Point (on page 171).
Edit... (on page 184)	Opens the dialog to edit the selected metering point (on page 184).
Delete (on page 185)	Deletes the selected Metering Point.
List of metering points	<p>List of the metering points that have been created, as configured in the dialog to create a new metering point (on page 171).</p> <p>Selection by means of clicking. The selected metering point is underlined in color. Multiple selection is not possible.</p> <ul style="list-style-type: none"> ▶ Name Name of the metering point ▶ Description Short description of the metering point ▶ Location Location of the metering point ▶ Automatic Active, if Metering Point behavior is automatic. ▶ Metering point Type Type of the metering point ▶ Calculation active Active if Calculate relative value has been activated. ▶ Meter name ▶ Meter description ▶ Relative value variable Assigned variables for the relative value. ▶ Absolute value variable Assigned variables for the absolute value. <p>You can find out more information in the dialog description (on page 171).</p>

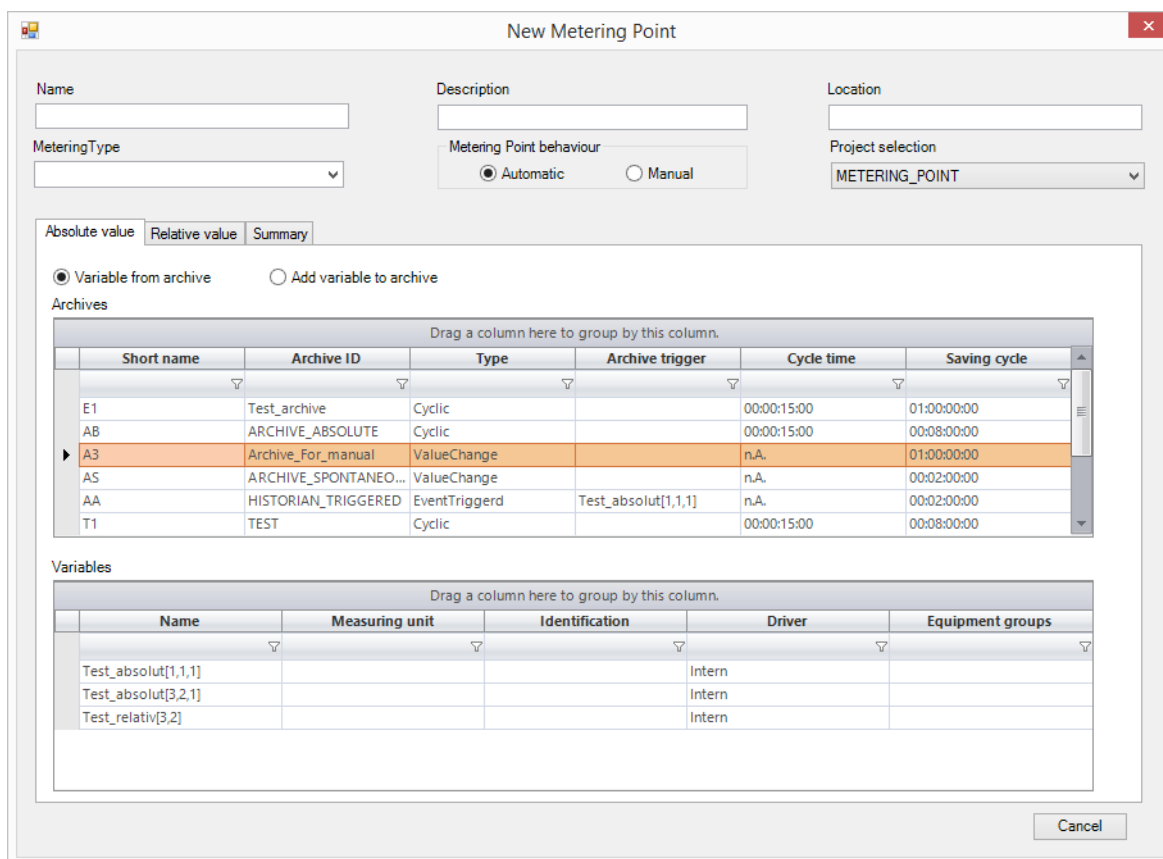
NAVIGATION

Button	Description
Exit	<p>Closes the wizard.</p> <p>Changes that have not been saved are lost in the process.</p>

Create new metering points

Click, in the **Metering points** tab, on **New** to create a new metering point.

The following dialog opens, in which you can configure the new metering point.



The dialog box "New Metering Point" contains the following fields and sections:

- Name:** Text input field.
- Description:** Text input field.
- Location:** Text input field.
- MeteringType:** Dropdown menu.
- Metering Point behaviour:** Radio buttons for ☒ Automatic and ☐ Manual.
- Project selection:** Dropdown menu showing "METERING_POINT".
- Value Type:** Tabs for Absolute value (selected), Relative value, and Summary.
- Variable selection:**
 - ☒ Variable from archive
 - ☐ Add variable to archive
- Archives Table:**

Drag a column here to group by this column.					
	Short name	Archive ID	Type	Archive trigger	Saving cycle
	E1	Test_archive	Cyclic		01:00:00:00
	AB	ARCHIVE_ABSOLUTE	Cyclic		00:08:00:00
▶	A3	Archive_For_manual	ValueChange	n.A.	01:00:00:00
	AS	ARCHIVE_SPONTANEO...	ValueChange		00:02:00:00
	AA	HISTORIAN_TRIGGERED	EventTriggerd	Test_absolut[1,1,1]	n.A.
	T1	TEST	Cyclic		00:00:15:00
- Variables Table:**

Drag a column here to group by this column.				
	Name	Measuring unit	Identification	Equipment groups
	Test_absolut[1,1,1]			Intern
	Test_absolut[3,2,1]			Intern
	Test_relativ[3,2]			Intern

Cancel button is located at the bottom right.

Parameters	Description
Name	Name of the metering point. (Mandatory field)
Description	Description of the metering point. Optional entry
Location	Location of the metering point. Optional entry
MeteringType	Type assignment of the metering point. Optional entry Note: A list is kept with all the previously-configured metering point types. These types are displayed when the first applicable letter is typed. If the type that has been entered does not exist in the list, that type is added to the list (auto suggest).
Metering Point behavior	Option field for selection of the value entry <ul style="list-style-type: none"> ► Automatic: When this option is activated, both cyclical and spontaneous archives can be selected for the absolute value. The values are taken from the variable. Relative values can be automatically calculated in due course. You can find further information on this behavior in the Relative value (on page 177) tab. ► Manual: When this option is activated, only spontaneous archives can be selected for the absolute value. The meter values must be read and entered manually. <p>Note: The list of the archives and the list of variables for absolute and relative values is filtered according to the metering point behavior. This means that, with manual metering point administration, only spontaneous archives or variables from spontaneous archives are displayed in the list of archives and variables.</p> <p>Attention: If you change the metering point behavior of an existing measuring point, the</p>

	absolute variable and the relative value variable must be reselected.
Project selection	Drop-down list with projects from the current workspace in zenon Editor. Note: Archives and variables available are tied to a project. Select the desired project in this field.
Absolute value (on page 174)	Tab for the configuration of the absolute value of the metering point.
Relative value (on page 177)	Tab for the configuration of the relative value of the metering point.
Summary (on page 181)	Checking and conclusion of the configuration of metering point administration.

NAVIGATION

Parameters

Description

Cancel

Discards all changes in all tabs and closes the dialog.



Attention

Each metering point must have a respective absolute value variable and a relative value variable assigned.

Absolute value

In this tab, a metering point is assigned to an absolute value variable.

Absolute value | Relative value | Summary

☐ Variable from archive
 ☒ Add variable to archive
 New Archive

Archives

Drag a column here to group by this column.

Short name	Archive ID	Type	Archive trigger	Cycle time	Saving cycle
E1	Test_archive	Cyclic		00:00:15:00	01:00:00:00
A3	Archive_For_manual	ValueChange		n.A.	01:00:00:00
A8	ARCHIVE_ABSOLUTE	Cyclic		00:00:15:00	00:08:00:00
A5	ARCHIVE_SPONTANEO...	ValueChange		n.A.	00:02:00:00
AA	HISTORIAN_TRIGGERED	EventTriggerd	Test_absolut[1,1,1]	n.A.	00:02:00:00
T1	TEST	Cyclic		00:00:15:00	00:08:00:00

Variables

Drag a column here to group by this column.

Name	Measuring unit	Identification	Driver	Equipment groups
Test_absolut[1,1,1]			Intern	
Test_absolut[1,1,1]_REL		Relative value for Test_absol...	Intern	
Test_absolut[1,1,1]_REL-144...		Relative value for Test_absol...	Intern	
Test_absolut[1,1,1]_RELO		Relative value for Test_absol...	Intern	
Test_absolut[1,1,1]_REL1		Relative value for Test_absol...	Intern	
Test_absolut[1,1,1]_REL2		Relative value for Test_absol...	Intern	

Parameters	Description
Variable from archive	In the list of variables, variables from the selected archive (list of archives) are displayed. Select a corresponding archive and a corresponding variable for the absolute value.
Add variable to archive	Variables from the project are displayed. The selected variable is added to the selected archive.
New archive	Opens dialog for the creation of a new archive (on page 186). Only active if Add variable to archive is active.

ARCHIVES (LIST)

Here, you select an archive from which you want to have variables displayed or to which you want to add a selected variable.

Note: Existing project configurations of archives are displayed in the list. In addition, it is possible to create a new archive directly in the wizard by clicking on the **New archive** (on page 186) button.

Parameters	Description
Short name	Archive reference.
Archive ID	Archive name
Type	<p>Archive type</p> <ul style="list-style-type: none"> ▶ <code>Cyclic</code> Archive is cyclical. Values are saved in configured time intervals. ▶ <code>EventTriggerd</code> Archive is event-triggered. Note: Event-triggered archives can only be used for automatic metering points. Direct configuration of event-triggered archives in the metering point administration is not possible. ▶ <code>Value Change</code> Archive is spontaneous. Each change to a value is immediately written to the variable in the archive. Hysteresis can be configured.
Archive trigger	<p>Trigger in order to write values to an archive.</p> <p>Note: Only available with event-triggered archives.</p>
Cycle time	<p>Time interval in which values are written to the archive with cyclical scanning.</p> <p>Format:</p> <ul style="list-style-type: none"> ▶ <code>n.A.</code> If archive type is <code>Value Change</code> or <code>EventTriggerd</code>. ▶ <code>DD:HH:MM:SS</code> ▶ <code>Month</code> With monthly cycle
Saving cycle	<p>Time interval between the creation of new archive files.</p> <p>Format:</p> <ul style="list-style-type: none"> ▶ <code>DD:HH:MM:SS</code> ▶ <code>Month</code> With monthly save cycle. ▶ <code>Year</code> With annual change save cycle.

VARIABLES (LIST)

Parameters	Description
Name	Name of the variable.
Measuring unit	Measuring unit of the variables.
Identification	Identification of the variable.
Driver	Driver of the variable.
Equipment Groups	Equipment group that is assigned to the variable. Note: A variable can also be assigned to several equipment groups.

NAVIGATION

Parameters	Description
Cancel	Discards all changes in all tabs and closes the dialog.

Relative value

In this tab, a metering point is assigned to a relative value variable.

Name

Electricity_I_manual

Description

Metering point for power

Location

Main distributor - main floor

Metering Type

Electricity

Metering Point behaviour

☐ Automatic
 ☒ Manual

Project selection

METERING_POINT

Absolute value

Relative value

Summary

☐ Create variable
 ☐ Variable from archive
 ☒ Add variable to archive
 ☒ Calculate relative value

New Archive

Archives

Drag a column here to group by this column.

	Short name	Archive ID	Type	Archive trigger	Cycle time	Saving cycle
	A4	HISTORIAN_ANNUAL	Cyclic		00:00:15:00	Year
	AA	HISTORIAN_TRIGGERED	EventTriggered	Test_absolut[1,1,1]	nA.	00:02:00:00
▶	AB	ARCHIVE_ABSOLUTE	Cyclic		00:00:15:00	00:08:00:00
	E1	Test_archive	Cyclic		00:00:15:00	01:00:00:00
	T1	TEST	Cyclic		00:00:15:00	00:08:00:00

Variables

Drag a column here to group by this column.

	Name	Measuring unit	Identification	Driver	Equipment groups
▶	Test_absolut[3,1,1]			Intern	
	Test_absolut[3,1,2]			Intern	
	Test_absolut[3,1,2_REL]		Relative value for Test_absol...	Intern	
	Test_absolut[3,2,1]			Intern	
	Test_absolut[3,2,2]			Intern	
	Test_relativ[1,1]			Intern	

Cancel

Parameters	Description
Create variable	A new variable is created for the relative value. Type: LREAL, driver: INTERN.
Name	Name of the new variable to be created. A valid name, based on the selected absolute value variable, is proposed. The name must be unique and can be given as desired. No special characters are permitted. A maximum of 256 characters can be entered. The entry is validated. The result of the validation (success or error) is shown next to the input field by means of a symbol. Note: Only visible if Create variable has been selected. A variable must be selected in the Absolute value tab, so that a proposed name is shown here.
Variable from archive	Shows list of archives and variables based on this in the selected archive.
Add variable to archive	Variables from the project are displayed. The selected variable is added to the selected archive.
Calculate relative value	Checkbox to activate the automatic calculation of relative values: Selection is optional with automatic metering points. Selection is automatically activated with manual metering points. This automatic preselection cannot be deactivated. Note: You can get further information on the automatic calculation of relative values in the zenon Logic (on page 221) chapter.
New archive	Opens dialog for the creation of a new archive (on page 186). Not active if Variable from archive is active.
Archives	Archives that were previously created in zenon Editor or with the New archive button are ready for selection in list form. Only cyclical archives are displayed.

ARCHIVES (LIST)

Here, you select an archive from which you want to have variables displayed or to which you want to add a selected variable.

Note: Existing project configurations of archives are displayed in the list. In addition, it is possible to create a new archive directly in the wizard by clicking on the **New archive** (on page 186) button.

Parameters	Description
Short name	Archive reference.
Archive ID	Archive name
Type	<p>Archive type</p> <ul style="list-style-type: none"> ▶ <code>Cyclic</code> Archive is cyclical. Values are saved in configured time intervals. ▶ <code>EventTriggered</code> Archive is event-triggered. Note: Event-triggered archives can only be used for automatic metering points. Direct configuration of event-triggered archives in the metering point administration is not possible. ▶ <code>Value Change</code> Archive is spontaneous. Each change to a value is immediately written to the variable in the archive. Hysteresis can be configured.
Archive trigger	<p>Trigger in order to write values to an archive.</p> <p>Note: Only available with event-triggered archives.</p>
Cycle time	<p>Time interval in which values are written to the archive with cyclical scanning.</p> <p>Format:</p> <ul style="list-style-type: none"> ▶ <code>n.A.</code> If archive type is <code>Value Change</code> or <code>EventTriggered</code>. ▶ <code>DD:HH:MM:SS</code> ▶ <code>Month</code> With monthly cycle
Saving cycle	<p>Time interval between the creation of new archive files.</p> <p>Format:</p> <ul style="list-style-type: none"> ▶ <code>DD:HH:MM:SS</code> ▶ <code>Month</code> With monthly save cycle. ▶ <code>Year</code> With annual change save cycle.

VARIABLES (LIST)

Parameters

Name

Measuring unit

Identification

Driver

Equipment Groups

Description

Name of the variable.

Measuring unit of the variables.

Identification of the variable.

Driver of the variable.

Equipment group that is assigned to the variable.

Note: A variable can also be assigned to several equipment groups.



Information

The list of variables is hidden if **Create variable** is active.

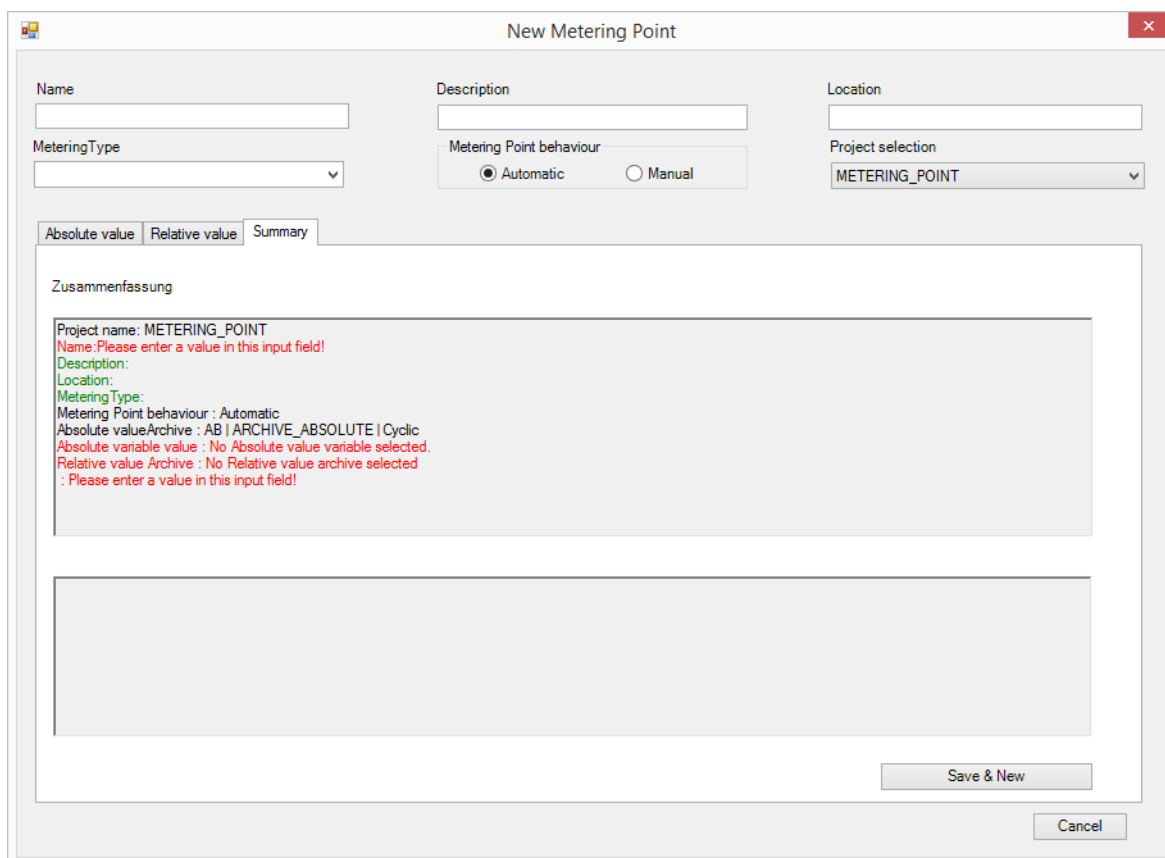
NAVIGATION

Parameters	Description
Cancel	Discards all changes in all tabs and closes the dialog.

Summary

The configurations of a metering point are evaluated and concluded in this tab.

The result is shown in the summary window in two fields.



The screenshot shows the 'New Metering Point' dialog box with the 'Summary' tab selected. The dialog contains several input fields and a summary section.

Fields:

- Name:
- Description:
- Location:
- MeteringType:
- Metering Point behaviour: ☒ Automatic ☐ Manual
- Project selection:

Summary Tab (Zusammenfassung):

Project name: METERING_POINT
Name: Please enter a value in this input field!
Description:
Location:
Metering Type:
Metering Point behaviour: Automatic
Absolute value Archive: AB | ARCHIVE_ABSOLUTE | Cyclic
Absolute variable value: No Absolute value variable selected.
Relative value Archive: No Relative value archive selected
: Please enter a value in this input field!

Buttons:

- Save & New
- Cancel

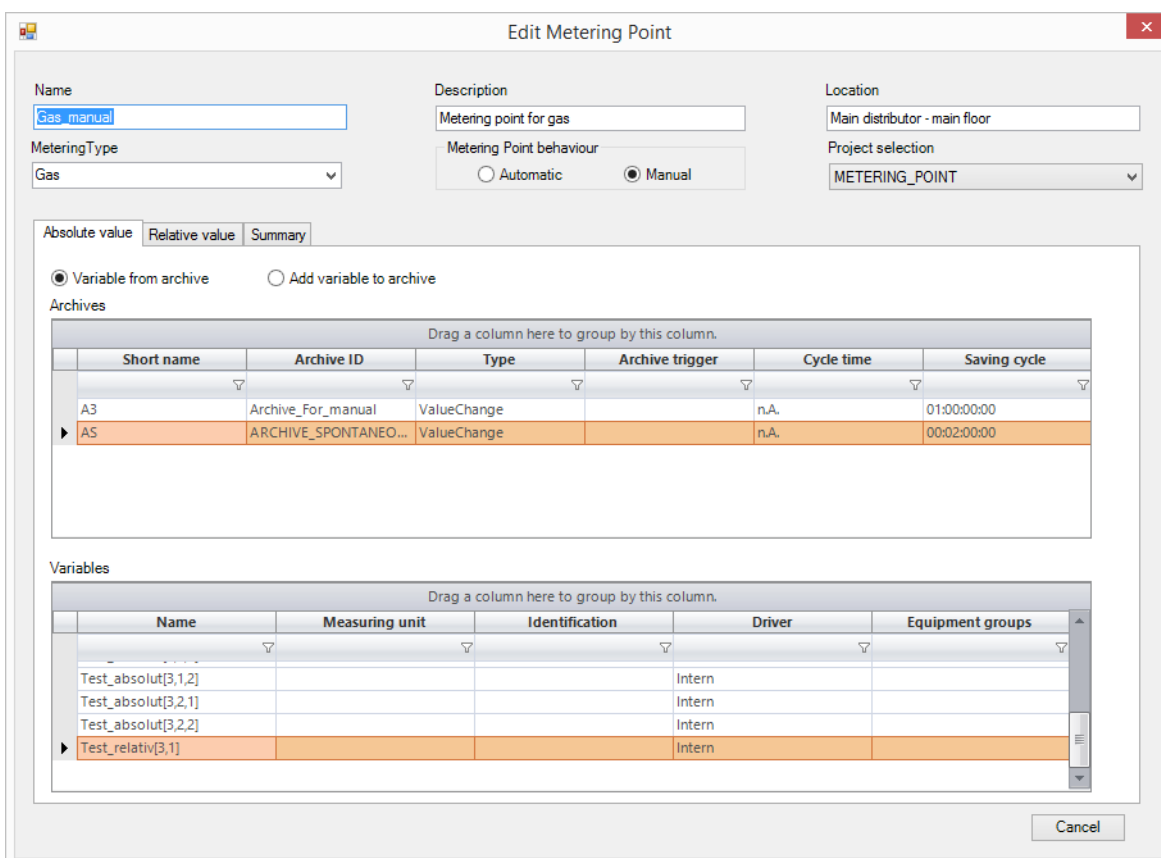
SUMMARY

Parameters	Description
Field for project configuration information	<p>The upper field contains a summary of the configuration of the metering points.</p> <p>The text information is distinguished by being displayed in different colors.</p>
Black text color	Settings are correct. These are created and applied by clicking on Save & New .
Red text color	<p>Errors in the configured settings must be checked once again and improved.</p> <p>No saving is possible in this case.</p>
Green text color	New settings are created and applied. Saving is now possible.
Blue text color	Amended project configurations are shown in blue text.
Orange text color	<p>Warning messages.</p> <p>Project configurations that are not recommended are shown in orange.</p>
Field for additional information	<p>General information about the steps carried out is shown in this field if available.</p> <p>The color coding of the texts is the same as in the field for project configuration information. However in this text field, only successful (green text) and faulty steps (red text) are shown.</p>
Save & New	<p>Accepts settings and creates the new metering point. All values are reset and it is possible to continue with the configuration of other metering points.</p> <p>If the project configuration is incorrect, corresponding project information is shown in the field for project configuration information.</p>
Cancel	Discards all changes in all tabs and closes the dialog.

Edit metering points

To edit an existing metering point, proceed as follows:

1. Select a metering point that you want to edit in the **Measuring points** tab.
The selected metering point is accented in color.
2. Then click on the **Edit** button or double click on the desired metering point.
3. The existing project configuration is shown in the **Dialog Edit Metering Point**.
4. If you add more information, administer the metering point as you wish and click in the **summary** tab on **Save & Close**.



Edit Metering Point

Name: Gas_manual

Description: Metering point for gas

Location: Main distributor - main floor

MeteringType: Gas

Metering Point behaviour: ☐ Automatic ☒ Manual

Project selection: METERING_POINT

Absolute value | Relative value | Summary

☒ Variable from archive ☐ Add variable to archive

Archives

Drag a column here to group by this column.					
Short name	Archive ID	Type	Archive trigger	Cycle time	Saving cycle
A3	Archive_For_manual	ValueChange		n.A.	01:00:00:00
AS	ARCHIVE_SPONTANEO...	ValueChange		n.A.	00:02:00:00

Variables

Drag a column here to group by this column.				
Name	Measuring unit	Identification	Driver	Equipment groups
Test_absolut[3,1,2]			Intern	
Test_absolut[3,2,1]			Intern	
Test_absolut[3,2,2]			Intern	
Test_relativ[3,1]			Intern	

Cancel

SUMMARY:

Absolute value	Relative value	Summary
<p>Zusammenfassung</p> <p>Project name: METERING_POINT Name: Test_3 Description: for testing only Location: somewhere Metering Type: not used Metering Point behaviour: Automatic Absolute value Archive: AS ARCHIVE_SPONTANEOUS ValueChange Absolute variable value: Test_absolut[1,1,2] Relative value Archive: T1 TEST Cyclic Relative value variable: Test_absolut[1,1,2]_REL</p> <p>Variable Test_absolut[1,1,2]_REL has been created. Variable Test_absolut[1,1,2]_REL has been added to archive TEST The entry 'Test_3' was successfully updated. Error during removing variables and code from the zenon Logic program for the automatic calculation. The zenon Logic program could not be compiled!</p> <p>Save & Close</p>		

Amended settings are shown in the summary in blue.

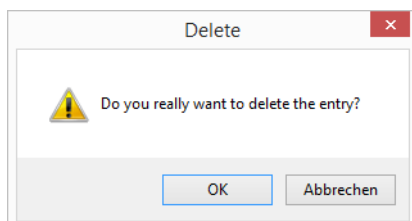
- Clicking on **save & close** saves the amended settings.

Delete Metering Point

To delete an existing metering point, proceed as follows:

1. Select a metering point that you want to delete in the **Metering Points** tab.
2. Then click on the **Delete** button.
3. A warning dialog appears.
4. Confirm the deletion by clicking on the **OK** button.
5. The selected metering point is deleted.

WARNING DIALOG



Parameters

OK

Cancel

Description

Selected metering point is deleted.

Cancels deletion process.

Warning dialog is closed without an action.



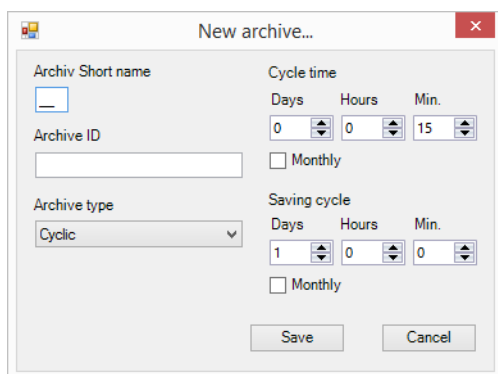
Information

If an automatic metering point with automatic relative value calculation is deleted, the attendant project configurations (variables and code lines) are removed in zenon Logic.

New archive

The "New archive" button is visible:

- ▶ If, in the **Absolute value** tab of the wizard, the **Add variable to archive** button is active.
- ▶ If, in the **Relative value** tab of the wizard, the **Create variable** or **Add variable to archive** buttons are active.



New archive...

Archiv Short name:

Archive ID:

Archive type: **Cyclic**

Cycle time

Days: 0 Hours: 0 Min.: 15

☐ Monthly

Saving cycle

Days: 1 Hours: 0 Min.: 0

☐ Monthly

Save **Cancel**

Parameters	Description
Archiv Short name	Short name for the archive to be created. Maximum 2 characters, 0-9 or A-Z, must be unique. Attention: You cannot change the identification afterwards.
Archive ID	Name of the archive. Default: <code>empty</code>
Archive type	Type of recording: <ul style="list-style-type: none"> ► <code>Cyclic</code> The data is written to the archive in the set interval (default). ► <code>ValueChange</code> Record on change
Cycle time	Define the cycle (days, hours, minutes and seconds) in which values for cyclical archives are to be read. Default: <code>15 minutes</code> (for cyclical archives)
Monthly	If active: The values are read in each time the month changes (monthly archive). Default: <code>inactive</code> .
Saving cycle	Define the cycle time (days, hours and minutes) in which new archive files are to be created. Default: <code>1 day</code> Note: grayed out if cycle time is monthly
Monthly	If active: The archive file is saved each time the month changes Default: <code>inactive</code> .

CLOSE DIALOG**Parameters**

Save

Cancel

Description

Applies settings and closes the dialog.

Discards all changes and closes the dialog.

Parameters

Description



Information

You can get further information about archives in the Historian manual, in the Edit archives chapter.

Triggered or event-triggered archives are not available for metering point administration.

Background information

When creating new archives for absolute value and relative value variables in metering point administration, the duration of storage for archive files is set to the maximum possible value.

This is necessary because manual editing via the metering point administration is not possible for non-evacuated archive files (in *.ARX format). This does not include data that has been evacuated to SQL; subsequent manual editing of this is always possible.

RECOMMENDATION

To keep the number of files to be stored within limits, it is recommended that you configure a sufficiently large save cycle.



Hint

Always configure your save cycle ≥ 1 day.

You can get further information in the Historian manual, in the Edit archive, Save chapter.

OFFSET AND WAITING TIME

To ensure correct archiving of the relative value, the metering point administration module carries out automatic project configurations.

The following settings are set automatically:

- ▶ Offset: 5 seconds (only for relative value archives)
You can find further information in the Historian manual, in the Edit archive, Recording type chapter.
- ▶ VACO waiting time: 10 seconds
If an automatic measuring point calculation is activated for relative value, the waiting time of the VACO (on page 223) must be set to 10 seconds and the offset for new relative value archives to 5 seconds.
For existing relative value archives, the offset must be checked manually and amended

accordingly.

