



Process Expert

Runtime Navigation Services

User Guide

Original instructions

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Safety Information

Important Information




Read these instructions carefully, and look at the equipment to become familiar with the device before trying to install, operate, service, or maintain it. The following special messages may appear throughout this documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of this symbol to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

<div> DANGER</div> <div>DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.</div>
<div> WARNING</div> <div>WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.</div>
<div> CAUTION</div> <div>CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.</div>
<div>NOTICE</div> <div>NOTICE is used to address practices not related to physical injury.</div>

Please Note

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction and operation of electrical equipment and its installation, and has received safety training to recognize and avoid the hazards involved.

About the Book

Document Scope

This document describes the configuration and use of runtime navigation services that are available from the EcoStruxure Process Expert operation client.

It does not describe how to operate control systems by using the Supervision runtime.

It is written for users who are familiar with the engineering of systems by using EcoStruxure Process Expert and the use of Supervision runtime.

Validity Note

This document has been updated for the release of EcoStruxure Process Expert 2023.

The characteristics that are described in the present document, as well as those described in the documents included in the Related Documents section below, can be found online. To access the information online, go to the Schneider Electric home page www.se.com/ww/en/download/.

The characteristics that are described in the present document should be the same as those characteristics that appear online. In line with our policy of constant improvement, we may revise content over time to improve clarity and accuracy. If you see a difference between the document and online information, use the online information as your reference.

Related Documents

Title of documentation	Reference number
EcoStruxure™ Process Expert, Security Deployment Guide	EIO0000004234 (ENG)
EcoStruxure™ Process Expert, User Guide	EIO0000001114 (ENG)
EcoStruxure™ Process Expert, Installation and Configuration Guide	EIO0000001255 (ENG)
EcoStruxure™ Process Expert, Licensing Guide	EIO0000001261 (ENG)

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Product Related Information

⚠ WARNING

LOSS OF CONTROL

- Perform a Failure Mode and Effects Analysis (FMEA), or equivalent risk analysis, of your application, and apply preventive and detective controls before implementation.
- Provide a fallback state for undesired control events or sequences.
- Provide separate or redundant control paths wherever required.
- Supply appropriate parameters, particularly for limits.
- Review the implications of transmission delays and take actions to mitigate them.
- Review the implications of communication link interruptions and take actions to mitigate them.
- Provide independent paths for control functions (for example, emergency stop, over-limit conditions, and error conditions) according to your risk assessment, and applicable codes and regulations.
- Apply local accident prevention and safety regulations and guidelines.¹
- Test each implementation of a system for proper operation before placing it into service.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

¹ For additional information, refer to NEMA ICS 1.1 (latest edition), *Safety Guidelines for the Application, Installation, and Maintenance of Solid State Control* and to NEMA ICS 7.1 (latest edition), *Safety Standards for Construction and Guide for Selection, Installation and Operation of Adjustable-Speed Drive Systems* or their equivalent governing your particular location.

⚠ WARNING

UNINTENDED EQUIPMENT OPERATION

- Only use software approved by Schneider Electric for use with this equipment.
- Update your application program every time you change the physical hardware configuration.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

The examples in this manual are given for information only.

⚠ WARNING

UNINTENDED EQUIPMENT OPERATION

Adapt examples that are given in this manual to the specific functions and requirements of your industrial application before you implement them.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

NOTE: Templates shown in examples throughout this manual may differ from the actual templates contained in the supplied Schneider Electric libraries.

Terminology Derived from Standards

The technical terms, terminology, symbols and the corresponding descriptions in this manual, or that appear in or on the products themselves, are generally derived from the terms or definitions of international standards.

In the area of functional safety systems, drives and general automation, this may include, but is not limited to, terms such as *safety*, *safety function*, *safe state*, *fault*, *fault reset*, *malfunction*, *failure*, *error*, *error message*, *dangerous*, etc.

Among others, these standards include:

Standard	Description
IEC 61131-2:2007	Programmable controllers, part 2: Equipment requirements and tests.
ISO 13849-1:2015	Safety of machinery: Safety related parts of control systems. General principles for design.
EN 61496-1:2013	Safety of machinery: Electro-sensitive protective equipment. Part 1: General requirements and tests.
ISO 12100:2010	Safety of machinery - General principles for design - Risk assessment and risk reduction
EN 60204-1:2006	Safety of machinery - Electrical equipment of machines - Part 1: General requirements
ISO 14119:2013	Safety of machinery - Interlocking devices associated with guards - Principles for design and selection
ISO 13850:2015	Safety of machinery - Emergency stop - Principles for design
IEC 62061:2015	Safety of machinery - Functional safety of safety-related electrical, electronic, and electronic programmable control systems
IEC 61508-1:2010	Functional safety of electrical/electronic/programmable electronic safety-related systems: General requirements.
IEC 61508-2:2010	Functional safety of electrical/electronic/programmable electronic safety-related systems: Requirements for electrical/electronic/programmable electronic safety-related systems.
IEC 61508-3:2010	Functional safety of electrical/electronic/programmable electronic safety-related systems: Software requirements.
IEC 61784-3:2016	Industrial communication networks - Profiles - Part 3: Functional safety fieldbuses - General rules and profile definitions.
2006/42/EC	Machinery Directive
2014/30/EU	Electromagnetic Compatibility Directive
2014/35/EU	Low Voltage Directive

In addition, terms used in the present document may tangentially be used as they are derived from other standards such as:

Standard	Description
IEC 60034 series	Rotating electrical machines
IEC 61800 series	Adjustable speed electrical power drive systems
IEC 61158 series	Digital data communications for measurement and control – Fieldbus for use in industrial control systems

Finally, the term zone of operation may be used in conjunction with the description of specific hazards, and is defined as it is for a hazard zone or danger zone in the Machinery Directive (2006/42/EC) and ISO 12100:2010.

NOTE: The aforementioned standards may or may not apply to the specific products cited in the present documentation. For more information concerning the individual standards applicable to the products described herein, see the characteristics tables for those product references.

Presentation of Runtime Navigation Services

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Introduction to Runtime Navigation Services

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Introduction to Runtime Navigation Services

Purpose

Runtime navigation services (RTNS) describe the services that EcoStruxure Process Expert (herein, the software) provides during runtime and, which enable you to view the following:

- Information on an instance of the application, such as system-based and/or user-based data. For example:
 - The section of the Control project that contains the constituents to perform troubleshooting and diagnostics.
 - The controller.
 - Hardware information by using Web diagnostics.
 - Instance or system-related user-based documentation.
- Linked instances and their information.
- Information on the controllers and workstations to which the project is deployed.

Working Principle

Following the deployment and execution of the Control and Supervision projects of a system, runtime navigation services are provided by the operation client and the **Operation Client Viewer**.

The operation client is the entry point to access instance-related information, which is grouped in different sections. Your user must be associated to the required profile (see *EcoStruxure Process Expert, Installation and Configuration Guide*) to use it.

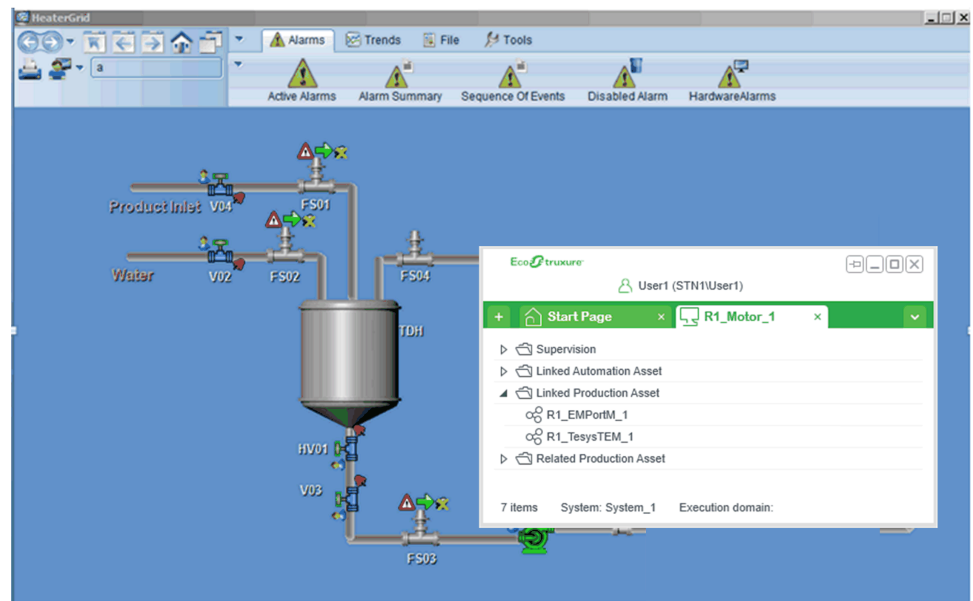
You can display information in the operation client by interacting with the Supervision runtime.

You can then view more detailed information on the corresponding control resources in the **Operation Client Viewer**, which is a read-only user interface.

Further, you can customize the information that is displayed for each instance by adding various files, which you can open from the operation client.

Before the first use and to view instance-related information, you need to [set up runtime navigation services, page 23](#).

The following figure shows an example of the operation client window that is displayed in the Supervision runtime, allowing you to access information for instance *Motor_1*.



operation client Window

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Operation Client Window

Overview

This topic describes the information that is displayed in the operation client window.

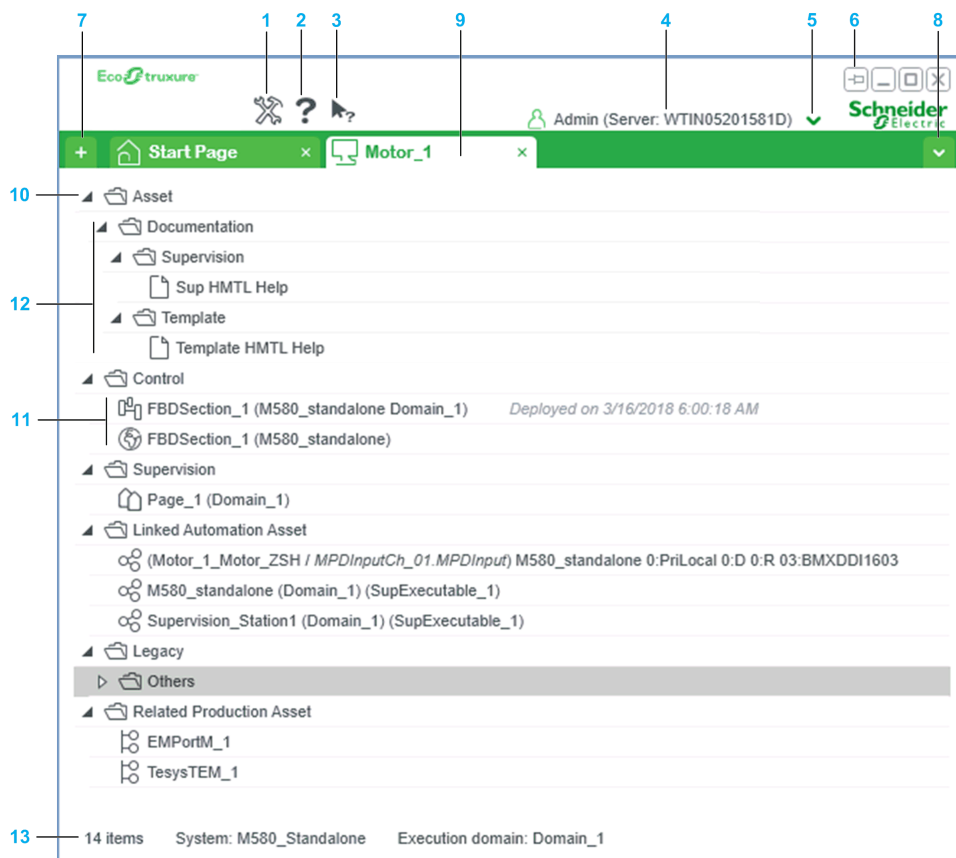
For information on using the operation client, refer to *Using Runtime Navigation Services*, page 56.

For information on the structure of a system, refer to *Description of the System* (see EcoStruxure Process Expert, User Guide).

If you have questions, refer to the topic containing troubleshooting information, page 67.

Presentation of the Operation Client Window

The following figure shows an example of the operation client window after interacting with the Genie representing asset *Motor_1* on the Supervision runtime page.



Item	Description	
1	About button Opens the About EcoStruxure Process Expert dialog box (see <i>EcoStruxure Process Expert, User Guide</i>).	
2	Help button (see <i>EcoStruxure Process Expert, User Guide</i>). Opens a dialog box, which lets you open the help of EcoStruxure Process Expert and of the software Participants.	
3	Context-sensitive help button. Click the button and select an item to open context-sensitive help.	
4	Information about the logged-in user and, in parentheses, the name of the computer running the system server to which the client is connected.	
5	Opens the User menu, which contains the following commands.	
	Lock	Lets you lock (see <i>EcoStruxure Process Expert, User Guide</i>) the sessions that are open on the local computer.
	User Information	Opens the User Information dialog box (see <i>EcoStruxure Process Expert, Installation and Configuration Guide</i>).
	Log In/Log Out	Lets you log into or out of (see <i>EcoStruxure Process Expert, User Guide</i>) the software.
6	Pin button Click to toggle between the display states: <ul style="list-style-type: none"> Pin horizontal: The operation client window remains on top of other active windows. Pin vertical: Other active windows can hide the operation client window. 	
7	Add New Tab button Opens the Start Page tab if you closed it.	
8	Tab selection button. Click the button to view a list of open tabs. Select a tab to display it.	
9	<p>Tabs</p> <p>A tab contains the information of one instance. Several tabs can be opened simultaneously.</p> <p>The tab indicates the identifier of the instance (see <i>EcoStruxure Process Expert, User Guide</i>) for which the information is displayed.</p> <p>The information on an instance and related objects is divided in several sections, page 17.</p> <p>Double-click an entry to open it.</p> <p>NOTE: A tab may also show the identifier of a <i>topological entity</i> and contain related information if it opened because you double-clicked a topological entry in a section of another tab.</p>	
10	<p>Sections, page 17.</p> <p>Expand a section to view its entries.</p> <p>NOTE: A section appears only if it contains at least one entry.</p>	
11	<p>Entries of a section.</p> <p>Double-click an entry to view the related contents, page 75 in a new tab or a separate window.</p>	

Item	Description
12	<p>User-created documentation entries, page 48.</p> <p>They consist of one or more links to a document or URL and an optional folder structure to organize links.</p> <p>Double-click an entry to open the document or URL.</p> <p>NOTE: To open documents, the required application needs to be installed on the computer.</p> <p>NOTE: URLs open in the default browser. An Internet connection is required for Web links.</p>
13	<p>Miscellaneous information:</p> <ul style="list-style-type: none">• Number of items that are displayed for the selected instance.• The identifier of the system of which you are viewing information.• The <i>execution domain</i>, page 25 that defines the boundaries of runtime navigation services.

