



COPADATA
do it your way

zenon manual

Project and workspace

v.7.11





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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. Project and workspace

A workspace is assigned to every project.

The workspaces and projects are displayed in the project manager.



License information

Part of the standard license of the Editor and Runtime.

3. Workspace

Workspaces are stored in a file with the file suffix `.wsp6`. Double-clicking on this file starts the 32-bit version of the zenon Editor.

Within one workspace, several projects can be created and managed. All data which are defined and stored for a project are a component of the internal database of zenon.

The managing of several projects in one workspace recommends itself if the same plant parameters are present (screens etc.) and copying of the data makes the configuration significantly easier or if several projects in one plant are connected via a network. Several projects can be processed at the same time.

Alternatively, another workspace can be generated in another folder for the creation of projects.



Example

`/CUSTOMER1/PROJECT` (one or more projects in the database)

`/CUSTOMER2/PROJECT` (one or more projects in the database)

The structure of the database is defined by schema files. They are the basis for the completely new creation of a project database. An additional database file in MS-ACCES format (MDB) exists for the Recipegroup Manager.



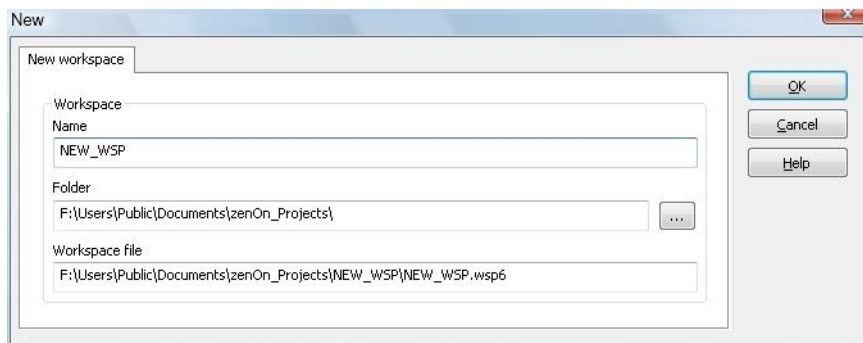
Attention

No preconfigured data are present!

3.1 Create new workspace

There are two methods for creating a new workspace:

- ▶ **Drop-down list** > **File** -> **Workspace** -> **New** Or
- ▶ **Context menu** of entry workspace in the project tree / entry **Workspace** / **New**



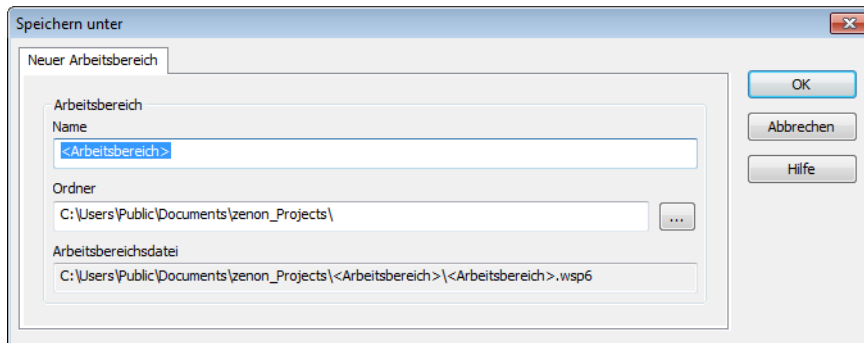
Parameters	Description
Name	Choose a name for your new workspace. The default name <Workspace> is invalid and must be replaced. Allowed are: Numbers, letters and the special underscore character (_). Umlauts and B are not permitted.
Storage location	Select a folder for saving the new workspace. The user directory is suggested as a default save location.
Workspace file	The path is created automatically from your input.

3.2 Save workspace

There are two methods for saving a workspace:

- ▶ **Drop-down list** / **File** / **Workspace** / **Save** Or **Save as** Or
- ▶ **Context menu** of the entry workspace in the project tree / entry **Workspace** / **Save** or **Save as**

If you choose the entry **Save as** you can choose the storage location yourself. In this case, an existing workspace is saved under a new name.



Parameters	Description
Name	Choose any name you like for your workspace. The default name <Workspace> is invalid and must be replaced. Allowed are: Numbers, letters and the special underscore character (_). Umlauts and B are not permitted.
Storage location	Select a folder for saving the new workspace. The user folder is suggested as a default save location.
Workspace file	The path is created automatically from your input.

The workspaces are saved as *.WSP files.



Information

If a project with a lower version number than the Editor exists in the workspace, you cannot select menu item "Workspace/save as ...". These projects must first be converted to the Editor version before the workspace can be saved.

3.3 Edit existing workspace

There are two methods for opening an existing workspace:

- ▶ **Drop-down list** File-> Workspace-> Open or
- ▶ Context menu of the **Workspace** node in the project tree -> Command Workspace-> Open

3.4 Backup and restore of workspaces

Information on the backup and restore of existing workspace can be found in the chapter Project backups / Section Backup and restore of workspaces.

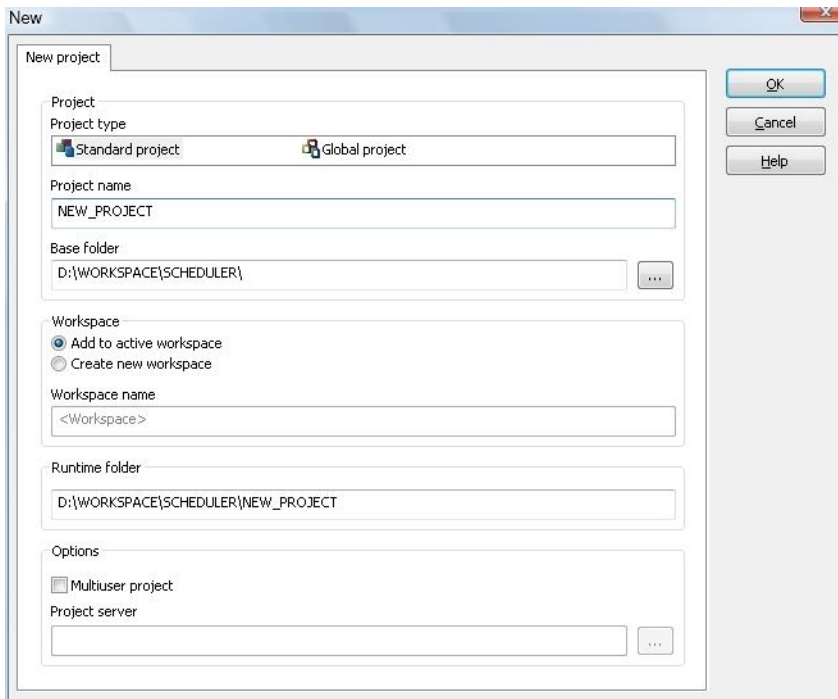
4. Project

Once the Workspace is open, one or more projects can be edited or selected in the Project manager. An existing project can be inserted into the current workspace.