You can find more information in the VACO function block chapter.

INFORMATION DURING PROJECT CONFIGURATION

The corresponding information is shown during project configuration in the Summary (on page 181) tab for the Metering Points (on page 169):

- ▶ Archive for absolute values should have offset 0 (corresponding warning message)
- ▶ Relative value archive must have offset 5 (information, amendment is automatic)
- ▶ Both archives should be different (corresponding warning message)

Visualization of incorrect project configurations

If a problem occurs when configuring a project, this is signaled by a red warning symbol next to the problematic element. You get a detailed description in the tool tip, if you move to the warning symbol with the mouse.

Absolute value Relative value Summary						
<input type="radio"/> Create variable <input checked="" type="radio"/> Variable from archive <input type="radio"/> Add variable to archive <input type="checkbox"/> Calculate relative value						
Archives						
Drag a column here to group by this column.						
	Short name	Archive ID	Type	Archive trigger	Cycle time	Saving cycle
▶	T1	TEST	Cyclic		00:00:15:00	00:08:00:00
⚠	E2	TEST ARCHIVE	Cyclic		00:00:15:00	00:06:03:00
	E1	Test_archive	Cyclic		00:00:15:00	01:00:00:00
Ratio between saving cycle and cycle time is incorrect or the cycle time is larger than the saving cycle!					15:00	00:08:00:00
AA	HISTORIAN TRIGGERED - Event triggered					
			Test absolute	1.1.11	n.A.	00:02:00:00

Archive validation

Archives used in the **Metering Point Administration** module are evaluated during project configuration.

Archive validation for the project configuration is carried out:

- ▶ After the wizard has started, in the list of metering points.
A cause for the incorrect project configuration could be editing the archive in zenon Editor directly.
- ▶ When creating/editing metering points (Editor).
- ▶ When creating a new archive using metering point administration (Editor and Runtime).
Validation is triggered by clicking on the **save** button.

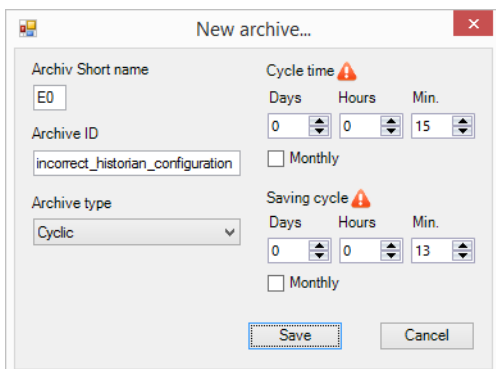
CONFIGURATION CRITERIA FOR RELATIVE VALUE ARCHIVES

Certain configuration criteria are applicable for automatic metering points for relative value archives. These criteria result due to the logic of the relative value calculation. Archives created with the wizard always correspond to these criteria.

- ▶ The cycle time must not be greater than the save cycle.
- ▶ The save cycle must be an integral multiple of the cycle time.
- ▶ If monthly change is selected as a cycle time, the save cycle must be a monthly change or yearly change.
- ▶ If monthly change is selected as a save cycle, the cycle time must be a maximum of 1 day.

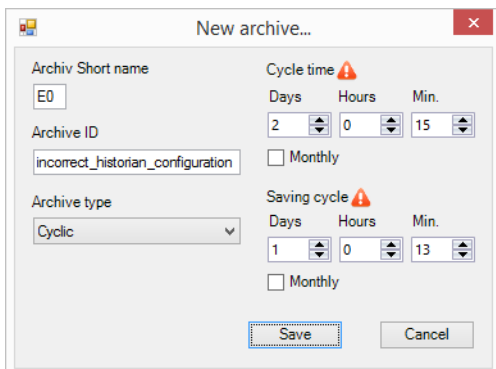
Examples

CYCLE TIME GREATER THAN SAVE CYCLE



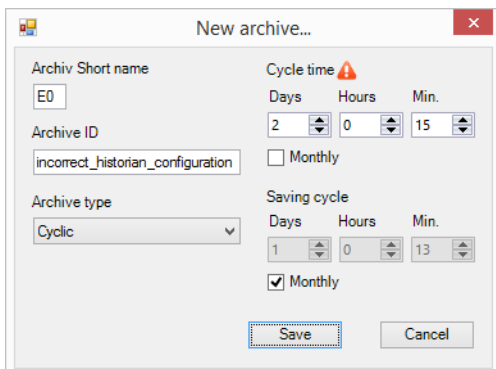
The screenshot shows the 'New archive...' dialog box. The 'Cycle time' is set to 0 days, 0 hours, and 15 minutes. The 'Saving cycle' is set to 0 days, 0 hours, and 13 minutes. The 'Archive type' is set to 'Cyclic'. The 'Archive ID' is 'incorrect_historian_configuration'. The 'Save' button is highlighted with a red dashed border.

SAVE CYCLE NOT A WHOLE-NUMBER MULTIPLE OF THE CYCLE TIME



The screenshot shows the 'New archive...' dialog box. The 'Cycle time' is set to 2 days, 0 hours, and 15 minutes. The 'Saving cycle' is set to 1 day, 0 hours, and 13 minutes. The 'Archive type' is set to 'Cyclic'. The 'Archive ID' is 'incorrect_historian_configuration'. The 'Save' button is highlighted with a red dashed border.

INCORRECT CYCLE TIME FOR MONTHLY SAVE CYCLE



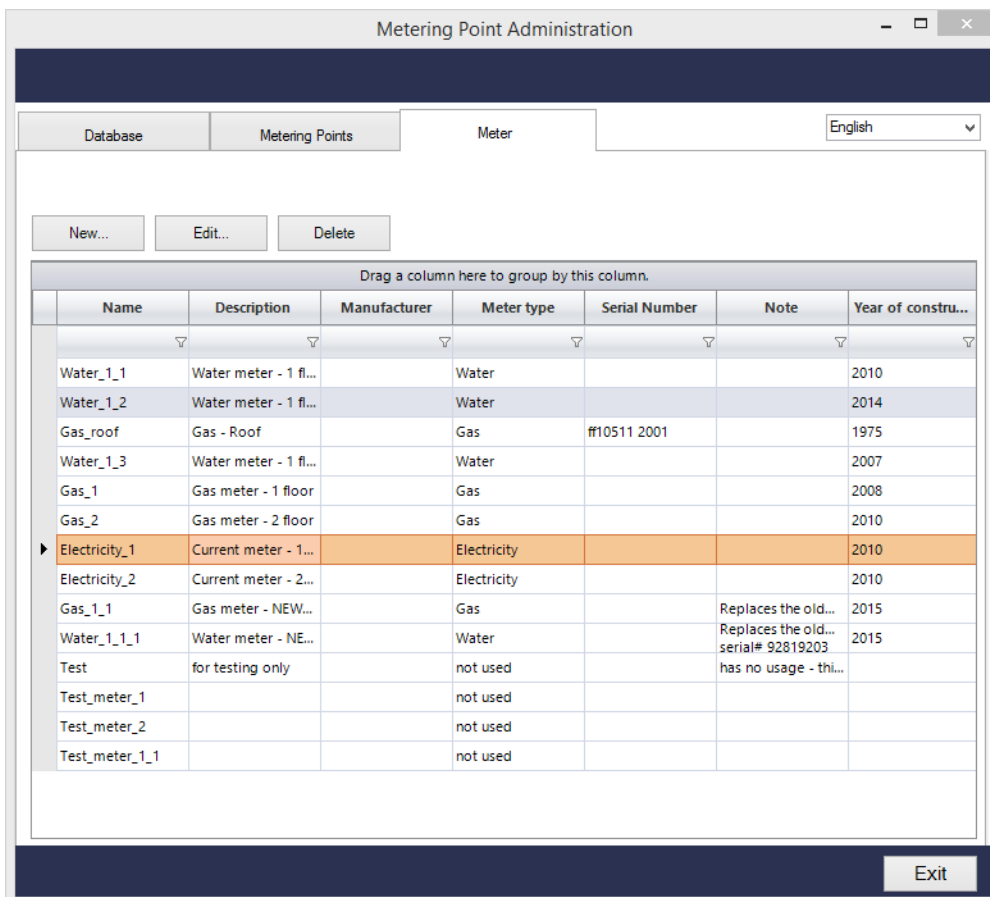
The 'New archive...' dialog box shows the following configuration:

- Archiv Short name: E0
- Archive ID: incorrect_historian_configuration
- Archive type: Cyclic
- Cycle time: Days: 2, Hours: 0, Min.: 15
- Saving cycle: Days: 1, Hours: 0, Min.: 13
- Monthly checkbox: ☒ Monthly

The 'Save' button is highlighted with a red dashed border.

Meter

In this tab, there is the possibility to create new meters, to administer them and to display the meters that have already been created in a list.



The 'Metering Point Administration' window shows the 'Meter' tab. It includes a table of existing meters and buttons for 'New...', 'Edit...', and 'Delete'.

Name	Description	Manufacturer	Meter type	Serial Number	Note	Year of constru...
Water_1_1	Water meter - 1 fl...		Water			2010
Water_1_2	Water meter - 1 fl...		Water			2014
Gas_roof	Gas - Roof		Gas	ff10511 2001		1975
Water_1_3	Water meter - 1 fl...		Water			2007
Gas_1	Gas meter - 1 floor		Gas			2008
Gas_2	Gas meter - 2 floor		Gas			2010
► Electricity_1	Current meter - 1...		Electricity			2010
Electricity_2	Current meter - 2...		Electricity			2010
Gas_1_1	Gas meter - NEW...		Gas		Replaces the old...	2015
Water_1_1_1	Water meter - NE...		Water		Replaces the old... serial# 92819203	2015
Test	for testing only		not used		has no usage - thi...	
Test_meter_1			not used			
Test_meter_2			not used			
Test_meter_1_1			not used			

The 'Exit' button is located at the bottom right of the window.

Parameters	Description
New...	Opens the dialog to create a new meter (on page 193).
Edit...	Opens a dialog to edit the selected meter (on page 195).
Delete	Deletes the selected meter.

LIST OF THE CONFIGURED METERS

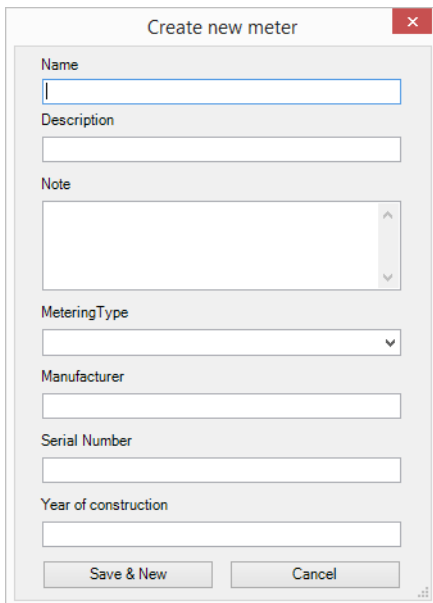
Parameters	Description
Name	Name of the meter.
Description	Description of the meter.
Manufacturer	Manufacturer of the meter.
Meter type	Type assignment of the meter.
Serial Number	Serial number of the meter.
Note	Note for the meter.
Year of construction	Year of construction of the meter.

NAVIGATION

Button	Description
Exit	Closes the wizard. Changes that have not been saved are lost in the process.

Create new meter

In this dialog (both in the wizard and in Runtime), meters are configured and existing project configurations are amended.

A screenshot of a "Create new meter" dialog box. The dialog has a title bar with the text "Create new meter" and a close button (X). The main area contains several input fields: "Name" (a single-line text box), "Description" (a single-line text box), "Note" (a multi-line text box with a vertical scrollbar), "MeteringType" (a dropdown menu with a downward arrow), "Manufacturer" (a single-line text box), "Serial Number" (a single-line text box), and "Year of construction" (a single-line text box). At the bottom, there are two buttons: "Save & New" and "Cancel".

Create new meter

Name

Description

Note

MeteringType

Manufacturer

Serial Number

Year of construction

Save & New Cancel

Parameters	Description
Name	Identification of the meter. (Mandatory field)
Description	Description for the meter. Optional entry
Note	Note in relation to the meter. Optional entry
MeteringType	Type assignment of the meter. Drop-down list with types that have already been configured. This drop-down list also corresponds to the type list for the creation of a new metering point. Optional entry
Manufacturer	Name of the manufacturer of the meter. Optional entry
Serial Number	Serial number of the meter. Optional entry
Year of construction	Year of construction of the meter. Optional entry

CLOSE DIALOG

Parameters	Description
Save & New	Saves the new meter. The dialog to create a new meter is then called up with empty content again. Other meters can be configured.
Cancel	Discards all changes and closes the dialog.

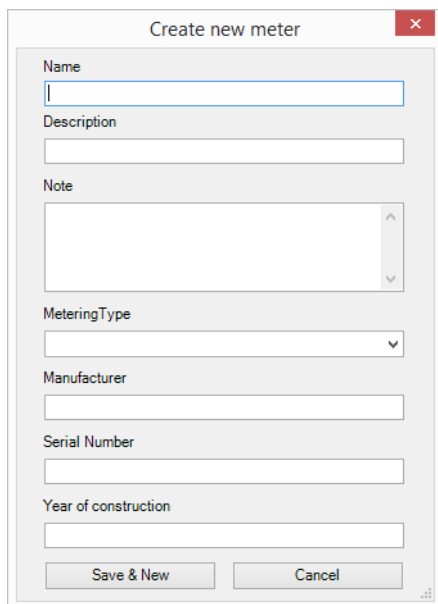
Note: Once the entries have been saved, a new entry is written to the database and the new entry is added to the list.

Configuration of a meter

To create a new meter, proceed as follows:

1. Click on the **Meter** button in the wizard
2. Click on **New**.

3. The dialog to create a new meter or amend an existing one is opened.



4. Enter the information about the meter.

Note: Incorrect entries are signaled by a red warning triangle next to the input field.

Edit meter

To edit a meter that already exists, proceed as follows:

1. Switch to the **Meter** tab.
2. Select the corresponding meter in the list of the configured meters.
3. Click on **Edit**.
4. The **Edit meter** dialog is opened.
5. Add any other desired information and administer the meter as you wish.
6. Click on **Save & Close**.

Delete meter

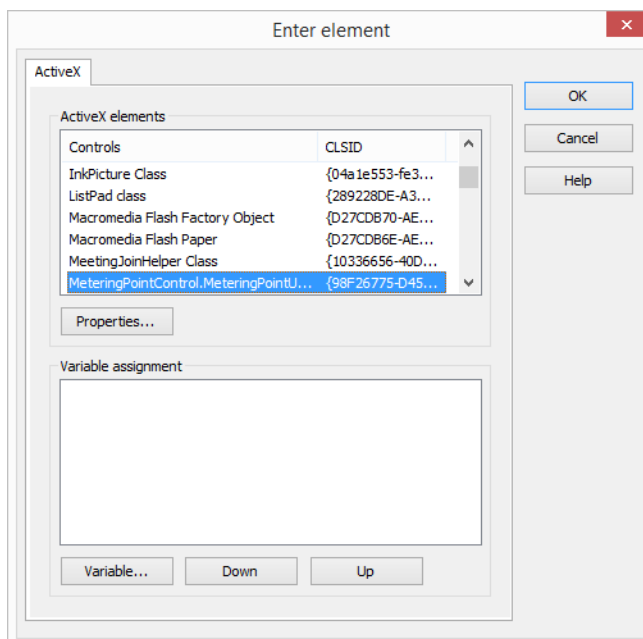
To delete an existing meter, proceed as follows:

1. Select a meter that you want to delete in the **Meter** tab.
2. Then click on the **Delete** button and confirm the warning dialog with **OK**.
3. The meter you have elected is deleted.

Note: If a meter is already connected to a metering point, it cannot be deleted. The **Delete** button is grayed out in this case. To delete a meter that has already been assigned, it must first be deleted from the metering point or replaced in Runtime.

3.4.5 Engineering in the zenon Editor

In zenon Editor, configure an **ActiveX** element in a screen in order to be able to use **metering point administration** in Runtime.



1. To do this, create a new screen in zenon Editor.
2. Select the **ActiveX** element and draw an area in the screen with it.
3. The **Enter element** dialog is opened.
4. In this dialog, select **MeteringPointControl.MeteringPointUserControl** from the list of the **ActiveX** elements.
5. Ensure that this ActiveX element is at least 900 pixels wide and 575 pixels high so that it is displayed correctly in Runtime.



Information

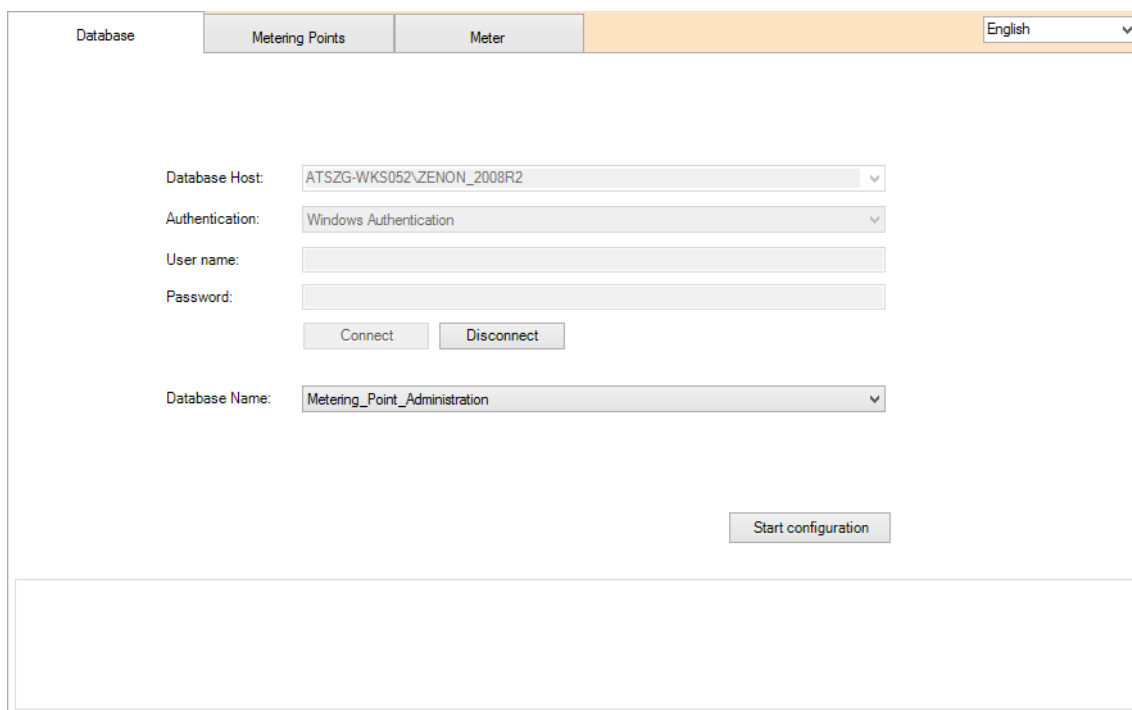
You can find information about the ActiveX element in the Screens manual in the Screen elements/ActiveX chapter.

3.4.6 Metering Point Administration - administration of metering points in Runtime

The following is carried out in Runtime:

- ▶ Configured metering points and meters are linked to one another.
- ▶ New meters are created.
- ▶ Existing meter information is amended.
- ▶ Manual values are entered.

Database



The screenshot shows the 'Database' configuration window. It has a tabbed interface with 'Database', 'Metering Points', and 'Meter' tabs. The 'Database' tab is active. In the top right corner, there is a language dropdown menu set to 'English'. The main area contains the following fields and buttons:

- Database Host:** A dropdown menu showing 'ATSZG-WKS052\ZENON_2008R2'.
- Authentication:** A dropdown menu showing 'Windows Authentication'.
- User name:** An empty text input field.
- Password:** An empty password input field.
- Connect** and **Disconnect** buttons.
- Database Name:** A dropdown menu showing 'Metering_Point_Administration'.
- Start configuration** button.

Below these fields is a large empty rectangular box.

Parameters	Description
Database Host	Drop-down list for the selection of the database server. Select, for example, your computer in this field. Note: Your computer is shown as a default when the tab is opened.
Authentication	Drop-down list for selection of the login method: <ul style="list-style-type: none"> ▶ Windows Authentication (Default): The login to the database is carried out with the information of the user logged in to the local computer. ▶ SQL Server Authentication: User name and password are entered manually. The corresponding login data must be available for database login.
User name	User name for login to a database. Grayed out if the authentication is Windows Authentication .
Password	Password for login to a database. For security reasons, each letter is shown with a * when the password is entered. Grayed out if the authentication is Windows Authentication .
Connect	Establishes the connection to the configured database server. If no connection is possible (for example due to incorrect entry of user name and/or password), an error message is called up. Grayed out if it is already connected to a database server.
Disconnect	Disconnects an existing connection to a database server. Grayed out if no connection is active.
Database Name	Drop-down list to select a database. This list shows all available databases of the database server configured under Datenbank-Host . If this list is empty, there is no connection to a database server or there is no SQL database available on the selected computer.
Start configuration	Switches to the Metering point tab. If there is not currently a connection to a database, a

connection with the login information that has already been entered is established when clicking on the **Start configuration** button.

If this input is incorrect or incomplete, no further settings can be changed in the **Metering points** or **Meters** tabs. A connection to a database is always necessary for this!

NAVIGATION

Button

Exit

Description

Closes the wizard.

Changes that have not been saved are lost in the process.



Information

If there is already a connection to a database, all input fields are grayed out.

Metering Points

Metering points in zenon Runtime are administered in this tab.

Database

Metering Points

Meter

English

Replace Meter...

Manual value input...

Post-editing...

History...

Reload

Drag a column here to group by this column.

	Name	Description	Location	Automatic	MeteringType	Calculation ac...	Meter name	Meter descrip...	Equipment gr...
▶	Water_automatic	Metering point...	Main distributor...	<input checked="" type="checkbox"/>	Water	<input type="checkbox"/>	Water_1_3	Water meter - 1...	
	Water_manual	Metering point...	Main distributor...	<input type="checkbox"/>	Water	<input checked="" type="checkbox"/>			
	Gas_manual	Metering point...	Main distributor...	<input type="checkbox"/>	Gas	<input checked="" type="checkbox"/>	Gas_roof	Gas - Roof	
	Electricity_I_ma...	Metering point...	Main distributor...	<input type="checkbox"/>	Electricity	<input checked="" type="checkbox"/>	Electricity_2	Current meter ~...	
	Test	for testing only	somewhere	<input checked="" type="checkbox"/>	not used	<input type="checkbox"/>	Test	for testing only	
	Test_2	for testing only	somewhere	<input type="checkbox"/>	not used	<input checked="" type="checkbox"/>	Test_meter_2		
	Test_1	for testing only	somewhere	<input checked="" type="checkbox"/>	not used	<input type="checkbox"/>	Test_meter_1_1		
	01_Test	for testing only	somewhere	<input checked="" type="checkbox"/>	not used	<input type="checkbox"/>			

Parameters

Description

Assign Meter... (on page 200)

Only active if the selected metering point has not been assigned a meter.

Replace Meter... (on page 200)

Only active if the selected metering point has already been assigned a meter.

Manual value input... (on page 206)

Allows manual entry of values for the selected meter.

If, in the selection of metering points, a metering point with automatic value transfer is selected, the **Manual entry of values** button is grayed out.

Post-editing... (on page 209)

Allows subsequent manual editing of relative values of metering points.

History... (on page 214)

Keeps a log of edited metering points and replaced meters.

Reload

Loads zenon project configurations in Runtime and gets new settings from the database.



Information

If a variable of a project is not available, this is signaled by a red warning symbol in the list view. In this case, check to see if a project with these variables is loaded.

Assign, replace or remove meter

In this dialog, individual meters can be assigned to a metering point, amended or removed.

With automatic metering points, the dialog for subsequent editing (on page 209) always opens when there is a change to the allocation of meters (new assignment, change, deletion).

Replace Meter... ✕

Metering Point

Name

Description

Meter type

Location

Measuring unit

Manual

Date and time

Old value

New value

Range
Min.:
Max.:

Available meters

Drag a column here to group by this column.

Name	Description	Manufact...	Meter type	Serial Nu...	Note	Year of c...
Gas_1	Gas meter...		Gas			2008
Gas_2	Gas meter...		Gas			2010
Gas_1_1	Gas meter...		Gas		Replaces t...	2015

Assign Meter...

Name

Description

Select

Delete

Ok Cancel

METERING POINT

Parameters	Description
Name	Name of the metering point. Cannot be changed in this dialog.
Location	Location of the metering point. Cannot be changed in this dialog.
Description	Description of the metering point. Cannot be changed in this dialog.
Measuring unit	Measuring unit of the metering point. Cannot be changed in this dialog.
Meter type	Type of meter. Cannot be changed in this dialog.

MANUAL

Parameters	Description
Date and time	Date and time of the meter allocation or meter replacement. Default: Query time period, rounded up to a complete hour. Clicking on the drop-down list opens a dialog to select the date and time. Note: Only the entry of dates from 1. 1. 2000 is possible. Calls before this date are not valid and are signaled by a red warning symbol.
Range	The range of the absolute value variable.
Min.	Minimum input range. Cannot be changed in this dialog.
Max.	Maximum input range. Cannot be changed in this dialog.
Old value	Value of the old meter at the time of replacement. Default: 0 Note: Only visible when a meter is replaced.
New value	Value of the new meter at the time of replacement.

	Default: 0 Note: If the entry is outside the input range of the variable (min./max.), the incorrect entry is automatically amended to the range.
--	---

AVAILABLE METERS

Parameters	Description
Available meters	List of available meters All meters of the appropriate meter type that are not yet assigned to a metering point are displayed. Only one meter per metering point can be assigned.
Select	Assigns the selected meter and transfers its values to the Assign meter range.
Delete	Deletes the assignment of a meter to a metering point. The meter itself is not deleted and remains in the list of meters.

ASSIGN METER

Parameters	Description
Name	Name of the assigned meter. Cannot be changed in this dialog.
Description	Description of the assigned meter Cannot be changed in this dialog.

CLOSE DIALOG

Parameters	Description
OK	Applies settings and closes the dialog.
Cancel	Discards all changes and closes the dialog.

Project configuration - meter assignment

To assign a meter to a metering point or to amend an existing assignment:

1. Select a metering point in the **list of metering points**.

2. Click on:
 - a) **Assign Meter** if the meter has not yet been assigned to a meter.
 - b) **Replace Meter** if the meter has already been assigned to a meter.
3. The **Assign Meter/Replace Meter** dialog is opened.
4. If a meter is replaced or assigned, enter the current value of the newly-assigned meter in **New value**.

Note: A warning dialog appears if this value is already present in the archive.
Entries that do not correspond to the input range are automatically amended to the maximum value or minimum value.
5. In the event of a meter replacement or when a meter assignment is deleted:
Also enter the current value of the meter to be replaced or deleted in the **Old value** input field.
Entries that do not correspond to the input range are automatically amended to the maximum value or minimum value.
6. Select a meter from the list of **available meters**.

Note: All meters with the same metering point type as the selected metering point are displayed here.
7. Configure the meter assignment:
 - a) Click on the **Select** button to assign the selected meter to the metering point.
 - b) Click on the **Delete** button to release a meter that has already been assigned from the metering point.
8. The selected meter is:
 - a) Applied in the **Assign Meter** area.
 - b) Removed from the **Assign meter** area.
9. Click on **OK** to end the assignment.
10. The dialog is closed:
 - a) For manual metering points:
Absolute values are written to the absolute value archive. Corresponding relative values are calculated automatically and written to the relative value archive.
 - b) For automatic metering points:
The dialog for subsequent editing is opened.

Meter assignment for manual metering points

Values are automatically written to the archive depending on the action:

1. Reassign meter:
New value

2. Remove meter:
Old value
3. Replace meter:
Both values
Note: Time stamp for replacement:
 - a) Old value: Current time stamp
 - b) New value: Two seconds later than the time stamp of the old value.

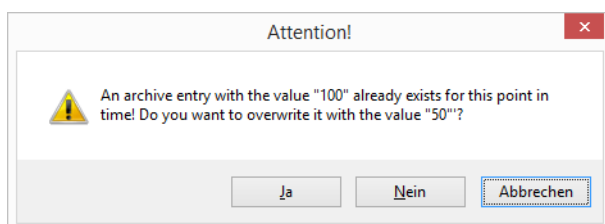
RELATIVE VALUE CALCULATION

The relative values are automatically recalculated.

1. During assignment:
 - a) Relative values between the new value and the last absolute value found before that are recalculated.
 - b) Relative values between the new value and the last absolute value found after that are recalculated.
2. During deletion:
 - a) Relative values between the old value and the last absolute value found before that are recalculated.
 - b) Relative values between the old value and the first absolute value found after that are recalculated.
3. When replacing:
 - a) Relative values between the old value and the last absolute value found before that are subsequently calculated.
 - b) Relative values between the new value and the last absolute value found after that are recalculated.

WARNING DIALOG

If a meter replacement is carried out at a time at which an archive entry already exists, this must be overwritten. A dialog warns of this.



Parameters	Description
Yes	Applies settings and closes the dialog.
No	Discards all changes and closes the dialog.
Cancel	Retains all changes. The changes are not carried out. The dialog remains open for corrections.

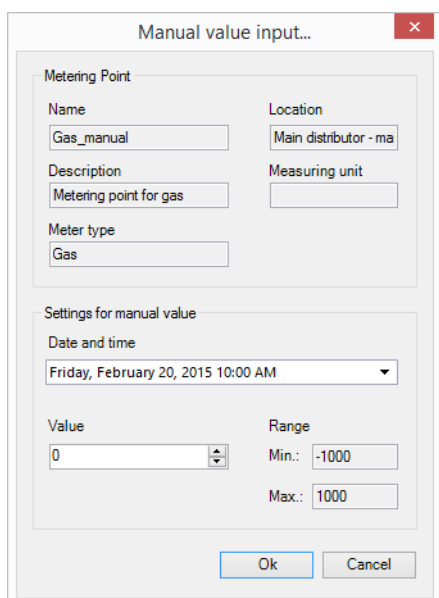
Meter assignment for automatic metering points

With automatic metering points, the post editing dialog (on page 209) always opens when amending the assignment of a meter.