Description of Sections

The following table describes the contents of each section of the operation client when you start runtime navigation services from an instance on a Supervision page. For a description of the contents when the tab is opened for a topological entity, refer to the dedicated topic, page 21.

Sections	Description
Asset	<p>The section contains the following types of entries:</p> <ul style="list-style-type: none"> Links to documents and URLs, page 31 that you have associated to the instance if the following conditions are satisfied: <ul style="list-style-type: none"> You used the parameters of the HyperLink\Documents and HyperLink\URL elements of an instance of a Schneider Electric template. If it is an instance of a user-created template, the functions are referenced at the composite template level. You configured the Name parameter (see <i>EcoStruxure Process Expert, Global Templates, Reference Manual</i>) as <i>relative</i> path (starts without backslash (\)). <p>NOTE: For information on additional contents related to the hyperlink functionality for topological entities, refer to the topic dedicated to this section, page 21.</p>
Control (Former sub-section of Object Services)	<p>The section contains the following types of entries:</p> <ul style="list-style-type: none"> The identifier of the section containing the logic of the instance within the execution domain, page 25. It allows you to view, in run mode, the program in both: <ul style="list-style-type: none"> The Control Participant, page 64 by using the Operation Client Viewer. This requires that Control Expert be installed on the computer, page 30. The PLC Program Viewer Web service by using a Web browser. <p>The identifier of the engine to which the Control project is deployed, followed by the execution domain, is indicated in parentheses. Information about the last build or deployment date and time is also provided.</p> <p>NOTE: If a simulation environment is used, the Web services are not available.</p> Links to documents and URLs, page 31 that you have associated to the instance if the following conditions are satisfied: <ul style="list-style-type: none"> The links are configured at a Control facet level of the instance (for example, <i>Logic (\$DEVCTL_UL)</i>). You configured the Name parameter (see <i>EcoStruxure Process Expert, Global Templates, Reference Manual</i>) as <i>relative</i> path (starts without backslash (\)).
Supervision (Former sub-section of Object Services)	<p>The section contains the following types of entries:</p> <ul style="list-style-type: none"> The identifier of the page to which the instance is assigned. The identifier is defined in the Supervision Participant project in the Project Explorer. The execution domain of the Supervision project executable follows in parentheses. Links to documents and URLs, page 31 that you have associated to the instance if the following conditions are satisfied: <ul style="list-style-type: none"> The links are configured at a Supervision facet level of the instance (for example, <i>OnOfDeviceTags (\$DEVCTL_CD)</i>). You configured the Name parameter (see <i>EcoStruxure Process Expert, Global Templates, Reference Manual</i>) as <i>relative</i> path (starts without \).
Linked Automation Assets (Former Linked Topological Objects section)	<p>The section contains the topological entities to which you have deployed the built Control and Supervision projects, such as controllers and workstations.</p> <p>For each engine, the execution domain followed by the identifier of the Supervision project executable that is deployed are indicated in parentheses.</p> <p>Double-click an engine to open a new tab in the operation client. For controllers, in this new tab, by double-clicking the entry in the Control section, you can open the Web tool to view, for example, the Rack Viewer, page 65 in the default Web browser.</p> <p>NOTE: For information on additional contents related to hardware mapping that the section can contain, refer to the topic dedicated to this section, page 19.</p>
Legacy (Former Diag Web Server , Documents , and Others sub-sections of Object Services)	<p>Contains links to documents and URLs that are configured by using the legacy procedure, page 72 required for earlier versions of the software:</p> <ul style="list-style-type: none"> Diag Web Server: Displays links to a Web page, page 75 that you have associated to the instance. Documents: Displays the files (.pdf) that you have associated to the instance, page 31. Others: Displays other types of files that you have associated to the instance.
User-Defined	<p>Contains links to documents and URLs, page 31 that you have associated to the instance or topological entity if the following conditions are satisfied:</p> <ul style="list-style-type: none"> You have done either of the following: <ul style="list-style-type: none"> Used the parameters of the HyperLink\Documents and HyperLink\URL elements of an instance of a Schneider Electric template. Configured the links to documents/URLs at a composite or facet level for instances of user-created templates.

Sections	Description
	<ul style="list-style-type: none">You configured the Name parameter (see <i>EcoStruxure Process Expert, Global Templates, Reference Manual</i>) as <i>absolute</i> path (starts with a backslash (\)).
Linked Production Assets (Former Linked Application Objects section)	<p>The section contains the instances of the application that are linked to the instance by using the Asset Workspace Editor or Links Editor.</p> <p>Double-click an instance to open a new tab in the operation client, allowing you to view its information.</p> <p>The section is displayed only if the application contains instances that were linked by using the Asset Workspace Editor or Links Editor.</p> <p>NOTE: To view information of instances between which no functional interface link is required, link them by using the RTNS interface (see <i>EcoStruxure Process Expert, User Guide</i>).</p>
Related Production Assets (Former Application View section)	<p>Contains the other instances that are in the same application folder.</p> <p>Double-click an instance to open a new tab in the operation client, allowing you to view its information.</p> <p>The section is displayed only if the application folder contains more than one instance.</p>

Linked Automation Assets Section

Overview

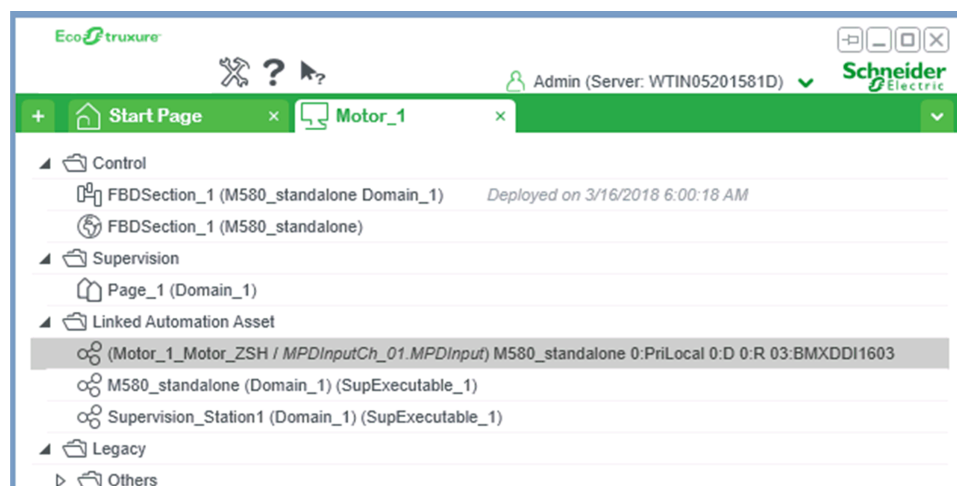
This topic describes the additional information that appears in the **Linked Automation Assets** section when hardware mapping exists between facets of the instance and the topological entity.

For details on hardware mapping, refer to the description of the **Hardware Mapping Editor** window (see *EcoStruxure Process Expert, User Guide*).

For details on the identification of modules of topological entities, refer to the topic describing the representation of controllers (see *EcoStruxure Process Expert, User Guide*).

Contents of the Section

The following figure shows an example of the **Linked Automation Assets** section showing information for a facet of the instance for which hardware mapping exists.



The following figure shows, in the engineering client, the corresponding hardware mapping that exists between the interface of the digital input channel of the controller and the interface of the facet of the instance.

Instance	Template	HW Mapping IF	HW Mapping Type	Instance	Project Facet	Facet Type	HW Interface
ETSysTHW_1	SETsysTHW	.GenericData	SDeviceDataIHO				
M580_standalone 0 PriLocal 0:D 0:R 03:BMXDDI1603	SMPDInput16	MPDInputCh_01 MPDInput	SDIChannelIHO	Motor_1	Motor_1_Motor_ZSH	SMotor	DICChannel
M580_standalone 0 PriLocal 0:D 0:R 03:BMXDDI1603	SMPDInput16	MPDInputCh_02 MPDInput	SDIChannelIHO				

Information Related to Hardware Mapping With Modules

If hardware mapping exists between the facets of the instance and a controller module (for example, I/O, communication, counter, motion, or expert modules), an entry is shown for the hardware module to which a facet of the instance is mapped.

The format is *(AppFacet / HWMappingInterface) HWInstance*.

Double-clicking this entry opens a new tab for the module. Refer to the [dedicated topic, page 21](#) for a description of the information that is shown in sections of this new tab.

Information Related to Hardware Mapping With Ethernet/Modbus TCP/PRM/STB Devices

If hardware mapping exists with a device created in the **Topology Explorer** (for example, an Altivar variable speed drive instance), an entry is shown for the hardware module to which a facet of the instance is mapped.

If, in addition, a communication mapping exists with this device, only an entry for the I/O device topological entity is shown.

Double-clicking either entry opens a new tab for it. Refer to the [dedicated topic, page 21](#) for a description of the information that is shown in sections of this new tab.

Section Contents for Topological Entities

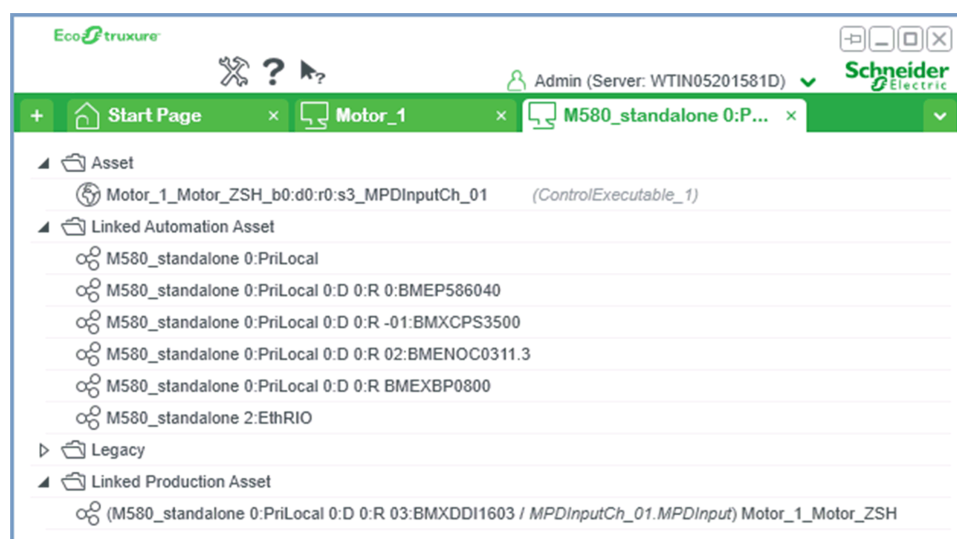
Overview

This topic describes the information that is shown in the new tab that opens when you double-click an entry in the **Linked Automation Assets** section containing hardware mapping information with a module, page 19.

The tab shows the identifier of the topological entity.

Contents of the Tab

The following figure shows an example of the new tab that opens in the operation client after double-clicking an entry in the **Linked Automation Assets** section containing hardware mapping information with a module (partial view).



The table describes the hardware mapping related information that is displayed in the new tab.

Sections	Description
Asset	<p>Contains an entry for the facet of the instance that is mapped to the module. The identifier of the corresponding deployed Control project executable is indicated in parentheses.</p> <p>The entry is a link that lets you navigate to either:</p> <ul style="list-style-type: none"> The Control Participant to show, in monitoring mode, either the animation table, page 58 containing the module device DDT variable (if supported) or the Overview tab⁽¹⁾ of the module page (if device DDT I/O data type is not supported). The hardware module properties for hardware mapping with an Ethernet device. <p>The format of the link is <i>AppFacet_Bus:Drop:Rack:Slot_HWMMappingInterface</i>.</p> <p>For example, for an interface of instance <i>Motor_1</i> that is mapped to channel 01 of a digital input module located in bus 0, drop 0, slot 2 of rack 0: <i>Motor_1_Motor_ZSH_b0:d0:r0:s2_MPDInputCh_01</i></p> <p>NOTE: For instance facets with hardware mapping to an Ethernet device (for example, a drive or an STB island), if in addition to the hardware mapping, a communication mapping to a communication module (such as a controller, NOE, or NOC module) exists, an entry is shown instead, which lets you navigate to the communication module properties.</p> <p>NOTE: If the hyperlink functionality is configured for the device, the following information is shown:</p> <ul style="list-style-type: none"> A link to the diagnostic Web page of the device if the URL element is configured with the device IP address from the topology. The format is Documents\Diagnostic Web Page. The documents/URLs if you have associated documents/URLs to the device or a topological entity and configured the path of the Name parameter (see <i>EcoStruxure Process Expert, Global Templates, Reference Manual</i>) as <i>relative</i> path (starts without backslash (\)).
Linked Automation Assets	<p>Contains an entry for each topological device representing a hardware component of the controller entity.</p> <p>For details, refer to the topic describing the representation of a controller (see <i>EcoStruxure Process Expert, User Guide</i>) in the Topological Explorer.</p>

Sections	Description
Linked Production Assets	<p>Contains an entry for each facet of an instance that is mapped to the module.</p> <p>The format is <i>(HWInstance / HWMappingInterface) AppFacet</i>.</p> <p>When you double-click an entry, the tab of the instance is opened/shown.</p>
User-Defined (not shown in the example)	<p>Contains links to documents and URLs, page 31 that you have associated to the module if you have configured the Name parameter (see <i>EcoStruxure Process Expert, Global Templates, Reference Manual</i>) as <i>absolute</i> path (starts with a backslash (\)).</p>
(1) The next time you open the page of the module, it opens the tab that you viewed last.	