4.1 Create new project

There are two methods for creating a new project:

- *Drop-down list -> File -> New project* or
- **Context menu** of the entry workspace in the project tree / entry **Project new**



The screenshot shows the 'New project' dialog box with the following fields and options:

- Project type:** A dropdown menu with 'Standard project' (selected) and 'Global project'.
- Project name:** A text field containing 'NEW_PROJECT'.
- Base folder:** A text field containing 'D:\WORKSPACE\SCHEDULER\'. There is a browse button (three dots) to the right.
- Workspace:** Two radio buttons: 'Add to active workspace' (selected) and 'Create new workspace'.
- Workspace name:** A text field containing '<Workspace>'.
- Runtime folder:** A text field containing 'D:\WORKSPACE\SCHEDULER\NEW_PROJECT'.
- Options:** A checkbox for 'Multuser project' (unchecked).
- Project server:** A text field with a browse button (three dots) to the right.

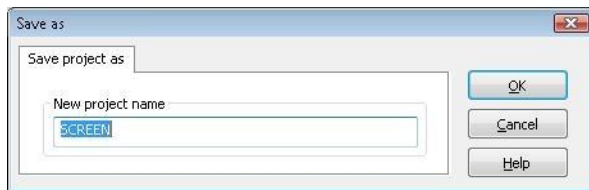
On the right side of the dialog, there are three buttons: 'OK', 'Cancel', and 'Help'.

Parameters	Description
Project type	Choose between standard project and global project (on page 20).
Project name	<p>Choose a name for the project. The default name <Project> is invalid and must be replaced.</p> <p>Allowed are: Numbers, letters and the special underscore character (_). Umlauts and ß are not permitted.</p>
Base folder	Folder in which the new project should be saved.
Workspace	<p>Selection of the workspace (on page 6):</p> <ul style="list-style-type: none"> ▶ Add to active workspace: The new project is added to the workspace which is currently active. As default saving location, the workspace folder is suggested. ▶ Create new workspace: Together with the project a new workspace so created. The name of the workspace is automatically added in field Runtime folder.
Name of the workspace	<p>Choose a name for your new workspace. The default name <Workspace> is invalid and must be replaced.</p> <p>Allowed are: Numbers, letters and the special underscore character (_). Umlauts and ß are not permitted.</p>
Runtime folder	<p>The default storage space for the Runtime folder is already preset. The object type can be changed here.</p> <p>Note: Below the Runtime folder the data folder for the Runtime files is automatically created. The folder can be individually changed via the General/Data folder property. Pay attention that the folder can always be reached. Otherwise the Runtime data cannot be written anymore.</p>
Options	
Multiuser project	Active: Several users can work on the same project at the same time (for details see distributed engineering).
Project sever	Selection of the project server for multi-user projects.

4.2 Save project

In order to save a project under a new name, select the **Project / Save as** entry from the context menu of the project. You can enter the new project name in the following dialog.

If you want to use an already existing name, you will receive an according message.



Information

With this functionality e.g. it is possible to create a copy of the existing project, which then can be edited independently.

For this Project A is copied with Save as from the context menu and then can be edited. Then it is saved and Project B (again context menu - Save as).

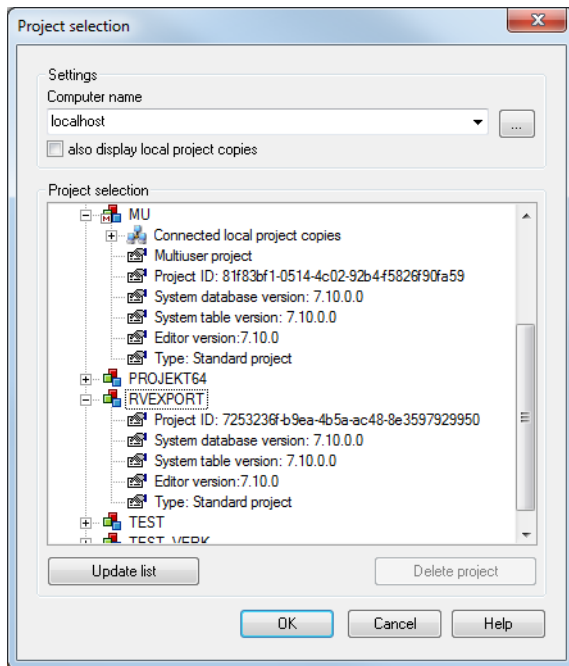
Depending on how much the two projects differ, this can save more time than export/importing project parts.

4.3 Insert project into workspace

To insert an existing project into a workspace:

- ▶ right-click on the workspace
- ▶ Select the Insert existing project command

- the dialog for selecting projects will be opened

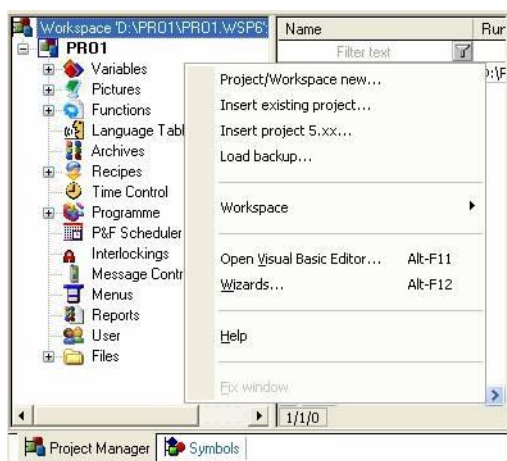


To obtain detailed information on the individual projects, in particular in respect of type, open the project nodes in the selection window. You receive information on:

Information	Description
Multiuser project	Only displayed if the project is capable of distributed engineering.
Project ID	Unique project ID.
System database version	Version of system database
System report version	Version of system table
Connected local project copies	Display of project copies on other computers. Only for multi-user projects (labeled with the letter M in the symbol).
Editor version	Version of the Editor with which the project was created or last edited.
Type:	Displays project type: <ul style="list-style-type: none"> ► Standard project ► Global project

4.4 Edit existing project

Selection of an existing project is done by selecting the project in the Project Manager by clicking on it with the left mouse button. The right mouse button opens the following context menu.