The new values are only applied to the relative value archive after completion of the project configuration in the post editing dialog!

Manual value input

Manual values can only be entered for manual (i.e. not automatic) metering points. With the manual value entry, values can be entered for a certain point in time. Value entries for the future are not permitted.



The image shows a 'Manual value input...' dialog box. It contains two main sections: 'Metering Point' and 'Settings for manual value'. The 'Metering Point' section has fields for Name (Gas_manual), Location (Main distributor - ma), Description (Metering point for gas), Measuring unit (empty), and Meter type (Gas). The 'Settings for manual value' section has a 'Date and time' dropdown set to 'Friday, February 20, 2015 10:00 AM', a 'Value' spinner set to 0, and a 'Range' section with 'Min.: -1000' and 'Max.: 1000'. At the bottom are 'Ok' and 'Cancel' buttons.

METERING POINT

Parameters	Description
Name	Name of the metering point. Cannot be changed in this dialog.
Location	Location of the metering point. Cannot be changed in this dialog.
Description	Description of the metering point. Cannot be changed in this dialog.
Measuring unit	Measuring unit of the metering point. Cannot be changed in this dialog.
Meter type	Type of meter. Cannot be changed in this dialog.

SETTINGS FOR MANUAL VALUE

Parameters	Description
Date and time	Date and time of the entry of the absolute value. Clicking on the drop-down list opens a dialog to select the date and time. Note: Only the entry of dates from 1. 1. 2000 is possible. Calls before this date are not valid and are signaled by a red warning symbol. Default: Query time point, rounded up to a complete hour.
Value	Absolute value of the manual meter. Note: If the entry is outside the input range of the variable (Min. /Max.), this is signaled by a red warning symbol. Default: 0
Range	Range of the absolute value.
Min.	Minimum value of the absolute value variable Cannot be changed in this dialog.
Max.	Maximum value of the absolute value variable Cannot be changed in this dialog.

CLOSE DIALOG

Parameters	Description
OK	Applies settings and closes the dialog.
Cancel	Discards all changes and closes the dialog.

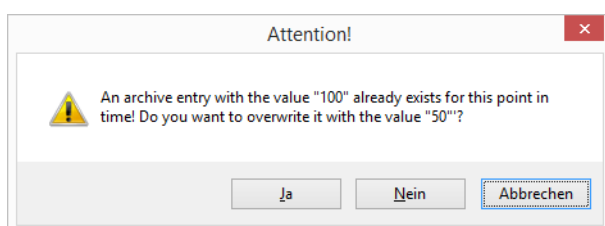
Manual value input

To enter values manually:

1. Select a manual metering point from the list of metering points.
2. Click on the **Manual value input** button.
3. The **Manual value input** dialog is opened.
4. Select the date and time of the manual value:
To do this, click on the **Date and time** drop-down list or enter the corresponding time in the input field directly.
Attention: Manual value entries must not be in the future!
5. Enter the new value in the input field
Note: The valid input range of the selected variable is shown under Range.
6. Click **OK** to apply the new value with the configured time stamp.
7. The value input is validated.
A warning dialog opens if there is already a value for the selected time point.
8. The relative values are automatically recalculated.
The following takes place after the values are entered:
 - a) From the entered value until the last absolute value found is subsequently calculated.
 - b) From the entered value until the next subsequent absolute value found is subsequently calculated.

DIALOG IN THE EVENT OF DUPLICATE VALUE ENTRIES

If there is already an archive entry at the selected time point, this must be overwritten. A dialog warns of this.



Parameters	Description
Yes	Applies settings and closes the dialog.
No	Discards all changes and closes the dialog.
Cancel	Retains all changes. The changes are not carried out. The dialog remains open for corrections.

SHOW MANUAL ENTRIES



Hint

To have manual value entries shown, use the **Post-editing** button.

Post-editing

Values from an archive can be subsequently edited in this dialog. Missing entries for relative values can be interpolated in order to get continuous values and thus, for example, close gaps more quickly as a result.

If, for an automatic metering point, the meter is replaced or deleted, the dialog for subsequent editing also opens.

Post-processing

Metering Points

Name	Location	Description	MeteringType
Electricity_I_manual	Main distributor - main floor	Metering point for power	Electricity

Values

Time period

From: Sunday, February 15, 2015 9:26 AM

To: Wednesday, February 18, 2015 11:27 AM

Load Interpolate Apply

Range

Min.: -1000

Max.: 1000

Time	Absolute value	Relative value
18.02.2015 09:45:00		17
18.02.2015 10:00:00	100	17
18.02.2015 10:15:00		33
18.02.2015 10:30:00		33
18.02.2015 10:45:00	200	33
18.02.2015 10:45:02	600	
18.02.2015 11:00:00		80
18.02.2015 11:15:00		80
18.02.2015 11:30:00		80
18.02.2015 11:45:00		80
18.02.2015 12:00:00	1000	80

Close

METERING POINTS

Parameters	Description
Name	Name of the metering point. Cannot be changed in this dialog.
Location	Location of the metering point. Cannot be changed in this dialog.
Description	Description of the metering point. Cannot be changed in this dialog.
MeteringType	Type of the metering point Cannot be changed in this dialog.

VALUES

Parameters	Description
Time period	Time range from relative values and absolute values that is to be displayed.
From	Start of the time query Clicking on the drop-down list opens a dialog to select the date and time. Note: Only the entry of dates from 1. 1. 2000 is possible. Calls before this date are not valid and are signalized by a red warning symbol. Default: Query time point - 2 h (rounded up to a full minute).
To	End of the time query Clicking on the drop-down list opens a dialog to select the date and time. Note: Only the entry of dates from 1. 1. 2000 is possible. Calls before this date are not valid and are signalized by a red warning symbol. Default: Query time point (rounded up to the next whole minute).
Load	Loads the archive files for the absolute and relative values for the selected time range and lists these individually in the list of archive entries.

Interpolate	Smooths the relative values in the range between two selected absolute values. Selection of start and end by clicking and pressing the Shift key.
Apply	Writes the changes that have been made into the archive.
Range	Value range of absolute value.
Min.	Minimum value of the variable that is assigned to the metering point. Cannot be changed in this dialog.
Max.	Maximum value of the variable that is assigned to the metering point. Cannot be changed in this dialog.

LIST OF ARCHIVE ENTRIES

This list is empty when the dialog is called up. After the query time has been entered and the Load button is clicked on, the list is filled with the archive entries that are found.

Parameters	Description
Time	Time of the archive entry. Format: DD.MM.YYYY hh:mm:ss
Absolute value	Absolute value of the archive entry.
Relative value	Relative value of the archive entry.

CLOSE DIALOG

Parameters	Description
Close	Closes the dialog.

Subsequent editing of values

To edit values subsequently:

1. Select the desired metering point in the **Metering points** tab.
2. Click on the **Post-editing...** button.
3. The post editing dialog is opened
4. Select a **time range**.

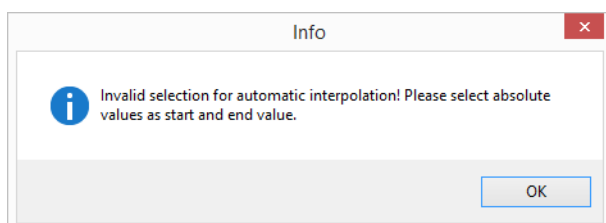
5. Click on **Load** to load the archive data for the absolute and relative values for the selected time range.
6. The value entries that are found are shown in the list.

INTERPOLATE VALUES

There must be valid absolute values in order to be able to interpolate values.

1. Go to the list of archive entries and select the absolute values that you want to use for filling with interpolated relative values.
2. To do this, hold down the Shift key and select the start and end values that are to be used for interpolation.
3. Click on **Interpolate** to automatically calculate relative values between these.
4. The new values are shown in the relative value column.
5. Click on the **Apply** button to transfer the newly-calculated relative values to the archive.

A dialog is called up if the start or end values for interpolation are not valid:



ENTER RELATIVE VALUES

1. Click on the list of the archive entries for the relative value that you want to change.
2. The field to enter the relative value is unlocked.
3. Enter the desired new relative value.
4. The entry is validated.

VALIDATION

If the value entered is outside the valid input range, it is not possible to complete the entering of the values in the input field. This is visualized with a red warning symbol at the start of the line. You can get other error details in the tool tip if you move the mouse over the warning symbol.

Note: empty value entries are not permitted. In this case, enter the figure 0.

History

The metering point history dialog shows the course of configuration of the selected metering point. Changes are not envisaged in this dialog.

×

Metering Point history

Metering Points

Name

Location

Description

MeteringType

Drag a column here to group by this column.

	Time	Old meter na...	Old meter value	New meter na...	New meter va...	User ID	User name	Change type
▶	12.02.2015 12:00:00		0	Water_1_1	-1000 0000		SYSTEM	Added
	12.02.2015 13:00:00	Water_1_1	0		0 0000		SYSTEM	Deleted
	12.02.2015 13:00:00		0	Water_1_2	0 0000		SYSTEM	Added
	16.02.2015 08:00:00	Water_1_2	0	Water_1_1_1	0 0000		SYSTEM	Changed
	16.02.2015 08:00:00	Water_1_1_1	0	Water_1_3	0 0000		SYSTEM	Changed
	17.02.2015 11:00:00	Water_1_3	0	Water_1_1	0 0000		SYSTEM	Changed
	20.02.2015 10:00:00	Water_1_1	0	Water_1_3	0 0000		SYSTEM	Changed

Parameters	Description
Name	Name of the metering point. Cannot be changed in this dialog.
Location	Location of the metering point. Cannot be changed in this dialog.
Description	Description of the metering point. Cannot be changed in this dialog.
MeteringType	Type of the metering point Cannot be changed in this dialog.

HISTORY

Parameters

Time

Old meter name

Old meter value

New meter name

New meter value

User ID

User name

Change type

Description

Time of the meter assignment or the meter replacement.

Name of the old meter.

Value of the old meter.

Name of the new meter.

Value of the new meter.

ID of the user who has entered the meter replacement.

Name of the user who has entered the meter replacement.

The change that has been made is shown.

- ▶ Added
When a meter is assigned for the first time
= **Assign Meter**
- ▶ Changed
When a meter replacement is carried out
= **Replace Meter**
- ▶ Deleted
The assignment of a meter has been removed. No new meter was assigned to the metering point.

Close

Closes the dialog.



Information

The history only shows changes of meter assignments for a metering point.

Value changes are not displayed in the history.

Meter

Meters are administered in Runtime in this tab.

Database
Metering Points
Meter
English

New...
Edit...
Delete

Drag a column here to group by this column.

	Name	Description	Manufacturer	Meter type	Serial Number	Note	Year of construction
	Water_1_1	Water meter - 1 floor...		Water			2010
	Water_1_2	Water meter - 1 floor...		Water			2014
	Gas_roof	Gas - Roof		Gas	ff10511 2001		1975
	Water_1_3	Water meter - 1 floor...		Water			2007
	Gas_1	Gas meter - 1 floor		Gas			2008
	Gas_2	Gas meter - 2 floor		Gas			2010
	Electricity_1	Current meter - 1 floor		Electricity			2010
	Electricity_2	Current meter - 2 floor		Electricity			2010
	Gas_1_1	Gas meter - NEW - 1...		Gas		Replaces the old gas-...	2015
	Water_1_1_1	Water meter - NEW -...		Water		Replaces the old wat... serial# 92819203	2015
	Test	for testing only		not used		has no usage - this is...	
	Test_meter_1			not used			
	Test_meter_2			not used			
	Test_meter_1_1			not used			

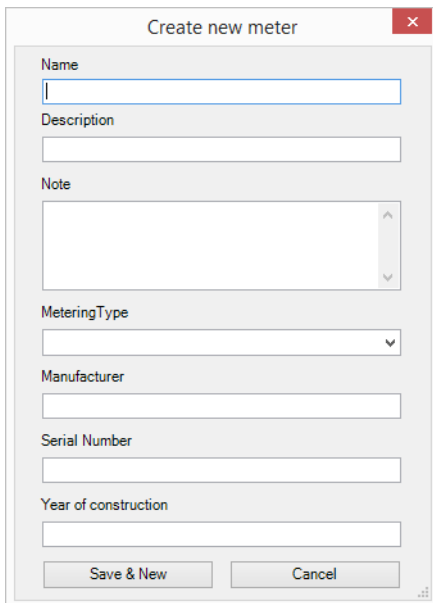
Parameters	Description
New (on page 193)	Opens the dialog to create a new meter.
Edit (on page 195)	Opens the dialog to edit the selected meter.
Delete (on page 195)	Deletes the selected meter.

LIST OF THE METERS

Parameters	Description
Name	Name of the meter that has been created.
Description	Description of the meter.
Manufacturer	Manufacturer of the meter.
Meter type	Meter type of the meter.
Serial Number	Serial number of the meter.
Note	Note in relation to the meter that has been created.
Year of construction	Year of construction of the meter.

Create new meter

In this dialog (both in the wizard and in Runtime), meters are configured and existing project configurations are amended.

A screenshot of a software dialog box titled "Create new meter" with a red close button in the top right corner. The dialog contains several input fields: "Name" (a single-line text box), "Description" (a single-line text box), "Note" (a multi-line text area with scrollbars), "MeteringType" (a dropdown menu with a downward arrow), "Manufacturer" (a single-line text box), "Serial Number" (a single-line text box), and "Year of construction" (a single-line text box). At the bottom, there are two buttons: "Save & New" and "Cancel".

Create new meter

Name

Description

Note

MeteringType

Manufacturer

Serial Number

Year of construction

Save & New

Cancel

Parameters	Description
Name	Identification of the meter. (Mandatory field)
Description	Description for the meter. Optional entry
Note	Note in relation to the meter. Optional entry
MeteringType	Type assignment of the meter. Drop-down list with types that have already been configured. This drop-down list also corresponds to the type list for the creation of a new metering point. Optional entry
Manufacturer	Name of the manufacturer of the meter. Optional entry
Serial Number	Serial number of the meter. Optional entry
Year of construction	Year of construction of the meter. Optional entry

CLOSE DIALOG

Parameters	Description
Save & New	Saves the new meter. The dialog to create a new meter is then called up with empty content again. Other meters can be configured.
Cancel	Discards all changes and closes the dialog.

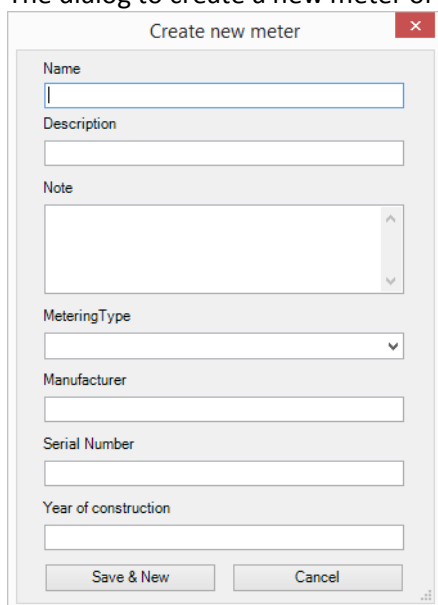
Note: Once the entries have been saved, a new entry is written to the database and the new entry is added to the list.

Configuration of a meter in Runtime

To create a new meter, proceed as follows:

1. Click on the **Meter** tab.

2. Click on **New**.
3. The dialog to create a new meter or amend an existing one is opened.



The image shows a 'Create new meter' dialog box with a title bar containing a close button (X). The dialog contains several input fields: 'Name' (text box), 'Description' (text box), 'Note' (text area with scrollbars), 'MeteringType' (dropdown menu), 'Manufacturer' (text box), 'Serial Number' (text box), and 'Year of construction' (text box). At the bottom, there are two buttons: 'Save & New' and 'Cancel'.

4. Enter the information about the meter.

Note: Incorrect entries are signaled by a red warning triangle next to the input field.

Edit meter

To edit a meter that already exists, proceed as follows:

1. Switch to the **Meter** tab.
2. Select the corresponding meter in the list of the configured meters.
3. Click on **Edit**.
4. The **Edit meter** dialog is opened.
5. Add any other desired information and administer the meter as you wish.
6. Click on **Save & Close**.

Delete meter

To delete an existing meter, proceed as follows:

1. Select a meter that you want to delete in the **Meter** tab.
2. Then click on the **Delete** button and confirm the warning dialog with **OK**.
3. The meter you have elected is deleted.

Note: If a meter is already connected to a metering point, it cannot be deleted. The **Delete** button is grayed out in this case. To delete a meter that has already been assigned, it must first be deleted from the metering point or replaced in Runtime.

3.4.7 zenon Logic components of metering point administration

The calculation of relative values with automatic metering points is implemented with the **Calculate relative value** setting active with zenon Logic.

Necessary configurations are automatically applied by the **metering point administration**. You can find information about these automated steps in the **Summary** (on page 181) tab of the **Metering Point Administration** wizard in zenon Editor. You are informed of any problems that occur in this tab.



License information

Additional licensing of zenon Logic is not necessary. The standard licensing is sufficient.

zenon Logic project configurations for metering point administration

When creating automatic metering points with the **Calculate relative value** setting activated, the following actions are carried out in the background:

CREATION OF A DRIVER

1. Typ STRATONNG
2. Name: MeteringPoint
3. Amendment of the driver settings
 - a) Host: localhost
 - b) Port: 14731

The port number is increasing by 1 for every loaded project if there are many projects in the workspace.

CREATION OF A ZENON LOGIC PROJECT

1. Name: MeteringPoint
2. Host: localhost

3. Port: 14731

The port number is increasing by 1 for every loaded project if there are many projects in the workspace.

CREATION OF A PROGRAM IN THE ZENON LOGIC PROJECT FOR THE CALCULATION OF RELATIVE VALUES

Name: `RelativeValueCalculation`

Once configuration has been completed, the zenon Logic project and the zenon project are compiled.

The zenon Logic Workbench must be closed during the configuration of a metering point in the wizard. If there is a problem, a corresponding warning message appears in the Summary of the wizard (on page 181).



Attention

All manual changes to the **MeteringPoint** driver, as well as the changes to the zenon Logic **MeteringPoint** project (including **RelativeValueCalculation** program) can lead to automatic relative value calculation no longer working.

Apply changes in zenon Logic

Changes to the configuration of metering points can lead to changes in the zenon Logic Program (on page 221).

These changes are not applied in Runtime by reloading. The current zenon Logic program is only loaded when Runtime is restarted.



Example

Change to the cycle time of an existing archive.

In order for correct calculations to take place for a metering point with calculated relative values (**Calculate relative value** property active), zenon Runtime must be restarted.

VACO function block

The VACO function block in zenon Logic carries out the calculation of relative values.

When creating automatic metering points with the "**Calculate relative value**" setting activated, an instance of the function block is created in the zenon Logic program `RelativValueCalculation` for the corresponding metering point. If an automatic metering point with activated relative value calculation is deleted or the relative value calculation for an automatic metering point is deactivated, the attendant project configurations (variables and lines of code) are removed in zenon Logic.

PROGRAMMING - SOURCE CODE

```
//Instance for Metering Point MessstellenName

VACO_MessstellenID (ANY_TO_LREAL ({AbsolutVariablenName}), INT#1, {FunktionsTriggerVariabl
enName}, T#5s, FALSE, 0.0);

{RelativVariablenName} := ANY_TO_DatenTypRelativVariable (VACO_0001);

{ArchivTriggerVariablenName} := VACO_MessstellenID.TA;
```

ArchivTrigger function block

The `ArchivTrigger` function block carries out the necessary calculations (in the background) in order to trigger cyclical archives with the configured cycle time.

If the project configuration of a cyclical archive for the metering point administration in zenon is changed, the zenon Logic program is automatically updated after the wizard is opened.

PROGRAMMING - SOURCE CODE

```
//Instance for Trigger RE

Trigger_RE (ULINT#1420066800, ULINT#900, ULINT#28800, False, False, False);

OUT_TF_RE := Trigger_RE.TF;
```

3.5 Pharmaceutical

Wizards for the pharmaceutical industry.

3.5.1 Pharmaceutical Wizard

The pharmaceutical wizard enables the management of validated projects for the pharmaceutical industry. It summarizes the relevant settings necessary for a Good Manufacturing Process (GMP) project. These settings can be managed and changed in the wizard. The settings are loaded into the wizard either via an existing project or via a configuration files.

The following settings are managed:

- ▶ General project settings
- ▶ User administration
- ▶ User groups
- ▶ Settings for the Chronologic Event List
- ▶ Settings for the Alarm Message List
- ▶ XML template

Engineered settings in the wizard can be:

- ▶ written back to the active project
- ▶ saved in a new project
- ▶ saved to a special configuration file

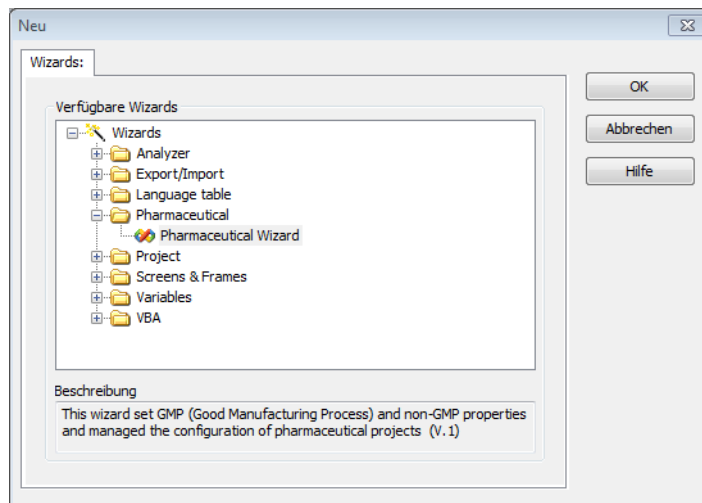
These configuration files created in the wizard can be used over and over again and can be enhanced. However they can be only read and edited with the wizard.

Start wizard

To start the wizard:

1. Click on File-> Wizards...
or press the short cut `Alt+F12`
2. The selection window with the available wizards opens
3. Select the **Pharmaceutical** folder

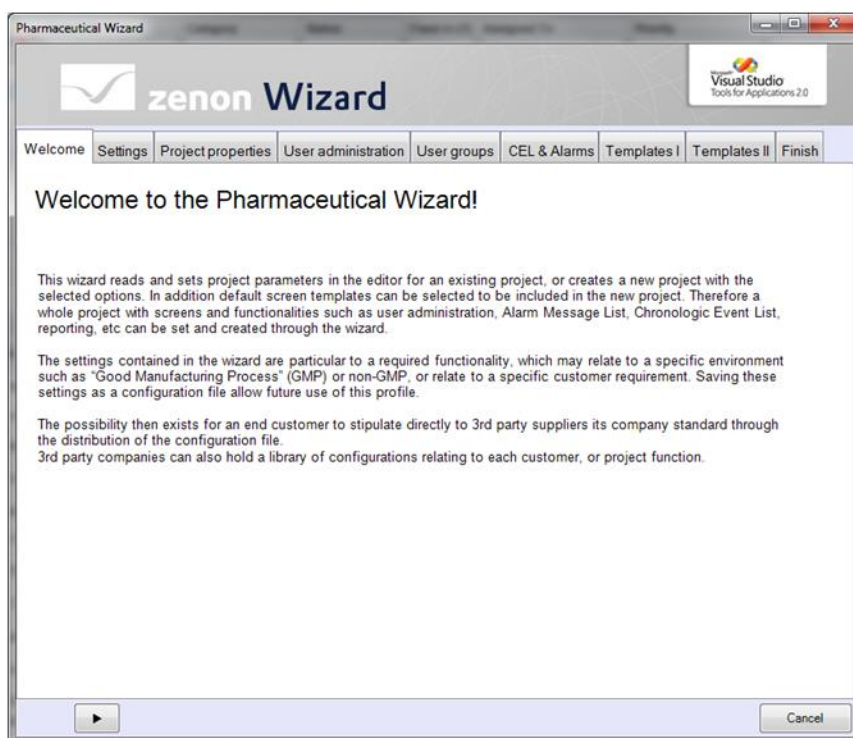
4. select the **Pharmaceutical Wizard** there



5. click on **OK**
6. The wizard starts with the welcome page

Welcome

Tab **Welcome** informs you about performance and use of the wizard.



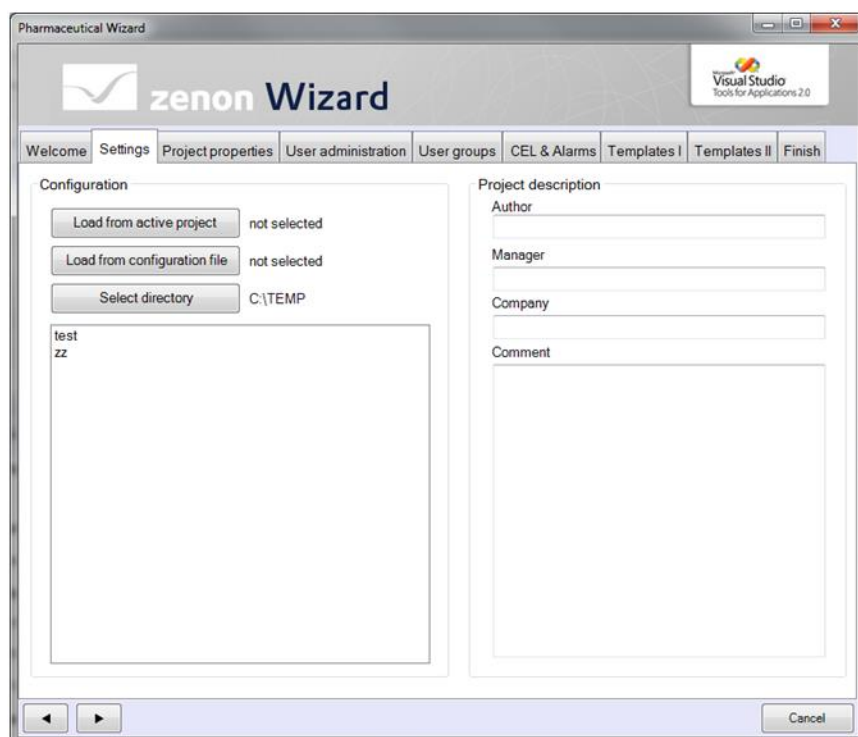
The navigation through the wizard is done by clicking on the individual tabs or step by step by clicking on the arrow keys.

Click on **cancel** to close the wizard. All changes made to a file or project since the last saving are discarded.

Settings

In this tab:

- ▶ Settings are loaded
- ▶ Project descriptions are adapted



Parameters	Description
Configuration	Definition which project is edited.
Load from active project	Loads the settings of the active project in the workspace into the wizard.
Load from configuration file	<p>Loads data from a saved configuration file (*.cof). The file is selected from the list. The list displays all available configuration files in the selected folder (Select directory).</p> <p>Info: The configuration files can only be read, created and edited with the wizard.</p>
Select directory	Opens file selection dialog in order to select the folder in which the desired configuration files (*.cof) are available. They are displayed in the list below the button.
Templates	Settings for XML and XRS templates.
Project description	<p>Information about the project as defined in property Project description of the dialog.</p> <p>It is taken over by the loaded project and can be edited. For checking purposes all changes are displayed on tab Finish (on page 257).</p>
Author	Author of the project.
Manager	Project manager.
Company	Company.
Comment	Comment.


Project properties

Settings for:

- ▶ Network
- ▶ Authorization in the network

► History of changes

Pharmaceutical Wizard

 **zenon Wizard**

Visual Studio
Tools for Applications 2.0

Welcome Settings **Project properties** User administration User groups CEL & Alarms Templates I Templates II Finish

Network

☐ Active

Server name

Standby name

Redundancy type

Network authorization

☐ Active

Timeout for request [s]

Timeout for acknowledgement [s]

History of changes

☐ Active

Detailing level

◀ ▶ Cancel

Parameters	Description
Network	<p>Network</p> <p>Properties for use of the project in a network.</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p>GRP_Net</p>
Active	<p>Network active</p> <p>Active: The project is used as a network project. A server must be defined.</p> <p>Inactive: The project is a standalone project.</p> <p>Default: inactive.</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p>NetActive</p>

Server name	<p>Server 1</p> <p>Only available if property Network active is active. Computer which establishes the connection to the hardware for network projects and which manages the project data. The clients connect to this computer.</p> <p>Clicking on ... opens the dialog with a list of the computers available in the network.</p> <p>Hint name: The IP address is not sufficient; the name of the computer must be entered. "localhost" must not be used as name. If the name is changed, it cannot be reloaded. It is updated only after the Runtime has been restarted.</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows: NetServer</p>
Standby name	<p>Network active</p> <p>Active: The project is used as a network project. A server must be defined. Inactive: The project is a standalone project. Default: inactive.</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows: NetActive</p>
Redundancy type	<p>Redundancy type</p> <p>Only available if a computer has been specified in property Server 2.</p> <p>zenon supports two types of redundancy:</p> <ul style="list-style-type: none"> ▶ Software redundancy: The system consists of one PLC and two

redundant control system computers. Both computers must have a connection to the PLC. Both computers communicate with the control and at the same time keep the data from the control updated. The communication to the control is managed by the computer which is the server. The server communicates bidirectionally, the standby communicates unidirectionally. If the Server crashes, the Standby Server takes over the bidirectional communication with the PLC.

- **Hardware redundancy:** The system consists of two redundant PLCs and two redundant control system computers. Each server communicates bidirectionally with one PLC. Both computers and both PLCs are synchronizing their data. If one component in the first system crashes, the second system takes over.

Default: `Software redundancy`

More in the online help.