Setting Up Runtime Navigation Services

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Overview

This part describes how to set up runtime navigation services for first use and add user-based information.

Using Execution Domains With Runtime Navigation Services

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Using Execution Domains

Overview

The operation client displays only linked objects that are mapped to executables that have the same execution domain. If you assigned an instance to several Control Participant projects and their executable is mapped to the same engine (for example, the same controller or the same workstation), assigning a different execution domain to each Control executable allows you to limit the scope of runtime navigation services to a specific Participant project. Otherwise, the operation client may display information of several projects simultaneously for the instance.

For more information about assigning an execution domain, refer to the topic describing how to create project executables (see *EcoStruxure Process Expert, User Guide*).

Example

The following example illustrates a scenario in which two Control Participant projects containing some identical instances are mapped to the same engine and only one of them is deployed together with the single Supervision Participant project that exists in the system. This can be the case, if you have one main project that is deployed but have also created other Control projects, which are variants of the main project. The use of the execution domain property allows you to limit the scope of runtime navigation services to a specific project.

In the following figures, facets of *Motor_1*, an instance of the *\$Motor* template are assigned to both *ControlProject_1* and *ControlProject_2* in sections *Motor_1_Motor* and *FBDSection_1* respectively. Each Control executable is mapped to *StationNode_1*, which represents the controller in this example. No execution domain is assigned to the executables. Both Control Participant projects are built. Only executable *ControlExecutable_2* of *ControlProject_2* is deployed to *StationNode_1*. The below figure shows *ControlProject_1*.

The screenshot displays two windows from the RTNS2 software interface.

The top window is titled "Assignment(ControlP... x" and contains a sub-window "RTNS2 : Project 'ControlProject_1' Assignment Editor". It features two panes:

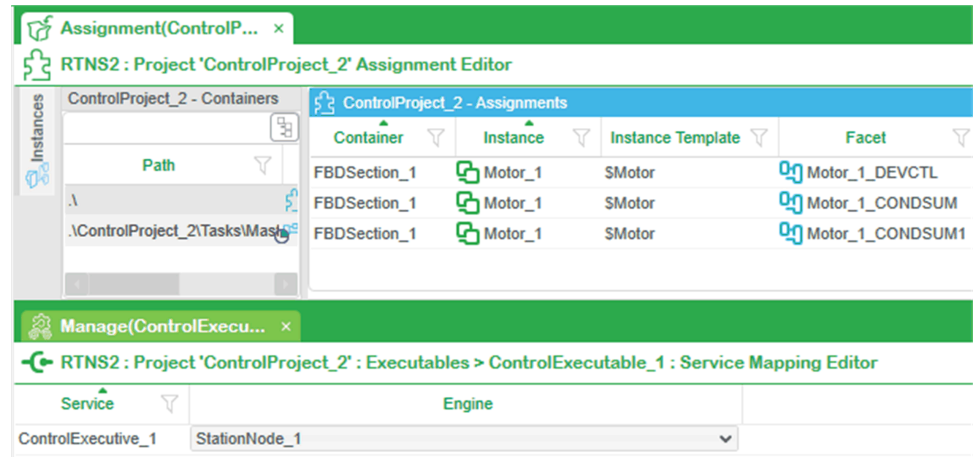
- ControlProject_1 - Containers:** A tree view showing a path structure:
 - Path
 - Λ
 - .\ControlProject_1\Tasks\Mast
- ControlProject_1 - Assignments:** A table listing assignments for the "Motor_1_Motor" container.

Container	Instance	Instance Template	Facet
Motor_1_Motor	Motor_1	\$Motor	Motor_1_DEVCTL
Motor_1_Motor	Motor_1	\$Motor	Motor_1_CONDSUM
Motor_1_Motor	Motor_1	\$Motor	Motor_1_CONDSUM1

The bottom window is titled "Manage(ControlExecu... x" and contains a sub-window "RTNS2 : Project 'ControlProject_1' : Executables > ControlExecutable_1 : Service Mapping Editor". It features a table mapping services to engines:

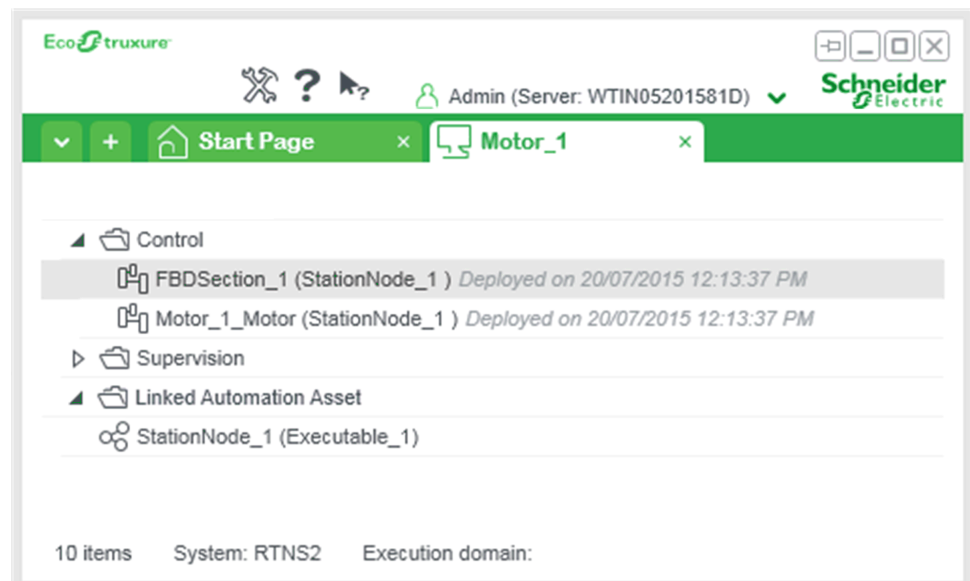
Service	Engine
ControlExecutable_1	StationNode_1

The below figure shows *ControlProject_2*.

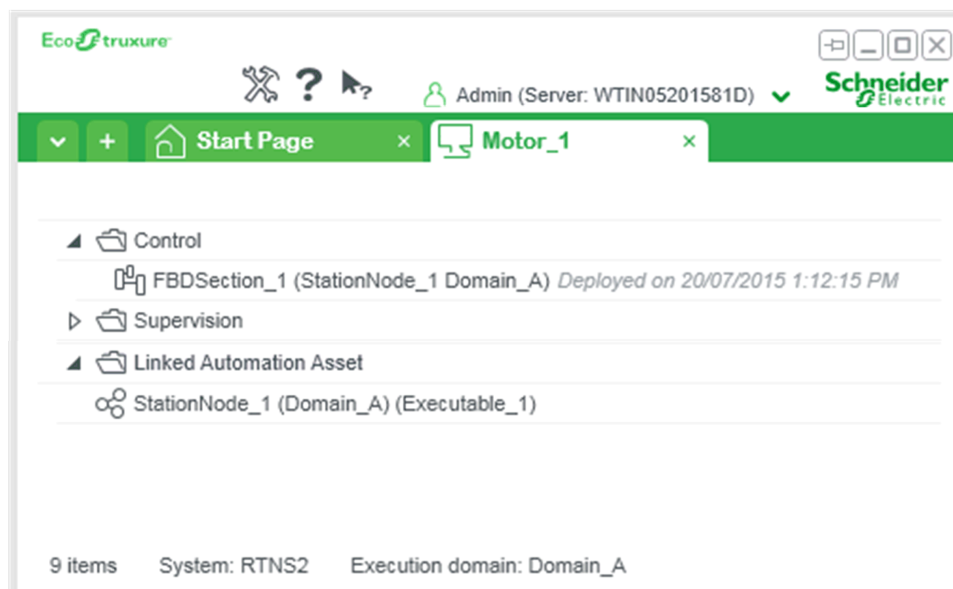


Only one Supervision Participant project exists to which the *Motor_1* instance is assigned. One of its genres is assigned to a page. The *Executable_1* Supervision project executable is mapped to *StationNode_1*, built, and deployed. No execution domain is assigned to it.

In the runtime, when you open the **Operation Client** from the genie of *Motor_1*, the **Control** section displays the sections of the two Control projects to which the instance is assigned although only one Control project is deployed. This is because by design, runtime navigation services access instance information through the topological entity (engine) to which their Control project is mapped. In the absence of an execution domain or when existing execution domains are identical, the software cannot distinguish between Control projects. The **Linked Automation Assets** section displays the identifier of the engine and, in parentheses, the identifier of the Supervision executable.



To limit the scope of runtime navigation services to one of the Control projects, for example, to *ControlProject_2*, which is deployed, use the execution domain property. Assign, for example, *Domain_A* to *ControlExecutable_2* of *ControlProject_2* and to the executable of the Supervision project. Once you implement the change, the **Control** section displays only the section of *ControlExecutable_2* and the execution domain that is assigned to *ControlProject_2*. The **Linked Automation Assets** section displays the identifier of the engine, the identifier of the Supervision executable, and the execution domain that is assigned to this executable.



Initial Setup

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Configuring the Operation Client

Hardware and Software Requirements

Refer to the topic describing system and installation requirements (see *EcoStruxure Process Expert, Installation and Configuration Guide*).

Installation

Install the operation client by using the EcoStruxure Process Expert installation package.

For information on where to install the operation client, refer to the topic describing the physical architecture of an EcoStruxure Process Expert infrastructure (see *EcoStruxure Process Expert, Installation and Configuration Guide*).

The installation creates an entry in the Windows Start menu and, if selected, an operation client shortcut on the desktop to start the client.

Digital Certificates

The software implements a public key infrastructure (PKI) based on the X.509 standard. It requires using a self-signed root certification authority (CA) as well as root and entity certificates to help secure client/server communication in the EcoStruxure Process Expert infrastructure.

You must install certificates (see *EcoStruxure Process Expert, Installation and Configuration Guide*) before you can use the operation client.

License Requirements

For information, refer to the *EcoStruxure Process Expert Licensing Guide*.

Role-Based Access Control

To use the operation client, your user must be associated to a profile that has the necessary rights.

For details, refer to the topic describing role-based access control (see *EcoStruxure Process Expert, Installation and Configuration Guide*).

Operation Client Configuration Wizard

The installation creates an entry to open the configuration wizard of the operation client (see *EcoStruxure Process Expert, Installation and Configuration Guide*).

Use the configuration wizard to configure the parameters of the system server that the operation client requires to function.

From the Windows Start menu, click **EcoStruxure Process Expert > Operation Client Configuration Wizard**.

Installing Control Expert

A specific version (see *EcoStruxure Process Expert, Installation and Configuration Guide*) of Control Expert is required on the computer on which the operation client is installed to view the logic, page 58 of an asset by using the **Operation Client Viewer**.

Otherwise, only **PLC Program Viewer** Web services are available.

Adding User Contents

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Overview

Overview

Purpose of the Functionality

The hyperlink functionality lets you open your documents, files, and Web links on the computer running an operation client when you use runtime navigation services.

You can configure in which section of the operation client, page 17 the documents appear (**Asset** or **User-Defined**) and create a folder structure to organize them.

It facilitates the access to information that operators may require in runtime.

NOTE:

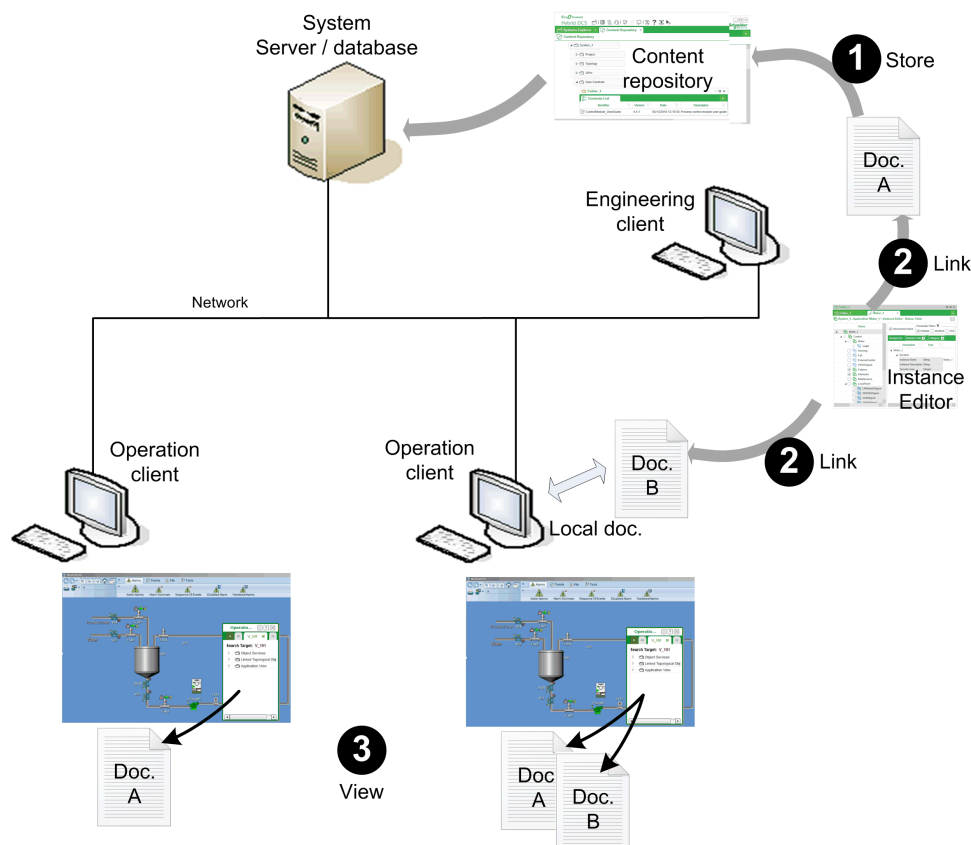
The hyperlink functionality replaces the previous functionality, page 72, which required that you create a shared **Content** folder on the computer running the system server. If you upgrade from a previous version of the software, documents and Web links that you have associated to an instance by using the **Content** folder appear in the operation client under the **Legacy** node.

Working Principle

Documents, files, and Web links are made available for viewing in the operation client by linking them to instances. The links can be configured in the **Instance Editor** by using the parameters of the **CrDocument** and **Url** functions (see *EcoStruxure Process Expert, Global Templates, Reference Manual*) built into the templates. The parameters of these functions appear under the **HyperLink** element (see *EcoStruxure Process Expert, User Guide*).