The following commands are available

Parameters	Description
Runtime Files	
- Create changed	creates changed Runtime files for the active project
- Create all	creates all Runtime files for the active project
- Import	Files that can be edited in the Runtime are read back to the Editor path - Standard recipes - Recipes of the Recipegroup Manager - User administration - Schedules and profiles
Project as start project	sets the Runtime Startproject for the current computer
Start Runtime	Runtime is started with the project defined as start project
Project active	set active project for the toolbars of the Editor and the cross reference list. All other projects, not marked as "Keep project in memory", are deactivated
Keep project in memory	the project stays in the memory, even if another project is activated
Project	
- Rename	Rename selected project
- Save project as ...	saves the project under a new name in a new directory
- Properties	opens the properties window with the project properties
- Remove from workspace	removes the project from the current workspace, but does not delete it physically
- Delete	Deletes the project physically
- Create backup	creates a backup of the project
- Load backup	loads a saved project to the current workspace
Project Remote Transport	opens the submenu Project Remote Transport . The submenu Project Remote Transport has the following functions:
- Establish connection	Initiates remote connection
- Transport changed Runtime files	Transports only changed runtime files to target station
- Transport all Runtime files	Transports all runtime files to target station

- Transport all Runtime files	files which can be edited in the Runtime (e.g. recipes, user administration etc.) are read back to the Editor files
Project as start project	Set start project for target station
- Start Runtime	Starts Runtime on target station
- Stop Runtime	Stops Runtime on target station
- Project reload	Executes function Reload on target station (Runtime device)
- Get error file	Get error file from target station
- Restart OS	Restarts operating system on target station
- Get system status	Get system status of target station
- Remote password change	the password for the remote access to the project computer is changed
Profile	Opens a submenu, where a profile can be selected (see chapter Editor)
Help	Opens online-help

PASSWORD PROTECTION

Each project can be protected with a password. To do this:

- ▶ Create the required users in the user administration
- ▶ In `User administration` in project properties, in the `Function authorizations` property, set the `Load project` entry to an authorization level greater than 0
- ▶ Assign this authorization level to all authorized users

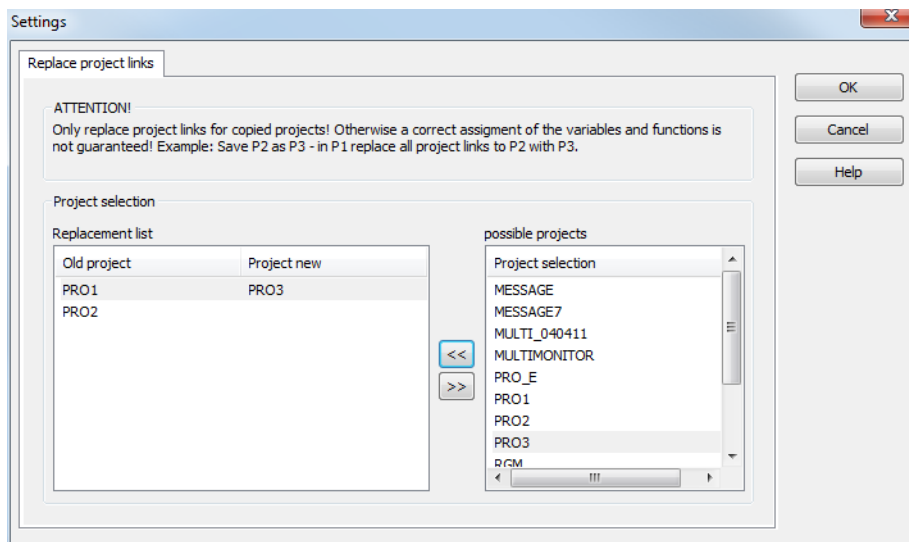
This enables the project to only be opened by an existing user with the defined authorization level.

4.5 Replace project links

If projects are copied, their links to higher-ranked projects must be assigned newly if necessary. The assistant `replace project links` supports the automatic replacing of project links to screens, variables and functions. The control system searches for all project links, which then are replaced by the screens, variables and functions of another selected project.

To replace project links:

1. workspace and sub-projects must be saved
2. in the context menu of integration project (on page 18) select command **replace project links**
3. the dialog for selecting a project is opened
4. select the desired allocations
5. confirm the dialog by clicking **OK**



Parameters	Description
Replacement list	<p>List of project allocations for replacing links:</p> <ul style="list-style-type: none"> ▶ Old project: Automatically contains all source projects. If this list is empty, there are no superior projects with links to sub-projects in the workspace. ▶ New project: Project in which the links should be adopted. Selection from list of possible projects by clicking on the arrow button .
possible projects	<p>Projects with which source projects should be replaced. Selection:</p> <ul style="list-style-type: none"> ▶ highlight desired old project ▶ highlight desired new project ▶ click on button with arrow to the left <p>Cancel allocation:</p> <ul style="list-style-type: none"> ▶ highlight desired allocation in the replacement list ▶ click on button with arrow to the right
OK	<p>Take over allocation and carries out replacement.</p> <p>Number of replaced project links is displayed in the output window.</p>
Cancel	Discards settings and closes the dialog.
Help	Opens online help.

4.6 Save and reload project

Information about saving and reloading projects can be found in the chapter project backups.

4.7 Remove project from workspace

To remove a project from the workspace, choose the entry **Project / remove from workspace** in the context menu of the project.

The project is not deleted after that. See chapter Delete project (on page 18).

4.8 Delete project

You can find more information about deleting projects in the chapter project backups / Deleting projects.