This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:

NetType

Network authorization	<p>Authorization</p> <p>Properties for the operating authorization in the network.</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p>GRP-Token</p>
Active	<p>Authorization in network active</p> <p>Only available if property Network active is active.</p> <p>The authorization in the network makes sure that in the network only one station at a time can carry out active operations (e.g. change set values). Passiv, reading access is always possible regardless of the option.</p> <p>Active: Only on computer can operate the project at a time (e.g. acknowledge alarms, write set values).</p> <p>Inactive: Several computers can operate the project at the same time.</p> <p>Default: inactive</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p>NetTokenActive</p>
Timeout for request [s]	<p>Timeout for request [s]</p> <p>Only available if the Authorization in network active property has been activated.</p> <p>If the authorization in the network is blocked by a station, it can be requested by another computer. Within the time limit defined here the request must be answered. After the time expires without an answer, the requesting station automatically receives the authorization.</p>

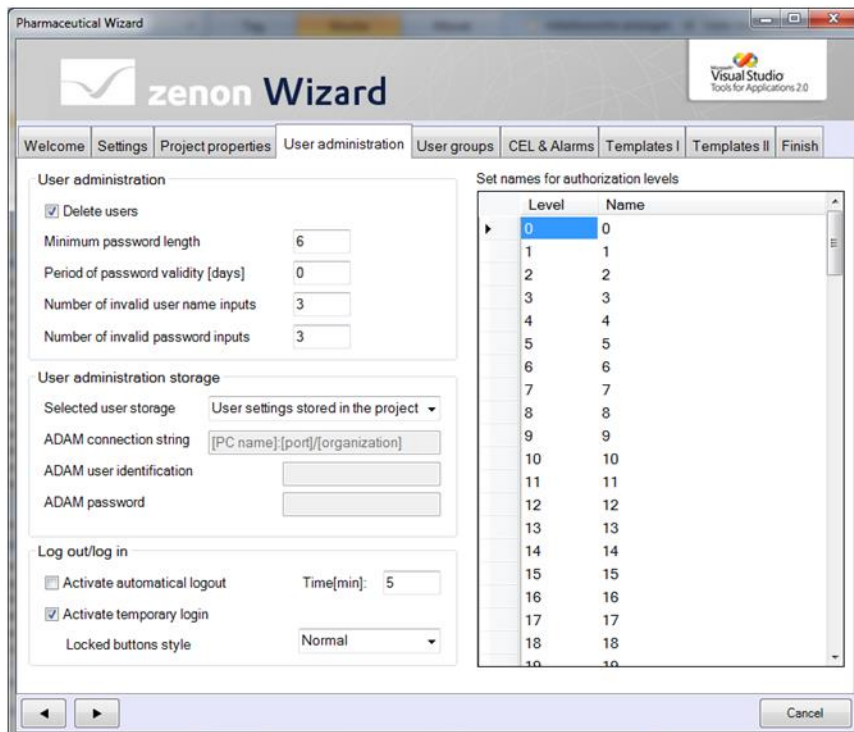
	<p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>NetTokenQuestion</i></p>
--	--

Timeout for acknowledgement [s]	<p>Timeout for authorization [s]</p> <p>Only available if the Authorization in network active property has been activated.</p> <p>Within this time the computer (Client) which has the authorization must report to the Server. If this does not happen, the authorization is released automatically.</p> <p>Attention: This value must be smaller than the time defined in property Timeout [s].</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>NetTokenQuit</i></p>
History of changes	<p>History of changes</p> <p>Properties for the history of changes.</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>GRP_ChangeLog</i></p>
Active	<p>History of changes active</p> <p>Active: Changes to the project are also logged.</p> <p>Inactive: Changes to the project are not logged.</p> <p>Default: inactive.</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>ChangeLogAktiv</i></p>

Detailing level	<p>Detailing level</p> <p>Only available if property History of changes active is active.</p> <p>Selection of details levels from drop-down list.</p> <ul style="list-style-type: none">▶ Object: Only the object names of the changed objects are logged. Details concerning properties and their values are not displayed in the History of changes.▶ Properties: Additionally to the object names the changed properties and the new values are displayed in the history of changes.▶ Value changes: This setting causes the most detail level of logging. Not only the new value of a property is displayed but also the old one. This makes a complete tracability of the changes of values possible. <p>Default: Properties</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>ChangeLogState</i></p>
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User administration

Settings for the user administration:



The screenshot shows the 'User administration' tab of the 'Pharmaceutical Wizard' application. The interface includes a tabbed menu at the top with options: Welcome, Settings, Project properties, User administration (selected), User groups, CEL & Alarms, Templates I, Templates II, and Finish. The main content area is divided into three sections: 'User administration', 'User administration storage', and 'Log out/log in'. The 'User administration' section contains a checked checkbox for 'Delete users' and four input fields for password and login settings. The 'User administration storage' section includes a dropdown for 'Selected user storage', an 'ADAM connection string' field, and two password fields. The 'Log out/log in' section has checkboxes for 'Activate automatical logout' and 'Activate temporary login', along with a 'Time[min]' field and a 'Locked buttons style' dropdown. On the right, a 'Set names for authorization levels' table is displayed, showing a list of levels from 0 to 19, each with a corresponding name. The 'Level' column contains numbers, and the 'Name' column contains the same numbers. The table is currently empty of data.

Level	Name
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19

Parameters	Description
User administration	<p>User administration</p> <p>Project-related properties for user administration.</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>GRP_Password</i></p>
Delete users	<p>Deleting users</p> <ul style="list-style-type: none"> ▶ Active: Deletion of a user in Runtime is permitted. ▶ Inactive: Users can only be marked as deleted. The users remain in the list of users, but are no longer valid for operation in Runtime (in accordance with FDA guidelines). <p>Default: <code>active</code></p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>DelUser</i></p>
Minimum password length	<p>Minimum password length</p> <p>Minimum length of the password in characters.</p> <ul style="list-style-type: none"> ▶ Minimum: 0 ▶ Maximum: 20 <p>Default: 6</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>MinPwLength</i></p>

Period of password validity [days]	<p>Password - period of validity [d]</p> <p>Enter a time period (in days) defining how long a password should stay valid. After the time expired, you must enter a new password.</p> <ul style="list-style-type: none"> ▶ Minimum: 0 - The password never expires and need not be renewed. For this setting the value 2147483647 is written to system driver variable "Days until password expires". ▶ Maximum: 4294967295 <p>Default: 0</p> <p>Attention: For productions according to the FDA guidelines entry 0 is not allowed as the rules of the FDA demand a cyclic change of the password.</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>PWValid</i></p>
Number of invalid user name inputs	<p>Minimum password length</p> <p>Minimum length of the password in characters.</p> <ul style="list-style-type: none"> ▶ Minimum: 0 ▶ Maximum: 20 <p>Default: 6</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>MinPwLength</i></p>
Number of invalid password inputs	<p>Max. password error</p> <p>Number of incorrect password entries.</p> <p>The corresponding user is blocked if this number is exceeded. The block can only be lifted by an administrator. A</p>

corresponding dialog is created in the Chronological Event List (CEL).

- ▶ Minimum: 0
- ▶ Maximum: 65535

Default: 3

More in the online help.

This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:

PasswordTries

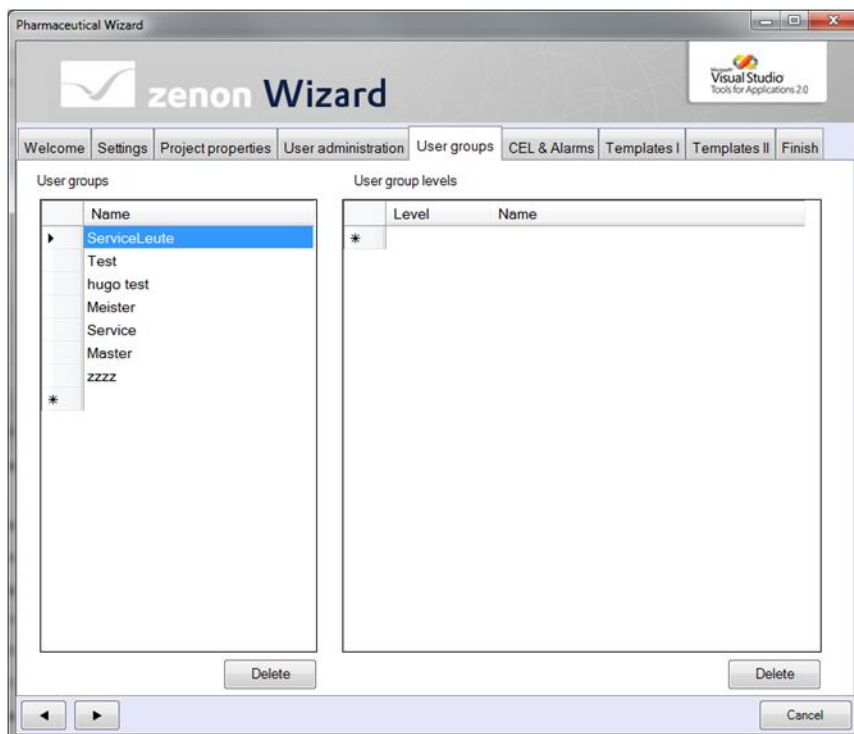
User administration storage	Saving the user administration
Selected user storage	<p>Select where you want to save the user administration:</p> <ul style="list-style-type: none"> ▶ Project ▶ Active Directory (AD) ▶ Active Directory Application Mode (ADAM)
ADAM connection string	<p>AD-LDS connection</p> <p>Connection path to ADAM or AD LDS.</p> <p>You must enter the connection path in the following form: [PC name] : [port] / [organization]</p> <p>Example: w3k : 50000 / O=720 , c=com</p> <p>More about the AD LDS in the online help.</p> <p>More about ADAM in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows: ADAM</p>
ADAM user identification	<p>AD-LDS username</p> <p>User name of a local user of the ADAM/AD LDS PC with administration rights.</p> <p>More about the AD LDS in the online help.</p> <p>More about ADAM in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows: ADAMUser</p>
ADAM password	<p>AD-LDS password</p> <p>Password of the local user of the ADAM/AD LDS PC.</p> <p>More about the AD LDS in the online help.</p>

	<p>More about ADAM in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p>ADAMPwd</p>
Log out/log in	Properties for log in and log out.
Activate automatical logout	<p>Activate automatical logout</p> <ul style="list-style-type: none"> ▶ Active: The user is automatically logged out if there is no operation for the time period defined in the Time [min] property. ▶ Inactive: The user is not automatically logged out by the system. <p>Default: inactive</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p>AutoLogout</p>
Activate temporary login	<p>Temp. login active</p> <p>Activation of temporary login for users who want to operate an element but are not logged in:</p> <ul style="list-style-type: none"> ▶ Active: A user who needs operating authorization is requested to enter their identification and password. To do this, the <code>login</code> screen or a modal dialog is called up, depending on the configuration. The user is automatically logged out again immediately after the operation ▶ Inactive: The user who needs operating authorization is informed that they are not entitled to carry out this operation. <p>Default: active</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ You can define the position and size of the modal dialog in the <code>zenon6.ini</code> file at <code>[Befehlsgabe] Position =</code>. ▶ The <code>login</code> screen can be used instead of the modal dialog.

	<p>This is defined with the Screen for Login with signature property.</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>TempLogin</i></p>
Locked buttons style	<p>Locked buttons</p> <p>Only available if the property is Temp. login active inactive.</p> <p>Defines the look of buttons that are locked due to the configuration of the authorization. Is combined in the Runtime for the operation of keys with property Interlocked buttons (graphical design).</p> <p>Possible formats:</p> <ul style="list-style-type: none"> ▶ Grey ▶ Normal ▶ Invisible <p>Default: Normal</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>DisabledButtonStyle</i></p>
Set names for authorization levels	<p>Conforms to property Rename authorization levels.</p> <p>You can assign a name to each of the 128 authorization levels. Click in the right-hand column in order to enable the renaming.</p>

User groups

On this tab you assign authorization levels to user groups.



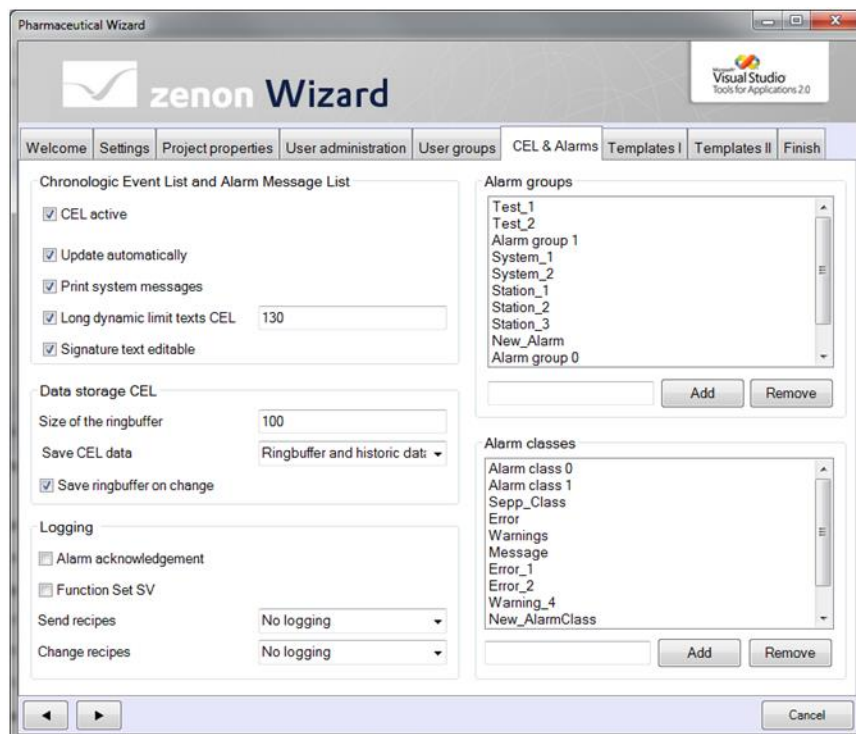
Parameters	Description
User groups	List of user groups
User group levels	List of the authorization levels
Delete	Deletes selected object without confirmation message.

Click on a user group in order to show its authorization level. Click on the level in order to edit it. The name is automatically adapted. Click on an empty level in order to insert a new authorization level.

When clicking on **Delete**, you can delete both the groups and the assigned authorization levels. At deleting no confirmation message is displayed.

CEL & alarms

Configuration of the Chronological Event List and the Alarm Message List.



Parameters	Description
Chronologic Event List and Alarm Message List	<p>Chronological Event List</p> <p>Properties for administration of the Chronological Event List (CEL).</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p>GRP_CEL</p>
CEL active	<p>CEL active</p> <ul style="list-style-type: none"> ▶ Active: The Chronological Event List (CEL) is active in the Runtime. Events are recorded and the CEL is available. ▶ Inactive: No event are recorded. <p>Default: active</p> <p>Note: Changes take effect after the Runtime has been restarted.</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p>CELAdminActive</p>
Update automatically	<p>Update automatically</p> <p>Only available if property CEL active is active.</p> <ul style="list-style-type: none"> ▶ Active: During the time the CEL is opened in the Runtime, new events are immediately added when they occur. ▶ Inactive: As long as the CEL is opened no new entries are added. The new entries are added when the CEL is opened the next time.

	<p>Default: <i>active</i></p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>CELSpontan</i></p>
--	--

Print system messages	<p>Print system messages</p> <p><i>Active:</i> At online printing system messages are also printed.</p> <p><i>Inactive:</i> At online printing system messages are not printed.</p> <p>Default: <i>active</i></p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>CELSysMsgPrint</i></p>
Long dynamic limit texts CEL	<p>Long dynamic limit texts CEL</p> <p>Determines whether the comment field for dynamic limit texts is available. The dynamic limit allows you to include the current values of other variables in the limit text of a variable.</p> <ul style="list-style-type: none"> ▶ <i>Active:</i> Dynamic contents will be stored in a file with the file format D*.CEL. It will be stored in addition to the file C*.CEL. The comment field can therefore be used for comments. Dynamic limit value texts can have a maximum length of 1024 characters. ▶ <i>Inactive:</i> The comment field is used for dynamic limit texts and is therefore not available for comments. Maximum length: 80 characters. <p>Default: <i>Inactive</i>.</p> <p>More in the online help</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>CELLongDynLimits</i></p>
Signature text editable	<p>Signature text editable</p>

	<p>Active: A dialog to edit the signature text is opened in Runtime.</p> <p>Inactive: The signature text cannot be changed in Runtime.</p> <p>Default: inactive</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>EditSignature</i></p>
Data storage CEL	<p>Data storage CEL</p> <p>Properties for saving Chronological Event List entries (CEL) in the main memory and to the hard drive.</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>GRP_CEL_Mem</i></p>
Size of the ringpuffer	<p>Size of the ringbuffer</p> <p>Only available if property CEL active is active.</p> <p>Size of the CEL ring buffer. If the ring buffer overflows (cel.bin), the entries are transferred to the CEL archive (*.cel).</p> <p>Minimum: 1</p> <p>Maximum: 32767</p> <p>Default: 100</p> <p>Note: In the Runtime it is possible that more entries are displayed than you engineered as old entries are only removed from the CEL when the list is updated.</p> <p>More in the online help.</p>

	<p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p>
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	<p><i>CELMemCount</i></p>
--	----------------------------------

Save CEL data	<p>Save CEL data</p> <p>Only available if property CEL active is active.</p> <ul style="list-style-type: none"> ▶ Ring buffer and historic data: All CEL entries (*.cel) are saved. ▶ Only ring buffer: Only a defined number of CEL entries (cel.bin) is saved. The number is defined via property Size of the ringbuffer. ▶ Default: On CE devices only the ring buffer (cel.bin) is saved on the hard disk; on PCs the historic entries (*.cel) are also saved. <p>Default: Default</p> <p>The files (cel.bin and *.cel) are saved in folder\project folder\computer name\project name.</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p>CelOnlyStack</p>
Save ringpuffer on change	<p>Save ringbuffer on change</p> <p>Selection of the type of data saving:</p> <ul style="list-style-type: none"> ▶ Active: Each change of the data of the Chronological Event List (CEL) triggers the saving of the data (cel.bin). ▶ Inactive: Data of the CEL (cel.bin) are only when the Runtime is closed or when function Save AML and CEL ring buffer is executed. Recommended especially for low performance. Historic data (*.cel) can be saved independently at every value change. <p>Note: If the property is set to <i>active</i>, this can lead to a considerable load being placed on the system - with flash disks most of all. If the property is set to <i>inactive</i>, this can lead to data being lost in the event of Runtime closing unexpectedly. <i>Inactive</i> Recommended especially for low performance.</p> <p>Default: <i>inactive</i></p>

	<p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>SaveCel/Stack</i></p>
Logging	<p>Logging</p> <p>General properties for the Chronological Event List (CEL). More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>GRP_CEL_Common</i></p>
Alarm acknowledgement	<p>Alarm acknowledgement</p> <p>Only available if property Alarm Message List active is active. <i>Active</i>: If an alarm is acknowledged, an entry is created in the Chronological Event List (CEL). <i>Inactive</i>: Acknowledging an alarm does not trigger an entry in the CEL. <i>Default</i>: <i>Inactive</i>.</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>AlarmCELAcknowledge</i></p>
Function Set SW	<p>Function Set SV</p> <p>Only available if property CEL active is active.</p>

- ▶ **Active** : At successful writing of values to the hardware, a corresponding entry is entered in the CEL.
- ▶ **Inactive** : The successful writing of values is not logged in the CEL.

Default: `inactive`

Note: This setting only has an effect on Runtime if the writing of the set value is carried out using the **Write set value** function.

More in the online help.

This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:

CELPokeAck

Send recipes	<p>Send recipes</p> <p>Only available if property CEL active is active.</p> <ul style="list-style-type: none"> ▶ No logging: The changing of standard recipes and recipes of the Recipegroup Manager (RGM) is not logged in the CEL. ▶ Log recipes: When sending a recipe, it is logged with the name of the recipe in the CEL. ▶ Log recipes and values: When writing a recipe, it is logged in the CEL with: <ul style="list-style-type: none"> • Name of the recipe • New and old values of the variables • Names of the variable <p>Default: <code>no logging</code></p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>RecipeWriteToCEL</i></p>
Change recipes	<p>Change recipes</p> <p>Only available if property CEL active is active.</p> <ul style="list-style-type: none"> ▶ No logging: Changing standard recipes and recipes of the Recipegroup Manager (RGM) is not logged in the CEL. ▶ Log recipes: When changing a recipe, it is logged with the name of the changed recipe in the CEL. ▶ Log recipes and values: The following is logged in the CEL when the recipe is changed: <ul style="list-style-type: none"> • Name of the recipe • New and old values of the variables • Names of the variable <p>Default: <code>no logging</code></p>

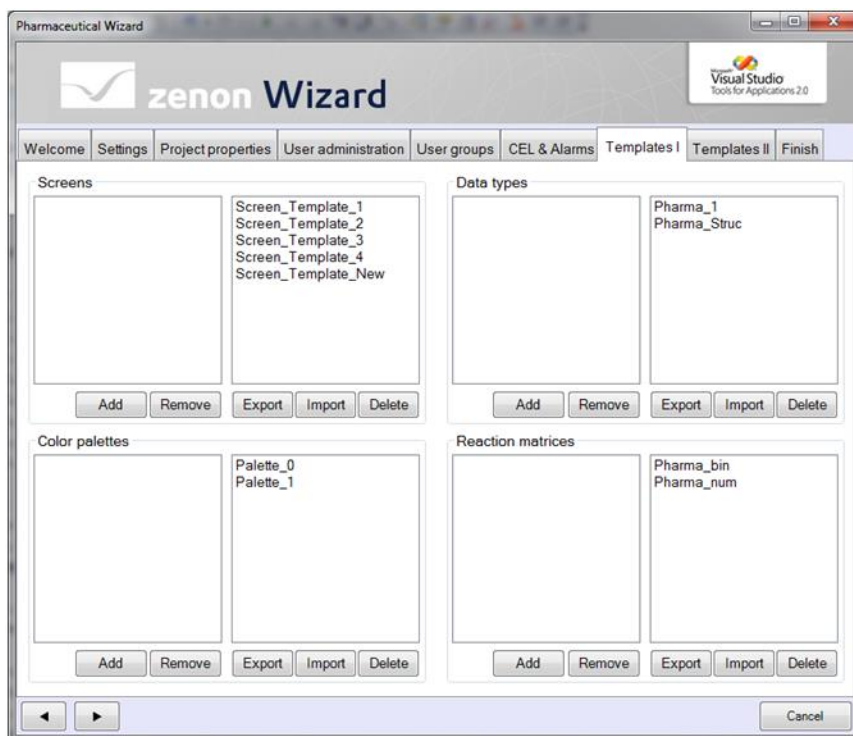
	<p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>RecipeChangeToCEL</i></p>
Alarm groups	Alarm/event groups
Add	Adds the character string entered in the input field as new alarm/event group. Adding can also be carried out via key <code>Enter</code> .
Remove	Deletes highlighted alarm/event group.
Alarm classes	Alarm/event classes
Add	Adds the character string entered in the input field as new alarm/event class. Adding can also be carried out via key <code>Enter</code> .
Remove	Deletes highlighted alarm/event group.

Templates I

On this tab you can edit the following elements:

- ▶ Screens
- ▶ Datatypes
- ▶ Palettes

► Reaction matrices



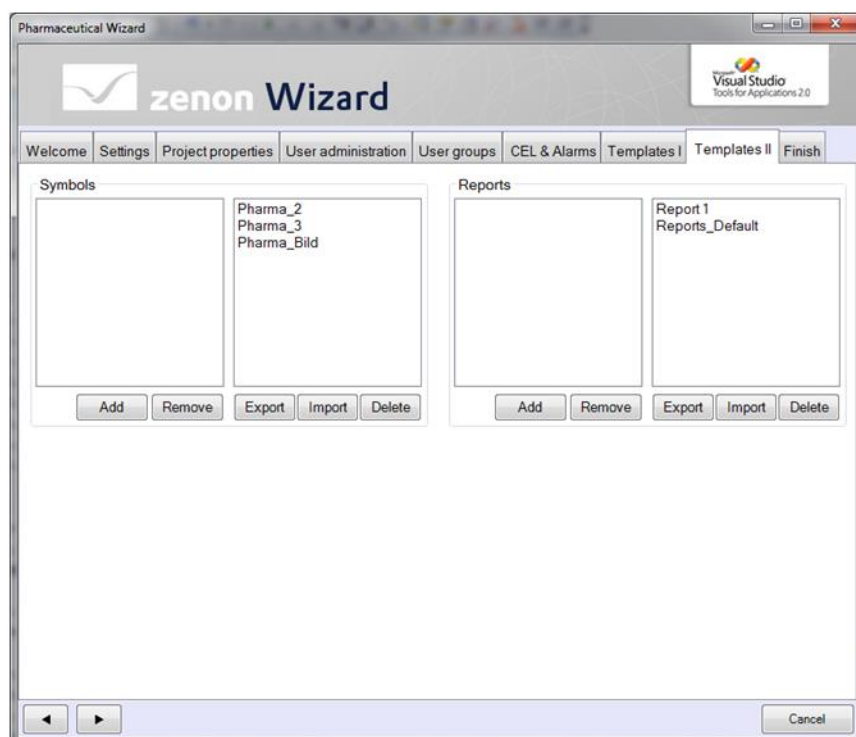
In each right-hand list the XML files, which exist in the current configuration file for the element, are displayed and edited.

Buttons	Function
<u>Right-hand list</u>	
Export	Opens the dialog for exporting XML files which were created in the Editor via command Exported selected XML .
Import	Opens the dialog for importing XML files which were created in the Editor via command Exported selected XML . Import is carried out in folder %ProgramData%\Copa-Data\zenon700\Templates\PharmaWizard.
Delete	Deletes XML files that have been created in the Editor using the Export selected XML command.
<u>Left-hand list</u>	
Add	Adds templates from the left-hand list. As an alternative you can also carry out a double click on the template. Saving to the current project or to another project is carried out on tab Finish (on page 257).
Remove	Removes template from the list.

Templates II

On this tab you can edit the following elements:

- ▶ Symbols
- ▶ Reports from the Report Generator



In each right-hand list the XML files, which exist in the current configuration file for the element, are displayed and edited. Reports are saved as XRS files.

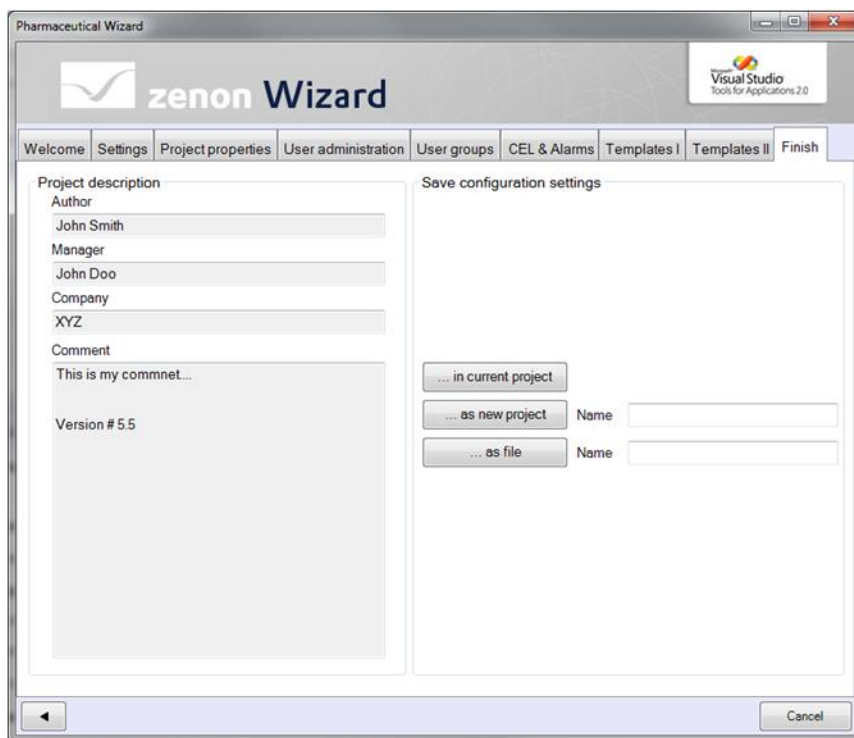
Buttons	Function
Right-hand list	
Export	Opens the dialog for importing XML files which were created in the Editor via command Exported selected XML .
Import	Opens the dialog for importing XML files which were created in the Editor via command Exported selected XML . C:\ProgramData\Copa-Data\zenon700\Templates\PharmaWizard.
Delete	Deletes XML files which were created in the Editor via command Exported selected XML .
Left-hand list	
Add	Adds templates from the left-hand list. As an alternative you can also carry out a double click on the template. Saving to the current project or to another project is carried out on tab Finish (on page 257).
Remove	Removes template from the list.

Finish

In this tab:

- the project description is entered

- ▶ you define how the changed engineering is saved



Parameters	Description
Project description	Information about the project as defined on tab Settings (on page 226). Display only, cannot be changed.
Author	Name of the engineer.
Manager	Name of the manager.
Company	Company.
Comment	Comments to the project.
Save configuration settings	Options for saving changes done by the wizard.
Message field	Messages about success/failure of save actions.
... in current project	All settings are loaded in the current project. With this the settings in the project are overwritten.
... as new project	A new project is created with the defined settings and the selected frames. You must first select a project name.
... as file	A new configuration file of file name *.cof is created. If the name of an existing configuration file is used it is overwritten. Attention: The created configuration files can only be read, created and edited with the wizard.
Name	Name of the configuration file.

3.6 Project

Wizards for:

- ▶ Project creation (on page 271)
- ▶ the compare of project backups (on page 259)
- ▶ the creation of a project documentation (on page 292)

3.6.1 Project comparison

The wizard makes it possible to compare project backups. At this it is analyzed which objects and elements were deleted, added and/or changed. The result can be saved and displayed as XML or HTML file.