For documents, the link points to the content repository; thus, they must be added in this central location first. These documents are then available to connected operation clients. For files and Web links, the link is the path/URL to their location on the computer running the operation client. If several computers are used, the location must be the same on each computer.

The following figure illustrates the workflow to implement the hyperlink functionality to view documents that are local to an operation client and documents centralized in the content repository.



By default, you can link five documents and five URLs/files to each instance of a control module template of the General Purpose library.

To link more documents, URLs or files per instance, add additional **CrDocument** or **Url** functions at the template level.

You can also edit templates to modify the functions. For example, you can make the parameters read-only at the instance level and/or configure default documents that will be accessible from instances of a template.

NOTE: Some Schneider Electric templates of the Global Templates library feature preconfigured links to documents (help and technical documents) and diagnostic information, which can be opened from the operation client.

Access Control

To access or perform actions on the global or system-related **User Contents** folder in the content repository, your user must be associated to the appropriate profile (see *EcoStruxure Process Expert, Installation and Configuration Guide*).

Content Containers

You must add documents that you want to view in a container named **Content** container.

Create the **Content** container in a folder that is a subfolder of a **User Contents** folder (see *EcoStruxure Process Expert, User Guide*) in the content repository.

You can create a folder structure and/or more than one **Content** container inside a **User Contents** folders to help you organize documents the way you want.

Links to URLs and Files

Web links open in the default browser of the computer running the operation client. An internet connection is required.

If you use a link to a document that normally opens in a Web browser, for example, an HTML document or to a file, it must be available at the specified path on the computer running the operation client.

Considerations When Exporting and Importing Instances with Linked Documents

When you export an instance to which you have linked documents, the corresponding parameter values are also exported.

When you import this instance, no validation is performed to verify if the linked documents are present at the configured path in the target system.

Ensure that paths to documents that are configured are valid for the content repository of the target system so that these documents open from the operation client.

NOTE: Export, page 42 and import **Content** containers separately.

NOTE: **Content** containers are not exported when you export templates that support the functionality.

Managing Documents

Overview

This topic describes how to create and manage content containers and the documents they contain.

NOTE: When one or more users work on components of the same system (for example, Participant projects, the application, project containers, topological entities), locking mechanisms may restrict certain concurrent actions (see *EcoStruxure™ Process Expert, User Guide*). In this case, check the **Notification Panel** (see *EcoStruxure™ Process Expert, User Guide*) for details.

Managing Content Containers

Overview

Create and manage **Content** containers in the content repository.

Depending on the profile associated to your user, you can access the following nodes by using the content repository explorer (see *EcoStruxure Process Expert, User Guide*):

- **Global Root**

NOTE: Only **Content** containers located in this node can be accessed during template edition.

- **Systems**

NOTE: The **Global Root** node already contains **Content** containers, which are used to store the Schneider Electric documentation of templates, which you can open when you use runtime navigation services.

User Contents and User-Created Folder Actions

The context menu of folders contains the following commands.

Command	Description
Create Folder	Creates an empty subfolder. The software accepts only folder identifiers that satisfy the applicable naming rules (see <i>EcoStruxure Process Expert, User Guide</i>).
Create Content ⁽¹⁾	Creates a Content container, page 37.
Copy ⁽¹⁾	Copies the selected folders and their contents.
Paste	Pastes the contents of the Clipboard to the selected location. If you are pasting a folder and the target folder contains a folder with the same identifier, a _x suffix (where <i>x</i> is an incremental integer) is added to the identifier of the pasted folder. If you are pasting a Content container and the target folder contains a Content container with the same identifier and version, a _x suffix (where <i>x</i> is an incremental integer) is added to the identifier of the pasted container. NOTE: You can paste within the same or in other User Contents folder structures.
Export	Opens the Export User Contents window, which lets you export, page 42 the folder, its parent and child hierarchy, and Content containers with the documents they contain as a single file (.cbk). You can select which Content containers you export.
Import	Opens the import window, which lets you select an export file (.cbk) to import, page 44 the folders and Content containers it contains.
Delete ⁽¹⁾	Deletes the selected folders, their subfolders, and Content containers after you confirm the command.
Rename ⁽¹⁾	Lets you edit the identifier of the folder.
Properties ⁽¹⁾	Opens the Properties window where you can view and edit the folder identifier and description.
(1) The command is available only for user-created folders.	

Content Container Uniqueness Criteria

If you create several **Content** containers in the content repository, each one must be unique inside the same folder.

The combination of the following properties, page 39 must be unique for each **Content** container:

- Identifier
- Type
- Version

As a result, you can create two **Content** containers with the same identifier at the same path but of different version. In this case, the **Content** container with the latest version is used by default.

Creating Content Containers

To create a **Content** container, proceed as follows.

Step	Action
1	Right-click a user-created folder and select Create Content . Result: A Content container is created.
2	Enter an identifier and press Enter . The software accepts only identifiers that satisfy the applicable folder naming rules (see <i>EcoStruxure Process Expert, User Guide</i>).

Content Container Actions

The **Content** container context menu contains the following commands.

Command	Description
Edit Content	Opens the content editor , page 40, which lets you view, save, add, and delete documents.
Copy	Copies the selected Content containers to the Clipboard.
Export	Opens the Export User Contents window, page 42, which lets you export the content container with the documents it contains and its folder hierarchy as a single file (.cbk).
Delete	Deletes the selected Content containers after you confirm the command.
Rename	Lets you edit the identifier of the Content container.

Save Options

The following table describes the items of the **Save** and **Save as** dialog boxes, which open when you select the corresponding command in the content editor.

Item	Description
Keep Version ⁽¹⁾	Select this version schema to save changes made to the Content container without changing its version number, page 39. Selected by default.
New Build	Lets you save the Content container with the same identifier and at the same path but with a different version. Select the version component that you want to increment. For information on the version components, refer to the topic describing the properties of Content containers, page 39.
New Minor	
New Major	
Other	Lets you save the Content container at the same path but with: <ul style="list-style-type: none"> A different identifier. A new version. You can modify version components individually.
Identifier	Name of the content container. The combination of Identifier and Version must be unique for each content container inside the same folder.
Version	Shows the version that will be used when saving the Content container.
Description	Optional. You can enter a description by using free-form text.
Location ⁽²⁾	Lets you save the Content container in a different location inside the content repository. You can save it only in existing user-created subfolders of a User Contents folder. NOTE: Access to locations inside the content repository may be restricted depending on the profile that is associated to your user.
Change Description	Optional. You can enter a description by using free-form text.
(1) The item is displayed only in the Save dialog box.	
(2) The item is displayed only in the Save As dialog box.	

Moving Content Containers

You can move one or more **Content** containers (located inside the same folder) and/or user-created folders within the same or to another **User Contents** folder structure. To move an item, drag it to its new location. Subfolders and **Content** containers of the selected folder are moved.

You must confirm the operation before items are moved.

If the target folder already contains a **Content** container with same identifier and version, the software adds a suffix to the **Content** container after moving it to the target folder and displays a notification.

NOTE: Access to locations inside the content repository may be restricted depending on the profile that is associated to your user.

Content Container Properties

When you edit a **Content** container, you can view and/or edit its properties.

Command	Description
Identifier	Identifier of the Content container.
Version	<p>The version consists of three components that are either managed by the software or by the user depending on the version schema that you select when you save the Content container, page 38.</p> <p>Format: <major>.<minor>.<build></p> <p>NOTE: By default, if two Content containers with the same identifier but different versions exist at the same path, the Content container with the latest version is used by runtime navigation services.</p>
Type	The type is managed by the software and only the doc type is supported.
Date	The field is automatically updated when you create or save the Content container.
Author	Corresponds to the user who is logged in.
Description	Value of the Description field that you can enter when you save the Content container, page 38. You can edit the text field.
Change Description	Value of the Change Description field that you can enter when you save the Content container, page 38.

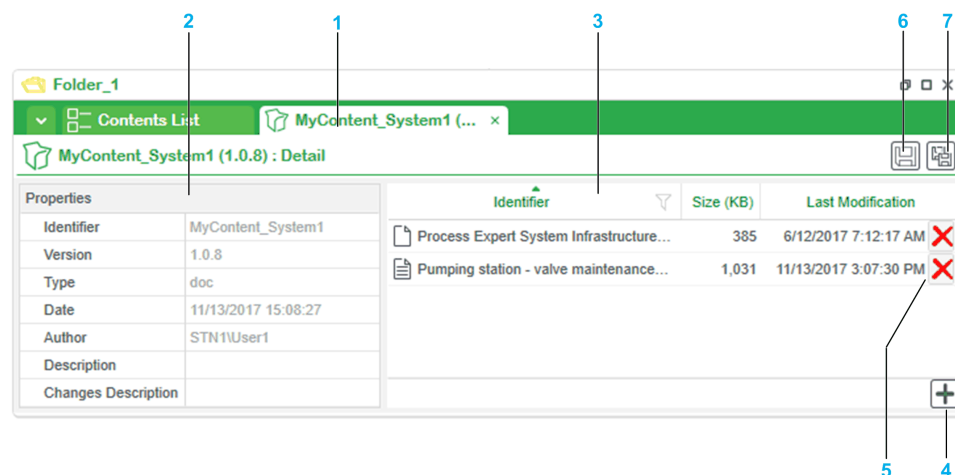
Managing Documents

Prerequisites

You have created a **Content** container, page 37.

Content Editor Description

The following figure shows an example of a **Content** container that is open in the content editor.



Item	Description
1	Content editor tab.
2	Properties of the Content container you are editing.
3	List of documents included in the Content container with file name, size, and date and time the document was saved last.
4	Lets you select one or more documents to be added to the Content container. If you select a shortcut to a document, the document itself is added.
5	Removes the selected document from the Content container after you confirm the command.
6	Lets you save your changes, page 38.
7	Lets you save the Content container as a new container or in a different location. The command is enabled only if you already saved the Content container.

Adding Documents

To add one or more documents to a **Content** container, proceed as follows.

Step	Action
1	Right-click a Content container and select Edit Content . Result: The content editor opens.
2	Click the Attach Files button.
3	In the Select Files dialog box, select one or more files and click Open . Result: The files are added to the content repository and appear in the Content container.

NOTE: Adding documents larger than 100 MB may take time and increases the size of the database significantly.

Document Actions

Right-click a document to open a context menu with the following commands.

Command	Description
View	Opens the document in read-only mode. The required program must be installed on the local computer.
Save As	Lets you save a copy of the document on the local computer or the network.
Detach File	Removes the selected document from the Content container after you confirm the command.

Exporting Content Containers

Overview

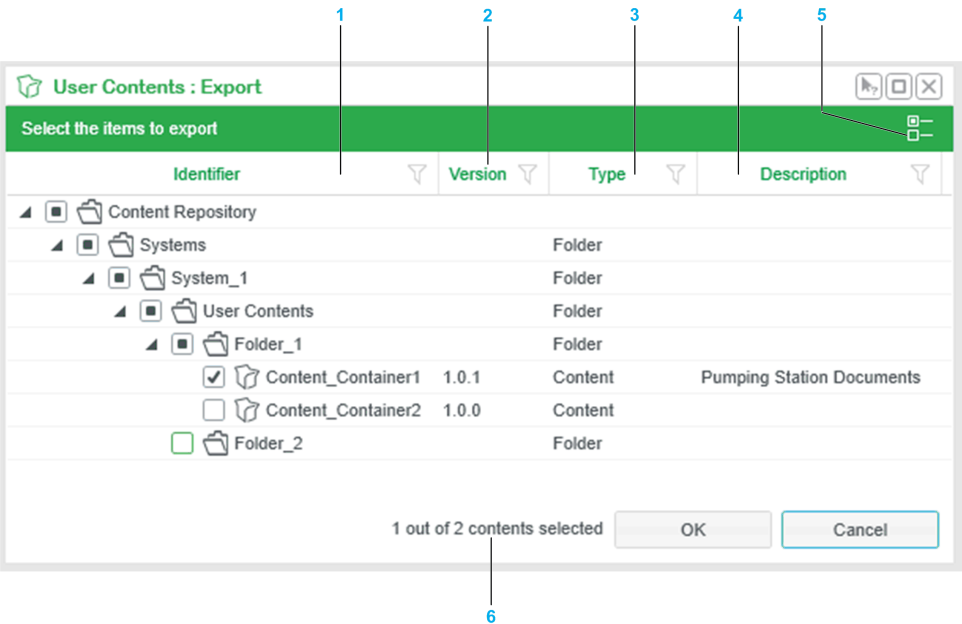
You can export **Content** containers that exist in the content repository and the documents they contain by using the **Export** command.

Content containers and their parent folder structure are exported as a single file in .cbk format.

Exporting **Content** containers lets you use them in another system, EcoStruxure Process Expert infrastructure, or create a backup.

Export Window Description

The following figure shows an example of the **Content** container **Export** window.



Item	Description
1	Identifier of the items contained in the export file. Only items with the check box selected are exported. Selecting a Content container exports the documents it contains. NOTE: Exporting a Content container also exports its parent folder structure. You cannot export only the Content container.
2	Version of the Content container.
3	Type of the item (folder or Content container).
4	Value of the Description property.
5	Lets you switch between view modes: <ul style="list-style-type: none">Tree view (default mode, shown here): Shows the items that you can export with the folder structure that exists in the content repository.Grid view: Lists only Content containers without hierarchical structure. The path of each container in the content repository is indicated.
6	Number of Content containers that exist in the node from which you select the Export command and how many are selected for export.

Aborting Export Tasks

After confirming the export by clicking **Save** in the **Export** window, the abort icon is displayed in the notification panel (see *EcoStruxure Process Expert, User Guide*). Click the icon to cancel the task. The export file is not created.

Only the user who has selected the command is allowed to abort it.

Exporting Content Containers

To export **Content** containers, proceed as follows.

Step	Action
1	Right-click a node or Content container and select Export . Result: The Export window opens. NOTE: To export the Content containers that exist in the Global Root and Systems nodes at once, right-click the Content Repository root folder.
2	Select the items that you want to export.
3	Click OK . Result: The Save dialog box opens.
4	Enter a name for the export file, select a location, and click Save .