5. Integration project

zenon offers the possibility of a multi-hierarchical project structure. In such a case an integration project with several sub-projects is realized.

As a central station the integration project contains overview screens, where process values of sub-projects can be displayed.



Example

With the recipes in the integration project set values can be administered centrally in order to control the single projects in the best way.

With project overlapping archives in the integration project data from the sub-projects can be collected at a central location.

It is possible to use variables from sub-projects in the integration project.

You can find more information on **Replacing project links** in the chapter Replacing project links (on page 15).



Attention

Naming templates: Avoid using the same name for templates in integration and

subprojects. Because:

- ▶ If a template with the same name is already opened, this is then used when the new screen is called up - regardless of which project it belongs to.
- ▶ If there is still not a template open with a suitable name, the name of the screen's project is used.

FILE FOLDERS

Sub-project which are located at the same folder node as the integration project during creation, always use the same structure as the integration project. Every sub project is entered into the project.ini with relative path to the integration project. If the Runtime path for the integration project is changed, the paths for the sub-projects also change. This guarantees that the Runtime can find the needed paths.

5.1 Copying sub-projects

In order to avoid, that after copying the sub-projects the links of the integration project link to the wrong sub-projects, zenon offers the possibility to replace project links or to copy entire workspaces.

The links from an integration project to a sub-project can also be replaced with links to another sub-project without having to create a copy of the integration project.

5.1.1 Copying the complete workspace

A copy of the entire workspace is created. For each project a '**Speichern unter**' is executed and a new GUID is generated. But the projects keep their original names. The workspace is automatically loaded with the new projects. In this solution the entire integration project is searched for variable and function links, which point to other projects. In these links the GUID of the original project is replaced by that of the copied sub-project. With this solution the sub-project can be adopted and immediately will run with the new integration project.

5.2 Authorization

Operating authorizations can be implemented in zenon for projects in the network and for integration projects without a network.

AUTHORIZATION IN THE NETWORK

To activate operating authorization in the network:

1. navigate to the `Network` group in Project Properties.
2. Activate the `Authorization in network active` property.
3. Define the `Timeout for request [s]`:
4. Define the `Timeout for authorization [s]`:
5. **Attention:** Select a time period shorter than the network time-out in the `Timeout [s]` property
6. Configure the functions in order to get the operating authorization or to approve this.

For details see the Operating authorization in the network chapter in the Historian manual.

AUTHORIZATION IN THE INTEGRATION PROJECT

To use operating authorizations in an integration project:

1. Configure a binary variable for the project properties of the `Interaction` group for the `Operation lock` property
2. Evaluate its response values

Response value:

- ▶ `<>0`: No operating authorization available Runtime reacts as in a network project if the operating authorization is not present.
- ▶ `0`: Authorization available Runtime reacts as in a network project if the operating authorization is present.

6. Global project

A global project is a project that is not connected to a process.



Information

For each workspace you can only create and use one global project.

The global project has a number of modules which are available for all projects in the workspace. If objects exist in the global and in the local project, the objects in the local project take priority.

Module	Description
Variables -> Alarm	Grouping of alarms in groups, classes and areas.
Frames	Frames, that do not exist in local projects are taken over by the Global project. The identification is the name.
Font lists	Font lists which do not exist locally are take over from the global project. The identification is the name. Pay attention to the consequences of same names in the global and local project.
Color palettes	<p>All palettes of a project must always contain the same amount of colors; the number of colors can therefore differ between a global project and a local project.</p> <p>Attention: In the event of conflicts in the Runtime, the local project's color palettes take priority.</p>
Language file	Language files are managed in language tables and are merged on the level of keywords and file names. Keywords which do not exist in local projects are taken over from the global project.
User administration	<p>Users are merged by the identification. Users which do not exist in local projects are taken over from the global project.</p> <p>Attention: Users form global projects are displayed in the Runtime in all sub-projects but they cannot by changed via the Runtime user administration.</p>
Files	Files which do not exist in local projects are taken over from the global project.
History of changes	Documents all changes in the global project.
Equipment modeling	Depicts all levels of a company according to ISA S88 and S95. Is created in the global project and used in the local project.
Project backups	For backups of the global project.



Information

It is not possible to open the VBA Editor in a global project.

7. Definition of the project filter

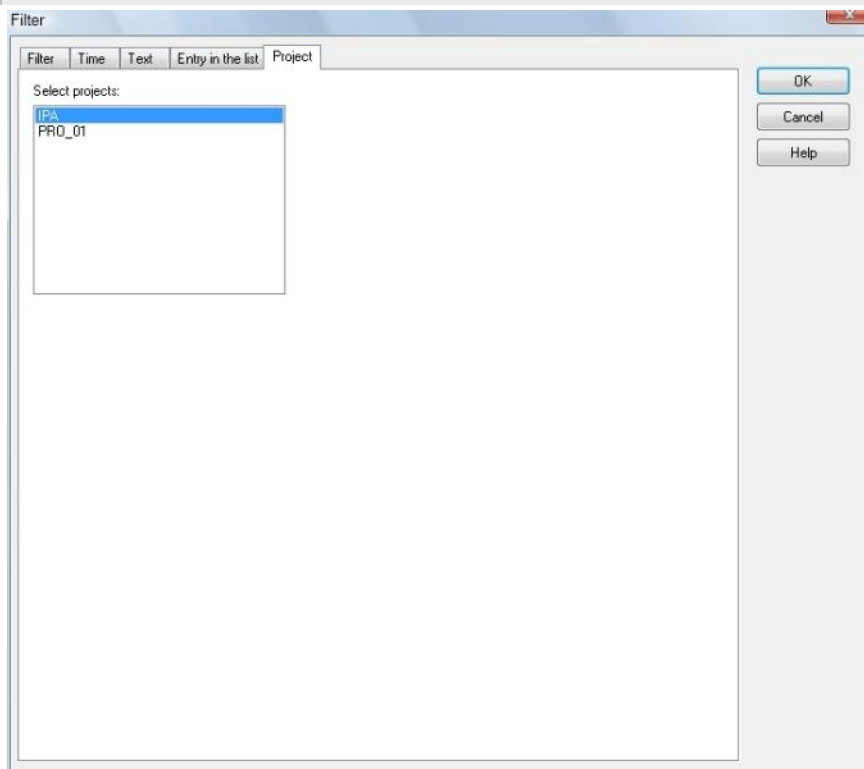
A project filter is used in a number of different functions (screen switch, exporting, printing, lists, etc.). It allows the selection of individual projects in multi-project administration.