REQUIREMENTS

The wizard can read in and compare project backups which:

- ▶ were saved as zip file
- ▶ were created with activated versioning
- ▶ were created with activated XML export

To activate versioning and XML export:

1. open the **General** node in project settings.
2. go to section **Versioning**
3. Activate the **Versioning active** property
4. Activate the **XML export active** property

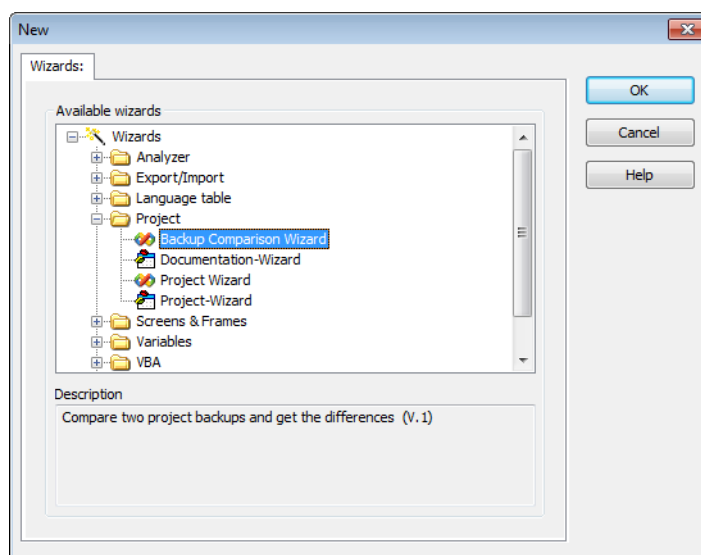
TEMPORARY FILES

During the compare the wizard unzips the project backup in the temporary folder `BackUpComparisonWorkingFolder`. It is created in path `C:\Users\Public\Documents\zenon_Projects\Workspace`. This temporary folder is deleted when the wizard is closed.

Start wizard

To start the wizard:

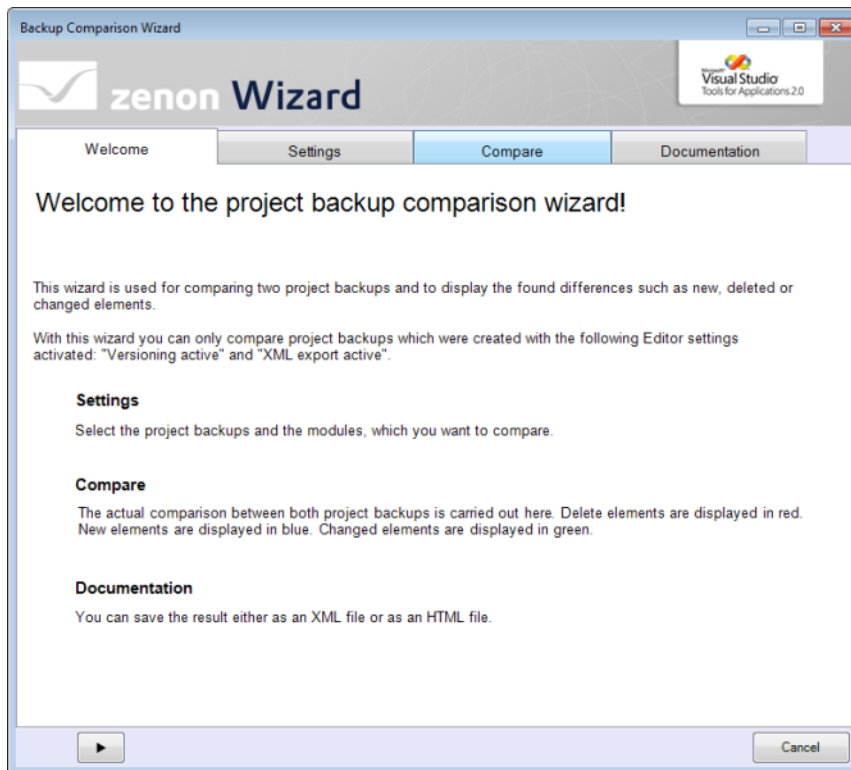
1. Click on File-> Wizards...
or press the short cut **Alt+F12**
2. The selection window with the available wizards opens
3. Select the **Project** folder
4. select the **Backup Comparison Wizard** there



5. click on **OK**
6. The wizard starts with the welcome page

Welcome

Tab **Welcome** informs you about performance and use of the wizard.

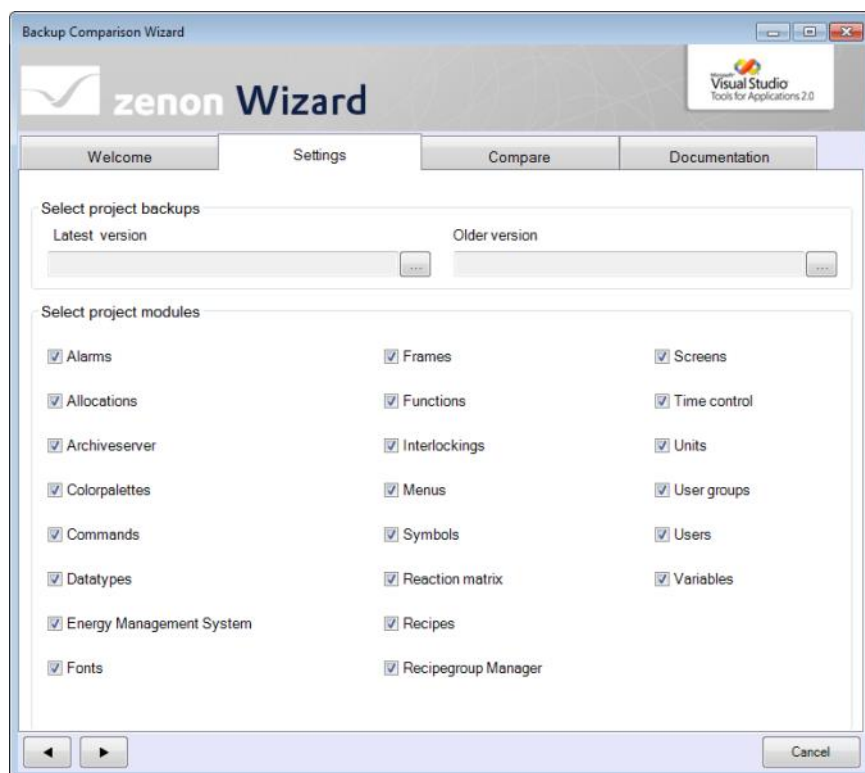


The navigation through the wizard is done by clicking on the individual tabs or step by step by clicking on the arrow keys.

Click on **cancel** to close the wizard.

Settings

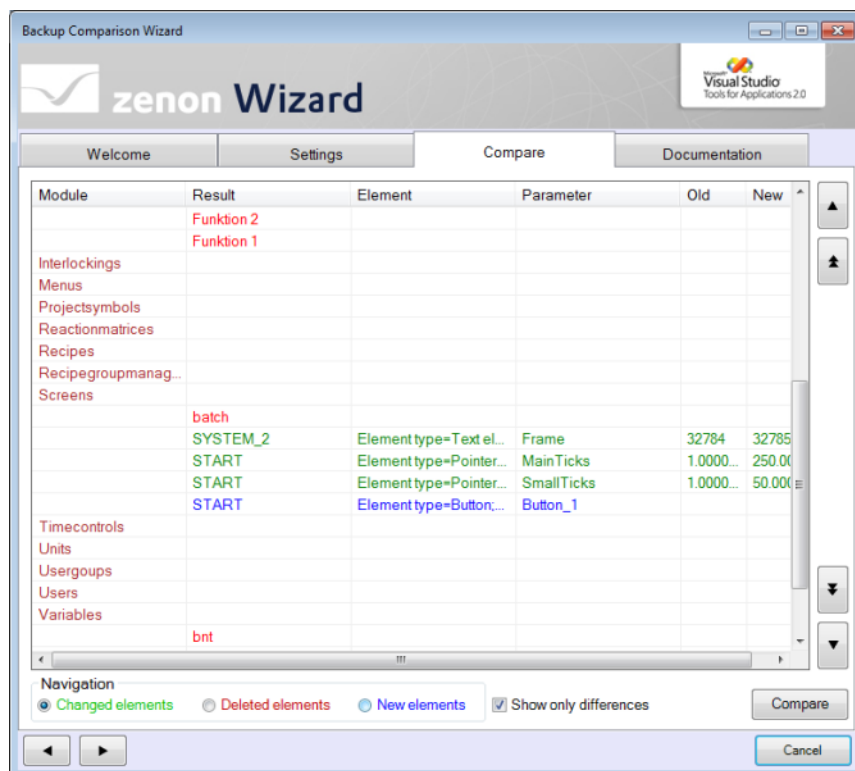
On this tab the two project backups which should be compared are selected and the zenon modules which should be part of the compare.



Parameters	Description
Select project backups	Selection of the backup files.
Latest version	<p>Latest version. A click on button . . . Opens the file browser to select a project backup.</p> <p>Note: Per default project backups are in folder %ProgramData%\COPA-DATA\SQL2008R2\BACKUP\[Project]; via export however they can be stored in any folder.</p>
Older version	Older version. A click on button . . . Opens the file browser to select a project backup.
Select project modules	<p>Selection of the modules which should be compared. Selection takes place via activating the checkboxes in front of the module names.</p> <p>These settings are saved for each user individually and are available when the wizard is opened again.</p>
Cursor keys	Click on the button to go to the previous or next tab.
Cancel	Closes the wizard.

Parameters	Description
List field	<p>After you click on button Compare the differences of the project backups are displayed in the list field.</p> <p><u>Content of the columns:</u></p> <ul style="list-style-type: none"> ▶ Module: Name of the module. ▶ Result: Name of the object. ▶ Element: Display and description of the element. ▶ Parameter: Name of the changed parameter. ▶ Old: Previous value of a changed parameter. ▶ New: New value of a changed parameter. <p><u>Color-coded marking:</u></p> <ul style="list-style-type: none"> ▶ blue: new objects and elements ▶ red: deleted objects and elements ▶ green: changed objects and elements ▶ black: unchanged objects and elements
Navigation	Elements for the navigation in the list.
Changed elements	Active: Click on the button with the vertical arrow in order to jump to the previous/next changed element.
Deleted elements	Active: Click on the button with the vertical arrow in order to jump to the previous/next deleted element.
New elements	Active: Click on the button with the vertical arrow in order to jump to the previous/next new element.
Show only differences	<p>Active: After you click on button Compare only the differences are displayed color-coded; unchanged elements are not displayed.</p> <p>If this option is changed, you must start the compare again by clicking Compare.</p>
Compare	Compares the project backups in accordance with the selection and displays them in the list field.
vertical double arrow buttons	Click on the button to jump to the previous/next module.
Vertical arrow buttons	<p>Click on the button to jump to the previous/next result of the same type depending on the setting.</p> <ul style="list-style-type: none"> ▶ Changed elements ▶ Deleted elements ▶ New elements
Horizontal arrow keys	Click on the button to go to the previous or next tab.

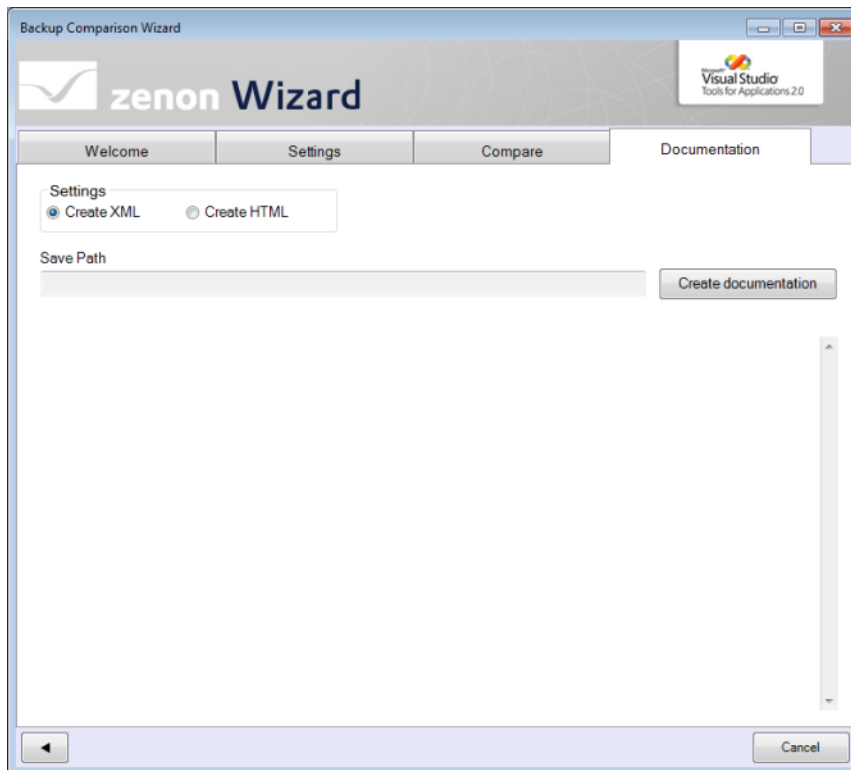
ONLY DIFFERENCES:



The changes are visible in the same way as in the previous screenshot. Objects and elements which have not been changed are hidden.

Documentation

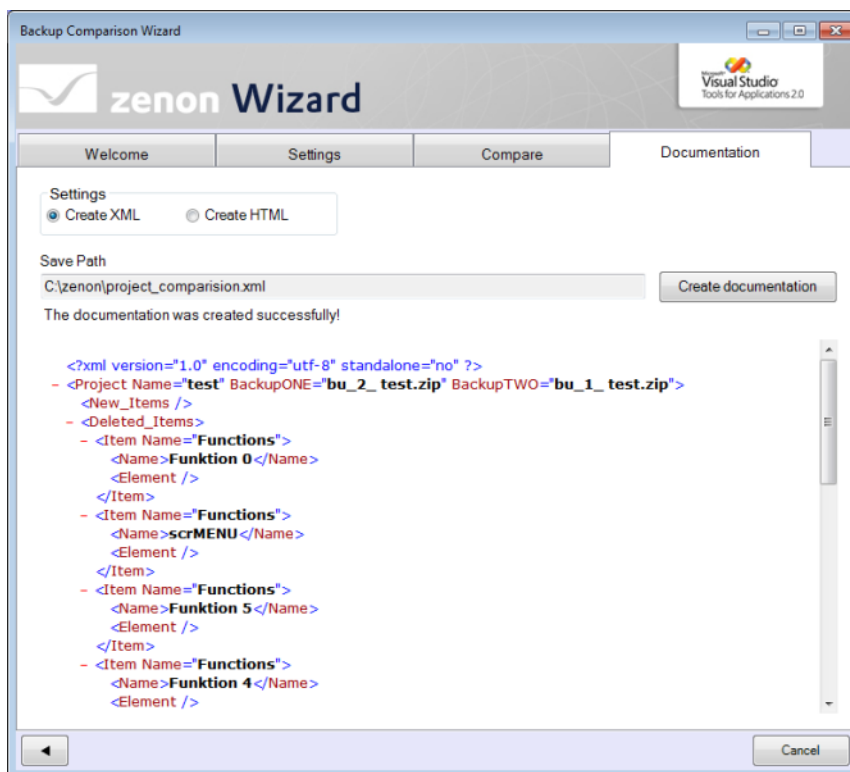
On this tab you can display and save the result of the project backup compare as XML file or HTML file.



Parameters	Description
Settings	Settings for type of documentation.
Create XML	Active: An XML file is created.
Create HTML	Active: A HTML file is created.
Save Path	Path to the folder in which the file is saved. Display only. Selection is carried out via button Compare .
Create documentation	Click on button: <ul style="list-style-type: none"> ▶ to open the file browser: Select the saving location and give a name to the documentation file. ▶ The documentation is saved in the desired type and is displayed in the list field.
List field	Display documentation.
Arrow button	Click on the button to go to the previous tab.
Cancel	Closes the wizard.

EXAMPLE XML FILE

Display in the wizard:

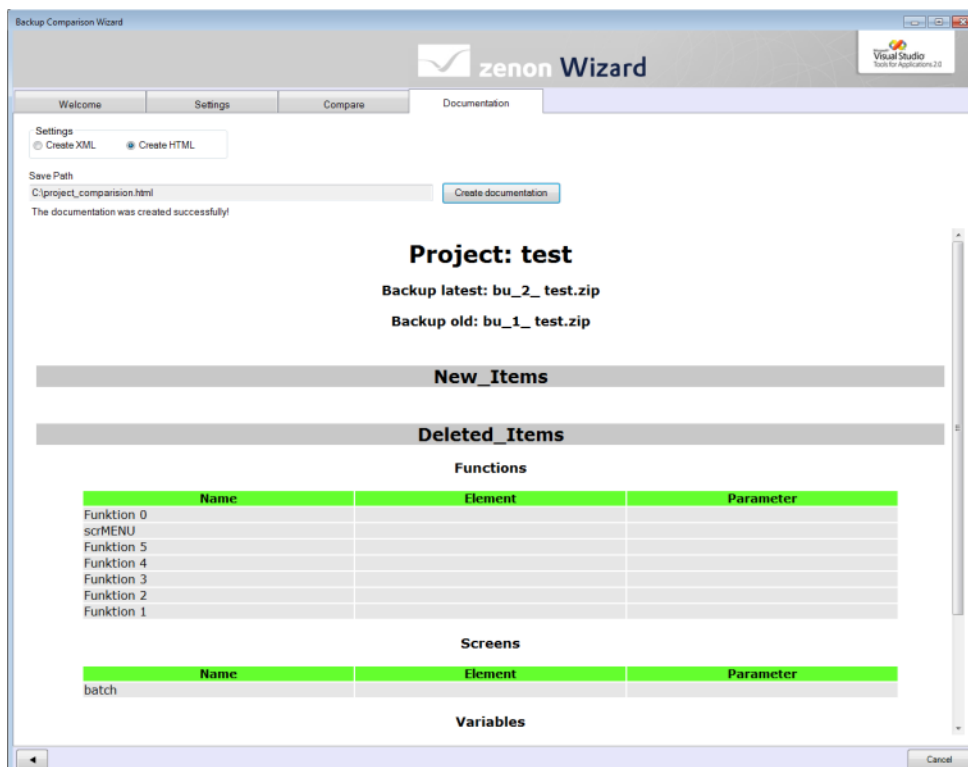


Display as XML file:

```
<?xml version="1.0" encoding="utf-8" standalone="no" ?>
- <Project Name="sepp" BackupONE="2011-10-31_08-47-48 sepp.zip" BackupTWO="2011-10-10_08-07-46 sepp.zip">
- <New_Items>
- <Item Name="Screens">
  <Name>Screen 30</Name>
  <Element />
</Item>
- <Item Name="Screens">
  <Name>Screen 18</Name>
  <Element />
</Item>
- <Item Name="Screens">
  <Name>Screen 51</Name>
  <Element />
</Item>
- <Item Name="Screens">
  <Name>Screen 39</Name>
  <Element />
</Item>
- <Item Name="Screens">
  <Name>Screen 1</Name>
  <Element />
</Item>
- <Item Name="Screens">
  <Name>Screen 55</Name>
  <Element />
</Item>
- <Item Name="Screens">
  <Name>Screen 32</Name>
  <Element />
</Item>
</New_Items>
</Project>
```

EXAMPLE HTML FILE

At the creation of an HTML file, an XML and an XSLT file are also created at the saving location. These two files are used to generate the HTML file dynamically:



Structure of the HTML file:

Project Name

New items

Screen Name	Element Type	Element Name
Process overview	Button	Button_1_1
Alarm Screen		

Variables

Variable Name

Deleted items

Screen Name	Element Type	Element Name
Recipes	Button	Send Recipe
Audit trail		

Variables

Variable Name

Changed items

Screen Name	Element Type	Element Name	Property Name	From	To
User Admin	Button	Logon	Height	40	38

Variables

Variable Name	Property	Property Name	From	To
Temperature	Limit 1	Limit value	32.5	38

3.6.2 Project Wizard

With this wizard you can create basic objects for new projects. You can configure:

- ▶ Information about the project
- ▶ Drivers also with driver variables
- ▶ Graphics settings
- ▶ Basic screens with symbols, WPF element, AML, CEL, system information and an overview of the simulation variables
- ▶ Navigation

Settings changed in the wizard are saved in the user profile of the operating system and loaded at the next opening by the same user.

The wizard is executed in English; the language in the project corresponds to that of the open zenon Editor. This wizard is automatically executed when a new project is created.

Hint multi-user projects: The wizard does not support **multi-user projects**. When a new **multi-user project** is created, the wizard is not automatically started. With a manual start, it is ended again with a warning message.



Information

If the wizard is selected manually via the Wizard selection dialog, then the following must be the case:

- ▶ An empty project must be created
- ▶ The project must be active

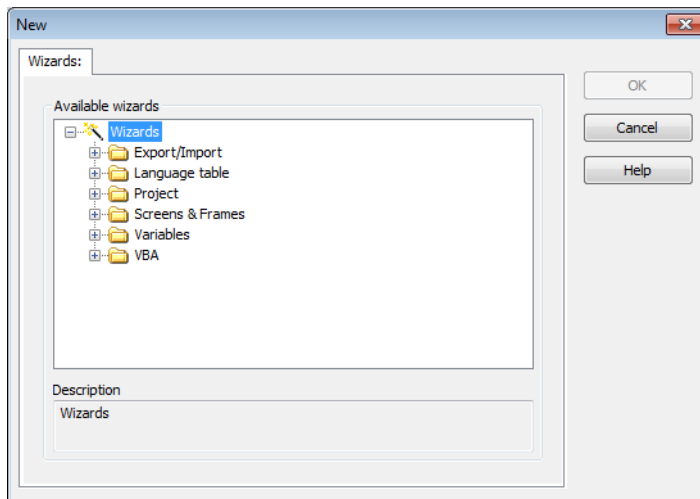
Start wizard

This wizard is automatically executed when a new project is created. It can also be selected directly in the dialog for starting wizards.

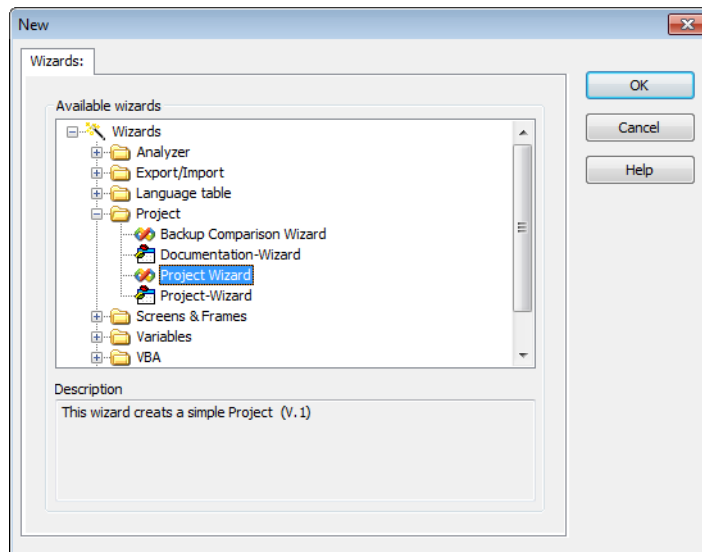
Attention: If the wizard is started in an existing project, existing objects may be changed or overwritten.

To start the wizard manually:

1. Click on File-> Wizards...
or press the short cut **Alt+F12**
2. The selection window with the available wizards opens
3. Select the **Project** folder

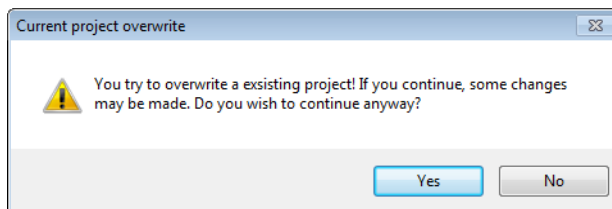


4. Select the **vSTA Project Wizard** there



5. click on **OK**
6. The wizard starts with the welcome page

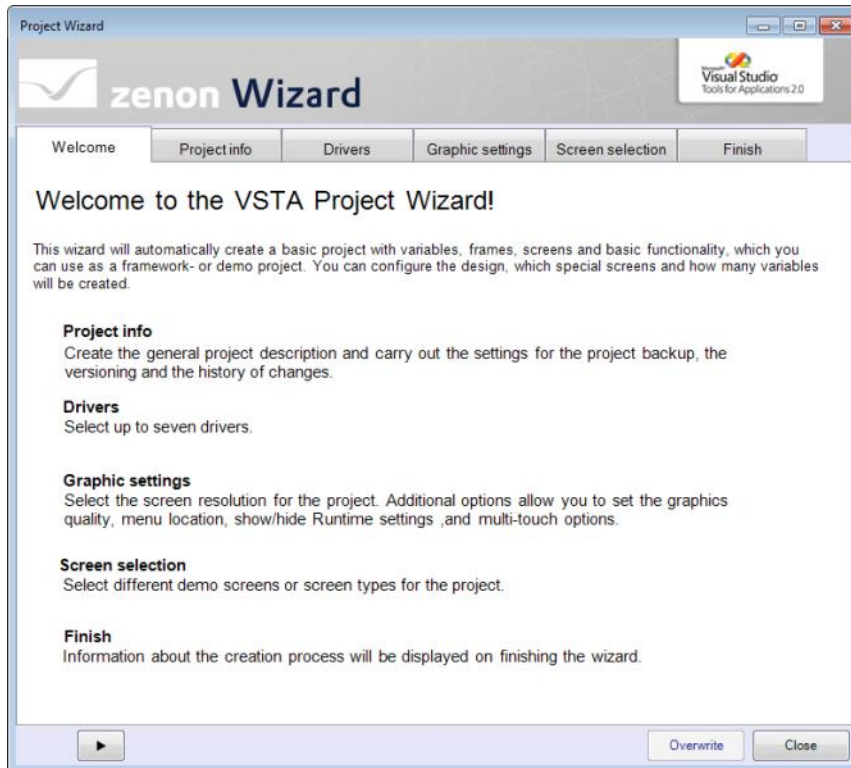
If you call up the wizard from an existing project, you receive a warning:



By clicking on **yes**, you confirm that you accept changes to your existing configuration.

Welcome

Tab **Welcome** informs you about performance and use of the wizard.



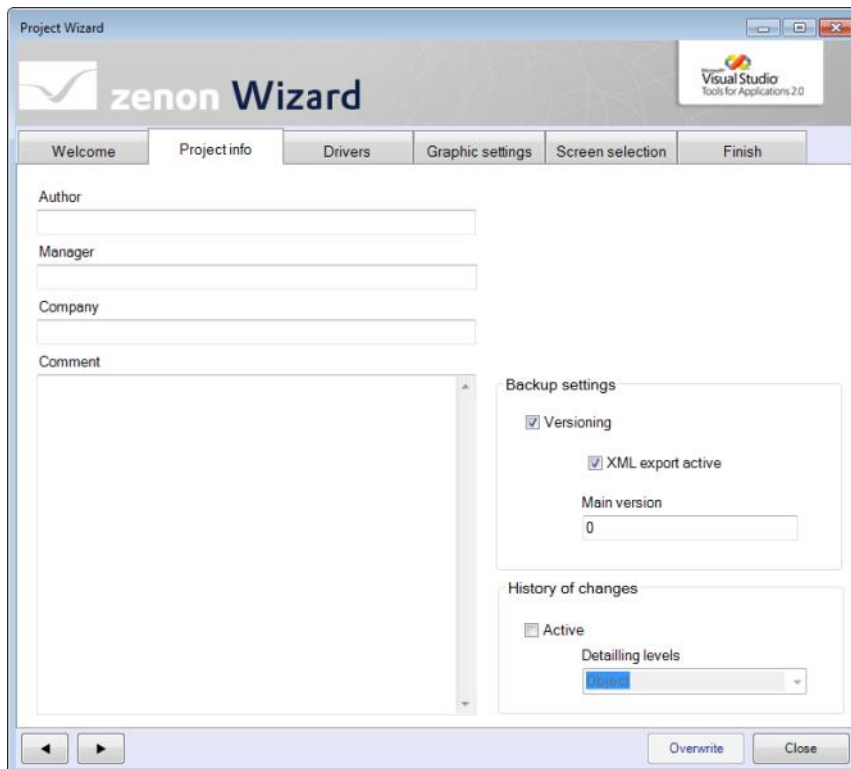
The navigation through the wizard is done by clicking on the individual tabs or step by step by clicking on the arrow keys.

Click on **close** to close the wizard.

Click on **overwrite** to create the project and overwrite possibly existing objects. Only active if tab **Finish** is opened.

Project info

On this tab you configure general project settings and settings concerning versioning and history of change.



The screenshot shows the 'Project Wizard' dialog box with the 'Project info' tab selected. The dialog has a title bar 'Project Wizard' and a 'Visual Studio Tools for Applications 2.0' logo. The tabs are 'Welcome', 'Project info', 'Drivers', 'Graphic settings', 'Screen selection', and 'Finish'. The 'Project info' tab contains the following fields and settings:

- Author:** Text input field.
- Manager:** Text input field.
- Company:** Text input field.
- Comment:** Large text area.
- Backup settings:**
 - ☒ Versioning
 - ☒ XML export active
 - Main version:** Text input field with value '0'.
- History of changes:**
 - ☐ Active
 - Detailing levels:** Dropdown menu with 'Minimum' selected.

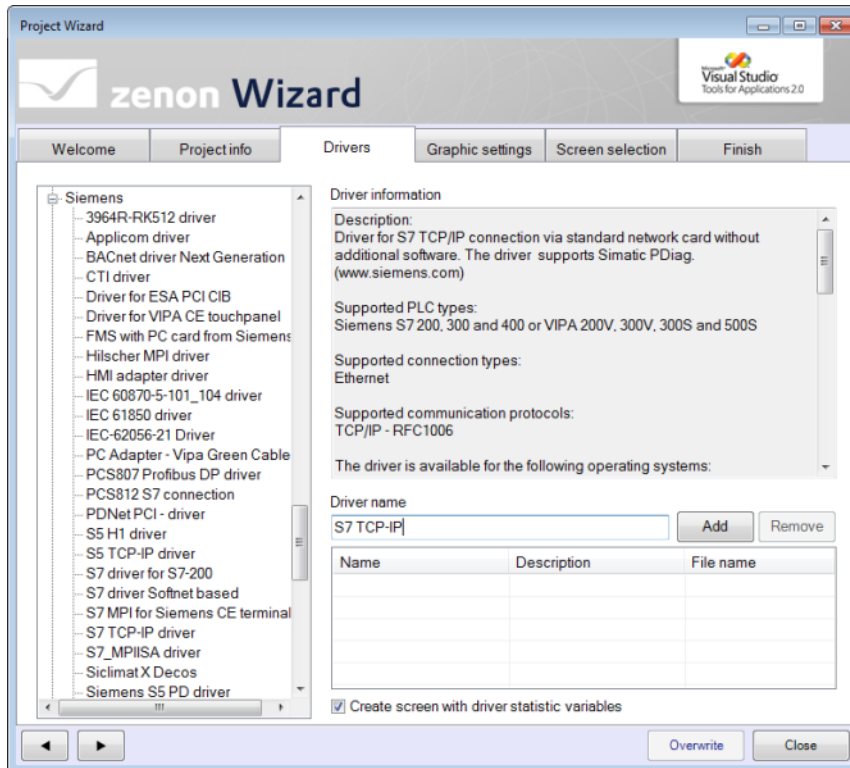
At the bottom, there are navigation arrows (back and forward) and 'Overwrite' and 'Close' buttons.