Importing Content Containers

Overview

You can import the exported **Content** containers into the content repository.

The software alerts you to detected conflicts by using a color code (see **Content Container Import Rules**, page 46) before proceeding with the import.

Export File Location

The export file containing the **Content** container information must be located in a folder that you can write to.

Importing Content Containers Containing Template Help Files When Migrating Databases

To view help files related to the template and other technical information that may be available while using RTNS for an instance, you must import the **Content** container of the corresponding template category if all the following apply:

- You migrated a database from an earlier version of the software.
- You imported a template from the Foundation library (FL) or General Purpose library (GPL or GPL Classic) (see *EcoStruxure Process Expert, Installation and Configuration Guide*).
- You updated an instance with the template.

A content container (.cbk) for each category of Schneider Electric template of the FL and GPLs is copied to the computer (see *EcoStruxure Process Expert, Installation and Configuration Guide*) running the system server during the software installation.

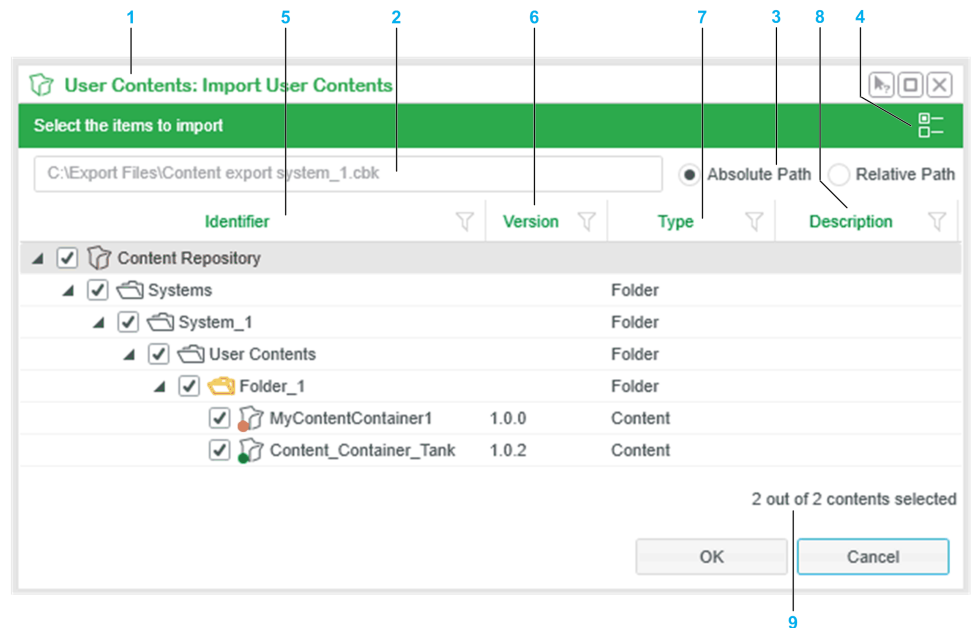
Import the **Content** container from the **Content Repository** root folder. The software automatically creates the required folder structure.

For example, if you imported the *\$Motor* template of the GPL Classic, also import the *Process.cbk* **Content** container in the content repository.

NOTE: The Help opens only when instances use Schneider Electric templates of the GPL library as of version 2018 R2. Help is not available when using RTNS for earlier versions of templates.

Import User Contents Window Description

The following figure shows an example of the **Content** container **Import User Contents** window.



Item	Description
1	Node from which you selected the import command.
2	Full path of the selected export file.
3	Import settings: <ul style="list-style-type: none"> Absolute Path: During import, the software uses the hierarchy that existed at the time of export (default). Relative Path: During import, the folder from which the import command was selected becomes the parent folder of the imported folder structure. The hierarchy of the imported folder structure is unchanged. Use this setting, for example, to import into a system, the Content container exported from the Global Root node. Select either setting to preview the result in the Import User Contents window (tree view mode only).
4	Lets you switch between view modes: <ul style="list-style-type: none"> Tree view (default mode, shown here): Shows the items that you can import with the folder structure that existed in the content repository at the time of export. Grid view: Lists only content containers without hierarchical structure. The path of each one in the content repository is indicated.
5	Identifier of the items contained in the export file. Content containers are tagged with a colored dot. For details, refer to the topic describing import rules.
6	Version of the Content container.
7	Type of the item (folder or Content container).
8	Value of the Description property, page 39.
9	Number of Content containers that exist in the export file and how many are selected for import.

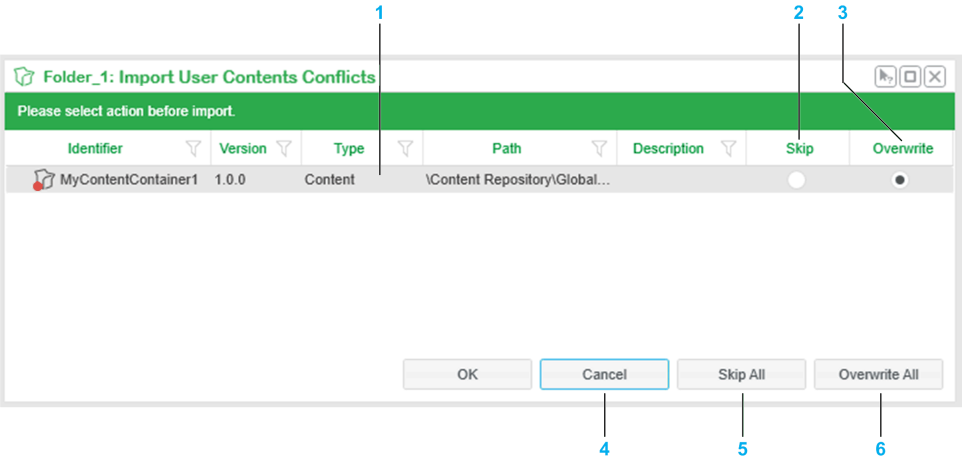
Content Container Import Rules

The table describes the rules that the software applies when you import a **Content** container.

Condition	Content contain-er icon color	Rule
The Content container is unique in the target folder.	Green	You can import the Content container.
A Content container with the same identifier, version, and contents already exists in the target folder.	Gray	You cannot import the Content container.
A Content container with the same identifier, version but different contents already exists in the target folder.	Red	You have the following choices: <ul style="list-style-type: none">Do not import the Content container.Import the Content container and overwrite the Content container in the target folder.

Import User Contents Conflicts Window

The following figure shows an example of the **Import User Contents Conflicts** window that opens when you attempt to import a **Content** container that displays a red icon.



Item	Description
1	The list of the Content containers that you selected for import in the Import User Contents window and that display a red icon.
2	When selected, the corresponding Content container is not imported.
3	When selected, the corresponding Content container is imported overwriting the one in the target folder.
4	Cancels the operation, closes the window and reverts to the Import User Contents window. The selection that you made to skip or overwrite is discarded.
5	Does not import Content containers that appear in the window.
6	The Content containers that appear in the window are imported, overwriting those in the target folders.

Importing Content Containers

To import **Content** containers into the content repository, proceed as follows.

Step	Action
1	<p>In the content repository, right-click a node and select Import.</p> <p>Result: The Import dialog box opens.</p> <p>NOTE: If you know the location where you want to import the Content container, you can right-click the corresponding folder in the tree view of the User Contents node and select Import.</p>
2	<p>Select the export file (.cbk) that you want to import and click Open.</p> <p>Result: The Import User Contents window opens.</p>
3	Select the Content containers that you want to import.
4	Select the import settings, page 45.
5	<p>Click OK.</p> <p>Result: If the software detects no conflicts, the selected Content containers are imported into the content repository; otherwise, the Import User Contents Conflicts window opens.</p>
6	<p>If the Import User Contents Conflicts window opens, select an action to perform and click OK.</p> <p>Result: The selected content containers are imported into the content repository based on the selection you made in both import windows.</p>

Making Documents, URLs, and Files Available for Viewing With Runtime Navigation Services

Linking Documents to Instances

Overview

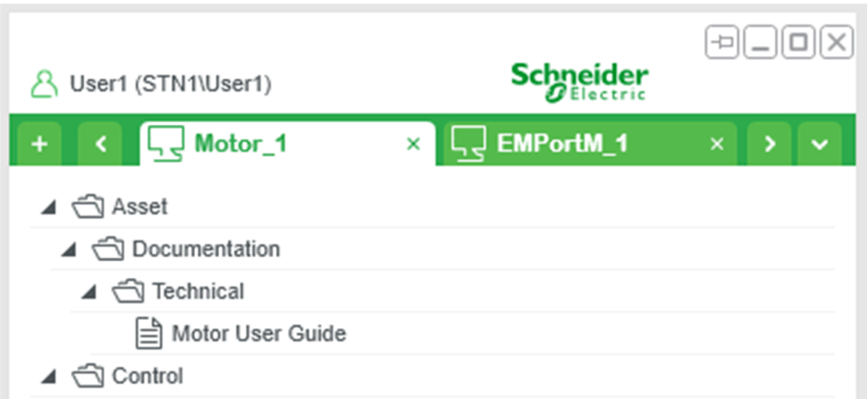
This topic describes how to associate a document to an instance so that the document can be opened when using runtime navigation services.

It also describes how to configure the display name and folder structure under which the documents appear in either the **Asset** or **User-Defined** section of the operation client.

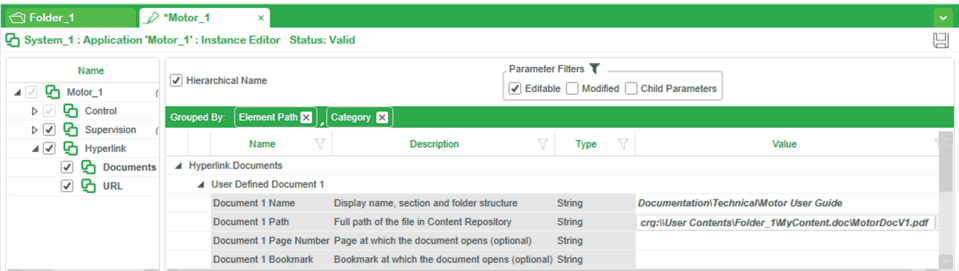
NOTE: Some Schneider Electric templates of libraries that support the hyperlink functionality feature preconfigured links to documents that can be opened from the operation client. No configuration is required. These preconfigured links do not appear when you edit an instance.

Example

The following figure shows an example of a manual (*MotorDocV1.pdf*) that has been added to the *MyContent* **Content** container and is displayed in the **Asset** section of the operation client under the display name *Motor User Guide*.



The following figure shows the corresponding configuration of two **Documents** parameters of the instance in the **Instance Editor**.



NOTE: The bookmark and page number functionality is not used in this example.

Prerequisites

The following prerequisites must be fulfilled:

- At least one **CrDocument** function is referenced by the template of the instance and is properly configured.
- The document was added to a **Content** container, page 35.

NOTE: Generally, control module templates of libraries that support the hyperlink functionality already reference several **CrDocument** functions. If the functionality is not provided or if you want to link more documents, you need to edit the template, add, and configure **CrDocument** binding functions (see *EcoStruxure Process Expert, Global Templates, Reference Manual*). In this case, the name and location of the nodes and parameters that are mentioned in the procedure describing how to link documents to an instance may differ.

Linking Documents to an Instance

To link documents to an instance, proceed as follows.

Step	Action
1	In the Application Explorer , edit the instance, select the HyperLink\Documents node in the instance pane, and the User-Defined Document x category.
2	Configure the Documentx Name parameter (see <i>EcoStruxure Process Expert, Global Templates, Reference Manual</i>) by entering a path that creates the corresponding folder hierarchy and display name in a section of the operation client.
3	Configure the Documentx Path parameter by clicking the browse button. Result: The Select File Location dialog box opens. NOTE: You can also enter a path to the document that you want to link or paste a path. You can only link a document located in a Content container.
4	Select a document, page 50 and click OK . Result: The path to the selected document appears in the Value field. The path indicates the location of the Content container from where a document is accessed: <ul style="list-style-type: none"> • Path starting with <i>crg://</i>: In the Global Root\User Contents\... folder structure. • Path starting with <i>crs://</i>: In the Systems\User Contents\... folder structure. NOTE: The type of the Content container (<i>.doc</i>) appears in the path and must not be confused with the Word document file extension. NOTE: If the document is located in two Content containers with the same identifier at the same path but of different version, the Content container with the latest version is automatically selected.
5	(Optional) To configure the document to open at a specific topic or page, enter a value for the Documentx PageNumber and/or Documentx Bookmark parameter (see <i>EcoStruxure Process Expert, Global Templates, Reference Manual</i>). NOTE: In runtime, the value is used in the command line that you need to specify for the corresponding file type in the Document Viewers section, page 51 of the Settings window.
6	To link another document, repeat the procedure for parameters of the next category.
7	Save changes.

NOTE: If, after linking a document and saving changes, the document is not available at the specified path (for example, because it was deleted or the **Content** container was moved or renamed), no notification is shown about the broken link at the instance level in engineering time.

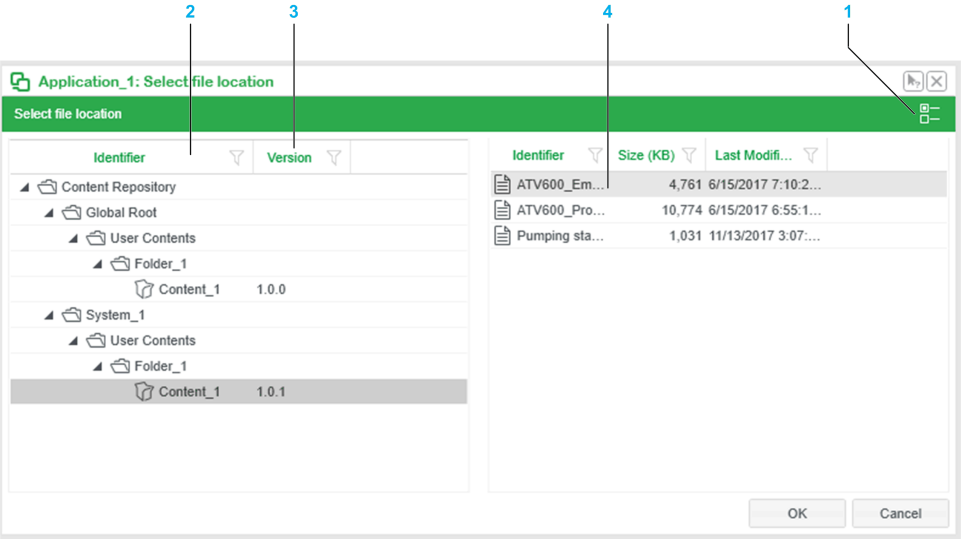
Linking Documents to a Topological Entity

Configure a **CrDocument** function in a topological template so that its parameters are visible when viewing the properties of an instance of the document.