Attention

This filter is only available if several projects are available in an integration project.

Exception: *With the filter configuration for faceplates, the project filter is also offered for individual projects.*



the selection from the integration project and all sub-projects is carried out via multi-select by pressing and holding key **Ctrl** and mouse click on the desired projects.

8. Configuration

The configuration is carried out via:

Parameters	Description
Standard Configuration (on page 23)	License product Standard (on page 23) Control Panel
Project Configuration (on page 28)	Project Alarm List Chronological Event List Monitor administration User administration Project backup Rename Project Save Project as...

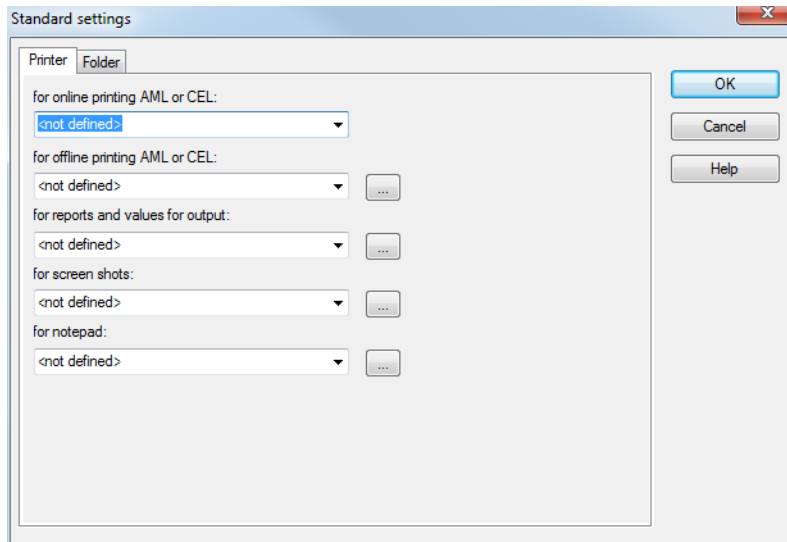
8.1 Standard

After selecting the menu entry **File/Standard configuration/Standard** the following not project-specific settings are available:

Parameters	Description
Printer (on page 24)	Global printer settings for all database projects
Directories (on page 29)	Definitions for projects being newly created

8.1.1 Printer

Printers can be assigned for the following functions:



Parameters	Description
for online printing AML or CEL	Online alarm message list or Chronological Event List (General settings under ' Alarm and CEL ' in the project properties or in the files ALARM.FRM or BTB.FRM).
for offline printing AML or CEL	Offline Alarm Message List or Chronologic Event List (with button ' Print ' in the according screen. Format definition in the files ALARM_G.FRM or BTB_G.FRM)
Values and protocols for output	This printer is used for reports and if function 'Print current value' is selected.
for screenshots	Printer for screenshots
for notepad	Output of closed logs and texts from list windows.

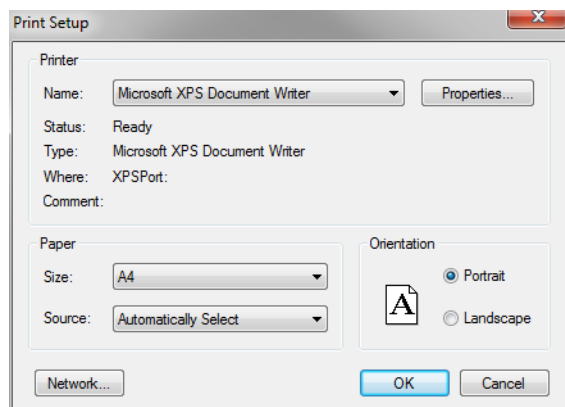
To select a printer:

1. click in the drop-down list
2. all printers installed on the computer are displayed

In order to configure the page view:

1. click on button ... next to the printer

2. the dialog for the page setting will be opened



Parameters	Description
Printer	Settings for the printer.
Name:	Selection of the printer from the drop-down list. The list contains all printers configured in the operating system.
Properties...	Opens printer configuration dialog.
Status:	Display printer state. For information only.
Type:	Display printer type. For information only
Location:	Display the location of the printer if configured. For information only.
Comment:	Display comment about printer if configured. For information only.
Paper	Configuration of the printout.
Size	Select paper format from drop-down list.
Source	Select paper feed from drop-down list.
Alignment	Select paper alignment. Possible parameter: <ul style="list-style-type: none"> • Portrait Format • Landscape format
Network	Opens dialog for selecting a printer in the network.
OK	Accepts configuration and closes dialog. With this printing is started in the Runtime.
Cancel	Discards configuration and closes the dialog. In the Runtime this also cancels the printout.



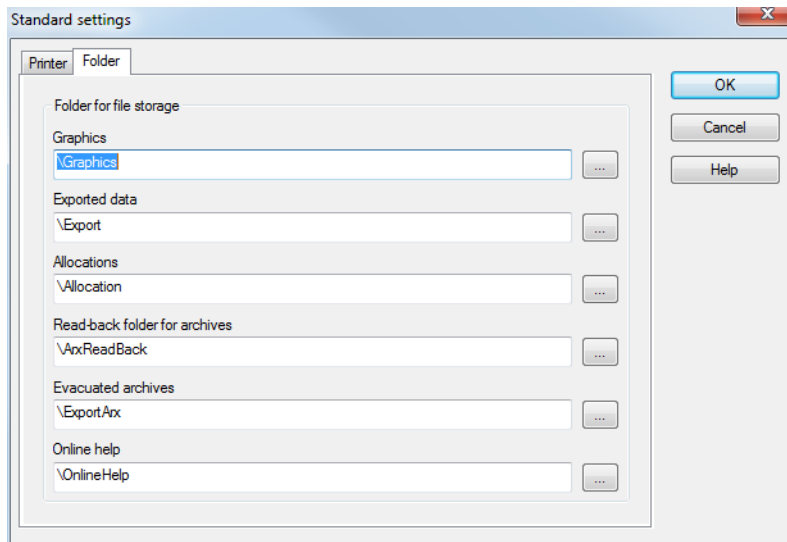
Information

For different printer interfaces the same printers can be used with different parameters.