Parameters	Description
Author	Author of the project.
Manager	Responsible manager.
Company	Company.
Comment	Comments to the project.
Backup settings	Settings for versioning.
Versionierung	<p>Versioning active</p> <p>Active: Project versioning is used. Every project backup is saved with an own version number.</p> <p>Inactive: no versioning of the project backup.</p> <p>Default: <i>inactive</i></p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>VersionActive</i></p>
XML export active	<p>XML export active</p> <p>Active: At each project backup an zip file (version.zip) is inserted. It includes 24 XML files with the backups of the individual modules.</p> <p>Note: For multi-user projects only for local backups.</p> <p>Default: <i>inactive</i></p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>BackupWithXML</i></p>
History of changes	Settings for history of changes.
Active	<p>History of changes active</p>

	<p>Active: Changes to the project are also logged. Inactive: Changes to the project are not logged. Default: inactive.</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows: ChangeLogAktiv</p>
Detailing levels	<p>Detailing level</p> <p>Only available if property History of changes active is active.</p> <p>Selection of details levels from drop-down list.</p> <ul style="list-style-type: none"> ▶ Object: Only the object names of the changed objects are logged. Details concerning properties and their values are not displayed in the History of changes. ▶ Properties: Additionally to the object names the changed properties and the new values are displayed in the history of changes. ▶ Value changes: This setting causes the most detail level of logging. Not only the new value of a property is displayed but also the old one. This makes a complete tracability of the changes of values possible. <p>Default: Properties</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows: ChangeLogState</p>
Cursor keys	Move one tab forward or back.
Overwrite	Creates project and overwrites possibly existing object. Only active if tab Finish is opened.
Close	<p>Closes the wizard.</p> <p>The made changes can be saved for the current user.</p>

Drivers

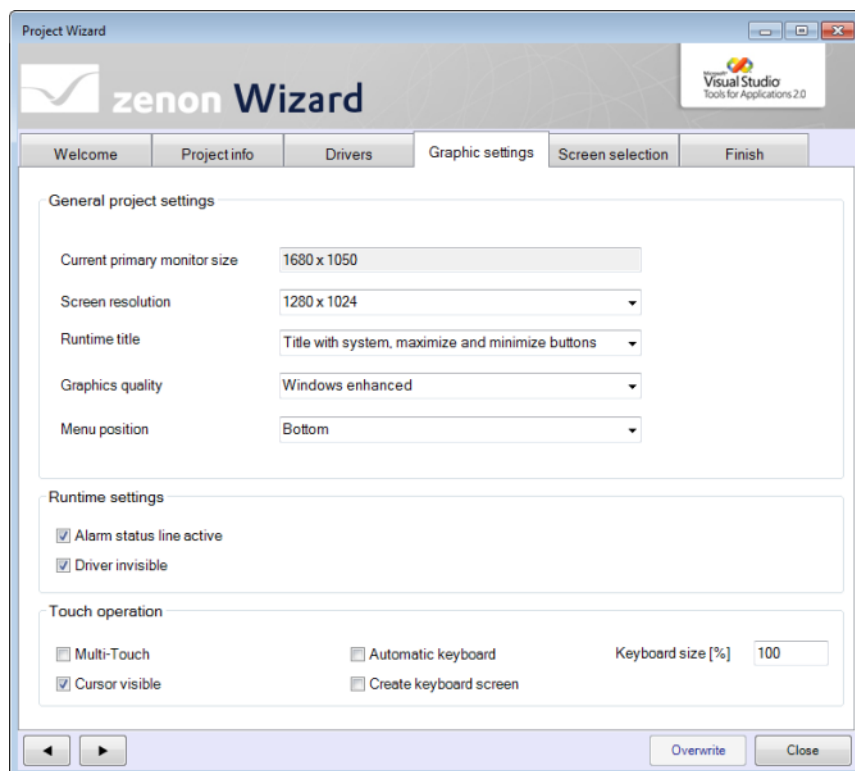
On this tab the necessary zenon drivers are selected.



Parameters	Description
Driver list	List of zenon drivers. Selection is done by clicking on the driver.
Driver information	Display of the information about the selected driver.
Driver name	<p>Name of the driver how it should be displayed in the project. Free text input.</p> <p>Identification</p> <p>Unique name of the driver. zenon identifies the driver with the help of this name and not with the help of the file name. Thus it is possible to load the same driver several times. This is for example necessary when you must access same control types which are connected to different serial interfaces. Attention: This property is not available for language switch. More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows: Name</p>
Add	Adds the selected driver to the list of driver to be created.
Remove	Removes the selected driver from the list drivers to be created.
Liste anzulegender Treiber	List of drivers to be created with name, description and file name.
Create screen with driver statistic variables	Active: For each driver a screen with driver variables is created.
Cursor keys	Move one tab forward or back.
Overwrite	Creates project and overwrites possibly existing object. Only active if tab Finish is opened.
Close	Closes the wizard. The made changes can be saved for the current user.

Graphic settings

On this tab you configure the resolution and the settings for the Runtime and touch screens.



Parameters	Description
General project settings	General graphical settings for the project.
Current primary monitor size	Display of the current screen resolution. For multi-monitor systems the resolution of the main screen is displayed.
Screen resolution	Selection of desired screen resolution from drop-down list.
Runtime title	<p>Driver invisible</p> <p>Active: Started drivers are not displayed in the Windows task bar in the Runtime.</p> <p>Inactive: Started drivers are displayed in the Windows task bar in the Runtime.</p> <p>Default: Inactive.</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>DriverInvisible</i></p>
Graphics quality	<p>Graphics quality</p> <p>Setting for the quality of the graphics display.</p> <p>DirectX allows a higher quality than Windows Basic. In principle, when using DirectX, the DirectX Hardware setting is preferable and DirectX Software should only be used if absolutely necessary. Possible selection:</p> <ul style="list-style-type: none"> ▶ Windows Basic: Basic graphics settings. Recommended for resource-weak hardware. ▶ DirectX Software: Graphics calculation is done by the CPU and can lead to high CPU load. ▶ DirectX Hardware: A part of the graphics calculation is done by the graphics card. If the system does not support the setting, it automatically switches to DirectX Software. <p>Default: DirectX Hardware.</p> <p>Attention: DirectX Not available under Windows CE. DirectX cannot be used for OCX.</p> <p>Note:</p>

When switching the mode during the engineering, there can be slight pixel deviation. There set this property before you create screens.

At activating `Windows Base` for all line types which use **Line width [Pixel]** >> 1, all line types are set to `solid line`.
More in the online help.

This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:

UseGDIplus

Menu position	Selection of the menu location from drop-down list.
Runtime settings	Settings for the Runtime.
Alarm status active	<p>Status line active</p> <p>Only available if property Alarm Message List active is active.</p> <ul style="list-style-type: none"> ▶ Active: As soon as an alarm occurs, a red status line with alarm information is displayed at the top of screen in the Runtime. In this status line the alarm can also be acknowledged with a double right click if the logged in user has the corresponding rights. ▶ Inactive: No status line is displayed. <p>Default: active</p> <p><i>Attention multi-project administration: The setting in the integration project defines the behavior for sub-projects, regardless of the setting of the sub-projects. The alarm status line of the uppermost project is always used in Runtime.</i></p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p>AlarmStatusActive</p> <p>Note: This wizard automatically activated property Alarm Message List active.</p>
Driver invisible	<p>Driver invisible</p> <p>Active: Started drivers are not displayed in the Windows task bar in the Runtime.</p> <p>Inactive: Started drivers are displayed in the Windows task bar in the Runtime.</p> <p>Default: Inactive.</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p>

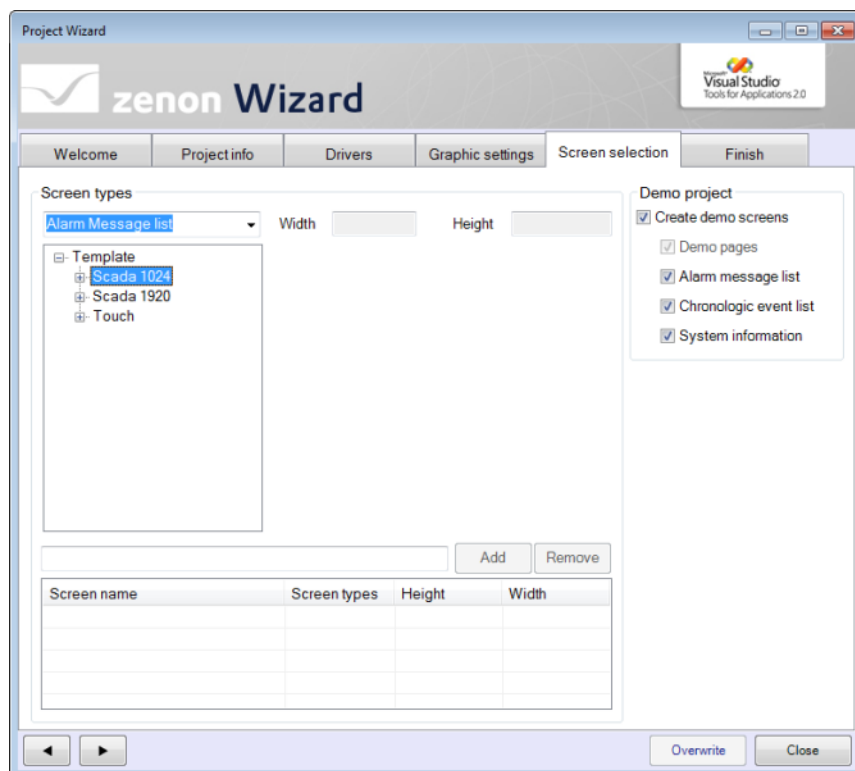
	<i>DriverInvisible</i>
Touch operation	Settings for the touch operaton
Multi-Touch	<p>Multi-Touch active</p> <p>Active: Multi-Touch can be used. Flicks (short swipe) and right click (touch and hold) are deactivated. Requirements: All corresponding driver and devices are available. The device must be connected and switched on. More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>MultiTouch</i></p>
Mauszeiger visible	<p>Cursor visible</p> <ul style="list-style-type: none"> ▶ Active: The mouse pointer is visible in Runtime. ▶ Inactive: The mouse pointer will not be displayed during Runtime For projects with a touchscreen, the display of the mouse pointer can be considered to be distracting and can be switched off with this property. <p>Default: <i>active</i> Attention: This setting only has a effect on zenon, not on Windows standard elements such as title bars, menus, scroll bars, etc. For Windows elements, the mouse pointer must be deactivated in the operating system directly. More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>CursorVisible</i></p>
Automatic keyboard	<p>Automatic keyboard</p> <p>For projects with a touch screen.</p> <ul style="list-style-type: none"> ▶ Active: A keyboard screen is automatically called if input is necessary (for example to write a setpoint value or to log in).

	<p>► Inactive: No keyboard screen is opened.</p> <p>(Default) Inactive: More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>Touchscreen</i></p>
Create keyboard screen	<p>Active: Creates DIALOGKBD for alphanumeric input and SETVALUEKBD for numeric input. For details see chapter Create screen of type keyboard. For it to be used in the Runtime, you must activate option Automatic keyboard.</p>
Keyboard size (%)	<p>Keyboard size [%]</p> <p>Defines in which size in percent - starting from the original size - the automatic keyboard should be displayed in the Runtime.</p> <p>Minimum: 50 % Maximum: 300 % Default: 100 %</p> <p>More in the online help.</p> <p>This function is to be addressed for the zenon API (with class name) and in XML export (without class name) as follows:</p> <p><i>KeyboardSize</i></p>
Cursor keys	Move one tab forward or back.
Overwrite	Creates project and overwrites possibly existing object. Only active if tab Finish is opened.
Close	<p>Closes the wizard.</p> <p>The made changes can be saved for the current user.</p>

Screen selection

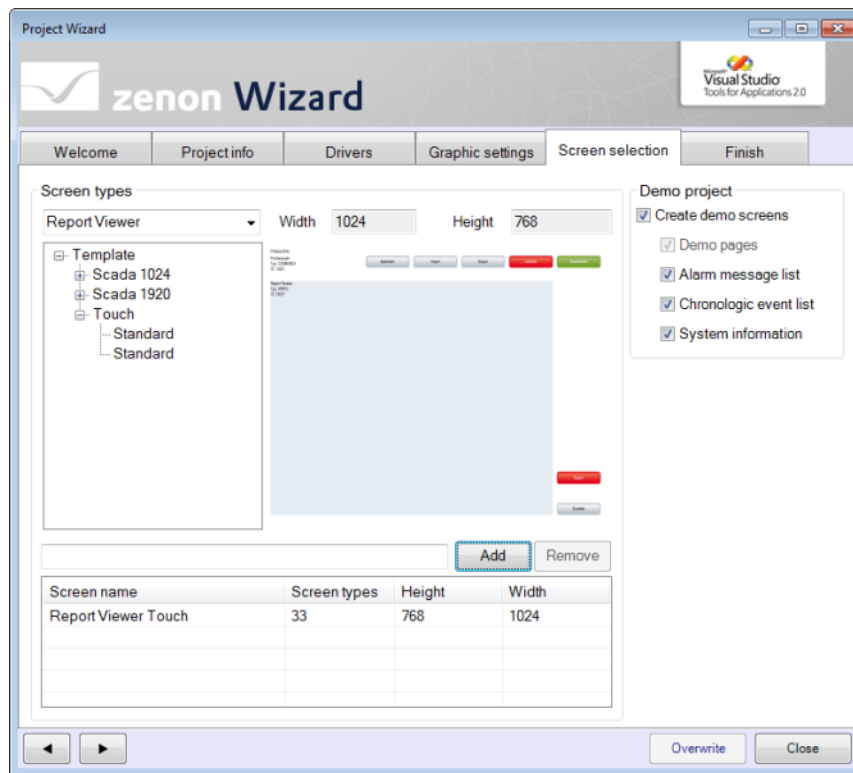
On this tab you can select screens which should be created in the project.

Attention: The screen switch function to the selected screens are configured with the default settings. No special settings such as filter, variables, etc. are made.



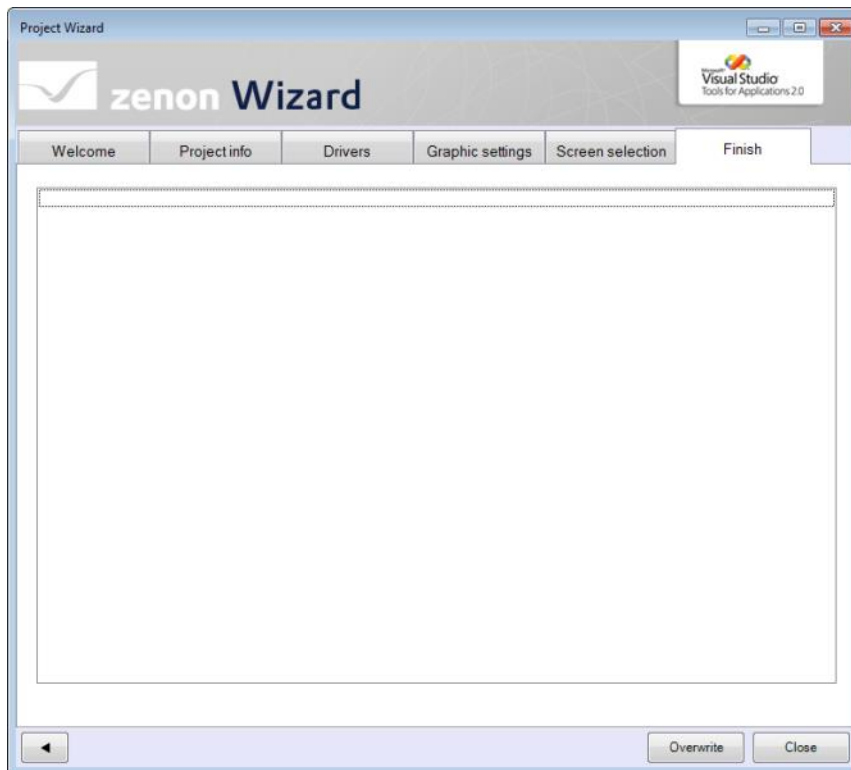
Parameters	Description
Screen types	Configuration of the screen.
Selection field	Selection of the screen type from drop-down list.
Frames list	Selection of the frame for the screen. Size and preview are displayed.
Width	Width of the screen. Display only,
Height	Height of the screen. Display only,
Preview	Preview of the selected screen type with the selected frame. Standard is displayed as empty.
Input field name	Free label of the screen name.
Add	Adds screen with selected name to list of screens.
Remove	Removes selected screen from list of screens.
Screens list	Lists all configured screens with names, screen types and size. A maximum of 14 screens can be created.
Demo project	Settings for a example project.
Create demo screens	Active: Exemplary screens are created for the engineering. Selection of the demo screens: <ul style="list-style-type: none"> ▶ Demo pages: Example pages (are always created) ▶ Alarm Message List: AML ▶ Chronological Event List: CEL ▶ System information: Pages with system information, number depending on the resolution
Cursor keys	Move one tab forward or back.
Overwrite	Creates project and overwrites possibly existing object. Only active if tab Finish is opened.
Close	Closes the wizard. The made changes can be saved for the current user.

EXAMPLE CONFIGURATION



Finish

On this tab the project is created.



Click on button **overwrite** to create the project according to the settings on the tabs. Possible already existing objects are overwritten. The wizard remains open for further configuration. To close the wizard, click on button **close**.

Examples in the Runtime

Below you will find two example how your entry in the wizard effects the display in the Runtime.

- ▶ Example 1: (on page 290) With the **create demo screens** (on page 285) option active.
- ▶ Example 2 (on page 292): Without example screens.

With demo screens

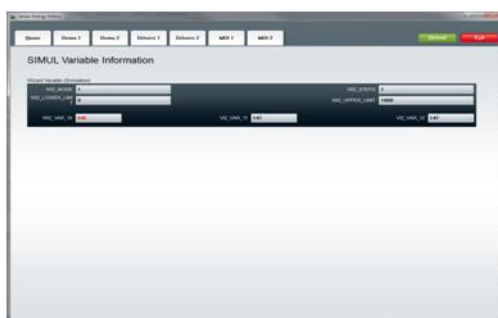
Start page:



Navigation:



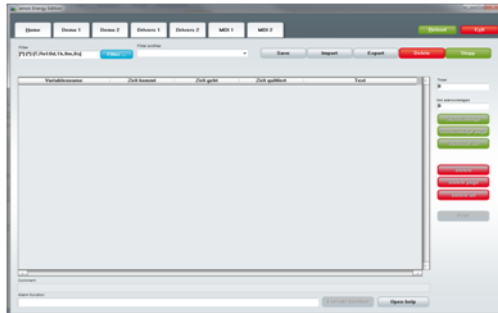
SIMUL information:



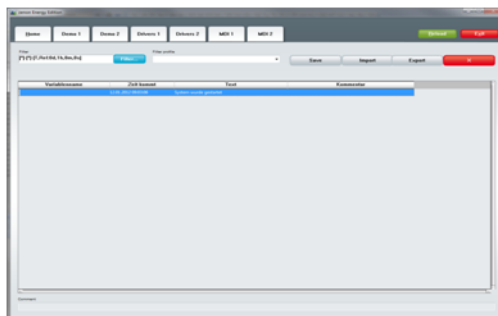
Report Viewer:



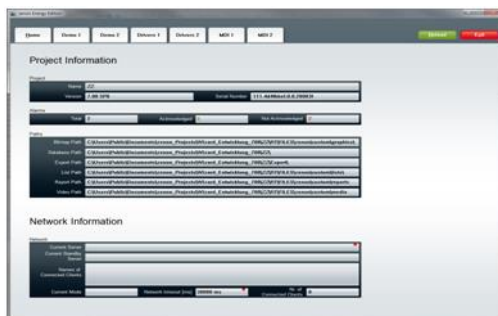
AML:



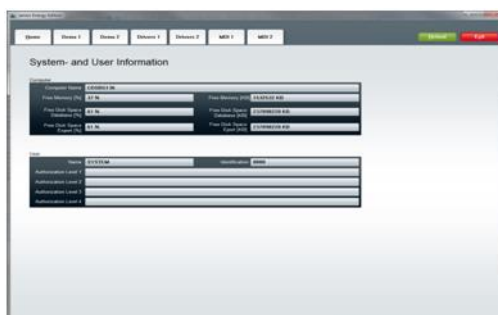
CEL:



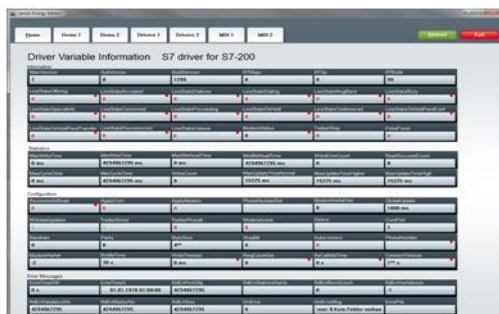
SystemInfo_1 (for each screen resolution 1-3 screens):



SystemInfo_2 (1280x1024):

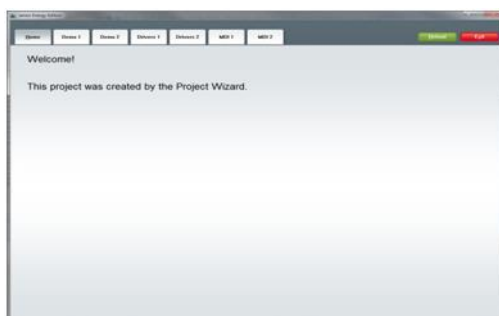


Driver:



Without demo screens

Start page:



Navigation:



3.6.3 Documentation wizard

This wizard leads you through the steps needed to create a HTML document of the active project.

It can be defined, which modules should be included in the documentation and which not.

The wizard can be edited.

3.7 Variables

Wizards for variables.

3.7.1 Variable creation wizard

This wizard serves to create many variables quickly.



Attention

This wizard does not support distributed engineering and is not available in multiuser projects.

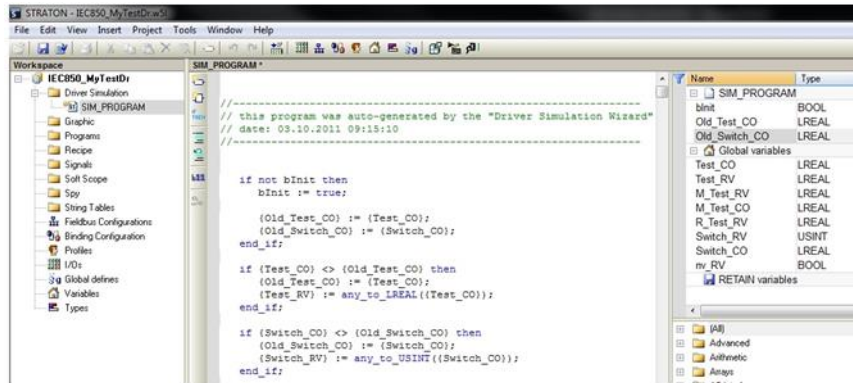
3.7.2 Driver Simulation

The wizard creates an own straton program for each driver in the zenon project for which a driver simulation project is created. This straton program simulates for all variable pairs of the driver, for which a substitution rule applies, a direct allocation from command variable to response variable.

EXAMPLE

- ▶ zenon variables:
 - Test_CO : USINT
 - Test_RV : USINT
 - Switch_CO: USINT
 - Switch_RV: LREAL
- ▶ Rules for substitutions:
 - *_CO -> *_RV

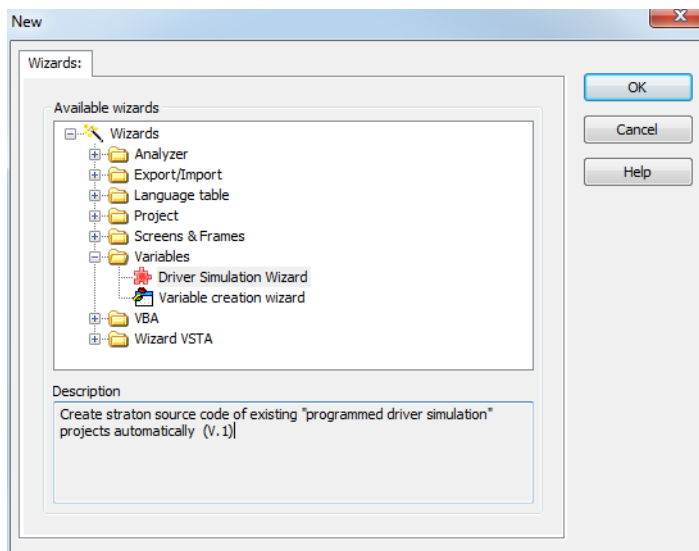
► Results in straton:



Start wizard

To start the wizard:

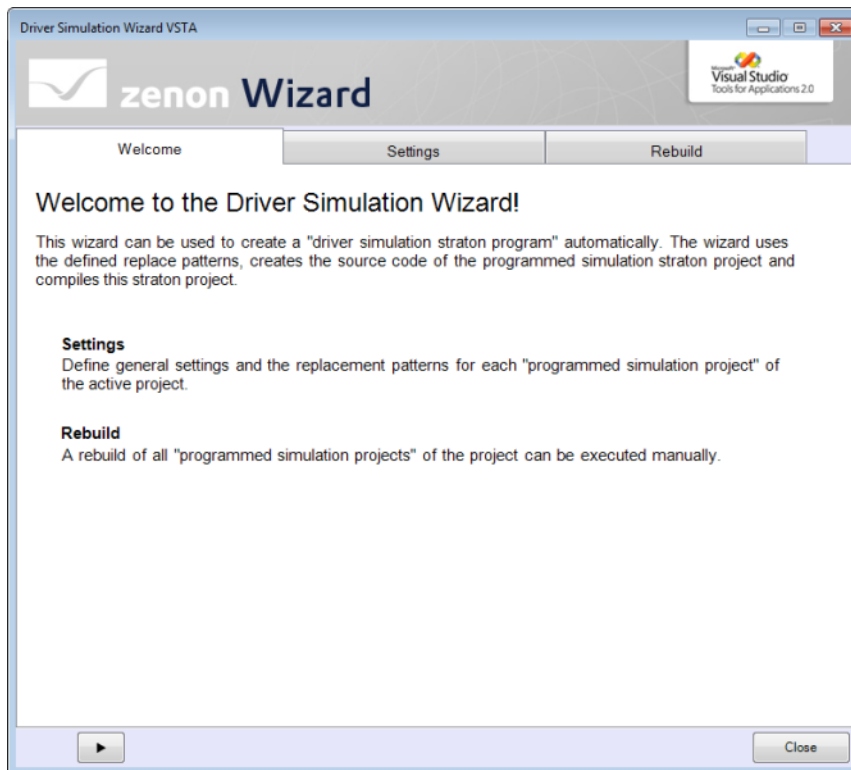
1. Click on File-> Wizards...
- or press the short cut **Alt+F12**
2. The selection window with the available wizards opens
3. Select the **variables** folder
4. select the **Driver Simulation Wizard** there



5. click on **OK**
6. The wizard starts with the welcome page

Welcome

Tab **Welcome** informs you about performance and use of the wizard.

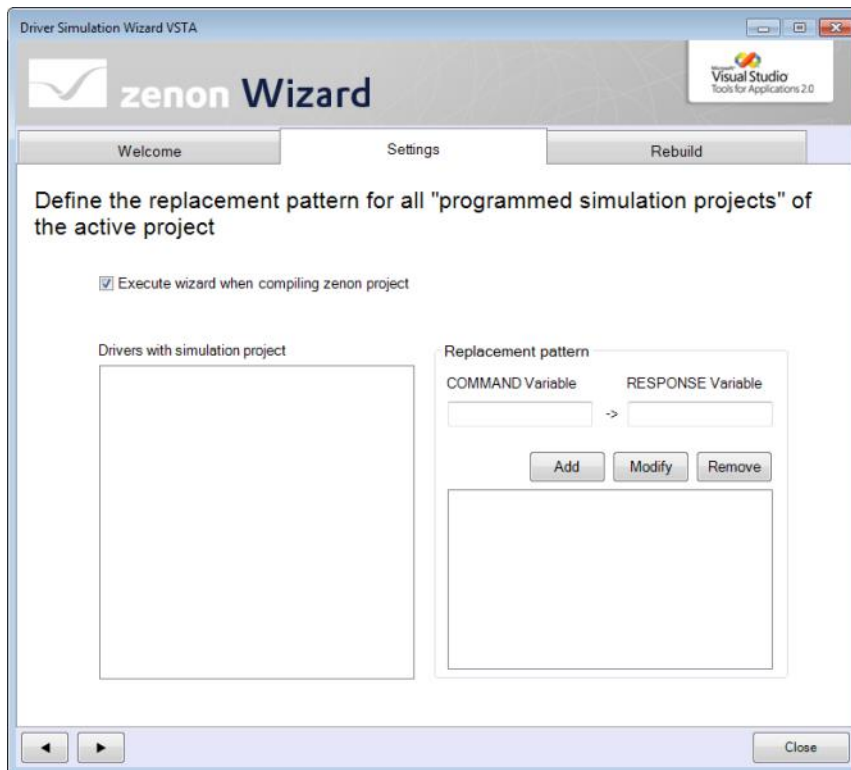


The navigation through the wizard is done by clicking on the individual tabs or step by step by clicking on the arrow keys.

Click on **close** to close the wizard.

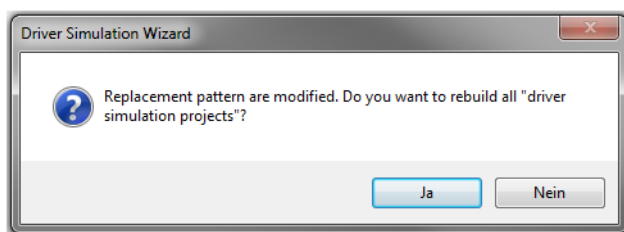
Settings

On this tab the substitution rules are created.