To configure the parameters, proceed in the same way as you would for an instance.

Content Container File Browser

The following figure shows an example of the **Select File Location** dialog box displaying the documents inside content container **Content_1**.



Item	Description
1	Toggles between tree view (default) and grid view.
2	Displays the Content containers that exist in the content repository under each User Contents node. The grid view lists the Content containers without showing the folder structure. The path to each one is indicated.
3	Version of the Content container.
4	Displays the documents and properties of a selected Content container. NOTE: Right-click a document and select View to open it in read-only mode. The required application must be installed on the computer.

NOTE: The file browser also opens when you click the browse button while you configure a **CrDocument** function by using a template editor (see *EcoStruxure Process Expert, Global Templates, Reference Manual*).

Configuring Bookmark and Page Settings When Opening Documents in Runtime

Overview

This topic describes how to configure settings that let you open a document that is associated to an instance at a given bookmark or page when using runtime navigation services.

The settings apply at the system-level.

NOTE: Modifications in the **Document Viewers** section are reflected in the runtime without the need to deploy these changes to supervision nodes.

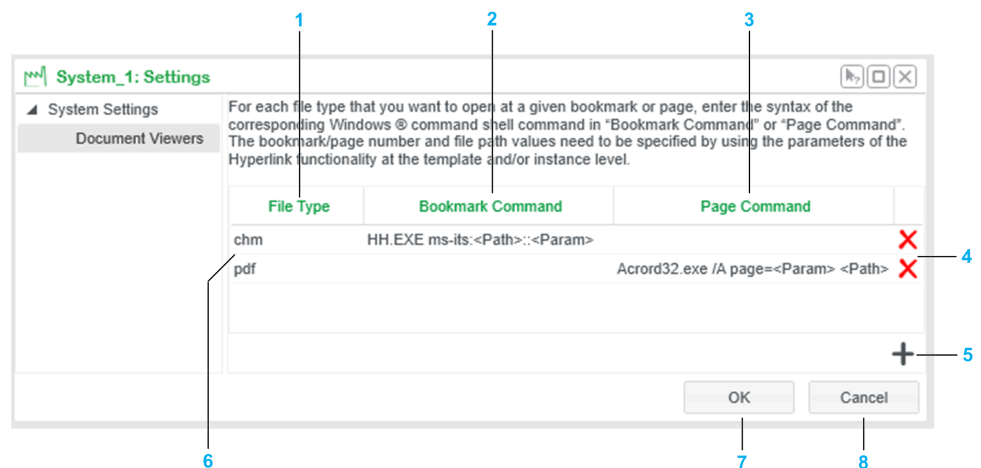
Prerequisites

The following prerequisites must be fulfilled:

- A document is associated to an instance of the system by using the **HyperLink** element of the instance (**Instance Editor**).
- A value is entered in the **Documentx PageNumber** and/or **Documentx Bookmark** parameter (see *EcoStruxure Process Expert, Global Templates, Reference Manual*).

Document Viewers Section Description

The following figure shows an example of the **Document Viewers** dialog box.



Item	Description
1	Field to enter the file type to which the command line applies. The software accepts only unique entries (not case-sensitive).
2	Field to enter a Windows command prompt command to open a document of the corresponding file type at a given bookmark. Use slash (/) to escape < and > if required in the command. NOTE: The bookmark value (<Param>) is the one that you specify for the Documentx Bookmark parameter of the HyperLink service of the instance to which the document (<Path>) is associated. If you are using the CrDocument binding function, <Param> and <Path> are the values of the parameters associated to the Bookmark and Path inputs respectively.
3	Field to enter a Windows command prompt command to open a document of the corresponding file type at a given page. Use slash (/) to escape < and > if required in the command. NOTE: The page number (<Param>) is the one that you specify for the Documentx PageNumber parameter of the HyperLink service of the instance to which the document (<Path>) is associated. If you are using the CrDocument binding function, <Param> and <Path> are the values of the parameters associated to the PageNumber and Path inputs respectively.
4	Button to delete the entire row. No confirmation is required. NOTE: If you deleted the default rows, create a new system, open the Document Viewers section, copy the rows, and paste them in the section of your system.
5	Button to add an empty row where you can enter another file, bookmark, and/or page number command. Once you add a row, you must enter a file and a command for, at least, one of the fields; otherwise, you cannot close the section.
6	By default, the command is predefined for the following file types: <ul style="list-style-type: none"> CHM: Lets you open compiled HTML help files at a topic that you specify by providing the topic ID. PDF: Lets you open PDF files at either: <ul style="list-style-type: none"> A bookmark The page number If you do not want to use the bookmark or page number functionality, you do not need to remove the command. Leave the corresponding parameters blank at the instance level.
7	Saves your changes and closes the Settings window.
8	Closes the Settings window without saving. If you have unsaved changes, you need to confirm the command.

NOTE: You can use the copy-paste functionality either by using keyboard shortcuts or context menu commands. You can copy several cells or rows and paste them.

Working Principle

The table describes some scenarios where the bookmark and page number functionality is used for a file type. A document of the corresponding type is associated to an instance.

Bookmark command	Bookmark value	Page Number command	Page number	Result
Specified	Empty	Specified	Empty	The document opens.
Specified	Empty	Specified	Specified	
Specified	Specified	Empty	Empty	The document opens at the specified bookmark (the bookmark has priority over the page number setting if both are configured).
Specified	Specified	Specified	Specified	
Empty	Specified	Empty	Specified	The document opens.
Specified	Specified but incorrect	Empty	Empty	The document opens.

Associating Web Links and Files to Instances

Overview

This topic describes how to associate a URL or file path to an instance so that the Web page or file can be opened when using runtime navigation services.

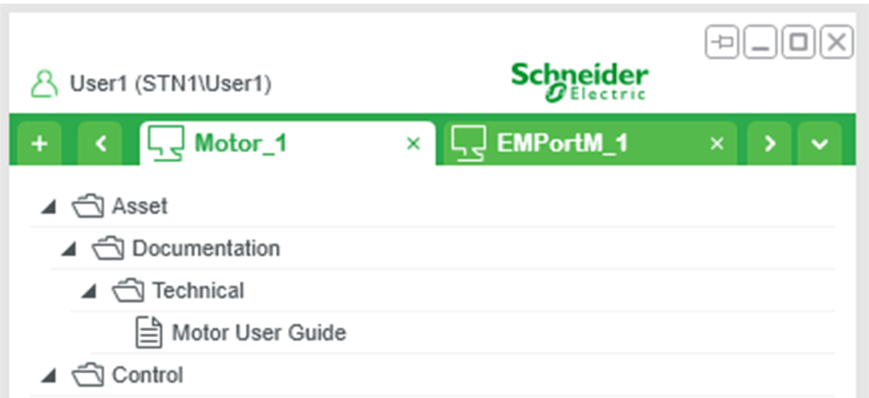
It also describes how to configure the display name and folder structure under which the Web link/file appears in either the **Asset** or **User-Defined** section of the operation client.

In the runtime, Web pages open in the default Web browser of the computer running the operation client. The computer must be connected to the Internet. Files must be available at the specified path on the computer running the operation client

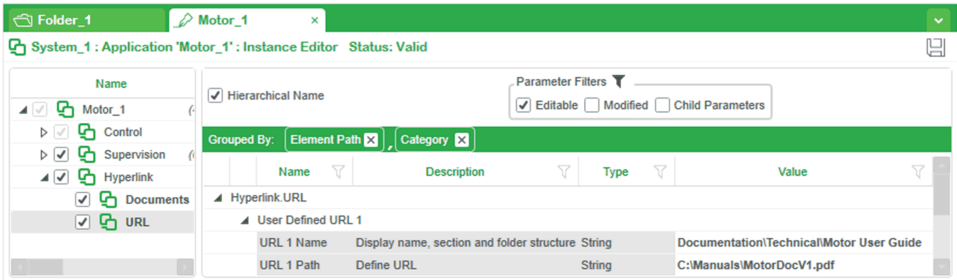
NOTE: Some Schneider Electric templates of libraries that support the hyperlink functionality feature preconfigured links to embedded Web pages of modules or devices, which can be opened from the operation client to view diagnostic information. No configuration is required. These preconfigured links do not appear when you edit and instance.

Example

The following figure shows an example of a manual (*MotorDocV1.pdf*) that is available on the computer running the operation client and that is displayed in the **Asset** section of the operation client under the display name *Motor User Guide*.



The following figure shows the corresponding configuration of the two **URL** parameters of the instance in the **Instance Editor**.



Prerequisites

At least one **Url** function is referenced by the template of the instance and is properly configured.

NOTE: Generally, control module templates of libraries that support the hyperlink functionality reference several **Url** functions. If the functionality is not provided or to link more files, you need to edit the template, add, and configure **Url** binding functions (see *EcoStruxure Process Expert, Global Templates, Reference Manual*). In this case, the name and location of the nodes and parameters that are mentioned in the procedure describing how to associate Web links and files to an instance may differ.

Associating Web Links and Files to an Instance

To associate Web links and files to an instance, proceed as follows.

Step	Action
1	In the Application Explorer , edit the instance, select the HyperLink\URL node in the instance pane, and the User-Defined URL x category.
2	Configure the Urlx Name parameter (see <i>EcoStruxure Process Expert, Global Templates, Reference Manual</i>) by entering a path that creates the corresponding folder hierarchy and display name in a section of the operation client.
3	Configure the Urlx Path parameter by entering a URL or path to a file that you want to associate. If you enter a path to a file, include the file name extension. NOTE: You can also paste a string.
4	To associate another Web link or file, repeat the procedure for parameters of the next category.
5	Save changes.

Associating Web Links and Files to a Topological Entity

If you add a **Url** function to a topological template, configure it so that its parameters are accessible when you view the properties of an instance thereof.

To configure the parameters, proceed in the same way as you would for an instance.

Using Runtime Navigation Services

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Overview

Runtime navigation services are started when you open the operation client and click a Genie in a page of the Supervision runtime.

This part describes how to use runtime navigation services to view system-based instance information.

Operation Client Viewer

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Operation Client Viewer

Overview

The **Operation Client Viewer** is the user interface that displays the following information:

- Sections of the program when you double-click an entry in the **Control** section of the operation client.
- The animation table containing the module device DDT variable (if supported) when you double-click an entry in the **Asset** section, page 21 of the tab that opens for a topological entity.

Starting the Operation Client

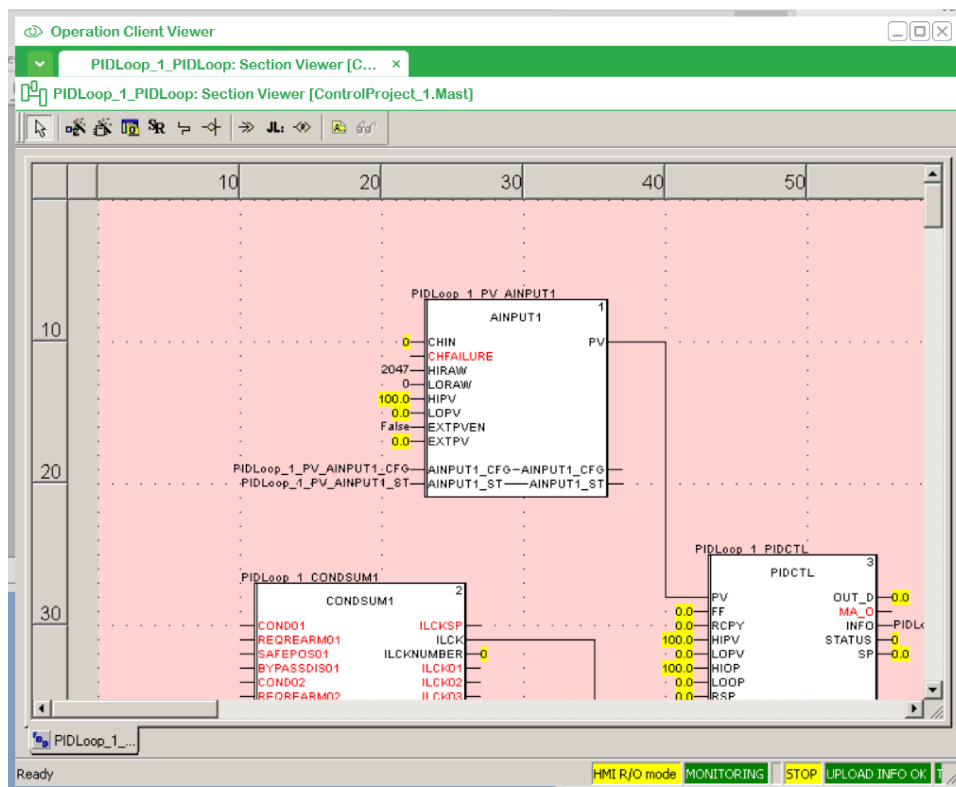
To start the operation client, proceed as follows.

Step	Description
1	Start the system server (see <i>EcoStruxure Process Expert, User Guide</i>).
2	Ensure that the system server services are ready.
3	Double-click the operation client shortcut, page 29 on the desktop. Result: The operation client starts and opens the Log In dialog box.
4	Log in (see <i>EcoStruxure Process Expert, User Guide</i>). Result: The Start page tab opens.
5	Click Supervision inside the tab. Result: The Supervision tab opens. It describes the first steps to execute to open a tab that allows you to access runtime information for an instance.

NOTE: Double-click the title bar of the operation client to toggle between translucent and solid mode. The translucent mode allows you to keep the client open and view windows that are open in the background.