8.1.2 General folder

In tab **folders** you define the default folders for the categories described below. Click on button ... to open the Explorer in order to define the storage location for the selected file type. The storage locations

defined here are taken over as default for new projects and can be changed in the project settings via option **File storage**. The storage locations are created relative to the Runtime folder.



Parameters	Description
Graphics	Graphics files Default: \Graphics
Exported files	Path for exported archives, Chronological Event List, Alarm Message List. Default: \Export
Allocations	Path for project backups. Default: \Allocation
Restore folder for archives	Folder for reading back the archive backup files. When loading archive data from the readback folder, the archive data from the Runtime path and from all subfolders of the readback folder is also read. Default: \Backup
Evacuated archives	Folder in which evacuated archives were saved. Default: \ExportArv
Online Help	Folder for online help. Default: \ONLINE_HELP

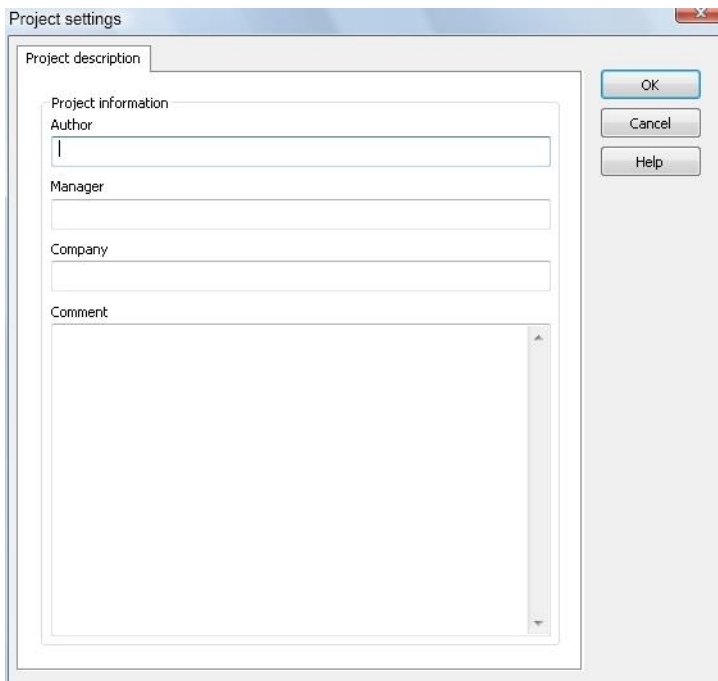
8.2 Project manager

In the project project properties all details of a project are configured. To configure the properties you must:

- ▶ highlight the project in the project tree
- ▶ open the property window

(Open it via context menu of the project or menu **options**)

8.2.1 Project info



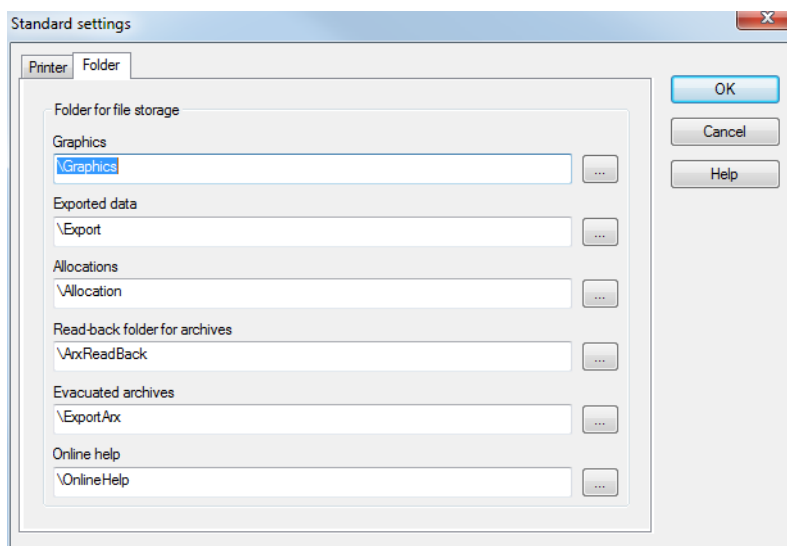
The screenshot shows a 'Project settings' dialog box with a 'Project description' tab. Inside the tab, there is a 'Project information' section with four input fields: 'Author', 'Manager', 'Company', and 'Comment'. The 'Author' field contains the letter 'I'. To the right of the input fields are three buttons: 'OK', 'Cancel', and 'Help'.

The following information on the project can be defined:

Parameters	Description
Author	Author of the project
Manager	Manager of the project
Company	Company for the project
Comment	Free comment for the project

8.2.2 Project-related folder

By selecting property `File storage` in project settings `General`, the dialog for defining the storage location is opened. The already existing locations were taken over from general settings for folders (on page 26). Click on button `...` to open the Explorer in order to define the storage location for the selected file type. The storage locations are created relative to the Runtime folder.



Parameters	Description
------------	-------------

Graphics	Graphics files Default: \Graphics
Exported files	Path for exported archives, Chronological Event List, Alarm Message List. Default: \Export
Allocations	Path for project backups. Default: \Allocation
Restore folder for archives	Folder for reading back the archive backup files. When loading archive data from the readback folder, the archive data from the Runtime path and from all subfolders of the readback folder is also read. Default: \Backup
Evacuated archives	Folder in which evacuated archives were saved. Default: \ExportArv
Online Help	Folder for online help. Default: \ONLINE_HELP

8.2.3 Graphics quality

In zenon the quality of the displayed graphics can be tuned to the resources for the system. This setting is made using the project setting `Graphics quality` in group `Graphical design`. Possible options are:

- ▶ `Windows Basic`: Basic graphics settings. Recommended for resource-weak hardware.
- ▶ `Windows Enhanced`: Provides enhanced functions for the graphical display - needs more resources.
- ▶ `DirectX Software`: Graphics calculations are done by the CPU. Depending on the graphic you can use more than one CPU. Using `DirectX Software` may cause a high CPU workload.
- ▶ `DirectX Hardware`: A part of the graphic calculation is done by the graphics card by which the performance is increased. If this setting is not supported by the used system, zenon

automatically switches to `DirectX Software`. Generally speaking `DirectX Hardware` is preferable and `DirectX Software` should only be used if necessary.