Parameters	Description
Execute wizard when compiling straton project	<p>Active: As soon as action Create Runtime files is executed in zenon, the wizard is also executed.</p> <p>Note: The logic for creating the straton project is running in the background. The user interface of the wizard is not displayed.</p>
Drivers with simulation project	Lists all drivers of the zenon project currently active in the zenon Editor for which a driver simulation project was created. If a driver is selected in this list, the defined substitution rules for this driver are displayed in area Replacement pattern .
Replacement pattern	Substitution rules.
COMMAND Variable	<p>Command variable.</p> <p>Only one wildcard (*) is allowed.</p>
RESPONSE Variable	<p>Response variable.</p> <p>Only one wildcard (*) is allowed.</p>
Add	Adds rules to List of rules .
Modify	Makes it possible to change selected rules.
Remove	Removes selected rules from the List of rules .
List of rules	Lists the defined rules.
Cursor keys	Moves to the previous or next tab.
Close	Closes wizard.

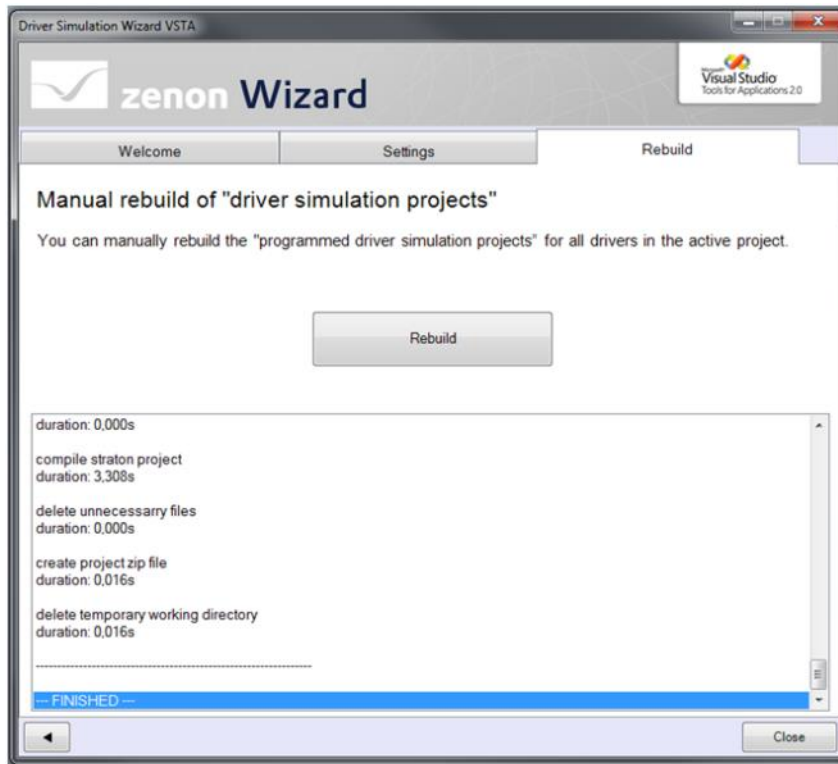
If rules are changed, the recreation of the simulation project is offered when you close the dialog. For this a dialog is opened:



Note: Confirm this dialog with **yes** if all substitution rules are deleted for a driver. Simulation projects without substitution rules are not considered at the automatic creation of the Runtime files in zenon.

Rebuild

On this tab you can trigger a rebuild of all straton simulation projects.



Click on button **Rebuild** in order to start the recreation of the driver simulation project for all corresponding drivers in the project.

3.7.3 IEC850 Driver Configuration

The add-on **IEC850 Driver Configuration** allows you to read IEDs that are already present in SCL files and to create connections in the IEC850 driver with this.



License information

zenon Energy Edition must be licensed in order to use the add-on.

Install and call up metering point administration

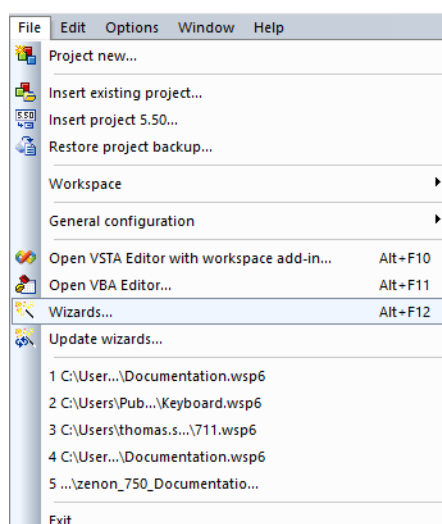
The **IEC850 Driver Configuration** add-on is automatically installed as part of the zenon standard installation.

STARTING THE WIZARD

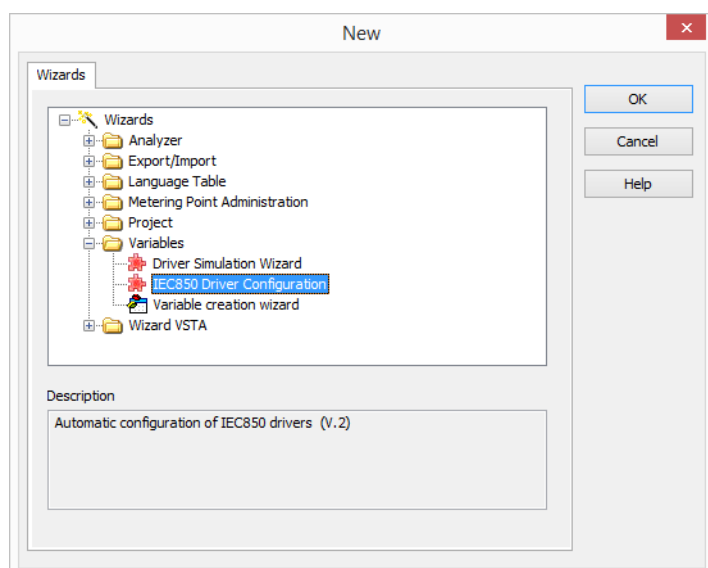
To call up the tool, proceed as follows:

1. Start the zenon Editor.
2. Click on File in the toolbar.
3. Click on **Wizards**.

Note: You can also open the selection window with the available wizards and tools with the keyboard shortcut **Alt+F12**.



The selection window with the available wizards opens.



1. Select the folder **variables**.
2. Then click on **IEC850 Driver Configuration**.

3. Click on **OK**.
4. The wizard starts with the **Configuration** page



Information

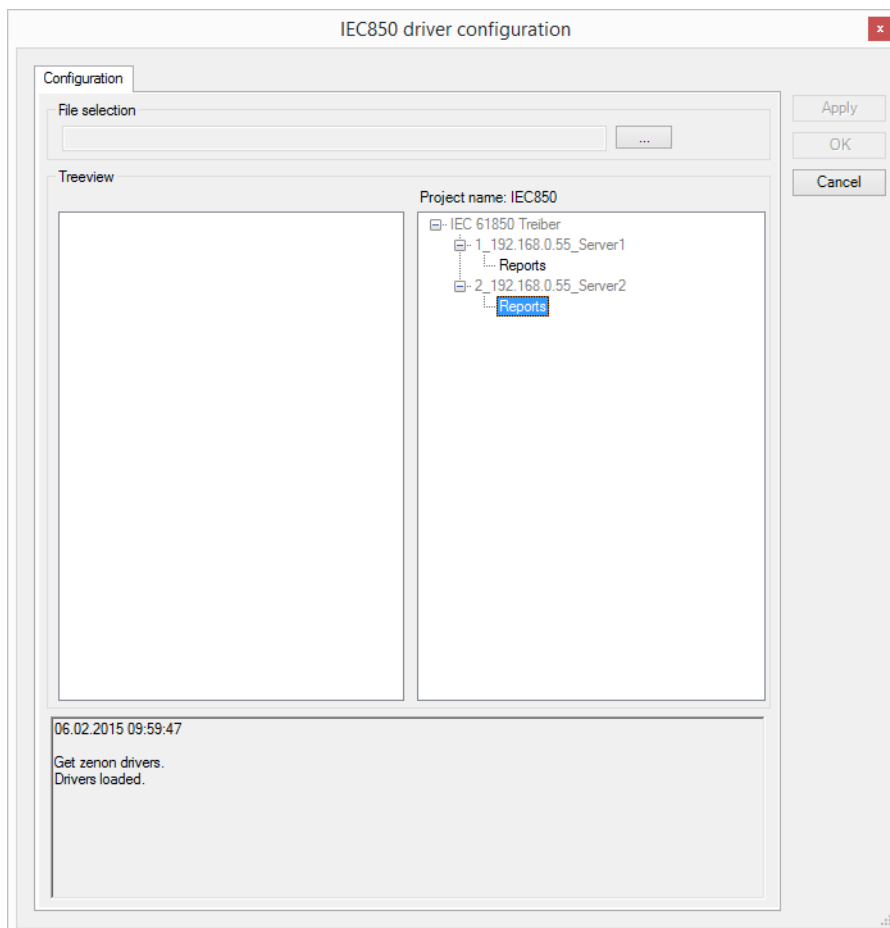
The Add-on **IEC850 Driver Configuration** is only available in English language.

Configuration

The IEC850 driver is configured in this tab.

REQUIREMENTS:

- ▶ An SCL file (*.scl, *.icd, *.cid, *.scd, *.ssd) must be present
- ▶ IEC850 drivers must be present in zenon or created in the add-on



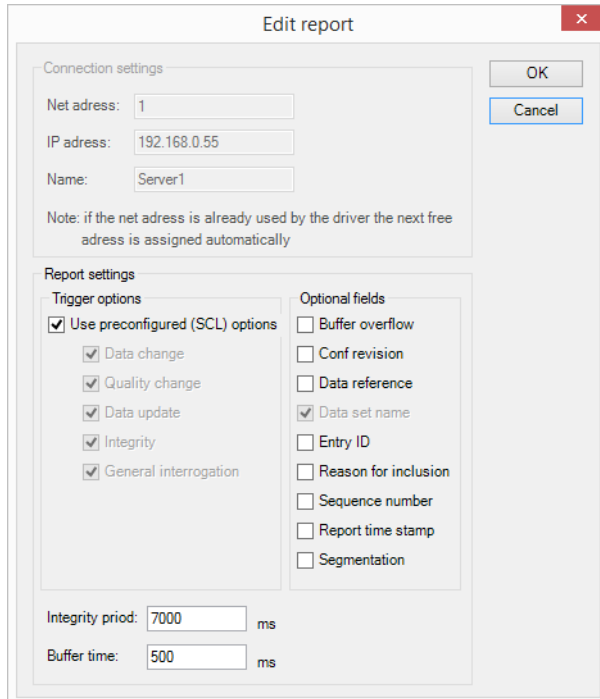
Parameters	Description
File selection	Selection of the SCL file. Click on the . . . button to open the file selection dialog
Treeview	Tree view for connections and drivers available.
File name	Display of the selected SCL file.
Project name	Display of the zenon project for which the driver has been configured.
List of connections	Lists all connections contained in the SCL file.
List of drivers	<p>Lists all drivers IEC850 drivers created in the project and in the add-on with their connections. Drivers can be added or deleted using the context menu. Connections are allocated by dragging & dropping and can be deleted via the context menu.</p> <p>Note: Further connections can be added to drivers that have already been created in zenon. Connections or drivers that already exist in zenon cannot be deleted.</p>
OK	Applies settings and closes the dialog.
Cancel	Discards all changes and closes the dialog.

CONFIGURING THE DRIVER

To configure drivers:

1. Select the desired SCL file.
2. Create new drivers as required.
3. Select the desired connection.

4. Drag & drop the connection to the desired driver.

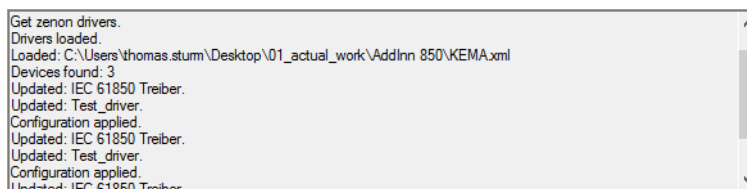


5. Edit the **Net address** of the connection if necessary.
6. Configure all required drivers and connections.
7. Close the add-on by clicking on the OK button.

ADDING A DRIVER

To add a driver:

1. Select the **New Driver** command in the context menu of the driver list.
2. The dialog to create a driver is opened.



3. Please use an unique name.
4. Confirm the dialog by clicking on **OK**.
5. The driver is displayed in the list.
6. The driver is created in zenon by clicking on **OK** when the add-on is closed.

DELETE DRIVER

To delete a driver:

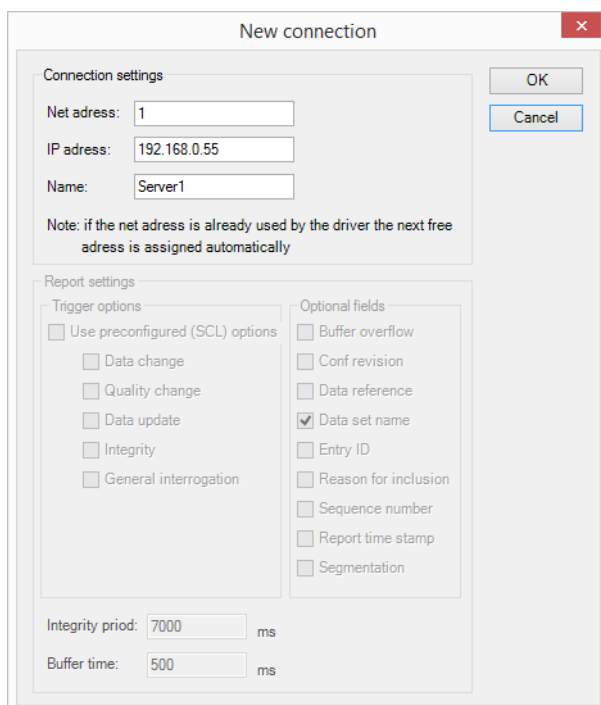
1. Highlight the desired driver.
2. Select **Delete driver** in the context menu.
3. The driver is deleted without requesting confirmation.

Note: Only drivers that have not yet been created in zenon can be deleted.

EDITING THE NETWORK ADDRESS:

To amend a **Net address**:

1. Highlight the desired **Net address** for the driver in the driver list.
2. Select **Edit net address** in the context menu.
3. The dialog to issue a **Net address** is opened.



4. Assign a value.
5. Confirm the dialog by clicking on **OK**.
6. When closing the add-on by clicking on **OK**, the new **Net address** of the connection is assigned in zenon.

Note: Only network addresses that have not yet been created in zenon can be edited.

DELETE CONNECTION

To delete a connection:

1. Highlight the desired connection for the driver in the driver list.
2. Select **Delete connection** in the context menu.
3. The connection is deleted

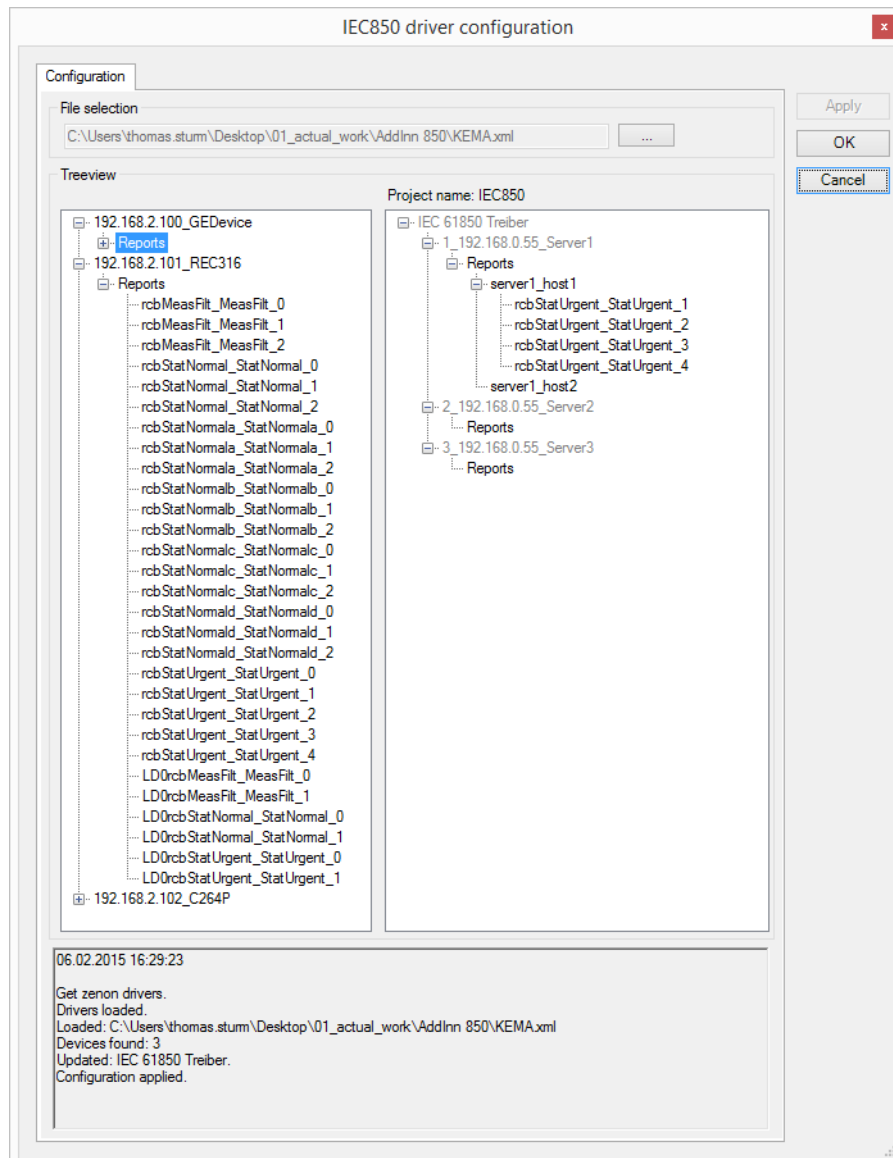
Note: Only connections that have not yet been deleted in zenon can be deleted.

ACCEPT DRIVER CONFIGURATION IN THE PROJECT

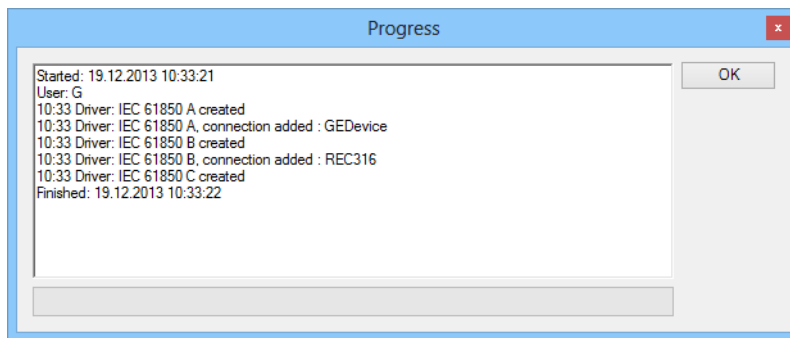
To accept the new configuration, click on the **OK** button.

- The configuration is checked.

If there are drivers without connections, then there is a notice.



- ▶ New drivers are created in zenon.
- ▶ New connections are created in zenon.
- ▶ The result is displayed in an output window.



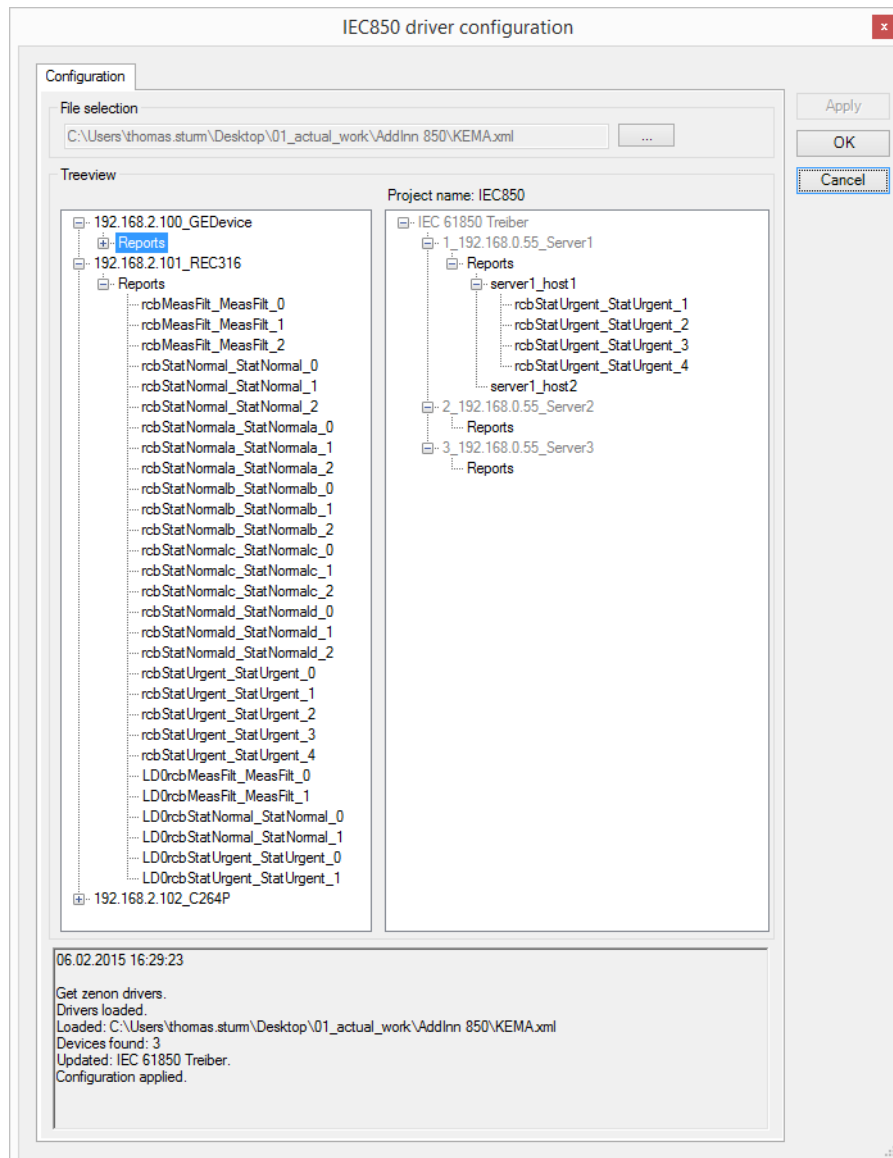
Configuration


To configure drivers:

1. Select the desired SCL file.
To do this, click on the ... button in **File selection**.
2. Select, from the left **List of connections**, the desired reports.
Highlight the reports that you want to assign to the host of a driver.
Multiple selection is possible in the process.

3. Drag & drop the selected reports to the desired driver in the right-hand list.
If your selection is dragged over a host, these reports are automatically applied to the list of the respective host.

Note: If no host has been created for a connection, no assignment is possible. To do this, create corresponding hosts with the context menu.



4. Close the add-on by clicking on the  button.

ALLOCATION RULES

For the allocation of reports from a file to the drivers of a project configuration in zenon, each report of a file can only be allocated a driver once in zenon.

Each report from the **list of connections** can only be assigned to a host of the **list of drivers** once. With multiple selection, reports that have already been assigned are ignored if there is a reassignment by means of drag&drop. Only the reports that have not been used are taken into account in the process and the new host is added.

DELETE REPORTS

To delete a report:

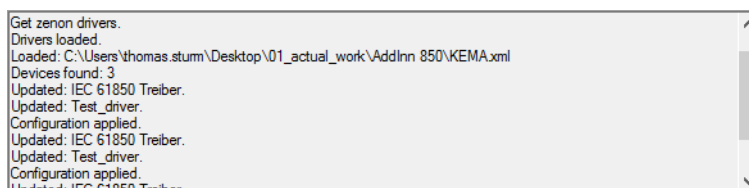
1. Highlight the desired report in the node of the host that is allocated to the reports.
2. Select, in the context menu, the entry **Delete report**.
3. The allocation of the report to a host is removed.

Note: Deletion using multiple selection is not possible. Several reports are highlighted. However only the last report highlighted is deleted.

ACCEPT DRIVER CONFIGURATION IN THE PROJECT

To accept the new configuration, click on the **OK** or the **Apply** button.

- ▶ The configuration is checked.
- ▶ New drivers are created in zenon.
- ▶ New connections are created in zenon.
- ▶ The result is displayed in an output window.



- ▶ The add-on is closed by clicking on the **OK** button.

Administer driver

ADDING A DRIVER

To add a driver:

1. Select the **New Driver** command in the context menu of the driver list.
2. The driver is shown in the list with the default entry **Edit**.

3. Please use an unique name.
4. The driver is created in zenon by clicking on the **Apply** button or when closing the add-on by clicking on **OK**.

DELETE DRIVER

To delete a driver:

1. Highlight the desired driver.
2. Select, in the context menu, the entry **Delete driver**.
3. The driver is deleted without requesting confirmation.

Note: Only drivers that have not yet been created in zenon can be deleted.

Context menu

There are different versions of the context menu. The content of the context menu depends on the position of the node on which it is used.

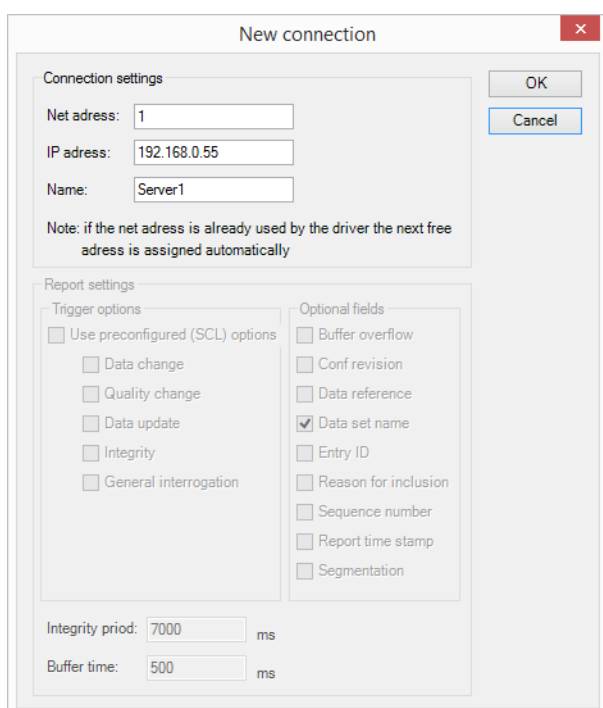
CONTEXT MENU

Parameters	Description
New driver	<p>Creates a new IEC850 driver. A new entry is created in the list of drivers. The name can be changed by clicking on the new entry.</p> <p>If the name of the driver has already been used, an error message is called up.</p> <p>The driver is also created in the zenon Editor. Default: <code>Edit</code> (must be changed)</p> <p>Attention: If a driver is created in the add-on with the context menu and the default driver name <code>edit</code> is changed after clicking on the Apply button, two drivers are configured in the zenon Editor!</p> <p>Note: only available in List of drivers.</p>
New connection	<p>Creates a new connection and calls up the New connection (on page 312) dialog For the configuration of the connection.</p> <p>Note: only available in List of drivers.</p>
Delete driver	<p>Deletes selected driver.</p> <p>However this is only possible if the driver has been newly created directly in the add-on. Existing drivers from a project configuration in the zenon Editor are grayed out and Delete Driver is not available.</p> <p>All drivers are grayed out if the add-on is restarted!</p> <p>Attention: No drivers are deleted in the Editor as a result! If this has already been created by clicking on the Apply button, the driver remains in the project configuration of the Editor.</p> <p>Note: only available in List of drivers.</p>
Edit connection	<p>Calls up the dialog to configure the connection (on page 312).</p> <p>The following can be changed:</p> <ul style="list-style-type: none"> ▶ Net address ▶ IP address ▶ Name of connection. <p>Note: only available in List of drivers. Only available in the node of the respective connection.</p>
Delete connection	<p>Deletes selected connection without requesting confirmation.</p> <p>However this is only possible if the connection has been</p>

	<p>created in the add-on directly. Existing connections from a project configuration in the zenon Editor are grayed out and Delete Connection is not available.</p> <p>All connections are grayed out if the add-on is restarted!</p> <p>Note: only available in List of drivers. Only available in the node of the respective connection.</p>
New host	<p>Creates a new host entry in the Reports node. Naming of the host by highlighting the host entry.</p> <p>Default: Edit (must be changed).</p> <p>Note: only available in List of drivers. Only available in the Reports node.</p>
Delete host	<p>Deletes configured host without requesting confirmation. Multiple selection is not possible.</p> <p>All reports assigned to the host are also deleted.</p> <p>Hosts and assigned reports and also removed from the driver configuration in the Editor.</p> <p>Note: only available in List of drivers. Only available in the node of the respective host.</p>
Edit report	<p>Opens dialog for report configuration (on page 313).</p> <p>Multiple selection is possible, but it is always only the last-highlighted entry that is edited. Editing of several reports with multiple selection is not possible.</p> <p>Note: only available in List of drivers. Only available if a report is selected in the node of the host.</p>
Delete report	<p>Deletes selected report without requesting confirmation.</p> <p>Multiple selection is possible, but it is always only the last-highlighted entry that is deleted. Deletion of several reports with multiple selection is not possible.</p> <p>Note: only available in List of drivers. Only available if a report is selected in the node of the host.</p>
Expand all	All nodes are expanded.
Collapse all	All nodes are collapsed.

Connection configuration dialog

Not all properties are available for the configuration of the connection. Properties that are not available are grayed out.



Parameters	Description
Net address:	Corresponds to the Net address property in variable configuration. Note: If the configured net address has already been issued in the driver configuration, the next-highest available number is issued. Maximum value: 65535
IP address:	IP address of the server to which a connection is to be made.
Name	Freely definable name. Is used for the names of variables when variables are imported.

CLOSE DIALOG

Parameters	Description
OK	Applies settings and closes the dialog.
Cancel	Discards all changes and closes the dialog.