Operation Client Viewer Window

The following figure shows an example of the **Operation Client Viewer** window that is displayed when you double-click an entry in the **Control** section of the operation client.



Animation Table View

The following figure shows an example of an animation table that is shown when you double click an entry in the **Asset** section of the tab of the operation client that opens for a topological entity.

The screenshot displays the 'Operation Client Viewer' window with a tab titled 'M580_Standalone : M... x'. The main area shows an 'Animation Table' for 'M580_Standalone : Motor_1_Motor_ZSH_b0:d0:r0:s3_MPDInputCh_01 Module Viewer'. The table has columns for Name, Value, Type, and Comment. The data is as follows:

Name	Value	Type	Comment
PLC0_d0_r0_s3_DDI1603		T_U_DIS_STD...	
MOD_HEALTH	0	BOOL	Module health
MOD_FLT	0	BYTE	Module faults
DIS_CH_IN		ARRAY[0..15] O...	

The bottom status bar shows 'Ready' and several mode indicators: 'HMI R/O mode', 'MONITORING', 'STOP', and 'UPLOAD INFO OK'.

Multiclient Functionality

You can view the same program section from several operation clients simultaneously.

Using Runtime Navigation Services from the Supervision Runtime

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Viewing Instance-Related Information From the Supervision Runtime

Overview

There are two methods to view instance-related information from the Supervision runtime by using runtime navigation services. You can use one and/or the other method depending on the configuration of operator stations (for example, if equipped with touch-screen monitors without keyboard) and how you have assigned Genies to Supervision pages.

Depending on the templates that are used by instances, some manual configuration may be required ahead of time.

The table describes the specific requirements to view instance-related information depending on the method that is used to add the Genie to the page and the template that the instance uses.

Method to be used to view instance-related information	Method used to add Genie to page	Template used by instance	Requirement to view instance-related information
Keyboard and pointing device, page 62. Example: Alt and mouse click to interact with Genie.	Dragging the Genie onto the page while editing the page (see <i>EcoStruxure Process Expert, User Guide</i>).	A Schneider Electric template.	No additional configuration required.
	Copying and pasting an already assigned Genie or using the Supervision Participant menu while editing the page.	Schneider Electric templates whose Genies feature the equipment property (for example, templates of the GPL 2019).	Updating the Genie metadata (see <i>EcoStruxure Process Expert, Supervision Participant Services, User Guide</i>) in the properties of the pasted Genie while editing the page.
Pointing device only, page 62. Example: Mouse or touch-screen to interact with a button on the faceplate of the Genie.	–	Templates of a Schneider Electric library that supports the method (for example, templates of the GPL 2019).	No additional configuration required. The faceplate features the button.
		User-created templates.	Adding the button, page 69 to the faceplate and updating the Supervision resources of the template.

Prerequisites

To view instance-related information, the following prerequisites need to be fulfilled:

- The Control and Supervision projects are deployed (see *EcoStruxure Process Expert, User Guide*).
- Compatible Supervision software that you use in runtime is installed (see *EcoStruxure Process Expert, Installation and Configuration Guide*) on the same computer on which the operation client is installed.
- The operation client is configured, page 29.
- User-based content was added, page 31 (optional).
- The controller to which the project is deployed is not reserved by another service.

Viewing Information By Using Keyboard and Pointing Device

To view the instance-related information from the Supervision runtime by using keyboard and pointing device, proceed as follows.

Step	Description
1	Ensure that the operation client is running.
2	Ensure that the Supervision runtime is running.
3	On a Supervision page, point a Genie representing the instance for which you want to view information.
4	Press and hold the Alt key. Result: A green square appears around the Genie.
5	Click the Genie and release the Alt key. Result: A tab with the instance identifier opens in the operation client.
6	View information related to the instance; refer to <i>Presentation of the operation client window</i> , page 14.

Viewing Information By Using a Pointing Device Only

To view the instance-related information from the Supervision runtime by using a pointing device or touch-screen, proceed as follows.

Step	Description
1	Ensure that the operation client is running.
2	Ensure that the Supervision runtime is running.
3	On a Supervision page, open the faceplate of the Genie representing the instance for which you want to view information.
4	Click/press the RTNS button on the faceplate (refer to the help of Schneider Electric libraries for a description of faceplates). Result: A tab with the instance identifier opens in the operation client.
5	View information related to the instance; refer to <i>Presentation of the operation client window</i> , page 14.

Configuring Keyboard Shortcuts to Open the Operation Client

In addition to pressing and holding the **Alt** key while clicking a Genie, you can configure other keys that you need to press at the same time to open the operation client. The configuration is done by using the *NavigationHotkey* parameter of the operation client advanced configuration tool.

You can configure the *NavigationHotkey* parameter by using the syntax: *SpecialKey1+SpecialKey2+SpecialKeyN+Key*, where:

- *SpecialKey1*, *SpecialKey2*, and *SpecialKeyN* are either of the following keys:
 - **Alt**
 - **Ctrl**
 - **Shift**
 - Windows logo key
- You can use as many *SpecialKey* keys as you want or none.
- *Key* is a keyboard key:
 - Keys that you can use are defined at <http://msdn.microsoft.com/en-us/library/system.windows.input.key%28v=vs.110%29.aspx>.
 - Using *Key* is optional. You can use one at the most.

The following are examples of keys configured through the *NavigationHotkey* parameter that you need to press and hold while clicking a Genie:

- **Alt+** (default configuration). Only one *SpecialKey* is specified.
- **F2** only *Key* is specified.
- **Ctrl+Shift+A** two *SpecialKey* and one *Key* are specified.

NOTE: Ensure that the combination of keys that you specify is not already bound to another function (for example, the **Alt+Tab** combination, which switches between open items).

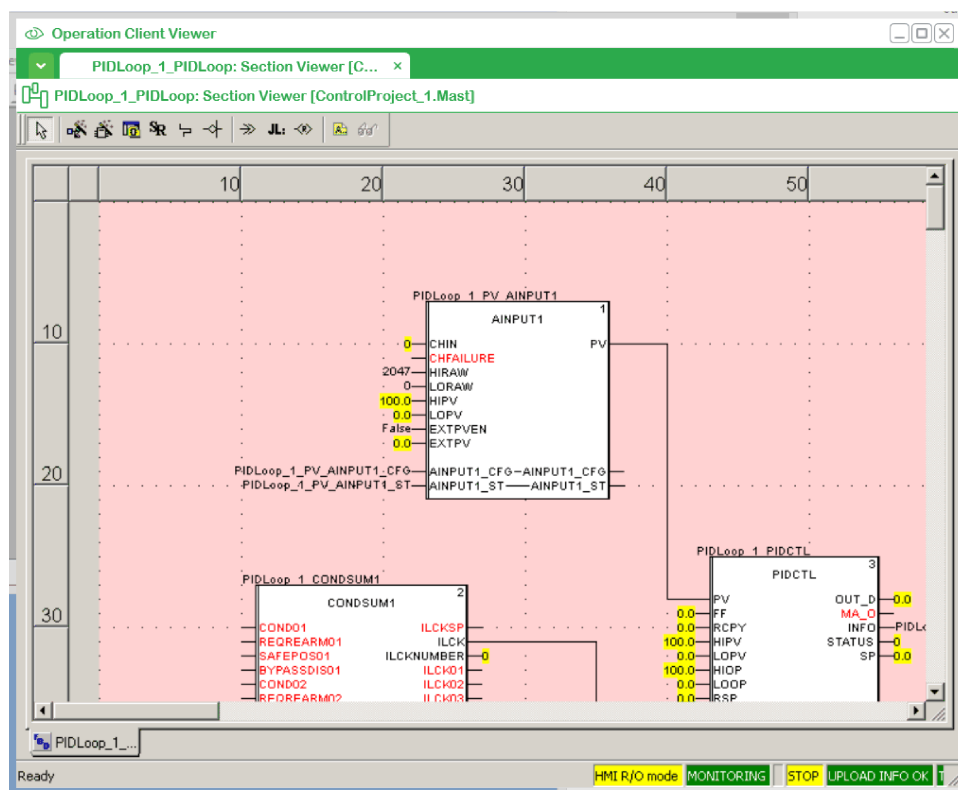
To access the *NavigationHotkey* parameter, proceed as follows.

Step	Action
1	On the computer on which the operation client is installed, browse to the <i>OperationClient - AdvancedConfigure.bat</i> file. The file is located at the path <i>C:\Program Files\Schneider Electric\EcoStruxure\Process Expert\Operation Client</i> .
2	Double-click the <i>OperationClient - AdvancedConfigure.bat</i> file. Result: The Configure Client window opens.
3	Configure the <i>NavigationHotkey</i> parameter as described in this topic.
4	Click Save and Close .
5	Restart the operation client for changes to take effect.

Viewing the Logic of the Instance

Control Participant Window

The following figure shows an example of the Control Participant window that is displayed in the **Operation Client Viewer**. It shows the program section containing the logic of an instance while the controller is running. The window opens when you double-click the section in the **Control** section, page 17 of the operation client.



NOTE: Opening a program section to view the contents may take time.

Control Participant Instances

When you use the **Operation Client Viewer**, ensure that the software configuration allows you to open enough Control Participant instances.

Opening one program section requires one instance of the Control Participant.

Double-clicking another section in the **Control** section of the operation client opens a new tab in the **Operation Client Viewer**. This action is limited by the number of Control Participant instances that you can open simultaneously (see *EcoStruxure Process Expert, Installation and Configuration Guide*).

Viewing the Controller

Communication Modules with Web Server Capability

To use the Web services of the **Control** section, the controller needs to be configured with a BMXNOE.... or BMENOC.... communication module with Web server capabilities (for example, for the M580 platform, a BMENOC0311 FactoryCast module).

Web Tool Window

The following figure shows an example of the Web tool window that is displayed in a Web browser after double-clicking the topological entity in the **Control** section of the operation client.



Required Settings to View the PLC Program Viewer

If you are unable to view the **PLC Program Viewer** in a Web browser after double-clicking an entry of the **Control** section, verify the following.

Settings	Requirement
<i>Program Viewer Information</i> property	Ensure the property is selected in the Control Participant Project Settings (see <i>EcoStruxure Process Expert, Control Participant Services, User Guide</i>). To access it, click Tools > Project Settings > PLC Diagnostics . NOTE: Ensure that the Data Dictionary property is also selected in the project settings.
The Web Access (HTTP) parameter (Security tab)	Set the parameter to <i>Enabled</i> . It is a parameter of the Ethernet network of the controller configuration in the Topology Explorer .
The Security Level of the Java Control Panel	On the computer on which the operation client is installed, set the parameter to <i>Medium</i> . NOTE: If the Security Level parameter is not available, you can add the IP address of the controller to which the Control Participant project is deployed to the Exception Site List section of the Java Control Panel .

Troubleshooting

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Troubleshooting

Required Project Settings to View Program Sections

If you are unable to view the contents of the section, ensure that the *Program Viewer Information* property is selected in the Control Participant **Project Settings** (see *EcoStruxure Process Expert, Control Participant Services, User Guide*). To access it, click **Tools > Project Settings > PLC Diagnostics**.

Required Project Settings to View the Rack Viewer Window

If you are unable to view the **Rack Viewer** window, ensure that the *Rack Viewer diagnostic information* property is selected in the Control Participant **Project Settings** (see *EcoStruxure Process Expert, Control Participant Services, User Guide*). To access it, click **Tools > Project Settings > PLC Diagnostics**.

The property is selected by default.

Required Project Settings to View Supervision Pages

If you are unable to view the content of Supervision pages from the **Supervision** section of the **Operation Client** window, ensure that the *TagStartDigit* parameter of the Supervision Participant configuration file (.ini) is set to 1.

Appendices

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Adding User Contents (Legacy Procedure).....72

Adding a Button to Faceplates to View Instance Information

What's in This Chapter

Adding a Button to Faceplates to View Instance Information 69

Adding a Button to Faceplates to View Instance Information

Overview

This topic describes how to add a button to the faceplate of an instance that uses a user-created template. The button lets you view instance-related information.

It requires that the Supervision resources (the Genies and the faceplate) are contained in an included project that is user-created and therefore different (see *EcoStruxure Process Expert, Global Templates, Reference Manual*) from the Schneider Electric included projects.

Editing the FRM File of the Genies

Step	Action
1	Locate the <i>FRM</i> file of the library that contains the Genies whose faceplate you want to update (for example, <i>agitator.frm</i>). The file is located at the path <i>C:\ProgramData\AVEVA Plant SCADA X\User\<IncludedProjectName></i> on the computer on which the operation server is installed (where <i>X</i> is the version).
2	Edit the <i>FRM</i> file by using a text file editor.
3	Add the <i>EQUIPMENT</i> and <i>CLUSTER</i> parameters (with 252 and 100 characters and <i>readwrite</i> attributes respectively) to the Genies from which you want to open instance information. For example, if the <i>MyMotor</i> template contains several Genies (such as <i>horizontal left</i> , <i>horizontal right</i>) and you are adding only <i>horizontal left</i> to the Supervision page, you can add the two parameters only to the <i>horizontal left</i> Genie in the <i>FRM</i> file.
4	Save the changes.

Editing the Genie Properties

Step	Action
1	Create a Supervision project in the Project Explorer if no project exists yet.
2	In the context menu of the Supervision project, select Include Projects and add the included project that contains the Supervision resources. NOTE: This step is not required if the included project already appears.
3	In the Supervision project, create a page and edit it to open the Graphics Builder .
4	Click File > Open... and in the Open dialog box, in the Page tab, select the included project.
5	Select the Genie tab.
6	In this tab, select the library that contains the Genies that you want to use.
7	In the Genie: section, double-click the Genie from which you want to open the faceplate to open the Genie.