Attention

- ▶ **Windows Enhanced** and **DirectX** are not available under Windows CE.
- ▶ DirectX display is only supported in the Runtime.
- ▶ DirectX cannot be used for OCX.

DIRECTX

`directx` allows a higher graphic quality than `Windows Basic` or `Windows Enhanced`. Thus in contrast to `Windows Basic/Enhanced`, `DirectX` can turn on/off properties `Use antialiasing` and `ClearType fonts` regardless of the settings in the operating system. The antialiasing quality of `DirectX` is higher than the quality of `Windows Enhanced`.

To use `DirectX`, several requirements must be fulfilled:

Requirement	Description
DirectX Hardware or DirectX Software must be activated.	In the project settings you must select DirectX Hardware or DirectX Software for property Graphical design.
The operating system must support DirectX 11.	DirectX Hardware and DirectX Software only works on operating system supporting DirectX11. If the system does not support DirectX 11, it automatically switches to Windows Enhanced.
The current DirectX Runtime must be installed.	For zenon it is installed together with the setup. For the Web Client it must be installed manually.
The screen or element must support DirectX.	Only elements or screens which support DirectX can be displayed with DirectX.
For DirectX Hardware the minimum requirements must be fulfilled.	For details see minimum requirements graphics card. If they are not fulfilled, it automatically switches to DirectX Software. If the operating system does not provide any hardware acceleration (e.g. Remote Desktop), it may not be possible to use DirectX Hardware.

MINIMUM REQUIREMENTS GRAPHICS CARD FOR DIRECTX HARDWARE

For the use of DirectX Hardware the following minimum requirements must be fulfilled:

Parameters	Minimum requirements	Recommended
Graphics card:	Dedicated DirectX 11 AMD or nVidia graphics card	Dedicated DirectX 11 AMD or nVidia graphics card
Graphics memory: (Actually needed size depends on the number of the called up screens and displayed elements.)	512 MB VRAM	1 GB VRAM
Driver graphics card:	Most current driver of the graphics card manufacturer	

You can check the DirectX hardware compatibility of the graphics card and the driver with the Windows operating system tool `dxdiag.exe`.

Up to Windows 7: Check the `DDI version` value under `Display`. The value 11 for example means DirectX 11.

From Windows 8: All supported versions of DirectX are displayed in the `Display` tab under `Feature Levels`. For example, DirectX 11 is displayed as 11.0.

DIFFERENCES BETWEEN DIRECTX AND WINDOWS ENHANCED

DirectX differs from Windows Enhanced regarding quality, performance and resource requirements. Some of the most important differences:

- ▶ Scaling, distortions and rotations of objects are displayed with antialiasing. Antialiasing also works with transformations.
- ▶ Shadows are displayed as a correct likeness of the actual element. Even texts and semi-transparent bitmaps have a completely correct shadow. Dynamic changes are considered: If a button is clicked, the shadow also changes.
- ▶ Glow effect enables the glowing of an element via the likeness of the actual element. Even texts and semi-transparent bitmaps have a correct glow effect. Dynamic changes are considered: If a button is clicked, the glow effect also changes.



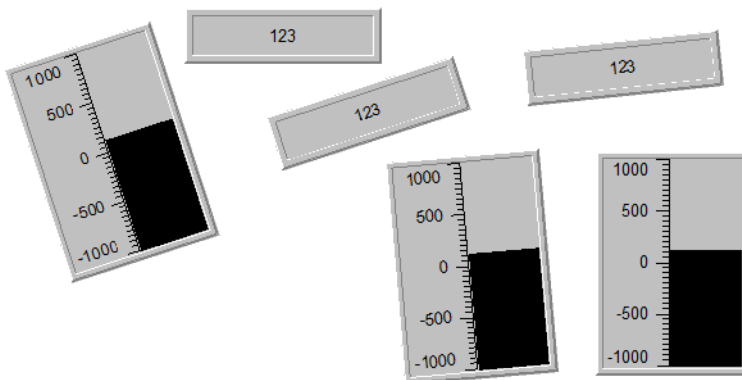
Information

The use of WMF and EMF graphics with DirectX may cause performance losses.

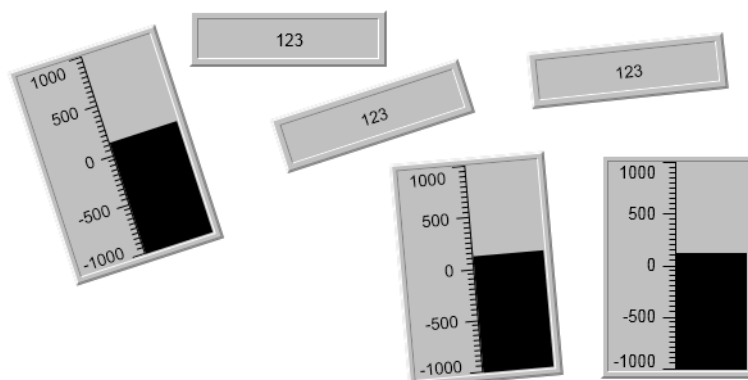
EXAMPLES

ROTATED DYNAMIC ELEMENTS

With Windows Enhanced:



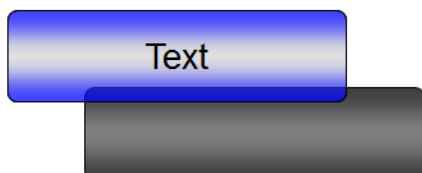
With DirectX:



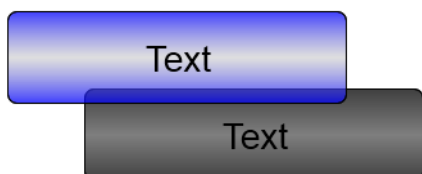
The forming of ridges at the edges is reduced, texts are positioned correctly.