Connections can only be configured in the add-on if they can be called up using the context menu.

This calling up is only possible if.

1. The **Connection** has been created in the add-on using the context menu.
2. This configuration in the add-on has not been transferred by clicking on the **Apply** or **OK** button in the Editor configuration.

You edit configurations that already exist directly in the zenon Editor in the driver settings.

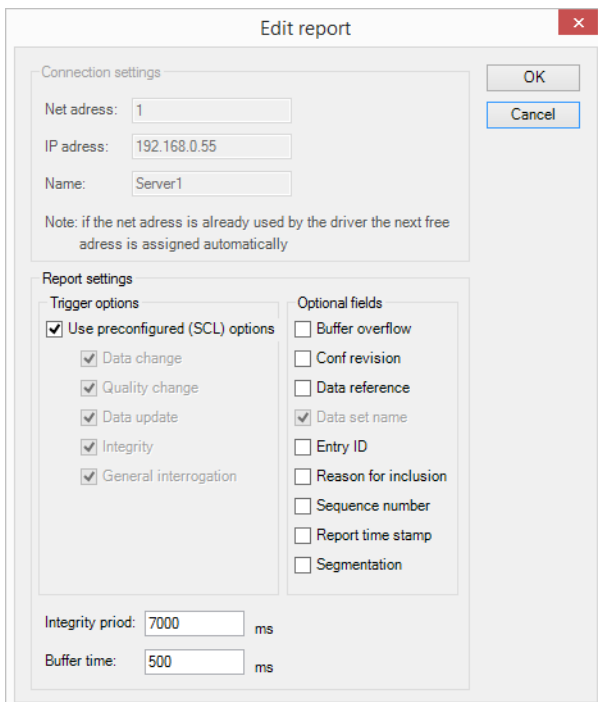


Information

You can find further information on this in the Variables manual, in the Drivers chapter, or in the driver documentation for the IEC850 drivers, in the **Connections** chapter.

Reports configuration dialog

Not all properties are available for the configuration of the reports. Properties that are not available are grayed out.



The 'Edit report' dialog box is shown with the following settings:

- Connection settings:**
 - Net address: 1
 - IP address: 192.168.0.55
 - Name: Server1
 - Note: if the net address is already used by the driver the next free address is assigned automatically
- Report settings:**
 - Trigger options:**
 - ☒ Use preconfigured (SCL) options
 - ☒ Data change
 - ☒ Quality change
 - ☒ Data update
 - ☒ Integrity
 - ☒ General interrogation
 - Optional fields:**
 - ☐ Buffer overflow
 - ☐ Conf revision
 - ☐ Data reference
 - ☒ Data set name
 - ☐ Entry ID
 - ☐ Reason for inclusion
 - ☐ Sequence number
 - ☐ Report time stamp
 - ☐ Segmentation
- Integrity period: 7000 ms
- Buffer time: 500 ms

Buttons: OK, Cancel

TRIGGER OPTIONS

The **Use preconfigured (SCL) options** property is activated by default. All subordinate options are thus also activated. To not use all options, deactivate **Use preconfigured (SCL) options** in order to deactivate individual options.

Parameters	Description
Use preconfigured (SCL) options	<p>Active:</p> <p>The driver activates a report without overwriting the data attributes of the RCB. The content of the SCL file of the server is defined as a result of this. The following data attributes are affected by this:</p> <ul style="list-style-type: none"> ▶ IntgPd ▶ BufTime ▶ TrgOps ▶ OptFields <p>Inactive:</p> <p>The driver writes the data attributes of the RCB during activation.</p> <p>You can activate/deactivate the following trigger options regardless of one another.</p> <ul style="list-style-type: none"> ▶ TrgOp: data-change ▶ TrgOp: quality-change ▶ TrgOp: data-update ▶ TrgOp: integrity ▶ TrgOp: general-interrogation <p>Default: all active</p> <p>Note: Not all servers support TrgOps data-change and data-update together. TrgOp integrity can also lead to an unnecessary overload of communication if a an IntgPd (Integrity Period) that is too short was defined in the server for RCB. In case of doubt, set TrgOps: data-change + quality-change + general-interrogation.</p>

OPTIONAL FIELDS

The **Optional Fields** are written on the server when a report is activated. These correspond to the bits in the **OptFlds** data attribute of the **RCB**.

Clicking on the checkbox activates or deactivates the respective information.

The **Data set name** property is always activated. This cannot be changed, because the driver cannot evaluate the reports received without this option.

Parameters

Integrity period:

Description

Time interval (*IntgPd*) in milliseconds in which the server sends an *Integrity Report*.

Default: 7000 ms

Note: not active if *TrgOp integrity* is deactivated or **Use preconfigured (SCL) options** is activated.

Because an *Integrity Report* does not normally contain value changes, it is expressly recommended that only one report on the server is activated with *TrgOp: integrity*. With an activated integrity report, the server can detect a connection failure more quickly. However zenon does not need this report.

Buffer time:

Time interval (*BufTime*) in milliseconds in which the server collects the data for a report.

Default: 500 ms

Note: not active if **Use preconfigured (SCL) options** is activated.



Information

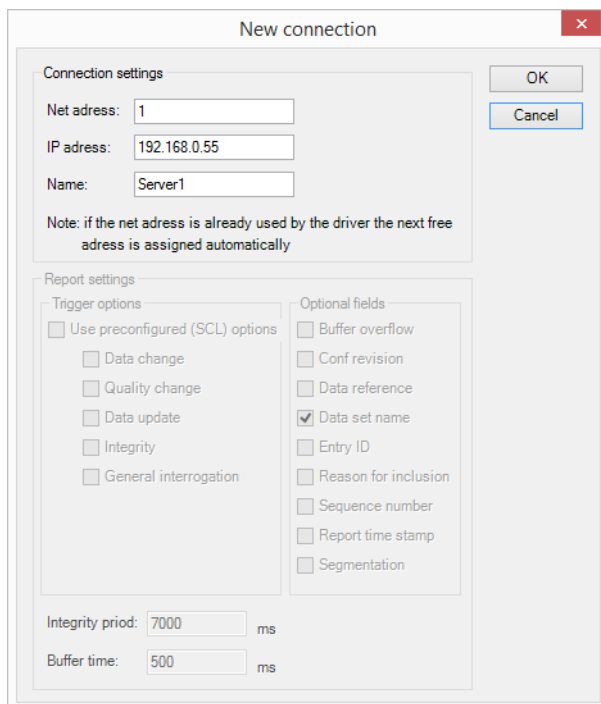
You can find a more detailed description of the **Trigger options** in the IEC850 driver documentation in the **statically assigned RCB** chapter.

Configuration

To create a connection directly in the add-on:

1. Create a new driver in the add-on.
2. Select the driver that has just been created and select **New Connection** in the context menu.

3. The dialog to issue a **Net address** is opened.



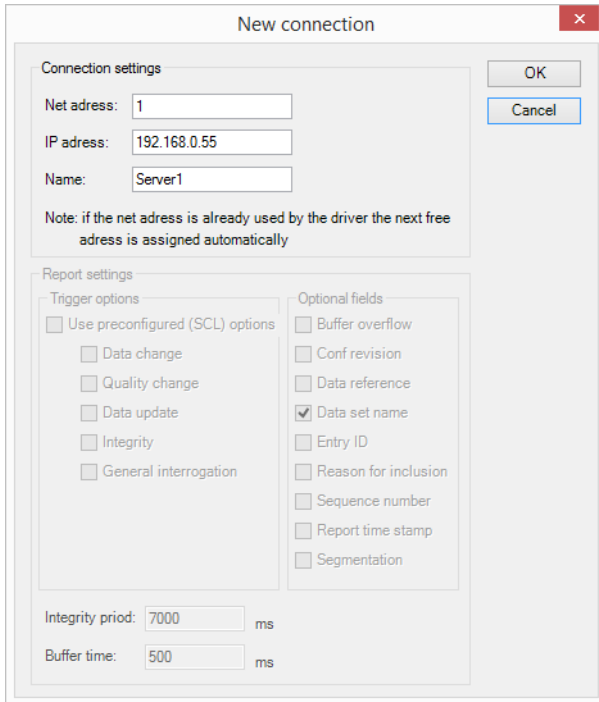
4. Assign a value.
5. Confirm the dialog by clicking **OK**
6. When closing the add-on by clicking on **OK**, the new **Net address** of the connection is assigned in zenon.

Note: Only network addresses that have not yet been created in zenon can be edited.

CHANGING AN EXISTING NET ADDRESS

1. Select the driver that has been created and select **Edit Connection** in the context menu.

2. The dialog to issue a net address is opened.



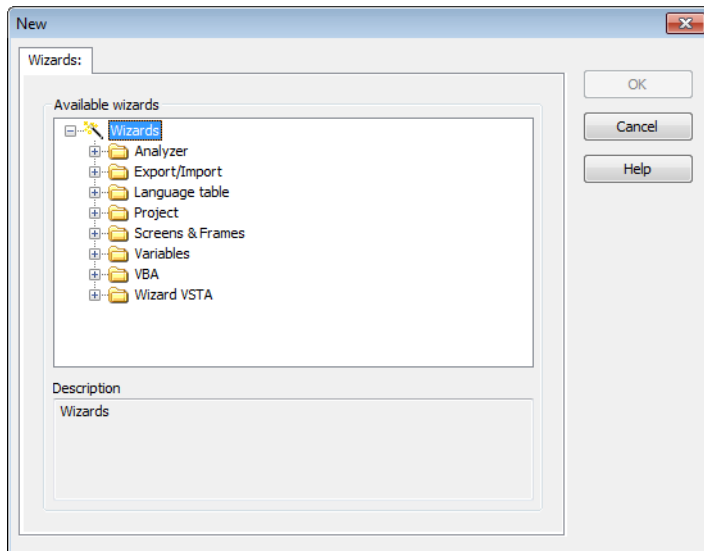
The screenshot shows the 'New connection' dialog box. It has a title bar with a close button (X). The dialog is divided into two main sections: 'Connection settings' and 'Report settings'. In the 'Connection settings' section, there are three input fields: 'Net address' with the value '1', 'IP address' with the value '192.168.0.55', and 'Name' with the value 'Server1'. Below these fields is a note: 'Note: if the net address is already used by the driver the next free address is assigned automatically'. To the right of the input fields are 'OK' and 'Cancel' buttons. The 'Report settings' section is divided into two columns. The left column is titled 'Trigger options' and contains a checkbox 'Use preconfigured (SCL) options' which is unchecked, and a list of options: 'Data change', 'Quality change', 'Data update', 'Integrity', and 'General interrogation', all of which are unchecked. The right column is titled 'Optional fields' and contains a list of options: 'Buffer overflow', 'Conf revision', 'Data reference', 'Data set name' (which is checked), 'Entry ID', 'Reason for inclusion', 'Sequence number', 'Report time stamp', and 'Segmentation', all of which are unchecked. At the bottom of the dialog, there are two input fields: 'Integrity period' with the value '7000' and 'ms', and 'Buffer time' with the value '500' and 'ms'.

3. Assign a value.
4. Confirm the dialog by clicking on **OK**
5. When closing the add-on by clicking on **OK**, the new net address of the connection is assigned in zenon.

Note: Only network addresses that have not yet been created in zenon can be edited.

4. Create and adapt wizards

Wizards are common VBA forms that contain certain functions in the code part. As a result of this, the formulas are recognized as zenon wizard.



The wizards supplied with zenon can form the basis of your own wizards.

Your own wizards can be stored in your own folders. All required information must be entered into the file named **wizards.ini** (on page 327). This can be included when the wizard is updated (on page 323).

VBA AND VSTA WIZARDS

To create wizards the following information is necessary for VBA and VSTA (on page 320):

- ▶ Name
- ▶ Description
- ▶ Category
- ▶ Display in the dialog
- ▶ Version number

These functions are read by zenon in order to identify forms as wizards and to display corresponding information in the wizard dialog.

The demo wizard offers an empty template that can be individually adapted. For details on creating VSTA wizards see chapter Details VSTA wizards (on page 320).

NAME

States the wizard name as it is displayed in the dialog for the wizard.

Example: **VSTA project wizard**

VBA	VSTA (on page 320)
<pre>Public Function GetWizardName() As String GetWizardName = "Project-Wizard" End Function</pre>	GetWizardName (Type string)

DESCRIPTION

Contains the description of the wizard as it is displayed in area "Description" of the dialog.

Example: **This wizard creates a simple zenon Project (V.1)**

VBA	VSTA (on page 320)
<pre>Public Function GetWizardInfo() As String GetWizardInfo = "Wizard for creation of a project" End Function</pre>	GetWizardInfo (Type string)

CATEGORY

States the category in which the wizard is sorted.

For example: **Project**

Note: You can use existing categories. VBA and VSTA wizards can be sorted in the same category.

VBA	VSTA (on page 320)
<pre>Public Function GetWizardCategory() As String GetWizardCategory = "Project" End Function</pre>	GetWizardCategory (Type string)

DISPLAY IN THE DIALOG

Defines whether the wizards is displayed in the dialog. With this you can hide a wizard without deleting all functions or removing them from the add-in:

= true: is displayed

= false: is hidden.

VBA	VSTA (on page 320)
<pre>Public Function IsZenOnWizard() As Boolean IsZenOnWizard = True</pre>	IsZenOnWizard (Type bool)

End Function	
--------------	--

VERSION NUMBER

States the version number which is displayed at the description. The version number is used to manage the update of the wizards.

Example: (v.1)

Note: Within a wizard class there must not be different functions with the same name. This is also true when they report back different parameters.

VBA	VSTA (on page 320)
<pre>Public Function GetWizardVersion() As Integer GetWizardVersion = 6 End Function</pre>	<pre>GetWizardVersion (Type int)</pre>

4.1 Details VSTA Wizard

VSTA WIZARD

```
#region Wizard_Identification

/// <summary>
/// This Static method returns the name of the wizard,
/// which will be displayed in the wizard-tree.
/// </summary>
/// <returns></returns>

static public string GetWizardName()
{
    string strValue = "Name of the wizard";
    return strValue;
}

/// <summary>
/// This Static method returns the description of the wizard,
/// which will be displayed at the bottom of the wizard-dialog.
/// </summary>/// <returns></returns>
static public string GetWizardInfo()
{
    string strValue = "A more detailed description of the wizard.";
    return strValue;
}
```

```

/// <summary>
/// This static method returns the category name of the wizard,
/// which will be used as node-name in the wizards-tree.
/// </summary>
/// <returns></returns>

static public string GetWizardCategory()
{
    string strValue = "Wizard category";
    return strValue;
}

/// <summary>
/// This static method returns a bool which can be used to "switch" the wizard
/// on/off in the wizard dialog (false=wizard is not shown in the tree).
/// </summary>
/// <returns></returns>

static public bool IsZenOnWizard()
{
    bool bValue=true;
} return bValue;

/// <summary>
/// This static method returns the version of the wizard.
/// Indicated at the bottom of the wizard-dialog.
/// </summary>
/// <returns>wizard version</returns>

static public int GetWizardVersion()
{
    int nValue = 1;
    return nValue;
}

/// <summary>
/// This method is called when the wizard has been selected in the
/// wizard dialog and confirmed with "OK".
/// </summary>

public void StartWizard()
{
    this.Show();
}
#endregion

```

VB.NET

```

'This shared method returns the name of the wizard,
'which will be displayed in the wizard-tree.

Public Shared Function GetWizardName() As String
    GetWizardName = "Name of the wizard"
End Function

```

```

'This shared method returns the description of the wizard,
'which will be displayed at the bottom of the wizard-dialog.

Public Shared Function GetWizardInfo() As String
    GetWizardInfo = "A more detailed description of the wizard."
End Function

'This shared method returns the category name of the wizard,
'which will be used as node-name in the wizards-tree.

Public Shared Function GetWizardCategory() As String
    GetWizardCategory = "Wizard category"
End Function

'This shared method returns a bool which can be used to "switch" the wizard
'on/off in the wizard dialog (false=wizard is not shown in the tree).

Public Shared Function IsZenOnWizard() As Boolean
    IsZenOnWizard = True
End Function

'This shared method returns the version of the wizard.
'Indicated at the bottom of the wizard-dialog.

Public Shared Function GetWizardVersion() As Integer
    GetWizardVersion = 1
End Function

'This method is called when the wizard has been selected in the
'wizard dialog and confirmed with "OK".

Public Sub StartWizard()
    Me.Show()
End Sub

```

C# WORKSPACE

For the Editor to create an instance of the VSTA class dynamically, you must add an additional function to the "Default" Workspace Code. This code segment must exist so that the wizard is displayed after selection in the dialog. This code segment should not be modified!

```

#region Wizard

/// <summary>
/// This Routine Enables the Dynamic creation of VSTA-Wizards.
/// </summary>
/// <param name="strClassname"></param>

public void StartWizard(string strClassname)
{

    //Retrieve the ClassType by its Typename:

    Type t = Type.GetType(strClassname);
    if (t != null)
    {

```

```

//Since the ClassType has been found, let's create it.
//The wizard from ClassType %strClassname% is required
//to have a Constructor with ZenWorkspace Parameter!

object[] Params = new object[] { this.ZenWorkspace };
object Wizard = Activator.CreateInstance(t, Params);
if (Wizard != null)
{
    t.InvokeMember("StartWizard", BindingFlags.Public | BindingFlags.Instance |
BindingFlags.InvokeMethod, null, Wizard, null);
}
}
}
#endregion

```

And for the VB.Net workspace like this:

```

'This Routine Enables the Dynamic creation of VSTA-Wizards,
'and should not be modified or removed!

Public Sub StartWizard(ByVal strClassname As String)
Dim obClassType As Type
Dim obWizard As Object
Dim obParams(0) As Object
    obClassType = Type.GetType(strClassname)
    If (Not obClassType Is Nothing) Then
        obParams(0) = Me.ZenWorkspace
        obWizard = Activator.CreateInstance(obClassType, obParams)
        If (Not obWizard Is Nothing) Then
            obClassType.InvokeMember("StartWizard",
System.Reflection.BindingFlags.Public Or System.Reflection.BindingFlags.Instance Or
ystem.Reflection.BindingFlags.InvokeMethod, obWizard, Nothing, Nothing)
        End If
    End If
End Sub

```

5. Update wizards

When installing a zenon Service Pack, a wizard update is automatically offered.

Existing wizards are not overwritten by the setup. It can therefore be necessary for the wizards to be manually imported and updated.



Attention

*This information is only applicable for wizards that were programmed in **C#**. That is all wizards that are shown in the Update wizards window.*

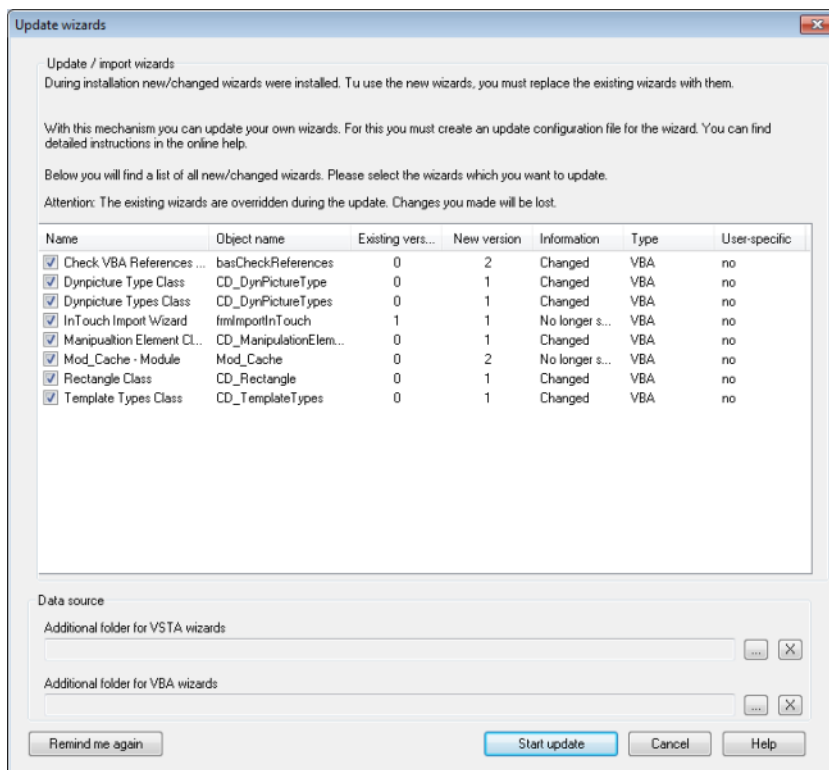
*This information does not apply to wizards that were programmed in **.Net**, such as.*

- ▶ Analyzer Wizards
- ▶ Sankey Wizard

.Net Wizards are integrated by means of a DLL and automatically kept up to date with the updates of zenon. The update can, if required, also be carried out manually via the build file contained in the zenon Analyzer installation medium for zenon.

REQUEST UPDATE

An update can also be initiated manually at any time by selecting **Update wizards** in the **File** drop-down menu.



Parameters	Description
Wizard list	Lists all VBA wizards and VSTA wizards present in the add-in that is running.
▶ Name	Name of the wizard.
▶ Object name	VBA/VSTA object name.
▶ Previous Version	Version currently being used.
▶ Create	Version that it is being updated to.
▶ Information	<p>Status information and information on the pending action:</p> <ul style="list-style-type: none"> ▶ New: Wizard does not exist in the VBA file. ▶ Changed: A new version is available. ▶ No longer supported: The existing wizard is obsolete and will be deleted.
▶ Type	VBA or VSTA
▶ User-specific	wizard was created or changed by the user
Data source	<p>Possibility of defining your own folder for your own wizards. The save location of the individual wizards.ini (on page 327) is entered.</p> <p>The entries for this are saved in zenon.ini in the [VSTA] section or [VBA] as WIZARDPATH=.</p>
Additional folder for VSTA wizards	Individual save location for your own VSTA wizards.
Additional folder for VBA wizards	Individual save location for your own VBA wizards.
Remember me again	The dialog will open again when the Editor is next started.
Start update	The wizards selected in the wizard list are updated.
Cancel	The dialog is ended without updating and is only offered again after the next installation of a Service Pack.

MAKE SURE THAT YOU ARE UP TO DATE

As objects which are not instanced at the time the dialog is opened are not checked, some objects are always offered for update. This makes sure that you do not work with out-of-date versions. The versions displayed in the update dialog is only used as information for the Consulting and Development departments.

DISTRIBUTE WIZARDS THROUGHOUT THE COMPANY

If you have written your own wizards and would also like to make these available to other users, then you can also use this method.

To do this, you export the wizard from your VBA/VBA development environment and ideally place the export files in an approved network drive. ini files serve to control the imports. These must be created accordingly and also stored in the network.

You can find a description of the files here: For VBA (on page 329) and for VSTA (on page 327).

Now you only need to show your colleagues the location where it is saved and the wizards can easily import these into your Editor. If you have changed or new wizards, you only need to export the new status, store it and increase the version number. You can therefore easily distribute wizards in your company.

POSSIBLE ERRORS WHEN UPDATING VSTA WIZARDS

Error	Possible causes
No VSTA wizards are displayed in the update dialog	<ul style="list-style-type: none"> Only wizards that are in the add-in at the time are listed. If VSTA wizards are not shown, the VSTA add-in must be activated with the Start Editor. To do this, in zenon6.ini, in the [VSTA] section, set LOADED= to 1. If the workspace cannot be compiled due to errors in the code, no wizards are listed. <p>You can read how the original wizards are recovered in the Recover original wizards section.</p>
A particular wizard is not displayed.	<ul style="list-style-type: none"> The wizard does not support the required methods. The workspace was not yet compiled after the wizard was implemented; the add-in that is running does not contain the wizard.
Self-created wizards are not displayed.	<ul style="list-style-type: none"> The configured path is incorrect. The wizards.ini in the path configured is obsolete or defective.

RECOVERING ORIGINAL WIZARDS

If wizards are not displayed in the list of the wizards, you can recover the original wizards. To do this:

1. End the zenon Editor
2. Navigate to the folder: %ProgramData%\COPA-DATA\zenonxxx\VSTAWorkspace (xxx stands for the zenon version)
3. Rename the complete folder

4. Restart the Editor
5. The folder and the wizards are recreated

5.1 Structure of the wizards.ini

Creation of the INI file for administering the wizard in VSTA and VBA.



Information

This documentation is only available in English.

5.1.1 VSTA wizards.ini

[DEFAULT]: Contains global settings

COUNT: Amount of wizards included in the INI (must be modified when adding/removing a wizard to the ini)

[MYWORKSPACE] Contains settings for the Workspace.cs

VERSION: Current version

[WIZARD_X]: Contains settings of a wizard:

NAME: Name as indicated in the update dialog

CLASSNAME: Name of the form class representing the wizard.

VERSION: Version number

PATH: path-expansion to location of the files.

DELETE: 1 when the wizard is to be removed from the workspace

FILES: The amount of files included in this wizard

FILE_X: The name of a file included in the wizard

TYPE_X: The type of the file (required for the Form.cs and Resx file)

DEP_X: The name of a file on which this file depends

EXAMPLE

```
[DEFAULT]
```

```
COUNT=3
```

```
[MYWORKSPACE]
```

VERSION=1

[WIZARD_1]

NAME=Import-Wizard

CLASSNAME=Wizard_Exportxml

VERSION=3

PATH=\Wizard_Exportxml

DELETE=0

FILES=3

FILE_1=Wizard_Exportxml.cs

TYPE_1=Form

FILE_2=Wizard_Exportxml.Designer.cs

DEP_2=Wizard_Exportxml.cs

FILE_3=Wizard_Exportxml.resx

DEP_3=Wizard_Exportxml.cs

TYPE_3=EmbeddedResource

[WIZARD_2]

NAME=Wizard_Project

CLASSNAME=Wizard_Project

VERSION=1

PATH=\Wizard_Project

DELETE=0

FILES=3

FILE_1=Wizard_Project.cs

TYPE_1=Form

FILE_2=Wizard_Project.Designer.cs

DEP_2=Wizard_Project.cs

FILE_3=Wizard_Project.resx

DEP_3=Wizard_Project.cs

TYPE_3=EmbeddedResource

[WIZARD_3]

NAME=Demo Wizard

CLASSNAME=Wizard_Demo

VERSION=1

PATH=\Wizard_Demo

DELETE=0

FILES=3

```
FILE_1=Wizard_Demo.cs
TYPE_1=Form
FILE_2=Wizard_Demo.Designer.cs
DEP_2=Wizard_Demo.cs
FILE_3=Wizard_Demo.resx
DEP_3=Wizard_Demo.cs
TYPE_3=EmbeddedResource
```

5.1.2 VBA wizards.ini

[DEFAULT]: Contains global settings

COUNT: Amount of wizards included in the INI (must be modified when adding/removing a wizard to the ini)

[MYWORKSPACE] Contains settings for the Workspace.cs

VERSION: Current version

[WIZARD_X]: Contains settings of a wizard:

NAME: Name as indicated in the update dialog

VERSION: Current version

PATH: path-expansion to location of the files.

VB_NAME: Name of the VBA object representing the wizard.

VB_TYPE: 0=form, 1=class

DELETE: 1 when the wizard is to be removed from the workspace

EXAMPLE

```
[DEFAULT]
COUNT=3

[MYWORKSPACE]
VERSION=3

[WIZARD_1]
NAME=Wizard for creating variables
VERSION=8
PATH=\CreateVariables\frmCreateVariables.frm
VB_NAME=frmCreateVariables
VB_TYPE=0
```

```
DELETE=0
```

```
[WIZARD_2]
NAME=Document Wizard
VERSION=12
PATH=\DocuWizard\frmDocuWizardEx.frm
VB_NAME=frmDocuWizardEx
VB_TYPE=0
DELETE=0
```

```
[WIZARD_3]
NAME=Import-Wizard
VERSION=3
PATH=\ImportWizard\frmImportWizard.frm
VB_NAME=frmImportWizard
VB_TYPE=0
DELETE=1
```

5.1.3 Required methods for updating

Example of methods that are required for the wizard to be displayed in the update dialog:

VBA

'The following methods define the form as a control system wizard. If IsZenOnWizard is set to false,

'the wizard does not appear in the Wizard dialog and does not influence the wizard update dialog.

```
Public Function GetWizardName() As String
    GetWizardName = "Empty Wizard"
End Function

Public Function GetWizardInfo() As String
    GetWizardInfo = "<TODO: Add description here>"
End Function

Public Function GetWizardCategory() As String
    GetWizardCategory = "<TODO: Add category-information here>"
End Function
```

```
Public Function IsZenOnWizard() As Boolean
    IsZenonWizard = False
End Function
Public Function GetWizardVersion() As Integer
    GetWizardVersion = 6
End Function
```

VSTA

```
#region Wizard_Identification
/// <summary>
/// This Static method returns the name of the wizard,
/// which will be displayed in the wizard-tree.
/// </summary>
/// <returns></returns>
static public string GetWizardName()
{
    string strValue = "Demo Wizard";
    return strValue;
}
/// <summary>
/// This Static method returns the description of the wizard,
/// which will be displayed at the bottom of the wizard-dialog.
</summary>/// <returns></returns>
static public string GetWizardInfo()
{
    string strValue = "This is our Demo Wizard";
    return strValue;
}
/// <summary>
/// This static method returns the category name of the wizard,
/// which will be used as node-name in the wizards-tree.
/// </summary>
/// <returns></returns>
static public string GetWizardCategory()
{
    string strValue = "Wizard VSTA";
    return strValue;
}
```

```
/// <summary>
/// This static method returns a bool which can be used to "switch" the wizard
/// on/off in the wizard dialog (false=wizard is not shown in the tree).
/// </summary>
/// <returns></returns>
static public bool IsZenOnWizard()
{
    bool bValue = false;
    return bValue;
}
/// <summary>
/// This static method returns the version of the wizard.
/// Indicated at the bottom of the wizard-dialog.
/// </summary>
/// <returns>wizard version</returns>
static public int GetWizardVersion()
{
    int nValue = 1;
    return nValue;
}
/// <summary>
/// This method is called when the wizard has been selected in the
/// wizard dialog and confirmed with "OK".
/// </summary>
public void StartWizard()
{
    this.Show();
}

#endregion
```