Step	Action
8	In the Graphics Builder showing the Genie, separate the graphical elements that compose the Genie by dragging them away one by one and double-click each one until you have identified which graphical element contains the function that calls the faceplate in the Appearance tab of the Symbol Set Properties dialog box.
9	Once you have identified the graphical element, in the Symbol Set Properties dialog box, select the Access tab and write down its Object AN number that appears in the Identification section.
10	Close the dialog box and the Genie without saving the changes.
11	Open the Genie again by repeating steps 4 to 7.
12	In the Graphics Builder showing the Genie, press Ctrl+G to open the Goto Object dialog box and double-click the entry that corresponds to the Object AN number that you wrote down to open the Symbol Set Properties dialog box of the graphical element.
13	<p>Edit the faceplate function call by adding the <i>EQUIPMENT</i> and <i>CLUSTER</i> parameters to the existing parameters of the function.</p> <p>Example:</p> <p>A function call that appears as <code>call_faceplate("MOTOR", "^"%NAME%^", ^"%A%^", ^"%FRC%^", ^"%IRC%^")</code> appears as follows after adding the two parameters:</p> <pre>call_faceplate("MOTOR", "^"%NAME%^", ^"%A%^", ^"%FRC%^", ^"%IRC%^", ^"%EQUIPMENT%^", ^"%CLUSTER%^")</pre>
14	<p>Apply the changes, close the dialog box, and close the Genie by saving changes.</p> <p>Repeat the procedure for the other Genies to which you added the parameters in the <i>FRM</i> file.</p>

Editing the Faceplate Cicode Function Call of the Genies

Step	Action
1	In the Supervision Participant window of the refined Supervision project, open the Cicode Editor .
2	In the editor, expand the included project associated to the template that you are using and double-click the faceplate Cicode file (.ci) to open it.
3	Use the Find and Find Next buttons to locate the Cicode function that opens the faceplate of the Genies that you are using.
4	<p>Edit the Cicode to assign an unused association number to the <i>EQUIPMENT</i> and <i>CLUSTER</i> parameters.</p> <p>For example, <code>Ass (-2, 300, "" + sEquipment + "", 0);</code> and <code>Ass (-2, 301, "" + sCluster + "", 0);</code></p>
5	Close and save the changes.

Editing the Faceplate That Is Associated to the Genies

Step	Action
1	Open the Graphics Builder again.
2	Click Tools > Options... and in the Options dialog box, select List system pages , and click OK .
3	Click File > Open... and in the Open dialog box, in the Page tab, select the included project.
4	In the Page: section, double-click the faceplate that is associated to the Genies that you are using to open it.
5	<p>In the Graphics Builder showing the faceplate click Objects > Button and draw the button on the faceplate.</p> <p>Result: Once you have drawn the button, the Button Properties dialog box opens.</p>

Step	Action
6	Select the Input tab.
7	In the Action section, select Up .
8	In the Up command section, enter the following expression: <i>EcostruxureHDCS_NavigationServices(?X?, ?Y?)</i> where X and Y correspond to the association number that you entered in the faceplate Cicode function for the <i>EQUIPMENT</i> and <i>CLUSTER</i> parameters respectively. For example, <i>EcostruxureHDCS_NavigationServices(?300?, ?301?)</i>
9	You can change the button appearance and label in the Appearance tab.
10	Apply the changes, close the dialog box, and close the faceplate by saving changes.

Updating Pages and Packing Libraries and Included Projects

Step	Action
1	In the Graphics Builder , click Tools > Update Pages in Active and Included Projects .
2	Click Tools > Pack Libraries in Active and Included Projects .
3	Back up the included project.

Updating or Creating Templates With Modified Supervision Resources

To templatize your changes, either update the Supervision facet that contains the Genie that you modified or encapsulate the modified Genie in a Supervision facet.

In both cases, by using the **Select Genie** window, tag the *EQUIPMENT* and *CLUSTER* parameters that you added to the Genie with the *IsEquipment* and *IsCluster* properties respectively.

In this window, you can also add to the content repository the included project that you modified.

For details, refer to the topic describing how to encapsulate and configure animated Supervision graphics (see *EcoStruxure Process Expert, Global Templates, Reference Manual*).

Adding User Contents (Legacy Procedure)

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Overview

This chapter describes the legacy procedure to add documents and Web links for each instance, which you can access during operation from the operation client. This procedure was required for earlier versions of the software.

Use the latest procedure instead, page 31.

Creating the *Content* Folder

Overview

Before you can add user-based contents for instances, you need to create a shared folder called *Content*. Create this folder on the computer on which the system server is installed.

NOTE: If you do not create and share the *Content* folder, you cannot access user-based information through runtime navigation services. When sharing a folder, restrict access by giving permissions only to the user who needs to access the folder.

Creating the *Content* Folder

To create and share the *Content* folder, proceed as follows.

Step	Action
1	On the computer on which the system server is installed, create a folder and name it <i>Content</i> .
2	Right-click the folder, and select Properties . Result: The Properties dialog box opens.
3	Click the Sharing tab.
4	Click Advanced Sharing .
5	In the Advanced Sharing dialog box, select Share this folder .
6	In the field Share name , enter <i>Content</i> .
7	Click Permissions . Result: The Permissions for Content dialog box opens.
8	Select the appropriate settings to grant read/write permission to the folder only to specific users. In this case, the user who is logged on to the computer running the operation client on which user-based contents needs to be accessed.
9	Click OK .
10	Click Apply and OK in the Properties dialog box. Result: The <i>Content</i> folder is shared on the network.

Creating Instance Folders

Overview

Inside the *Content* folder, create an individual instance folder for each instance for which you want user-based information to be accessible. Then, information appears in the following sub-sections, page 14 of the operation client:

- **Diag Web Server**
- **Documents**
- **Others**

The name of each instance folder needs to be identical to the identifier of the instance (see *EcoStruxure Process Expert, User Guide*).

Creating an Instance Folder

To create an instance folder, proceed as follows.

Step	Action
1	Open the <i>Content</i> folder.
2	Create a subfolder inside the <i>Content</i> folder and rename it with the identifier of the instance whose information it will contain.
3	Repeat the process, creating a folder for each instance for which you want information to be accessible from the operation client.

Changing Instance Identifiers

When you change the identifier of an instance in the application, also change the name of the corresponding instance folder; otherwise, you cannot access its information anymore from the operation client.

When you change the name of an instance folder and a tab for this instance is open in the operation client, close the tab and reopen it for the changes to take effect.

Adding Files and Web Links

File Types

The files that you place in each *instance folder*, [page 74](#) are displayed in the appropriate sub-section of the **Object Services** section, [page 17](#) of the operation client:

- Web links are displayed in **Diag Web Server**.
- PDF files are displayed in **Documents**.
- Other types of files are displayed in **Others** (for example, image files, text files, Microsoft® Office documents, and so on).

The operation client supports the file types for which necessary software is installed on the computer.

NOTE: To open a file by double-clicking it, the file type needs to be associated to the software supporting it. Web links are opened by using the default browser.

File Names

Names of files that you add in an instance folder or in the *Content* folder, [page 73](#) must not contain spaces.

Display Names

You can configure the name of entries that appear in the **Documents** and **Others** sub-sections. By default, the file name without the file extension is displayed.

Refer to the topic describing how to [configure settings for PDF files](#), [page 76](#) or for [other types of files](#), [page 77](#).

Common Files

If you open the operation client from an instance for which you have not created a specific *instance folder*, [page 74](#), the software displays the files that are located in the *Content* folder, [page 73](#) in the appropriate sub-section depending on their file types.

If you created an instance folder, files that are located in the *Content* folder appear in the sub-sections in addition to files that are located in the instance folder.

NOTE: If there is no instance folder and if the *Content* folder does not contain files, the sub-sections do not appear.

Changing the Contents of Instance Folders

When you add, modify, or delete files inside an *instance folder*, [page 74](#) and a tab for this instance is open in the operation client, close the tab and reopen it for the changes to take effect.

Adding a Web Link

To create an entry in the **Diag Web Server** sub-section, which links to a website, proceed as follows.

Step	Action
1	Open the <i>Content</i> folder, page 73.
2	Open the instance folder, page 74 of the instance for which you want to add a Web link.
3	Do a right-click. Result: A context menu appears.
4	Select New > Text Document . Result: A text file (.txt) is created in the instance folder.
5	Rename the text file <i>WebDiagnostics.xml</i> .
6	Edit the file.
7	Enter the following code: <pre><Catalog> <WebDiagnostic url="Webpage_url" name="Webpage_display_name" description="Webpage_description"/> </Catalog></pre> Where: <ul style="list-style-type: none"> <i>Webpage_url</i> is the url of the Web page that you want to open. <i>Webpage_display_name</i> is the name of the entry that appears in the Others sub-section. <i>Webpage_description</i> is the text that appears in the tooltip when you place the cursor over the entry in the Diag Web Server sub-section. NOTE: You can create several Web link entries by entering one command line (line starting with <code><WebDiagnostic url="..."</code>) for each url. Add the command lines between the existing <code><Catalog></code> XML tags.
8	Click File > Save to save changes to the <i>WebDiagnostics.xml</i> file.

NOTE: You can also place the *WebDiagnostics.xml* file in the *Content* folder.

Examples of Web Link Settings

A *WebDiagnostics.xml* file with the following contents creates a **Schneider Electric** entry in the **Diag Web Server** sub-section, and opens the Schneider Electric website when you double-click the entry.

```
<Catalog>
  <WebDiagnostic url="www.schneider-electric.com" name="Schneider_Electric" description="Double-click
    to navigate to the Schneider Electric web site"/>
</Catalog>
```

The following contents creates a **Schneider Electric** and a **PES Support Web Site** entry in the **Diag Web Server** sub-section.

```
<Catalog>
  <WebDiagnostic url="www.schneider-electric.com" name="Schneider_Electric" description="Double-click
    to navigate to the Schneider Electric web site"/>
  <WebDiagnostic url="www.pes.schneider-electric.com" name="PES Support Web Site"
    description="Double-click to navigate to the web site"/>
</Catalog>
```

Configuring Settings for PDF Files

By using the *FilesConfiguration.xml* file, you can open a PDF file located in the instance folder at a given page, and select a display name for its entry in the **Documents** sub-section.

For a PDF to open at a given page the necessary Adobe® software needs to be installed on the computer.

To configure the entry in the **Documents** sub-section, which opens a PDF file at a given page, proceed as follows.

Step	Action
1	Open the <i>Content</i> folder, page 73.
2	Open the instance folder, page 74.
3	Add the PDF file to the instance folder if the folder does not contain it yet.
4	Right-click an empty area of the open instance folder. Result: A context menu appears.
5	Click New > Text Document . Result: A text file (.txt) is created in the instance folder.
6	Rename the file <i>FilesConfiguration.xml</i> .
7	Edit the file.
8	Enter the following code: <pre><Catalog> <FileConfiguration url="pdf_file_name" name="file_display_name" description="file_description" arg="/A page=X"/> </Catalog></pre> <p>Where:</p> <ul style="list-style-type: none"> <i>pdf_file_name</i> is the name of the PDF file located in the instance folder with the .pdf file extension. The name is case-sensitive. <i>file_display_name</i> is the name of the entry that appears in the Documents sub-section. <i>file_description</i> is the text that appears in the tooltip when you place the cursor over the entry in the Others sub-section. X is the page number to open when you double-click the entry. If X is greater than the actual number of pages of the PDF, the document opens on the last page, and a notification is displayed. If you leave out the <i>arg</i> parameter, the PDF opens on the first page. <p>NOTE: If the instance folder contains several documents, you can configure the entry for each one of them by entering one command line (line starting with <code><FileConfiguration url="..."</code>) for each document. Add the command lines between the existing <code><Catalog></code> XML tags. You can mix settings for files of different types, page 77 in the <i>FilesConfiguration.xml</i> file.</p>
9	Click File > Save to save changes to the <i>FilesConfiguration.xml</i> file.

NOTE: You can also place the *FilesConfiguration.xml* file in the *Content* folder. In this case, place the corresponding PDF file there too.

Example of PDF File Settings

A *FilesConfiguration.xml* file with the following contents creates a **Valve_1 Motor Specifications** entry in the **Documents** sub-section, and opens the *GE-15678-8.pdf* file at page 10 when you double-click the entry.

```
<Catalog>
  <FileConfiguration url="GE-15678-8.pdf" name="Valve_1 Motor Specifications" description="Refer to this document for preventive maintenance" arg="/A page=10"/>
</Catalog>
```

Configuring Settings for Other Types of Files

By using the *FilesConfiguration.xml* file, you can open a file located in the instance folder and select a display name for its entry in the **Others** sub-section.

To configure the entry in the **Others** sub-section, which opens a file other than PDF, proceed as follows.

Step	Action
1	Open the <i>Content</i> folder, page 73.
2	Open the instance folder, page 74.
3	Add the file to the instance folder if the folder does not contain it yet.
4	Right-click an empty area of the open instance folder. Result: A context menu appears.
5	Click New > Text Document . Result: A text file (.txt) is created in the instance folder.
6	Rename the file <code>FilesConfiguration.xml</code> .
7	Edit the file.
8	Enter the following code: <pre><Catalog> <FileConfiguration url="file_name" name="file_display_name" description="file_description"/> </Catalog></pre> <p>Where:</p> <ul style="list-style-type: none"> <code>file_name</code> is the name of the file located in the instance folder with its file extension. The name is case-sensitive. <code>file_display_name</code> is the name of the entry that appears in the Documents sub-section. <code>file_description</code> is the text that appears in the tooltip when you place the cursor over the entry in the Others sub-section. <p>NOTE: If the instance folder contains several documents, you can configure the entry for each one of them by entering one command line (line starting with <code><FileConfiguration url="...</code>) for each document. Add the command lines between the existing <code><Catalog></code> XML tags. You can mix settings for files of different types, page 76 in the <i>FilesConfiguration.xml</i> file.</p>
9	Click File > Save to save changes to the <i>FilesConfiguration.xml</i> file.

NOTE: You can also place the *FilesConfiguration.xml* file in the *Content* folder. In this case, place the corresponding file there too.

Example of Settings for Different File Types

A *FilesConfiguration.xml* file with the following contents creates entries in the **Documents** sub-section for:

- Valve_1 Motor Specifications: Opens the *GE-15678-8.pdf* file at page 10.
- Valve_1 Motor Wiring Diagram: Opens the *678-8_Wiring.png* image file.

```
<Catalog>
  <FileConfiguration url="GE-15678-8.pdf" name="Valve_1 Motor Specifications" description="Refer to this
  document for preventive maintenance" arg="/A page=10"/>
  <FileConfiguration url="678-8.png" name="Valve_1 Motor Wiring Diagram" description="Double-click to
  view the wiring diagram"/>
</Catalog>
```

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