SEMI-TRANSPARENT BUTTON WITH SHADOW

With Windows Enhanced:



With DirectX:

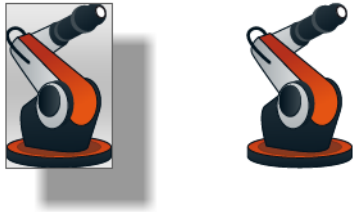


Correct shadow with visible text.

SHADOW OF A BUTTON WITH BITMAP

On the left a bitmpa button with shadow is displayed, on the right the same screen with property `Transparent` active.

With Windows Enhanced:



With DirectX:



Error treatment DirectX

Errors are displayed in the Diagnosis Viewer.

DIRECTX IS NOT INITIALIZED.

If DirectX cannot be initialized during the call up of a screen or in continuous operation,

- ▶ a progress bar is displayed
- ▶ it is tried to initialize DirectX again
- ▶ the Runtime continues normally as long as the progress bar is displayed
- ▶ you can try to solve the problem (driver installation, ...)

The progress bar can be canceled by the user by clicking on button **cancel**. After the cancellation the Runtime is closed and an error message is displayed which can only be closed by clicking **OK**.

Note: For errors which make it impossible to reinitialize DirectX, an error message is displayed immediately.

DIAGNOSIS VIEWER

DirectX provides individual messages in the Diagnosis Viewer with:

- ▶ an error message
- ▶ possible reasons for the errors
- ▶ Error codes

The display take place in an own module **DirectX**. For errors the error text is displayed in text field **Error**. For warnings and debug information the corresponding messages are displayed in text field **General**:

- ▶ For the successful call up of a screen at least one DEBUG success message is displayed.
- ▶ Warning point out events which can influence the operation.
- ▶ If an error occurs which cannot be fixed, an error message is displayed.



Information

If a message is not completely displayed in the table in the Diagnosis Viewer, open the entry via double click to display the whole message.

CHECK LIST FOR ERROR CHECKING

- ▶ An appropriate check whether DirectX works can be carried out by activating the debug message in the Diagnosis Viewer. For successful support, an appropriate message is displayed.
- ▶ Are DirectX-specific warnings or error messages displayed in the Diagnosis Viewer?
- ▶ Is property `DirectX Hardware` or `DirectX Software` activated in project setting `Graphics quality`?
- ▶ Are the minimum requirements for DirectX fulfilled? For details about minimum requirements see chapter Graphics quality (on page 30).
 - Is DirectX 11 supported by the operation system?
 - Is the current DirectX Runtime installed?
 - Is DirectX Hardware supported by the graphics card?

You can check the DirectX hardware compatibility of the graphics card and the driver with the Windows operating system tool `dxdiag.exe`.

Up to Windows 7: Check the `DDI version` value under `Display`. The value 11 for

example means DirectX 11.

From Windows 8: All supported versions of DirectX are displayed in the `display` tab under `Feature Levels`. For example, DirectX 11 is displayed as `11.0`.

- ▶ Is DirectX supported by the screen or the element?
- ▶ Does the display work properly with `Windows Basis` or `Windows Enhanced`?
- ▶ Does the display work with another driver?
- ▶ Does the display work with a graphics card of another manufacturer?

8.2.4 Runtime changeable data

There are different data which can be changed in the zenon Editor as well as in the Runtime. These are files for:

- ▶ Recipegroup Manager
- ▶ Standard recipes
- ▶ User administration
- ▶ Scheduler

PROTECT RUNTIME FILES FROM OVERWRITING

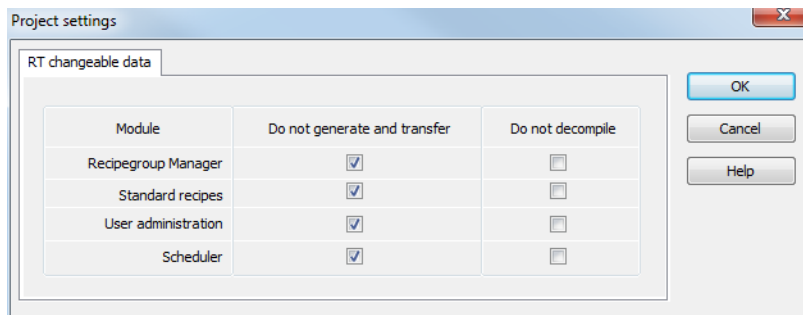
If all Runtime files are created or transported, the files meanwhile changed in the Runtime would be overwritten. In order to avoid unwanted overwriting the files, that should not be created or transported, can be selected here in the section `Do not generate and transfer`.

PROTECT EDITOR FILES FROM OVERWRITING

Data changed in the Runtime can be read back. In this case the corresponding Editor data are overwritten. In order to avoid unwanted overwriting the files, that should not be read back, can be selected here in the section `Do not decompile`.

DIALOG RT CHANGEABLE FILES

You can reach the dialog for configuring the Runtime changeable files via project settings *General/RT changeable data*:



The following file types can be selected:

Parameters	Description
Recipegroup Manager	Recipe groups and recipes of the Recipegroup Manager. At the transfer new files are transferred and new sub-folders are created, deleted files and sub-folders are also deleted on the target system.
Standard recipes	Standard recipes.
User administration	User administration for login and rights administration in the Runtime.
Scheduler	Changes in the time models and schedules of the PFS.



Attention

At the project conversion take care that Runtime changeable files are also converted. For this Runtime files must be imported to the Editor and after the Update copied back to the Runtime. For details see chapter Recommended procedure for converting Runtime files in manual project conversion.

TRANSFERRING THE FILES

IN THE RUNTIME

To transfer files to the Runtime:

1. all files can be transferred

2. only changed files can be transferred

Both possibilities consider the files defined in property `RT_changeable_data`.

FROM THE RUNTIME

To read files from the Runtime, there are two processes available:

1. Restore all Runtime files:
 - a) reads back all Runtime files in the folder which was defined in property `Runtime_folder`
 - b) regardless of the settings of property `RT_changeable_data`
2. Import Runtime files:
 - a) imports the files defined in property `RT_changeable_data` and
 - b) replaces the engineering in the Editor by these Runtime files
 - c) is suitable for taking over data from a remote system in the Editor

CONNECTION ERROR

During the transfer existing data are overwritten in accordance with the settings.

If errors occur at the transfer to or from the Runtime or if the connection is disrupted, the files must be completely transferred again.